

Daylight and Sunlight Assessment Report

Burley Appliances Ltd Lands Ends Way

Stroma Reference: OPP-076643 DLSL1
Date: 23/04/2024
Prepared for: Marrons Planning

1. Executive Summary


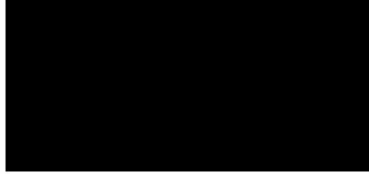
- 1.1. This daylight and sunlight assessment report relates to the proposed development at Burley Appliance LTD Lands End Way, Oakham, Rutland
- 1.2. A detailed assessment has been undertaken on the proposed development to determine the expected levels of daylight and sunlight in the units.
- 1.3. Works described within this report have been undertaken in accordance with BRE good practice guidance document BRE 209 Site Layout Planning for Daylight and Sunlight. This document includes recommendations for daylight and sunlight access and respective calculation methods.
- 1.4. Sunlight Availability Indicator: London (51.5°N)
- 1.5. Majority of the rooms on the proposed development meet BRE 209 recommendations for daylight, either by being served by windows achieving VSCs which are greater than the 27% guidance threshold or by meeting the target ADF% for the room type.
- 1.6. Only 3 rooms do not achieve the BRE recommended ADF levels. Unit 3 Living Kitchen Dining Space & Unit 5 Bedroom 1 both rooms do still achieve reasonable levels of daylight only marginally below the recommended values. The living room of unit 15 achieves an ADF of 1.10 which is marginally below the recommended ADF value for this room type which is 1.5.
- 1.7. All of the living kitchen and dining spaces of the proposed building achieve good levels of sunlight. There are 5 bedrooms which do not achieve the recommended sunlight levels. The design team have prioritised sunlight in the most relevant areas. As per BRE guidance sunlight is less important in bedroom areas therefore design has placed all bedroom on the north facing elevation.
- 1.8. It should be noted that as this is a change of use scheme the design team is limited in alterations to the façade of the building. The design team has followed the design principles of BRE 209 Site Layout Planning for Daylight and Sunlight in order to maximise both daylight and sunlight for future occupants.
- 1.9. Surrounding / neighbouring buildings have not been assessed as there will be no changes to the building elevation.

This assessment does not consider Right-to-Light. Should there be concerns that a Right-to-Light exists, it is recommended that a suitably qualified specialist be consulted.

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2. Quality Management

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Date: 23/04/2024		Date: 23/04/2024	
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Version	Status	Date	Change Summary
DLSSL1	First issue	12/04/2022	-
DLSSL2	Second issue	23/04/2024	Red line boundary of site has changed updated drawings shown in Fig 1 and Appendix E (no other changes)



Registered office as above. Company reg. no. 4507219

3. Development Overview

The site is located at former Burley Appliance LTD 2 Lands End Way, Oakham Rutland, LE15 6RB . The proposal is for the conversion of no.2 existing commercial units (shown in red in the Site Location Plan in figure 1 & Google maps image in in figure 2) into no.15 residential units. The buildings are located in the North-West corner of the wider Burley Appliances Site.

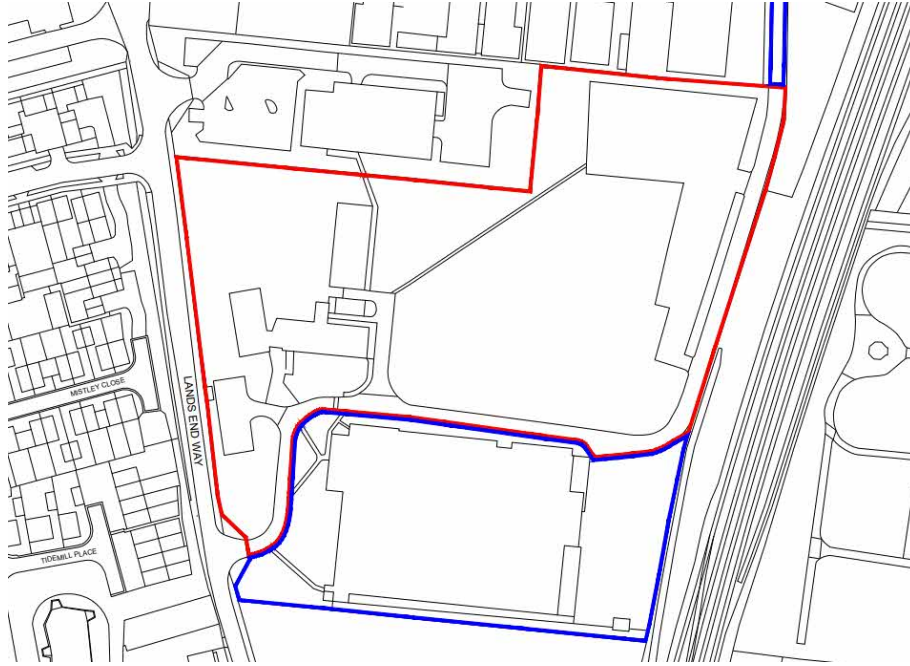


Figure 1. Existing site plan – drawing 1600529.2.10 rev B– April 2024 drawn by JMP at Marrons Planning

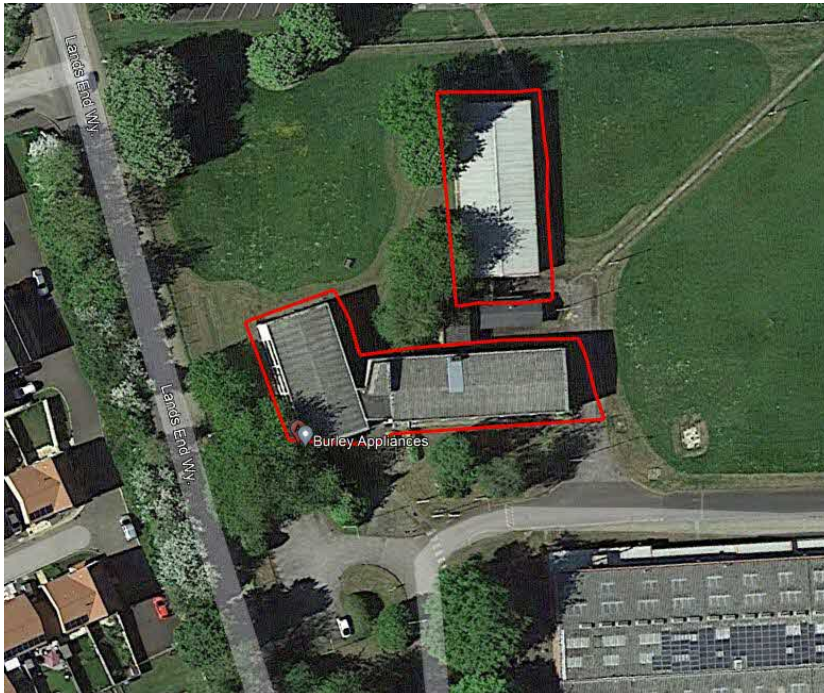


Figure 2. Google earth image showing location of existing building

4. Approach and Recommendations

4.1. Daylight

4.1.1. New Developments

4.1. Where windows are obstructed by large objects, the level of daylight received will be adversely affected. Large obstructions are defined by both their relative height and distance away from the window concerned.

4.2. In the case of wide obstructions, i.e. those not allowing daylight access from either side, the amount of daylight entering a room is proportional to the visible sky angle (F) – measured from the centre of the window pane. The Average Daylight Factor (ADF) commonly used to quantify daylight levels, is proportional to the visible sky angle.

