

PROPERTY AFFECTED	TOTAL HOURS AFFECTED PER YEAR	PERCENT OF DAYLIGHT HOURS AFFECTED PER YEAR	AMOUNT OF PROPERTY AFFECTED
42 chalker place	205.4	4.59%	Full Property
60 chalker place	205.4	4.59%	1/2 House & Yards
88 chalker place	423.7	9.47%	Full Property (March-June) 3/4 Property (June-Sept) 1/4 Front Yard (Sept-Dec)
70 chalker place	255.3	5.71%	3/4 Property
46 chalker place	121	2.71%	Full Property
80 chalker place	121	2.71%	1/4 Front Yard
40 chalker place	112.5	2.52%	1/4 House & 1/2 Front Yard
57 chalker place	112.5	2.52%	Front Yard
1 Tunis Court	112.5	2.52%	1/4 Back Yard
16 Tunis Court	112.5	2.52%	> 1/4 Back Yard
60 New Cove Road	112.5	2.52%	1/2 Back Yard

PROPERTY - The property that is affected by shadow during times of bright measurable sunlight. See Appendix E for shadow study model.

TOTAL HOURS AFFECTED PER YEAR - The total sum of hours affected per period, per property. See Appendix D for "**HOURS AFFECTED PER PERIOD**".

PERCENT OF DAYLIGHT HOURS AFFECTED PER YEAR - The **TOTAL HOURS AFFECTED PER YEAR** divided by the total **ANNUAL** daylight hours. See Appendix A for "total **ANNUAL** daylight hours".

AMOUNT OF PROPERTY AFFECTED - The amount of property affected by shadow during times of bright measurable sunlight. See Appendix E for shadow study model.

Appendix A – Sunshine Information

SUNSHINE INFORMATION ST. JOHN'S, NEWFOUNDLAND													
MONTH	DAYS	HOURS	DAYS MS	AVERAGE (HR's)	FIRST DAY OF THE MONTH			LAST DAY OF THE MONTH			AVERAGE DAYLIGHT PER DAY (HR's)	AVERAGE DAYLIGHT PER MONTH (HR's)	%SUN
					SUNRISE	SUNSET	DAYLIGHT (HR's)	SUNRISE	SUNSET	DAYLIGHT (HR's)			
January	31	65	19	2.1	8:05 AM	4:27 PM	8.4	7:44 AM	5:09 PM	9.4	8.9	275.9	24
February	28	90	21	3.2	7:42 AM	5:10 PM	9.5	6:55 AM	5:56 PM	11	10.25	287	31
March	31	107	19	3.5	6:53 AM	5:57 PM	11	6:52 AM	7:43 PM	12.9	11.95	370.45	29
April	30	140	22	4.7	6:49 AM	7:44 PM	12.9	5:54 AM	8:27 PM	14.6	13.75	412.5	34
May	31	176	23	5.7	5:52 AM	8:28 PM	14.6	5:15 AM	9:06 PM	15.9	15.25	472.75	37
June	30	199	26	6.6	5:15 AM	9:07 PM	15.9	5:14 AM	9:18 PM	16.1	16	480	41
July	31	217	29	7.0	5:15 AM	9:18 PM	16.1	5:46 AM	8:51 PM	15.1	15.6	483.6	45
August	31	207	28	6.7	5:48 AM	8:49 PM	15	6:29 AM	7:55 PM	13.4	14.2	440.2	47
September	30	170	26	5.7	6:31 AM	7:53 PM	13.4	7:11 AM	6:53 PM	11.7	12.55	376.5	45
October	31	122	23	3.9	7:13 AM	6:50 PM	11.6	7:58 AM	5:54 PM	9.9	10.75	333.25	37
November	30	76	19	2.5	8:00 AM	5:52 PM	9.9	7:43 AM	4:20 PM	8.6	9.25	277.5	27
December	31	62	18	2.0	7:44 AM	4:19 PM	8.6	8:05 AM	4:27 PM	8.4	8.5	263.5	24
ANNUAL	365	1633	272	4.5								4473.15	

% SUN - is the usual percentage of daylight hours with bright sunshine per month.

HOURS - gives the total hours of bright measurable sunshine that's normal during a month.

DAYS MS - statistics are for the typical number of days with any amount of bright measurable sunshine.

AVERAGE (HR's) - represents the total HOURS of bright sunshine divided by DAYS of the month.

FIRST DAY OF THE MONTH - gives the time of sunrise, time of sunset and amount of daylight hours for the first day of a month

LAST DAY OF THE MONTH - gives the time of sunrise, time of sunset and amount of daylight hours for the last day of a month.

All the data are averages for the years 1981 to 2024.

Resources:

- <https://www.currentresults.com/Weather/Canada/>
- <https://weather-and-climate.com/average-monthly-hours-Sunshine,st-john-s-newfoundland-and-labrador-ca,Canada>
- <https://www.timeanddate.com/sun/@9062329?month=12&year=2024>

Appendix B – Shadow Study Areas

SHADOW STUDY NEW COVE ROAD ST. JOHN'S, NEWFOUNDLAND

DATE	TIME	AREA OF SHADOW WITH STEPBACK (ft²)	AREA OF SHADOW WITHOUT STEPBACK (ft²)	PERCENTAGE DIFFERENCE (%)
March 20 th	9:00 AM	34,290	44,544	29.9
March 20 th	12:00 PM	6,549	10,207	55.9
March 20 th	5:00 PM	50,116	61,778	23.3
June 21 st	9:00 AM	15,521	21,909	41.2
June 21 st	12:00 PM	2,641	4,238	60.5
June 21 st	5:00 PM	22,673	28,855	27.3
September 23 rd	9:00 AM	29,583	39,617	33.9
September 23 rd	12:00 PM	6,993	10,695	52.9
September 23 rd	5:00 PM	56,810	71,615	26.1
December 21 st	9:00 AM	156,606	191,401	22.2
December 21 st	12:00 PM	22,886	28,696	25.4
December 21 st	5:00 PM	200,375	222,151	10.9

