

Sun Hours on Ground

The BRE Guidelines suggest that Sun Hours on Ground assessments should be undertaken on the Equinox (21st March and 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

It is recommended that at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21st March or the area which receives 2 hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

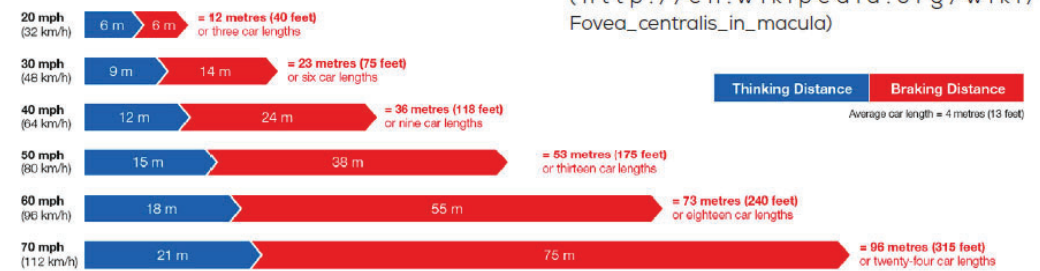
Solar Glare Technical Assessment

The potential for reflected solar glare or dazzle from glazed or reflective façades from the Proposed Development has been assessed using specialist lighting software, Radiance, showing the path of the sun for the entire year. From this, two computer generated angular images have been produced for each selected viewpoint, indicating the area which sees the reflection of the sun path at any point during the year. A modified diagram portraying a standardised extent of human vision is then overlaid onto the image.

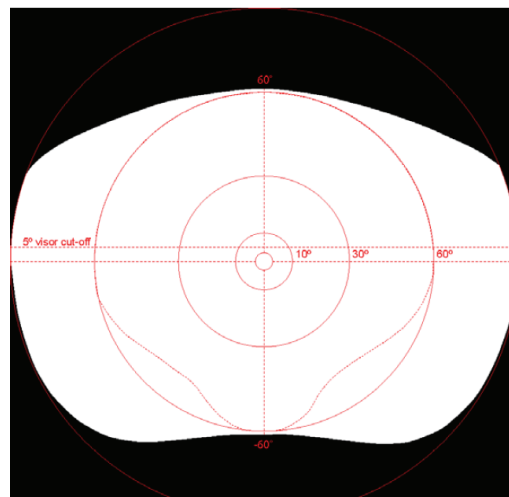
The viewpoints are generally located at the minimum stopping distance and at the driver's eye height. The focal point is a relevant traffic element, such as signals or incoming traffic. The stopping distance is calculated as the combination of thinking and braking distances $D_{total} = D_{thinking} + D_{braking} = V \cdot T + \frac{V^2}{2\mu \cdot g}$, where each component is:

- V = Relevant vehicle speed, typically the road speed limit.
- T = Thinking time (0.67 sec)
- μ = Breaking effort (considered 0.65 for cars, 0.5 for buses and 0.031 for trains)
- g = Gravity acceleration.

Typical Stopping Distances



The below highlights the degrees of vision corresponding to the foveal view, with a red circle of 3° of angle in order to identify the area most sensitive to reflected solar glare. Another red circle represents the incidence of the 30° radius of our typical field of view in order to identify a secondary area of sensitivity to potential reflected glare instances.



As stated in the International Commission on Illumination (CIE) CIE Collection on Glare (CIE 146:2002), occurrences at angles beyond 30° would be of little significance in most situations but may be relevant in exceptional circumstances. When seated in a driving seat of a typical car, for example, the limits of the windscreen would generally obstruct the driver's view at angles beyond 30° from the line of sight.

The methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year and the location of this occurrence in respect of an individual's line of sight. It is also to be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account. It must be noted that the solar glare assessments undertaken assume a worst-case scenario whereby the sun will shine every day during daylight hours which is not the case within the UK.

	VERTICAL SKY COMPONENT		NO SKY LINE		ANNUAL PROBABLE SUNLIGHT HOURS	
	WINDOWS		ROOMS		WINDOWS	
	TOTAL	PASS	TOTAL	PASS	TOTAL	PASS
110-126 LEVEN ROAD	95	59	36	36	59	59
128-132 LEVEN ROAD	35	25	24	19	25	25
134-144 LEVEN ROAD	56	22	24	21	32	32
177-195 ABBOTT ROAD	85	42	48	41	42	41
199-225 ABBOTT ROAD	179	72	90	77	94	75
49-67 ABBOTT ROAD	70	45	41	35	37	36
ABERFELDY ESTATE PHASE ONE BLOCK A	57	9	45	34	12	0
ABERFELDY ESTATE PHASE ONE BLOCK C	98	16	61	34	43	17
ABERFELDY ESTATE PHASE THREE BLOCK G	47	14	25	16	22	0
ABERFELDY ESTATE PHASE THREE BLOCK J	111	44	56	56	27	13
ABERFELDY ESTATE PHASE TWO BLOCK D	57	23	35	31	4	2
AILSA WHARF BLOCK A	45	12	21	20	42	16
AILSA WHARF BLOCK D	228	67	88	74	147	87
AILSA WHARF BLOCKS K L	62	10	27	11	25	14
ATELIER COURT	117	72	97	95	110	82
BALFRON TOWER	62	42	54	26	8	4
BROMLEY HALL	100	54	31	29	34	28
CARRADALE HOUSE	77	55	44	44	22	11
CULLODEN PRIMARY SCHOOL	90	16	21	0	43	15
DEWBERRY STREET 16-46	72	50	44	44	48	46
DEWBERRY STREET 2-14	44	17	25	19	37	34
DEVONS WHARF	169	42	91	77	69	51
JOSHUA STREET 1-15	77	28	31	23	26	16
JOSHUA STREET 17-33	55	36	36	34	33	30
JOSHUA STREET 35-41	30	15	17	17	19	16
JOSHUA STREET 4	4	0	2	2	1	0
JOSHUA STREET 6-14	27	10	17	17	20	15
LANSBURY GARDENS 2-12	43	30	18	18	22	22
LEVEN ROAD PHASE THREE	73	30	62	58	44	28
LOREN APPARTMENTS	26	15	18	16	26	13
MILLS GROVE 1-9	25	17	17	14	11	11
MILLS GROVE 12-20	25	5	15	14	8	2
MILLS GROVE 17-25	27	13	15	15	8	7
MILLS GROVE 2-10	25	7	15	14	9	5

MILLS GROVE 9-15	22	14	12	11	6	4
ST LEONARDS ROAD 118-132	40	22	23	23	9	8
ST LEONARDS ROAD 134-146	43	25	28	28	7	7
ST LEONARDS ROAD 148-154	20	10	10	10	4	3
SHERMAN HOUSE	69	48	43	43	35	35
ST.NICHOLAS CHURCH	59	35	31	31	37	33
WOOSTER GARDENS 1-7	33	10	16	14	29	16
WOOSTER GARDENS 9-15	20	19	16	16	16	16
TOTALS	2699	1197	1470	1257	1352	975

