/ks
Monday, February 6, 2023 4:30 p.m.
Development & Heritage Standing Committee

Preliminary list only. The final list may not be in this order:

ADDITIONAL INFORMATION

***Planning Act* Matters**

Item 7.1 Rezoning – HD Development Group – 1850 North Service Road – Z-021/22 ZNG/6784 - Ward 10

a) Jackie Lassaline, Principal Planner, submitting the ***attached*** correct Planning Rationale Report dated January 23, 2023 that includes notes on the revised site plan
b) Amy Grady, area resident submitting the ***attached*** email received January 18, 2023 as a written submission
c) Maureen Rudowicz, area resident, submitting the ***attached*** email dated January 31, 2023
d) Anna & Gina Sovran, area residents, submitting the ***attached*** documents received February 2, 2023 as a written submission
e) Dora Ferro, area resident submitting the ***attached*** email dated February 2, 2023 as a written submission
f) Kerry Shaw, area resident submitting the ***attached*** email dated February 2, 2023

Item 7.2 Rezoning - Damon & Kelly Winney - 966 California Ave - Z 041/22 ZNG/6926 - Ward 2

a) Lynda Brien, area resident, submitting the ***attached*** email received January 25, 2023

Item 7.3 Rezoning – Hussain Alameri – 3857 Wyandotte Street East

a) Paul Charbachi, Infrastructure Engineer, VIA Rail, submitting the ***attached*** email received January 26, 2023

Item 7.4 Official Plan Amendment and Zoning By-law Amendment for the southerly 1.295 ha portion of the lands municipally known as 2400 Banwell Road; Applicant Maple Leaf Homes Ltd

a) Paul Charbachi, Infrastructure Engineer, VIA Rail, submitting the ***attached*** email received January 26, 2023
b) Mark Robins, area resident, submitting the ***attached*** email dated January 26, 2023
b) Shouvik Raychoudhury, area resident, submitting the ***attached*** email dated February 3, 2023
c) Banwell Community Church, submitting the ***attached*** letter dated February 3, 2023

Item 11.1 Downtown Windsor Enhancement Strategy and Community Improvement Plan – Grant Extensions, Ward 3
a) Larry Horwitz, Owner of 511 Pelissier Street, submitting the ***attached*** letter dated February 2, 2023 as a written submission

Item 11.7 Amendment to Sign By-law 250-04 related to Billboards and Electronic Billboards, File No. SGN-003/22 – City Wide
a) Zelinka Priamo Ltd., on behalf of 1339536 Ontario Ltd., submitting the ***attached*** letter dated February 3, 2023 as a written submission

REQUESTS FOR DEFERRALS

Item 7.1 Rezoning – HD Development Group – 1850 North Service Road – Z-021/22 ZNG/6784 - Ward 10
a) Adriano Bertolissio, area resident, submitting the ***attached*** request for deferral and comments from area residents, received February 2, 2023

DELEGATIONS:

***Planning Act* Matters**

Item 7.1 Rezoning – HD Development Group – 1850 North Service Road – Z-021/22 ZNG/6784 - Ward 10
a) Adam Szymczak, Planner III, Zoning (powerpoint)
b) Jackie Lassaline, Lassaline Planning Consultants (in person)
c) Haider Habib, President/Applicant (in person)
d) Amy Grady, area resident (in person)
e) Grant Debroe, area resident (in person)
f) Dora Ferro, area resident (via Zoom)
g) Gino & Anna Sovran, area residents (in person)
h) Kerry Shaw, area resident (in person)

Item 7.2 Rezoning - Damon & Kelly Winney - 966 California Ave - Z 041/22 ZNG/6926 - Ward 2
a) Adam Szymczak, Planner III, Zoning (powerpoint)
b) Tracey Pillon-Abbs, Principal Planner (via Zoom)

Item 7.3 Rezoning – Hussain Alameri – 3857 Wyandotte Street East - Z-033/22 ZNG/6868 - Ward 5
a) Frank Garardo, Planner III, Policy & Special Studies (powerpoint)

Item 7.4 Official Plan and Zoning By-law Amendments – South portion of 2400 Banwell Rd

a) Justine Nwaesei, Planner III, Subdivisions
b) Tracey Pillon-Abbs, Principal Planner (PowerPoint) (via Zoom)
c) Tony Chau, Bruno Cacilhas and Peter Valente, available for questions (via Zoom)
d) Mark Lalovich, available for questions (via Zoom)
e) Safaa & Warda Boulis, area residents (in person)
f) Gwen Pawloski, area resident (in person)
g) Russell Pearson, area resident (in person)
h) Shouvik Raychoudhury, area resident (in person)
i) Monika Kurti, area resident (in person)
j) Aaron D. Blata, Associate / Professional Traffic Operations Engineer, RC Spencer Associates Inc. (via Zoom)
k) Thamir Roufai, area resident (via Zoom)
l) Kim Anber, Chair, Building Committee Banwell Community Church (via Zoom)
m) Karen Sereres, area resident, available for questions (in person)

PRESENTATIONS

Item 9 ***HERITAGE ACT* MATTERS**

Heritage Planner will provide brief introduction before screening of two heritage videos

DELEGATIONS:
Administrative Items

Item 11.1 Downtown Windsor Enhancement Strategy and Community Improvement Plan – Grant Extensions, Ward 3

a) Larry Horwitz, Owner of 511 Pelissier Street, (via Zoom)

Item 11.2 Closure of east/west alley between Chilver Road and north/south alley, Ward 4 SAA-6884

a) David Mady, V.P Real Estate Development, Rosati Group, Available for questions (via Zoom)

Item 11.5 Brownfield Redevelopment Community Improvement Program (CIP) applications submitted by 2798315 Ontario Inc. and 1068414 Ontario Inc. for property located at 1969 Wyandotte Street East, 626 Argyle Road, 2090 Brant Street, 420 Devonshire Road nad 480-500 Argyle Road (Ward 4)

a) David Mady, V.P Real Estate Development, Rosati Group, Available for questions (via Zoom)

Item 11.7 Amendment to Sign By-law 250-04 related to Billboards and Electronic Billboards

a) Nathan Jankowski, Manager, Permits & Legislation, Pattison Outdoor Advertising, available for questions (via Zoom) and Scott Stover, Leasing Representative, Pattison Outdoor Advertising, available for questions (via Zoom)
b) David Meikle, President, Signal Out of Home, available for questions, (via Zoom)
c) Shawna Petzold – General Manager – Permit World Consulting Services Inc., Applicant/Interested Party (via Zoom)

Item 11.8 North Neighbourhood Development, Phase 7 – 1027458 Ontario Ltd. – Cost Sharing for Sanitary Sewer Oversizing – Ward 7

a) Karl Tanner, Partner, Dillon Consulting Limited, available for questions (in person)

LASSALINE
PLANNING CONSULTANTS INC.

REPORT: **PLANNING RATIONALE REPORT (PRR)**

MUNICIPALITY: **CITY OF WINDSOR**

MUNICIPAL ADDRESS: 1850 NORTH SERVICE ROAD

DEVELOPMENT: ZBA

DATE: JANUARY 23, 2023 (rev)

1632 County Road 31
St. Joachim, ON · NOR 1S0
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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 APPLICATION INFORMATION…….. 4

2.0 SITE AND SURROUNDING LAND USES……. 5

2.1 LEGAL DESCRIPTION AND OWNERSHIP……. 6
2.2 TOPOGRAPHY AND PHYSICAL FEATURES OF THE SITE…….. 6
2.3 SIZE AND SITE DIMENSION…….. 6
2.4 EXISTING STRUCTURES…… 7
2.5 VEGETATION AND SOIL…….. 7
2.6 MUNICIPAL SERVICES…… 9
2.7 NEARBY AMENITIES…… 10
2.8 SURROUNDING LAND USES…… 11

3.0 DEVELOPMENT PROPOSAL…… 12

3.1 PROPOSED ZBA……... 16
3.2 SANITARY SEWER STUDY…… 17
3.3 STORM WATER MANAGEMENT REPORT…….. 17
3.4 SPECIES AT RISK…….. 18
3.5 TRAFFIC STUDY…… 19
3.6 NOISE STUDIES…… 20
3.7 SHADOW STUDY…….. 22
3.8 BUILDING RENDERINGS…… 24
3.9 OPEN HOUSE…… 26

4.0 PROVINCIAL POLICY STATEMENT (PPS)…….. 29

5.0 CITY OF WINDSOR OFFICIAL PLAN…… 32
6.0 CITY OF WINDSOR ZONING BY-LAW REVIEW…….. 40

7.0 SUMMARY AND CONCLUSIONS…… 42

7.1 CONCLUSION…… 43

FIGURE 1 LOCATIONAL MAP
FIGURE 2 SITE AERIAL
FIGURE 3 SITE PHOTO
FIGURE 4 SITE PHOTO
FIGURE 5 NEIGHBOURHOOD AERIAL
FIGURE 6 OP SCHEDULE D
FIGURE 7 SITE PLAN
FIGURE 8 SITE AERIAL RENDERING N/E
FIGURE 9 SITE AERIAL RENDERING S/E
FIGURE 10 SHADOW STUDY – SUMMER
FIGURE 11 SHADOW STUDY - SPRING

APPENDIX A OPEN HOUSE INFORMATION
APPENDIX B SANITARY SEWER STUDY - ALEO ASSOCIATES
APPENDIX C SWM REPORT - ALEO ASSOCIATES
APPENDIX D SAR SCREENING – MYLER CONSULTING
APPENDIX E TRAFFIC STUDY – PARADIGM ENGINEERING
APPENDIX F NOISE STUDY – JJ Acoustics Engineering
APPENDIX G SHADOW STUDY – ADA Architects

1.0 INTRODUCTION

Lassaline Planning Consultants (LPC) has been retained to undertake a planning rationale report regarding the feasibility of a Zoning By-law Amendment (ZBA) for lands known as 1850 North Service Road, Windsor.

HD Development Group (the Owner) is proposing the development of the vacant 4.07 ha site with a new development comprising 387 unit residential condominiums in 5 buildings on site. There will be connection to municipal services and on site parking provided with 491 parking spaces, 5 loading spaces, and 26 bike parking spaces. The development will comprise 5 buildings with a medium profile of 6 storeys (20.7 m) in height and will result in a lot coverage of 20% with 43 % landscaped open space.

This planning rationale report will demonstrate the consistency of the development proposal with the Provincial Policy Statement (PPS) 2020 and how the proposed residential land use conforms with City of Windsor's residential housing policies, supports healthy community initiatives, and provides for healthy, walkable community policies and is considered compatible with the neigbhbourhood.

Jackie Lassaline, BA MCIP RPP, Lassaline Planning Consultants has prepared this planning rationale report to support, explain and justify the Zoning By-law Amendment (ZBA) application.

1.1 APPLICATION INFORMATION

The landowner, 1433311 ONTARIO INC. (HD Development Group), has applied for:

1) a Zoning Bylaw Amendment (ZBA) to have the subject 4.07 ha property rezoned from 'Green District (GD1.2)' to a 'Residential District 3.3 (RD3.3)' zone in the City of Windsor's Comprehensive Zoning Bylaw 8600 (CZB). The ZBA purports to provide an appropriate residential regulatory framework for the subject lands;

2) an exemption for the development from ICB Bylaw 03-2020 whereby Council passed an Interim Control Bylaw 03-2020 that imposed the prohibition of multiple dwellings;

3) a Plan of Condominium will be requested in anticipation of the condominium progressing through Condominium Act review;

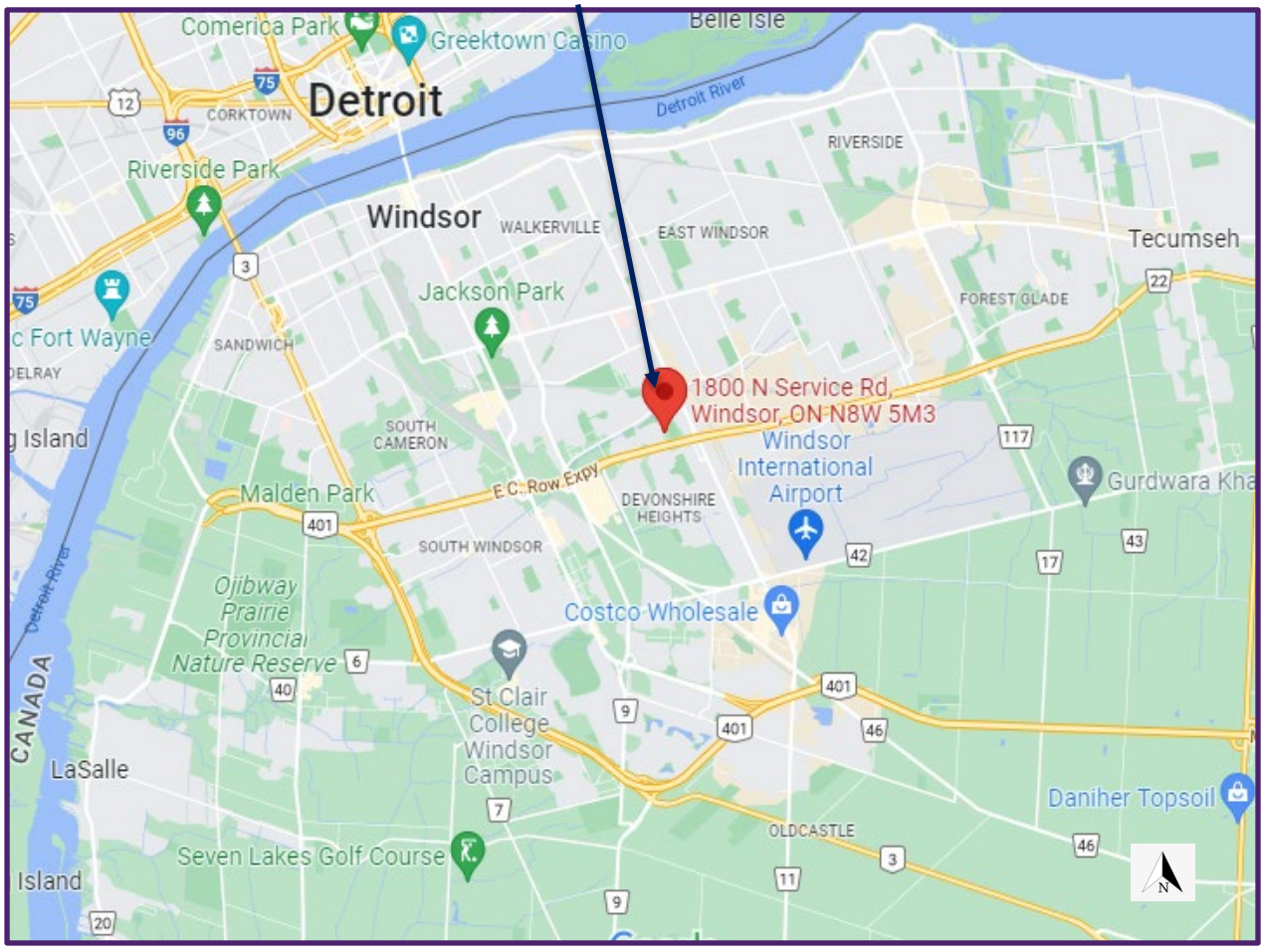
4) Site Plan Control will be applied for after the passing of the regulatory ZBA.

2.0 SITE AND SURROUNDING LAND USES

Originally, the subject site was the soccer playing field associated with the Fogolar Furlan Italian Club located on North Service Road, in the City of Windsor. The site underwent a consent to sever in 2020 to create the 4.07 ha vacant parcel for the purposes of providing lands for residential development.

The subject site is located at 1850 North Service Road, in the urban settlement area of the City of Windsor. The site is within the 'Remington Park' neighbourhood of WARD 10, beside the Fogolar Furlan Italian Club.

FIGURE 1 – LOCATIONAL MAP: 1850 NORTH SERVICE ROAD



2.1 LEGAL DESCRIPTION AND OWNERSHIP

The subject lands are presently owned by 5054545 Ontario Inc. and are known as HD Development Group.

The subject lands have a legal description of:

Part Lot 95, Concession 2 Sandwich East Parts 1 and 2, 12R28716; S/T R786174E, S/T SE8811; S/T an easement and Right of Way in favour of Pts 3 and 4 12R28716 For Pedestrian and Vehicular Access, Servicing and Supply of Utilities as set out in CE1040237; Windsor.

2.2 TOPOGRAPHY AND PHYSICAL FEATURES OF THE SITE

The site is presently used as a soccer sports field and manicured lawn. The subject lands are located between the Fogolar Furlan Club and the rear yards of the single detached residences along Byng Road.

There is a manicured berm along the frontage of North Service Road with trees lining the top of the berm that will be incorporated as landscaping for the front yard of the subject development.

There are no natural hazards or human made hazards on the site. There are no water courses, ditches, or significant natural features present on the site. The site is not situated on a flood plan.

2.3 SIZE AND SITE DIMENSION

The subject site is a large rectangular shaped parcel with a road frontage along North Service Road. The site has an area of 4.07 ha with 143.87 m frontage on North Service Road.

FIGURE 2 – SITE AERIAL: PROPOSED DEVELOPMENT SITE

2.4 EXISTING STRUCTURES

The site is presently vacant of buildings with only some metal soccer goal posts on the site that will be removed during the development of the property. There are no other existing buildings or structures on the site.

2.5 VEGETATION AND SOIL

As a greenspace/parkland and soccer pitch associated with the Fogolar Furlan facility, there is only some scrub bushes and trees on the periphery of the property.

FIGURE 3 a– SITE PHOTO: LOOKINIG NORTH FROM NORTH SERVICE ROAD

FIGURE 3 b – SITE PHOTO: LOOKINIG NORTH FROM NORTH SERVICE ROAD

FIGURE 4 – SITE PHOTO: LOOKINIG NORTH/EAST FROM PARKING LOT

Myler Consulting Biologists have completed a Species At Risk (SAR) investigation of the property and it was determined there are no species at risk or endangered species of flora or fauna at the subject site.

There are planted amenity trees in the berm along North Service Road that will be maintained. The site is mainly comprised of open manicured lawn and sports field**.** Landscaping plan prepared by an OLA will be provided at the time of Site Plan Control submission.

2.6 MUNICIPAL SERVICES

The subject property has direct access to sanitary sewers along the northern edge of the property along Udine Park and will provide for access to connect to service the development. Please refer to attached **APPENDIX B- SANITARY SEWER STUDY**

The site also has direct access to storm water sewers along the southern edge of the property along the rear yards of the properties of Byng Road. A Storm Water Management design includes details for a storm pond for the holding and slow release of storm water. This pond will be a dry pond and will only contain water at time of a significant storm event. **APPENDIX C – STORM WATER MANAGEMENT REPORT**

Residents of the new residences will have nearby access to a Transit Windsor Bus Route 14 Parent, which stops on North Service Road at Conservation, a 9 minute walk away. The site is also nearby a multi-use pathway for pedestrians and cyclists, which runs through Urdine Park to the north. The development proposes to create a pathway from the site to the existing multi-use trail for the benefit of pedestrians and cyclists, which will facilitate active transportation.

2.7 NEARBY AMENITIES

The proposed new 5 building condominium complex provides for a needed residential housing infill development that will help to reduce the impacts of climate change by promoting residential densification and facilitating active transportation by walking and cycling. The subject site is accessible to existing Transit Windsor municipal bus routes, with a nearby stop at North Service Road and Conservation Road.

The proposed development is less than a 5 minute drive to access the EC Row Expressway and a one minute drive to access Walker Road.

The subject site is adjacent to greenspace at Urdine Park and is a walkable distance to Jennifer Park and Remington Park. The proposed development is also within a short walk of nearby elementary schools, places of worship, and other recreational and cultural amenities:

- Chartwell Oak Park Terrace retirement residence (adjacent)
- St Christopher Catholic Elementary School (10 min walk)
- J.A. McWilliam Elementary School (16 min walk)
- Spiritual Assembly of the Baha'i (20 min walk)
- Our Lady of Perpetual Help Catholic Elementary School (24 min walk)
- Central Park Athletics (30 min walk)
- Walker Homesite Park (19 min walk)
- Holy Cross Greek Orthodox Church (12 min walk)
- Hellenic Cultural Centre (12 min walk)
- Bait ul Ehsaan Mosque (26 min walk)

The subject site is accessible to bike trails along North Service Road to the south and at Urdine Park through to the north, promoting active transportation by cycling. The following recreational and commercial amenities are less than a 10 minute bike ride away:

- Devonshire Mall (7 min)

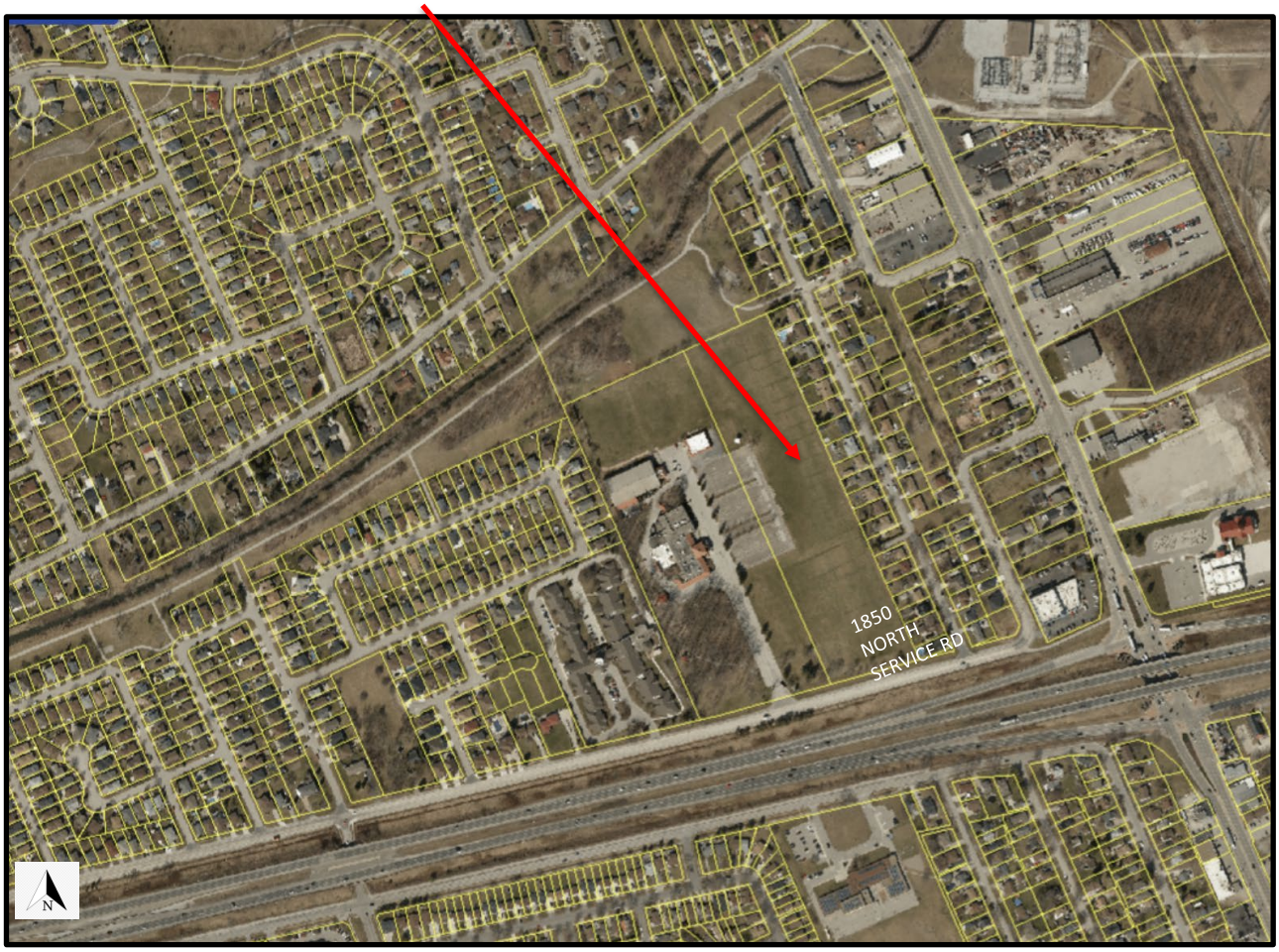
- Optimist Community Centre (10 min)
- W.F. Chrisholm Public Library (9 min)
- Metro groceries (7 min)

2.8 SURROUNDING LAND USES

The subject site is located within a residential neighbourhood with a wide variety of existing low, medium, and high density residential housing:

a) North - Udine Park (GD1.1). Low density residential area beyond (RD1.2).
b) East - Low density Residential area (RD1.1). Medium density Residential area beyond (RD2.2 and HRD2.1).
c) South - E.C. Row Expressway, J.A. McWilliam Elementary School beyond (1D1.1)
d) West - Fogolar Furlan Italian Club and treed yard, Windsor Hall banquet club (GD1.2), Chartwell Oak Park Terrace retirement residence (RD3.4) and low residential area beyond (RD1.2).

