



5150 Ninth Line

# Shadow Study

Prepared by

**NAK**   
design strategies

May, 2020

## 5150 Ninth Line

- Site Latitude: 43°32'13.92"N
- Longitude: 79°44'17.27"W
- Source of base: 5150 Ninth Line Concept Plan provided by KORSIK Urban Planning dated May 06, 2020 (See last page for reference)
- According to City of Mississauga Urban Design Terms of Reference Standards for Shadow Studies, 5150 Ninth Line Concept Plan meets the criteria for the categories listed below:
  - 3.1 Residential Private Outdoor Amenity Spaces
  - 3.2 Communal Outdoor Amenity Areas
  - 3.3 Public Realm
  - 3.4 Turf and flower gardens in Public Parks (Not Applicable)
  - 3.5 Building Faces to allow for the possibility of using solar energy



Site Context Map

## 5150 Ninth Line Sun Angle Data (June 21)

latitude: 43°32'13.92"N

longitude: 79°44'17.27"W

| Date: June 21  | Azimuth (deg) | SLF<br>(ratio length/height) | Comments        |
|----------------|---------------|------------------------------|-----------------|
| Local Time EDT |               |                              |                 |
| 5.38           | 235.59        |                              | Rise            |
| 7.08           | 250.54        | 4.0867                       | Rise + 1.5 hr   |
| 7.21           | 252.58        | 3.4920                       | SN - 6 hr.      |
| 8.21           | 262.01        | 2.0013                       | SN - 5 hr.      |
| 9.21           | 272.02        | 1.3089                       | SN - 4 hr.      |
| 10.21          | 283.76        | 0.8963                       | SN - 3 hr.      |
| 11.21          | 299.48        | 0.6193                       | SN - 2 hr.      |
| 12.21          | 323.66        | 0.4365                       | SN - 1 hr.      |
| 13.21          | 0.00          | 0.3659                       | Solar Noon (SN) |
| 14.21          | 36.43         | 0.4369                       | SN + 1 hr.      |
| 15.21          | 60.57         | 0.6198                       | SN + 2 hr.      |
| 16.21          | 76.28         | 0.8972                       | SN + 3 hr.      |
| 17.21          | 88.01         | 1.3103                       | SN + 4 hr.      |
| 18.21          | 98.02         | 2.0039                       | SN + 5 hr.      |
| 19.21          | 107.45        | 3.4989                       | SN + 6 hr.      |
| 19.34          | 109.49        | 4.0960                       | Set - 1.50 hr   |
| 21.04          | 124.26        |                              | Set             |

## 5150 Ninth Line Sun Angle Data (September 21)

latitude: 43°32'13.92"N

longitude: 79°44'17.27"W

| Date: September 21 | Azimuth (deg) | SLF<br>(ratio length/height) | Comments        |
|--------------------|---------------|------------------------------|-----------------|
| Local Time EDT     |               |                              |                 |
| 7:05               | 268.51        |                              | Rise            |
| 8:35               | 284.36        | 3.6680                       | Rise + 1.5 hr   |
| 9.12               | 291.43        | 2.5244                       | SN - 4 hr.      |
| 10.12              | 304.34        | 1.6518                       | SN - 3 hr.      |
| 11.12              | 319.87        | 1.2239                       | SN - 2 hr.      |
| 12.12              | 338.69        | 1.0067                       | SN - 1 hr.      |
| 13.12              | 0.00          | 0.9387                       | Solar Noon (SN) |
| 14.12              | 21.45         | 1.0088                       | SN + 1 hr.      |
| 15.12              | 40.22         | 1.2287                       | SN + 2 hr.      |
| 16.12              | 55.70         | 1.6610                       | SN + 3 hr.      |
| 17.12              | 68.56         | 2.5465                       | SN + 4 hr.      |
| 17.47              | 75.24         | 3.6255                       | Set - 1.50 hr   |
| 19.17              | 91.08         |                              | Set             |