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy

Annex 2: Methodology and Baseline Results

Annex 3: Scenario Overviews and Window Maps

Annex 4: Daylight and Sunlight Results

Annex 5: Overshadowing Results

Annex 6: Solar Glare Results

BASELINE

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	01

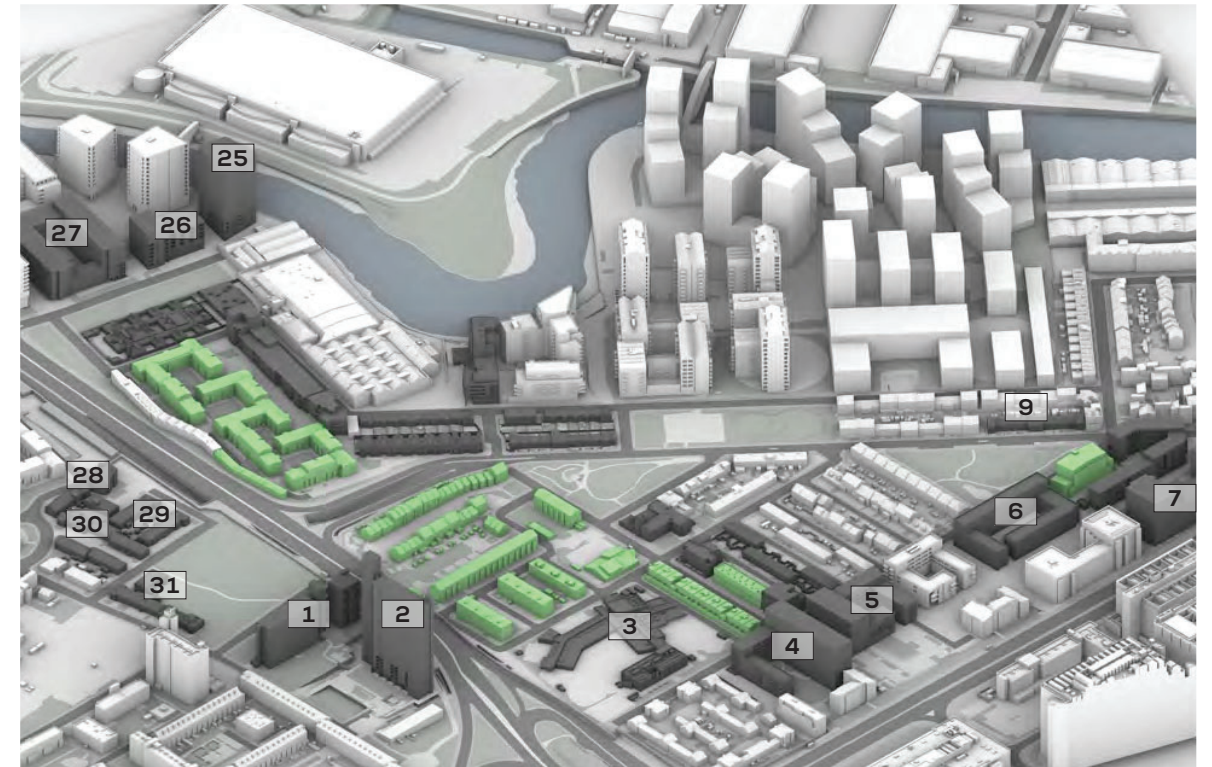
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Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	02-03



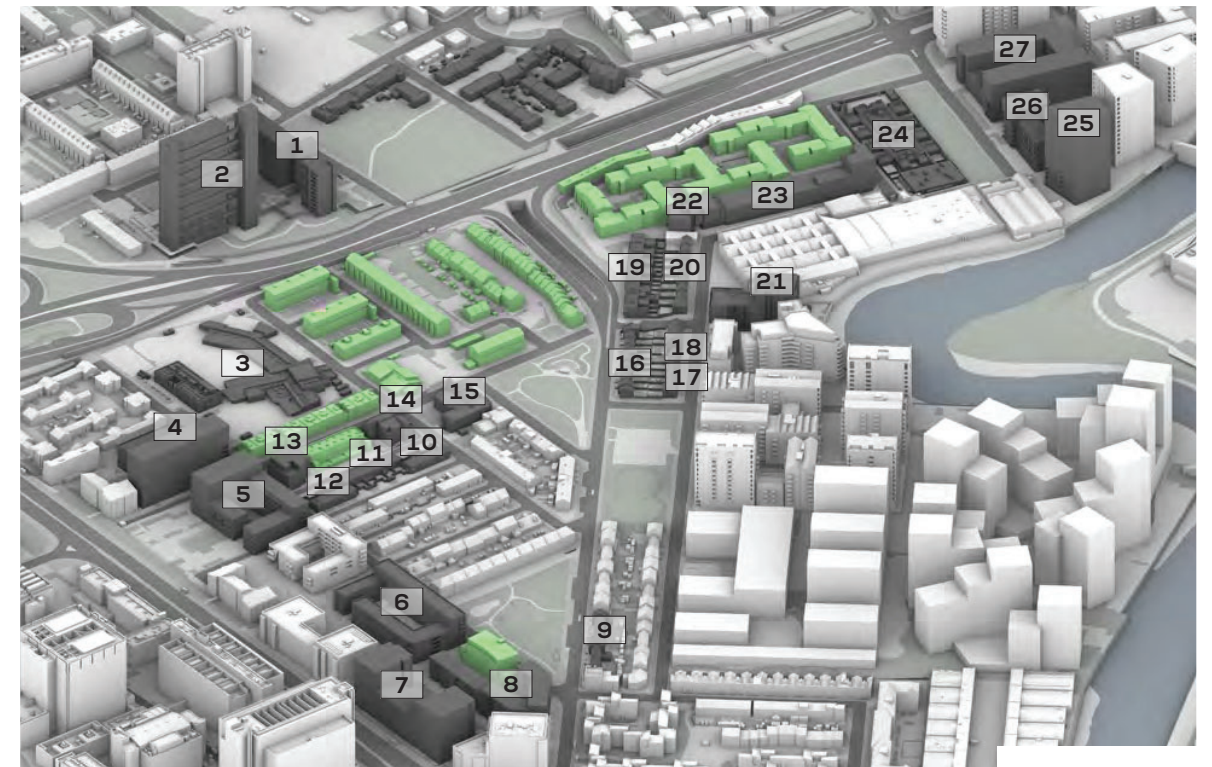
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NEIGHBOURS ADDRESSES

1 Carradale House	11 2-12 Lansbury Gardens	21 Devons Wharf
2 Balfroon Tower	12 1-7 Wooster Gardens	22 Leven Road Phase 3
3 Culloden Primary School	13 Loren Apartments (Aberfeldy Tavern)	23 Atelier Court
4 Aberfeldy Estate Phase 3 - Block J	14 Sherman House	24 Bromley Hall School
5 Aberfeldy Estate Phase 3 - Block G	15 St. Nicholas Church	25 Ailsa Wharf - Block A
6 Aberfeldy Estate Phase 2 - Block D	16 177-195 Abbott Road	26 Ailsa Wharf - Block D
7 Aberfeldy Estate Phase 1 - Block A	17 134-144 Leven Road	27 Ailsa Wharf - Blocks K-L
8 Aberfeldy Estate Phase 1 - Block C	18 128-132 Leven Road	28 1-14 & 16-46 Dewberry St
9 49-67 Abbott Road	19 199-225 Abbott Road	29 4, 6-14, 1-15, 17-33 & 35-41 Joshua St
10 9-15 Wooster Gardens	20 110-126 Leven Road	30 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove
		31 118-132, 134-146, 148-154 St Leonards Rd