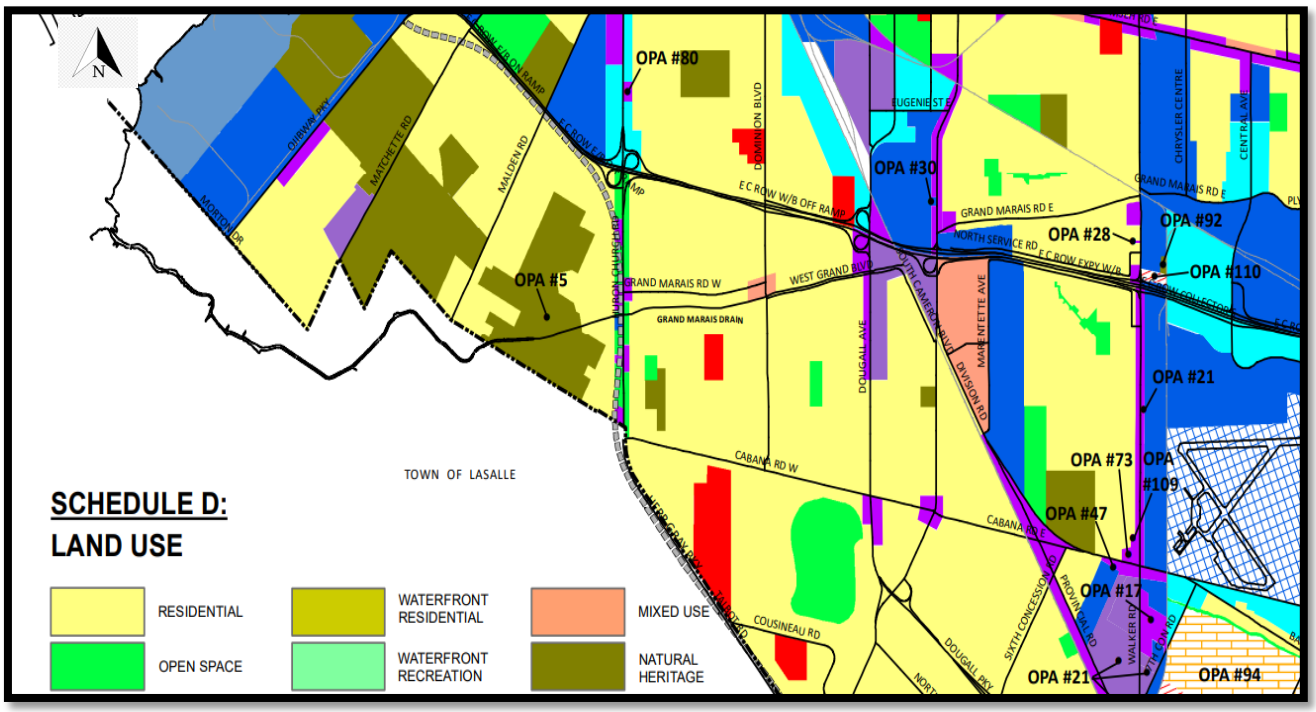
FIGURE 5 – NEIGHBOURHOOD AERIAL: 1850 NORTH SERVICE RD



3.0 DEVELOPMENT PROPOSAL

The Official Plan designates the subject site as “Residential’ on Schedule D: Land Use schedule of the Official Plan for the City of Windsor. The proposed land use of residential is a permitted use in the ‘Residential’ designation. It is my professional opinion that an amendment to the Official Plan policies are not required to support the proposed residential development in the residential designation.

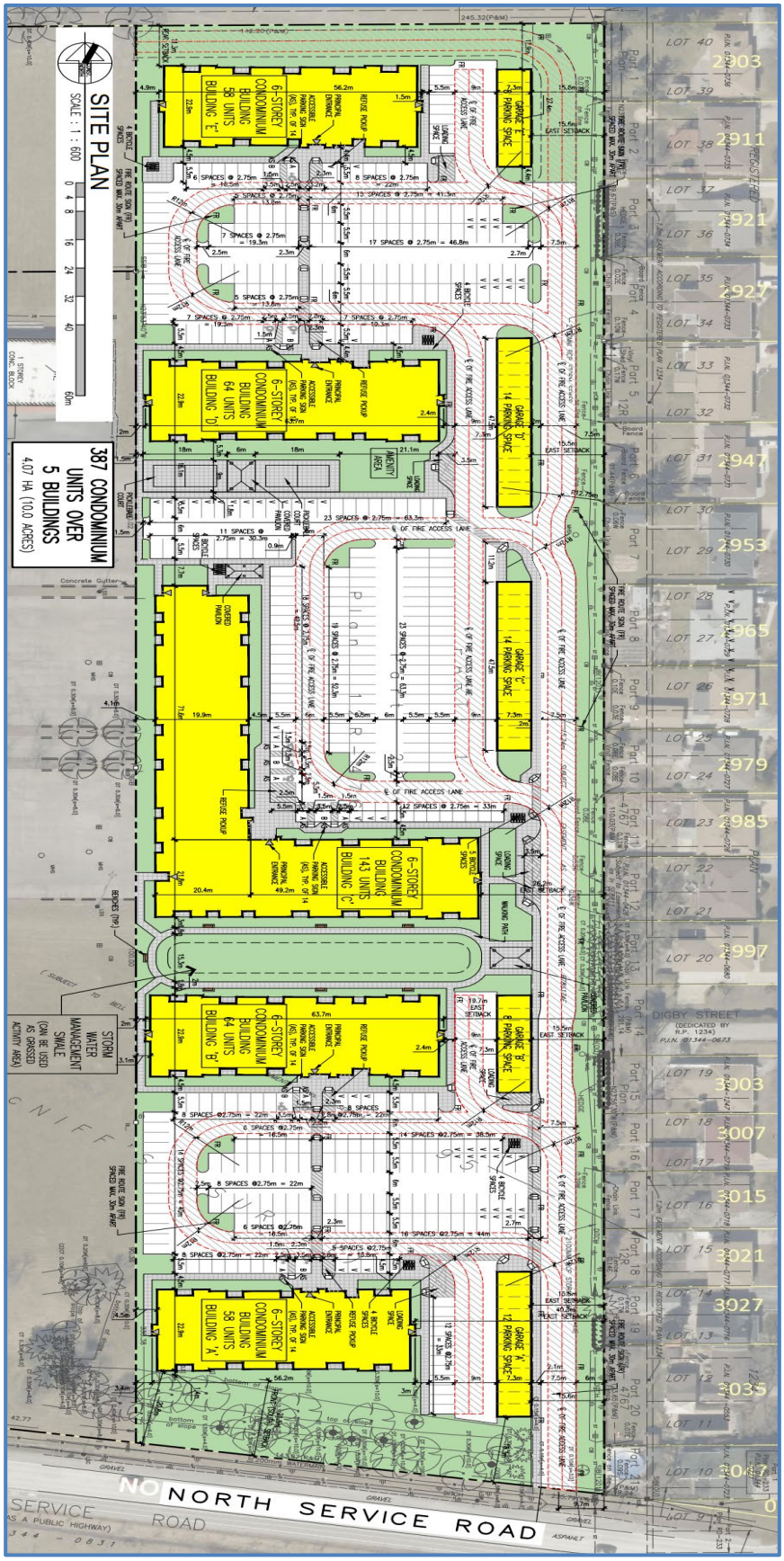
FIGURE 6 – CITY OF WINDSOR OFFICAL PLAN SCHEDULE D: LAND USE



A ZBA is required to establish a regulatory framework for the subject lands to address the uniqueness of the proposed infilling development. The proposed ZBA purports to change the regulatory framework applied to the property from ‘Green District GD1.2’ to a ‘Residential District 3.3 (RD3.3)‘ to support the proposed development of the site as a complex of 5 condominium buildings with a total of 387 units and associated parking and amenities.

The presently vacant lands are comprised of 4.07 ha area and are proposed to be developed with 5 residential condominium buildings at 6 storeys each building: Building A with 58 units; Building B with 64 units; Building C with 143 units; Building D with 64 units; and Building E with 58 units for total of 387 condominium units. The total Ground Floor Area (GFA) of the 5 buildings consists of 8,735 m2 GFA will result in a building lot coverage of 21.5 %.

FIGURE 7 – SITE PLAN



The parking is proposed at 495 regular parking spaces, comprised of 6 Type A Barrier Free (BF) spaces, 8 Type B BF spaces, 26 bike spaces, and 5 loading spaces. Approximately 54 parking spaces will be covered in parking garages associated with residential units.

The neighbourhood provides for a mix of uses with predominantly residential use and a seniors complex in close proximity. With the design of the site and the design of the buildings, regard for compatibility as an infill development in an established neighbourhood has been the primary design focus.

Design features have been addressed in multiple approaches that will be positive for the neighbourhood and demonstrates the compatibility of the proposed buildings as an infilling development within the existing neighbourhood. Buildings have been oriented laterally in an east west direction providing for balconies on the north and south building faces away from the existing residences on the east side of the buildings. The proposed residential buildings have been designed with the 'ends' of 4.5 of 5 buildings facing the existing residences. The building ends are not habitable rooms or balconies but rather comprise interior stairwells thereby eliminating by design the new owners 'overlooking' the backyards of the existing residents. Please refer below to **FIGURE 5 and FIGURE 6 AERIAL SITE VIEWS.**

The buildings have been located to the furthest points on the west of the property to provide for substantial distance separation to the existing residences. The existing fencing and landscaping buffer will also assist in providing separation distance to the existing residences. As an additional measure, the parking garages were moved from the west side of the property to the east side of the lot to provide a buffer and to allow for the further reduction of the west interior side yard of the buildings. **FIGURE 7 SITE PLAN.**

The development will provide for condominiums in a medium profile building, an alternative housing style and tenure that supports diversity and housing alternatives in the City. The ability for young adults to purchase a condominium is a more affordable alternative to the present single detached residences presently in the housing market. As well, the condominium development will support the need for senior residents within the community to age in place as an alternative tenure and style to the single detached residence. The provision of condominiums in the medium density complex will support diversity of housing that is necessary for a vital and healthy community.

FIGURE 8 – SITE AERIAL VIEW – NORTH-EAST CORNER

FIGURE 9 – SITE AERIAL VIEW – SOUTH-EAST CORNER

Landscaped open space has been allocated at 41% as extensive amenity space for the residents. Outdoor amenities include extensive grassed area, trees and landscaping, 4 outdoor pavilions, 3 outdoor pickleball courts, and proposed walking paths, landscaping and benches surrounding the dry storm water management pond/swale with the intent to create a significant gathering place/outdoor amenity space for the residents.

The existing treed berm along North Service Road will be retained. A pedestrian connection will be created to the existing municipal multi-use trail through Urdine Park. The proximity of the complex to recreational greenspace, schools, and public transit will promote active transportation within the City of Windsor. The proposed landscaping with the development of gathering places, outdoor pavilions, pickleball courts, and an outdoor amenity area will encourage residents to develop a sense of community and place. The proposed development is accessible by public transportation to amenities throughout the City such as Devonshire Mall, St. Clair College, and the University of Windsor.

The massing and height of the buildings are medium profile and in my professional opinion are compatible with the adjacent mixed density and use neighbourhood. The buildings provide for a transition between single detached and other densities and uses within the neighbourhood.

The residential condominium complex will provide an alternative form of housing style and tenure from the typical single detached residences common in Windsor, creating a needed diversity of housing options within the City. The condominium complex will provide a new housing choice identified as the ‘Missing Middle.’

3.1 PROPOSED ZONING BYLAW AMENDMENT (ZBA)

Subject site is designated ‘Residential’ on Schedule A of the Official Plan for the City of Windsor. An Official Plan Amendment (OPA) is not being requested as the subject site is already appropriately designated ‘Residential’ in the City of Windsor Official Plan.

The owner, HD Development Group, is proposing to develop the subject site for a complex of 387 condominium units in 5 buildings of 6 storeys with 495 associated parking spaces and extensive landscaping. The subject lands are currently zoned 'Green District (GD1.2)' in the CZB 8600. A ZBA is requested to change the current zoning of ‘GD1.2’ to a ‘Residential District (RD 3.3)’ to ensure compliance with zoning By-laws regulations.

The condominium development is proposed to consist of large-scale high-profile buildings with a density of 95 units per hectare. It is proposed that the new development be designated 'Residential RD 3.3" in the CZB 8600 to ensure compliance with zoning regulations. Refer to **SECTION 6.0 CITY OF WINDSOR ZONING BYLAW REVIEW.**

3.2 SANITARY SEWER STUDY

Aleo Associates Inc., 325 Devonshire Road, Suite 500, Windsor ON N8Y 2L3, is a qualified engineering firm to provide a professional opinion regarding the Sanitary Sewer Study and determine availability and capacity for the proposed residential development. Please refer to report referenced 'Sanitary Sewer Study 1850 North Service Rod 2022.06.24'.

Conclusion by Aleo Associates relating to the Sanitary Sewer Study determined that there is sufficient capacity in the municipal sewer system to accommodate the proposed development:

> "*This is a significant increase in the total peak sewage flow rate, however, the capacity in the municipal sewer system to support the development exists. The sanitary sewer system will have 64% of its capacity utilized postdevelopment which still allows for additional development within this drainage area in the future. Therefore, there is sufficient capacity available in the municipal sanitary sewer to support the proposed condominium development without affecting the municipal system or surrounding properties."*

3.3 STORM WATER MANAGEMENT STUDY

Aleo Associates Inc., 325 Devonshire Road, Suite 500, Windsor ON N8Y 2L3, is a qualified engineering firm to provide a professional study regarding Storm Water Management Report (SMWR) . Please refer to report referenced 'Storm Sewer Study 1850 North Service Rod 2022.06.24'.

Conclusion by Aleo Associates relating to the management of Storm Water on site:

> *"The proposed development consists of five, six story multi-unit residential buildings with surrounding parking lot and landscape areas. An 85% impervious percentage will be used for the developed site. A new storm connection will be made to the municipal storm trunk sewer to provide a deeper outlet for the site drainage design than what the existing outlet elevation currently provides at the*

existing catch basin. The existing site storm connection will be abandoned to City of Windsor standards.

A flow restrictor will be installed at the outlet to restrict the post development flows to the pre-development release of 44 L/s. The runoff rate of the existing pre-developed condition is being maintained as part of the proposed development and therefore there will not be any effect on the receiving storm sewer system or surrounding properties.

A storm detention scheme will be carried out during the detailed design phase and will completed to conform to the Windsor-Essex Region Stormwater Management Standards. Storage will be provided through surface storage on the parking lot surface, in a large detention pond which was incorporated into the site plan design, and in underground storm pipe and structures.

Stormwater quality control will be accomplished by incorporating an oil and grit separator unit at the outlet to treat stormwater captured from the site before it is released to the municipal sewer system. The level of treatment will be normal (70% TSS removal)."

3.4 SPECIES AT RISK

Myler Ecological Consulting, 7 Olive Crescent, Stoney Creek, ON L8G 2T2, is a qualified firm to provide a professional opinion regarding the presence and significance of SAR.

EXECUTIVE SUMMARY AND RECOMMENDATIONS:

- Myler's observations confirmed an absence of natural habitat and natural vegetation communities on the site that could support SAR occurrences.

- None of the listed SAR plant species was observed.

- The observed conditions on the site were unsuitable for their occurrence and, except for common suburban songbirds, for wildlife in general, both common species and SAR.
- Accordingly, the proposed severance and condominium development can be completed in compliance with the Endangered Species Act without impact to

SAR or SAR habitat and without the need to employ avoidance or mitigation measures to protect SAR.

- However, to maintain compliance with the Migratory Birds Convention Act, should removal of any of the planted amenity trees on the site be required, it would be best to avoid the active bird nesting season (approximately late March to late August). Otherwise, tree removals during the nesting season should be conducted under the guidance of a qualified biologist who will search for active nests and identify temporary avoidance and temporary buffers if required.

3.5 TRAFFIC STUDY

Paradigm Transportation Solutions Limited, 5A-150 Pinebush Rd, Cambridge ON N1R 8J8, is a qualified transportation engineering firm that undertook a traffic study relating to the proposed development.

EXECUTIVE SUMMARY AND RECOMMENDATIONS:

Based on the investigations carried out, it is concluded that:

- **Existing Traffic Conditions: All study area intersections are currently operating within acceptable levels of service;**
- **Proposed Development: The full build-out of the site is forecast to generate 103 and 130 trips during weekday AM and PM peak hours, respectively;**
- **2030 Background Traffic Conditions: All study area intersections are forecast to operate at acceptable levels of service;**
- **2030 Total Traffic Conditions: All study area intersections are forecast to operate at acceptable levels of service; and**
- **Remedial Measures:**
  - **Left-Turn Lane Warrants: It was found that no left-turn lanes are forecast to be warranted.**

Recommendations:

Based on the findings of this study, it is recommended that no improvements to the transportation network be required for the approval of the proposed development.

3.6 NOISE STUDY

JJ Acoustic Engineering Ltd., JJ-00392 NIS1 is a qualified Noise Engineering firm that undertook a noise study relating to the proposed development.

"This Study has determined that the potential environmental noise impact from road traffic noise is significant. The proposed development will need the following: a requirement for central air-conditioning, noise warning clauses and special building components. Road traffic noise control requirements for the Site were determined based on road traffic volumes provided by the City of Windsor (City) and forecasted to 10 years from the date of this study.

Recommendations: The road traffic noise impacts were above the NPC 300 requirements. Noise mitigation measures include:

Building #1 • Warning Clause Type C for the East and South façades. • Requirement for Air Conditioning for the entire building. These have been summarized in Attachment B under Table B1.

Building #2 • Warning Clause Type C for the East façade. • Warning Clause Type D for the South façade. • Requirement for Air Conditioning for the entire building. • A minimum of

STC 29 is required for all exterior glazing for the South façade. These have been summarized in Attachment B under Table B1.

Building #3 • Warning Clause Type C for the North façades. • Warning Clause Type D for the East, South, and West façades. • Requirement for Air Conditioning for the entire building. • A minimum of STC 33 is required for all exterior glazing for the South façade. • A minimum of STC 30 is required for all exterior glazing for the East and West façades. These have been summarized in Attachment B under Table B1

Building #4 • Warning Clause Type C for the North façade. • Warning Clause Type D for the East, South, and West façades. • Requirement for Air Conditioning for the entire building. • A minimum of STC 29 is required for all exterior glazing for the East façade. • A minimum of STC 35 is required for all exterior glazing for the South façade. • A minimum of STC 31 is required for all exterior glazing for the West façade. These have been summarized in Attachment B under Table B1.

Building #5 • Warning Clause Type C for the North façade. • Warning Clause Type D for the East, South, and West façades. • Requirement for Air Conditioning for the entire building. • A minimum of STC 32 is required for all exterior glazing for the East façade. • A minimum of STC 37 is required for all exterior glazing for the South façade. • A minimum of STC 34 is required for all exterior glazing for the West façade.

Outdoor Living Area: • Warning Clause Type A • OLA #5 is over noise limit in its current placement, JJAE advises to remove from Site Plan. • OLA #6 is over noise limit in its current placement, JJAE advises to remove from Site Plan. These have been summarized in Attachment B under Table B1."

3.7 SHADOW STUDY

JUNE (SUMMER):

As shown in the Shadow Study, Figure 7 – June (Summer) shows that due to the building orientation and location, the buildings do not result in shadows on the adjacent residences during the summer months. The location of the buildings to the west of the property, the orientation of the buildings east and west, and the low profile of the buildings results in no negative impact on the adjacent residences with shadows.

FIGURE 10 – SHADOW STUDY – JUNE (SUMMER):

MARCH (SPRING):

As shown in the Shadow Study, Figure 8 – March (Spring) shows that there is only a minor time late afternoon after 5:00 pm that shadow falls on the adjacent residential neighbourhood. This shadow study shows that the location of the buildings to the west of the property, orientation of the buildings east and west on the parcel, and the medium profile of the building has a positive impact in the reduction of the impact of shadows on the adjacent neighbours.

FIGURE 11 – SHADOW STUDY – MARCH (SPRING)

3.8 BUILDING RENDERINGS

BUILDING A & E

BUILDING A & E

FRONT - NORTH EAST CORNER

FRONT - NORTH WEST CORNER

REAR - SOUTH EAST CORNER

REAR - SOUTH EAST CORNER

architectural design associates inc. architect
1670 mercer street
windsor ontario canada n9x 3p7
ph 519.254.3430 fax 519.254.3942

issue	date (yyyy/mm/dd)	issued for:
	2022/05/25	ZBA

general notes:
1. THE DRAWINGS AS INSTRUMENTS OF SERVICE ONLY ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT.
2. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE SHALL BE INFORMED OF ANY VARIATION FROM THE DRAWINGS AND RELATED DOCUMENTS PRIOR TO PROCEEDING WITH THE WORK.
3. DO NOT SCALE DRAWINGS. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ALL DIMENSIONS ARE TO BE CHECKED ON THE JOB.
4. CONTRACTOR SHALL PROVIDE ALL SHORING AND BRACING AS REQUIRED TO ENSURE THE STABILITY OF THE BUILDING DURING CONSTRUCTION.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE BUILDING CODES AND BY-LAWS OF AUTHORITIES HAVING JURISDICTION.
6. CONTRACTOR SHALL REPORT ANY DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS TO THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK IN QUESTION.
7. CO-ORDINATE ALL DEPARTURES OF THE DRAWINGS IN THE CONSTRUCTION OF THIS FACILITY.

project: PROPOSED RESIDENTIAL DEVELOPMENT [ADDRESS TBD]
client: HD DEVELOPMENTS
drawing title: BUILDING B & D - RENDERS

scale:
drawn by: TK
checked by: SMB
date: MAY, 2022
comm. no.: 2021-062

sheet no.: SPC 3.4

BUILDING C

FRONT - NORTH WEST CORNER

FRONT - NORTH WEST CORNER

REAR - NORTH - FRONT ENTRANCE

REAR - SOUTH EAST CORNER

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issue	date (yyyy/mm/dd)	issued for:
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3. DO NOT SCALE DRAWINGS. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ALL DIMENSIONS ARE TO BE CHECKED ON THE JOB.
4. CONTRACTOR SHALL PROVIDE ALL SHORING AND BRACING AS REQUIRED TO ENSURE THE STABILITY OF THE BUILDING DURING CONSTRUCTION.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE BUILDING CODES AND BY-LAWS OF AUTHORITIES HAVING JURISDICTION.
6. CONTRACTOR SHALL REPORT ANY DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS TO THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK IN QUESTION.
7. CO-ORDINATE ALL DEPARTURES OF THE DRAWINGS IN THE CONSTRUCTION OF THIS FACILITY.

project: PROPOSED RESIDENTIAL DEVELOPMENT [ADDRESS TBD]
client: HD DEVELOPMENTS
drawing title: BUILDING C - RENDERS

scale:
drawn by: TK
checked by: SMB
date: MAY, 2022
comm. no.: 2021-062

sheet no.: SPC 3.7

3.9 OPEN HOUSE

Please refer to APPENDIX C – OPEN HOUSE INFORMATION

* Notice was prepared and hand delivered to the neighbours along Byng;
* Open House was held on May 10, 2022 at the Fogolar Furlon facility, Windsor Room;
* There was a significant turn out of approximately 24-26 neighbours and Councillor Morrison;
* Most neighbour's issues were based on an existing traffic concern: With shift work at Chrysler's, there are peak periods of excess traffic using Byng St as a 'short cut' – concern is that the new residents will utilize Byng as a 'short cut' adding more traffic;
* The residents wanted to know range of prices of condos – some were interested in 'aging in place' by purchasing a unit and selling their single detached residence;
* Concern was raised about privacy – explained about the orientation of the building – were more concerned about 'any' neighbour;
* Concern was raised about the de-valuation of their homes.
* Most left with positive response and supportive of the measures taken to ensure compatibility of the development with their existing residence.

4.0 PROVINCIAL POLICY STATEMENT (PPS)

When reviewing a planning application to determine if the requested Zoning Bylaw Amendment (ZBA) makes sound planning, it is imperative that the proposed development is consistent with the Provincial Policy Statements (PPS): “The Provincial Policy Statement provides policy direction for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural environment. It (PPS) recognizes that the wise management of development may involve directing, promoting or sustaining growth. Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns."

“Section 1.1.1 Healthy, liveable and safe communities are sustained by:

a) promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;

COMMENT:

In my professional opinion, the proposed ZBA will authorize the proposed new development that will create an efficient and effective use suited and compatible with the existing neighbourhood.

b) accommodating an appropriate affordable and market-based range and mix of residential types (including single-detached, additional residential units, multi-unit housing, affordable housing and housing for older persons), employment (including industrial and commercial), institutional (including places of worship, cemeteries and long-term care homes), recreation, park and open space, and other uses to meet long-term needs;

COMMENT:

The condominium buildings will provide for an alternative style and tenure of housing than the standard single detached residence. The ZBA will facilitate the provision of a variety and diversity of housing needed within a community to support a healthy community. The residential buildings will be developed as condo ownership providing for an alternative housing style and tenure while supporting a diversification of housing styles and tenures. The condominium as infilling housing within an older residential neighbourhood will provide alternative housing for neighbours to ‘age in place’ as a next stage housing alternative to their single detached residence.

c) *avoiding development and land use patterns which may cause environmental or public health and safety concerns;*

COMMENT:

There are no environmental or health issues associated with the proposed development of the existing vacant lands. The property is an infilling parcel that will support, in my professional opinion, the efficient and effective utilization of municipal services.

d) *avoiding development and land use patterns that would prevent the efficient expansion of settlement areas in those areas which are adjacent or close to settlement areas;*

COMMENT:

The subject lands are located within the urban area of the settlement area within the City of Windsor. The ZBA authorizes an infilling residential development within an established residential neighbourhood; the buildings are distance separated from the existing residences, provide a neighbourhood transition in a mixed density and mixed use neighbourhood; the medium density residences that in my opinion, provide a housing tenure and style diversification that is compatible with the neighbourhood. In my professional opinion, the proposed development will not result in the unnecessary expansion of the urban settlement area.

e) *promoting the integration of land use planning, growth management, transit-supportive development, intensification, and infrastructure planning to achieve cost-effective development patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs;*

COMMENT:

The proposed development is infilling in a vacant, under utilized field within an established residential neighbourhood. The development will allow for an infilling development of medium density residential development that will utilize existing municipal services. The utilization of the vacant property for the development of 387 residential condominium units, in my professional opinion, will result in with an appropriate intensification of use.

COMMENT:

Site services are available to the site. As noted in the Engineering report, there is municipal capacity to accommodate the proposed land use and the development will not result in an expansion of municipal infrastructure. In my professional opinion, the site location will allow for an efficient and effective development while providing for a cost effective utilization of existing municipal infra-structure.

The site is located near municipal bus route and has direct access to the Edward Charles Expressway (EC ROW), an expressway providing access across Windsor. In my opinion, the proposal supports the establishment of alternative housing tenure and style while supporting intensification of land use in an appropriate area while supporting wise management and cost effective utilization of municipal services such as the transit system, walking trail and bike trail infrastructure of municipal services, and efficient utilization of existing municipal services.

In my professional opinion, the proposed residential development of the property is consistent with and supports the cost-effective intensification of the property as infilling development while minimizing land consumption and supports the efficient and effective utilization of municipal infrastructure.

f) improving accessibility for persons with disabilities and older persons by addressing land use barriers which restrict their full participation in society;

COMMENT:

Building accessibility will be established in compliance with the OBC for all the residential units.

g) ensuring that necessary infrastructure and public service facilities are or will be available to meet current and projected needs

COMMENT:

As noted in the Sanitary Sewer Study (Appendix B) and the Storm Water Management Report (Appendix C) there is capacity available in the municipal infrastructure to accommodate the proposed 387 residential unit condos. In my professional opinion, the proposed new condo development can be considered an efficient and effective utilization of municipal infrastructure.

h) promoting development and land use patterns that conserve biodiversity; and

COMMENT:

In my professional opinion, the proposed development assists with the conservation and preservation of biodiversity by providing for wise intensification of land use with redevelopment of existing lands as infilling in an urban centre.

i) Preparing for the regional and local impacts of a changing climate.