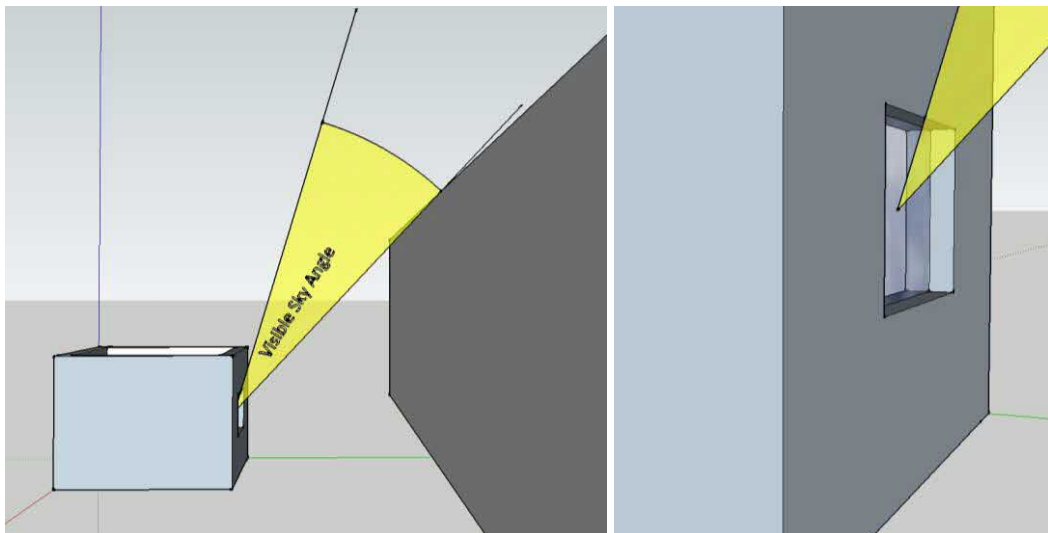


Figure 3. Visible sky angle

4.4. As obstructions are not always continuous, the angle of visible sky can be difficult to estimate. In such situations, the amount of skylight falling on a vertical wall or window can be quantified as the Vertical Sky Component (VSC). The VSC is the ratio of skylight received at a reference point against that of an unobstructed horizontal plane. Measurement of the VSC is usually determined at the centre point of a window and has a maximum value of approximately 40%. BRE guidance states the following daylight performance to correspond with VSC;

Summary

2.1.21 Obstructions can limit access to light from the sky. This can be checked by measuring or calculating the angle of visible sky θ , angle of obstruction or vertical sky component (VSC) at the centre of the lowest window where daylight is required. If VSC is:

At least 27% (θ is greater than 65° , obstruction angle less than 25°) conventional window design will usually give reasonable results.

Between 15% and 27% (θ is between 45° than 65° , obstruction angle is between 25° and 45°) special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight.

between 5% and 15% (θ is between 25° than 45° , obstruction angle is between 45° and 65°) it is very difficult to provide adequate daylight unless very large windows are used.

Less than 5% (θ is less than 25° , obstruction more than 65°) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.

Figure 4. BR209 Summary - impact of VSC on anticipated daylight performance¹

4.5. Daylight factors can be calculated using derived VSC values to assess whether natural light levels are likely to be adequate. BS 8206-2 Code of Practice for Daylighting provides the following recommendations for dwelling room types.

Room Type	Target Daylight Factor
Kitchens	$\geq 2\%$
Living rooms	$\geq 1.5\%$
Bedrooms	$\geq 1\%$

Table 1. Recommended average daylight factors

¹ Site Layout Planning for Daylight and Sunlight, P.J.Littlefair (2011) p.6

4.2. Sunlight

4.2.1. New Developments

4.6. Ensuring access to sunlight is an important part of residential building design. The presence of direct sunlight is shown to have a positive impact upon occupant wellbeing. BRE guidance states that sunlight provision to living rooms and conservatories is of greatest importance compared with that to bedrooms and kitchens.

4.7. With developments in passive building design and a more frequent installation of solar collection technology, e.g. photovoltaics, the magnitude of sunlight and orientation of access is increasingly becoming a concern.

Summary – (new buildings)

3.1.15 In general a dwelling, or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit provided:

At least one main window wall faces within 90° of due south and

the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.

3.1.16 Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

Figure 5. BR209 Summary – Sunlight recommendations for new build²

4.8. Unobstructed south-facing windows will receive significantly more sunlight than those facing north. East-facing aspects will receive direct sunlight during the morning and west-facing aspects in the afternoon/evening. The sunpath should be considered in setting out a development.

4.9. Where a dwelling has no window-wall within 90° of South, it is likely to be considered insufficiently sunlit. This is usually only a concern within apartment blocks where the number of aspects is limited. However, careful layout can help to ensure that the majority of apartments include window walls within 90° of south.

4.10. Guidance recommends that critical internal areas, i.e. rooms where sunlight is expected, should receive at least 25% of the annual probable sunlight hours (APSH). Furthermore, at least 5% should be received during the winter months; 21st September and 21st March. Measurements should be taken at the inside surface of the window wall. If window locations are unknown, values can be determined on a grid where they are likely to be situated.

² Site Layout Planning for Daylight and Sunlight, P.J.Littlefair (2011) p.16

5. Assessment

5.1. Objectives

- 5.1. Determine the VSC & APSH values of the proposed windows and ADF calculations for all relevant rooms, to confirm that adequate light provision will be achievable in future habitable rooms.
- 5.2. As there is no change to the envelope of proposed development the surrounding buildings have not been assessed as there will be no change to the daylight

5.2. Approach

5.2.1. Proposed

- 5.3. The proposed refurbished buildings VSC and APSH have been assessed for all the relevant spaces using a calculation plugin for Sketchup.
- 5.4. The proposed building ADF% (average daylight factors) have been assessed for all the relevant spaces using a calculation plugin for Sketchup. Relevant spaces are Living kitchen dining space. & bedrooms. Spaces excluded from assessment are bathrooms, and circulation spaces

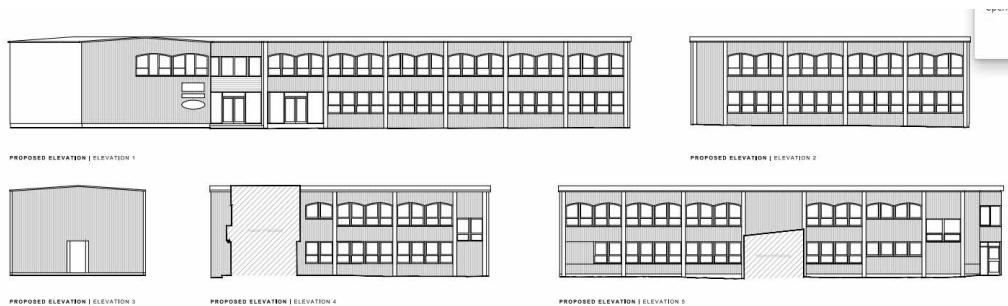


Figure 6. Proposed elevations of assessed building 1 – drawing 1600529.2.20 Drawn by AC by Marrons Planning

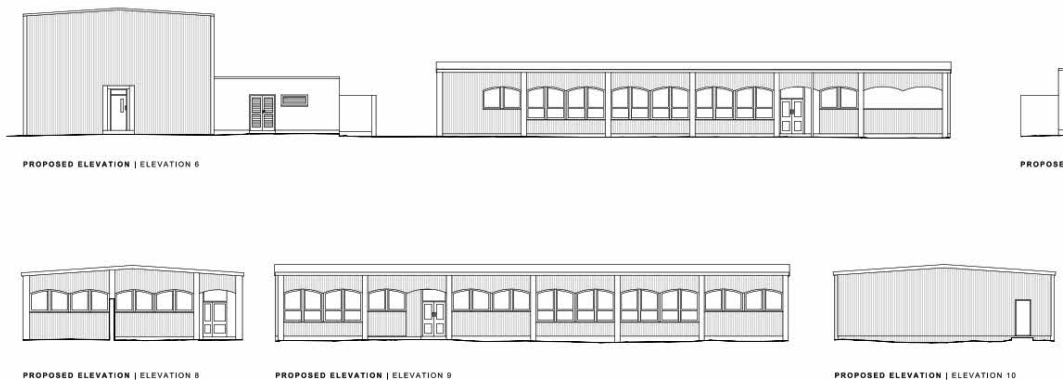


Figure 7. Proposed elevations of assessed building 2 - drawing 1600529.2.20 Drawn by AC by Marrons Planning