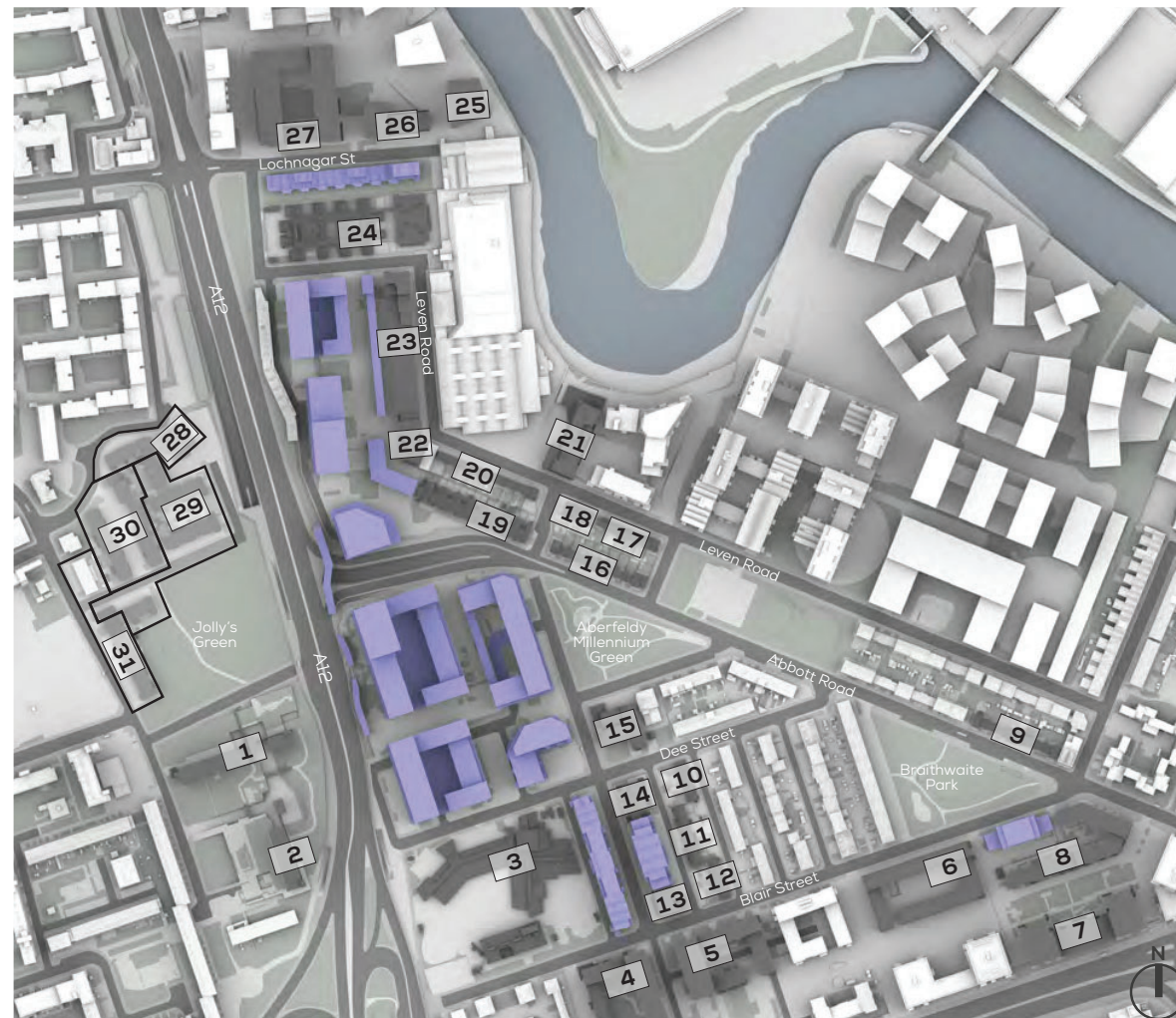
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MAX PARAMETER

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	04

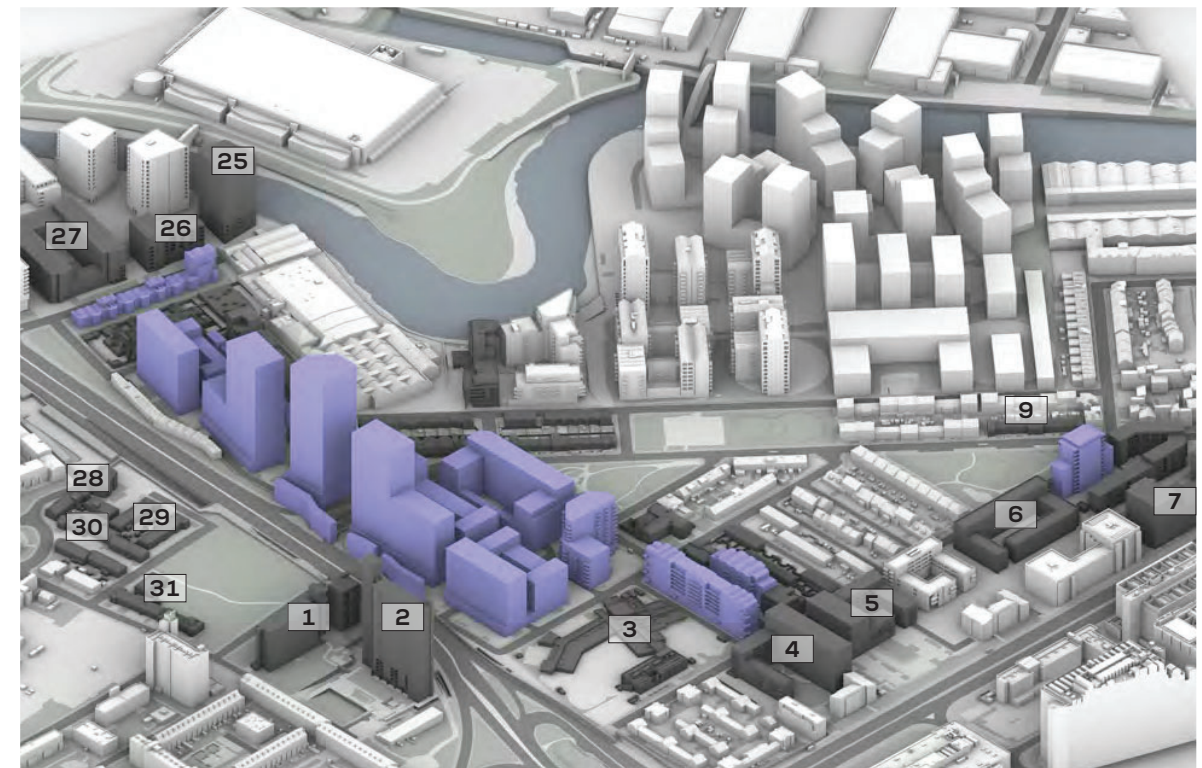


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NEIGHBOURS ADDRESSES

1 Carradale House	11 2-12 Lansbury Gardens	21 Devons Wharf
2 Balfroon Tower	12 1-7 Wooster Gardens	22 Leven Road Phase 3
3 Culloden Primary School	13 Loren Apartments (Aberfeldy Tavern)	23 Atelier Court
4 Aberfeldy Estate Phase 3 - Block J	14 Sherman House	24 Bromley Hall School
5 Aberfeldy Estate Phase 3 - Block G	15 St. Nicholas Church	25 Ailsa Wharf - Block A
6 Aberfeldy Estate Phase 2 - Block D	16 177-195 Abbott Road	26 Ailsa Wharf - Block D
7 Aberfeldy Estate Phase 1 - Block A	17 134-144 Leven Road	27 Ailsa Wharf - Blocks K-L
8 Aberfeldy Estate Phase 1 - Block C	18 128-132 Leven Road	28 1-14 & 16-46 Dewberry St
9 49-67 Abbott Road	19 199-225 Abbott Road	29 4, 6-14, 1-15, 17-33 & 35-41 Joshua St
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		31 118-132, 134-146, 148-154 St Leonards Rd

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Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	05-06