COMMENT:

The building is located within a neighbourhood providing services and commodities within walking distance. There are employment opportunities within walking distance to the site, supporting the work/live initiative. There is a bus service, trail system, and the EC ROW within close proximity that will reduce the dependence on the vehicle while supporting walking, biking and healthy community initiatives of the Municipality and Province.

*"**Section 1.1.3.3***

Planning authorities shall identify appropriate locations and promote opportunities for transit-supportive development, accommodating a significant supply and range of housing options through intensification and redevelopment where this can be accommodated taking into account existing building stock or areas, including brownfield sites, and the availability of suitable existing or planned infrastructure and public service facilities required to accommodate projected needs.

COMMENT:

The subject lands were designated for residential development and are located within a residential neighbourhood. The proposed residential condominium development is permitted by the OP and will be authorized by the proposed ZBA.

In my professional opinion, the proposed development provides for an efficient and effective utilization of municipal services; provides for an intensification of an appropriate land use; and will provide for suitable and compatible residential development that will provide for alternative housing tenure and style.

*"**Section 1.1.3.4 Settlement Areas***

Appropriate development standards should be promoted which facilitate intensification, redevelopment and compact form, while avoiding or mitigating risks to public health and safety."

COMMENT:

The development of the subject lands supports, promotes and facilities an appropriate land use for the neighbourhood while allowing for an intensification of land use and providing needed residential condominium units as alternative tenure and style of housing. There are no public health issues or risks associated with the proposed development.

*"**Section 1.1.3.6***

New development taking place in designated growth areas should occur adjacent to the existing built-up area and should have a compact form, mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities."

COMMENT:

In my professional opinion, the proposed development will provide for a compact built form with appropriate intensification of land use as an infilling residential development in a neighbourhood of mixed uses and mixed residential densities resulting in an efficient and effective use of the subject lands.

COMMENT:

In my professional opinion, the requested ZBA is consistent with the 2020 PPS by supporting the sound and efficient managed intensification and growth associated with the residential development of the land use for the subject site. Providing for a ZBA regulatory framework that support the development of these lands for residential condominiums as an infilling development of a compatible development for the community, in my professional opinion supports the Healthy Community initiatives and is therefore consistent with the Provincial Policy Statements.

5.0 CITY OF WINDSOR OFFICAL PLAN

The City of Windsor Official Plan provides policies directing land use within the entirety of the municipality of Windsor. The policies are consistent with the Provincial Policy Statements and provides additional policy direction for development within the City of Windsor. The subject lands are designated 'Residential' in the Official Plan and as shown on Schedule D Land use Plan for the City of Windsor. The following review places the proposal in context of the policy framework of the Official Plan for the City.

> ***"2. Glossary***
> ***DEVELOPMENT PROFILE*** *Development Profile refers to the height of a building or structure. There are four development profiles described in the Plan: City of Windsor Official Plan 1 Volume I 1 Glossary 2 - 2 (a) Low Profile development is a building or structure generally no greater than fourteen (14) metres in height. Low Profile Housing development is further classified as follows; (i) small scale forms: single detached, semi-detached, duplex, and row and multiplexes with up to 8 units; and (ii) large scale forms: buildings with more than 8 units;* ***(b) Medium Profile development is a building or structure generally no less than fourteen (14) metres in height and generally no greater than twenty six (26) metres in height;*** *(c) High Profile development is a building or structure generally no less than twenty (26) metres in height and generally no greater than fifty eight (58) metres in height; (d) Very High Profile development is a building or structure generally greater than fifty eight (58) metres in height.*

COMMENT:

The proposed 387 residentials condominium units are proposed to be constructed in 5 buildings as shown on the attached Site Plan. Each building is proposed at 6 storeys in height with 20.7 m in height. The buildings and development can be considered medium profile as infilling within a neighbourhood of mix uses and profiles.

> ***"3.2.1.2 NEIGHBOURHOOD HOUSING VARIETY***
>
> *Encouraging a range of housing types will ensure that people have an opportunity to live in their neighbourhoods as they pass through the various stages of their lives. Residents will have a voice in how this new housing fits within their neighbourhood. As the city grows, more housing opportunities will mean less sprawl onto agricultural and natural lands.*

COMMENT:

The proposed residential condominium development will provide for an alternative housing style and tenure than the standard single detached residence providing a diversity of housing. The condominium housing provides for an opportunity for some of the long established residents within the neighbourhood to remain within their neighbourhood and 'age in place', a positive opportunity voiced by attendees of the Open House. In my professional opinion, the proposal conforms with the policy direction to provide for housing variety.

"3.2.1.4 COMMUNITY DESIGN

The design of buildings and spaces will respect and enhance the character of their surroundings, incorporating natural features and creating interesting and comfortable places. Streets, open spaces and the greenway system will serve as public amenities connecting and defining neighbourhoods and contributing to Windsor's image. New development in Windsor will accommodate the needs of pedestrians, cyclists and other recreational activities."

COMMENT:

The site plan has been designed with the neighbourhood aspect in consideration. There has been a link to the trail system through the development. There are amenities designed for the site such as landscaping, buffering, etc that will benefit both the residents and the neighbourhood, providing for conformity of the development with this OP policy.

"3.2.3.5 ENERGY EFFICIENCY

Windsor will encourage the design and construction of energy efficient buildings and landscapes to reduce air, water and land pollution."

COMMENT:

Efforts will be made in the design of the buildings and an increase in landscaping to facilitate energy efficiencies. The development proposal, in my professional opinion, conforms with energy efficiency policies of the Official Plan.

"6. Land Use

*"**6.0 Preamble** A healthy and livable city is one in which people can enjoy a vibrant economy and a sustainable healthy environment in safe, caring and diverse neighbourhoods. In order to ensure that Windsor is such a city, Council will manage development through an approach which balances environmental, social and economic considerations. As such, the Land Use chapter of this Plan promotes a compact urban form and directs compatible development to appropriate locations within existing and future neighbourhoods. This chapter of the Official Plan provides goals, objectives and policies for the land use designations identified on Schedule D: Land Use and Schedule E: City Centre Planning District and should be read in conjunction with the other parts of the Plan.*

COMMENT:

The provision of residential condominiums as alternative housing as infilling in an existing residential neighbourhood supports the healthy community by providing for diversification. The neighbourhood provides for walkability, amenities and a diversifications of uses and residential densities. Compatibility with the neighbourhood was the key element in design features of the proposal. In my professional opinion the development is compatible with the neighbourhood as an infilling development and conforms with this policy of the OP.

*"**6.2.1.2 TYPES OF DEVELOPMENT PROFILE***

For the purpose of this Plan, Development Profile refers to the height of a building or structure. Accordingly, the following Development Profiles apply to all land use designations on Schedule D: Land Use unless specifically provided elsewhere in this Plan:

(a) Low Profile developments are buildings or structures generally no greater than three (3) storeys in height;

***(b) Medium Profile developments are buildings or structures generally no greater than six (6) storeys in height**; and*

(c) High Profile developments are buildings or structures generally no greater than fourteen (14) storeys in height."

COMMENT:

The development proposal is for a medium profile building in a neighbourhood of mix profiles. The design of the buildings to provide for buffering, setback, and building orientation also ensures compatibility as an infill development within the existing neighbourhood.

"6.3 Residential

The lands designated as "Residential" on Schedule D: Land Use provide the main locations for housing in Windsor outside of the City Centre Planning District. In order to develop safe, caring and diverse neighbourhoods, opportunities for a broad range of housing types and complementary services and amenities are provided. The following objectives and policies establish the framework for development decisions in Residential areas.

COMMENT:

The proposed condominium development will provide for an alternative form of housing tenure and style than the typical style of housing in the neighbourhood. The diversification supports rejuvenation of the neighbourhood. Significant amenities such as landscaping, link to the municipal trail system are to be provided on site for the residents benefit as well as the neighbourhood.

The proposed development in my professional opinion conforms with the policy of the Official Plan that supports and encourages diversification in housing to ensure a healthy and prosperous community.

"6.3.1 Objectives

6.3.1.1 RANGE OF FORMS & TENURES

To support a complementary range of housing forms and tenures in all neighbourhoods."

COMMENT:

The proposed residential condominiums provide for an alternative form of housing tenure and style in the neighbourhood. The condominium form of housing will allow for some existing residents to remain in the neighbourhood and 'age in place'. The proposed development, in my opinion, conforms with this policy of the Official Plan.

"6.3.1.2 NEIGHBOURHOODS

To promote compact neighbourhoods which encourage a balanced transportation system."

COMMENT:

The subject site is located fronting on North Service Road with direct access to the EC ROW, a major city wide collector road system. The development being proposed will connect with the existing municipal trail located at the north end of the property. There is a municipal bus system within close walking distance to the site. The proposed development will support a balanced transportation system and in my professional opinion, the proposed development conforms with the policy direction.

"6.3.1.3 INTENSIFICATION, INFILL & REDEVELOPMENT

To promote selective residential redevelopment, infill and intensification initiatives."

COMMENT:

The proposed development will be locating on an under-utilized vacant parcel within a mixed use neighbourhood. The medium profile development will provide for residential use as an infill development on municipal services and with consideration for compatibility to the existing residential development located adjacent to the site. The intensification can be considered well managed intensification providing for a compatible development with the neighbourhood.

"6.3.2.4 LOCATIONAL CRITERIA

Residential development shall be located where:
(a) there is access to a collector or arterial road;
(b) full municipal physical services can be provided;
(c) adequate community services and open spaces are available or are planned; and
(d) public transportation service can be provided."

COMMENT:

The subject site fronts on North Service Road with direct access to the EC Row, a major collector road within the City of Windsor.

The infilling development will provide for wise management of the existing municipal infra structure and services. The SWM Report and Sanitary Sewer Study provided by the Civil Engineer provides a professional opinion that there is sufficient services and capacity to support the development proposal.

The development is proposed with a significant 41 % landscaped open space while providing connections to municipal trail, extensive landscaping, a gathering place, pickle ball courts, and outdoor pavilions.

Based on the locational criteria, the proposed development location conforms with the relevant policy of the Official Plan to ensure appropriate criteria is met for a sound development and a healthy neighbourhood and community.

"6.3.2.5 EVALUATION CRITERIA FOR A NEIGHBOURHOOD DEVELOPMENT PATTERN

At the time of submission, the proponent shall demonstrate to the satisfaction of the Municipality that a proposed residential development within an area having a Neighbourhood development pattern is:

(a) feasible having regard to the other provisions of this Plan, provincial legislation, policies and appropriate guidelines and support studies for uses:
  (i) within or adjacent to any area identified on Schedule C: Development Constraint Areas and described in the Environment chapter of this Plan;
  (ii) adjacent to sources of nuisance, such as noise, odour, vibration and dust;
  (iii) within a site of potential or known contamination;
  (iv) where traffic generation and distribution is a provincial or municipal concern; and
  (v) adjacent to heritage resources.

(b) in keeping with the goals, objectives and policies of any secondary plan or guideline plan affecting the surrounding area;

(c) compatible with the surrounding area in terms of scale, massing, height, siting, orientation, setbacks, parking and amenity areas;

(d) provided with adequate off street parking;

(e) capable of being provided with full municipal physical services and emergency services; and

f) facilitating a gradual transition from Low Profile residential development to Medium and/or High profile development and vice versa, where appropriate."

COMMENT:

Based on all studies completed and included with this PRR, there are no environmental hazards on site; no negative impact resulting from the traffic that will be generated by the development; all noise impact can be mitigated through architectural or design features; and there are no development constraints associated with the property.

The proposed development is a residential infilling of a medium profile building within a neighbourhood of mix of profiles and uses. The lot size and configuration provides opportunities to support the inclusion of a medium profile building while providing for increased setbacks, appropriate orientation of buildings and buffering to support a compatible new development within an older neighbourhood.

The infilling development will provide for a variety of housing style and tenure to the neighbourhood and the community that supports a healthy community. The condominium style of housing will allow some existing residents stay within their established neighbourhood and 'age in place'. The housing style also provide for a style of housing that is considered the 'missing middle' of the community.

The proposed development is a wise utilization of an under-utilzed parcel with the efficient and effective use of municipal services.

The proposed development, in my professional opinion, conforms with this policy by providing for an appropriate and compatible development within the existing

"8.7.2.3 INFILL DEVELOPMENT

Council will ensure that proposed development within an established neighbourhood is designed to function as an integral and complementary part of that area's existing development pattern by having regard for:

(a) massing;
(b) building height;
(c) architectural proportion;
(d) volumes of defined space;
(e) lot size;
(f) position relative to the road; and
(g) building area to site area ratios.
(h) the pattern, scale and character of existing development; and,
(i) exterior building appearance."

COMMENT:

The large lot has been utilized to provide for a significant setback of the buildings from the existing residences on the east. Landscaping and buffering have been utilized to further buffer and provide separation of the new development from the existing residences.

Significantly the buildings have been designed with an east/west orientation so that the non-habitable portion (stairway) of the buildings are facing the existing residences providing privacy of use for the existing residences to the east.

As demonstrated in the rendering and the elevations prepared by ADA Architects, the medium profile buildings are of a high quality design that will be a positive attribute to the neighbourhood. The buildings will provide a vibrancy to a property that has been vacant and under utilized. The vibrancy of the new building will help to rejuvenate a neighbourhood that has not recently seen change.

The Shadow Study shows that the new buildings will not create a shadow or negative impact on the enjoyment of the sunshine on the adjacent residences.

The medium profile buildings provide for a nice transition and separation between the existing residences and the commercial use of the Fogolar Furlon and the institutional Chartwell senior's home.

The buildings provide for a diversity of housing style as well as tenure needed within a community to support the healthy community created through diversity.

In my professional opinion, policy directions have been regarded in the design of the proposed development and that the proposal is a sound, compatible development with the neighbourhood.

COMMENT:

In my professional opinion, the requested ZBA conforms with the relevant policies of the Official Plan for the City of Windsor based on the evaluation noted above.

6.0 CITY OF WINDSOR ZONING REGULATIONS

The subject lands are zoned 'Green District GD1.2' in the CBZ 8600 for the City of Windsor. The land use of residential is not a permitted use in the 'Green District GD1.2' zone presently applied to the subject lands. The change of use from a Green District does not comply with the existing regulatory framework applied to the property.

Zoning By-law Amendment (ZBA) is requested to rezone the subject lands to 'Residential RD 3.3' zone under the CZB 8600 for the City of Windsor will ensure compliance of the proposed development of the site as 5 large scale high profile residential building of 6 storeys high at a density of 95 units per hectare.

PROVISION	**RESIDENTIAL R3.3**	**PREVIOUS PROPOSED DEVELOPMENT**	**NEW SITE PLAN**
LOT AREA	1,825 m^2 for first 19 units 45 m^2 each additional unit (18,385 m^2 for 387 units)	4.07 ha 40,703 m^2	N/C
LOT FRONTAGE	45 m	143 m	N/C
FRONT SETBACK		21 m	20.8 m
REAR SETBACK		11.4 m	11.3 m
INTERIOR SIDE - EAST		BLDG A - 19.7 m BLDG B - 19.7 m BLDG C - 25.7 m BLDG D - 19.7 m BLDG E - 19.7 m	BLDG A - 40.3 m BLDG B - 34.2 m BLDG C - 26.2 m BLDG D - 34.3 m BLDG E - 39.4 m
INTERIOR SIDE - WEST		BLDG A - 23.3 m BLDG B - 17.6 m BLDG C - 4.5 m BLDG D - 17.6 m BLDG E - 25.2 m	BLDG A - 4.5 m BLDG B - 2.0 m BLDG C - 4.1 m BLDG D - 2.0 m BLDG E - 4.9 m
LANDSCAPED OPEN SPACE	35% (min)	41%	41%
LOT COVERAGE	35% (max)	20%	20%
PARKING	1.25 sp x 387 = 484 spaces	491 spaces	494 sp
BICYCLE PARKING	26 spaces	26 spaces	25 spaces
DWELLING UNIT DENSITY	180 units/ ha	95 units/ha	95 units/ha
MAXIMUM MAIN BUILDING HEIGHT	24 m	20.7 m	20.7 m

COMMENT:

After review and evaluation of the CZB for the City of Windsor, the proposed site development complies with the 'Residential District 3.3 (RD3.3)' regulations without modification to recognize site specific provisions.

It is therefore my professional opinion that a ZBA to establish the (RD3.3) zone regulatory framework for the subject lands meets the intent of the CZB for the City of Windsor.

7.0 SUMMARY

In my professional opinion, the requested Zoning Bylaw Amendment (ZBA) purports to apply 'Residential' specific regulatory framework to allow for an appropriate land use for the subject site.

The condominium buildings will provide for an alternative style and tenure of housing than the standard single detached residence within the mixed use and mixed density neighbourhood. The ZBA will facilitate the provision of a variety and diversity of housing needed within a community to support a healthy community. The residential buildings will be developed as condo ownership providing for an alternative housing style and tenure while supporting a diversification of housing styles and tenures accommodating a healthy community. The condominium as infilling housing within an older residential neighbourhood with a mix of housing styles and densities that will provide alternative housing. In addition, the condo style and tenure of housing will provide the neighbours an alternative option for them to continue within their neighbourhood and to 'age in place' as a next stage housing alternative to their single detached residence.

In my professional opinion, the residential condominiums have been designed with respect for the existing adjacent residences and with the location of the buildings on the property, the orientation of the buildings, the beautiful design, separation spacing, extensive landscaping, provision of amenities and parking on site, and the medium profile aspect of the buildings will result in a suitable and compatible development within the existing neighbourhood.

The proposed residential condo development will support the rejuvenation of the existing neighbourhood; will provide for a compatible development as an infilling development; will provide an aesthetically pleasing development; will provide for alternative style and tenure of housing to assist the existing residents to age in place; will provide for an efficient and effective infilling and utilization of municipal services; and will provide for needed alternative residential housing style and tenure supporting the diversification of housing accommodation in the City of Windsor.

In my professional opinion, the requested ZBA makes sound planning and the necessary amendment is supportable.

7.2 CONCLUSION

Given the foregoing assessment and my evaluation of the proposal in relation to the PPS 2020, the City of Windsor Official Plan and the Comprehensive Zoning By-law, in my professional opinion the proposed Zoning By-law Amendment (ZBA) is consistent with polices of the PPS, OP, and regulations found in the Zoning By-law.

In addition, it is my professional opinion that the proposed Zoning By-law Amendment (ZBA) is appropriate and desirable within this policy framework as it will facilitate development of site while also implementing the proposals included in this Planning Justification Report dated May 27, 2022.

In summation, the proposal conforms with the proposed Zoning Bylaw Amendment (ZBA) that will appropriately establish a regulatory framework under the 'Residential District 3.3 (RD3.3)' zone. The ZBA provides a regulatory framework to authorize for needed residential accommodation and supporting a diversity of housing tenures and styles within the municipality.

In my professional opinion the requested ZBA:

1) is consistent with the policies of the 2020 Provincial Policy Statements;
2) conforms with the established policy framework of the OP;
3) maintains the intent of the City of Windsor CZB and when the ZBA is passed, it will establish the regulatory framework required for the development to comply with the CZB;
4) makes sound planning.

I hereby certify that this report was prepared by Jackie Lassaline RPP MCIP, a Registered Professional Planner within the meaning of the Ontario Professional Planners Institute Act, 1994.

Lassaline Planning Consultants Inc.

J M Lassaline

Jackie Lassaline BA MCIP RPP
Principal Planner

9.2 GREEN DISTRICT 1.2 (GD1.2)

9.2.1 PERMITTED USES

Child Care Centre
Club
Private Park
Public Park
Any use accessory to the preceding uses

9.2.5 PROVISIONS

.2	Lot Area – minimum	1,850.0 m^2
.3	Lot Coverage – maximum	25.0%
.4	Building Height – maximum	
	Lot having a *lot area* of less than 0.5 ha	9.0 m
	Lot having a *lot area* of 0.5 ha or more	14.0 m

APPENDIX B:

12.3 RESIDENTIAL DISTRICT 3.3 (RD3.3)

12.3.1 PERMITTED USES

Lodging House
Multiple Dwelling
Religious Residence
Residential Care Facility

Any of the following *existing* dwellings:

Double Duplex Dwelling
Duplex Dwelling
Semi-Detached Dwelling
Single Unit Dwelling

Any use accessory to any of the preceding uses

12.3.5 PROVISIONS

.1	Lot Frontage – minimum	45.0 m
.2	Lot Area – minimum	
	For a *corner lot* having a minimum *lot frontage* of 45.0 m on each of the *exterior lot lines*:	
	a) For the first 23 *dwelling units*	1,825.0 m^2
	b) For each additional *dwelling unit*	37.0 m^2 per unit
	For any other *lot*:	
	c) For the first 19 *dwelling units*	1,825.0 m^2
	d) For each additional *dwelling unit*	45.0 m^2 per unit
.3	Lot Coverage – maximum	35.0%
.4	Main Building Height – maximum	
	Corner Lot	30.0 m
	Interior Lot	24.0 m
.8	Landscaped Open Space Yard – minimum	35.0% of *lot area*
.13	Dwelling Unit Density – *dwelling units* per hectare – maximum	
	For a *corner lot* having a minimum *lot frontage* of 45.0 m on each of the *exterior lot lines*	225 units per ha
	For any other *lot*	180 units per ha

.50 A *Lodging House* for the accommodation of 10 persons or less, and any use accessory thereto, shall comply with the *Single Unit Dwelling* provisions of Section 10.1.5 and further, the whole of the *building* shall be used for a *Lodging House*, including any *accessory use*. [ZNG/5630]

(AMENDED by B/L 95-2019, Sept. 27/2019)

.55 An addition to an existing *Double Duplex Dwelling*, existing *Duplex Dwelling*, existing *Semi-Detached Dwelling* or an existing *Single Unit Dwelling* and any use accessory to the foregoing uses, shall comply with the provisions of Section 11.2.5.

OPEN HOUSE

MAY 10, 2022 I 5 PM – 7 PM

FOGOLAR FURLAN CLUB – WINDSOR HALL NORTH

We are hosting a community information meeting to discuss the proposed 387-unit muti-residential development at 1850 North Service Road (next to Fogolar Furlan Club).

You are invited to attend the open house to learn about the project. We will be there and will be happy to answer any of your questions.

FOR MORE INFORMATION REGARDING THE OPEN HOUSE

PHONE:
519-966-6200

EMAIL:
info@HDdevelopmentgroup.com

HD development group
DESIGN I BUILD

Fogolar Open House Attendant List - May 10th,2022

#	Name	Address	Email	Phone Number
1				
2				
3				
4				
5				
6				
7				
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10				
11				
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20				
21				
22				
23				

Fogolar Open House Attendant List - May 10th, 2022

#	Name	Address	Email	Phone Number
24	Lynn Prowse	1141 St. Denis	lynnprowse@yahoo.ca	519-566-7137
25	Darryl Wheaton	3012 Byng		
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				

SITE DATA MATRIX : SITE ZONING : TBD			
		REQUIRED	PROPOSED
	LOT AREA		40,703.7 m^2
	DWELLING UNITS		387 UNITS
a.	SITE DENSITY – 1 DWELLING UNIT FOR EVERY 105.2 m^2 OF LOT AREA =	MIN. 105.2 m^2 PER UNIT	105.2 m^2 PER UNIT
b.	BUILDING AREA		
c.	BUILDING A		1,219.1 m^2
	BUILDING B		1,385.3 m^2
d.	BUILDING C		2,917.2 m^2
	BUILDING D		1,385.3 m^2
	BUILDING E		1,219.1 m^2
	TOTAL		8,126 m^2
	BUILDING LOT COVERAGE (%)		
	BUILDING A		3.0 %
	BUILDING B		3.4 %
e.	BUILDING C		7.2 %
	BUILDING D		3.4 %
	BUILDING E		3.0 %
	TOTAL		20 %
	BUILDING GROSS FLOOR AREA (G.F.A.)		48,756.0 m^2
	BUILDING HEIGHT		20.7 m
	BUILDING SETBACKS		
f.	FRONT – SOUTH		SEE SITE PLAN
g.	REAR – NORTH		SEE SITE PLAN
h.	SIDE EXTERIOR – EAST		SEE SITE PLAN
	SIDE EXTERIOR – WEST		SEE SITE PLAN
	NO. OF PARKING SPACES (INCLUDES BARRIER FREE SPACES) 1.25 SPACES PER UNIT = 1.25 x 387 =	MIN. 483 SPACES	
	SURFACE		438 SPACES
i.	COVERED		56 SPACES
	TOTAL		494 SPACES
	NO. OF ACCESSIBLE PARKING SPACES		
	TYPE A		6 SPACES
	TYPE B		8 SPACES
j.	NO. OF LOADING SPACES		6 SPACES
	PAVED AREA		17,758.3 m^2
	COVERAGE		43.6 %
k.	LANDSCAPED AREA		
l.	HARD		4,380.3 m^2
	SOFT		10,450.5 m^2
m.	TOTAL		14,830.8 m^2
	COVERAGE		36.4 %
	LINEAR CONCRETE CURB		1,613.6 m
n.	NO. OF BICYCLE SPACES 2 BICYCLE SPACES FOR FIRST 19 PARKING SPACES, 1 BICYCLE SPACE FOR EACH ADDITIONAL 20 PARKING SPACES	MIN. 25 SPACES	25 SPACES

o.