Appendix C – Affected Properties

March 20th 9:00 am	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	42 Chalker Place
44 Chalker Place	44 Chalker Place
46 Chalker Place	46 Chalker Place
48 Chalker Place	48 Chalker Place
50 Chalker Place	50 Chalker Place
52 Chalker Place	52 Chalker Place
-	60 Chalker place
62 Chalker Place	62 Chalker Place
64 Chalker Place	64 Chalker Place
66 Chalker Place	66 Chalker Place
68 Chalker Place	68 Chalker Place
70 Chalker Place	70 Chalker Place
72 Chalker Place	72 Chalker Place
74 Chalker Place	74 Chalker Place
76 Chalker Place	76 Chalker Place
78 Chalker Place	78 Chalker Place
March 20th 12:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	88 Chalker Place
March 20th 5:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	-

June 21st 9:00 am	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	70 Chalker Place
June 21st 12:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	-
June 21st 5:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	-

September 23rd 9:00 am	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	46 Chalker Place
48 Chalker Place	48 Chalker Place
50 Chalker Place	50 Chalker Place
52 Chalker Place	52 Chalker Place
64 Chalker Place	64 Chalker Place
66 Chalker Place	66 Chalker Place
68 Chalker Place	68 Chalker Place
70 Chalker Place	70 Chalker Place
72 Chalker Place	72 Chalker Place
74 Chalker Place	74 Chalker Place
76 Chalker Place	76 Chalker Place
78 Chalker Place	78 Chalker Place
-	80 Chalker Place
September 23rd 12:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	88 Chalker Place
September 23rd 5:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	-

December 21st 9:00 am	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	1 Tunis Court
3 Tunis Court	3 Tunis Court
4 Tunis Court	4 Tunis Court
5 Tunis Court	5 Tunis Court
6 Tunis Court	6 Tunis Court
7 Tunis Court	7 Tunis Court
8 Tunis Court	8 Tunis Court
9 Tunis Court	9 Tunis Court
10 Tunis Court	10 Tunis Court
11 Tunis Court	11 Tunis Court
12 Tunis Court	12 Tunis Court
14 Tunis Court	14 Tunis Court
-	16 Tunis Court
23 Chalker Place	23 Chalker Place
25 Chalker Place	25 Chalker Place
27 Chalker Place	27 Chalker Place
37 Chalker Place	37 Chalker Place
39 Chalker Place	39 Chalker Place
-	40 Chalker Place
41 Chalker Place	41 Chalker Place
42 Chalker Place	42 Chalker Place
43 Chalker Place	43 Chalker Place
44 Chalker Place	44 Chalker Place
45 Chalker Place	45 Chalker Place
46 Chalker Place	46 Chalker Place
47 Chalker Place	47 Chalker Place
48 Chalker Place	48 Chalker Place
49 Chalker Place	49 Chalker Place
50 Chalker Place	50 Chalker Place
51 Chalker Place	51 Chalker Place
52 Chalker Place	52 Chalker Place
53 Chalker Place	53 Chalker Place
55 Chalker Place	55 Chalker Place
-	57 Chalker Place
66 Chalker Place	66 Chalker Place
68 Chalker Place	68 Chalker Place
70 Chalker Place	70 Chalker Place
72 Chalker Place	72 Chalker Place
74 Chalker Place	74 Chalker Place
75 Chalker Place	75 Chalker Place
76 Chalker Place	76 Chalker Place
77 Chalker Place	77 Chalker Place
78 Chalker Place	78 Chalker Place
80 Chalker Place	80 Chalker Place
82 Chalker Place	82 Chalker Place
-	88 Chalker Place
-	60 New Cove Road
December 21st 12:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
81 Chalker Place	81 Chalker Place
83 Chalker Place	83 Chalker Place
84 Chalker Place	84 Chalker Place
85 Chalker Place	85 Chalker Place
86 Chalker Place	86 Chalker Place
87 Chalker Place	87 Chalker Place
88 Chalker Place	88 Chalker Place
89 Chalker Place	89 Chalker Place
91 Chalker Place	91 Chalker Place
93 Chalker Place	93 Chalker Place
95 Chalker Place	95 Chalker Place
December 21st 12:00 pm	
PROPERTIES AFFECTED	
STEPBACK	NO STEPBACk
-	-

Appendix D – Affected Property Calculations

DATE OF STUDY	SUNRISE	SUNSET	TOTAL DAYLIGHT (HR'S)	TIME OF STUDY	ADDITIONAL PROPERTIES AFFECTED W/O STEPBACK	DURATION (HR'S)	%SUN	TOTAL HOURS AFFECTED BY MEASURABLE SUN
March 20 th	7:15 AM	7:26 PM	12.2	9:00 AM	2	4.8	29	1.4
				12:00 PM	1	5		1.5
				5:00 PM	0	2.4		0.7
June 21 st	5:11 AM	9:19 PM	16.1	9:00 AM	1	6.8	41	2.8
				12:00 PM	0	5		2.1
				5:00 PM	0	4.3		1.8
September 23 rd	7:01 AM	7:07 PM	12.1	9:00 AM	2	5	45	2.3
				12:00 PM	1	5		2.3
				5:00 PM	0	2.1		0.9
December 21 st	8:02 AM	4:20 PM	8.3	9:00 AM	6	4	24	1.0
				12:00 PM	0	4.3		1.0
				5:00 PM	0	0		0.0

Appendix E – Affected Properties Per Period

	PERIOD	TIME	AVERAGE DURATION	PROPERTIES AFFECTED	%SUN	HOURS AFFECTED PER DAY	HOURS AFFECTED PER PERIOD
March 20th - June 20th	March 20-31	Sunrise - 12pm	5.1	42 & 60 Chalker Place	29	1.5	18
		12pm - 5pm	5	88 Chalker Place		1.5	18
		5pm - Sunset	1.8	None		0	0
	April 1-30	Sunrise - 12pm	5.7	42 & 60 Chalker Place	34	1.9	57
		12pm - 5pm	5	88 Chalker Place		1.7	51
		5pm - Sunset	3.1	None		0	0
	May 1-31	Sunrise - 12pm	6.5	42 & 60 Chalker Place	37	2.4	74.4
		12pm - 5pm	5	88 Chalker Place		1.9	58.9
		5pm - Sunset	3.8	None		0	0
	June 1-20	Sunrise - 12pm	6.8	42 & 60 Chalker Place	41	2.8	56
		12pm - 5pm	5	88 Chalker Place		2.1	42
		5pm - Sunset	4.2	None		0	0