Drawing: 05

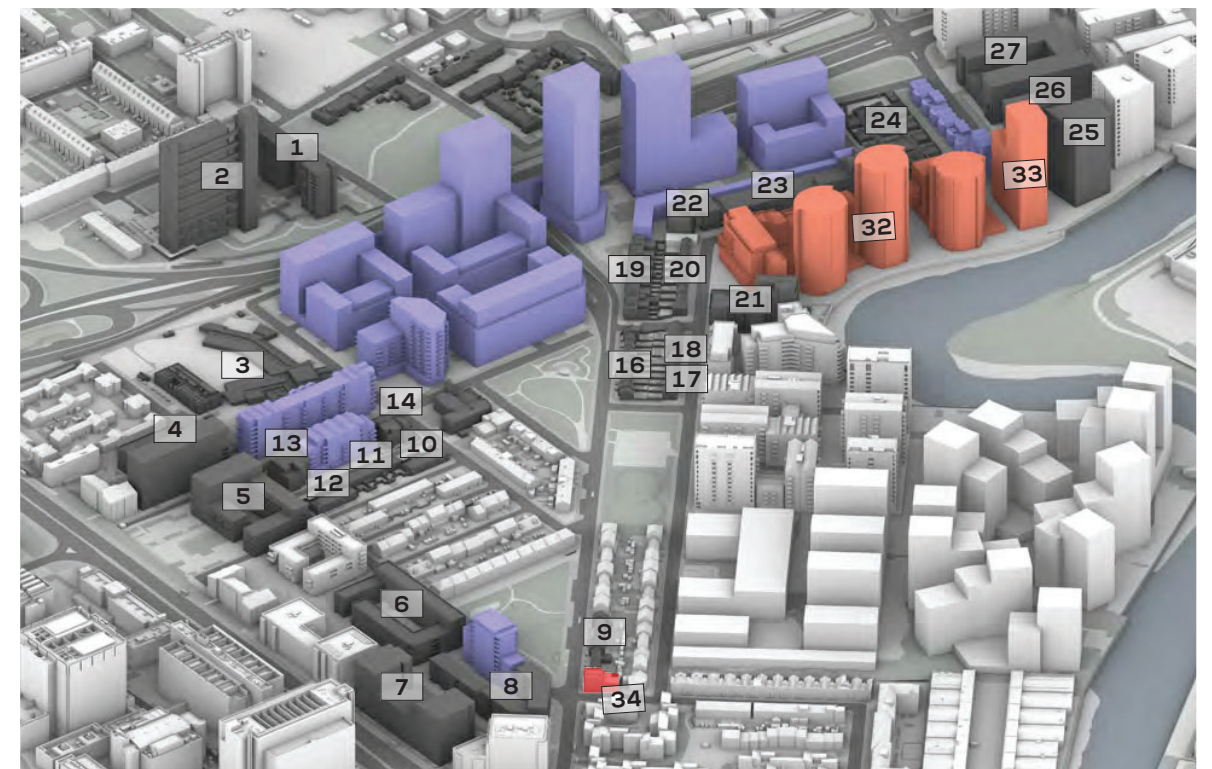
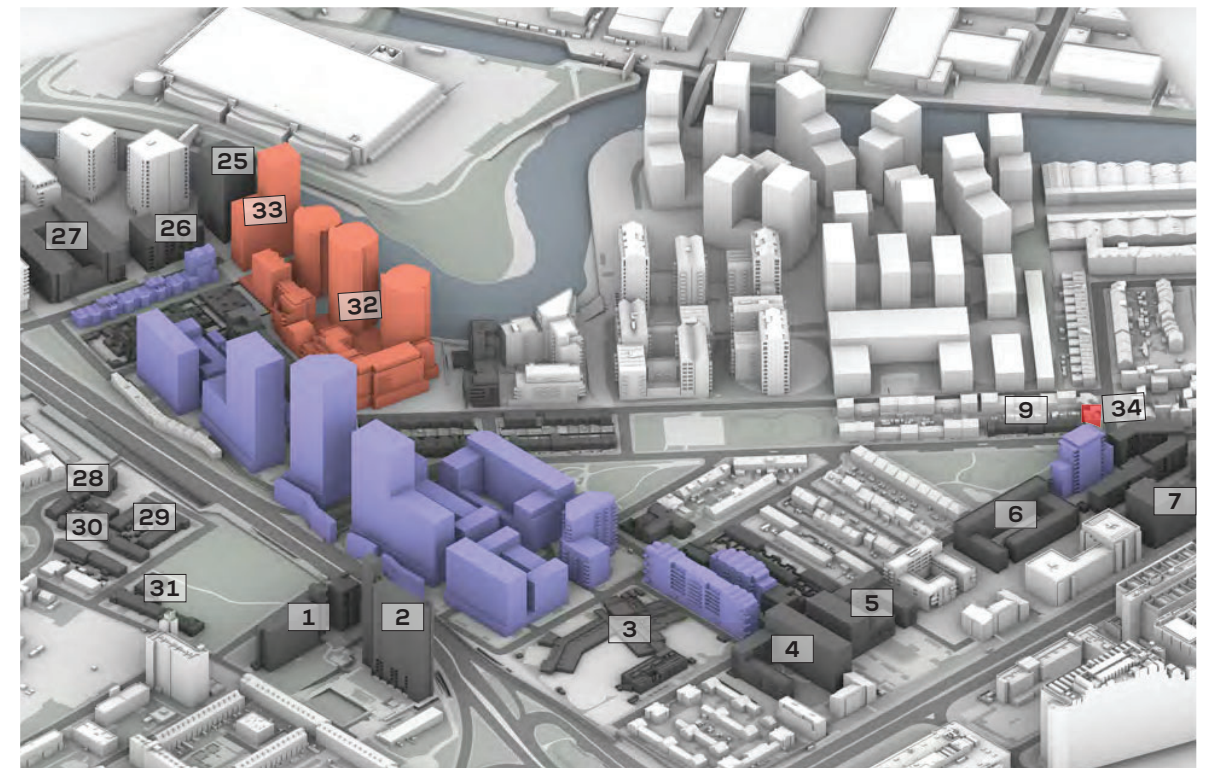