SITE DATA MATRIX : ACCESSORY BUILDINGS – GARAGES – SITE ZONING :				
			REQUIRED	PROPOSED
a.	BUILDING AREA			
	GARAGE A	m^2		298.8
	GARAGE B	m^2		200.7
	GARAGE C	m^2		347.8
	GARAGE D	m^2		347.8
	GARAGE E	m^2		200.7
	TOTAL	m^2		1,395.8
b.	BUILDING LOT COVERAGE (%)			
	GARAGE A	%		0.73
	GARAGE B	%		0.49
	GARAGE C	%		0.85
	GARAGE D	%		0.85
	GARAGE E	%		0.49
	TOTAL	%		2.1
c.	BUILDING HEIGHT	m		4.6

architectural design associates inc. architect
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windsor ontario canada n8x 3p7
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email - info@ada-architect.ca www.ada-architect.ca

stamp:

date (yyyy/mm/dd):	issued for:
2022/05/25	ZBA
2023/01/09	REVISIONS

general notes:

1. THIS PRINT IS AN INSTRUMENT OF SERVICE ONLY AND IS THE PROPERTY OF THE ARCHITECT.
2. DRAWINGS SHALL NOT BE SCALED.
3. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
4. ATTENTION IS DIRECTED TO PROVISIONS IN THE GENERAL CONDITIONS REGARDING CONTRACTOR'S RESPONSIBILITIES IN REGARD TO SUBMISSION OF SHOP DRAWINGS.
5. IN THE EVENT THE ARCHITECT IS RETAINED TO REVIEW SHOP DRAWINGS, SUCH REVIEW IS ONLY TO CHECK FOR CONFORMANCE WITH DESIGN CONCEPT AND WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.
6. CONTRACTORS SHALL PROMPTLY NOTIFY THE ARCHITECT IN WRITING OF THE EXISTENCE OF ANY OBSERVED VARIATIONS BETWEEN THE CONTRACT DOCUMENTS AND ANY APPLICABLE CODES OR BY-LAWS.
7. THE ARCHITECT IS NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS AND OR TECHNIQUES IN THE CONSTRUCTION OF THIS FACILITY.

project:
PROPOSED RESIDENTIAL DEVELOPMENT
[ADDRESS TBD]

client:
HD DEVELOPMENTS

drawing title:
PROPOSED SITE PLAN

scale: 1:600
drawn by: TK
checked by: SMB
date: MAY, 2022
comm. no.: 2021-062

sheet no.:
SPC 1.0

February 6, 2023
Development & Heritage Standing Committee
Item 7.1 – Written Submission

From: Amy Grady
Sent: January 18, 2023 2:01 PM
To: clerks <clerks@citywindsor.ca>
Subject: North service Rd Heritage and Development Committee

To the Heritage and Development Standing Committee,

This project does not fit in this neighbourhood. HD Development should put this project on their multi acre land on the 9th concession where it will not negatively affect residents. The buildings are taller than anything in the area and do not fall within the current RD 1 and RD 2 zoning of the homes surrounding. They obstruct all natural sunlight to the majority of homes on Byng Road during prime time occupancy. This green space should only be changed to a maximum RD 2.2 zoning to keep with the homes in the area.
The residents of Byng Road are not opposed to development on this land. They are opposed to six story monstrosities with hundreds of people congesting the street with traffic due to inadequate parking available and quicker access to the single entrance. These developers made it quite clear during the last meeting with this committee that they had no alternate plan or idea for development because they were confident this project would be approved. When I asked them at the open house about building houses or side-by-side's their answer was it wouldn't be as profitable and there was a bidding war on the property. So because they over paid for this land, the residents who have put all of their time, money and memories into their homes will have to suffer because they need to make more money. The developers stated at the last meeting they had "many" conversations with the Fogolar about the placement of these buildings. Yet they did not have one conversation with the residents who opposed this at the open house. The only street with homes directly affected by this project was not included in the original traffic study and the light study performed conveniently shows the shadows to the properties during the longest days of the year. This proves these developers have zero concern for the residents in this area. I ask all of you to drive down Drouillard road next to the Chrysler plant to get a true idea of what this will be like for these families with the buildings right behind their property.
A news report that claims we're only upset that our privacy will be affected is inaccurate. We're concerned for the safety of our children walking to school on North Service Rd and Byng rd which doesn't have sidewalks. The possibility of 600+ more vehicles taking our street as a short cut to North Service Road and the amount of new cars parking on our road is a scary thought. The only street/ driveway they have to access this development will be right next to our fence line which will cause pollution from idling vehicles and noise. The back of homes on Byng rd will be lit up all hours of the night by the huge commercial lighting that will be installed in the parking lots. Who is going to buy a home with this going on behind it? Nobody in their right mind would want this in their back yard. The claim that the buildings are going to be 250 feet away from us is totally false. One particular building will be 60 feet from my back fence blocking all sunlight. The position of the buildings facing north and south does nothing for the homes in terms of privacy. A six foot fence won't stop the 2nd - 6th floor balconies of occupants from turning their heads to look directly into our windows and backyards.

If you drive around Windsor and other close communities, you won't see a development this large with one way access onto single lane streets.
This land should be allowed to be zoned residential, but with the same zoning as the current homes in the area. Single family homes, duplex or row houses with driveways would be ideal for this neighbourhood.

Thank you,
Amy Grady

February 6, 2023
Development & Heritage Standing Committee
Item 7.1 – Written Submission

-----Original Message-----
From: Maureen Rudowicz
Sent: January 31, 2023 9:27 AM
To: clerks <clerks@citywindsor.ca>
Subject: File ZNG/6784/Z-021/22 Feb 6, 2023 item 7.1

I am submitting my opposition to the HD Development's proposal of rezoning to build at 1850 North Service Road. The zoning change should reflect the residential area RD2.2 specifically. If the committee were to allow the proposed project the surrounding residents will incur loss of privacy, increased population will increase the traffic in the area, and create an urban jungle within a once sought after area. There has been no regard to the current residents concerns, no meetings with the developers other than an open house with only poster boards illustrating the project. Even though the residents have expressed their concerns the developers and the planning committee still have not addressed the concerns of the long time residents. We are asking for more consideration as this is our beloved neighbourhood and we want a voice how our neighbourhood is to be in the future.
Respectfully submitted by
Maureen Rudowicz
3027 Byng Road

February 6, 2023
Development & Heritage Standing Committee
Item 7.1 - Written Submission

To The Heritage and Development Standing Committee

Re: Rezoning of 1850 North Service Road

We are here tonight to voice our concerns which we will be affected directly by this development. We reside at 2927 Byng Rd which is directly impacted on us if this rezoning is approved.

When the HD Development group had an open house they already had the plans but we as the residents were never consulted and still to this day. I have personally resided on Byng Rd. for my whole life and have always considered this my home as so do many of the residents. When we saw the plans all of us were in dismay over this huge development. We were all under the assumption that they were putting up townhomes and when we asked the developer they told us it was not profitable. So now they are going for rezoning to allow for 5 – 6 storey bldgs..

We have many concerns as follows:

1. The traffic, noise, privacy, pollution is our major concerns. Especially today with climate warming.

2. Also, we are now aware that there are two more developments in similar nature one on the North Service Rd., west of the Fogolar Furlan Property where the residents there are not happy with also. There is another development of apartment buildings going up right now on Grand Marais Rd. East and Elsmere Avenue. These will incur much more traffic, noise and pollution in this area.

3. Another concern is privacy. As we have a road in front of our homes and another road directly behind us (the development calls it a laneway) but lets be honest **it is a road.** They are proposing 5 – 6 story bldgs.. with over 387 units and over 491 parking spots. Between the parking lot and road it will be lit up like a Christmas Tree. Lighting will be a major issue and also the majority of us have chain link fences in our back yards which will be right next to this so called road. This is a huge security issue with the amount of vehicles coming and going. None of us will be able to enjoy our backyards anymore. I have resided here my whole life (66 years) and have always considered this my home as do the other residents. Many of us have resided in this neighborhood for years and all have taken pride in their homes. If this development goes through it will set a precedent and now I understand why people prefer to live in the county.

Please do not change the rezoning to allow a concrete conglomerate in this residential neighborhood. By allowing the rezoning you will have cars and trucks coming and going all day and all night.

We are not against the land being developed but to leave it as status quo in this residential area.

Thank You very much for your time

Gino Sovran

January 30/23

Re: Rezoning of 1850 North Service Rd.

I am here to inform you about an article which we found on the CBC where Windsor only scores 59/100 on environmental air quality.

We have attached an article and have highlighted the paragraph where Windsor is mentioned and a copy of the study which was published December/2022.

On page 4 of the article I quote

"Lowest (environmental quality index) neighbourhoods are mainly adjacent to the expressway. A few of the other ones are adjacent to the assembly plant, around Walkerville area, and then there's one just west of Remington Park, where all the railway lines converge, and there's one neighbourhood in the downtown area as well, "said Rainham.

As you can see this article directly impacts our neighbourhood where adding more congestion and buildings will make the air quality even worse.

Also attached is the study on Canadian Environmental Quality Index (Can-EQI). Development and calculation of an index to assess spatial variation of environmental quality in Canada's 30 Largest Cities.

This study also reveals that increasing environmental deprivation was associated with an increased risk of poor self- reported health and hospital admissions for respiratory disease. Lower environmental quality index scores have been associated with increased of mortality beyond the influence of age, sex and socioeconomic conditions.

These domains included: outdoor air quality, natural environments, built environments, water quality, radiation and climate/weather. In addition, we added a noise domain to evidence support noise as an important influence on health outcomes.

Nitrogen dioxide (NO_2) is a traffic relaed air pollutant that is an irritant of the respiratory system. Exposure of this has been linked to higher rates of mortality and respiratory illnesses such as chronic obstructive pulmonary disease (COPD).

Exposure to natural environments and greenness has been show to improve mental health across multiple age groups. Mental health is very important in todays world and must be taken seriously.

Another study was down on road length. Living closer to longer lengths of major roads and highways with a greater number of vehicles exposes people to higher concentration of traffic related air pollution and noise leading to increased risk of mortality from cardiovascular disease, heart disease, COPD. And lung cancer. Additionally, living within 300m of a highway has been found to increase the risk of cardiopulmonary mortality in addults and decreased function in children.

All these concerns should be taken seriously and please stop the re-zoning.

Thank you for your time.

Anna M. Sovran

January 30/23

I have attached two attachments.

CBC Article on Air Quality

Study on Environmental Air Quality

Windsor

Windsor scores a 59 out of 100 on environmental quality scorecard: study

Dalhousie University researchers compiled data on 30 canadian cities

CBC News · Posted: Dec 16, 2022 9:49 AM EST | Last Updated: December 16, 2022

Windsor's riverfront is seen on the first day of fall, Sept. 22, 2022. Out of 30 Canadian cities studied in an environmental quality index report, the city scored a 59 out of 100. (Kerri Breen/CBC)

Air quality and green spaces are among the metrics researchers studied when they assigned scores on a new environmental quality index, where Windsor scored a 59 of 100.

Some neighbourhoods in the region did better than others, according to the study published in the journal *Environmental International.*

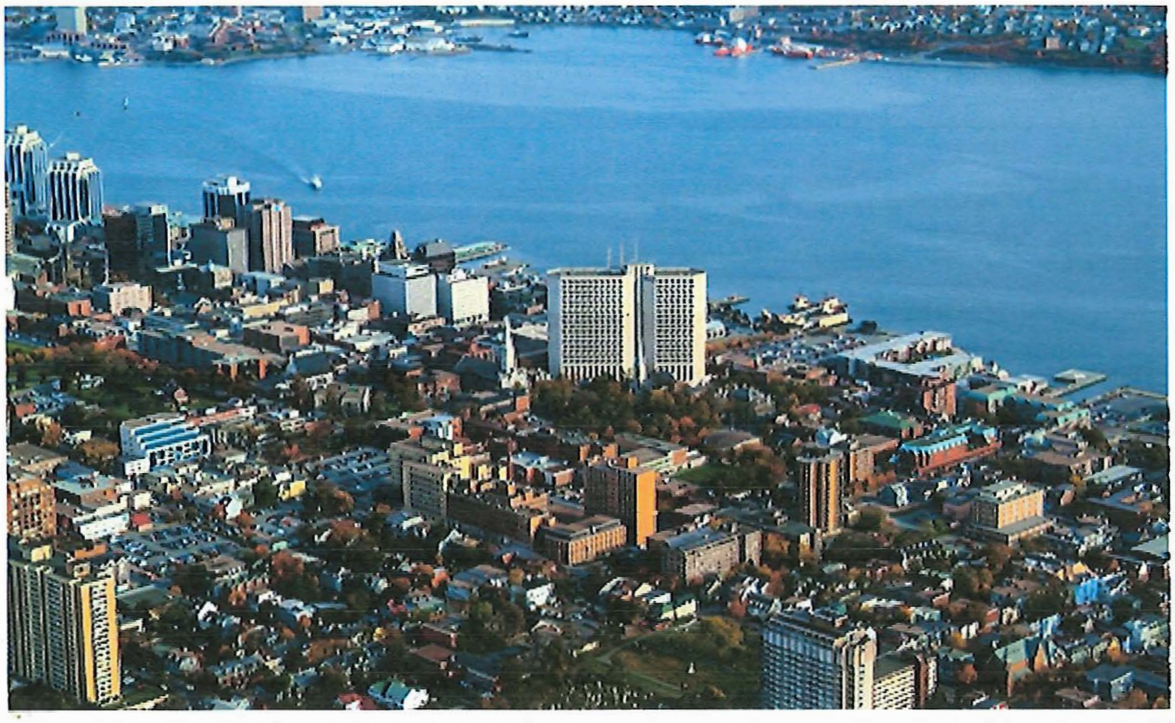
The lead author of the study says the best way to improve the scorecard would be to plant more trees.

"Kind of deals with that issue about having access to more nature, but it also does a good job of reducing exposure to air pollution, because some trees and plants will filter out pollutants and so on, and also during hot weather, can increase shade and reduce temperatures in the city" said Daniel Rainham, a health promotion professor at Dalhousie University.

- **Windsor going grey after large drop in green spaces seen from space**

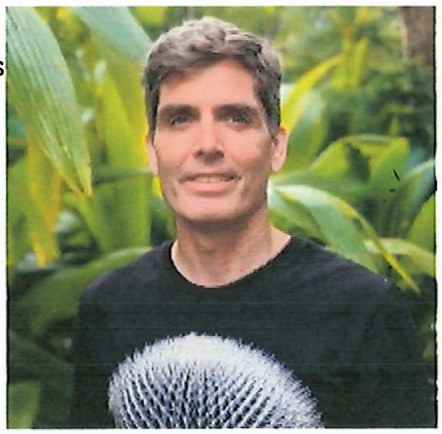
"And then there's just the evidence that it's just better for mental health and so on anyway, so trying to reduce the number of areas that are just completely paved, void of vegetation."

The study looked at nine different indicators to give neighbourhoods a score, including UV indexes, UV, features of natural health like green spaces and blue spaces, and temperature fluctuations especially during heat waves and cold snaps.



Halifax fell in the middle of the pack on environmental quality in a new Dal study. (Ron Garnett/AirScapes photo)

Looking to pursue a healthy lifestyle? Where you live should be on your list of considerations. And now, thanks to a new study published in the journal *Environmental International*, you'll have more information about the environmental conditions of 30 Canadian cities.



"We created an easy to interpret index or scorecard for each neighbourhood that tells us about the quality of the environment and the types of conditions that drive higher or lower scores," says Daniel Rainham (shown right), a professor in Health Promotion at Dalhousie and the study's senior author.

Many factors might make one city's environment more, or less, healthy than another. This can happen either directly, such as exposure to pollution, or in the way the environment influences behaviour and choices.

Until now, there was no way to compare the varied environmental conditions of Canadian cities, which made it difficult to understand the role of the urban environment on Canadian health.

To make up for this gap in knowledge, Dr. Rainham and colleagues developed an innovative approach that assesses environmental quality based on nine indicators which were drawn from five environmental domains: outdoor air pollution, natural environments, built environments, radiation, and climate/weather.

London or Edmonton? Your choice could impact your health

Each indicator was reviewed by multiple environmental health experts and evaluated using epidemiological evidence of the associated benefit or risk.

- **Windsor will see hotter days for longer periods of time, report shows**
- **Extinctions, shrinking habitat spur 'rewilding' in cities as humans learn to coexist with nature**

"Lowest [environmental quality index] neighbourhoods are mainly adjacent to the expressway. A few of the other ones are adjacent to the assembly plant, around Walkerville area, and then there's one area just west of Remington Park, where all the railway lines converge, and there's one neighbourhood in the downtown area as well," said Rainham.

"And then the highest, mostly in the LaSalle area, and some neighbourhoods adjacent to the Roseland golf club and Oakwood Park and a few neighbourhoods in the Belle River-Lakeshore area."

Top-scoring cities in the report are London, 70, followed by Guelph, 68.9.

LISTEN | *Hear more about Windsor's environmental quality score:*

Windsor Morning 9:14

Environmental quality index

Air quality and green spaces are among the metrics researchers studied when they assigned scores on a new environmental quality index. Windsor got a 59 out of 100, although some neighbourhoods did better than others.

The environment is changing. This newsletter is your weekly guide to what we're doing about it.

The result is the Canadian Environmental Quality Index (Can-EQI) of 30 Canadian cities with populations over 100,000. The Can-EQI distills this comprehensive review of complex environmental characteristics into a single value for each location, with higher values indicating more desirable environmental conditions.

London, Ontario is reported as having the best environmental conditions in the country with a median EQI of 70, followed by Guelph, Ontario (68.9). The lowest values belong to Edmonton (42.2) and Calgary (46.6). Halifax finds itself in the middle of the pack with an EQI median of 62.2.

Read the study: The Canadian Environmental Quality Index (Can-EQI): Development and calculation of an index to assess spatial variation of environmental quality in Canada's 30 largest cities

Healthy city, healthy population

More than 80 per cent of Canadians live in urban areas, so it's important to know how these spaces are contributing to or working against the health and wellbeing of different populations.

The study is the first to develop a comprehensive portrayal of how environmental conditions can change — not only from city to city but also from neighbourhood to neighbourhood.

Supported by the Public Health Agency of Canada's (PHAC) Centre for Surveillance and Applied Research, the Can-EQI is likely to provide new insights into the mechanisms behind socioeconomic and health disparities in urban areas.

The research also provides a tool that can assist planners and decision-makers with developing strategies to improve environmental conditions, particularly in equity-deserving communities.

"Where you live matters," says Dr. Rainham. "We know that environmental exposures can be both detrimental or beneficial. Now we have a tool that can inform the creation of interventions to reduce harmful exposures and where best to apply them."

Recommended reading: Ask the experts -- The world's population just hit 8 billion. What now?

Comments

All comments require a name and email address. You may also choose to log-in using your preferred social network or register with Disqus, the software we use for our commenting system. Join the conversation, but keep it clean, stay on the topic and be brief. Read comments policy.

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- December 2022
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See how 30 Canadian cities stack up on environmental quality with this Dal researcher's scorecard

Stefanie Wilson, with files from Alison Auld - December 2, 2022

Published Dec/22

Environment International 170 (2022) 107633

Contents lists available at ScienceDirect

Environment International

journal homepage: www.elsevier.com/locate/envint

Full length article

The Canadian Environmental Quality Index (Can-EQI): Development and calculation of an index to assess spatial variation of environmental quality in Canada's 30 largest cities

Zoë Davis[a], Margaret de Groh[b], Daniel G Rainham[c,d,*]

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ARTICLE INFO

Handling Editor: Xavier Querol

Keywords:
Urban environmental health
Air quality
Built and natural environment
UV exposure
Temperature extremes

ABSTRACT

Background: Multiple characteristics of the urban environment have been shown to influence population health and health-related behaviours, though the distribution and combined effects of these characteristics on health is less understood. A composite measure of multiple environmental conditions would allow for comparisons among different urban areas; however, this measure is not available in Canada.
Objectives: To develop an index of environmental quality for Canada's largest urban areas and to assess the influence of population size on index values.
Methods: We conducted a systematic search of potential datasets and consulted with experts to refine and select datasets for inclusion. We identified and selected nine datasets across five domains (outdoor air pollution, natural environments, built environments, radiation, and climate/weather). Datasets were chosen based on known impacts on human health across the life course, complete geographic coverage of the cities of interest, and temporal alignment with the 2016 Canadian census. Each dataset was then summarized into dissemination areas (DAs). The Canadian Environmental Quality Index (Can-EQI) was created by summing decile ranks of each variable based on hypothesized relationships to health outcomes.
Results: We selected 30 cities with a population of more than 100,000 people which included 28,026 DAs and captured approximately 55% of the total Canadian population. Can-EQI scores ranged from 21.1 to 88.9 out of 100, and in Canada's largest cities were 10.2 (95% CI: −10.7, −9.7) points lower than the smallest cities. Mapping the Can-EQI revealed high geographic variability within and between cities.
Discussion: Our work demonstrates a valuable methodology for exploring variations in environmental conditions in Canada's largest urban areas and provides a means for exploring the role of environmental factors in explaining urban health inequalities and disparities. Additionally, the Can-EQI may be of value to municipal planners and decision makers considering the allocation of investments to improve urban conditions.

1. Introduction

More than 82 % of Canadians live in urban areas (Statistics Canada, 2018) and there is a considerable and accumulating body of evidence suggesting that characteristics of the urban environment influence population health and health-related behaviours (Nieuwenhuijsen et al., 2017). These characteristics are the resultant of several related and interacting processes, including zoning and land-use policies, planning requirements, market valuation, as well as private investment interests from developers. Together these processes influence patterns and density of settlement, access to private and public amenities, the location of transportation infrastructure, as well as the preservation of natural features of the environment (e.g., urban parks and green spaces). Features of the urban environment are to some degree modifiable and amenable to intervention which is critical given their influence on health and health-related behaviours. For example, features of urban design such as sidewalks, cycling infrastructure, and public transportation systems support access to a diversity of amenities and public

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https://doi.org/10.1016/j.envint.2022.107633
Received 20 July 2022; Received in revised form 8 November 2022; Accepted 12 November 2022
Available online 15 November 2022

services and have been shown to increase walking and physically-active lifestyle behaviours and reductions in risk factors for chronic disease (Frank et al., 2022; Tobin et al., 2022). Opportunities to evaluate variations in environmental quality within and between urban populations are desirable as more than 25 % of all morbidities and mortality can be attributed to environmental conditions (Prüss-Üstün and Corvalán, 2006).

Modifiable features of the urban environment also affect health indirectly via alteration of environmental conditions and associated human exposures. For example, urban areas that are more walkable tend also to have higher concentrations of combustion-related air pollution (James et al., 2017; Marshall et al., 2009) and higher levels of noise (Clark et al., 2017). Thus, the pathways through which features of the urban environment affect health can be challenging to investigate since these features may be directly or indirectly associated with health and health behaviours. For example, green spaces have been shown to be beneficial to health directly (e.g., supporting mental health and physical activity behaviours) and indirectly (e.g., attenuating exposures to harmful air pollution and noise) (Markevych et al., 2017). In addition, environmental exposures associated with urban design characteristics may have completely different pathological mechanisms that lead to adverse health risks or benefits (Azzopardi-Muscat et al., 2020; Pineo et al., 2018). Urban populations will experience a variety of different environmental exposures depending on where they live and their movements, and these exposures are likely to have multiple influences on health.

A challenge for urban health research is to incorporate the multifaceted features of urban environmental conditions into models exploring associations with health outcomes. Studies typically focus on environmental exposures in isolation or only on a limited number of urban environmental exposures while controlling for other conditions (e.g., social, economic) known to influence health. In studies of social environments this challenge has been confronted through the creation of composite measures, such as deprivation and marginalization indices (Matheson et al., 2012; Pampalon et al., 2012), reducing the complexity of socioeconomic conditions, and to assess environmental conditions among social strata (Doiron et al., 2020). Similarly, a composite environmental index can represent several environmental exposures for a broad range of health outcomes, and provide opportunities for planners, policy and decision makers to easily compare environmental conditions across several urban areas (Allik et al., 2020). Given that a majority of Canadians live in urban areas, the development of an index of environmental quality is desirable to provide an opportunity to identify and investigate the role of the physical environment on health.

Composite indices of environmental quality have been developed in the United Kingdom (Richardson et al., 2010), New Zealand (Pearce et al., 2011), Portugal (Ribeiro et al., 2015), France (Benmarhnia et al., 2013) and the United States (Lobdell et al., 2011; L.C. Messer et al., 2014). These indices have proven to be powerful tools for visualizing and evaluating the role of environmental conditions in the persistence of health inequalities and can provide valuable information for targeting health promotion interventions to reduce inequalities where differences in health are more profound than expected or desired (Allik et al., 2020; Masuda et al., 2008). In the United Kingdom, for example, a regional study revealed that increasing environmental deprivation was associated with an increased risk of poor self-reported health and hospital admissions for respiratory disease (Richardson et al., 2013). Lower environmental quality index scores have also been associated with increased rates of mortality beyond the influence of age, sex and socioeconomic conditions (Pearce et al., 2011; Ribeiro et al., 2015). Although exploration of the relationships between environmental quality and health have been limited, indices of environmental quality hold substantial promise for improving exposure assessment. At local scales composite indices provide opportunities to estimate the cumulative impact of non-residential exposures on health. Similar indices have also been used as screening tools to identify areas with poor environmental conditions and population vulnerability (Office of Environmental Health Hazard Assessment, 2017). The creation of a composite index of environmental quality index for Canada will assist municipalities and other agencies to direct support and develop and tailor interventions that reduce health inequities.

Currently no Canadian index of environmental quality exists although an outline for the development of a national index was described almost 50 years ago (Inhaber, 1974). In personal communication with the author, it appears that the approach to create an index was advanced but never realized and the project lay dormant within the federal government of the time. The recent (2016) establishment of the Canadian Urban Environmental Health Research Consortium (CANUE) has resulted in the creation and dissemination of national-scale datasets on a number of environmental indicators (Brook et al., 2018). Consequently, there is an opportunity to summarize urban environmental conditions for a large proportion of the Canadian population at a local scale in a single index or value.

In this study, we describe the methodology employed in the development of a Canadian Environmental Quality Index (Can-EQI). Specifically, the aims of the study are: 1) to identify and verify datasets characterizing the quality of the Canadian environment (e.g., air and water quality, natural and built environments, weather and others), 2) to identify and define urban neighbourhoods in thirty of Canada's largest cities, and 3) to create an index of environmental quality (Can-EQI) and calculate an EQI score for each neighbourhood, and 4) to assess the relationship among environmental indicators included in the Can-EQI and to explore how the index varies with urban population size.

2. Methods

2.1. Study area

We selected the 2016 Census Dissemination Areas (DAs) as our geographic unit of analysis. DAs are the smallest, stable geographic unit available across all of Canada (Statistics Canada, 2016). Within urban areas, DAs typically contain between 400 and 700 people and vary in size based on population density. Using DAs as the base geography also provides an opportunity to directly link the Can-EQI to existing Canadian health cohort and socioeconomic datasets. To select an urban population, we identified and selected DAs that were located within census areas defined as 'large population centres' (i.e., cities with at least 100,000 residents and a population density of 400 persons or more per square kilometre) according to the 2016 Canadian census. Fig. 1 illustrates the 30 cities selected for index development. Within each city it was observed that a small number of DAs were more "rural" or characterized by *peri*-urban development due to aggregation of census geographies into city regions that did not necessarily align with municipal boundaries. To ensure the inclusion of only urban populations, we selectively removed DAs if they did not contain any residential settlement, were limited to specific uses and activities (e.g., airports, agricultural use), or where most of the DA (greater than 90 % of area) fell outside of municipal governance boundaries. Inspection was completed manually using DA boundaries overlaid onto base map satellite imagery in ArcGIS Pro, v.2.5 (ESRI Inc., 2020).

