



**2020 LAKESHORE ROAD
MIXED-USE DEVELOPMENT
IN BURLINGTON, ON**

SUN SHADOW STUDY

PROJECT 12576
FEBRUARY 2024

APPENDIX A | SHADOW STUDY INTRODUCTION & MITIGATION STRATEGIES

SHADOW STUDY INTRODUCTION

The City of Burlington Shadow Study Guidelines and Terms of Reference were prepared by Brook McIlroy Planning and Urban Design and were enacted in June of 2020. This shadow study has been completed in compliance with these guidelines for the OPA-ZBA application of the proposed development at 2020 Lakeshore Road.

DESIGN STRATEGIES FOR MITIGATION

2020 Lakeshore Road utilizes slender floor plates and a tapered profile to minimize consistent shadows over the adjacent context. The North-South orientation reduces the potential shadow cover during peak daylight hours. The open-air atrium provides light to the intersection of Lakeshore Road and John Street. The 35.5m distance between the east and west towers allows more light to reach the surrounding context. By minimizing the height of the podium to 3 storeys, the base of 2020 Lakeshore Road has a decreased shadow impact on the adjacent areas.



APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Spencer Smith Park & Civic Square

Through analysing the Sun Access Factors (SAF) for the applicable areas, the spaces maintain access to direct sunlight on an above-average basis. For the adjacent Spencer Smith Park, the access to direct sunlight between 9AM and 6PM on March 21st retains a SAF of 1. On September 21st between 9AM and 6PM, the SAF is also 1. The SAF on December 21st between 11AM and 3PM is one, meaning no net shadows are cast on the park. Between 10AM and 2PM on the Fall Equinox, the park receives a zero net shadow area. Similarly, on the Spring Equinox, the park gets a zero net shadow area between 10AM and 3PM. Therefore, this proposal meets the criteria stipulated in section 4.4 of the Shadow Study Guidelines for Parks and Open Spaces, which require a SAF of 0.5 on each of these three test dates.

When considering the shadow impacts on Spencer Smith Park under the criteria for Key Civic and Cultural Spaces in section 4.2 of the Shadow Study Guidelines, the proposed development meets the requirements, which require no new net shadows on both March 21st and September 21st between 10AM and 4PM.

In the Civic Square there are no new net shadows cast by the proposed building.

Spencer Smith Park	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Park Area (m2):	March 21st	9:00	283.79	27,987	Total Average Per Hour:
28,271		10:00	11.08	28,260	282,327 / 10
		11:00	6.7	28,264	28,233
		12:00	6.09	28,265	
		13:00	5.36	28,265	SAF:
		14:00	5.48	28,265	282,327 / 28,271 m2
		15:00	6.82	28,264	1.00
		16:00	8.16	28,263	
		17:00	8.52	28,262	
		18:00	37.5	28,233	
			Total:	282,327	
	September 21st	9:00	136.36	28,134	Total Average Per Hour:
		10:00	9.01	28,262	282,144 / 10
		11:00	5.6	28,265	28,214
		12:00	5.84	28,265	
		13:00	5.97	28,265	SAF:
		14:00	5.24	28,265	282,144 / 16,538 m2
		15:00	6.82	28,264	1.00
		16:00	7.79	28,263	
		17:00	8.64	28,262	
		18:00	371.93	27,899	
			Total:	282,144	
	December 21st	11:00	13.88	28,257	Total Average Per Hour:
		12:00	13.15	28,258	141,271 / 5
		13:00	13.88	28,257	28,254
		14:00	18.38	28,252	
		15:00	23.5	28,247	SAF:
			Total:	141,271	141,271/16,538
					1.00

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

The North Sidewalk of Lakeshore Road

The sidewalk on the north side of Lakeshore Road is the sidewalk of the adjacent right-of-way that has been analysed to comply with the section 4.6 criteria of the Shadow Study Guidelines for the Public Realm and Sidewalks. For this sidewalk, the SAF on March 21st is 0.69. Notably, at 4PM on the Spring Equinox, the sidewalk adjacent to the proposal on the north side of Lakeshore Road receives no net shadow impacts. Moreover, this proposal meets the criteria, which requires a SAF of 0.5 on this test date.