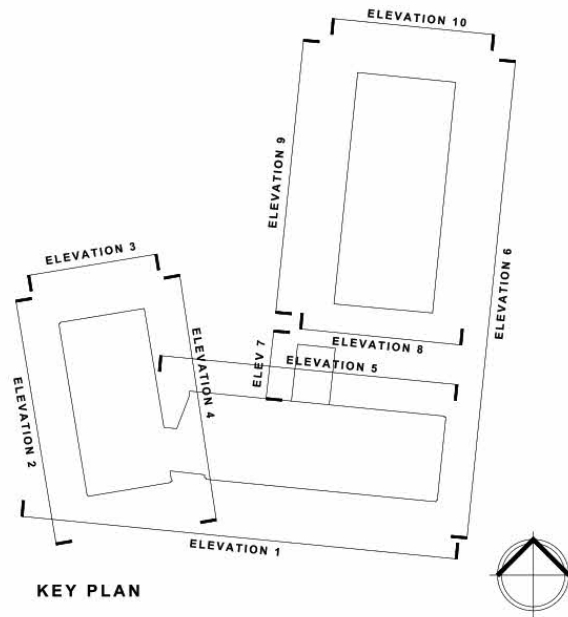


Figure 8. Elevation Key Plan - drawing 1600529.2.20 Drawn by AC by Marrons Planning

6. Results

6.1. Proposed

6.1.1. Daylight

- 6.1. Majority of the windows on the proposed development are shown to have VSC values which are greater than the 27% guidance threshold for good daylight (refer to Appendix C). There are a number of windows which do not achieve the recommended VSC levels however all these windows serve rooms which also include windows with additional windows which do achieve good daylight levels. (refer to Appendix C)
- 6.2. Windows 189, 190, 202 & 164 can be ignored due to the fact they serve rooms to which additional windows are present (which achieve the 27% guidance threshold for good daylight).
- 6.3. ADF calculations have also been carried out on all habitable rooms within the proposed development. Majority of the rooms achieve the target ADF % (average daylight factor) 2% for kitchen areas, 1.5% for living areas and 1% for bedrooms.
- 6.4. Only 3 rooms are shown not to achieve the target ADF results. Unit 3 living kitchen dining space, Unit 5 Bedroom 1 & Unit 15 Living room. The table below shows the rooms which did not achieve the ADF target. (see appendix d for full set of results)

Building Name	Room Name	Window Ref	Glazed Area	Clear Sky Pr	Room Surface Area	ADF Pr	Reqd Val	Meets BRE Criteria
U3	LKD1	W5	1.19	80.08	175.14	0.40		
		W6	1.19	81.27	175.14	0.41		
		W7	1.19	81.48	175.14	0.41		
		W8	1.19	80.34	175.14	0.41		
		W10	0.58	42.55	175.14	0.10		
						1.74	2	NO
U5	BED1	W12	1.18	62.92	70.07	0.79		
						0.79	1	NO
U15	LIV1	W6	0.84	81.85	95.29	0.54		
		W5	0.88	82.04	95.29	0.56		
						1.10	1.5	NO

Table 2. Rooms not achieving ADF target

6.5. Unit 3 Living Kitchen Dining Space this room achieves a ADF of 1.74 – target for room type is 2.0. Therefore there still will be reasonable levels of daylight in this room. The room also benefits from windows on more than one elevation.

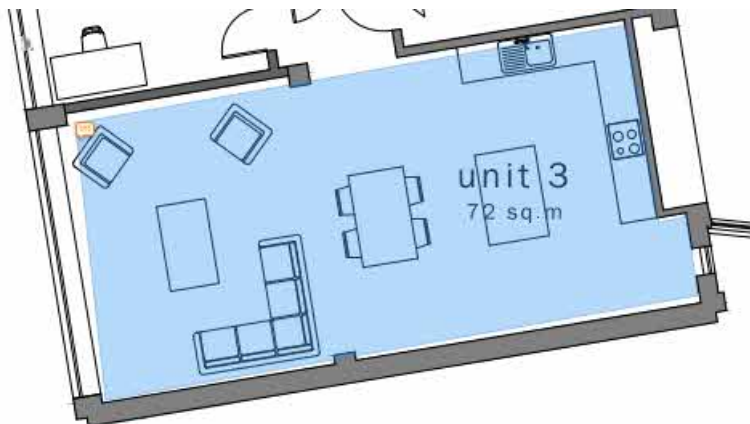


Figure 9. Unit 3 living kitchen dining room - Extract from floor plan – drawing number 1600529.2. drawn by AC at Marrons

6.6. **Unit 5 Bedroom 1**- this room is served by one window – ADF of this room is 0.79 recommended level is 1.0. This result is below the recommended value. It should be noted that there also less of a requirement for daylight in bedrooms so this could be considered reasonable levels of daylight

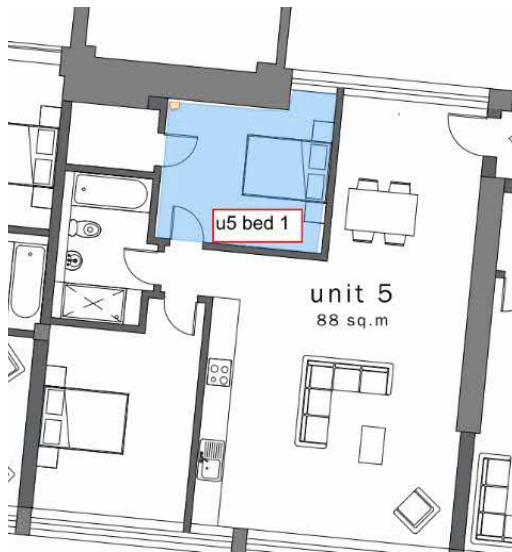


Figure 10. Unit 5 bedroom1 - Extract from floor plan – drawing number 1600529.2. drawn by AC at Marrons

6.7. **Unit 15 Living room** this room achieves 1.1 with target of 1.5. This room is served by 2 windows and does achieve reasonable levels of daylight. Which are slightly below the recommended levels

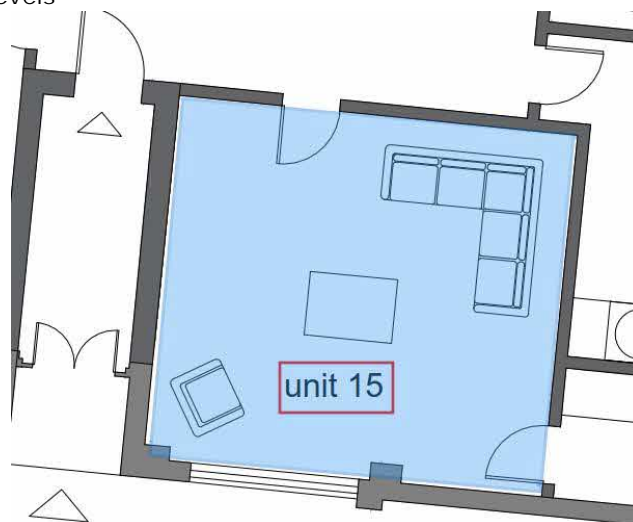


Figure 11. Unit 15 living room - Extract from floor plan – drawing number 1600529.2.18 drawn by AC at Marrons

6.1.2. Sunlight

6.8. Many of the windows on the proposed development achieve APSH (annual probable sunlight hours) results above the BRE 209 recommended levels.

6.9. There are a number of windows which do not achieve the recommended sunlight levels. All these windows are north facing. It is difficult to avoid having north facing windows on a change of use/existing building without maximising the space available. The design team has followed the BRE design guidance and have ensured that the north facing elevation serve the bedrooms areas. There is less of a requirement for sunlight in bedrooms, so this allows for sunlight to be received in the areas where it is most beneficial to the building users. (See appendix E for full set of results)

6.10. With the expectation of 3 windows to unit 5 & unit 11 all the north facing windows serve bedrooms. (Please note that there are additional windows on both units which achieve very good levels of sunlight.) North facing windows will struggle to achieve good levels of sunlight however in this scenario design team has maximised sunlight in most relevant areas.

6.11. Bedrooms on north facing elevation with no windows achieving sunlight recommendation are:

- Unit 2 – bedroom
- Unit 4 Bedroom 1 & 2
- Unit 5 bedroom 1
- Unit 10 bedroom 1&2
- Unit 11 bedroom 2

7. Conclusion

- 7.1. Majority of the rooms on the proposed development meet BRE 209 recommendations for daylight, either by being served by windows achieving VSCs which are greater than the 27% guidance threshold or by meeting the target ADF% for the room type.
- 7.2. Only 3 rooms do not achieve the BRE recommended ADF levels. Unit 3 Living Kitchen Dining Space, Unit 5 Bedroom 1 & Unit 15 Living room all rooms do still achieve reasonable levels of daylight which are marginally below the recommend minimum ADF requirements
- 7.3. All of the living kitchen and dining spaces of the proposed building achieve good levels of sunlight. There are 5 bedrooms which do not achieve the recommended sunlight levels. The design team have prioritised sunlight in the most relevant areas. As per BRE guidance sunlight is less important in bedroom areas therefore design has placed all bedroom on the north facing elevation.
- 7.4. Surrounding / neighbouring buildings have not been assessed as there will be no changes to the building elevation.