## 5150 Ninth Line Sun Angle Data (December 21)

latitude: 43°32'13.92"N

longitude: 79°44'17.27"W

| Date: December 21 | Azimuth (deg) | SLF<br>(ratio length/height) | Comments        |
|-------------------|---------------|------------------------------|-----------------|
| Local Time EDT    |               |                              |                 |
| 7.48              | 302.15        |                              | Rise            |
| 9.18              | 318.71        | 4.9240                       | Rise + 1.5 hr   |
| 10.17             | 331.16        | 3.1524                       | SN - 2 hr.      |
| 11.17             | 345.12        | 2.5193                       | SN - 1 hr.      |
| 12.17             | 0.00          | 2.3490                       | Solar Noon (SN) |
| 13.17             | 14.71         | 2.5154                       | SN + 1 hr.      |
| 14.17             | 28.67         | 3.1391                       | SN + 2 hr.      |
| 15.16             | 41.14         | 4.8846                       | Set - 1.50 hr   |
| 16.46             | 57.73         |                              | Set             |



June 21, 2020

Time: 7:08

Azimuth: 250.54

SLF: 4.0867

Rise + 1.5hr.



June 21, 2020

Time: 7:21

Azimuth: 252.58

SLF: 3.4920

SN - 6 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



June 21, 2020

Time: 8:21

Azimuth: 262.01

SLF: 2.0013

SN - 5 hr.



June 21, 2020

Time: 9:21

Azimuth: 272.02

SLF: 1.3089

SN - 4 hr.

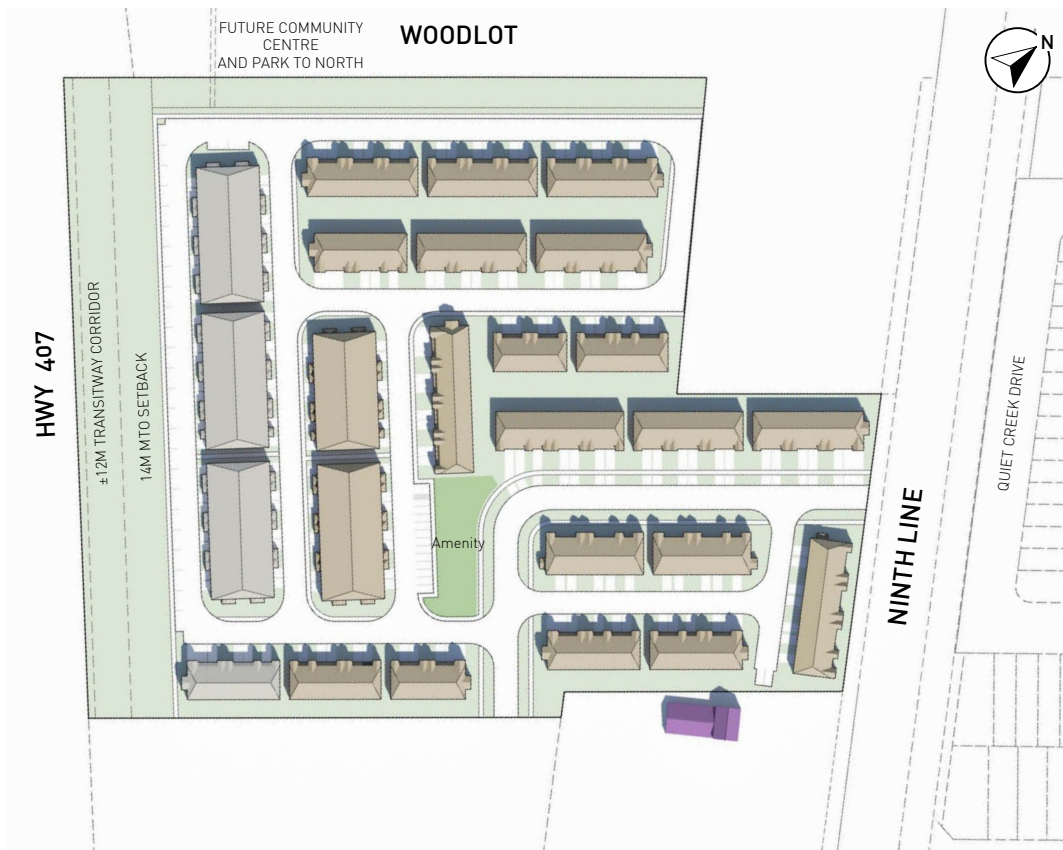
#### LEGEND

Heritage Building

Phase I Building

Phase II Building





June 21, 2020

Time: 10:21

Azimuth: 283.76

SLF: 0.8963

SN - 3 hr.