Lakeshore Road North Sidewalk	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Sidewalk Area (m2):	March 21st	9:00	160.8	133	Total Average Per Hour:
293.96		10:00	140.41	153.55	2,023 / 10
		11:00	131.49	162.47	202.34
		12:00	63.85	230.11	
		13:00	33.99	259.97	SAF:
		14:00	64.41	229.55	2,023 / 293.96 m2
		15:00	12.59	281.37	0.69
		16:00	0	293.96	
		17:00	109.65	184.31	
		18:00	199.02	94.94	
			Total:	2,023	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

The East Sidewalk of Elizabeth Street

The sidewalk on the east side of Elizabeth Street is the second sidewalk of the adjacent right-of-way that has been analysed to comply with the section 4.6 criteria of the Shadow Study Guidelines for the Public Realm and Sidewalks. For this sidewalk, the SAF on March 21st is 0.5. Between the hours of 11 AM and 12 AM on the Spring Equinox, this sidewalk receives no new net shadows. Therefore, this proposal meets the criteria, which requires a SAF of 0.5 on this test date.

Elizabeth Street East Sidewalk	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Sidewalk Area (m2):	March 21st	9:00	243.35	82	Total Average Per Hour:
325.47		10:00	246.71	78.76	1,612 / 10
		11:00	23.31	302.16	161.23
		12:00	10.79	314.68	
		13:00	93.37	232.1	SAF:
		14:00	164.71	160.76	1,612 / 325.47 m2
		15:00	209.71	115.76	0.50
		16:00	254.71	70.76	
		17:00	215.51	109.96	
		18:00	180.25	145.22	
			Total:	1,612	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - Proposed Building

For the proposed private amenity spaces, between 9AM and 6PM on March 21st, the area retains a 0.71 SAF meeting the criteria outlined in section 4.3 of the Shadow Study Guidelines for Private Outdoor Amenity Spaces. During the Fall Equinox, as noted between the hours of 9AM and 4PM on September 21st, the adjacent park receives a zero net shadow area. On the Spring Equinox, the private amenity space receives no net shadows from 9AM to 10AM. Consequently, this study demonstrates compliance with the Shadow Impact Criteria as described in the guidelines.

Proposed Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Park Area (m2):	March 21st	9:00	729.73	604	Total Average Per Hour:
1,334.00		10:00	535.25	799	9,429 / 10
		11:00	363.31	971	943
		12:00	448.72	885	
		13:00	349.83	984	SAF:
		14:00	318.07	1,016	9,429 / 1,334m2
		15:00	266.07	1,068	0.71
		16:00	352.3	982	
		17:00	406.05	928	
		18:00	142.05	1192	
			Total:	9,429	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - 2054 Lakeshore Rd

In the outdoor amenity place located between two buildings, east of 2020 Lakeshore, there are no new net shadows cast until 3 PM, and after 5 PM on March 21st. Between those hours, there is a small increase in the shaded area in this space resulting from the proposed development. Overall, the SAF on March 21st is 0.57, meeting the criteria outlined in section 4.3 of the Shadow Study Guidelines.

Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Area (m2):	March 21st	9:00	571.97	1,394	Total Average Per Hour:
1,965.76		10:00	266.43	1,699	1,965.76 / 10
		11:00	12.19	1,954	1,114
		12:00	146.54	1,819	
		13:00	424.44	1,541	SAF:
		14:00	740.12	1,226	1,965.76 / 384.50
		15:00	1191.45	774	0.57
		16:00	1763.05	203	
		17:00	1713.2	253	
		18:00	1687.98	278	
			Total:	11,140	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - 360 Pearl St

The private outdoor amenity on 360 Pearl Street is located on level 3 of the building. This space was analysed to comply with the section 4.3 of the Shadow Study Guidelines. For this amenity space, the SAF on March 21st is 0.58. During most of the day, this space receives no new net shadows, except for the time between 2PM and 3PM where it receives a small amount of new shadow in its southwestern corner. Therefore, this proposal meets the criteria, which requires a SAF of 0.22 on this test date.

Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Area (m2):	March 21st	9:00	219.5	457	Total Average Per Hour:
676.02		10:00	132.22	544	3,913 / 10
		11:00	244.91	431	391
		12:00	290.43	386	
		13:00	109.16	567	SAF:
		14:00	219.73	456	3,913 / 384.50
		15:00	218.44	458	0.58
		16:00	375.12	301	
		17:00	518.28	158	
		18:00	519.1	157	
			Total:	3,913	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - 3 Elizabeth St

The private outdoor amenity on 3 Elizabeth Street is located on the 2nd level of the building located across the street, northeast of the proposed development. This outdoor amenity space only receives new net shadows from 12 PM until 4 PM. The present analysis demonstrates that these shadows move fast through these hours, due to the slender profile of the proposed towers. The SAF on March 21st in this space is 0.66, therefore, the proposal meets the criteria outlined in the Shadow Study Guidelines.

Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Area (m2):	March 21st	9:00	610.44	180	Total Average Per Hour:
790.22		10:00	539.23	251	790.22 / 10
		11:00	136.8	653	523
		12:00	92.3	698	
		13:00	295.61	495	SAF:
		14:00	89.83	700	790.22 / 384.50
		15:00	237.29	553	0.66
		16:00	118.53	672	
		17:00	203.68	587	
		18:00	352.54	438	
			Total:	5,226	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - 1477 Lakeshore Rd

This outdoor amenity space is located at the intersection of Brant St and Lakeshore Rd, northwest of the proposed development. It's a outdoor space on the second level of a residential building, and it only receives new net shadows in the morning, before 10 AM. As demonstrated on page 12 of this document, the existing hotel currently casts a shadow in this space, which will be more extensive at the Brant Street frontage between 9 AM and 10 AM. For this amenity space, the SAF on March 21st is 0.67, therefore, this proposal meets the criteria outlined in the Shadow Study Guidelines.

Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Area (m2):	March 21st	9:00	171.62	213	Total Average Per Hour:
384.50		10:00	60.86	324	2,577 / 10
		11:00	37.23	347	258
		12:00	77.45	307	
		13:00	73.88	311	SAF:
		14:00	72.5	312	2,577 / 384.50
		15:00	84.48	300	0.67
		16:00	172.54	212	
		17:00	257.83	127	
		18:00	259.79	125	
			Total:	2,577	

APPENDIX A | SHADOW IMPACT CRITERIA RESULTS & ANALYSIS

SHADOW IMPACT CRITERIA

Private Outdoor Amenity Space - 400 John St

This space is located between two buildings and has an entrance point on Pine St. Given that it is a small space between two buildings, it’s shaded area is currently greater than than the spaces previously analysed, and it will receive new net shadows from the proposed building between 9 AM and 11 AM on March 21st. Other than that the proposed building has no influence in the amount of shaded area in this space. he SAF on March 21st in this space is 0.42, therefore, the proposal meets the criteria outlined in the Shadow Study Guidelines.

Private Outdoor Amenity Space	DATE	TIME OF DAY	SHADED AREA (m2)	EXPOSED AREA (m2)	SUN ACCESS FACTOR (SAF)
Total Area (m2):	March 21st	9:00	276.38	80	Total Average Per Hour:
356.80		10:00	112.62	244	356.80 / 10
		11:00	262.02	95	151
		12:00	59.93	297	
		13:00	98.03	259	SAF:
		14:00	147.23	210	356.80 / 384.50
		15:00	204.75	152	0.42
		16:00	282.64	74	
		17:00	308.93	48	
		18:00	309.17	48	
			Total:	1,506	

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 9AM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 10AM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21- 11AM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 12PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21- 1PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21- 2PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 3PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21- 4PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