2.2. Dataset selection

Dataset selection occurred in three phases. In the first phase we identified environmental domains that had been employed in other environmental quality indices to organize and limit our search for datasets (Section 2.2.1). In phase 2, we performed a systematic search of known Canadian geographic data repositories and other data centres for relevant datasets for review and inclusion in Can-EQI (Section 2.2.2). In phase 3 we developed and contacted a list of Canadian experts to acquire feedback on the relevancy of the datasets we identified from phase 2 (Section 2.2.3). Working through these phases culminated in the

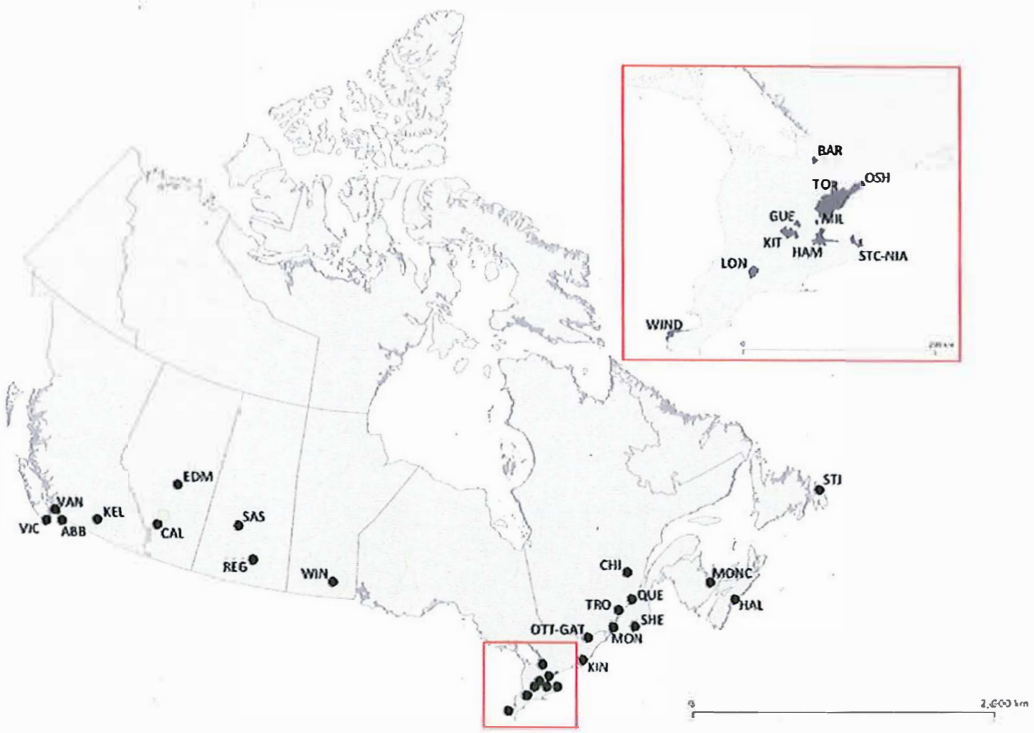

Fig. 1. Locations of the 30 cities included in study. Footprints of the DAs within southeastern Ontario (inset) are presented. Abbreviations are as follows: Victoria (VIC), Vancouver (VAN), Abbotsford (ABB), Kelowna (KEL), Calgary (CAL), Edmonton (EDM), Saskatoon (SAS), Regina (REG), Winnipeg (WIN), Windsor (WIND), London (LON), Kitchener (KIT), Hamilton (HAM), Guelph (GUE), St. Catharine's-Niagara Falls (STC-NIA), Milton (MIL), Toronto (TOR), Oshawa (OSH), Barrie (BAR), Kingston (KIN), Ottawa-Gatineau (OTT-GAT), Trois-Rivières (TRO), Montréal (MON), Sherbrooke (SHE), Québec City (QUE), Chicoutimi (CHI), Moncton (MONC), Halifax (HAL), St. John's (STJ).

selection of the final datasets within each domain for inclusion in the Can-EQI.

2.2.1. Domain selection (Phase 1)

Building on domains utilized in previous peer-reviewed health-related environmental quality indices (Benmarhnia et al., 2013; Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010; Yu et al., 2021), we selected seven domains (Table 1) to target our search for potential datasets. These domains included: outdoor air quality, natural environments, built environments, water quality, radiation, and climate/weather. In addition, we added a noise domain due to evidence supporting noise as an important influence on health outcomes (Yang et al., 2021). The domains were selected to inform the search for relevant datasets and are not meant to be a "must have" list of datasets to be included in the index. While these domains have a broad scope, each have been shown to influence health across the life course thereby allowing the index to be transferable across multiple populations and health outcomes.

2.2.2. Dataset search (Phase 2)

The search for potential datasets was focused across three geographic scales at the national, provincial, and municipal (city) levels. National scale datasets were identified through data repositories constructed by or funded by the Canadian federal government, including the Federated Research Data Repository (FRDR; https://www.frdr-dfdr.ca/repo/) ("Home | FRDR-DFDR," n.d.), the National Forest Information System (NFIS; https://ca.nfis.org/index_eng.html)("Canada's National Forest Information System," n.d.), as well as nationally-funded data platforms such as the Canadian Urban Environmental Health Research Consortium (CANUE; https://canuedata.ca) (Brook et al., 2018). Provincial and municipal datasets were identified through a variety of open data and open GIS data portals (Secretariat and Open Government, n.d.) We also scoured and searched through crowd-sourced, community data initiatives, and third-party data sources. The full results of the search for environmental datasets and website links are presented in Supplementary Materials 1.

Entire data repositories and portals were scanned if they had fewer than 2,000 entries. For repositories with more than 2,000 entries, keywords pertaining to each domain were used to search for potential datasets (Table 2). Each domain was searched separately within each data repository. Datasets were selected if the title or dataset tags (i.e., repeated, descriptive words used in repositories to organize and group

Table 1
Environmental domains, definitions, and use in prior peer-reviewed health-related environmental quality index development.

Domain	Definition	Studies that utilized domain in index development
Outdoor air quality	Ambient concentrations of outdoor air pollutants that have been shown to have adverse effects on health.	(Benmarhnia et al., 2013; Lobdell et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010)
Natural environments	Access or exposure to natural environments (e.g., green space or blue space)	(Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010)
Built environments	Access or exposure to elements of the built environment (e.g., transportation networks, industrial facilities)	(Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010)
Noise	Population risk from noise exposure	(Benmarhnia et al., 2013; Richardson et al., 2013)
Water Quality	Access to safe and reliable supplies of drinking water or safe exposure to water (e.g., swimming water)	(Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015)
Radiation	Population risk from radiation sources (e.g., nuclear power plants, communication towers, radon, etc.) and UV light index	(Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010)
Climate/weather	Population risk disease incidence from vector-borne diseases and impacts related to extreme weather and climate change	(Lobdell et al., 2011; Pearce et al., 2011; Ribeiro et al., 2015; Richardson et al., 2010; Yu et al., 2021)

Table 2
Search terms and keywords used to identify datasets.

Domain	Search terms
Outdoor air quality	"air quality" OR "air pollut*" OR "partic* matter" OR "pollut*" OR "PM2.5" OR "PM10" OR "ozone" OR "O3" OR "nitrogen dioxide" OR "NO2" OR "sulfur dioxide" OR "SO2" OR "traffic-related air pollut*" OR "TRAP" OR "radon"
Natural environments	"land cover" OR "green space" OR "park*"
Built environments	"built" OR "sidewalk" OR "walkability" OR "bench" OR "biking" OR "bike" OR "pedestrian"
Noise	"noise" OR "traffic" OR "noise barrier"
Water quality	"water quality" OR "beach" OR "beach closure days"
Radiation	"radiation" OR "UV" OR "radon"
Climate/weather[1]	"tick" OR "mosquito" OR "flood" OR "weather" OR "climate" OR "heat" OR "flood" OR "snow" OR "precip*" OR "temperature"

'*' denotes wild card.

[1] Note: The climate and weather domain yielded many datasets that were of little relevance to the Can-EQI, for example, historic or predicted climate scenario maps, and growing season temperature maps specific to farming. To narrow the search in larger data repositories, several related search terms were employed.

similar datasets) included any of the keywords or provided a description of the dataset relevant to the development of the Can-EQI. Selected datasets were further refined by geographic and temporal characteristics. For example, some datasets, particularly within the outdoor air quality, natural environment, and climate/weather domains, were too specific to be useful on a national scale (e.g., real-time data sources, historical datasets, survey data, or local monitoring projects) and were removed. Additionally, datasets that could not be associated or referenced to an original source were removed.

2.2.2.1. Metadata extraction criteria. For each dataset we extracted several metadata attributes associated with data quality, scope, geographic and temporal coverage, and frequency of data update. Specific elements included the dataset name, data host, geographic and temporal coverage, base data if applicable, and a summary of the methods used to create the dataset (see Table 3).

Table 3
Data extraction categories, items, and associated descriptions.

Category	Extraction item	Description
Dataset description	Dataset name	Name of the dataset as described by the data host.
	Data curator/ host	Data curator or host of the dataset(s).
	URL/Source	Link/Source to dataset(s).
Dataset characteristics	Scale	Categorical variable describing the spatial coverage of the dataset (national, provincial/territorial, regional, local). National describes datasets that cover all of Canada; provincial/territorial are datasets for a single province or territory; regional datasets are for an area such as a metropolitan area or locations with a particular land use; local datasets are for municipalities and towns.
	Aggregation	Binary (Yes, No) flag if the dataset is aggregated into census-derived areas (e.g., dissemination areas, postal codes, etc.).
	Base data	Description of the data used to derive dataset products (e.g., satellite sensor, model, monitoring stations).
Methods	Years available	List of the years for which the dataset is available.
	Frequency of data update	The frequency in which the dataset is updated.
	Method for creation	A brief summary of the methods used to create the dataset.

Following data extraction of each of the potential datasets, we identified datasets that had complete spatial coverage for the cities of interest (30 cities). Data collection was limited to a temporal coverage of five years, centred on the last release year (2016) of Canadian census data (from 2014 to 2018), and those datasets with existing empirical evidence of an association with health outcomes. In selecting the best candidates for inclusion in the Can-EQI, we considered spatial and temporal resolution as well as the purpose of the dataset. For instance, some land cover datasets were available for all of Canada but had a focus on monitoring forested habitat and not necessarily for monitoring of urban areas. Therefore, the accuracy of the dataset within urban areas was not high enough to be considered for the index. We employed a systematic search approach for relevant environmental indicators resulting in the identification of 46 outdoor air pollution datasets, 135 natural environment datasets, 130 built environment datasets, six noise datasets, 57 water quality datasets, 13 radiation datasets, and 51 climate/weather datasets requiring further investigation.

2.2.3. Expert opinions (Phase 3)

Due to comprehensive scope of the Can-EQI, experts from each domain were identified and contacted for guidance on which datasets they felt were most appropriate to include in the new index. To simplify the list of datasets sent to the experts, each domain was reviewed and the most likely datasets, determined through discussion between ZD and DR, were selected to be sent to the experts. The list of datasets sent to the experts included 13 outdoor air pollution datasets, eight natural environment datasets, six built environment datasets, one noise dataset, three water quality datasets, two UV radiation datasets, and six climate/weather datasets.

Specifically, we sought expert input on the datasets identified as well as assistance with the identification of datasets unrevealed through the search. We contacted 149 experts from 41 Canadian government and academic institutions and provided the list of datasets identified in Phase 2 (Supplementary Materials 1). Experts were asked to review a list of potential datasets with instructions to provide comments on the suitability of the datasets within their expertise or experience and to provide additional datasets that may have been missed. The survey had a response rate of 18 % (n = 27). There was general support for the idea of creating an environmental quality index. For air quality, it was suggested that datasets based on raw point data from the National Air Pollution Surveillance program (NAPS) be removed based on concerns that the NAPS monitoring locations were unequally distributed and that most cities have only one or two sites. The lack of coverage would impact adequate incorporation of the spatial variation in air pollution concentrations into the index. However, these data were used in the creation of a national concentration surface for nitrogen dioxide (NO_2). Several respondents suggested an alternative approach to measuring differences in climate and weather events, and representation of heat or cold events.

The final selection of data included two air pollution datasets: fine particulate matter ($PM_{2.5}$) and nitrogen dioxide (NO_2); two natural environment datasets: the normalized difference vegetation index (NDVI) and distance to water bodies; two built environment datasets: length of highways and distance to coal, gas, and oil power plants; one UV radiation dataset; and two temperature datasets: the difference in average DA temperature and the overall city temperature during heat and cold wave events. Noise data were not included as estimates for noise levels were only available for five cities (Liu et al., 2020). We were not able to identify a dataset of water quality parameters at the municipal level for all the cities included in the study.

2.3. Indicators selected

Table 4 reveals the datasets selected for the creation of indicators for inclusion into the index and provides information on the spatial and temporal resolution, the download site, and data sources as well as

related instrumentation, if applicable. In this section, we provide details of how these data were processed to develop indicator values for each DA within each city, and how these indicators were combined to create the Can-EQI. The final list of indicators includes fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), normalized difference vegetation index (NDVI), distance to water (m), length of highways (m), distance to power plants (m), ultraviolet radiation (J/m^2), and extreme temperatures (°C).

2.3.1. Fine particulate matter ($PM_{2.5}$)

Outdoor fine particulate matter includes particles contained in smog, soot, smoke, fungi and mold spores, and dust, that are 2.5 μm or smaller in size (Manisalidis et al., 2020). $PM_{2.5}$ is a leading environmental cause of poor health outcomes (Yang et al., 2018) and has been linked to poor birth outcomes, short- and long-term respiratory and cardiovascular diseases, reproductive and central nervous system disfunction, cancer (Landrigan et al., 2019; Manisalidis et al., 2020) and mortality (Crouse et al., 2015).

Annual ground-level fine particulate matter ($PM_{2.5}$) (total and compositional mass) concentrations over North America were estimated by combining the Aerosol Optical Depth (AOD) retrievals from the Moderate Resolution Imaging Spectroradiometer (MODIS), Multi-angle Imaging SpectroRadiometer (MISR), and Sea-viewing Wide Field-of-view Sensor (SeaWIFS) instruments using the GEOS-Chem chemical transport model for North America (Hammer et al., 2020). Geographically weighted regression models were used to calibrate to regional ground-based observations (van Donkelaar et al., 2019). $PM_{2.5}$ data are available in a grid format with a spatial resolution of 0.01°x 0.01° and were downloaded from the Washington University at St. Louis website (van Donkelaar, 2020). For each DA, we extracted the mean concentration of $PM_{2.5}$ ($\mu g/m^3$) for each year of interest (2014 – 2018) among grid cells that fell within the DA boundary.

2.3.2. Nitrogen dioxide (NO_2)

Nitrogen dioxide (NO_2) is a traffic-related air pollutant that is an irritant of the respiratory system (Chen et al., 2007; Manisalidis et al., 2020). Exposure to NO_2 has been linked to higher rates of mortality (Huang et al., 2021; Orellano et al., 2020) and respiratory illnesses such as chronic obstructive pulmonary disease (COPD) (Zhang et al., 2018). Furthermore, NO_2 is highly correlated to other toxic pollutants such as, volatile organic compounds and aldehydes, making it a representative indicator of other traffic-related air pollutants (Brook et al., 2007).

A spatial model of NO_2 was developed using a land use regression model based on the 2006 National Air Pollution Surveillance (NAPS) dataset (Hystad et al., 2011; Weichenthal et al., 2017) and was updated in 2020 (Hystad and Larkin, 2020). Improvements to the model were made by updating the three-year annual average of the Ozone Monitoring Instrument (OMI) and the satellite predictor variables in the model with the average NAPS air monitoring stations values (n = 194) (Larkin and Hystad, 2020). Local and regional estimates were developed using land use regression models, satellite derived NO_2 estimates, and land use characteristics. The final model explained 68 % of the spatial variation in NO_2 with a mean absolute error (MSE) of 1.73 parts per billion (ppb). Data were provided by the Canadian Urban Environmental Health Research Consortium (CANUE). The spatial resolution of annual average NO_2 is a 30 m × 30 m grid cell for a combined three-year average of 2014–2016. A single value of NO_2 was calculated for each DA based on the average of NO_2 values for all grid cells contained within each urban DA.

2.3.3. Normalized difference vegetation index (NDVI)

Exposure to natural environments and greenness has been shown to improve mental and physical health across multiple age groups (de Keijzer et al., 2016). Natural environments have been hypothesized to influence health through multiple pathways, including the reduction of stress and cognitive improvement, promotion of physical activity behaviours and social interaction, and through reducing exposures to harmful environmental exposures such as air pollution (Markevych et al., 2017). NDVI is a common indicator of urban greenness used in epidemiological studies and has been shown to be related to various health outcomes, including reduction of cardiovascular disease and blood pressure, reduced prevalence of low birth weight, and improvements in mental health (Abraham Cottagiri et al., 2022; Davis et al., 2021; Labib et al., 2020; Yang et al., 2021). Living in areas with higher values of NDVI is also associated with reduction in rates of mortality in urban areas (Crouse et al., 2017). NDVI is calculated as a ratio of the near infrared (NIR) and red (R) section of the electromagnetic spectrum (eq. (1)) (Rouse, 1974).

$$NDVI = \frac{NIR - Red}{NIR + Red} \quad (1)$$

We calculated NDVI values for each DA using data from Landsat 8 collections (30 m spatial resolution, top of atmosphere, tier 1) using growing season (May 1 – August 31) composites using a custom script in Google Earth Engine (Google Earth Engine, 2021). Cloud-free (25 % or less cloud cover) images were used to calculate the median value for each pixel for each year between 2014 and 2018. Water was then masked using the Hansen Global Forest Change layer (Hansen et al., 2013). NDVI was calculated for each pixel and the resultant raster was exported for further analysis in R (R Core Team, 2018). In R, average NDVI was extracted proportionally for each DA for each year of interest.

2.3.4. Distance to water

As with green environments, blue environments have also been shown to promote human health. It is hypothesized that blue spaces influence health through reducing harmful exposures to, for example, excess heat. Sounds of water and the mist or spray produced by some bodies of water may also be beneficial for some health conditions. Additionally, blue spaces encourage physical activity and social connections, and may also reduce stress and restore attention (White et al., 2020). Recent studies have shown protective effects of living close to water and that living closer to a body of water increases the frequency of visits (Crouse et al., 2018; Elliott et al., 2020; Georgiou et al., 2021). Therefore, we utilize distance to the closest body water as the measure of exposure.

Footprints for aquatic waterbodies (e.g., lakes, rivers and streams) and costal (marine) boundaries were downloaded from Statistics Canada (Statistics Canada, 2011a, 2011b, 2011c, 2011d, 2011e). Distance to the nearest waterbody (m) was calculated for each DA based on the shortest distance from the DA polygon vertex to the nearest source of water polygon vertex.

2.3.5. Road length

Living closer to longer lengths of major roads and highways with a greater number of vehicles exposes people to higher concentrations of traffic-related air pollution and noise leading to increased risk of morality from cardiovascular disease, ischemic heart disease, COPD, respiratory disease, and lung cancer (Cakmak et al., 2019). Additionally, living within 300 m of a highway has been found to increase the risk of cardiopulmonary mortality in adults (Riley et al., 2012), decreased lung function in children aged 4 to 8 years old (Gasana et al., 2012), and increase incidence of dementia (Chen et al., 2017). Density of major roads has been used in previous environmental health indices (e.g., Hazell (2020)). We chose to represent exposure to roads as the length of road classified as highways and major roads within each dissemination area.

We obtained road network data for 2016 from Statistics Canada (Statistics Canada, 2017) and calculated road lengths for roads classed as a highway or main arterial roads (including: 1 trans-Canada Highway, 2 National Highway System, 3 Major Highway, 4 Secondary Highway or Major Street) within each DA. While data on traffic density were not available, the road classes reflect the anticipated use of each road

Table 4
Datasets selected for inclusion in the EQI.

Domain	Dataset	Curator	Base Data and Processing	Spatial Resolution	Temporal Resolution	Data Source
Outdoor air pollution	Annual fine particulate matter ($PM_{2.5}$)	Washington University at St. Louis	Annual average $PM_{2.5}$ concentrations were estimated by Aerosol Optical Depth (AOD) retrievals from MODIS, MISR, and SeaWIFS instruments using the GEOS-Chem chemical transport model. Data based on a five-year average (2014–2018).	Raster, 0.01° x 0.01°	Annual	Data is freely available from: https://sites.wustl.edu/acag/datasets/surface-pm2-5/
	Nitrogen dioxide (NO_2)	Drs. Perry Hystad and Andrew Larkin via CANUE	National land use regression model with regional adjustments using satellite derived NO_2 estimates and geographic variables. Data based on three-year average (2014–2018)	Raster, 30 *m*	Three-year average (2014–2016)	Available from CANUE: https://www.canuedata.ca/metadata.php
Natural Environments	Normalized Difference Vegetation Index (NDVI)	Google Earth Engine	Annual median NDVI for the growing season using custom script and Landsat 8. Data based on average of annual values (2014–2018)	Raster, 30 *m*	Annual (2013 to present)	Landsat 8 imagery available from: https://developers.google.com/earth-engine/datasets/catalog/LANDSAT_LC08_C01_T1?hl = en
	Water	Statistics Canada	Water files for mapping inland and coastal waters, including the Great Lakes and St. Lawrence River. Data based on values from 2013.	Vector, polygon	2013 to present	Available from the Canada Data Mart: https://open.canada.ca/data/en/dataset/448ec403-6635-456b-8ced-d3ac24143add/resource/5610a875-6022-4627-ab71-c3829404c537; https://open.canada.ca/data/en/dataset/92c3ad59-c7d3-4b79-ba90-5540a67a89a7
Built Environment	Roads	Statistics Canada	Census road network. Data from 2016.	Vector, line	2016 to present	Available from the Canada Data Mart: https://www12.statcan.gc.ca/census-recensement/2011/geo/rnf-frr/index-2011-eng.cfm?year = 16
	Power plants	WRI and Google Earth Engine	Aggregated records of power plants across the world. Data from 2021.	Vector, point	2021 to present	Data is freely available from the World Resources Institute: https://datasets.wri.org/dataset/globalpowerplantdatabase
Radiation	UV exposure	CANUE	Annual files contain monthly values developed by Environment Canada and Cancer Care Ontario. Data from 2002.	Gridded, (1° x 1°) points	Annual, 1990 to 2002	Available from CANUE: https://www.canuedata.ca/metadata.php
Temperature	Heat and cold events	Google Earth Engine	Heat waves and cold waves dates were identified using the Environment and Climate Change Canada weather stations. We then searched Landsat 8 imagery (thermal band, band 10, 10.6–11.2 μm) using a custom script in Google Earth Engine and downloaded corresponding imagery of the heat wave and cold wave dates. Temperature data from heat and cold events (see Supplementary Materials 2).	Raster, 30 *m*	Annual (2013 to present)	Landsat 8 imagery available from https://developers.google.com/earth-engine/datasets/catalog/LANDSAT_LC08_C01_T1?hl = en

Abbreviations: AOD = aerosol optical depth; CANUE = Canadian Urban Environmental Health Research Consortium; GEOS-Chem model = Goddard Earth Observing System Chemical model; MISR = Multi-angle Imaging Spectroradiometer on board the Terra satellite; MODIS = Moderate Resolution Imaging Spectroradiometer; SeaWIFS = Sea-viewing Wide Field-of-view Sensor; WRI = World Resources Institute.

(Statistics Canada, 2017). Local and minor arterial roads were excluded from the analysis. In many cases highways and roads are used to delineate DA boundaries. To ensure complete road segments were captured we added a 1-metre buffer to the DA boundary prior to selecting the road classes of interest and then calculated the total distance of relevant road classes within each DA.

2.3.6. Distance to power plants

Coal, gas, and oil-fired power plants are responsible for emitting multiple hazardous air pollutants including carbon dioxide, particulate matter, sulfur dioxide, nitrous oxides, and mercury (Balat, 2007; Gasparotto and Da Boit Martinello, 2021). In the United States, children that lived closer to coal-fired power plants exhibited higher rates of neurobehavioral symptoms than children who lived further away (Zhang et al., 2022). Additionally, Liu et al. (2012) found that adults living in the same ZIP code as a coal-fired power plant were more likely to be hospitalized for asthma, acute respiratory infection, and COPD in the United States. As such, we included distance to the nearest coal, oil, or gas power plant as an indicator.

Using an inventory of global power plants developed by the World Resources Institute (WRI), and made available through Google Earth Engine (Byers et al., 2021; Global Energy Observatory et al., 2018), we selected all power plants located in Canada. For each DA, the closest intact coal, oil, or gas power plant was identified, and the distance (m) to the nearest power plant location (point) to each DA (polygon vertex) was assigned to the DA.

2.3.7. Ultraviolet radiation exposure

Population exposure to the sun is associated with latitude and corresponds to exposure to ultraviolet (UV) radiation. Actual exposures will be influenced by altitude, season, time of day, ozone column or cloud cover so that latitude along is generally a rough estimate of UV exposure (King et al., 2015). There is concern that a majority of Canadians do not achieve adequate levels of vitamin D, particularly during the autumn and winter months (McGee, 2020). While vitamin D supplements are common (Whiting and Calvo, 2018), sun exposure can produce an effective amount of vitamin D and promote immune function (Bernard et al., 2019). Moderate exposure to UV radiation from the sun has been associated with numerous benefits to health, including reduced risk of cancer mortality, cognitive decline, and obesity (Hoel et al., 2016).

Estimates of monthly average ultraviolet (UV) radiation exposure were developed by Environment Canada and Cancer Care Ontario and made available through CANUE (Fioletov et al., 2004; V.E. Fioletov et al., 2010). We calculated average daily integrated UV (i.e., vitamin D action spectrum in Joules m^{-2}) from long term monitoring data (1990 to 2002) made available on a 1°x 1° grid (approximately 100 km × 100 km). The vitamin D action spectrum is a measure of the amount of solar radiation that an area receives and can be used to calculate UV exposure and vitamin D production based on individual factors, like duration of exposure and skin type (V.E. Fioletov et al., 2010). Using inverse distance weighting (IDW) interpolation in QGIS (QGIS Development Team, 2022), UV points were made into a continuous surface with a spatial resolution of 100 km × 100 km. Average vitamin D action spectrum values (Joules m^{-2}) at sea level were then assigned to each DA. Where multiple UV exposures occurred in a single DA, the proportional average value was determined for each DA.

2.3.8. Temperature extremes – Hot and cold waves

Extreme temperatures, both extreme heat and cold, are concerns to public health particularly given the prediction for a greater frequency of events linked to climate change (Heaviside et al., 2017; Martin et al., 2012). Heat waves have been linked to increased mortality (Kosatsky et al., 2012; Smoyer et al., 2000), and vulnerable populations including children, elderly and persons with chronic disease and associated risk factors have been identified as most at risk during high heat events (Li et al., 2015). Within cities, areas most impacted by high heat are not spatially uniform, with different surfaces responding differently to solar radiation, for example, paved surfaces are generally hotter than vegetated surfaces (Phelan et al., 2015). Similarly, extreme cold temperatures contribute to excess mortality during winter months (Chen et al., 2016) with some areas of cities experiencing much cooler temperatures than other areas.