	PERIOD	TIME	AVERAGE DURATION	PROPERTIES AFFECTED	%SUN	HOURS AFFECTED PER DAY	HOURS AFFECTED PER PERIOD
June 21st - September 22nd	June 21-30	Sunrise - 12pm	6.8	70 Chalker Place	41	2.8	28
		12pm - 5pm	5	None		0	0
		5pm - Sunset	4.2	None		0	0
	July 1-31	Sunrise - 12pm	6.5	70 Chalker Place	45	2.9	89.9
		12pm - 5pm	5	None		0	0
		5pm - Sunset	4.1	None		0	0
	August 1-31	Sunrise - 12pm	5.9	70 Chalker Place	47	2.8	86.8
		12pm - 5pm	5	None		0	0
		5pm - Sunset	3.4	None		0	0
	September 1-22	Sunrise - 12pm	5.2	70 Chalker Place	45	2.3	50.6
		12pm - 5pm	5	None		0	0
		5pm - Sunset	2.4	None		0	0

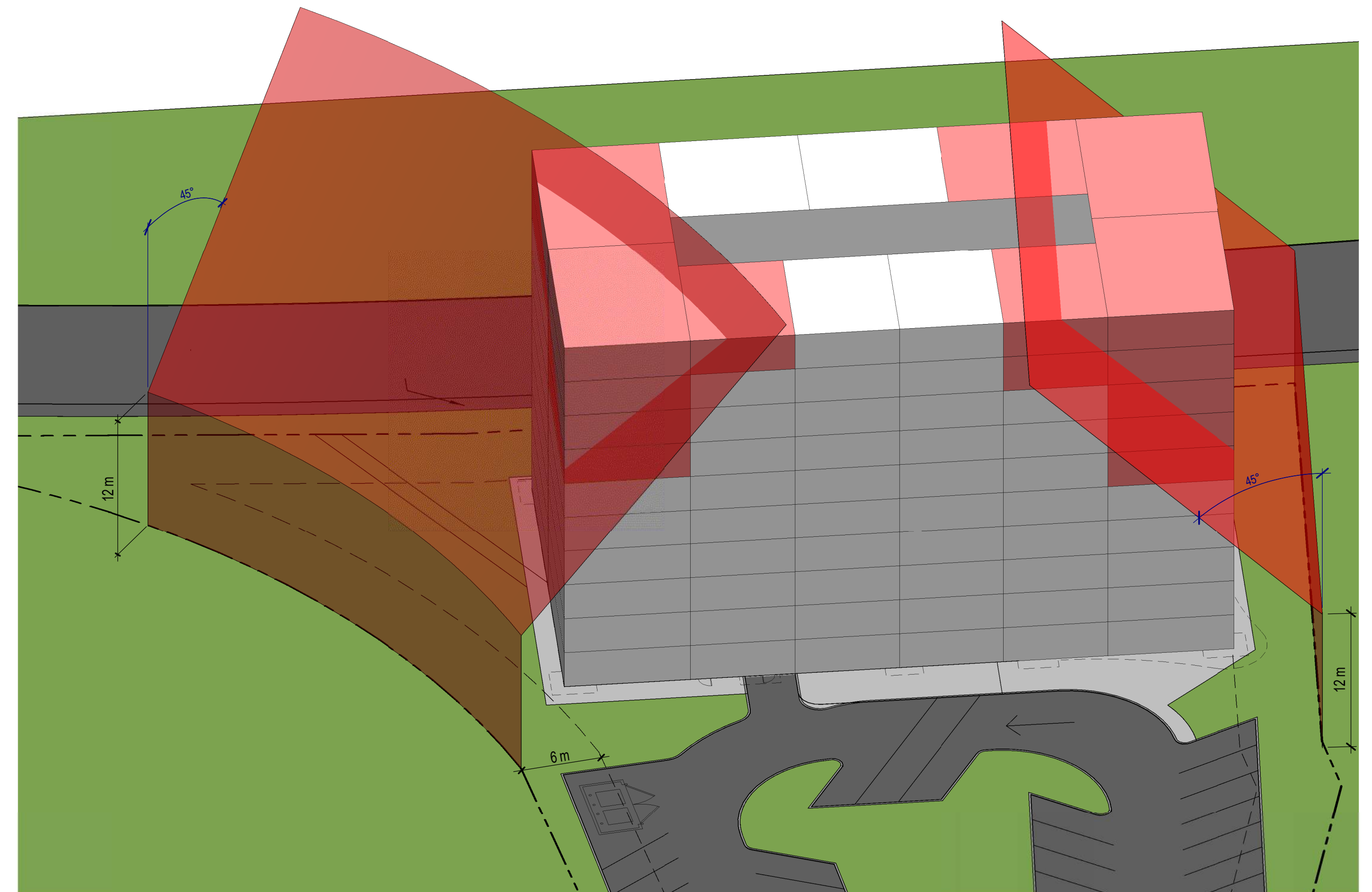
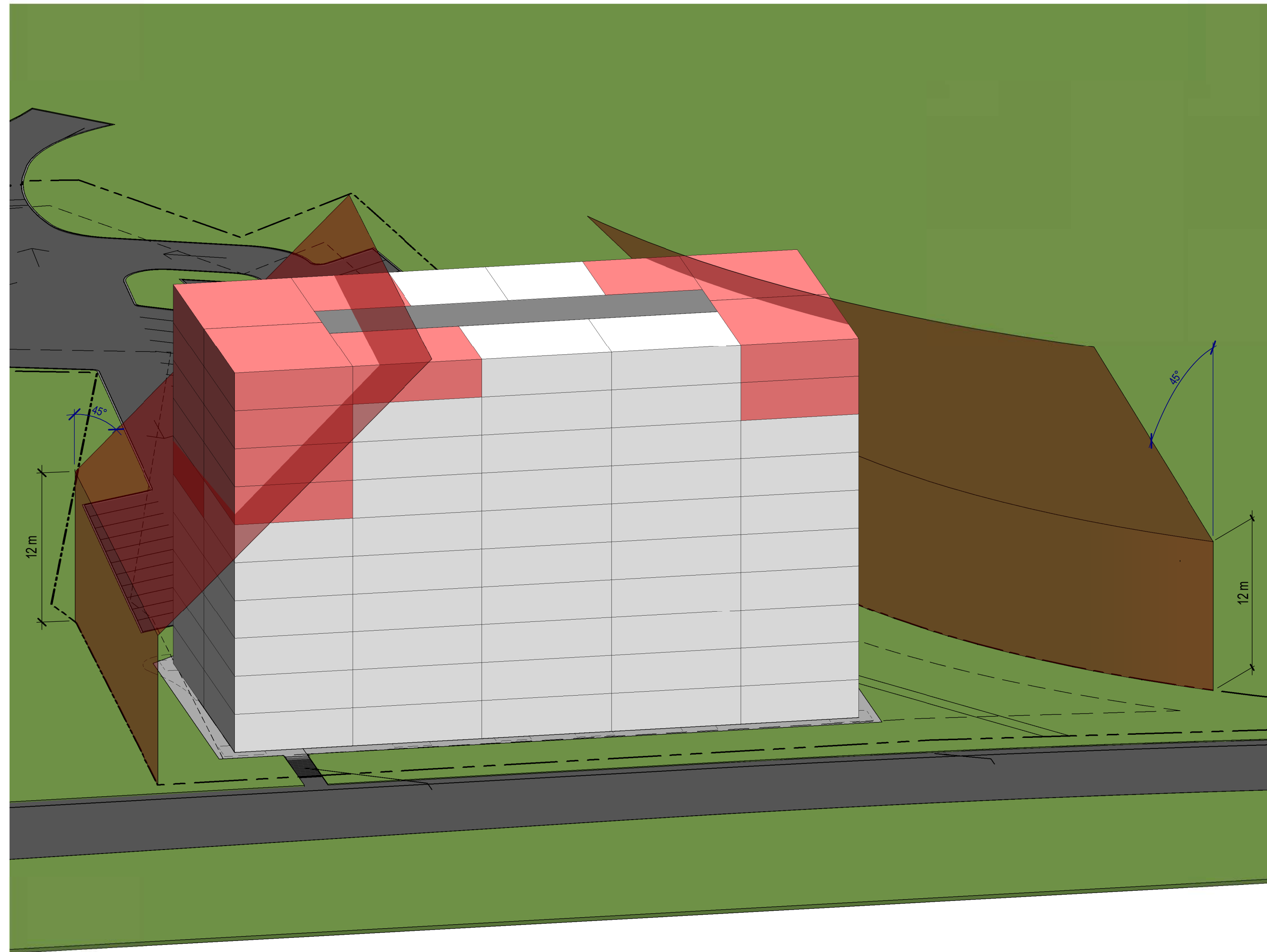
	PERIOD	TIME	AVERAGE DURATION	PROPERTIES AFFECTED	%SUN	HOURS AFFECTED PER DAY	HOURS AFFECTED PER PERIOD
September 23rd - December 20th	September 23-30	Sunrise - 12pm	5.2	46 & 80 Chalker Place	45	2.3	18.4
		12pm - 5pm	5	88 Chalker Place		2.3	18.4
		5pm - Sunset	2.4	None		0	0
	October 1-31	Sunrise - 12pm	4.4	46 & 80 Chalker Place	37	1.6	49.6
		12pm - 5pm	5	88 Chalker Place		1.9	58.9
		5pm - Sunset	1.4	None		0	0
	November 1-30	Sunrise - 12pm	4.1	46 & 80 Chalker Place	27	1.1	33
		12pm - 5pm	5	88 Chalker Place		1.4	42
		5pm - Sunset	0.1	None		0	0
	December 1-20	Sunrise - 12pm	4.1	46 & 80 Chalker Place	24	1	20
		12pm - Sunset	4.4	88 Chalker Place		1.1	22