June 21, 2020

Time: 11:21

Azimuth: 299.48

SLF: 0.6193

SN - 2 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



#### LEGEND

- Heritage Building
- Phase I Building
- Phase II Building





June 21, 2020

Time: 14:21

Azimuth: 36.43

SLF: 0.4369

SN + 1 hr.



June 21, 2020

Time: 15:21

Azimuth: 60.57

SLF: 0.6198

SN + 2 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



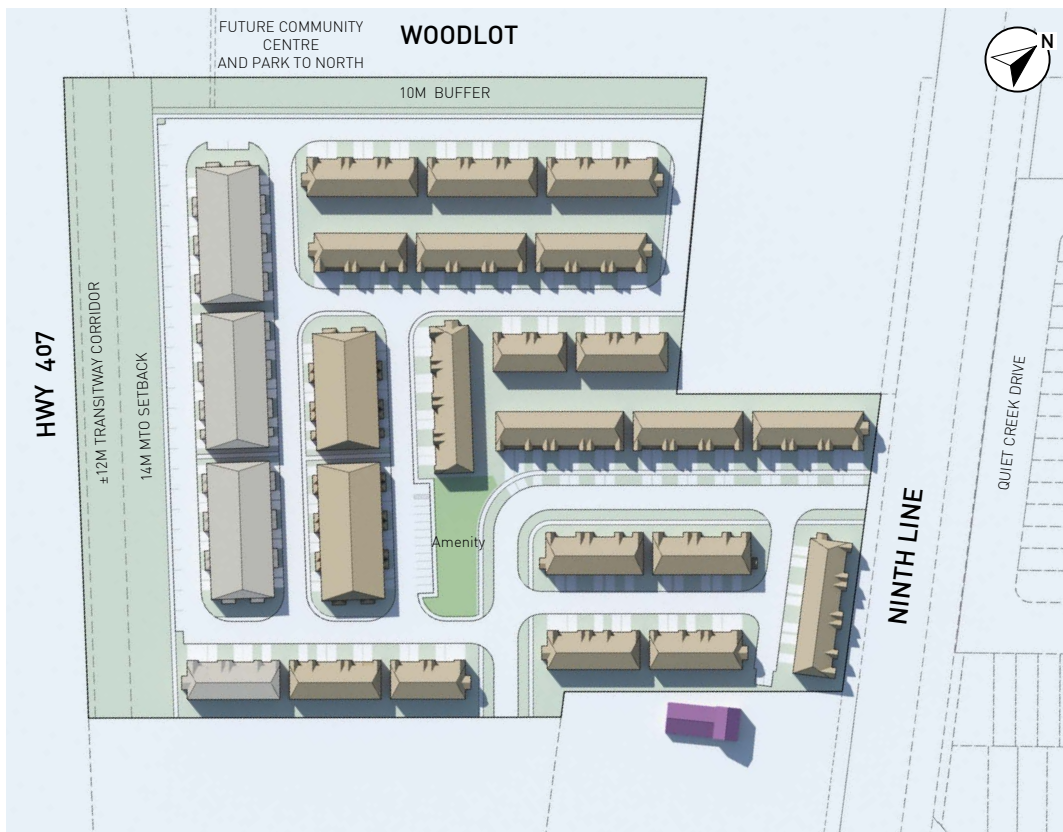
June 21, 2020

Time: 16:21

Azimuth: 76.28

SLF: 0.8972

SN + 3 hr.



June 21, 2020

Time: 17:21

Azimuth: 88.01

SLF: 1.3103

SN + 4 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





June 21, 2020

Time: 18:21

Azimuth: 98.02

SLF: 2.0039

SN + 5 hr.



June 21, 2020

Time: 19:21

Azimuth: 107.45

SLF: 3.4989

SN + 6 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





June 21, 2020

Time: 19:34

Azimuth: 109.49

SLF: 4.0960

Set - 1.5 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



September 21, 2020

Time: 8:35

Azimuth: 284.36

SLF: 3.6680

Rise + 1.5hr.



September 21, 2020

Time: 9:12

Azimuth: 291.43

SLF: 2.5244

SN - 4 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





September 21, 2020

Time: 10:12

Azimuth: 304.34

SLF: 1.6518

SN - 3 hr.