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3 OVERVIEWS - CUMULATIVE

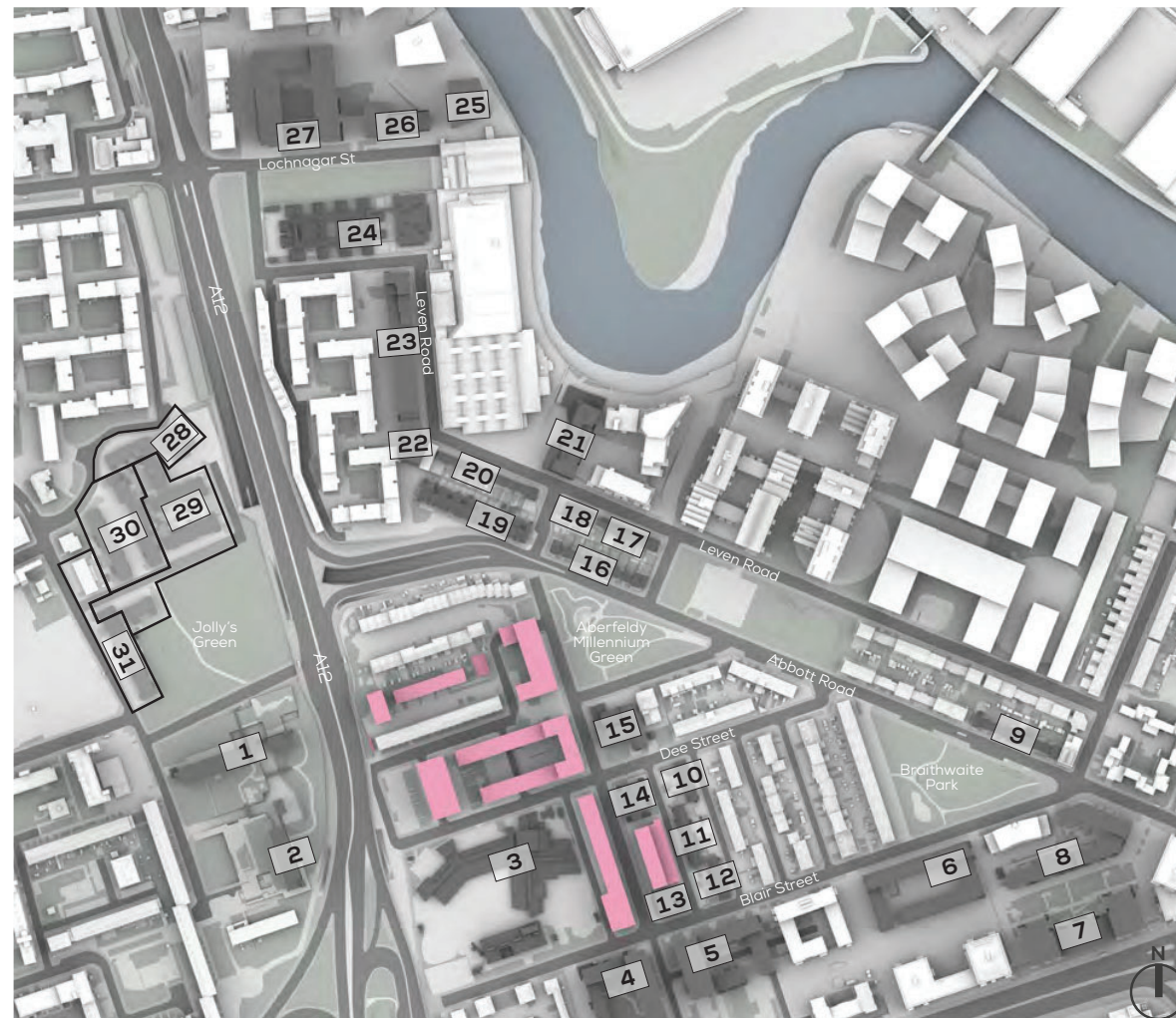


NEIGHBOURS ADDRESSES			
1 Carradale House	12 1-7 Wooster Gardens	23 Atelier Court	
2 Balfron Tower	13 Loren Apartments (Aberfeldy Tavern)	24 Bromley Hall School	
3 Culloden Primary School	14 Sherman House	25 Ailsa Wharf - Block A	
4 Aberfeldy Estate Phase 3 - Block J	15 St. Nicholas Church	26 Ailsa Wharf - Block D	
5 Aberfeldy Estate Phase 3 - Block G	16 177-195 Abbott Road	27 Ailsa Wharf - Blocks K-L	
6 Aberfeldy Estate Phase 2 - Block D	17 134-144 Leven Road	28 1-14 & 16-46 Dewberry St	
7 Aberfeldy Estate Phase 1 - Block A	18 128-132 Leven Road	29 4, 6-14, 1-15, 17-33 & 35-41 Joshua St	
8 Aberfeldy Estate Phase 1 - Block C	19 199-225 Abbott Road	30 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove	
9 49-67 Abbott Road	20 110-126 Leven Road	31 118-132, 134-146, 148-154 St Leonards Rd	
10 9-15 Wooster Gardens	21 Devons Wharf	32 Former Poplar Bus Depot	
11 2-12 Lansbury Gardens	22 Leven Road Phase 3	33 Islay Wharf	
		34 45-47 Abbott Road	



CONSENTED

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	10

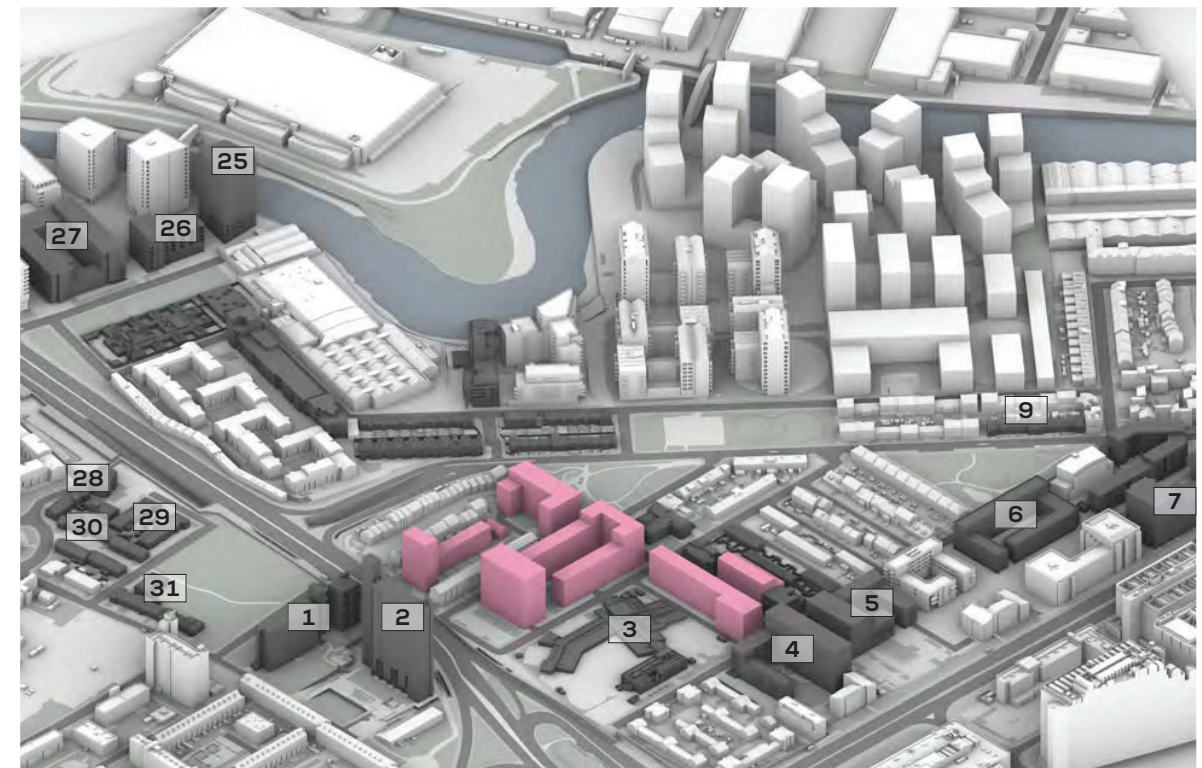


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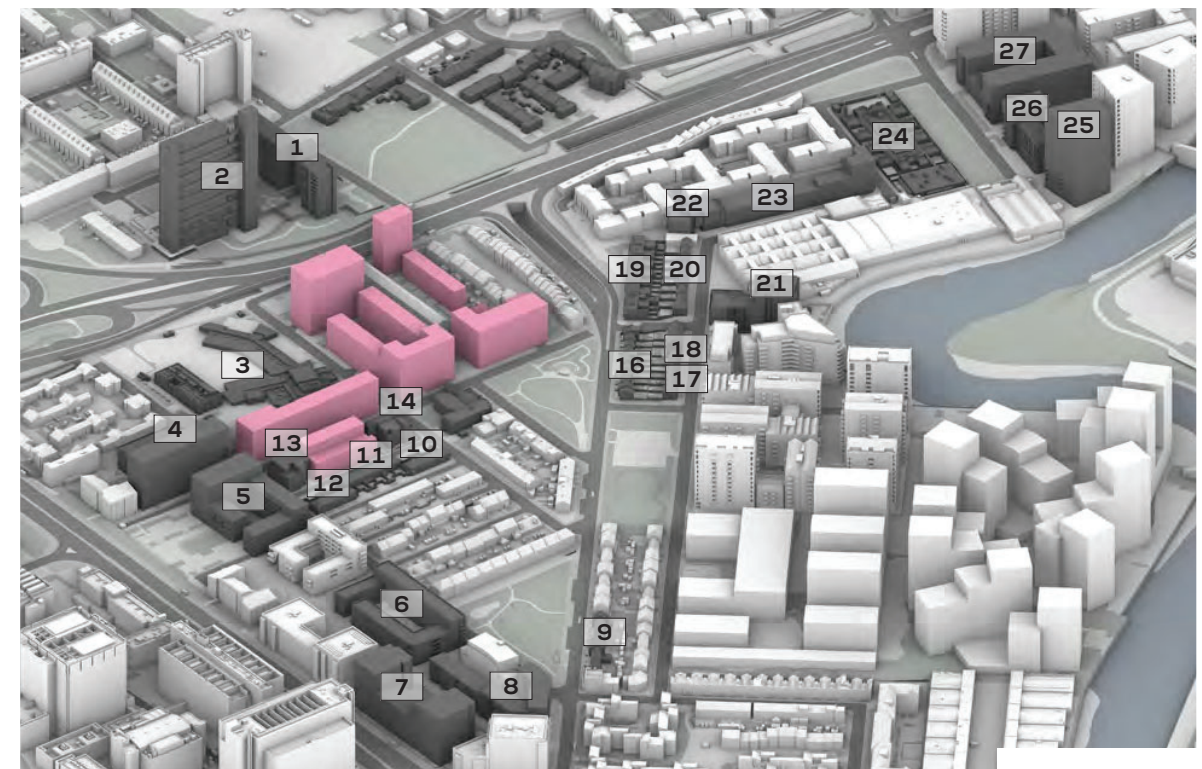
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1 Carradale House	11 2-12 Lansbury Gardens	21 Devons Wharf
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3 Culloden Primary School	13 Loren Apartments (Aberfeldy Tavern)	23 Atelier Court
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5 Aberfeldy Estate Phase 3 - Block G	15 St. Nicholas Church	25 Ailsa Wharf - Block A
6 Aberfeldy Estate Phase 2 - Block D	16 177-195 Abbott Road	26 Ailsa Wharf - Block D
7 Aberfeldy Estate Phase 1 - Block A	17 134-144 Leven Road	27 Ailsa Wharf - Blocks K-L
8 Aberfeldy Estate Phase 1 - Block C	18 128-132 Leven Road	28 1-14 & 16-46 Dewberry St
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Date:	13/10/2021
Drawing no.:	11-12