	PERIOD	TIME	AVERAGE DURATION	PROPERTIES AFFECTED	%SUN	HOURS AFFECTED PER DAY	HOURS AFFECTED PER PERIOD
December 21st - March 19th	December 21-31	Sunrise - 12pm	4.1	40, 57 & 88 Chalker Place 1 & 16 Tunis Court 60 New Cove Road	24	1	11
		12pm - Sunset	4.4	None		0	0
	January 1-31	Sunrise - 12pm	4.1	40, 57 & 88 Chalker Place 1 & 16 Tunis Court 60 New Cove Road	24	1	31
		12pm - Sunset	4.8	None		0	0
	February 1-28	Sunrise - 12pm	4.7	40, 57 & 88 Chalker Place 1 & 16 Tunis Court 60 New Cove Road	31	1.5	42
		12pm - 5pm	5	None		0	0
		5pm - Sunset	0.6	None		0	0
	March 1-19	Sunrise - 12pm	5.1	40, 57 & 88 Chalker Place 1 & 16 Tunis Court 60 New Cove Road	29	1.5	28.5
		12pm - 5pm	5	None		0	0
		5pm - Sunset	1.8	None		0	0

Appendix F – Shadow Study Model

PROPERTY SETBACK

SCALE:



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*ALL BUILDING AREAS ARE APPROXIMATE UNTIL BUILDING FOOTPRINT / ENTRY DESIGNS ARE FINALIZED.

