Fryett Turner
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May 17th, 2024

To: **Township of Centre Wellington**
Planning Department
1 MacDonald Square
Elora, ON
N0B 1S0
P.O. Box 10

Attn: **Mariana Iglesias, Manager of Planning Services**

Re: **Shadow Study for Proposed Development for Property at 19 East Mill St., Elora**

Dear Mariana,

On behalf of the owner of the property located at 19 East Mill Street in Elora and the ongoing planning application for the proposed four-storey, mixed-use commercial-residential building, we have prepared this shadow study to further demonstrate the proposal will be compatible in this location.

As methodology for the study, please note it was completed using Autodesk Revit and is accurate to the geographic location and local time zone of the site. The study was conducted for five intervals on the spring and fall equinox, and the summer and winter solstice. The study depicts the expected shadowing at 10:00 a.m., 12:00 p.m., 2:00 p.m., 4:00 p.m., and 6:00 p.m., however you will note the 6:00 p.m. time was excluded from the winter study because the sun is set before this time. The information for the proposed building is accurate in scale and elevation. The scale, massing, and distance from the proposed structure for existing buildings outside of the property boundary of the subject lot have been estimated using open-source data. Finally, the scope of the study has been limited to showing all streets, public parks/open spaces, and adjacent properties and buildings which could be affected by the proposed development. The shadowing from existing trees has been removed to isolate the shadows from built structures alone (though it should be noted that shadowing from trees will affect the reality of shadow impact should the proposed be built).

From our review of the results from this study, we conclude that during the spring and fall equinox, all adjacent structures are free from shadowing until 2:00 p.m. when very minimal shadowing begins to occur on the adjacent property directly east of the site. By 4:00 p.m this shadowing is slightly increased with very minimal shadowing beginning on the building at the property located to the south-east. At no point before evening are either of the adjacent buildings subject to complete shadowing.

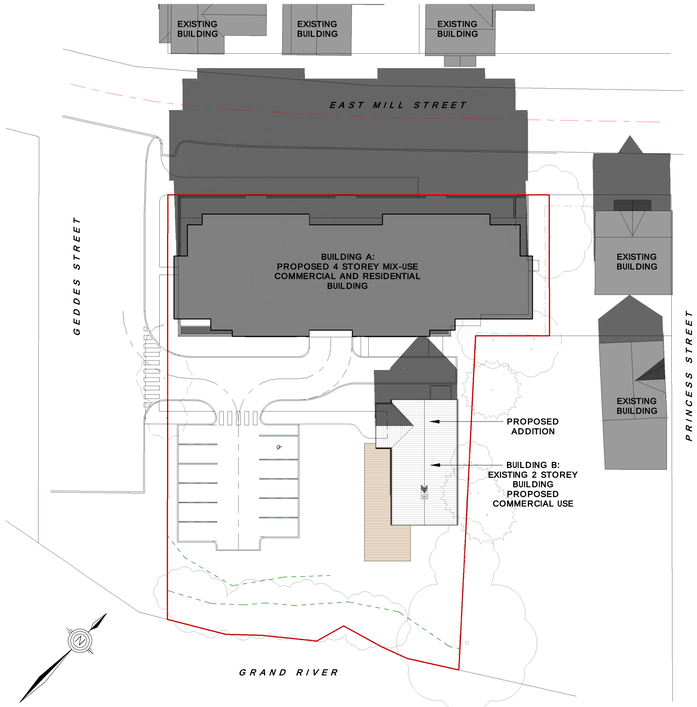
This pattern of shadowing is improved for the study completed at the summer solstice where no shadowing occurs on either adjacent building until 4:00 p.m. when very minimal shadowing starts to appear on the building to the south-east. For this time frame, even after 6:00 p.m. neither of the adjacent structures are subject to complete shadowing. It is our opinion that the minimal impact of the shadow pattern seen in this study is due to the proposed setback for the 3rd and 4th floors in the building massing which allows for sun exposure to be maintained well into the evening.