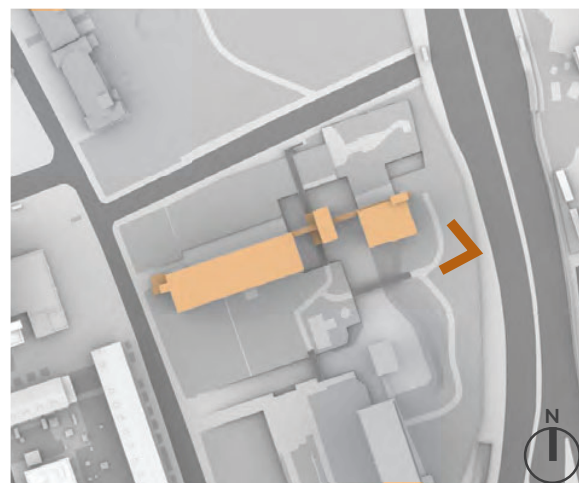
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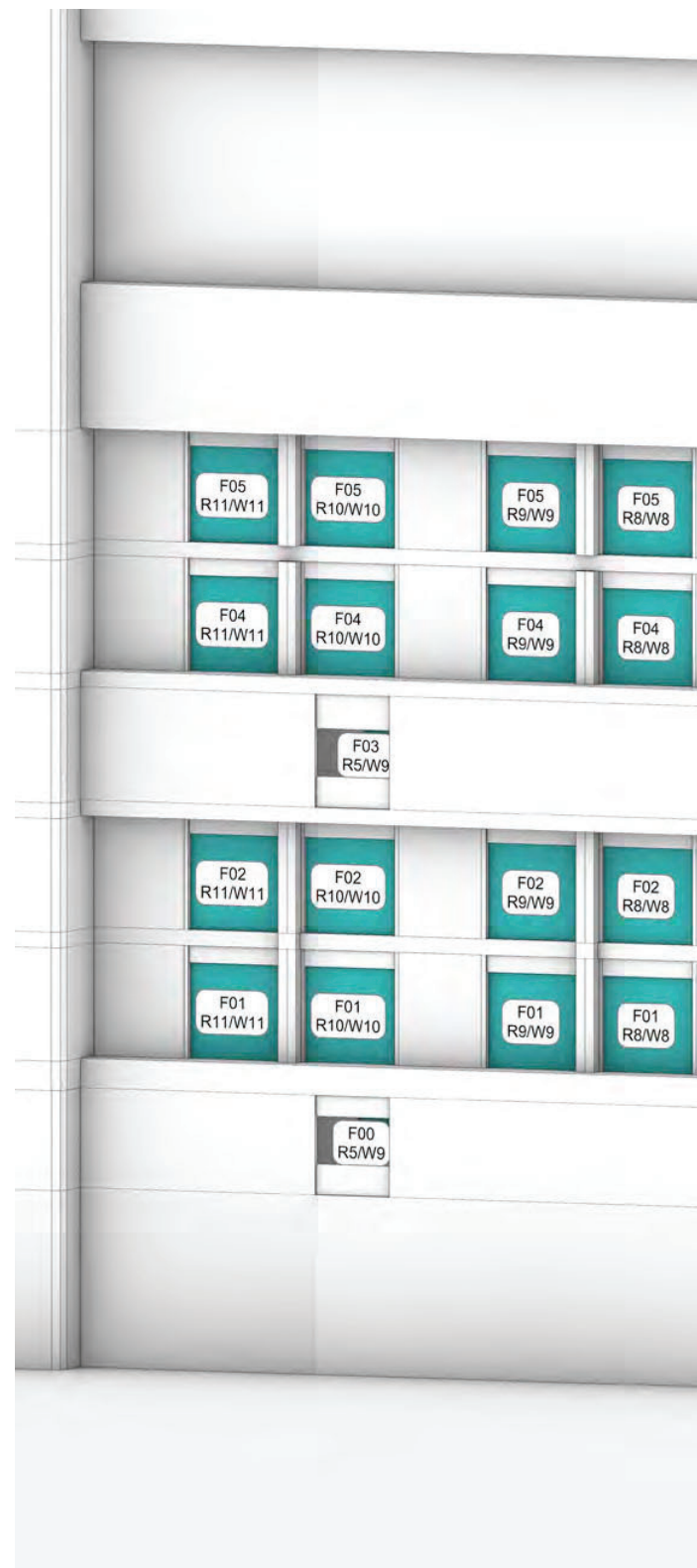
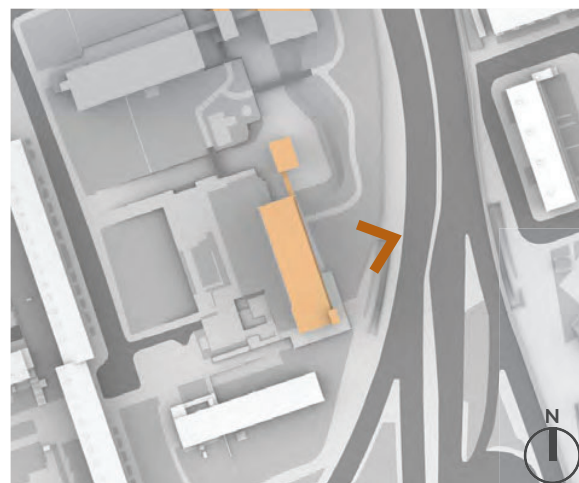
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WINDOW MAPS