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A PROJECT FOR
KMK CAPITAL

ST. JOHN'S

09/28/23

NEWFOUNDLAND

Author

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SUN STUDY - SPRING EQUINOX

SCALE: 1" = 200'-0"



MARCH 20 - 9 AM - SETBACK STUDY

SCALE: 1" = 200'-0"



MARCH 20 - 12 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



MARCH 20 - 5 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



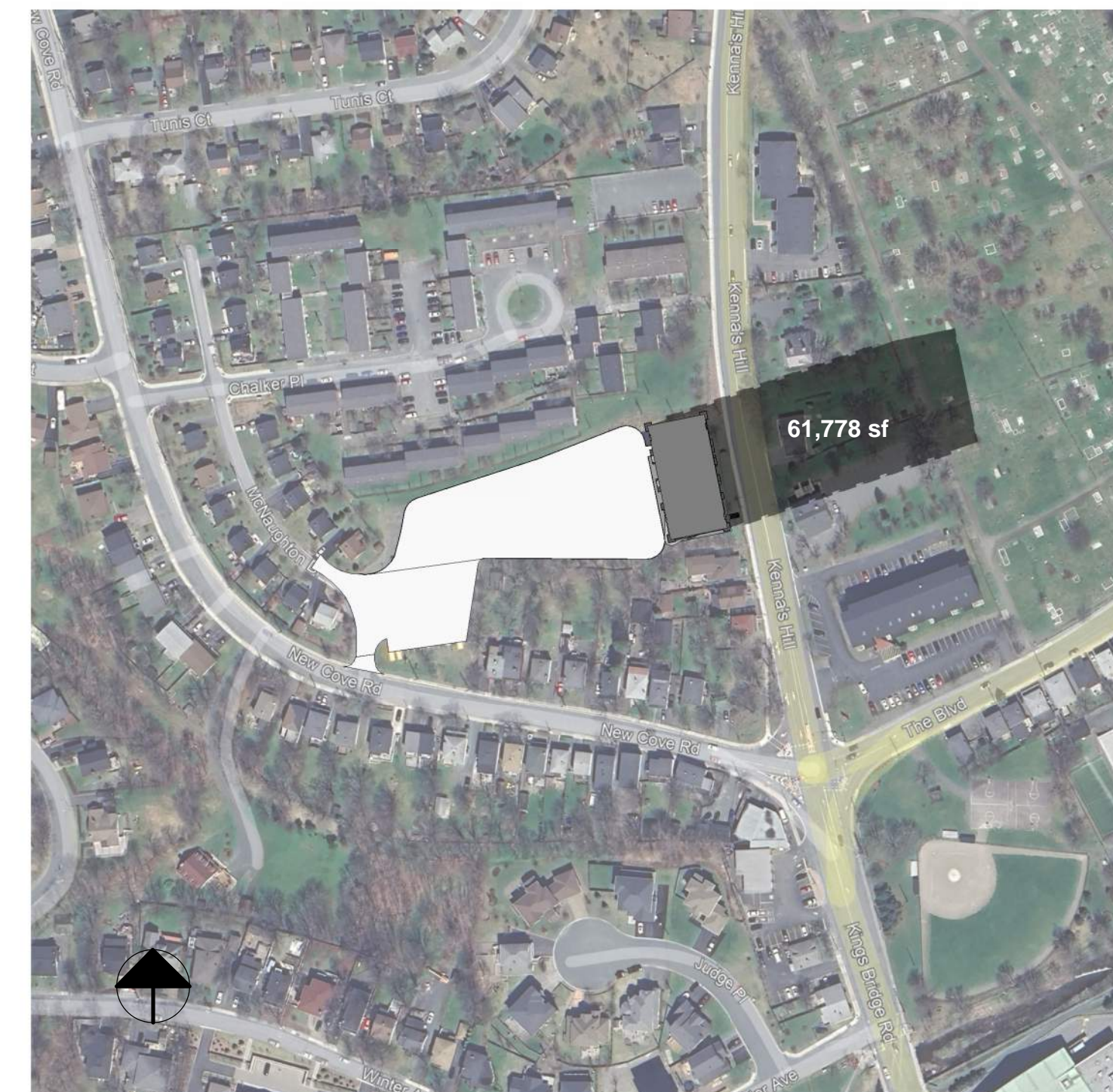
MAR. 20 - 9 AM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



MAR. 20 - 12 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



MAR. 20 - 5 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"

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SUN STUDY - SUMMER SOLSTICE

SCALE: 1" = 200'-0"



JUNE 21 - 9 AM - SETBACK STUDY

SCALE: 1" = 200'-0"



JUNE 21 - 12 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



JUNE 21 - 5 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



JUNE 21 - 9 AM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



JUNE 21 - 12 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



JUNE 21 - 5 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"