As for the winter solstice, shadow impacts are greater with partial shadowing starting at 12:00 p.m. . However, it should be noted that in comparison to the previous proposed massing for this site, which included a two-storey single detached home adjacent to the eastern property line, partial shadowing still began on the existing building to the east in early afternoon. Therefore, the impacts on shadowing are largely due to the angle of the sun, and very minimally worsened by the mass of the proposed development.

In conclusion, the shadow study demonstrates that the massing and height of the proposed development will have little impact on adjacent buildings and ensures that consistent sun exposure is maintained for months of the year where there is expectation of such.

Regards,

Robert Turner, MA Dip Arch, OAA
Architect
Fryett Turner Architects Inc.



1 Spring/Fall 10 am
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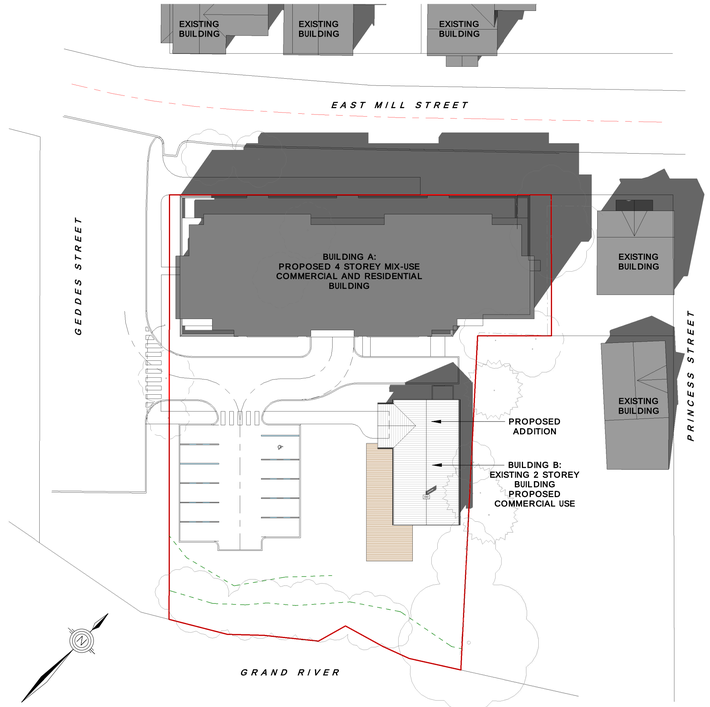
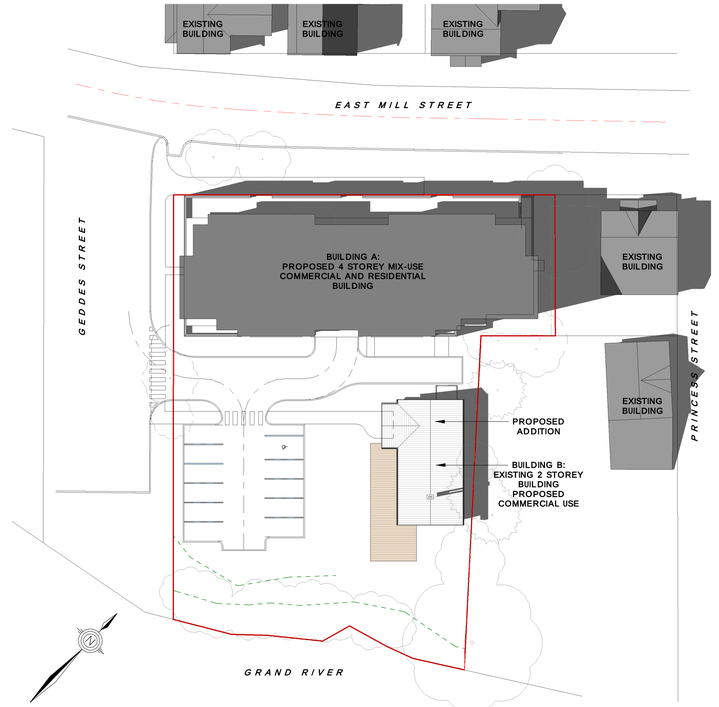


2 Spring/Fall 12 pm
A1.3a 1 : 400



3 Spring/Fall 2 pm
A1.3a 1 : 400

4 Spring/Fall 4 pm
A1.3a 1 : 400

5 Spring/Fall 6 pm
A1.3a 1 : 400

SHADOW STUDY NOTES:

1. THIS SHADOW STUDY WAS CREATED TO SUPPORT THE PLANNING APPLICATION OF A FOUR-STOREY, MEDIUM DENSITY, MIXED-USE RESIDENTIAL AND COMMERCIAL BUILDING IN ELORA ONTARIO.
2. THE SHADOW STUDY WAS COMPLETED USING AUTODESK REVIT AND IS ACCURATE TO THE SITES GEOGRAPHIC LOCATION AND LOCAL TIME ZONE.
3. THE STUDY WAS CONDUCTED FOR FIVE INTERVALS ON THE SPRING AND FALL EQUINOX, THE SUMMER SOLSTICE, AND THE WINTER SOLSTICE. THE STUDY DEMONSTRATES THE EXPECTED SHADOWING AT 10:00 a.m, 12:00 p.m., 2:00 p.m., 4:00 p.m., AND 6:00 p.m.
4. THE SHADOW IMPACTS DURING THE WNTER SOLSTICE AT 6:00 p.m. ARE EXLUDED FROM THE STUDY BECAUSE THE SUN IS SET BEFORE THIS TIME.
5. THE INFORMATION USED IN THIS SHADOW STUDY IS ACCURATE IN SCALE AND ELEVATION FOR THE PROPOSED RESIDENTIAL BUILDING.
6. EXISTING BUILDINGS OUTSIDE OF THE PROPERTY BOUNDARY OF THE SUBJECT LOT HAVE BEEN MODELED WITH ESTIMATED ELEVATION AND SCALE. OPEN SOURCE DATA MAPPING WAS USED TO APPROXIMATE THE SCALE AND DISTANCE OF NEIGHBOURING STRUCTURES.
7. THE REFERENCE PLAN WAS PREPARAED TO CLEARLY IDENTIFY THE SITE BOUNDARY, THE BUILDING FOOTPRINT, AND MASS WITHIN THE SUBJECT SITE, ALL STREETS, PUBLIC PARKS AND OPEN SPACES, AND ALL ADJACENT PROPERTIES AND BUILDINGS AFFECTED BY THE PROPOSED DEVELOPMENT.

REVISIONS DATE

2024-05-16 2:31:44 PM

Fryett Turner ARCHITECTS INC
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Elora, Ontario
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SEAL