Typically, estimates of the impacts of hot or cold temperatures on urban populations will employ data from stationary weather stations (airports), temporarily fixed or mobile platforms (vehicles), or more recently from satellite imagery (Carrier et al., 2016). Land surface temperatures are compared to rural areas to explore the magnitude of temperature difference (e.g., urban heat island); however, by comparing temperatures within each of our study cities, we sought to identify the neighbourhoods that are much more likely to be hotter or cooler during extreme temperature events. Therefore, the objective was not to identify the temperature of any DA in comparison to a threshold value (i.e., from heat alerts), but rather to identify neighbourhoods that demonstrated the greatest temperature differences within each city during heat or cold events.

Identification of the geographic differences in heat across cities occurred in a three-step process. First, heat waves were identified through Environment and Climate Change Canada weather station data made available through the *weathercan* R package (LaZerte and Albers, 2018). Heat waves were defined as three or more consecutive days in which at least 1 h of the day had an air temperature or humidex value above 35 °C (Chebana et al., 2013; Smoyer and Rainham, 2001). Using the *weathercan* package we identified all hot days within a five year (2014–2018) period around the 2016 Canadian census. On a city-by-city basis, we searched Landsat 8 imagery (thermal band, band 10, 10.6–11.2 μm) using a custom script in Google Earth Engine (Setton, 2022) for the corresponding heat wave dates in which full coverage (e.g., minimal cloud cover and complete spatial coverage) for each city was available. When no imagery was available for days above 35 °C, we lowered the threshold to 30 °C and conducted the same steps to identify heat wave imagery to ensure the indicator would be available for each city. There is more than an 11° difference in latitude between the most northerly and southerly cities included in the study and temperatures above 35 °C are much rarer in more northerly latitudes. Where possible, we attempted to download similar dates for cities that were near each other to ensure differences in temperatures between the DA and the city average were calculated for days when cities were experiencing the same heat wave (see Supplementary Materials 2, Table 1 for heat wave dates for each city). Using Landsat imagery data, the average temperature during heat wave events was calculated for each city, for each DA within each city, and the difference in temperature between the DA and city average.

In addition to estimating temperatures during heat waves, we also identified temperature differences during cold events. Similar to the methods employed for identifying heat wave days, for each city we identified three or more consecutive days in which the air temperature or windchill was −15 °C or colder, in line with the extreme temperature recommendations for Toronto (Gough et al., 2014). If no imagery were available for the −15 °C cold event threshold, we increased the temperature threshold by 5 °C increments until we identified date ranges that had corresponding thermal data from the satellite imagery. The only exception was Vancouver, in which there was no available imagery that met the temperature threshold. In this case, we used the period of February 1–28, 2014 as the cold period. Table 2 of the Supplementary Materials 2 provides the temperature threshold and cold wave dates for each city. Analogous to the process to identify the spatial variation in warm temperatures during heat waves, we calculated the difference between the average temperature of each DA and the average temperature of the city to identify areas that were colder or warmer than average during cold temperature events.

2.4. Scaling of the Can-EQI

The Can-EQI is an additive, untransformed index of environmental quality calculated on the decile rankings of each indicator based on the hypothesized relationship between each indicator and its influence on human health (Table 5). In cases where annual values existed for an indicator (2014–2018, $PM_{2.5}$, NDVI), values were averaged into a single value representing environmental quality for the five-year period around the 2016 census year. The range of values for each indicator were equally classified into deciles (1–10) where values closer to 1 represent environmental conditions hypothesized as unfavourable to health, and decile values closer to 10 represent conditions hypothesized as favourable or health promoting. Reverse scoring was applied to higher values of fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), distance to water, road lengths, and higher than city average temperatures during heat waves and cold waves so that the higher values would receive lower decile scores. For distance to power plants, UV exposure, and NDVI, higher values are interpreted as being beneficial to health. Decile values (scores) for each indicator were then added together (raw Can-EQI score) and then scaled so that the highest score possible was 100 (raw Can-EQI score multiplied by 1.1). Scaling the Can-EQI score eases interpretation, in that the highest score would be out of 100 points rather than 90. Indicators in this initial version of the index are unweighted or treated as equal contributors to environmental quality.

2.5. Sensitivity of the Can-EQI to population size

We hypothesized that the Can-EQI values would be higher in cities with smaller populations. We conducted an analysis of variance (ANOVA) across four categories of city level population sizes to test for differences in Can-EQI scores. Cities were categorized by total population as reported in the 2016 Canadian census into: <200,000 people, 200,000 to 499,999 people, 500,000 to 999,999 people, and >1,000,000 people. A post-hoc Tukey HSD test was also conducted to assess where significant differences lie across the Can-EQI-population size relationship.

2.6. Analysis software

All Landsat imagery data were obtained via Google Earth Engine using custom scripts. Unless otherwise stated, all other processing occurred in R (version 4.1.2) (R Core Team, 2018) using the *sf* (Pebesma, 2018), *raster* (Hijmans, 2020), *sp* (Bivand et al., 2013; Pebesma and Bivand, 2005), *foreign* (R Core Team, 2020), *tidyverse* (Wickham et al., 2019), *fs* (Wickham et al., 2019), *cowplot* (Wilke, 2019), *zoo* (Zeileis and Grothendieck, 2005) and *weathercan* (LaZerte and Albers, 2018) packages.

3. Results

3.1. Study area characteristics

We identified 30 cities that met the 'large population centre' criteria and selected the DAs that intersected the population centre boundaries for each city. The final selection included 28,026 DAs with a total population of 19,406,925 people or approximately 55 % of the total Canadian population according to the 2016 census. Table 6 reports the number of DAs, population of selected DAs, and average population density for each city included in the study.

3.2. The Can-EQI

We assembled data for the nine environmental indicators and constructed the Can-EQI for 27,956 DAs. DAs with missing data (n = 70) were excluded principally due to cloud cover found inherent among datasets derived from satellite imagery. Fig. 2 shows the locality, spread, and skewness of Can-EQI scores among DAs within each study city. Individual DA scores ranged from 21.1 (Edmonton, AB) to 88.9 (Kelowna, BC). Please refer to Supplementary Materials 3 for further additional details and maps regarding Can-EQI characteristics for each city.

Table 5
Hypothesized relationships between indicators in Can-EQI and health.

Variable	Hypothesized relationship	Supporting Evidence
Fine particulate matter ($PM_{2.5}$)	Health declines with higher concentrations of fine particulate matter	(Crouse et al., 2020; Landrigan et al., 2019; Manisalidis et al., 2020; Yang et al., 2018)
Nitrogen dioxide (NO_2)	Health declines with higher concentrations of nitrogen dioxide	(Huang et al., 2021; Huangfu and Atkinson, 2020; Orellano et al., 2020)
NDVI*	Health improves with higher NDVI values	(Chen et al., 2020; Yang et al., 2021)
Distance to water	Health declines with greater distance to water	(Crouse et al., 2018; Elliott et al., 2020; Georgiou et al., 2021; White et al., 2020)
Lengths of roads	Health declines with longer lengths of highways	(Abernethy et al., 2013; Hazell, 2020; Weichenthal et al., 2016)
Distance to power plants	Heath improves with greater distance to power plants	(Koplitz et al., 2017; Liu et al., 2012; Zhang et al., 2022)
Annual average UV radiation	Health improves with higher UV exposure	(Fioletov et al., 2010; Hoel et al., 2016; Juzeniene and Moan, 2012; McGee, 2020)
Temperature – heat wave	Health declines with warmer temperatures during a heat wave events	(Chen et al., 2017; Guo et al., 2017; Rajulapati et al., 2022)
Temperature – cold wave	Health improves with warmer temperatures during cold weather events	(Benmarhnia et al., 2019; Chen et al., 2017; Gasparrini et al., 2015)

*NDVI: Normalized difference vegetation index.

Table 6
For each city listed as a 'large population centre' we provide the number of DAs for the city, population based on the 2016 census for selected DAs, and the average population density from the 2016 census.

City	Number of DAs	Population (2016)	Avg. population density (2016)
Toronto	6373	5,017,192	7576.88
Montréal	4579	2,817,644	8512.13
Vancouver	2757	1,967,394	7030.25
Calgary	1586	1,233,720	4083.08
Edmonton	1357	1,054,089	3715.52
Ottawa	1239	848,396	4928.58
Winnipeg	1128	712,786	4145.20
Hamilton	1123	700,214	4394.60
Québec City	1144	684,854	4085.47
Kitchener	656	470,748	3279.11
London	560	371,199	3321.22
Victoria	534	339,785	3291.31
Windsor	477	287,538	3136.91
Oshawa	442	282,138	3398.90
Halifax	428	282,087	3815.23
Gatineau	377	244,279	3479.09
Saskatoon	358	243,709	3242.91
St. Catharine's-Niagara Falls	388	228,039	2638.47
Regina	344	215,106	3081.51
St. John's	276	171,969	2344.78
Kelowna	200	153,734	2197.97
Barrie	240	139,986	3244.28
Sherbrooke	217	137,146	2873.98
Guelph	198	130,247	3079.81
Trois-Rivières	219	121,433	2746.99
Abbotsford	163	120,731	3710.96
Kingston	187	117,232	2840.83
Moncton	166	110,542	2174.89
Chicoutimi	202	101,950	2280.08
Milton	108	101,038	4902.41
Study total	28,026	19,406,925	
Canada total	56,596	35,151,728	

Table 7 provides the number of DAs, the population, as well as distributional summaries (mean, min and max) for each of the environmental indicators across Can-EQI score groupings.

Using a non-parametric test (Spearman's rank correlation coefficient) we assessed the strength and direction of the relationship among indicators included in the Can-EQI as well as their relationship to the area of dissemination areas, the DA population and population density (Fig. 4).

None of the environmental indicators were strongly correlated with each other. An expected strong correlation was found between DA population density and area and is not surprising given that DA boundaries maintain a population size of between 400 and 700 people per DA. Among the environmental indicators moderate correlations were identified between NDVI and NO_2 ($\rho = -0.54$), NDVI and heat wave temperatures, ($\rho = -0.50$), and NDVI and cold wave temperatures, ($\rho = -0.40$) in the predicted direction. The Can-EQI score is strongly correlated with NDVI ($\rho = 0.69$) and moderately correlated with NO_2 ($\rho = -0.59$), distance to water ($\rho = -0.47$), and heat wave temperatures ($\rho = 0.45$).

3.3. Sensitivity analyses

We assessed the influence of city size in terms of population and differences in Can-EQI scores (Fig. 5). The ANOVA showed that DA-level Can-EQI scores were significantly different across population groupings ($F(3, 27951) = 2550.47$, p less than 0.001). Cities with populations greater than 1,000,000 people had Can-EQI scores that were on average 10.2 (95 % CI: −10.8, −9.7) and 10.7 (95 % CI: −11.1, −10.3) points lower than scores of cities in the smallest population group (less than 200,000 people) and cities with a population between 200,000 and 499,999 people, respectively. We found no significant differences in Can-EQI scores between the cities with populations less than 200,000 people and cities with between 200,000 and 499,999 people ($p = 0.16$). Small, but significant differences in average Can-EQI scores were identified between cities with less than 200,000 people and those cities 500,000 to 999,999 people (−2.4, 95 % CI: −3.0, −1.8) and between cities with between 200,000 and 499,999 people and cities with between 500,000 and 999,999 people (−2.9, 95 % CI: −3.4, −2.4).

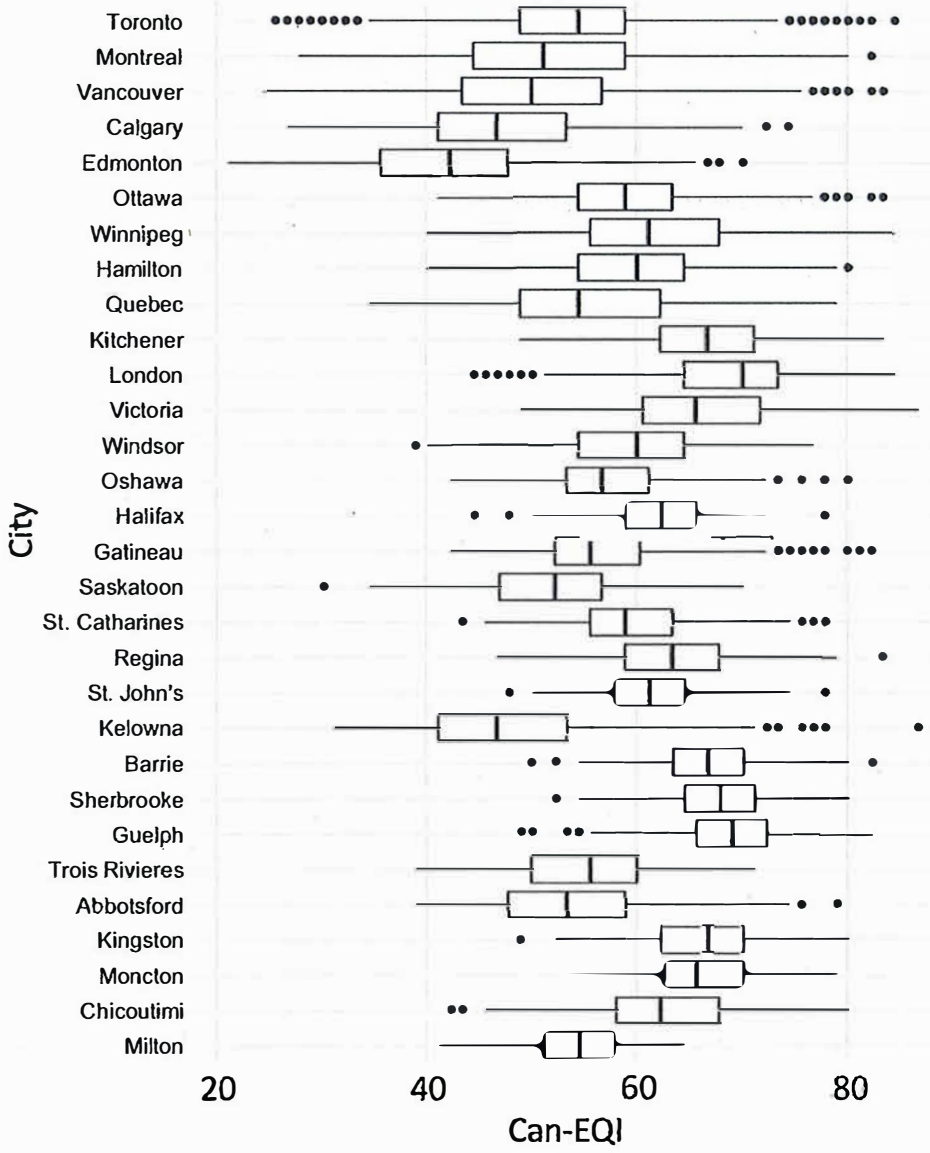

Fig. 2. Distributions of Can-EQI score for each city, sorted by city population in descending order.

Table 7
Dissemination area (DA) characteristics and mean and range (min, max) of environmental indicator values across Can-EQI score ranges.

	Can-EQI Score						
	0–30	30–39	40–49	50–59	60–69	70–79	80–100
Number of DAs	140	1,729	6,405	10,259	7,132	2,177	113
Population (2016)	114,308	1,287,467	4,725,343	7,021,406	4,753,559	1,396,767	68,874
Area (km^2)	71.3	555.4	1,657.8	2,775.9	3,560.5	1,507.8	49.5
Environmental variables							
$PM_{2.5}$ ($\mu g/m^3$)	8.3 (5.5, 9.2)	7.9 (4.7, 11.2)	7.8 (3.3, 11.1)	7.4 (2.3, 10.8)	7.1 (2.2, 10.6)	6.9 (2.3, 9.6)	6.6 (4.5, 8.4)
NO_2 (ppb)	9.3 (6.9, 12.8)	9.1 (4.4, 13.0)	8.8 (1.8, 14.9)	7.7 (0.7, 14.9)	6.1 (0.2, 12.9)	5.3 (0.1, 9.8)	4.9 (0.8, 7.9)
NDVI	0.3 (0.1, 0.4)	0.3 (0.1, 0.6)	0.3 (0.1, 0.7)	0.4 (0.1, 0.7)	0.5 (0.2, 0.7)	0.5 (0.3, 0.7)	0.6 (0.4, 0.7)
Distance to water (km)	3.3 (0.2, 6.9)	3.0 (0, 9.9)	2.1 (0, 9.6)	1.6 (0, 8.9)	1.0 (0, 8.8)	0.5 (0, 5.5)	0.2 (0, 1.6)
Length of road (km)	2.7 (0.3, 25.4)	1.4 (0, 61.0)	0.9 (0, 60.1)	0.7 (0, 68.6)	0.9 (0, 31.9)	0.8 (0, 64.2)	0.1 (0, 1.6)
Distance to power plants (km)	11.2 (2.4, 131.2)	46.5 (0.1, 140.9)	47.7 (0, 246.6)	39.4 (0, 249.1)	52.2 (0, 250.7)	71.3 (0.3, 250.9)	63.2 (1.6, 247.7)
Annual average UV radiation ($J\ m^{-2}$ $J\ m^{-2}$)	2,520.1 (2,419.9, 3,124.6)	2,684.9 (2,419.9, 3,311.7)	2,824.7 (2,419.9, 3,311.7)	2,916.9 (2,419.9, 3,311.7)	2,924.1 (2,419.9, 3,311.7)	2,953.2 (2,419.9, 3,311.7)	2,931.1 (2,545.0, 3,258.6)
Heat wave[a]	2.6 (0.5, 5.1)	2.5 (−1.4, 8.1)	1.9 (−6.6, 8.1)	1.4 (−10.9, 7.6)	0.7 (−8.0, 6.2)	−0.3 (−7.5, 5.3)	−1.7 (−7.8, 1.3)
Cold wave[a]	0.7 (−2.3, 3.0)	0.2 (−6.9, 5.3)	0.6 (−7.3, 9.9)	0.8 (−8.9, 10.7)	0.6 (−7.8, 9.2)	0.7 (−4.9, 9.6)	1.1 (−1.4, 8.4)

[a] Difference between average DA temperature (°C) and temperature of city. For heat waves, a higher temperature means the DA was warmer than the average of the city; higher temperatures for cold waves mean the DA was warmer than the average for the city.

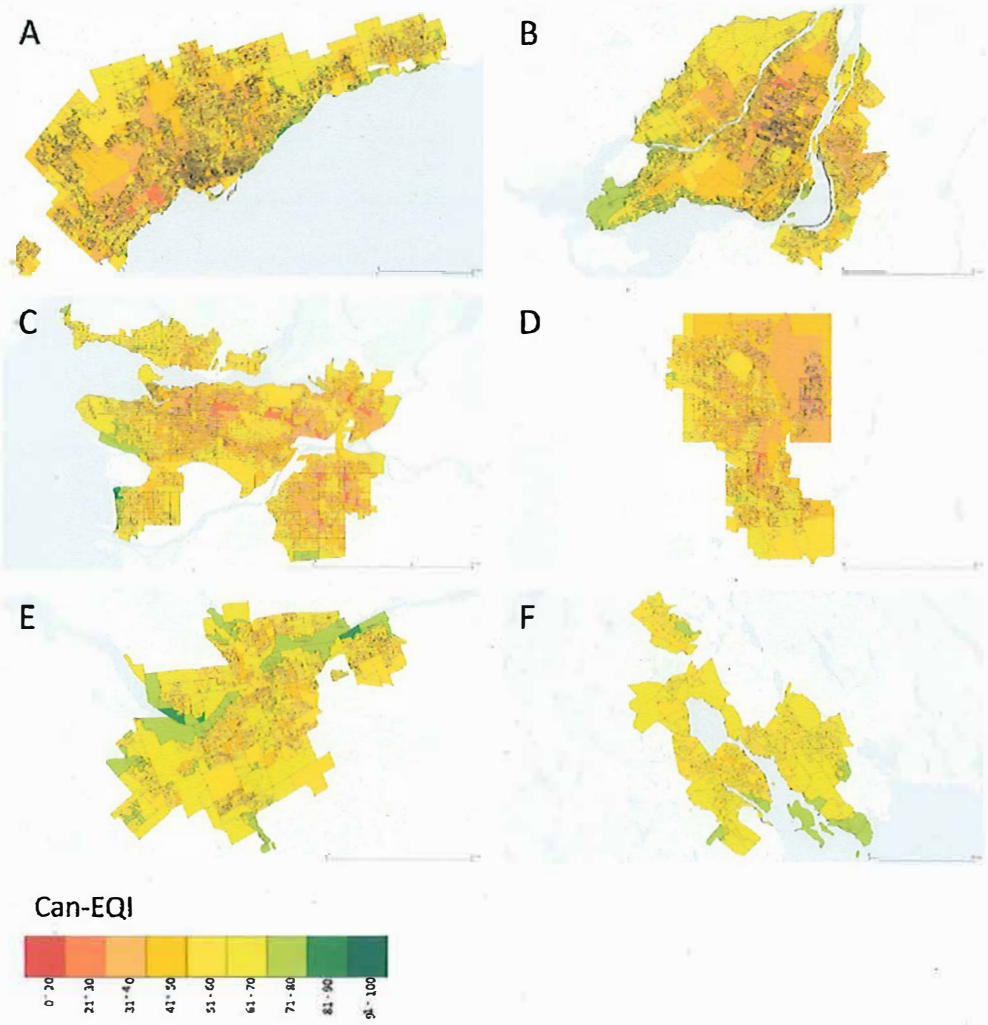

Fig. 3. Illustrates DA-level Can-EQI scores for Canada's four most populous cities, including Toronto, Montréal, Vancouver, and Calgary (Fig. 3a-d), as well as scores for Canada's capital city region, Ottawa-Gatineau (Fig. 3e) and for Halifax, the most populous city in the Atlantic region (Fig. 3f).

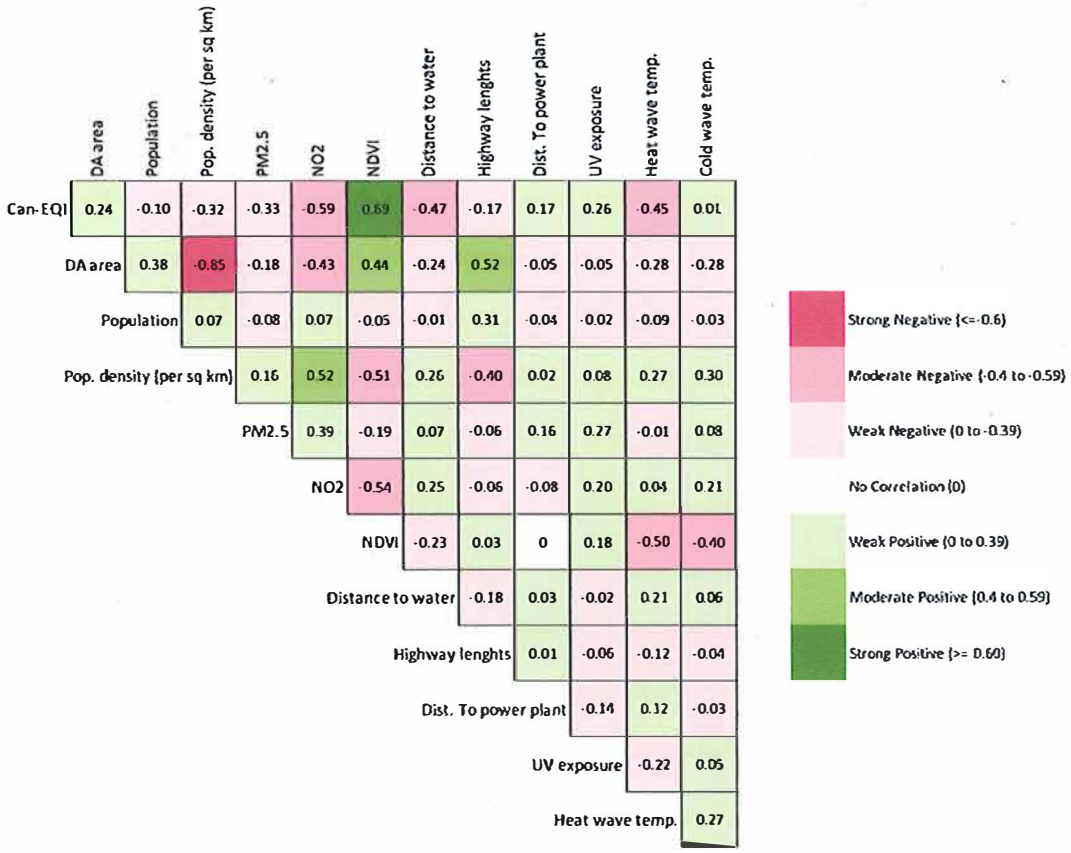

Fig. 4. Correlation matrix of Spearman's correlation coefficients (ρ) between each of the environmental variables, the Can-EQI, area of the DA, population, and population density (persons per square kilometer) based on the 2016 census.

4. Discussion

As the human population continues to migrate to, and settle in urban areas, it is critical to develop comprehensive insight into the influence of urban environmental conditions on human health behaviours and outcomes. According to the 2017 Global Burden of Disease study, it is estimated that specific environment health risk factors accounted for more than 8.3 million deaths and 308 million disability-adjusted life years (Stanaway et al., 2018). In Canada, environmental risk factors accounted for approximately 137,208 disability-adjusted life years (environmental tobacco smoke not included) and an estimated 8,554 deaths in 2016 (Alam et al., 2019). This study describes the development and creation of the Canadian Environmental Quality Index (Can-EQI) consisting of a comprehensive review, selection, and numerical integration of nine variables from five environmental domains and reported as a single value with higher values indicating more desirable environmental conditions. The environmental indicators that make up the Can-EQI were reviewed by multiple environmental health experts and epidemiological evidence of the benefit or risk associated with each indicator was evaluated. Can-EQI values were calculated for urban dissemination areas (n = 28,026) for 30 of Canada's largest cities comprising more than 19.4 million people or 55 % of the Canadian population. Population values from the 2016 Canadian Census were employed to estimate the proportion of population across all 30 cities across deciles of Can-EQI. The development of the Can-EQI is timely given appeals from policy makers and urban planners for evidence-based insights and tools required to explore more granular variations in environmental exposures within and between urban centres (Vardoulakis et al., 2016).