Appendix A. Proposed window references

7.5. Elevations used are in conjunction with the elevations in appendix E.

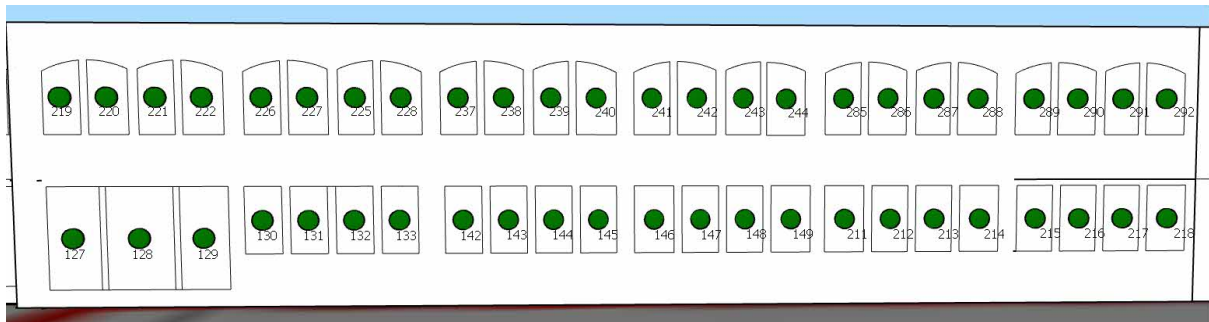


Figure 12. Elevation 1 (a) – (south facing)

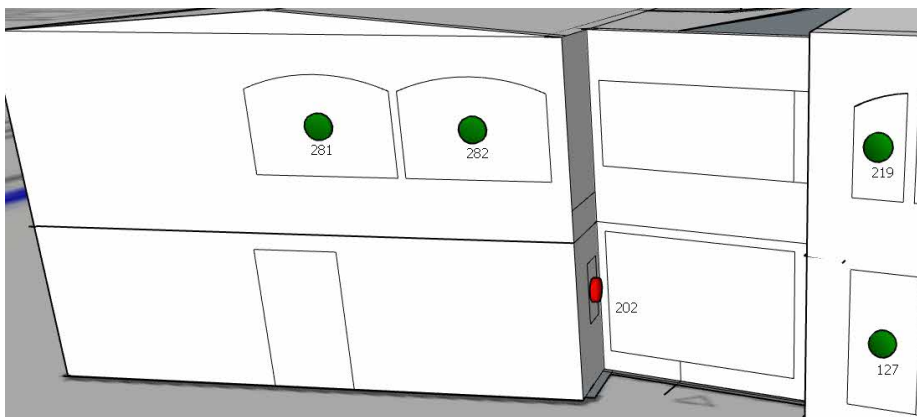


Figure 13. Elevation 1 (b) – South Facing

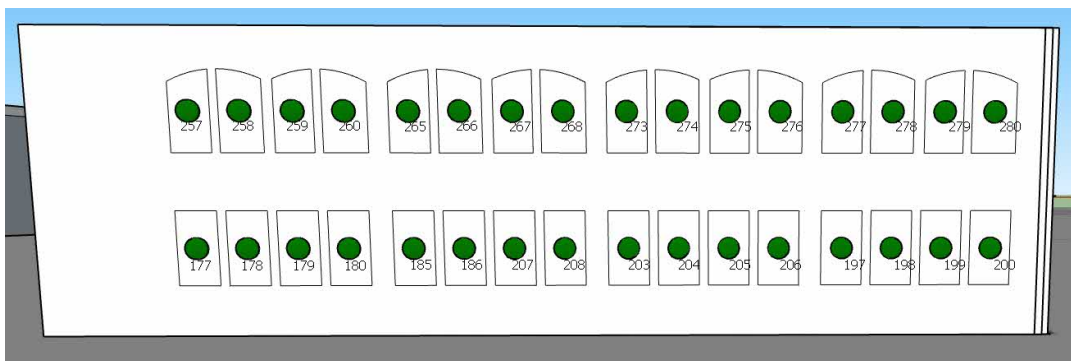


Figure 14. Elevation 2 (west Facing)

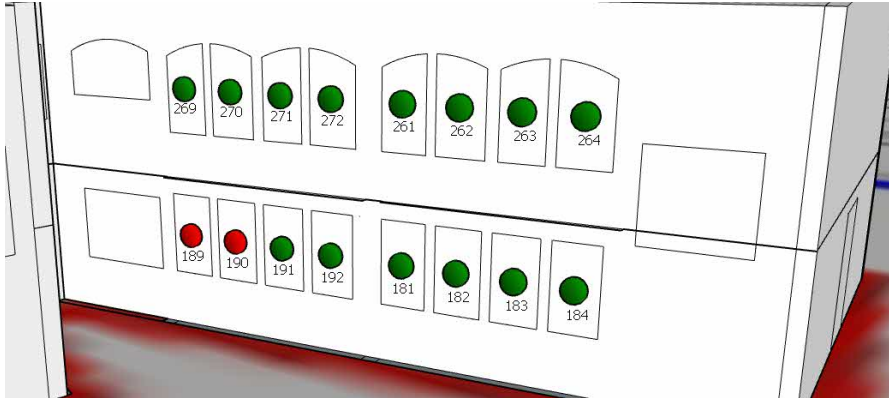


Figure 15. elevation 4 (east facing)

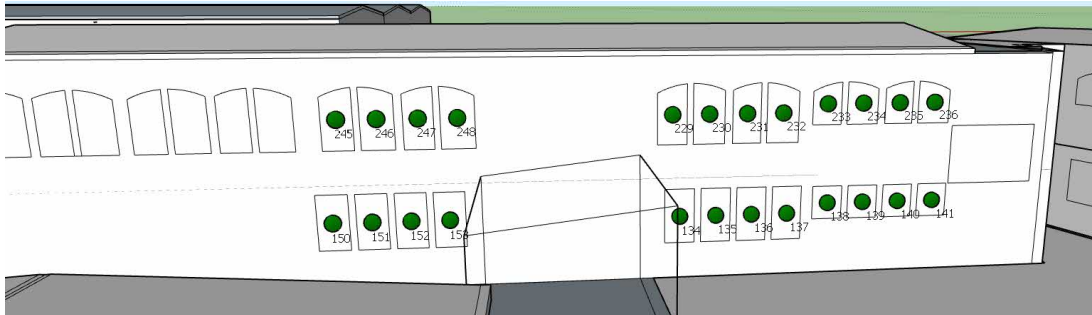


Figure 16. Elevation 5 (north facing)

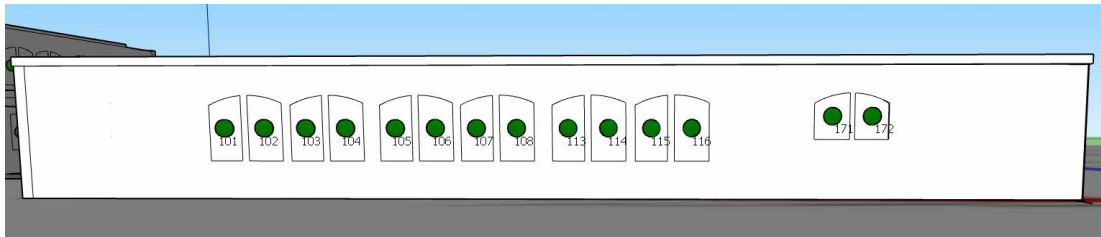
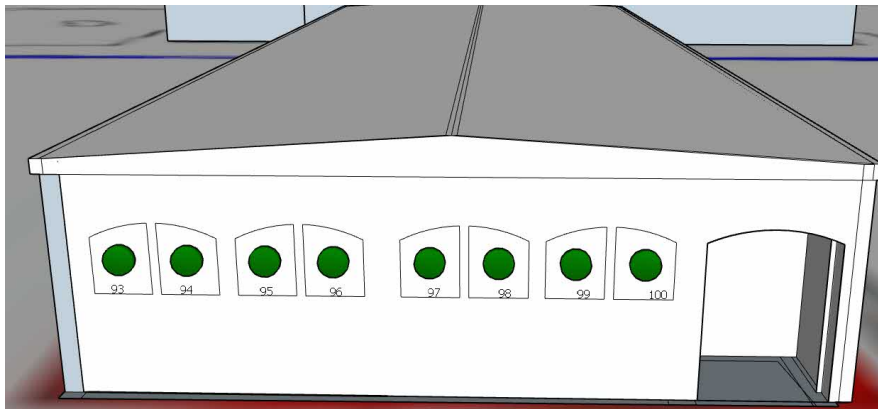