1. Carradale House



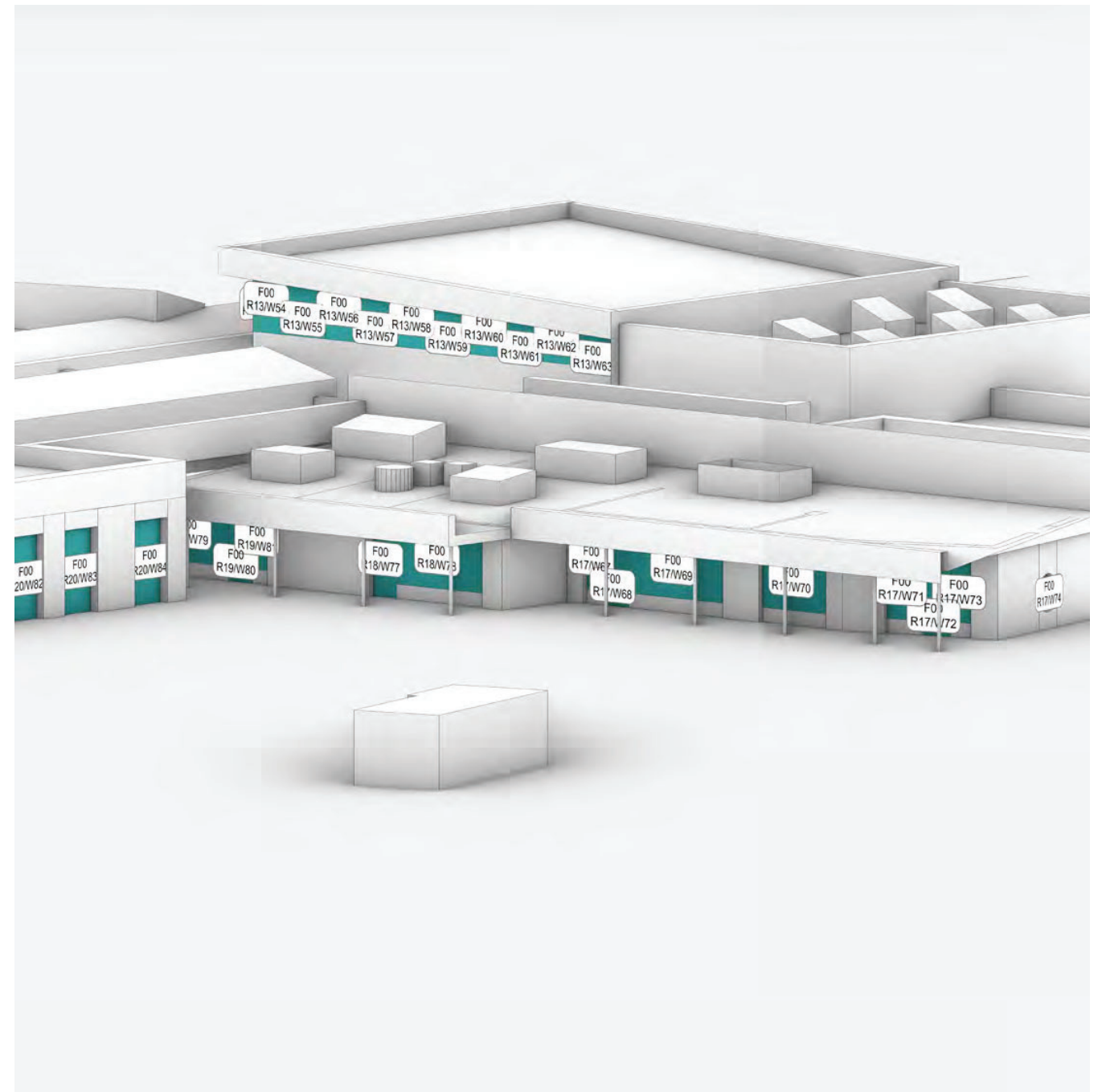
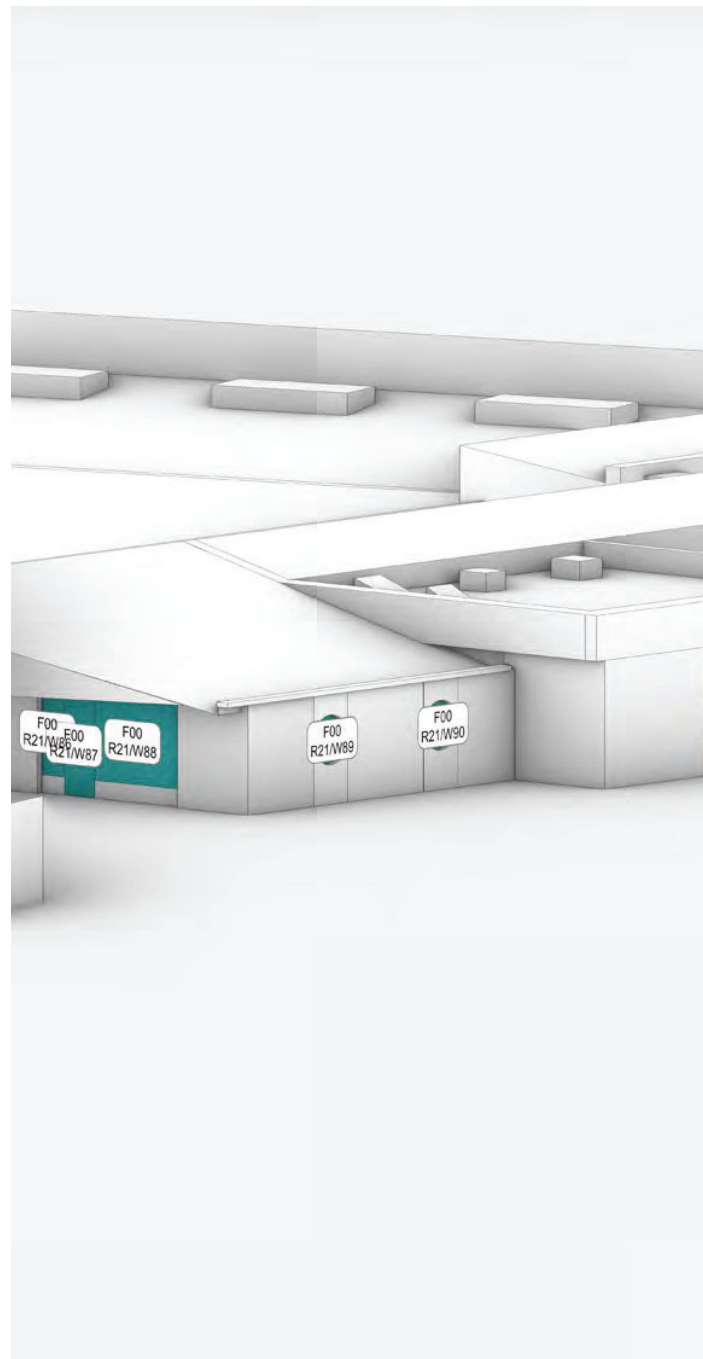
2. Balfroun Tower