September 21, 2020

Time: 11:12

Azimuth: 319.87

SLF: 1.2239

SN - 2 hr.

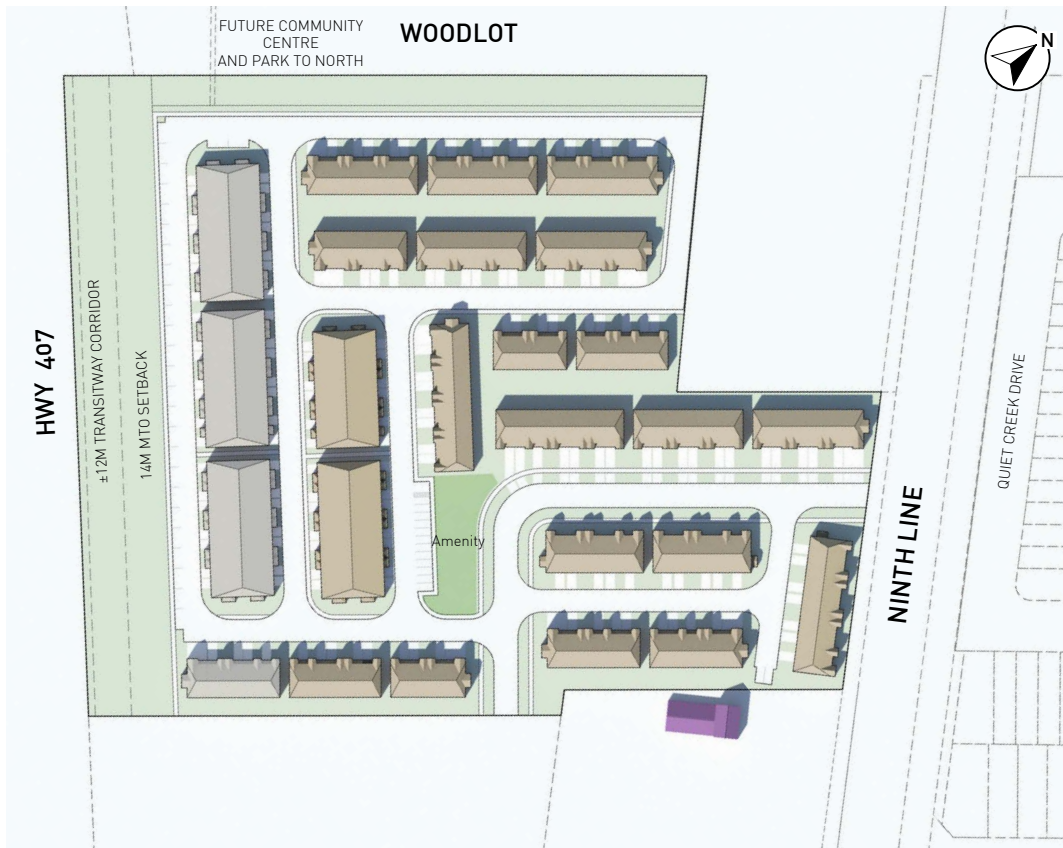
#### LEGEND

Heritage Building

Phase I Building

Phase II Building





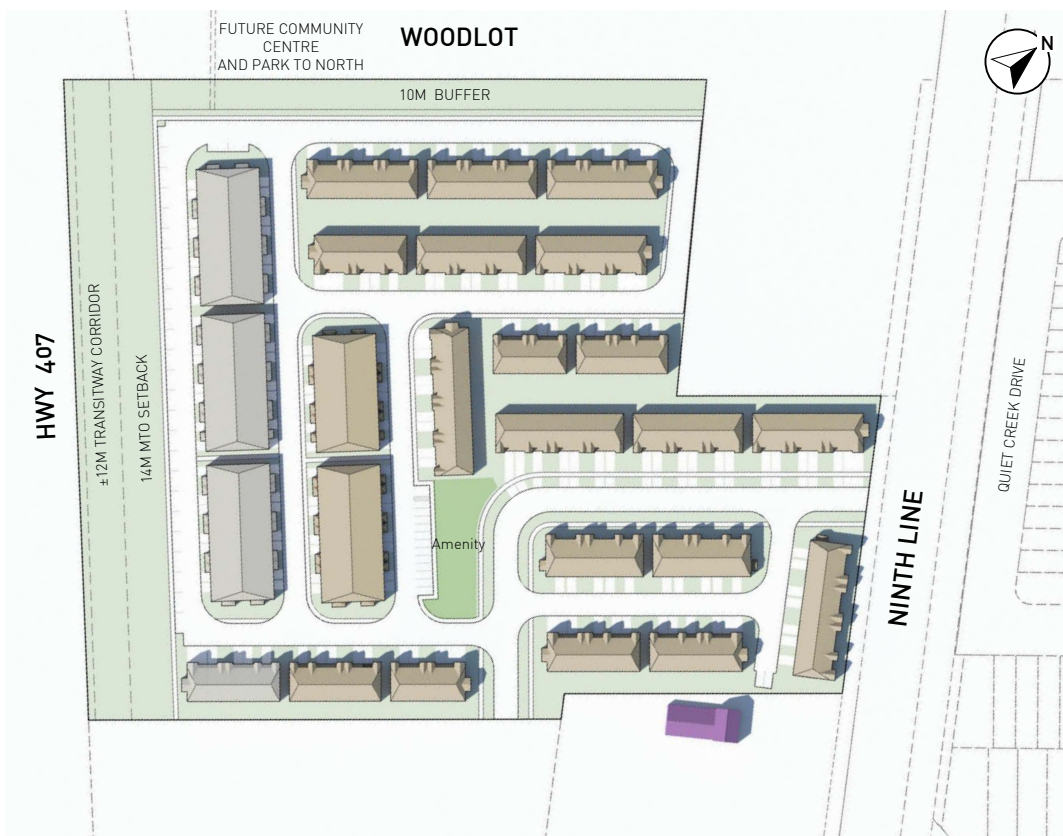
September 21, 2020

Time: 12:12

Azimuth: 338.69

SLF: 1.0067

SN - 1 hr.



September 21, 2020

Time: 13:12

Azimuth: 0.00

SLF: 0.9387

Solar Noon (SN).

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



September 21, 2020

Time: 14:12

Azimuth: 21.45

SLF: 1.0088

SN + 1 hr.



September 21, 2020

Time: 15:12

Azimuth: 40.22

SLF: 1.2287

SN + 2 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





September 21, 2020

Time: 16:12

Azimuth: 55.70

SLF: 1.6610

SN + 3 hr.



September 21, 2020

Time: 17:12

Azimuth: 68.56

SLF: 2.5465

SN + 4 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





September 21, 2020

Time: 17:47

Azimuth: 75.24

SLF: 3.6255

Set - 1.5 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building



December 21, 2020

Time: 9:18

Azimuth: 318.71

SLF: 4.9240

Rise + 1.5hr.



December 21, 2020

Time: 10:17

Azimuth: 331.16

SLF: 3.1524

SN - 2 hr.

#### LEGEND

Heritage Building

Phase I Building

Phase II Building





December 21, 2020

Time: 11:17  
Azimuth: 345.12  
SLF: 2.5193  
SN - 1 hr.



December 21, 2020

Time: 12:17  
Azimuth: 0.00  
SLF: 2.3490  
Solar Noon (SN).

#### LEGEND

- Heritage Building
- Phase I Building
- Phase II Building





December 21, 2020

Time: 13:17  
Azimuth: 14.71  
SLF: 2.5154  
SN + 1 hr.



December 21, 2020

Time: 14:17  
Azimuth: 28.67  
SLF: 3.1391  
SN + 2 hr.

#### LEGEND

- Heritage Building
- Phase I Building
- Phase II Building



December 21, 2020

Time: 15:16

Azimuth: 41.14

SLF: 4.8846

Set - 1.5 hr.