Figure 17. Elevation 6 (East Facing)



Elevation 8 (south facing)

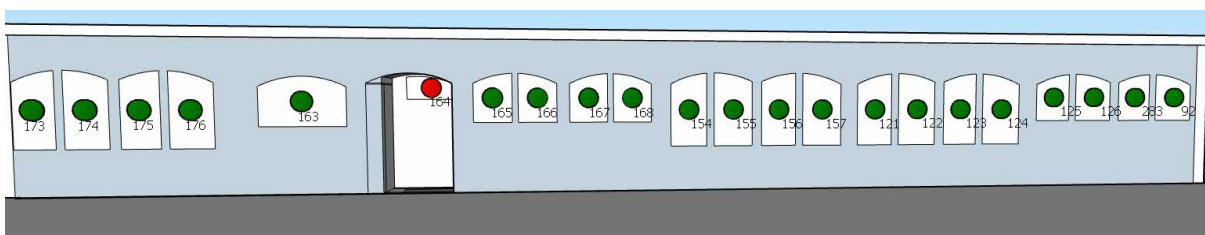


Figure 18. Elevation 9 (west facing)

Appendix B. Proposed VSC (Vertical Sky Component) Results

Unit	Room type	Window Ref	Window ID	VSC	Performance
				Proposed %	
			Pass Criterion	27.00	
U1	LKD	W1	177	39.62	Good
		W2	178	39.62	Good
		W3	179	39.62	Good
		W4	180	39.62	Good
	BED	W5	181	31.67	Good
		W6	182	32.70	Good
		W7	183	33.48	Good
		W8	184	34.10	Good
U2	LKD	W1	185	39.62	Good
		W2	186	39.62	Good
		W3	207	39.62	Good
		W4	208	39.62	Good
	BED	W5	189	20.20	Poor
		W6	190	24.75	Poor
		W7	191	27.74	Good
		W8	192	29.62	Good
U3	BED	W1	203	39.62	Good
		W2	204	39.62	Good
		W3	205	39.62	Good
		W4	206	39.62	Good
	LKD	W5	197	39.62	Good
		W6	198	39.62	Good
		W7	199	39.62	Good
		W8	200	39.62	Good
		W10	202	13.88	V.Poor
U4	LKD	W1	127	38.04	Good
		W2	128	38.06	Good
		W3	129	38.04	Good
		W4	130	38.14	Good
		W5	131	38.11	Good
		W6	132	38.07	Good
		W7	133	38.03	Good
	BED1	W8	134	27.90	Good
		W9	135	32.16	Good
		W10	136	34.20	Good

	BED2	W11	137	35.21	Good
		W12	138	36.20	Good
		W13	139	36.31	Good
		W14	140	36.28	Good
		W15	141	36.10	Good
U5	BED2	W1	142	37.95	Good
		W2	143	37.91	Good
		W3	144	37.85	Good
	LKD	W4	145	37.78	Good
		W5	146	37.69	Good
		W6	147	37.61	Good
		W7	148	37.54	Good
		W8	149	37.45	Good
		W9	150	35.65	Good
		W10	151	34.73	Good
		W11	152	32.76	Good
BED1	W12	153	27.91	Good	
U6	LKD	W1	211	37.35	Good
		W2	212	37.24	Good
		W3	213	37.14	Good
		W4	214	37.04	Good
	BED	W5	215	36.91	Good
		W6	216	36.80	Good
		W7	217	36.67	Good
		W8	218	36.54	Good
U7	LKD	W1	257	39.62	Good
		W2	258	39.62	Good
		W3	259	39.62	Good
		W4	260	39.62	Good
	BED	W5	261	36.88	Good
		W6	262	37.30	Good
		W7	263	37.61	Good
		W8	264	37.82	Good
U8	LKD	W1	265	39.62	Good
		W2	266	39.62	Good
		W3	267	39.62	Good
		W4	268	39.62	Good
	BED	W5	269	30.17	Good
		W6	270	33.14	Good
		W7	271	35.01	Good
		W8	272	36.02	Good
U9	BED	W1	273	39.62	Good
		W2	274	39.62	Good
		W3	275	39.62	Good

	LKD	W4	276	39.62	Good
		W5	277	39.62	Good
		W6	278	39.62	Good
		W7	279	39.62	Good
		W8	280	39.62	Good
		W9	281	39.09	Good
		W10	282	39.03	Good
U10	LKD	W1	219	38.99	Good
		W2	220	39.01	Good
		W3	221	39.01	Good
		W4	222	39.00	Good
		W5	225	38.95	Good
		W6	226	38.98	Good
		W7	227	38.97	Good
		W8	228	38.93	Good
	BED2	W9	229	38.71	Good
		W10	230	38.70	Good
		W11	231	38.67	Good
		W12	232	38.64	Good
	BED1	W13	233	38.67	Good
		W14	234	38.61	Good
		W15	235	38.54	Good
		W16	236	38.45	Good
U11	BED1	W1	237	38.91	Good
		W2	238	38.89	Good
		W3	239	38.87	Good
	LKD	W4	240	38.84	Good
		W5	241	38.81	Good
		W6	242	38.79	Good
		W7	243	38.76	Good
		W8	244	38.73	Good
		W9	245	38.76	Good
		W10	246	38.75	Good
		W11	247	38.75	Good
BED2	W12	248	38.75	Good	
U12	LKD	W1	249	38.70	Good
		W2	250	38.68	Good
		W3	251	38.65	Good
		W4	252	38.62	Good
	BED	W5	253	38.58	Good
		W6	254	38.55	Good
		W7	255	38.49	Good
		W8	256	38.43	Good
U13	LKD	W1	93	31.44	Good

		W2	94	31.58	Good	
		W3	95	31.69	Good	
		W4	96	31.78	Good	
		W9	92	36.38	Good	
		W10	121	37.56	Good	
		W11	122	37.46	Good	
		W12	123	37.33	Good	
		W13	124	37.17	Good	
		W14	125	37.02	Good	
		W15	126	36.84	Good	
		W16	283	36.62	Good	
		Bed	W5	97	31.93	Good
			W6	98	32.04	Good
			W7	99	32.19	Good
			W8	100	32.35	Good
		U14	LKD	W1	101	38.59
W2	102			38.57	Good	
W3	103			38.56	Good	
W4	104			38.55	Good	
W5	105			38.51	Good	
W6	106			38.48	Good	
W7	107			38.45	Good	
W8	108			38.41	Good	
Bed 1	W9		154	37.93	Good	
	W10		155	37.86	Good	
	W11		156	37.78	Good	
	W12		157	37.68	Good	
Bed 2	W13		165	38.12	Good	
	W14		166	38.09	Good	
	W15		167	38.04	Good	
	W16		168	37.99	Good	
U15	KIT	W1	113	38.35	Good	
		W2	114	38.30	Good	
		W3	115	38.23	Good	
		W4	116	38.16	Good	
	LIV	W5	171	37.63	Good	
		W6	172	37.51	Good	
	Bed 1	W7	163	38.20	Good	
		W8	164	2.93	Detrimental	
	Bed 2	W9	173	38.17	Good	
		W10	174	38.17	Good	
		W11	175	38.20	Good	
		W12	176	38.21	Good	

Appendix C. ADF (average Daylight Factor results)