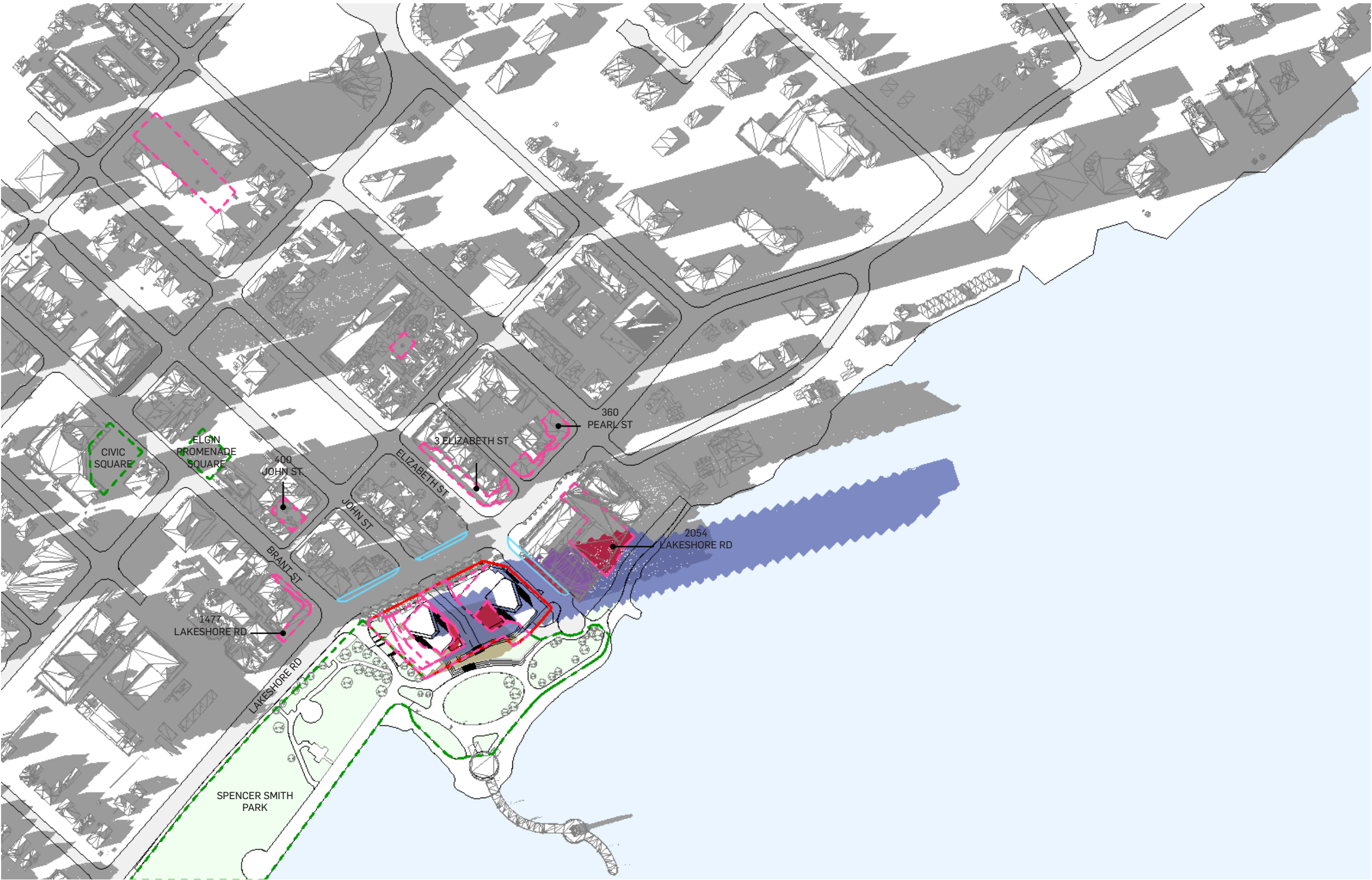
1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 5PM

APPENDIX A | SUN SHADOW ANALYSIS: MARCH



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

MARCH 21 - 6PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 8AM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 9AM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 10AM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 11AM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 12PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 1PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 2PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 3PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 4PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 5PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 6PM

APPENDIX A | SHADOW ANALYSIS: JUNE



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

JUNE 21 - 7PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 9AM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 10AM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 11AM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 12PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 1PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 2PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 3PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 4PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