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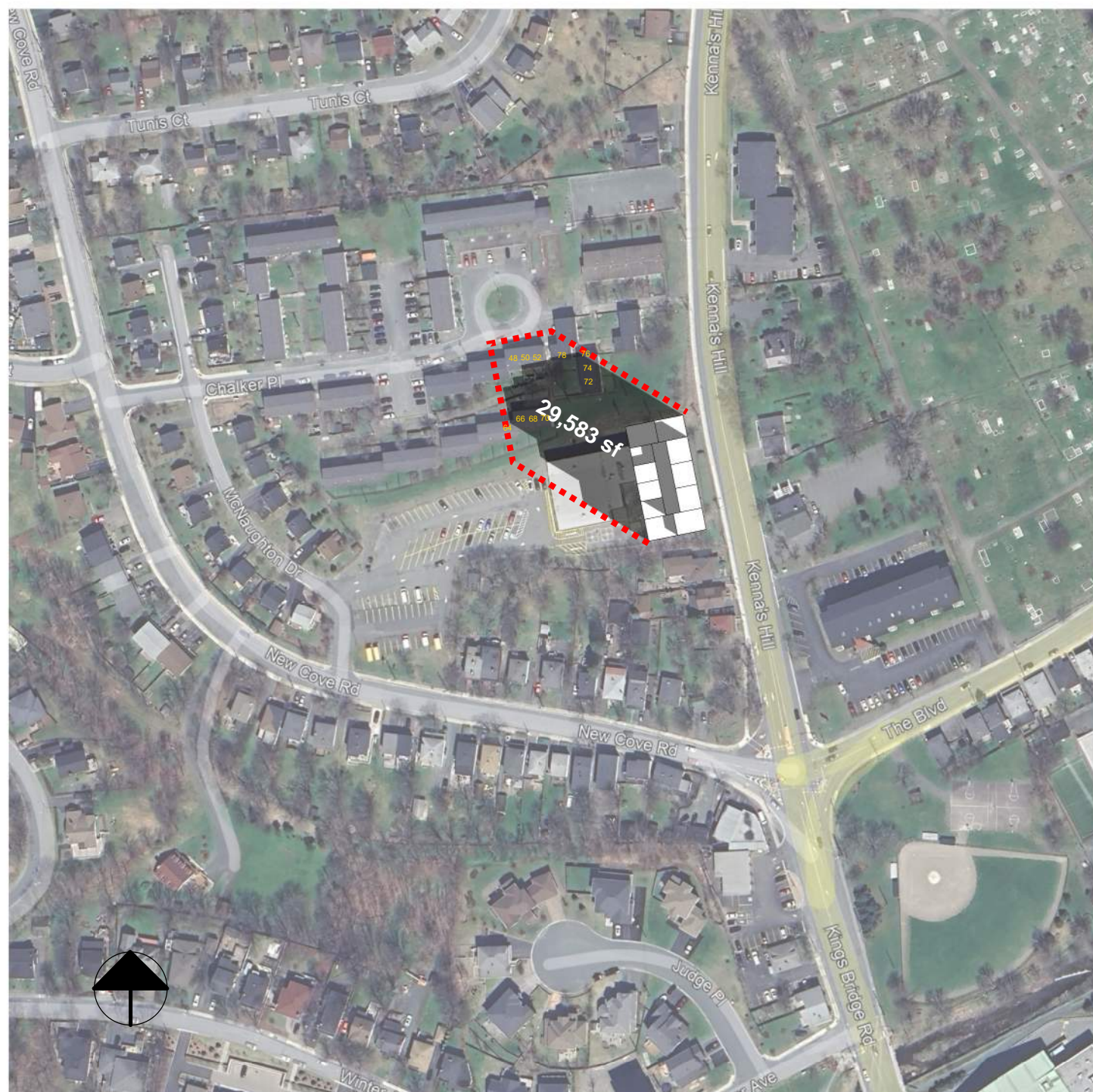
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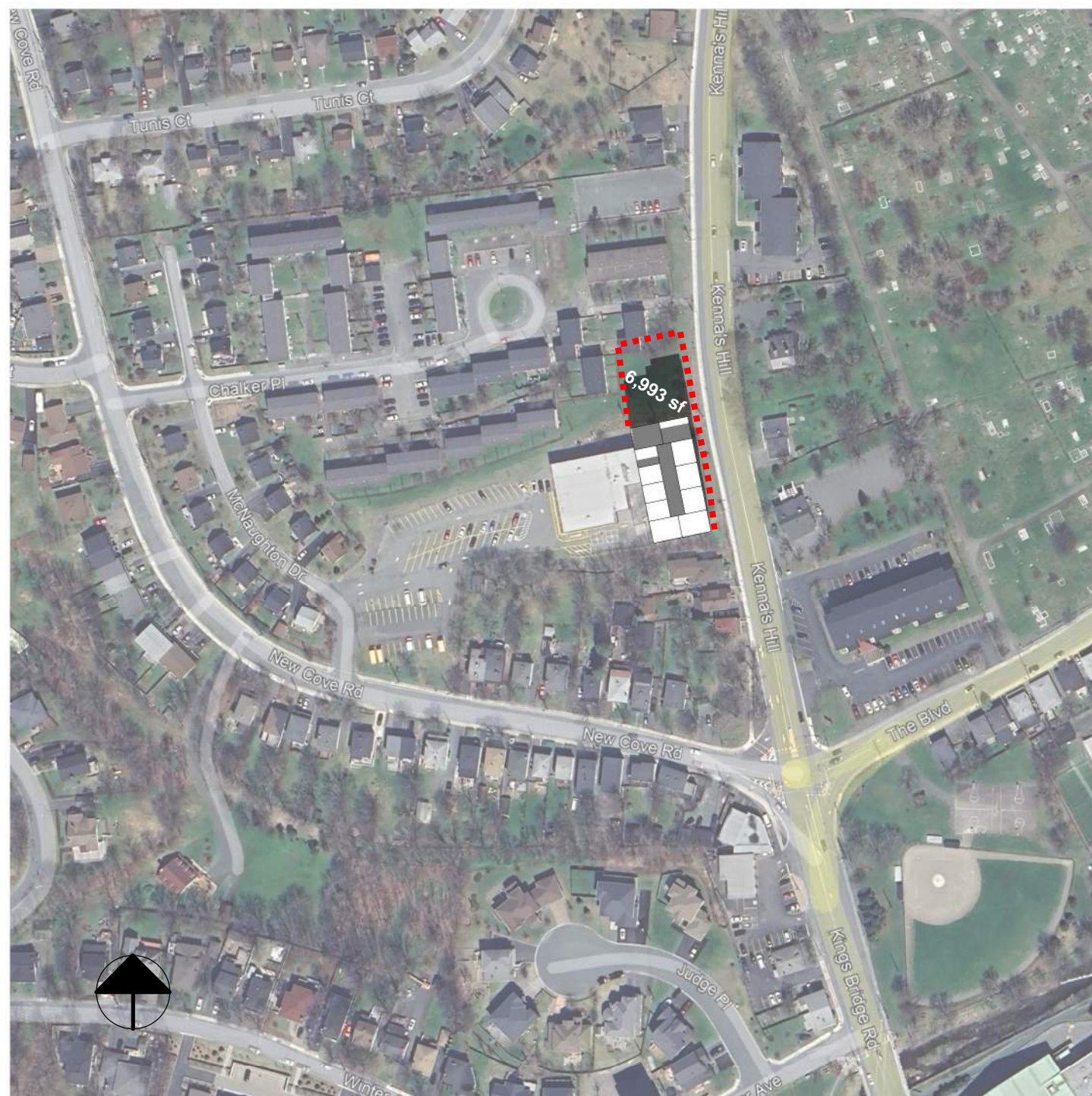
SUN STUDY - FALL EQUINOX

SCALE: 1" = 200'-0"



SEPTEMBER 23 - 9 AM - SETBACK STUDY

SCALE: 1" = 200'-0"



SEPTEMBER 23 - 12 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



SEPTEMBER 23 - 5 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



SEPT. 23 - 9 AM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



SEPT. 23 - 12 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



SEPT. 23 - 5 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"