Building Name	Room Name	Window Ref	Glazed Area	Clear Sky Pr	Room Surface Area	ADF Pr	Reqd Val	Meets BRE Criteria
U1	BED1	W6	1.18	75.06	92.92	0.71		
		W5	1.18	72.98	92.92	0.69		
		W7	1.18	76.67	92.92	0.73		
		W8	1.18	77.97	92.92	0.74		
							2.86	1
U1	LKD1	W3	1.19	80.71	123.07	0.58		
		W1	1.19	79.19	123.07	0.57		
		W2	1.19	80.68	123.07	0.58		
		W4	1.19	79.47	123.07	0.57		
							2.30	2
U2	BED1	W5	1.18	51.18	73.53	0.61		
		W6	1.18	58.21	73.53	0.70		
		W7	1.18	63.00	73.53	0.75		
		W8	1.18	65.61	73.53	0.78		
							2.85	1
U2	LKD1	W3	1.19	81.22	125.08	0.57		
		W1	1.19	79.93	125.08	0.56		
		W2	1.19	81.32	125.08	0.57		
		W4	1.19	80.42	125.08	0.57		
							2.28	2
U3	BED1	W1	1.19	80.64	78.52	0.91		
		W2	1.19	81.51	78.52	0.92		
		W3	1.19	81.51	78.52	0.92		
		W4	1.19	80.45	78.52	0.91		
							3.65	1
U3	LKD1	W5	1.19	80.08	175.14	0.40		
		W6	1.19	81.27	175.14	0.41		
		W7	1.19	81.48	175.14	0.41		
		W8	1.19	80.34	175.14	0.41		
		W10	0.58	42.55	175.14	0.10		
						1.74	2	NO
U4	BED1	W9	1.18	70.10	107.15	0.58		
		W10	1.18	73.57	107.15	0.60		
		W8	1.18	63.15	107.15	0.52		

		W11	1.18	75.10	107.15	0.62		
						2.32	1	YES
U4	BED2	W14	0.74	76.16	84.19	0.50		
		W15	0.74	76.56	84.19	0.50		
		W13	0.74	75.25	84.19	0.49		
		W12	0.74	73.87	84.19	0.48		
						1.98	1	NO
U4	LKD1	W3-L	0.25	83.08	151.48	0.02		
		W3-U	2.08	83.34	151.48	0.85		
		W7	1.17	81.01	151.48	0.47		
		W2-L	0.35	84.43	151.48	0.02		
		W2-U	2.85	84.48	151.48	1.18		
		W1-L	0.27	83.80	151.48	0.02		
		W1-U	2.23	83.92	151.48	0.92		
		W4	1.18	81.23	151.48	0.47		
		W6	1.18	81.55	151.48	0.47		
		W5	1.18	81.64	151.48	0.47		
						4.90	2	YES
U5	BED1	W12	1.18	62.92	70.07	0.79		
						0.79	1	NO
U5	BED2	W3	1.18	81.03	79.80	0.89		
		W2	1.18	81.15	79.80	0.89		
		W1	1.18	80.84	79.80	0.89		
						2.68	1	YES
U5	LKD1	W4	1.17	78.07	191.99	0.35		
		W6	1.18	78.79	191.99	0.36		
		W7	1.18	78.62	191.99	0.36		
		W5	1.28	78.59	191.99	0.39		
		W8	1.28	78.06	191.99	0.39		
		W10	1.18	73.32	191.99	0.34		
		W9	1.18	73.90	191.99	0.34		
		W11	1.18	70.06	191.99	0.32		
						2.85	2	YES
U6	BED1	W6	1.18	78.78	87.79	0.79		
		W7	1.18	78.51	87.79	0.79		
		W5	1.18	78.45	87.79	0.79		
		W8	1.28	78.15	87.79	0.85		
						3.21	1	YES
U6	LKD1	W2	1.18	79.72	117.48	0.60		
		W3	1.18	79.51	117.48	0.60		
		W1	1.28	79.83	117.48	0.65		

		W4	1.28	79.18	117.48	0.64		
						2.48	2	YES
U7	BED1	W8	1.31	80.64	81.64	0.96		
		W6	1.30	79.55	81.64	0.94		
		W7	1.16	79.43	81.64	0.84		
		W5	1.18	78.26	81.64	0.84		
						3.59	1	YES
U7	LKD1	W1	1.18	84.21	127.57	0.58		
		W4	1.31	84.87	127.57	0.65		
		W3	1.16	84.58	127.57	0.58		
		W2	1.30	85.07	127.57	0.64		
						2.45	2	YES
U8	BED1	W6	1.30	71.89	71.72	0.97		
		W8	1.31	77.12	71.72	1.05		
		W5	1.18	66.68	71.72	0.82		
		W7	1.16	74.56	71.72	0.90		
						3.74	1	YES
U8	LKD1	W4	1.31	82.28	123.75	0.65		
		W2	1.30	83.01	123.75	0.65		
		W1	1.18	81.80	123.75	0.58		
		W3	1.16	81.97	123.75	0.57		
						2.45	2	YES
U9	BED1	W1	1.18	80.34	79.58	0.89		
		W3	1.16	80.90	79.58	0.88		
		W4	1.31	81.47	79.58	1.00		
		W2	1.30	81.67	79.58	0.99		
						3.76	1	YES
U9	LKD1	W10	3.74	87.18	178.13	1.36		
		W9	3.74	87.38	178.13	1.37		
		W8	1.31	81.05	178.13	0.44		
		W5	1.18	80.54	178.13	0.40		
		W6	1.30	81.69	178.13	0.44		
		W7	1.16	81.07	178.13	0.39		
						4.41	2	YES
U10	BED1	W13	0.82	78.79	92.83	0.52		
		W15	0.81	79.51	92.83	0.52		
		W14	0.91	80.05	92.83	0.58		
		W16	0.91	79.58	92.83	0.58		
						2.20	1	YES
U10	BED2	W10	1.30	82.52	92.83	0.86		

		W9	1.18	81.15	92.83	0.77		
		W11	1.16	82.01	92.83	0.77		
		W12	1.31	82.43	92.83	0.87		
						3.26	1	YES
U10	LKD1	W1	1.18	84.06	159.53	0.46		
		W2	1.30	84.72	159.53	0.51		
		W6	1.18	84.05	159.53	0.46		
		W5	1.16	84.17	159.53	0.46		
		W3	1.16	84.28	159.53	0.46		
		W7	1.30	84.65	159.53	0.51		
		W8	1.31	84.35	159.53	0.52		
		W4	1.31	84.56	159.53	0.52		
						3.90	2	YES
U11	BED1	W2	1.30	83.89	78.55	1.03		
		W1	1.18	82.91	78.55	0.93		
		W3	1.16	83.48	78.55	0.92		
						2.88	1	YES
U11	BED2	W12	1.31	77.46	74.33	1.02		
						1.02	1	YES
U11	LKD1	W7	1.16	84.17	200.16	0.36		
		W5	1.18	83.56	200.16	0.37		
		W6	1.30	84.32	200.16	0.41		
		W8	1.30	84.30	200.16	0.41		
		W4	1.31	84.13	200.16	0.41		
		W9	1.18	88.00	200.16	0.39		
		W10	1.30	87.99	200.16	0.42		
		W11	1.16	87.99	200.16	0.38		
						3.15	2	YES
U12	BED1	W13	1.18	83.66	88.31	0.83		
		W14	1.30	84.05	88.31	0.92		
		W15	1.16	83.20	88.31	0.82		
		W16	1.31	83.05	88.31	0.92		
						3.49	1	YES
U12	LKD1	W9	1.18	84.53	141.70	0.52		
		W10	1.30	84.97	141.70	0.58		
		W11	1.16	84.48	141.70	0.52		
		W12	1.31	84.38	141.70	0.58		
						2.20	2	YES
U13	BED1	W5	0.78	67.10	71.60	0.55		
		W6	0.79	67.27	71.60	0.55		

		W7	0.78	67.48	71.60	0.55		
		W8	0.79	67.79	71.60	0.56		
						2.21	1	YES

U13	LKD1	W1	0.78	66.33	178.16	0.22		
		W3	0.78	66.68	178.16	0.22		
		W2	0.79	66.52	178.16	0.22		
		W4	0.79	66.85	178.16	0.22		
		W13	1.31	80.00	178.16	0.44		
		W12	1.16	79.76	178.16	0.39		
		W11	1.30	80.69	178.16	0.44		
		W14	0.76	76.42	178.16	0.24		
		W9	0.85	74.88	178.16	0.27		
		W15	0.85	76.75	178.16	0.27		
		W10	1.18	80.44	178.16	0.40		
						3.32	2	YES

U14	BED1	W11	1.16	80.61	78.41	0.89		
		W9	1.18	81.18	78.41	0.91		
		W10	1.30	81.46	78.41	1.00		
		W12	1.31	81.20	78.41	1.01		
						3.82	1	YES

U14	BED2	W16	0.79	79.39	101.54	0.46		
		W14	0.79	79.60	101.54	0.46		
		W15	0.78	79.49	101.54	0.46		
		W13	0.78	79.66	101.54	0.46		
						1.84	1	YES