A plan to develop the first environmental quality index was advanced by the Canadian Department of Environment and focused on three main domains, including air, water, and land quality, as well as a category for miscellaneous attributes (e.g., pesticide use and radioactivity) (Inhaber, 1974). In addition to physical environment attributes, indicators of social conditions were also included, such as overcrowding in cities and access to national parks. For each domain, sub-indices were to be calculated and then combined into a single index. However, it is unclear that a completed index was ever developed or that values were made available for research purposes. Since then several indices of environmental quality have been developed to explore variations and inequalities in health and mortality due to environmental conditions at the country level, including in the United Kingdom (Richardson et al., 2010), New Zealand (Pearce et al., 2011), France (Benmarhnia et al., 2013), the United States (Lobdell et al., 2011; Lynne C. Messer et al., 2014) and Portugal (Ribeiro et al., 2015). More recently, several environmental quality indices have been developed at the state/provincial and municipal/city levels, including indices measuring environmental vulnerability to climate change (Yu et al., 2021), the quality of municipal ecosystem services (Hazell, 2020), and spatial variations in air quality (Giang and Castellani, 2020). The Can-EQI is the first developed index of environmental quality in Canada and focused exclusively on urban environments, where more than 80 % of the population resides. The new index is also comprehensive when compared to other measures of environmental quality, incorporating a greater number of variables and at a small area (neighbourhood) level.

We also evaluated the relationship among environmental indicators included in the Can-EQI (Fig. 3) using Spearman's Rank Order correlation that tolerates the potential for non-parametric data distributions. Several environmental indicators were strongly or moderately correlated with the Can-EQI including NDVI (strong, positive), NO_2 (moderately, negative), distance to water (moderately, negative) and heat wave temperatures (moderately, negative). Among indicators that

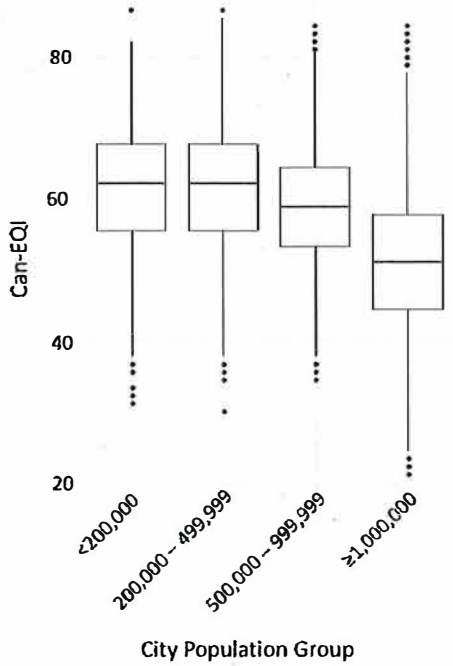

Fig. 5. Boxplot showing the mean differences in Can-EQI scores between four population categories: <200,000, 200,000–499,999, 500,000–999,999, and ≥ 1,000,000.

make up the Can-EQI, and inverse moderate association was identified between NO_2 and NDVI ($\rho = -0.54$), as well as between NDVI and both temperature indicators (heat waves, $\rho = -0.50$ and cold waves, $\rho = -0.40$). The moderate correlations between DA area and some of the environmental variables, namely, NDVI ($\rho = 0.44$), NO_2 ($\rho = -0.43$), and length of highways ($\rho = 0.52$), could be a function of larger DAs existing on the periphery of cities and the resulting land use development associated within *peri*-urban communities, such as larger parks. Additionally, historic development practices (e.g., redlining) may also need to be considered when understanding the spatial distribution of environmental quality across Canadian cities and how legacy impacts may affect current conditions (Benmarhnia et al., 2013). It is also important to note that the Can-EQI is not a measure of individual exposure but rather an area-level measure and resulting trends may be attributed to the aggregation of each indicator into DAs. Can-EQI values may also be sensitive to scale effects so that index values and resulting distributions may vary if calculated at a different scale. While the Can-EQI was only moderately correlated with DA area ($\rho = 0.24$), suggesting that DA area may not greatly impact the outcome of Can-EQI values, the Can-EQI should be calculated at other geographies to understand how values change over different scales.

Comparison with composite indices of environmental quality developed in other settings is challenging due to the process through which data are selected for inclusion, the methods employed in creating index values, and the differences in outputs and scales index values reported. For example, it is worth noting that similar data sets are not necessarily or readily available at the national level among different countries thus restricting comparison of environmental indices. Data on noise levels, water quality, and housing conditions available in France (Benmarhnia et al., 2013) are not available at the national level in Canada. There is also variation in how composite indices of environmental quality are constructed. In the United Kingdom, New Zealand, and Portugal, indicator data distributions were classified into quintiles and assigned positive or negative scores depending on whether the indicator was deemed beneficial or harmful to health (Pearce et al., 2011; Richardson et al., 2010). The French index employed principal component analysis that maximizes the variance of the first component and subsequent PCAs only retained statistically significant indicators (Benmarhnia et al., 2013). A PCA approach was also used to classify areas according to groupings of specific environmental exposures with an aim to identify clusters of areas with similar environmental characteristics but that are distinct from other clusters (Lynne C. Messer et al., 2014; Ribeiro et al., 2015; Richardson et al., 2010). Comparable to the indices in the UK, Portugal, and New Zealand the Can-EQI classifies the distribution of each indicator into deciles although no additional classification was undertaken to allow for users of the index to easily identify the contribution of each indicator to the overall index value.

While the creation of the Can-EQI represents a good starting point for the study of complex environmental characteristics in Canada's largest cities, we are acutely aware that the selection of indicators included in the index, as well as the decision to weight the indicators (according to some criterion) will lead to an alternative expression of the Can-EQI. In addressing the question of weighting, it has been proposed that sensitivity analyses can be employed to assess the impact of weighting on composite indices with an aim to assess the stability of index values among several weighting scenarios (De Montis et al., 2021). One approach would be to assign weights to indicators based on known relative risk to human health outcomes. For example, the Canadian Air Quality and Health Index (AQHI) is comprised of three air pollutants, $PM_{2.5}$, NO_2 and O_3, and each are weighted according to their individual associations with excess mortality risk derived from epidemiological evidence (Stieb et al., 2008). Any weighting approach will prove challenging as some of the indicators are more, or less, related to each other, and the application of evidence from epidemiological analyses will require agreement on the outcome of interest as well as evaluation of key study design characteristics and quality. For the Can-EQI, we chose to leave the indicators as unweighted (for the time being), so that users of the index could explore each of the indicators individually, or construct their own index based on preference for specific indicators.

There are several strengths with our approach to developing the Can-EQI. First, we employed an exhaustive, three-phase approach to the identification of relevant data sets. Building from the first phase of identifying environmental domains employed in related indices of environmental quality, we conducted a systematic search among Canadian data repositories and centres for environmental datasets with the necessary spatial and temporal coverage. We then contacted more than 140 environment and health experts to solicit opinions on the relevancy of these data and to determine if there were available datasets not identified through the search process. Second, although the Can-EQI is focused on urban populations, our search prioritized environmental data available for the entire country so that the Can-EQI could be calculated for areas outside of the thirty municipalities included in this study. The benefits of including these areas are unclear as they, apart from very localized sources of pollution, tend to be of high environmental quality, and their inclusion would skew the distribution of indicators towards higher values. The Can-EQI includes more than 55 % of the Canadian population with the remainder residing in small towns and rural areas of less than 100,000 people. Third, calculation of the Can-EQI at the dissemination area (DA) geography provides opportunities for linking census variables (e.g., demographic and other information) to the index, and to explore how environmental quality varies with socio-economic status or other determinants of population health. Fourth, all data used in the Can-EQI are stored in area-level datasets. Therefore, there is an opportunity to calculate index values or to determine values for individual indicators at other geographies relevant to policy and decision making, or to calculate values for specific locations. For example, Can-EQI values or individual indicator values could easily be linked to postal codes, a problematic but commonly used geography in Canadian health research, or other point locations for linkage to health cohort data

sets.

Our approach to developing the Can-EQI may also be improved. For example, a few of the datasets were chosen based on their complete geographic coverage or extensive temporal coverage so that a similar methodology can be applied to additional cities in Canada. However, this choice resulted in the selection of datasets with a larger spatial resolution (lower granularity) than other datasets in existence. Second, although we attempted to find data for all domains identified at the beginning of the search, we were unable to find any suitable datasets for noise or water quality. We recommend an increased effort toward creating national datasets in these domains so that those aspects of the physical environment can be included. The addition of these data domains into the Can-EQI would provide opportunities to identify specific communities that experience challenges with water quality, particularly those communities that are more reliant on wells or larger waterbodies and that do not have access to central treatment. Third, our decision to calculate the Can-EQI at the dissemination area level of geography did not allow for evaluation of scale effects. These census geographies are the smallest areas and populations for which census data are released. However, the landscape and environmental conditions within them can be diverse. Conclusions of causal associations should be avoided, and further investigations of how Can-EQI values vary with the selection of geography are necessary. Fourth, although we selected dissemination areas within 'large population centres', we found varying degrees of urbanicity among the cities included in this study. While our careful selection of including only urban DAs allows us to be confident that we selected a similar population, the surrounding landscape and overall size of each city is likely to have an effect on overall environmental quality. Therefore, city-level differences in population size, density, and area should be considered when utilizing this dataset.

5. Conclusion and future work

In this study we report on the development and creation of a first version of the Can-EQI, an index of urban environmental quality for thirty of Canada's largest cities. Several modifications and changes could be implemented to increase the usability and value of the Can-EQI for research and policy questions. Work should begin immediately to expand noise data in Canada which is currently available in only five cities. Additionally, we were unable to find a dataset of water quality. While most larger urban centres in Canada have a high level of water quality, there remain opportunities to include water quality events (e.g., water boil advisories), and for additional research to characterize urban drinking water hazards (e.g., incidence of waterborne infections from public water systems). Finally, future work will explore the sensitivity of the Can-EQI to the inclusion of additional data from existing domains (e.g., ground-level ozone), and the calculation of the index over longer periods of time, as the data permits, to evaluate trends in urban environmental quality over time. Understanding how environmental conditions are distributed within and among urban populations is important for understanding the role of the environment on human health. The Can-EQI offers a direct approach to understanding the spatial and temporal distribution of multiple environmental conditions across Canada and is likely to provide new insights into the mechanisms behind socioeconomic and health disparities in urban areas.

CRediT authorship contribution statement

Zoë Davis: Visualization, Data curation, Conceptualization, Formal analysis, Writing - original draft. **Margaret de Groh:** Conceptualization, Project administration, Writing – review & editing, Funding acquisition. **Daniel Rainham:** Conceptualization, Supervision, Project administration, Validation, Writing - review & editing.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Daniel Rainham reports financial support was provided by Public Health Agency of Canada.

Data availability

Data will be made available on request.

Acknowledgements

We are indebted to several environmental data experts who provided guidance on the source and characteristics of datasets most appropriate to include in the Can-EQI. The NO_2 and UV exposure data were provided by CANUE (Canadian Urban Environmental Health Research Consortium).

Funding sources

This work was supported with funding from the Public Health Agency of Canada (PHAC) under contract with Dr. Daniel Rainham, Dalhousie University (Contract No. 4500429011).

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.envint.2022.107633.

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February 6, 2023
Development & Heritage Standing Committee
Item 7.1 – Written Submission

> -----Original Message-----
> From: dora ferro
> Sent: February 1, 2023 10:38 PM
> To: clerks <clerks@citywindsor.ca>
> Subject: 1850 North Service Road rezoning
>
>
>
> Hello
My name is Dora Ferro and I live at 3032 Manfred Ave in Windsor ON. I am emailing to ask to be added as a delegate to the proposed rezoning file # ZNG/ 6784 Z-021/022.

I was told there is a meeting on Monday feb 6, 2023 could I please receive the coordinates to attend this meeting virtually?

As a resident who lives off of North Service Road I am very concerned about this proposal to rezone that land to allow a 300 plus condo development with parking for over 500 cars. The traffic flow in this area is adequate at best and adding this much population to a road that had limited access is extremely concerning on an emergency vehicle perspective. The access to my subdivision is limited being either from Conservation or Walker , and I have been stuck at that four way stop more than once. The underpass on conservation creates a separate bottleneck. I don't know how a transportation study would not identify the impact 500 plus cars would make on North service road.

I understand development , what I don't understand is how the city can allow this change when the https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Flinkprotect.cudasvc.com%2Furl%3Fa%3Dhttps%253a%252f%252fOntario.ca%26c%3DE%2C1%2CZ1m6Ks58QAoy-rPjJL6rGBkaTqn2yqvrXLliSnJdZAZutol0LGv_hLKhiGQpn-yKuARHkbjcJVpP541oR7YLUqSv16anZWL5zU338a3c7jnG0NwK31ZFs9OBZ3o%2C%26typo%3D1&data=05%7C01%7C%7Cf158ed2dd1dc43eddcab08db053197a9%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638109482796658055%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=rkL%2BkTI0X5tWVKJ%2BjlarHZIn%2BXlZKvjFbeWxCE9%2FjAs%3D&reserved=0 website for rezoning indicates that the rezoning should be similar to the adjacent buildings. Our neighbourhood is made of one and two story homes, adding a six story condo complex does not fit with the neighbourhood and will cause property values to decrease. How will the city of Windsor make us while if this happens?

The developer is not going to build affordable housing, they will come in, build these ridiculous buildings that will be an eyesore, at best, sell condos for as much as they can get for them and in the process decrease our property values.

Thanks
Dora

February 6, 2023
Development & Heritage Standing Committee
Item 7.1 – Written Submission

From: Kerry Shaw
Sent: February 2, 2023 10:54 PM
To: clerks <clerks@citywindsor.ca>
Subject: 1850 North Service Road

File Number: ZNG/6784 Z-021/22

Hello,

Attached is Petition Signatures that do not agree with the zoning in question pertaining to 1850 North Service Road to be submitted to the Standing Committee.

PETITION

Date: January 29, 2023
FileNumber:ZNG/6784 / Z-021/22

Address of Rezoning Request: 1850 North Service Road Windsor, ON

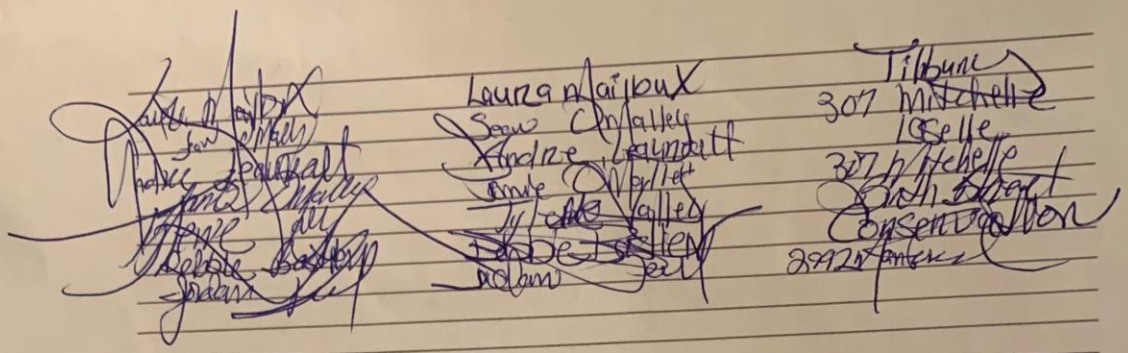
To: City of Windsor Development & Heritage Standing Committee,

The undersigned owners of property affected by the requested zoning change described in the referenced file, do hereby protest against any change of the Land Development Code which would zone the property to any classification other than RD 1.1 and RD 2.2. The proposed development is not comparable to other residential buildings in the area. The building height will drastically change the amount of direct sunlight to properties at peak hours of the day when homes are occupied. The values of the homes on Byng Rd. will be reduced. The amount of traffic on Byng Rd and surrounding streets will increase which will become an issue with safety. There will be a lack of street parking due to inadequate spaces provided and overflow will only have street parking on Bynd Rd. The privacy of residents will be hindered with 6 story buildings set 60 feet from property lines. A 6 foot fence will not provide privacy to Byng Rd residents when the buildings are 6 stories with balconies. Access to and from this development is limited to one entrance onto a single lane street that will cause backups at Walker Rd, Conservation Dr. at North Service Rd and Howard Ave. The lack of access to this development is a cause for safety concerns for first responders, residents and children walking to schools in the area. The previous soccer fields on this property have a known history of slow drainage and flooding even after a storm sewer was added in 2012. Such a large project could cause flooding of properties on Byng Rd as they are not equipped with sump pump systems. The quality of life for the residents of Byng Rd and neighboring streets will be negatively impacted if this type of development is approved.

Signature	Printed Name	Address
Susan Campbell	Susan Campbell	2453 Jennifer Dr
	1620 Blue Spring	
Nicole Maillou	Nicole Maillou	2268 Gladstone Ave.
Lana Holland	Lana Holland	2496 Gladstone Ave
Danielle Raycroft	Danielle Raycroft	2756 Mark Ave
Andrew Gomes	Andrew Gomes	2756 Mark Ave.
Margaret McCormick	MARGARET McCORMICK	2537 CHILVER RD
Mackenzie Bromley	Mackenzie Bromley	560 Birmingham Ave.
Bill Holland	BILL HOLLAND	888 RIVERSIDE
Ashley Driver	Ashley Driver	1825 Gillette Rd
Carole Belanger	Carole Belanger	East Pike Rd
Mark Teel	Mark Teel	Belmont
Tony Leblanc	Tony Leblanc	7014 Bliss

Elias + Liliane Gebrayel.	2905 Robillard.
Pamela Gebrayel	2905 Robillard
Priscilla Gebrayel	2905 Robillard,
Mohessen Gebrayel	2905 Robillard.
TAMARA QUAIL	2953 Robillard
Michele FLORIO	2953 Robillard
Saviour Florio	2908 Robillard crescent
Alex Riviere	2953 Robillard cres
Marcelle Sakr	2904 Robillard
Joseph Sakr	2904 Robillard.
[illegible]	2900 Robillard
MARGARET	2900 Robillard.
ARCADIO JUNIO	2885 ROBILLARD
ANDREW JUNIO	"
CARMENCITA JUNIO	"
CARMINA	"
MILKA - PETERCOATS	2913 ROBILLARD
Wendy Giannarelli	1440 Chemin cres.

02/01/23
Date: February 1, 2023 Contact Name: Kerry Shaw
Phone Number: 519-890-1008



Date: February 1, 2023 Contact Name: Kerry Shaw
Phone Number: 519-890-1008

Development & Heritage Standing Committee
February 6, 2023
Item No. 7.2

From: L B
Sent: January 25, 2023 6:47 AM
To: clerks <clerks@citywindsor.ca>
Cc: Costante, Fabio <fcostante@citywindsor.ca>; Gignac, Jo-Anne (Councillor) <joagignac@citywindsor.ca>; mayoro <mayoro@citywindsor.ca>
Subject: File number ZNG/6926 Z-04/22

This is concerning the proposed property at the **corner of Davis and Askin** - request to put a semi detached PLUS another building.

That is way too many buildings on such a small lot!

ONLY FOUR PARKING SPOTS? for FIVE DWELLINGS? Plus how many students/people will be in each of these units ? What if each of them has a vehicle.

I have already complained to 311 about the Parking on our Street (Randolph/California/Vercheres)

Parking in the U of W area is already excessive - they try to jam cars on our streets - hang over our driveways and blocking us from backing out - park past the signs- park on corners etc. Such a huge problem of parking in the 900/1000 blocks of the streets off of College.

Commissionaires needs to have one person cruise thru the U of W area and tag cars.

New buildings being put up to replace old run down houses is a great thing BUT this is **EXCESSIVE buildings on such a small lot.**

Too many multiple dwellings on California already and I am concerned with the **sewer systems (flooding) and TRAFFIC.**

Traffic on California is already excessive. That corner of Davis and California is very difficult to pull out from Davis onto California when the cars are parked on the East side of the road - can't see oncoming traffic going North or South.

SO FEW PARKING spots already and now going to be one less on Davis Street.

I realize that we need more housing in Windsor BUT these new properties will ask for **HIGH RENTS** . That is not the purpose of adding much needed housing. **The RENTS in the City need to be examined.**

I am definitely NOT in favour of putting a Semi Detached Building PLUS another ADDITIONAL building on this lot. As a home owner in the Bridgeview area (who actually LIVES in the home) I absolutely do NOT agree with this request.

Lynda S. Brien
919 Randolph Ave

February 6, 2023
Development & Heritage Standing Committee
Item 7.3 – Written Submission

From: Paul Charbachi <Paul_Charbachi@viarail.ca>
Sent: January 26, 2023 7:43 AM
To: clerks <clerks@citywindsor.ca>
Cc: Allan Fisher <Allan_Fisher@viarail.ca>; Gabriel Nathan <Gabriel_Nathan@viarail.ca>; Myriam Pelletier-Dufresne <Myriam_Pelletier-Dufresne@viarail.ca>; Shant Demirdjian <Shant_Demirdjian@viarail.ca>
Subject: File : ZNG/ 6868 Z-033/22 - VIA Comments

Hello,
The Applicant must submit engineering drawings signed and sealed by a certified professional. The engineering drawings will be reviewed by an engineering firms designated by VIA at the Applicant's expenses.
The Applicant must also submit locates to VIA. The locates must be submitted to VIA electronically and physically. The Applicant must meet the following requirements:

- **Transport Canada**:
  - *Railway Safety Act*, Part III, Sections 24 and 25.
- **For Clearance**:
  - *Railway Right of Way Access Control Policy*;
  - *Wire Crossings and Proximities Regulations* – C.R.C., c. 1195;
  - *Standards Respecting Railway Clearances* – TC E-05;
  - Notice of Railway Works Regulations, a copy of the notice must be sent to VIA.

- **Traffic control near a railways**:
  - *Circular 13 Railway Association of Canada*

- **For Grade Crossings**:
  - *Grade Crossings Regulations*;
  - The provisions that must be adhered to with respect to the creation of new entrance ways or intersecting roads from the nearest rail. Reference GCR Sub-Section 101(1) and Grade Crossings Standards Article 11.
  - *Grade Crossings Standards*;
  - *Transport Canada Standard for LED Signals Modules at Highway/Railway Grade Crossings* – TC E-14;
  - *Minimum Railway/Road Crossing Sightline Requirements for All Grade Crossings Without Automatic Warning Devices* – G4-A.
  - The requirements surrounding sightlines, of which any construction or activities (Duplex development) on the property or new properties must ensure they do not obstruct the required minimum grade crossing sightlines. (reference Section 21 of the GCR).

- **Canadian Standards Association**:
  - CAN/CSA C22.3 No. 1 – Overhead Systems;
  - CAN/CSA C22.3 No. 7 - Underground Systems;
  - CAN/CSA Z662 – Oil and Pipeline Systems;

- CAN/CSA-B137.4 - Polyethylene Piping Systems for Gas Services.

- **VIA**:
  - *Buried Signal and Communication Guidelines*;
  - *Guidelines for New Development*;
  - *guidance which the Federation of Canadian Municipalities (FCM) has created on this topic specifically, you can find their guidance within the following link: Guidelines for New Development in Proximity to Railway Operations.*
  - Adjacent landowners, buildings and overhead structures are not allowed to drain or modify existing drainage ways to divert water onto railway property without a hydraulic study and approval of the VIA Rail Infrastructure Department;
  - All loads must be in compliance with Cooper E90;

- **The Federation of Canadian Municipalities and the Railway Association of Canada**:
  - *Guidelines for New Development in Proximity to Railway Operations*.
- **Other**:
  - Proper fencing must be included or planned to be installed in order to avoid any trespassing or intrusions into the VIA right-of-way;
  - All fence maintenance will be done on the Applicant expense.

In addition, the Applicant must comply with the following areas of concern for which VIA request information, reassurances and/or commitments with regards to the application:

- **Utilities**:
  - <u>Electrical and Gas Supply</u>

VIA would like assurances from the City and the Applicant that the new development will not negatively impact on the capacity, availability, stability of the supply and future growth capability thereof.

- <u>Communications</u>

VIA would like assurances from the City and the Applicant, that the new development will not impact VIA's operations as a result of potential alterations to the existing cellphone towers or any other fibre-optic infrastructures supplying the VIA station and property.

- **Water & Wastewater**:
- <u>Drainage Sanitary/Storm</u>

VIA would like assurances that the new development will not limit or interfere with its operations, specifically the main sanitary drainage that runs South-to-North from the Train Yards, through VIA's property towards the proposed development. Refer to the blue dashed line of Exhibit A, attached to this letter.

- <u>Water supply</u>

VIA would like assurances that the new development will not affect the supply and water pressure that is provided for the station.

- **Construction Disturbances**:
  - VIA requests a copy of the Pedestrian study (from New Development to LRT).
  - VIA is concerned by the flow of people that will go through our premises (either interior or exterior) to access the LRT station.
- <u>Station access (vehicle traffic)</u>

Confirmation that the New Development access/exits, and traffic volumes will not affect or interfere VIA traffic circulation. VIA also needs confirmation that Avenue L (yellow dotted line shown on Exhibit A), as well as the access to it, will be kept for our operations and upcoming growth.

- **Neighbour Relationships**:
    - VIA requests the Applicant's monitoring and management plan of the impacts of its construction, including but not limited to:
        - Air contaminants / Dust pollution;
        - Noise pollution / Working hours;
        - Existing conditions;
        - and the impacts of vibrations.
    - VIA requests the Applicant's communication and management plan for future tenants and or owners of the project with respect to VIA's active train station nearby, that may produce one or more of, but not limited to, the following: emission of noise, dust, vibration, fumes, odours and other gaseous or non-gaseous emissions that may affect the enjoyment of the development for which VIA shall not be held responsible.

VIA requests the Applicant's commitment to making all efforts not to interfere with VIA's operations, VIA's track infrastructure or use of VIA property. When in the vicinity of VIA property or Railway right-of-way, VIA requests the Applicant commitment to comply with and conform to all VIA, Department of Transport and Canadian Transportation Agency rules and regulations, or any other authority having jurisdiction.

When and where the City's or the Applicant's actions, whether direct or indirect, negatively impact any of the above, VIA's operations, and or VIA's property, VIA wants assurances from the City and the Applicant that they will take all necessary and possible steps to mitigate or eliminate those impacts.

In light of our requests, VIA requires the City and the Applicant to indemnify VIA against any and all claims, damages or proceedings (including legal costs and other costs and expenses) that may arise in relation to the non-compliance to any condition contained in this letter.

Should you have any questions or concerns, please feel free to contact the undersigned.