PROJECT NORTH

19 Mill St.

19 Mill St. East - Elora

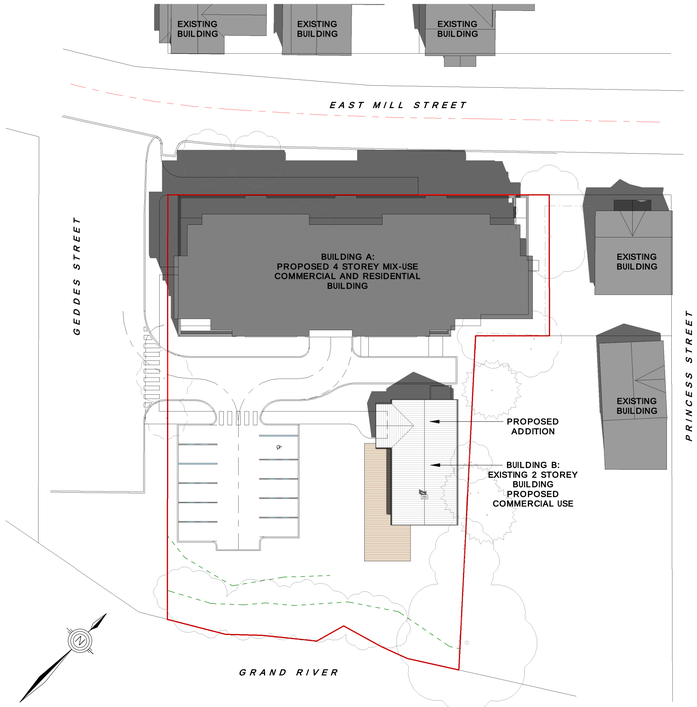
PROJECT TITLE

Shadow Study - Spring/Fall Equinox

STATUS	PRELIMINARY
PROJECT #	20046
CHKD	RT
DRAWN	NA
SCALE	1 : 400
DATE DWN	05/16/24
ISSUED	05/16/24

SHEET #

A1.3a



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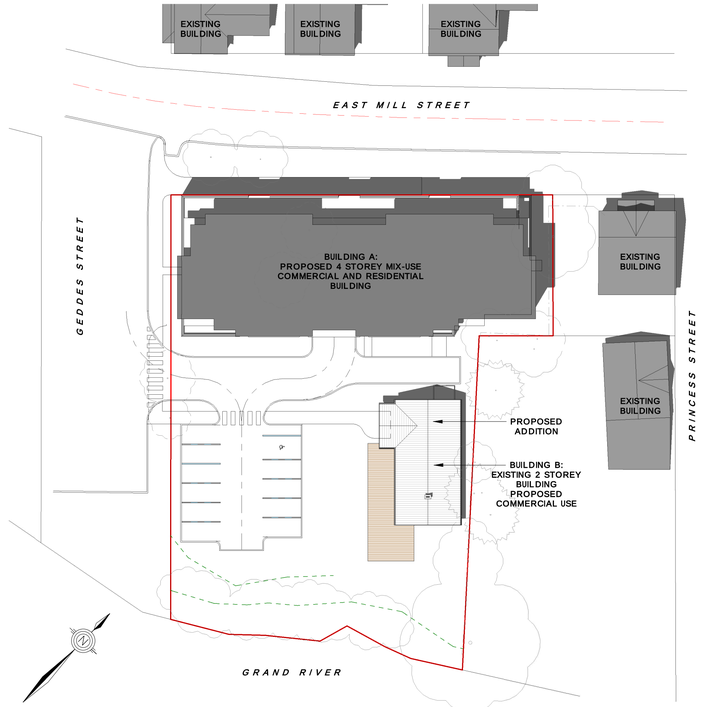
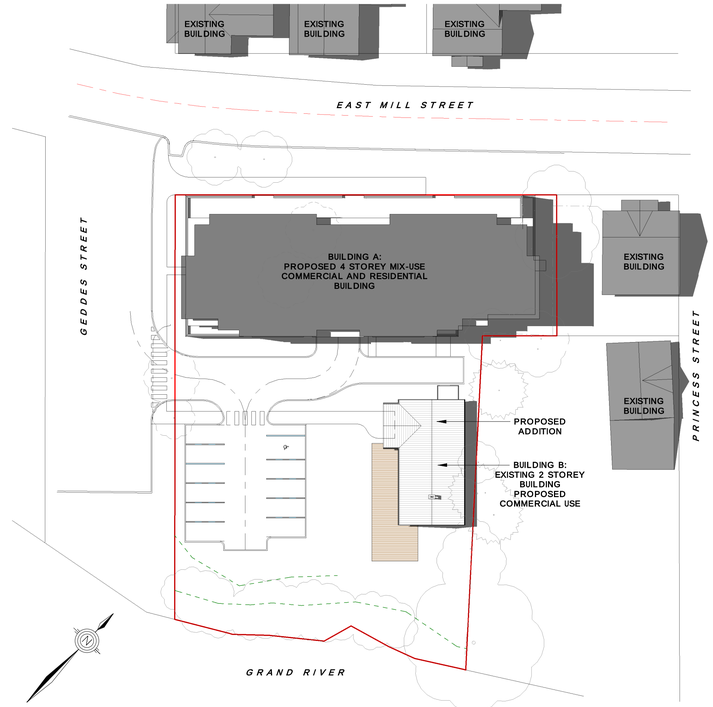