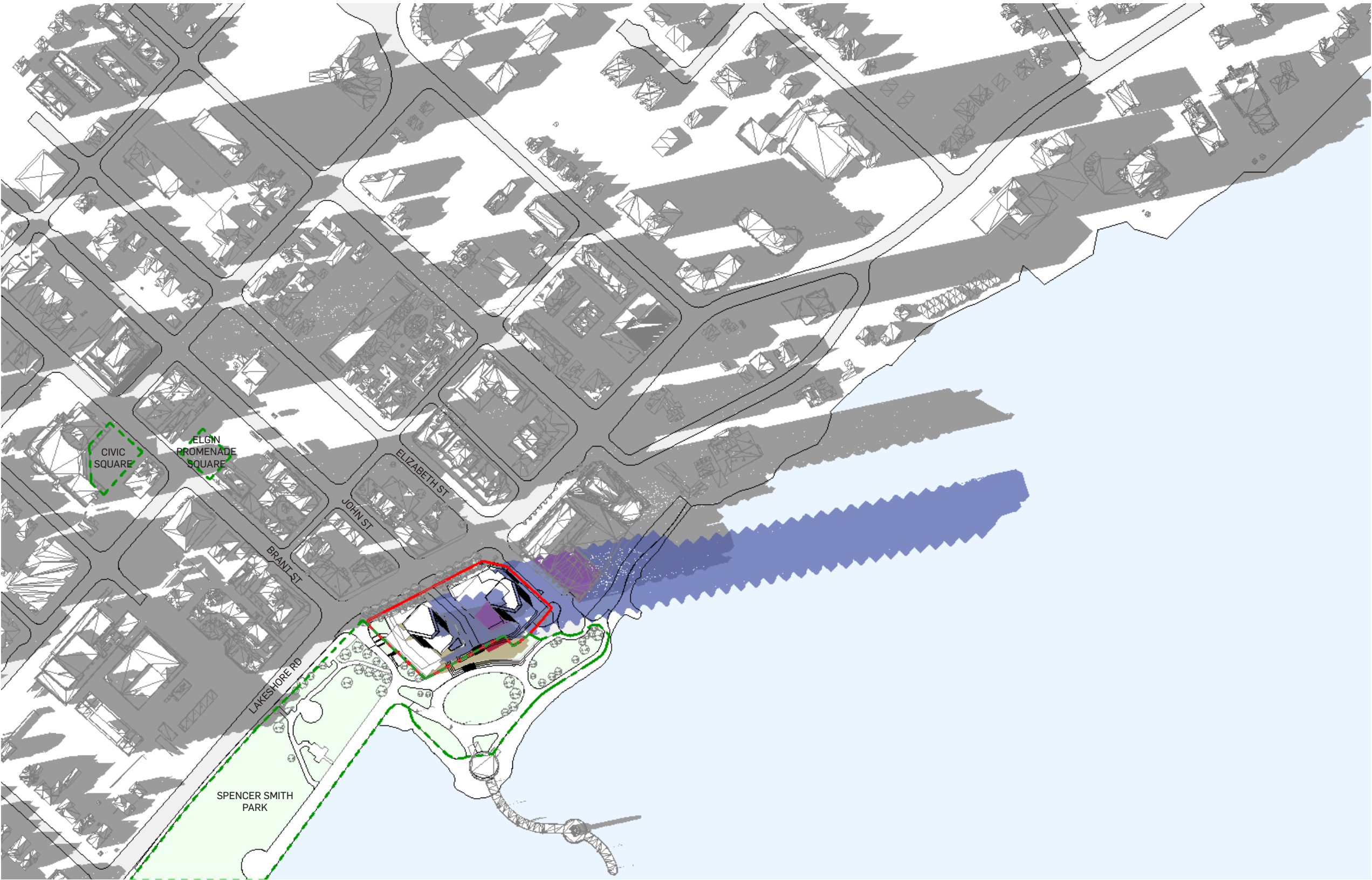
1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 5PM

APPENDIX A | SHADOW ANALYSIS: SEPTEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

SEPTEMBER 21 - 6PM

APPENDIX A | SUN SHADOW ANALYSIS: DECEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

DECEMBER 21 - 11AM

APPENDIX A | SUN SHADOW ANALYSIS: DECEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

DECEMBER 21 - 12PM

APPENDIX A | SUN SHADOW ANALYSIS: DECEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

DECEMBER 21 - 1PM

APPENDIX A | SUN SHADOW ANALYSIS: DECEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500 25m 150m

LEGEND

- SITE BOUNDARY
- OPEN SPACE
- PRIVATE OUTDOOR AMENITY AREA
- ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA
- NEW SHADOWS CAST ON ROOF SURFACES
- NEW SHADOWS CAST ON GROUND SURFACES
- EXISTING SHADOWS CAST ON GROUND SURFACES
- SHADOWS NO LONGER PROPOSED
- AREA EXPOSED TO SUNSHINE
- AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)
- TOTAL OPPOSITE BOULEVARD AREA

DECEMBER 21 - 2PM

APPENDIX A | SUN SHADOW ANALYSIS: DECEMBER



LOCATION
2020 Lakeshore Road, Burlington, Ontario

1:3500
25m 150m

LEGEND

SITE BOUNDARY

OPEN SPACE

PRIVATE OUTDOOR AMENITY AREA

ADJACENT RESIDENTIAL AMENITY SPACE TOTAL AREA

NEW SHADOWS CAST ON ROOF SURFACES

NEW SHADOWS CAST ON GROUND SURFACES

EXISTING SHADOWS CAST ON GROUND SURFACES

SHADOWS NO LONGER PROPOSED

AREA EXPOSED TO SUNSHINE

AREA IN SHADOW (INCLUDING EXISTING AND PROPOSED SHADOWS)

TOTAL OPPOSITE BOULEVARD AREA

DECEMBER 21 - 3PM