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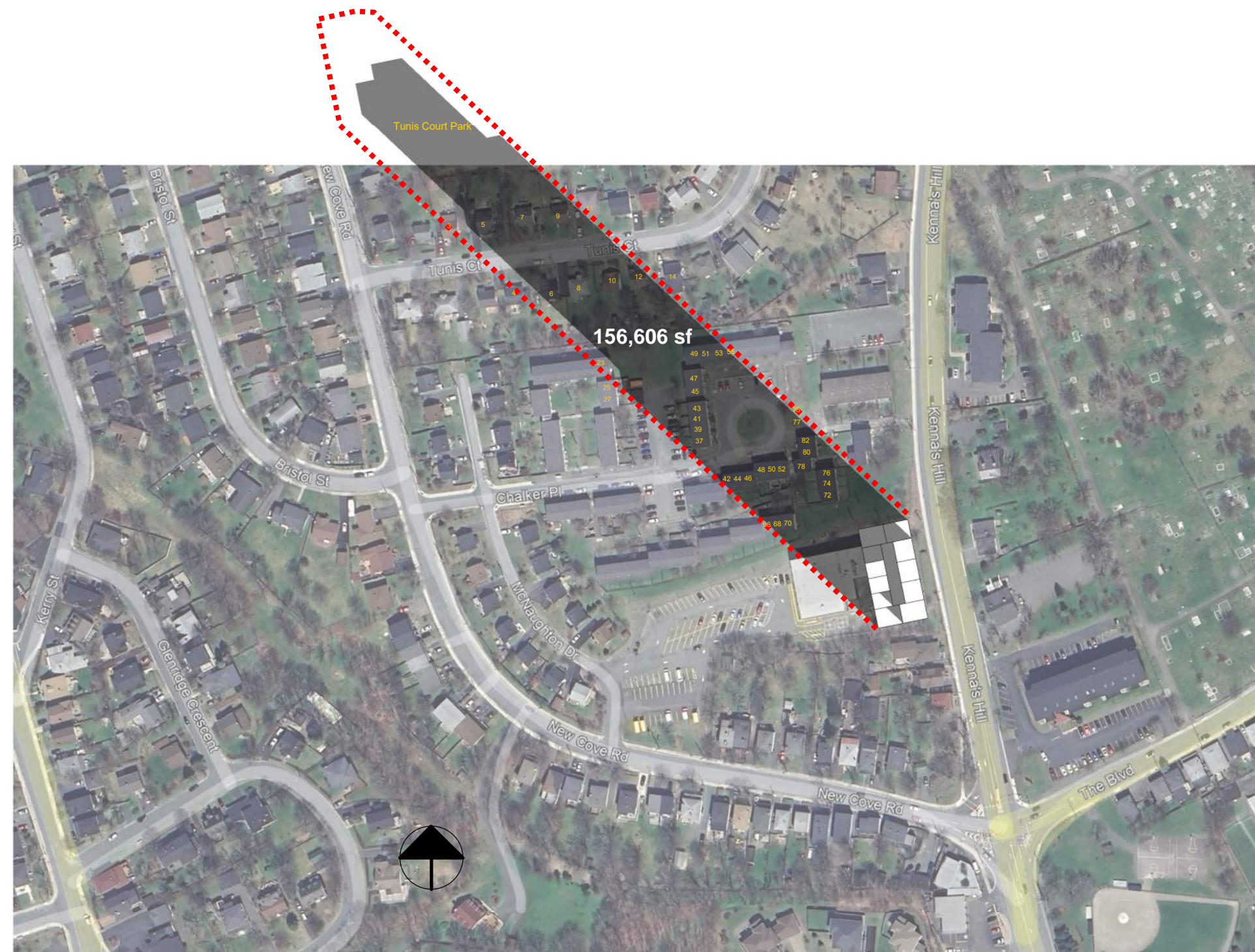
*ALL BUILDING AREAS ARE APPROXIMATE UNTIL BUILDING FOOTPRINT / ENTRY DESIGNS ARE FINALIZED.

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SUN STUDY - WINTER SOLSTICE

SCALE: 1" = 200'-0"