Sincerely,

Paul Charbachi
Infrastructure Engineer
M: 514-607-5833
Paul_Charbachi@viarail.ca

February 6, 2023
Development & Heritage Standing Committee
Item 7.4 – Written Submission

From: Paul Charbachi <Paul_Charbachi@viarail.ca>
Sent: January 26, 2023 7:43 AM
To: clerks <clerks@citywindsor.ca>
Cc: Allan Fisher <Allan_Fisher@viarail.ca>; Gabriel Nathan <Gabriel_Nathan@viarail.ca>; Myriam Pelletier-Dufresne <Myriam_Pelletier-Dufresne@viarail.ca>; Shant Demirdjian <Shant_Demirdjian@viarail.ca>
Subject: File numbers: OPA/6702 and ZNG/6701

Hello,
The Applicant must submit engineering drawings signed and sealed by a certified professional. The engineering drawings will be reviewed by an engineering firms designated by VIA at the Applicant's expenses.
The Applicant must also submit locates to VIA. The locates must be submitted to VIA electronically and physically. The Applicant must meet the following requirements:

- **Transport Canada**:
  - *Railway Safety Act*, Part III, Sections 24 and 25.
- **For Clearance**:
  - *Railway Right of Way Access Control Policy*;
  - *Wire Crossings and Proximities Regulations* – C.R.C., c. 1195;
  - *Standards Respecting Railway Clearances* – TC E-05;
  - Notice of Railway Works Regulations, a copy of the notice must be sent to VIA.

- **Traffic control near a railways**:
  - *Circular 13 Railway Association of Canada*

- **For Grade Crossings**:
  - *Grade Crossings Regulations*;
  - The provisions that must be adhered to with respect to the creation of new entrance ways or intersecting roads from the nearest rail. Reference GCR Sub-Section 101(1) and Grade Crossings Standards Article 11.
  - *Grade Crossings Standards*;
  - *Transport Canada Standard for LED Signals Modules at Highway/Railway Grade Crossings* – TC E-14;
  - *Minimum Railway/Road Crossing Sightline Requirements for All Grade Crossings Without Automatic Warning Devices* – G4-A.
  - The requirements surrounding sightlines, of which any construction or activities (Duplex development) on the property or new properties must ensure they do not obstruct the required minimum grade crossing sightlines. (reference Section 21 of the GCR).

- **Canadian Standards Association**:
  - CAN/CSA C22.3 No. 1 – Overhead Systems;
  - CAN/CSA C22.3 No. 7 - Underground Systems;
  - CAN/CSA Z662 – Oil and Pipeline Systems;

- CAN/CSA-B137.4 - Polyethylene Piping Systems for Gas Services.

- **VIA**:
  - *Buried Signal and Communication Guidelines*;
  - *Guidelines for New Development*;
  - *guidance which the Federation of Canadian Municipalities (FCM) has created on this topic specifically, you can find their guidance within the following link: Guidelines for New Development in Proximity to Railway Operations.*
  - Adjacent landowners, buildings and overhead structures are not allowed to drain or modify existing drainage ways to divert water onto railway property without a hydraulic study and approval of the VIA Rail Infrastructure Department;
  - All loads must be in compliance with Cooper E90;

- **The Federation of Canadian Municipalities and the Railway Association of Canada**:
  - *Guidelines for New Development in Proximity to Railway Operations*.
- **Other**:
  - Proper fencing must be included or planned to be installed in order to avoid any trespassing or intrusions into the VIA right-of-way;
  - All fence maintenance will be done on the Applicant expense.

In addition, the Applicant must comply with the following areas of concern for which VIA request information, reassurances and/or commitments with regards to the application:

- **Utilities**:
  - <u>Electrical and Gas Supply</u>

VIA would like assurances from the City and the Applicant that the new development will not negatively impact on the capacity, availability, stability of the supply and future growth capability thereof.

- <u>Communications</u>

VIA would like assurances from the City and the Applicant, that the new development will not impact VIA's operations as a result of potential alterations to the existing cellphone towers or any other fibre-optic infrastructures supplying the VIA station and property.

- **Water & Wastewater**:
- <u>Drainage Sanitary/Storm</u>

VIA would like assurances that the new development will not limit or interfere with its operations, specifically the main sanitary drainage that runs South-to-North from the Train Yards, through VIA's property towards the proposed development. Refer to the blue dashed line of Exhibit A, attached to this letter.

- <u>Water supply</u>

VIA would like assurances that the new development will not affect the supply and water pressure that is provided for the station.

- **Construction Disturbances**:
  - VIA requests a copy of the Pedestrian study (from New Development to LRT).
  - VIA is concerned by the flow of people that will go through our premises (either interior or exterior) to access the LRT station.
- <u>Station access (vehicle traffic)</u>

Confirmation that the New Development access/exits, and traffic volumes will not affect or interfere VIA traffic circulation. VIA also needs confirmation that Avenue L (yellow dotted line shown on Exhibit A), as well as the access to it, will be kept for our operations and upcoming growth.

- **Neighbour Relationships**:
    - VIA requests the Applicant's monitoring and management plan of the impacts of its construction, including but not limited to:
    - Air contaminants / Dust pollution;
    - Noise pollution / Working hours;
    - Existing conditions;
    - and the impacts of vibrations.
    - VIA requests the Applicant's communication and management plan for future tenants and or owners of the project with respect to VIA's active train station nearby, that may produce one or more of, but not limited to, the following: emission of noise, dust, vibration, fumes, odours and other gaseous or non-gaseous emissions that may affect the enjoyment of the development for which VIA shall not be held responsible.

VIA requests the Applicant's commitment to making all efforts not to interfere with VIA's operations, VIA's track infrastructure or use of VIA property. When in the vicinity of VIA property or Railway right-of-way, VIA requests the Applicant commitment to comply with and conform to all VIA, Department of Transport and Canadian Transportation Agency rules and regulations, or any other authority having jurisdiction.

When and where the City's or the Applicant's actions, whether direct or indirect, negatively impact any of the above, VIA's operations, and or VIA's property, VIA wants assurances from the City and the Applicant that they will take all necessary and possible steps to mitigate or eliminate those impacts.

In light of our requests, VIA requires the City and the Applicant to indemnify VIA against any and all claims, damages or proceedings (including legal costs and other costs and expenses) that may arise in relation to the non-compliance to any condition contained in this letter.

Should you have any questions or concerns, please feel free to contact the undersigned.

Sincerely,

Paul Charbachi
Infrastructure Engineer
M: 514-607-5833
Paul_Charbachi@viarail.ca

Development & Heritage Standing Committee
February 6, 2023
Item 7.4 – Written Submission

From: Mark Robins
Sent: January 26, 2023 2:08 PM
To: clerks <clerks@citywindsor.ca>
Subject: File Number OPA/6702 and ZNG/6701 - Objection

To Whom It May Concern

We are writing to express our objection to the proposals for the zoning changes at the 'Vacant South Portion 2400 Banwell Road' as outlined in the above files.

Changing the land to residential use and increasing the maximum building height to 8 storeys will have a detrimental affect on the surrounding area.

1. The requested height of the property will have major impact on properties in Tranquility Ave, Waterford Ave and Timbercrest Ave, the properties will all be overlooked and the proposed height of the building will cast a large shadow over these properties due to the South Facing nature of such. The properties in Tranquility Avenue will be directly facing the proposed property from their rear and this will negatively impact their privacy being overlooked by so many units. All other apartment buildings in the local are around East Riverside are not 8 storeys and as such this apartment block should not exceed these.

2. 157 Residential units will impact local traffic in the area, traffic has already increased dramatically due to new builds in the surrounding area, and this will only make matters worse. The property will enter and exit via Banwell Road which is already one of the worst maintained roads in Windsor, with potholes galore and this increased traffic will only cause more road damage and possibly generate more road traffic accidents when exiting onto a busy road. This is also a high pedestrian area with people walking to the local shops, the local school etc, and again this increases the chances of pedestrian accidents.

The current land is deemed commercial and we personally believe it should remain as such to fit in with the commercial buildings that align the corridor of Banwell Road / Tecumseh Road East, in fact no residential units are on Banwell Road south of McHugh Street, it is all commercial, and should remain as such.

Thank You

Mark Robins and Colleen Rose
Timbercrest Ave

February 6, 2023
Development & Heritage Standing Committee
Item 7.4 – Written Submission

From: shouvik raychoudhury
Sent: February 2, 2023 11:11 PM
To: clerks <clerks@citywindsor.ca>
Subject: Public Meeting (File Numbers OPA/6702 and ZNG/6701) - Written Comments

Dear Sir/Madam,

My name is Shouvik Raychoudhury, and I, and my wife Sudipta Sengupta, are the owners of 2413 Tranquility Ave, Windsor ON N8P 1R8.

With reference to the public meeting (on **Monday, February 6, 2023 at 4:30pm**), that is going to be held to consider amendments to the City of Windsor Official Plan and Zoning By-law 8600 (**File Numbers OPA/6702 and ZNG/6701**), I would like to state that the requested amendments to the official plan & zoning by-law 8600 are not in the best interest of the community impacted by the construction project proposed by the applicant.

Additionally, I would like to submit the following comments to justify my stance-

1. Developing 157 residential units along with 218 parking spaces is going to put tremendous strain on the traffic situation that is currently experienced at the intersections of McNorton St & Banwell Rd and that of Banwell Rd & Tecumseh Rd E.
    - Vehicles coming from from the intersection of Banwell Rd & Tecumseh Rd E and approaching the intersections of McNorton St & Banwell Rd, while attempting to turn & get into the site of the development will slow down traffic terribly.
    - Similarly, traffic moving in the opposite direction, in order to turn to the location in contention will have to go all the way to the intersection of Banwell Rd & Tecumseh Rd E in order to make a u-turn. This will again lead to congestion at the Banwell Rd & Tecumseh Rd E signal.
    - When guest vehicles visiting the proposed residential building are unable to find parking space, they will start looking for parking space on Tranquility, Waterford, Timbercrest all the way to Maitland, putting additional burden on an already limited parking space for the families residing on these streets.
2. The close proximity of this development site to the railway crossing is also going to severely impact the safety of thoroughfare going across the railway tracks. Given the high frequency of trains passing through this location, the additional burden of vehicular & pedestrian traffic will not only risk general safety but will also add to the already high noise pollution levels witnessed in this area.
3. Given that my backyard as well as those of my neighbours that directly face the location of the proposed development, I find the prospect of directly breathing in the smoke that is

going to be emitted by 300 plus (each residence can easily own upto 2 vehicles) or so vehicles that are going to be operated out of the proposed parking spaces, a health hazard for me and my family.

4. Building a high rise residential apartment that is inconsistent with the structure & height of neighbouring houses will negatively impact the market prices of existing houses. This should also then be considered against the property tax the city/province levies on owners.
5. The addition of 157 residential units in this neighbourhood will also strain the existing sewer capacity that was built to only serve the current number of residents.

Given the seriousness of the long term impact of the proposed development project on the neighbouring community, I would earnestly request the honorable Development & Heritage Standing Committee to consider deciding against the proposed amendments.

I look forward to attending the public meeting in person.

Sincerely,
Shouvik Raychoudhury

P.S.- I called 519-255-6432 & left a voicemail stating my intent of attending this public meeting in person.

2400 Banwell Road
Windsor, ON N8P 1X9

3 February 2023

February 6, 2023
Development & Heritage Standing Committee
Item 7.4 - Written Submission

350 City Hall Square West
Windsor, ON N9A 6S

Via email: **jnwaesei@citywindsor.ca**

Attention: **Justina Nwaesei, City Planner**

Re: **Site Access Concerns for Neighbouring Development Proposal**
Mid-Rise Residential Development at 2800 Banwell Road, Windsor, ON

Justina:

The Board of Directors of Banwell Community Church (BCC) have been informed that the City of Windsor wishes to prohibit the neighbouring development proposal from gaining its own right-in / right-out site access at Banwell Road. Accordingly, it is our understanding that the City wishes to enforce joint access with the Church's existing right-in / right-out site access at Banwell Road. For the following reasons, Banwell Community Church is unsupportive of a joint / reciprocal access:

- During BCC's business meetings pertaining to the severance and sale of the adjacent lands, many of our members were vocal about keeping the lands separated; members were concerned that interconnectivity would exacerbate observed traffic short-cutting through our parking lot (to bypass the signalized intersection of Banwell Road at McHugh Street / McNorton Street), thereby affecting BCC's liability and safety;
- Joint access from the neighbouring development proposal would require BCC to re-evaluate its waste management strategy (because its existing waste collection area is located just east of the existing right-in / right-out site access at Banwell Road);
- Joint access from the neighbouring development would result in a loss of utilitarian land; BCC is currently planning a building expansion towards the south, and a loss of utilitarian land may negatively impact the proposed supplementary parking layout.

Accordingly, the Board of Directors of Banwell Community Church ask that reconsider the site access restrictions imposed upon the neighbouring development proposal.

Yours truly,

Vladimir Kralik

Vladimir Kralik
Chair, Board of Directors
Banwell Community Church

Kim Anber

Kim Anber
Chair, Building Committee
Banwell Community Church

February 6, 2023
Development & Heritage Standing Committee
Item 11.1 – Written Submission

Dear committee,

Thank you for your time. I would like to ask the committee to consider my project at 511 Pelissier street to be considered a catalyst project, instead of being approved as a LEED bronze project, for the additional five years of the building/property tax increment grant program.

I am asking this because it fits the criteria as discussed in the downtown Windsor CIP for a catalyst project.

One of the main features of the building is its historical designation which creates an attraction for the area and the downtown core. It is created in a renaissance period design with arches and a terrace overlooking the street. I have continued to put much energy and capital in maintaining this historical gem and will continue to as we move forward in creating many new apartments for the downtown core.

The Chelsea at 511 Pelissier Street is a redevelopment and adaptive use of a highly visible building that will result in corresponding and complimentary development reaction in the immediate and surrounding areas.

The building is a historically designated property and is formerly the first man/women's YMCA and residence in Canada.
It's a historical significance, is very important to the Downtown and to the city of Windsor. It has and will helped spur development all and around the downtown area.
The project will increase the land value by more than one third.
The building was deteriorating and now is being repurposed beautifully to convey a message of neighbourhood, progress and stability.

Thank you for your time and understanding.

Regards,
Larry Horwitz

Zelinka Priamo Ltd.
LAND USE PLANNERS

Sent via email

February 3, 2023

Stefan Fediuk
Landscape Architect
Sr. Urban Designer (A)
Planning & Building Department
Planning Division
350 City Hall Square West
Fourth Floor, Suite 320
Windsor, ON
N9A 6S1

Dear Mr. Fediuk,

Re:	**Amendment to Sign By-law 250-04** **Related to Billboards and Electronic Billboards** **1339536 Ontario Ltd.** **2595 Dougall Avenue** **Windsor, ON**
City File:	**SGN-003/22**
Our File:	**STA/WIN/21-01**

Zelinka Priamo Ltd., on behalf of 1339536 Ontario Ltd., is pleased to provide the following information regarding the above-noted matter as it relates to the above-noted lands ("subject lands").

The subject lands are located on the west side of Dougall Avenue, approximately 60 m south of the intersection with Ouellete Place/Avenue. The subject lands are triangular in shape and currently contain a service commercial use (take-out restaurant). A Sign Permit for a Billboard Sign on the subject lands was issued by the City on June 19, 2020 (P#20-[253937]).

As you are aware based on our previous discussions, we have been working with City Staff regarding a proposed Sign By-law Amendment to permit an Electronic Changing Copy Billboard Ground Sign on the subject lands to be operated by a third-party provider (Target Outdoor). The subject lands are located along an Approved Street (Dougall Avenue), as per Section 6.3.2 of the Sign By-law, which permits Electronic Changing Copy Billboard Ground Signs. However, it has recently come to our attention that a 1 year moratorium is recommended by City Staff to be placed on consideration for new Electronic Changing Copy Billboard Ground Signs pending a review of the City of Windsor Sign By-law.

318 Wellington Road, London, ON, N6C 4P4
TEL (519) 474-7137 FAX (519) 474-2284
Email: zp@zpplan.com

Please accept this correspondence as a formal request to include our firm and Target Outdoor as part of any future correspondence relating to the Sign By-law Amendment process, on behalf of our client. Should Council adopt the Staff recommendation to undertake a comprehensive review and update to the Sign By-law, we also wish to actively participate as part of any stakeholder meetings or consultations that will take place as part of this process.

We trust that the above information is satisfactory and look forward to working with City Staff regarding the review of the Sign By-law and any potential amendments that may be forthcoming.

If we can be of any assistance, please do not hesitate to contact the undersigned.

Yours very truly,

ZELINKA PRIAMO LTD.

Harry Froussios, BA, MCIP, RPP
Principal Planner

cc. 1339536 Ontario Ltd.
Target Outdoor

February 6, 2023
Development & Heritage Standing Committee
Item 7.1 - Deferral Request

Request for Deferral of l850 North Service Project

1. We were not given a meeting between City, H.D. Development and ourselves, to air our concerns. From Day One it seems we have been shut out both by the City and Developer. It seems this project, Size, Type, Layout were all preplanned. Only a small reshuffling of the same cards has occurred with most resent design.
2. Project presented as a Luxurious Condo Development. This may not be the end result.
3. We need time to formulate questions, submit them and critique answers pertaining to the Re-Zoning Study for 1850 North Service Rd. authorized by Adam Szymczak. We believe the the Rosie picture is not so Rosie.
   a) Transportation Impact Study (no study done on Byng Rd.)
   b) Lot coverage is 20%?, 41% landscaped?
   c) Noise Impact Study
   d) Stormwater Storage on parking lot space?
   e) Shadow Study
   f) Interim Control By-Law 103-2020 Exemption?
   g) Distance to Bus Stops Too Far!
      475 meter is: 1) about 9 mins @ 2 miles/hour
      2) about 4.5 mins@ 4 miles/hour

Note: Not Always Sunny Warm Days

Cold, Icy, Wet, Windy Days Too!

We would ask any and all of you to walk 475 meters on an inclement day and give your honest opinion. About your venture, This does include time spent at Bus Stop.

h) The Above Report notes many Reasons for this Development but doesn't address its massive size on a site not suited for so many units!
i) Other Concerns too long to list as they need addressing.

4. Questions about Design and Size of building on this site which in our opinion has many Drawbacks
   a) Cramped Parking that is insufficient in Numbers
   b) Only One Entrance and Exit Point, if Blocked for any reason no way to get out. (People, Emergency Vehicles) Also, placement of Said Ente/Exit.
   c) Snow Management would be difficult, Crating Possible, Damaging and Dangerous Situations.
   d) Request Parking Study for Our Street due to Only One Parking Spot for Each Unit, When Handy Cap and Visitor Parking is removed from 1.25/unit Total
   e) Need to Critique Final Transportation Impact Study. We Disagree that Byng Rd. would not be impacted.

5. We need time to look into Real Estate Questions: Talking to Agents and MPAC

For These Reasons and Others We Request a Deferral of Appropriate Length in Time to Obtain Satisfaction.

Adriano Bertolissio	2952 Byng
Amy Grady	2911 Byng
Maureen Rudowisz	3027 Byng
Kerry Shaw	2947 Byng
Grant DeBroe	3047 Byng
Gino Sovran	2927 Byng
Anna Sovran	2927 Byng

(PLEASE FIND ATTACHED PETITION FROM RESIDENTS. EAST AND WEST OF THE DEVELOMENT)

(MORE TO FOLLOW)

PETITION

Date: January 29, 2023
FileNumber:ZNG/6784 / Z-021/22

Address of Rezoning Request: 1850 North Service Road Windsor, ON

To: City of Windsor Development & Heritage Standing Committee,

The undersigned owners of property affected by the requested zoning change described in the referenced file, do hereby protest against any change of the Land Development Code which would zone the property to any classification other than RD 1.1 and RD 2.2. The proposed development is not comparable to other residential buildings in the area. The building height will drastically change the amount of direct sunlight to properties at peak hours of the day when homes are occupied. The values of the homes on Byng Rd. will be reduced. The amount of traffic on Byng Rd and surrounding streets will increase which will become an issue with safety. There will be a lack of street parking due to inadequate spaces provided and overflow will only have street parking on Bynd Rd. The privacy of residents will be hindered with 6 story buildings set 60 feet from property lines. A 6 foot fence will not provide privacy to Byng Rd residents when the buildings are 6 stories with balconies. Access to and from this development is limited to one entrance onto a single lane street that will cause backups at Walker Rd, Conservation Dr. at North Service Rd and Howard Ave. The lack of access to this development is a cause for safety concerns for first responders, residents and children walking to schools in the area. The previous soccer fields on this property have a known history of slow drainage and flooding even after a storm sewer was added in 2012. Such a large project could cause flooding of properties on Byng Rd as they are not equipped with sump pump systems. The quality of life for the residents of Byng Rd and neighboring streets will be negatively impacted if this type of development is approved.

Signature	Printed Name	Address
Cayman	Cayman Davis	1848 LaPlan
	Selina Shaw	2947 Byng Rd
	Michael Groot	3032 Manfred Ave
	Dora Perro	3032 Manfred
	George matti	1613 Jaber crt
	Sabrina shabo	1613 Jaber crt.
	Felda Matti	1613 Jaber Crt
	Nhu Dang	2968 Manfred ave.
	Nick Livas	1615 Blue Spring
		2824 Robillard.
	Mark Russell	2840 Robillard
	Debbie Russell	2840 Robillard
	Andrew Russell	2840 Robillard
	Rebekah Russell	2840 Robillard

Keri St. Andrews	2872 Robillard Crescent
KAREN ST. ANDREWS	2872 ROBILLARD CRES.
Mikel Poshkja	2884 Robillard Cre.
Marlvine Poshkja	2884 Robillard Cre.
Richard Taffiere	2896 Robillard
	2908 Robillard Cres.
Mark DeDoucem	2908 Robillard Cres.
Lynn Tousi	2912 " "
Pina Olivito	2932 Robillard
CATHY OLIVITO	2932 "
ANTONIO OLIVITO	2932 "
~~Cathy~~ Kathy Frangella	2929 Robillard
self + friends	9586 Walker rd
Mike Peris	1333 Ouellette
Michelle Peris	1333 Ouellette
Josh Peris	1333 Ouellette
Debra Peris	1445 Ouellette
Rita Pehlert	1445 Ouellette

Date: Jan 29, 2023 Contact Name: Kerry Shaw
Phone Number: 519-890-1008

PETITION

Date: _____
FileNumber:_____

Address of Rezoning Request: 1850 North Service Road Windsor, ON

To: City of Windsor Development & Heritage Standing Committee,

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Signature	Printed Name	Address
	ANNA SOVRAN	2927 BYNG
	GINO SOURAN	2927 BYNG
	[illegible]	2944 BYNG
	Pat Cyrenne	2935 Byng
	Mike Forte	2921 Byng
	Henry Loeffen	2903 Byng
	Johanna Loeffen	2903 Byng
	BRIAN JAHNS	2889 Byng
	MARIA ANZOLIN	2875 Byng
	ART JAHNS	2849 Byng
	RITA INFANTI	2953 BYNG RD
	LUCY GRAZIANO	2965 Byng
	ANTONIO GRAZIANO	2965 Byng
		3011 Byng

Sarkis Kabraeel	2971 Byng
Dan Stengart	2993 Byng
Tammy Mullen	2993 Byng
Patricia Mattucci	2997 Byng
[illegible]	3505 Byng
Shad [illegible]	2986 CONSERVATION 226-2603688
[illegible]	2982 Conservation
DINA ANGIONE	2958 CONSERVATION
M Orlando	2942 Conservation Dr.
P. [illegible]	2942 CONSERVATION DR.
Dan Plesoianu	2938 Conservation Dr.
[illegible]	2947 Conservation Dr
MaryAnn Sdoucan	2955 Conservation Drive 5192579619
ONORIO MUSCEDERE	1340 NORTH SERVICE RD
Jim Desjardins	1400 North Service Rd
Barry Lukasik	3015 Byng Rd.
[illegible]	2979 BYNG RD. WINDSOR
[illegible]	969 8697 2861 BYNG
Maureen Rudowicz	3027 Byng Rd 519966-0383
Luigia Stivella	2140 Park Dale 519 966 1008
[illegible]	2914 519 [illegible] 1476
Remi Bouran	2927 Byng Rd. 519 551 0851
[illegible]	2163 PARDALE 519-972-1481
ADRIANO BELFIGLIO	2952 BYNG 519 566 6042

Date: _____ Contact Name: _____

Phone Number: _____

SIGNATURE	PRINT NAME	ADDRESS
[illegible]	Jason Wallace	2934 Byng RD
[illegible]	EDDY MARSON	2928 Byng
[illegible]	Louise MARSON	2928 Byng
[illegible]	MICHAELA BALLO	2880 BYNG RD.
[illegible]	Pitar Dengol	2862 Byng Rd
[illegible]	Morgan DeBroe	3047 Byng RD

Date: _____ Contact Name: _____

Phone Number: _____

PETITION

Date: January 29, 2023
FileNumber:ZNG/6784 / Z-021/22

Address of Rezoning Request: 1850 North Service Road Windsor, ON

To: City of Windsor Development & Heritage Standing Committee,

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Signature	Printed Name	Address
[illegible]	Maria Maszota	3029 Manfred
[illegible]	Melissa Amaro	3013 Manfred
[illegible]	JAKUB HAJDER	1568 TABER CRT
[illegible]	Ryan Olson	1564 Taber Crt
[illegible]	Catherine Vinnelli	1574 Taber Crt
JALAL KORRAALI		5199917180
Zeinab Korraali		1592 Taber Court
Haifa Nuru	haifa nuru	2973 Manfred ave.
[illegible]	[illegible]	1579 BLUE SPRING DR
Sukumar Dutta		1561 blue spring dr windsor
[illegible]	[illegible]	[illegible]
[illegible]	Katherine Wieczak	1570 Blue Spring Dr
MARIA BIEDERMANN	1580 Blue Spring	Biedermann

David Hamilton	Derek Landside	1590 Queenspring
[illegible]	DUMITRU DOMNICA	1600 BLUE SPRING
D'Etta Melloche	D'ETTA MELOCHE	1610 BLUE SPRING
[illegible]	VERN MELOCHE	1610 BLUE Spring
Kathy Hames	Kathy Hames	1640 Blue Spring
[illegible]	GARY HUNTER	2877 ROBILLARD
[illegible]	Emsal Hurmuzlu	2893 Robillard
[illegible]	Erkan Hurmuzlu	2893 Robillard Cres
[illegible]	Bushra Ahmed	306-536-2589
[illegible]	Trevor Eric	2901 Robillard.
[illegible]	Norm Desjarlais	2909 Robillard
[illegible]	Lynn Carter	2921 Robillard
Anita Carter	Anita carter	519-566-7719-2921 Robillard
Tammy Allison	Tammy A Allison	226 340 7213
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