U14	LKD1	W1	1.18	87.34	189.46	0.41		
		W8	1.30	86.90	189.46	0.44		
		W7	1.18	87.00	189.46	0.40		
		W6	1.30	87.08	189.46	0.44		
		W5	1.18	87.15	189.46	0.40		
		W2	1.30	87.30	189.46	0.44		
		W3	1.18	87.28	189.46	0.41		
		W4	1.30	87.23	189.46	0.44		
						3.39	2	YES

U15	Bed1	W7	1.71	82.41	99.59	1.05		
		W8	0.50	18.67	99.59	0.07		
						1.12	1	YES

U15	Bed2	W10	1.30	82.24	97.18	0.82		
		W12	1.31	82.39	97.18	0.83		
		W9	1.18	81.74	97.18	0.74		
		W11	1.16	81.57	97.18	0.73		

						3.11	1	YES
U15	LIV1	W6	0.84	81.85	95.29	0.54		
		W5	0.88	82.04	95.29	0.56		
						1.10	1.5	NO
U15	Liv1	W4	1.30	83.28	125.07	0.64		
		W1	1.18	83.37	125.07	0.59		
		W2	1.30	83.60	125.07	0.65		
		W3	1.18	83.11	125.07	0.58		
						2.46	2	YES

Appendix D. Proposed APSH (Annual Probable Sunlight Hours) Results

Unit	Room Type	Window Ref	Window ID	APSH		Comment
				Annual	Winter	
				Proposed %	Proposed %	
			Pass Criterion	25	5	
U1	LKD	W1	177	54	18	
		W2	178	54	18	
		W3	179	54	18	
		W4	180	54	18	
	BED	W5	181	31	1	North
		W6	182	34	2	North
		W7	183	35	3	North
		W8	184	36	5	North
U2	LKD	W1	185	54	18	
		W2	186	54	18	
		W3	207	54	18	
		W4	208	54	18	
	BED	W5	189	5	0	North
		W6	190	11	0	North
		W7	191	17	0	North
		W8	192	22	0	North
U3	BED	W1	203	54	18	
		W2	204	54	18	
		W3	205	54	18	
		W4	206	54	18	
	LKD	W5	197	54	18	
		W6	198	54	18	
		W7	199	54	18	
		W8	200	54	18	
		W10	202	36	11	North
U4	LKD	W1	127	85	29	
		W2	128	85	29	
		W3	129	86	29	
		W4	130	87	29	
		W5	131	87	29	
		W6	132	87	29	
		W7	133	87	29	
	BED1	W8	134	1	0	North
		W9	135	1	0	North
		W10	136	2	0	North

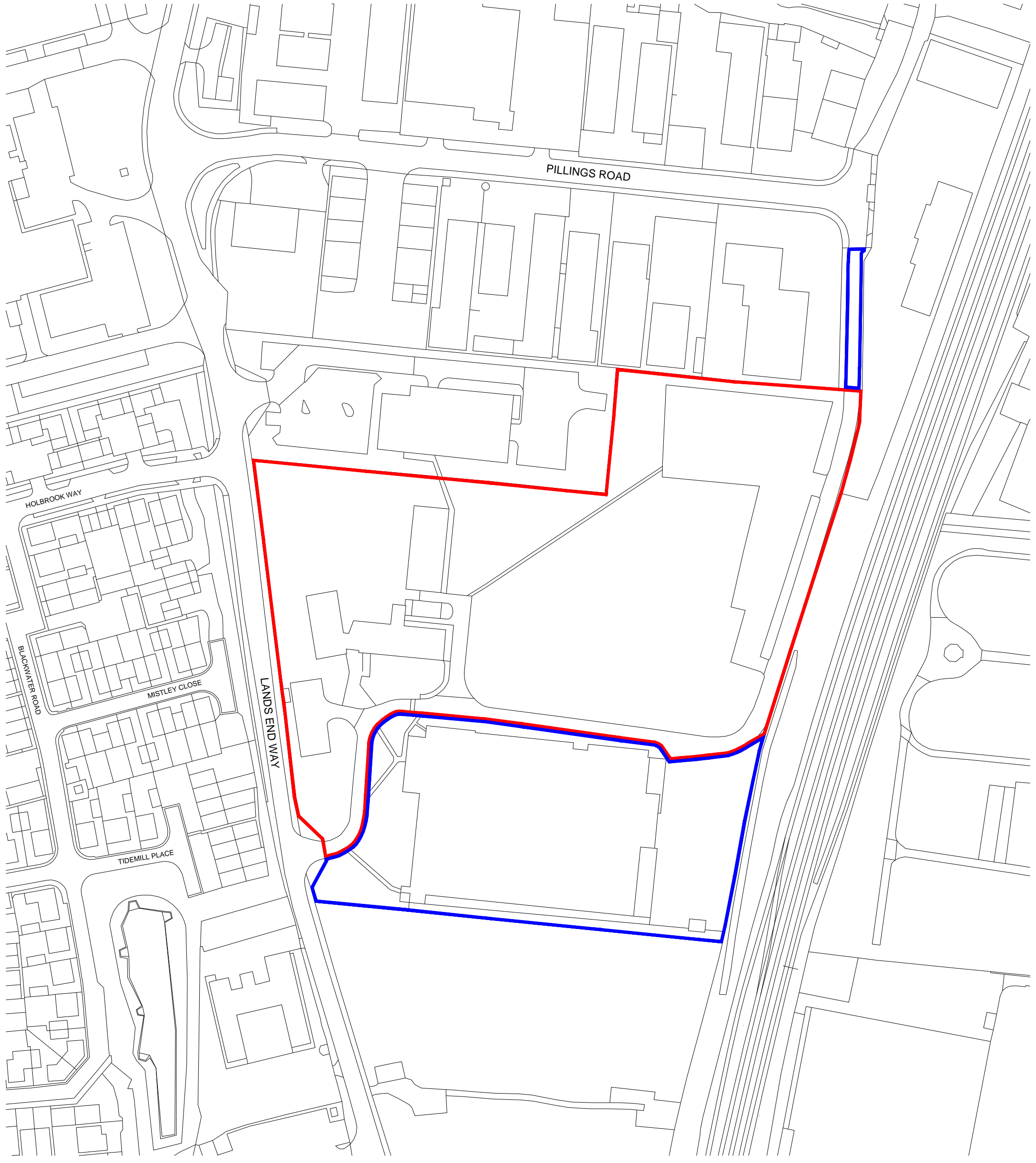
	BED2	W11	137	2	0	North
		W12	138	5	0	North
		W13	139	5	0	North
		W14	140	5	0	North
		W15	141	5	0	North
U5	BED2	W1	142	87	29	
		W2	143	87	29	
		W3	144	87	29	
	LKD	W4	145	87	29	
		W5	146	87	29	
		W6	147	87	29	
		W7	148	87	29	
		W8	149	87	29	
		W9	150	7	0	North
		W10	151	6	0	North
		W11	152	6	0	North
BED1	W12	153	6	0	North	
U6	LKD	W1	211	87	29	
		W2	212	87	29	
		W3	213	87	29	
		W4	214	87	29	
	BED	W5	215	88	29	
		W6	216	88	29	
		W7	217	88	29	
		W8	218	88	29	
U7	LKD	W1	257	54	18	
		W2	258	54	18	
		W3	259	54	18	
		W4	260	54	18	
	BED	W5	261	44	10	North
		W6	262	45	11	North
		W7	263	45	11	North
		W8	264	45	11	North
U8	LKD	W1	265	54	18	
		W2	266	54	18	
		W3	267	54	18	
		W4	268	54	18	
	BED	W5	269	29	2	North
		W6	270	36	4	North
		W7	271	39	6	North
		W8	272	43	9	North
U9	BED	W1	273	54	18	
		W2	274	54	18	
		W3	275	54	18	