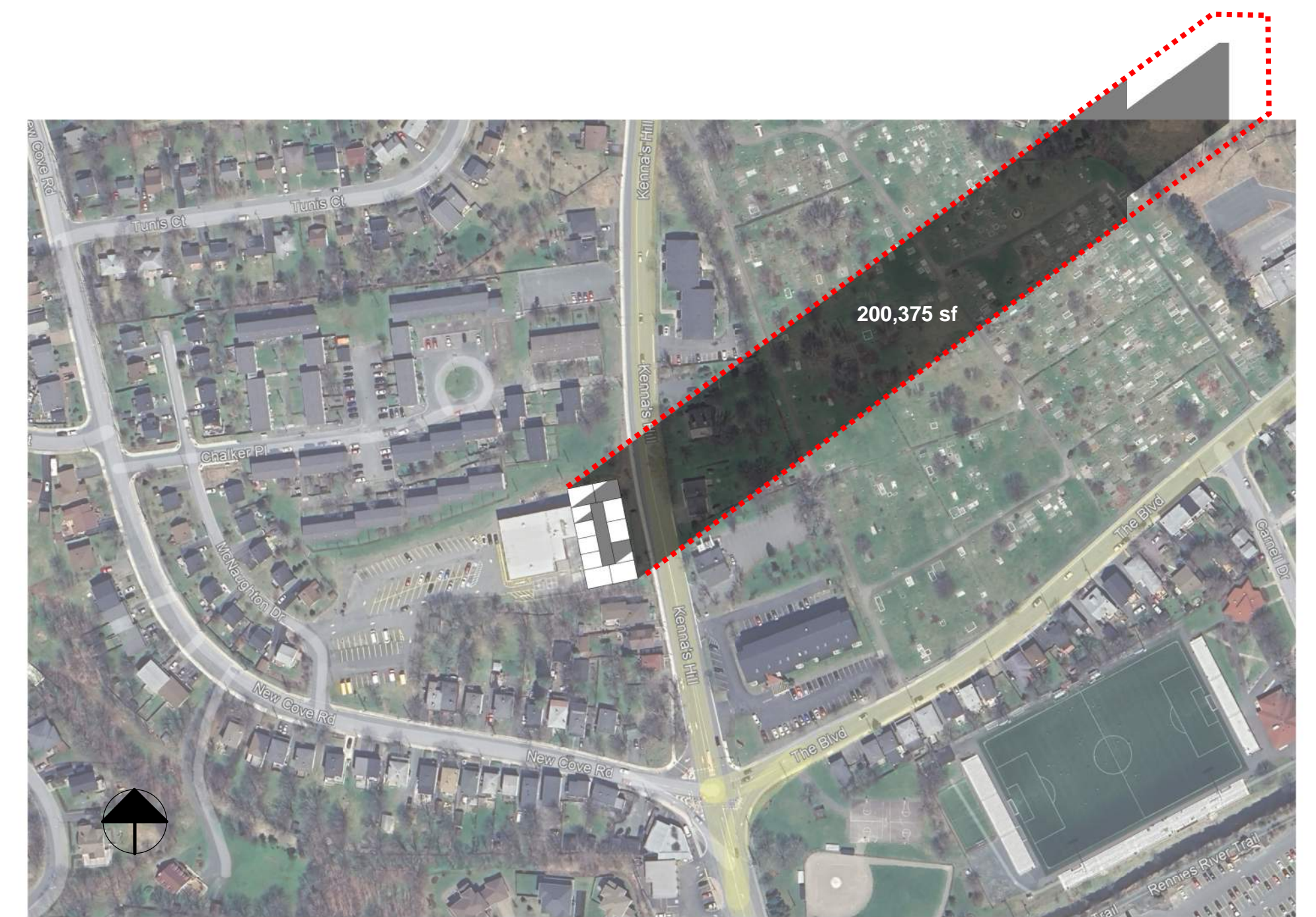
DECEMBER 21 - 9 AM - SETBACK STUDY

SCALE: 1" = 200'-0"



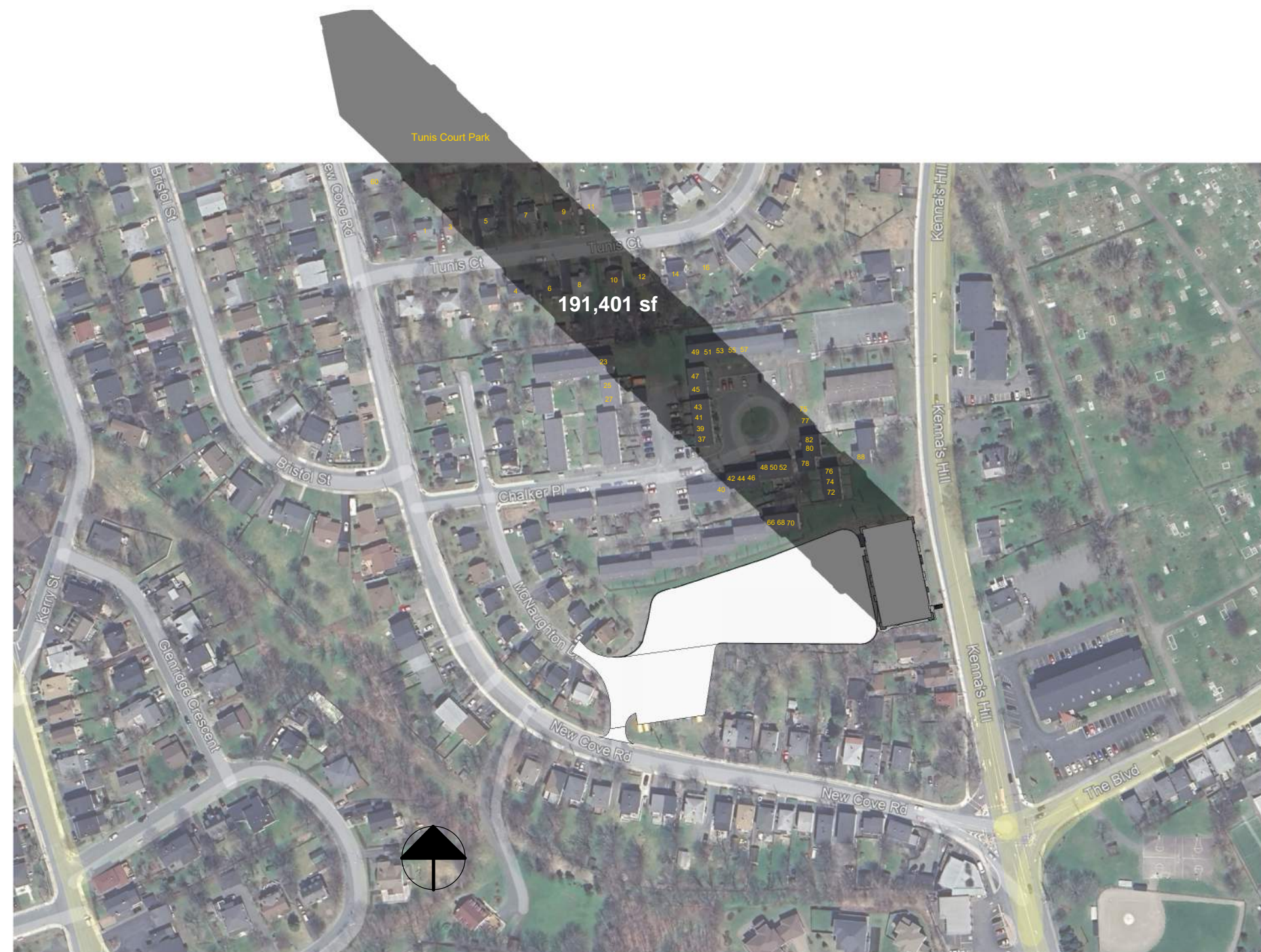
DECEMBER 21 - 12 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



DECEMBER 21 - 5 PM - SETBACK STUDY

SCALE: 1" = 200'-0"



DEC. 21 - 9 AM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



DEC. 21 - 12 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"



DEC. 21 - 5 PM - NEW APARTMENT BLDG. W/O STEPBACK

SCALE: 1" = 200'-0"

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