#### LEGEND

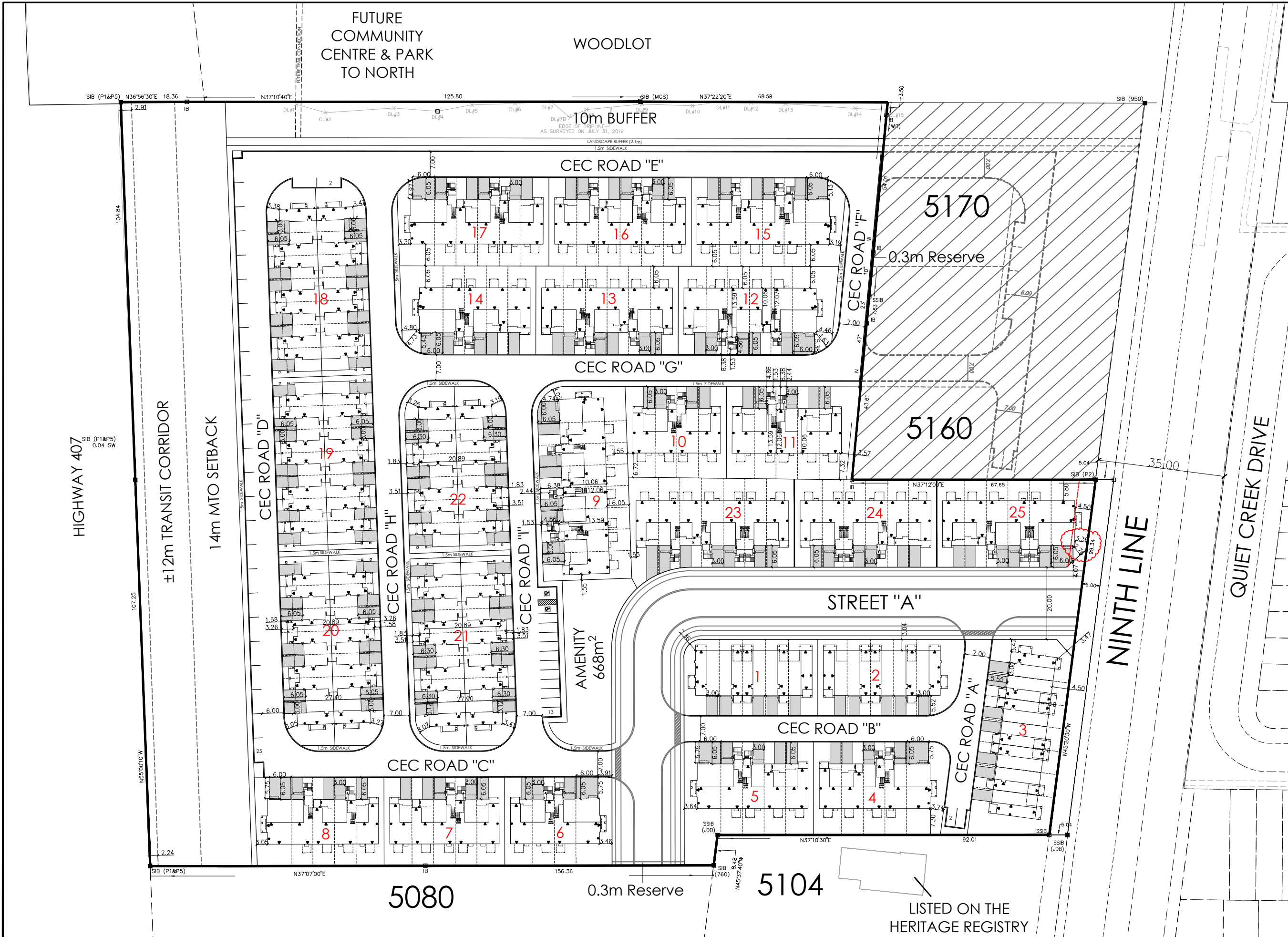
Heritage Building

Phase I Building

Phase II Building



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## 5150 NINTH LINE

### CONCEPT PLAN Option 1

| Product Type        | Unit Count |
|---------------------|------------|
| Dual Frontage Towns | 17         |
| Towns               | 76         |
| Towns - Freehold    | 19         |
| Back to Backs       | 68         |
| Total               | 180        |

Developable Area = ±3.72 ha (excluding transit corridor, 14m MTO setback, 10m Buffer, public road)  
Density = 48.6 UPH

Visitor Parking Required (excluding freehold):  
161 units x 0.25 spaces/unit = 41 spaces

Visitor Parking Provided: 42 spaces

Amenity Area Required (excluding freehold):  
68 B2B units x 2.8 m²/unit = 190.4 m²  
93 Condo townhouses x 5.6 m²/unit = 520.8 m²  
Total Required = 711.2 m²

Amenity Provided = 668 m² (4.15 m²/unit)



Scale 1:1000

May 6, 2020



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