2 Summer 12 pm
A1.3b 1 : 400



3 Summer 2 pm
A1.3b 1 : 400

4 Summer 4 pm
A1.3b 1 : 400

5 Summer 6 pm
A1.3b 1 : 400

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PROJECT NORTH

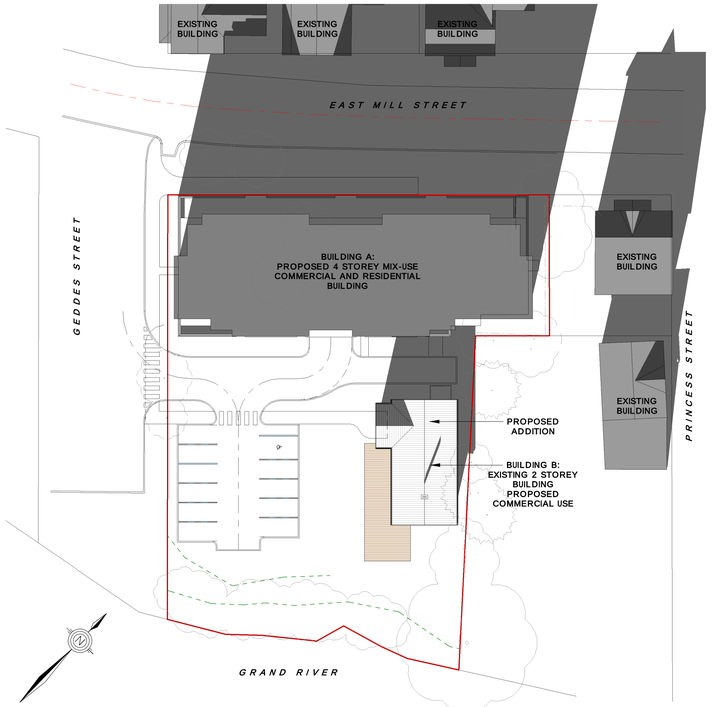
19 Mill St.
19 Mill St. East - Elora

PROJECT TITLE
Shadow Study - Summer Solstice

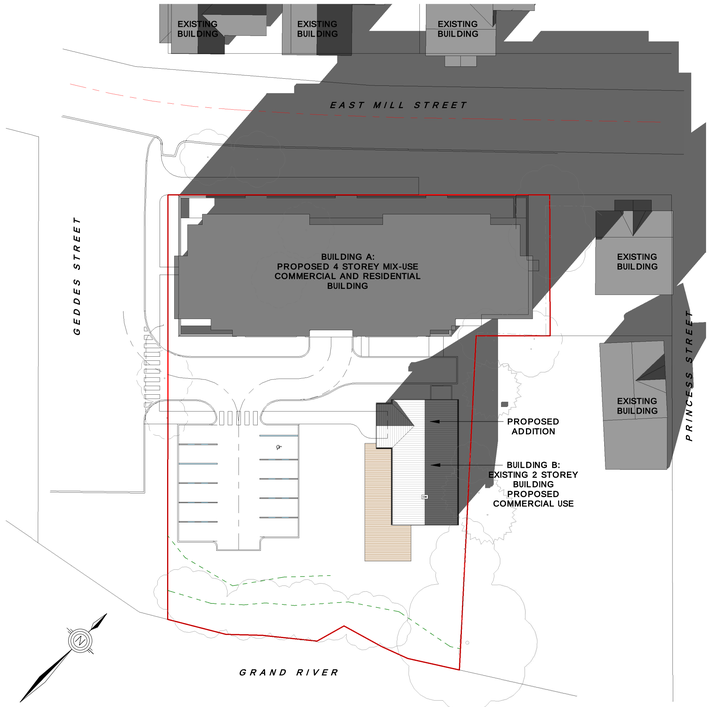
STATUS	PRELIMINARY
PROJECT #	20046
CHKD	RT
DRAWN	NA
SCALE	1 : 400
DATE DWN	05/16/24
ISSUED	05/16/24

SHEET #
A1.3b

2024-05-16 2:31:50 PM



1 Winter 10 am
A1.3c 1 : 400



2 Winter 12 pm
A1.3c 1 : 400

3 Winter 2 pm
A1.3c 1 : 400

4 Winter 4 pm
A1.3c 1 : 400

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STATUS PRELIMINARY
PROJECT # 20046
CHKD Checker
DRAWN Author
SCALE 1 : 400
DATE DWN 05/16/24
ISSUED 05/16/24

PROJECT TITLE
19 Mill St.
19 Mill St. East - Elora

Shadow Study - Winter Solstice

SHEET #
A1.3c