	LKD	W4	276	54	18	
		W5	277	54	18	
		W6	278	54	18	
		W7	279	54	18	
		W8	280	54	18	
		W9	281	89	30	
		W10	282	88	30	
U10	LKD	W1	219	88	30	
		W2	220	88	30	
		W3	221	88	30	
		W4	222	88	30	
		W5	225	89	30	
		W6	226	89	30	
		W7	227	89	30	
		W8	228	89	30	
	BED2	W9	229	9	0	North
		W10	230	9	0	North
		W11	231	9	0	North
		W12	232	9	0	North
	BED1	W13	233	9	0	North
		W14	234	9	0	North
		W15	235	9	0	North
		W16	236	9	0	North
U11	BED1	W1	237	89	30	
		W2	238	89	30	
		W3	239	89	30	
	LKD	W4	240	89	30	
		W5	241	89	30	
		W6	242	89	30	
		W7	243	89	30	
		W8	244	89	30	
		W9	245	9	0	North
		W10	246	9	0	North
		W11	247	9	0	North
BED2	W12	248	9	0	North	
U12	LKD	W1	249	89	30	
		W2	250	89	30	
		W3	251	89	30	
		W4	252	89	30	
	BED	W5	253	89	30	
		W6	254	89	30	
		W7	255	89	30	
		W8	256	89	30	
U13	LKD	W1	93	80	22	

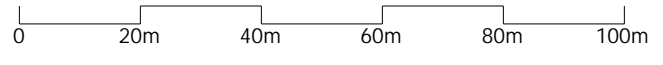
		W2	94	80	22	North	
		W3	95	81	23		
		W4	96	81	23		
		W9	92	80	22		
		W10	121	80	22		
		W11	122	80	22		
		W12	123	79	21		
		W13	124	41	9		
		W14	125	39	9		
		W15	126	39	9		
		W16	283	41	11		
		Bed	W5	97	80		22
			W6	98	80		22
			W7	99	80		22
			W8	100	79		21
		U14	LKD	W1	101		50
W2	102			50	15		
W3	103			50	15		
W4	104			50	15		
W5	105			50	15		
W6	106			50	15		
W7	107			50	15		
W8	108			50	15		
Bed 1	W9		154	41	11		
	W10		155	41	11		
	W11		156	40	10		
	W12		157	39	9		
Bed 2	W13		165	41	11		
	W14		166	41	11		
	W15		167	41	11		
	W16		168	41	11		
U15	KIT	W1	113	50	15		
		W2	114	50	15		
		W3	115	50	15		
		W4	116	50	15		
	LIV	W5	171	49	15		
		W6	172	49	15		
	Bed 1	W7	163	41	11		
		W8	164	2	0		
	Bed 2	W9	173	42	12		
		W10	174	41	11		
		W11	175	41	11		
		W12	176	41	11		

Appendix E drawings

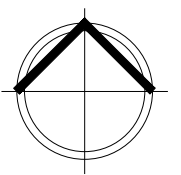
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status **PLANNING**

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Lands End Way, Oakham**

client **Burley Appliances Ltd**

drawing title **Class MA Application
Location Plan**

drawing no. **1600529.2.10**

scale **1:1250@A3**

date **April 2024**

drawn by **JMP**

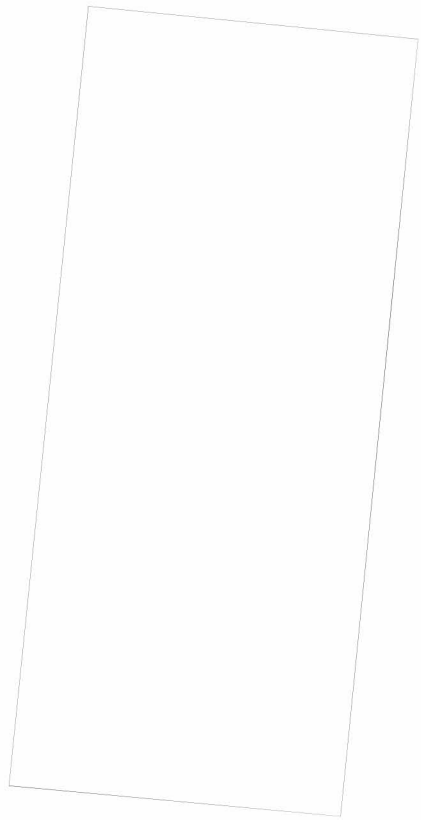
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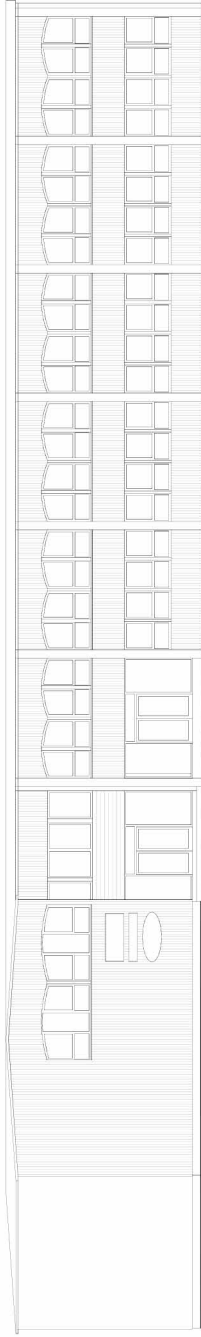
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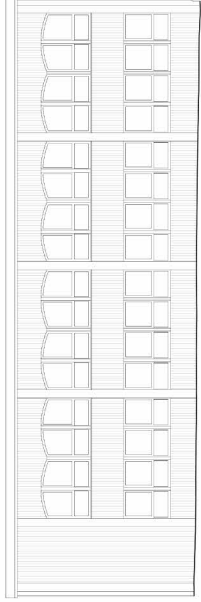
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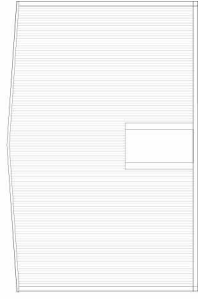




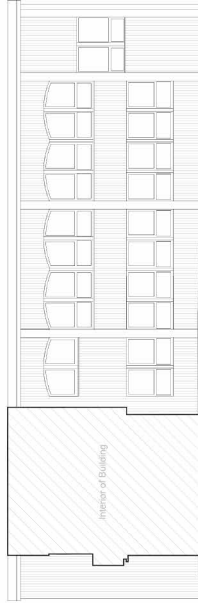
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PROPOSED ELEVATION | ELEVATION 2



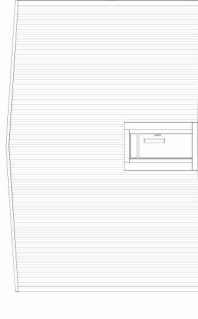
PROPOSED ELEVATION | ELEVATION 3



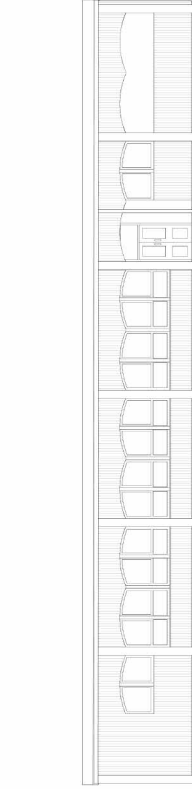
PROPOSED ELEVATION | ELEVATION 4



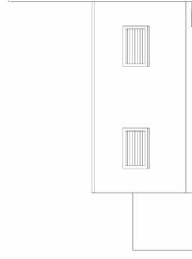
PROPOSED ELEVATION | ELEVATION 5



PROPOSED ELEVATION | ELEVATION 6



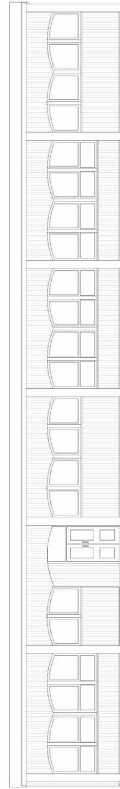
PROPOSED ELEVATION | ELEVATION 7



PROPOSED ELEVATION | ELEVATION 8



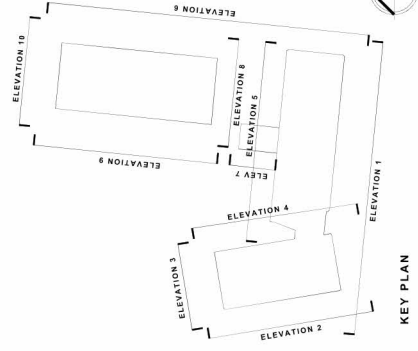
PROPOSED ELEVATION | ELEVATION 8



PROPOSED ELEVATION | ELEVATION 9



PROPOSED ELEVATION | ELEVATION 10



KEY PLAN



PRELIMINARY

1000000 2/20
1:1000000
March 2022
JAC

1000000 2/20
1:1000000
March 2022
JAC