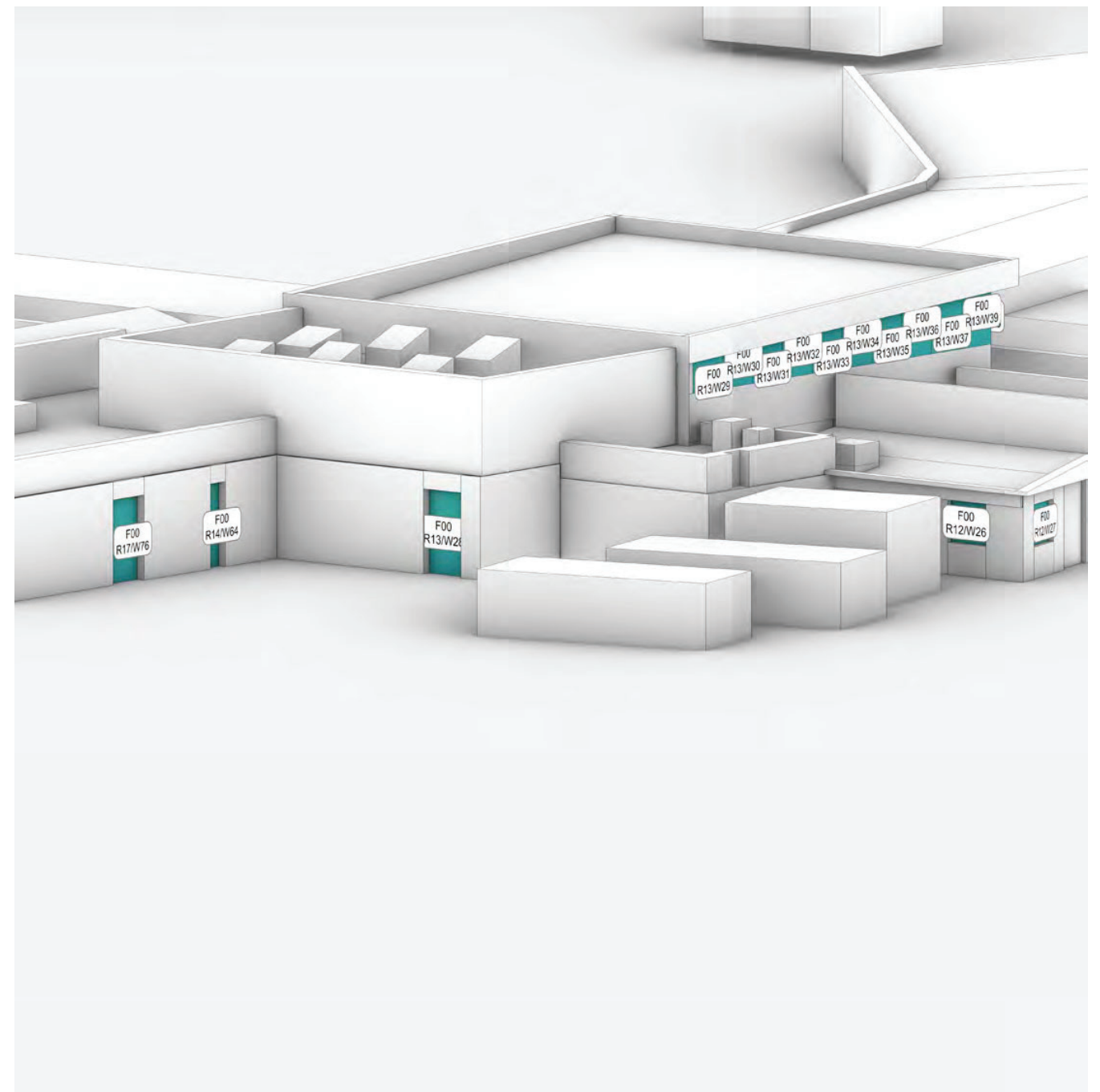
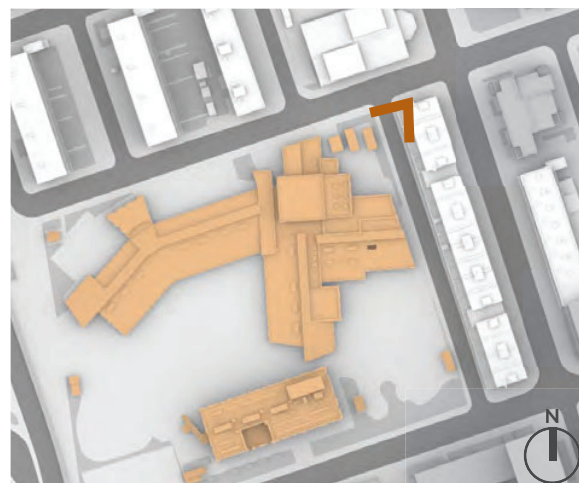
2. Balfrou Tower



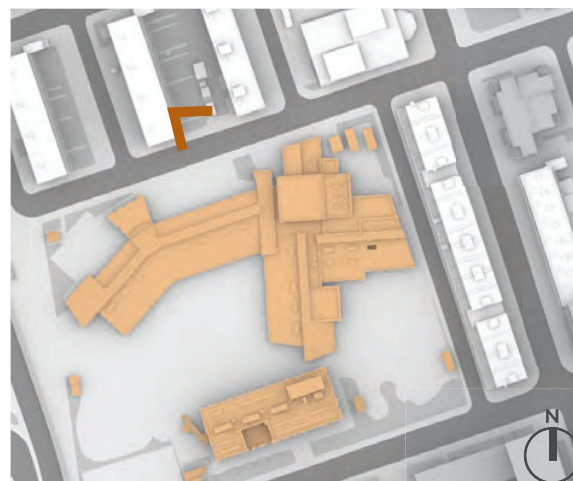
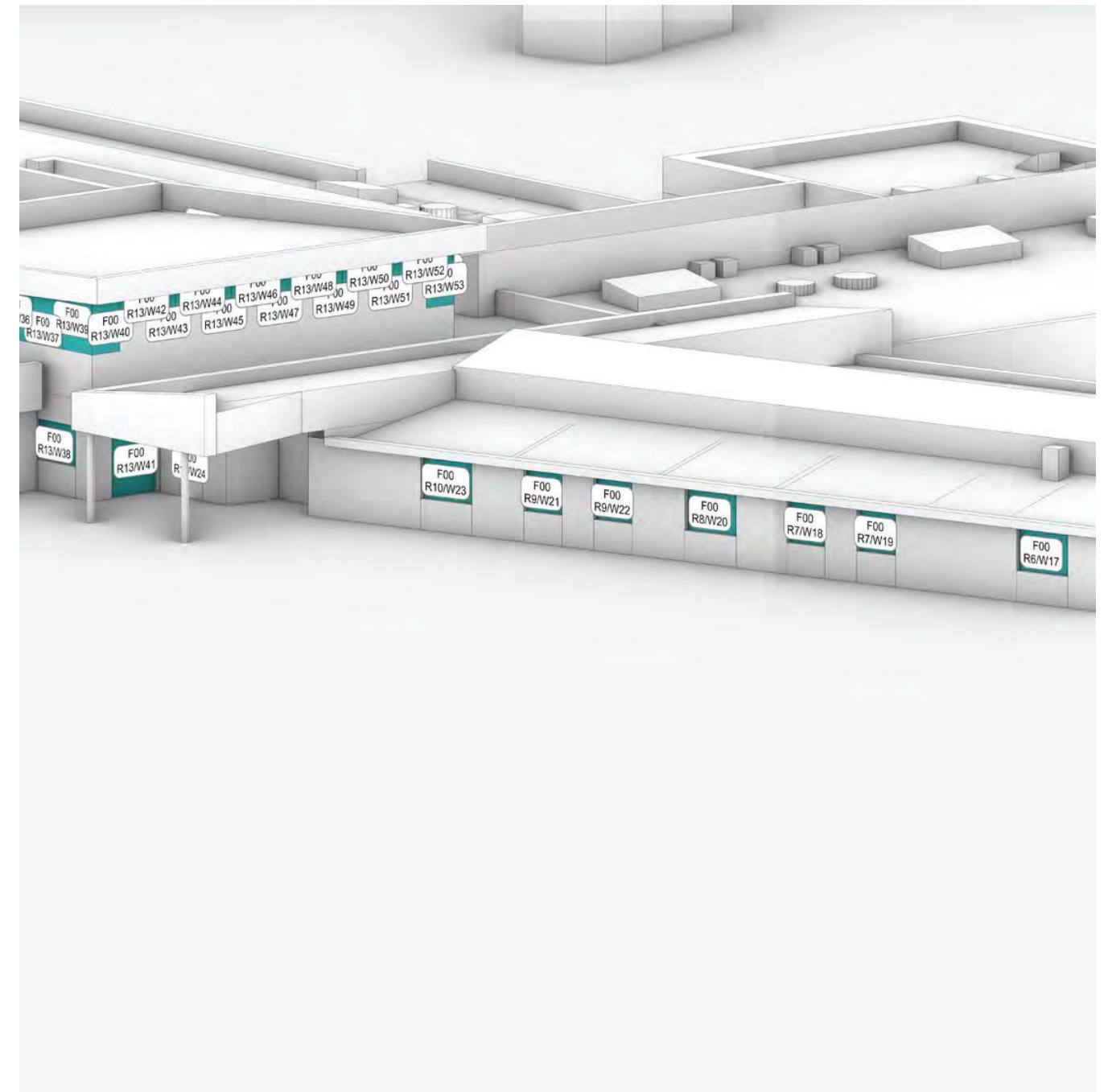
3. Culloden Primary School



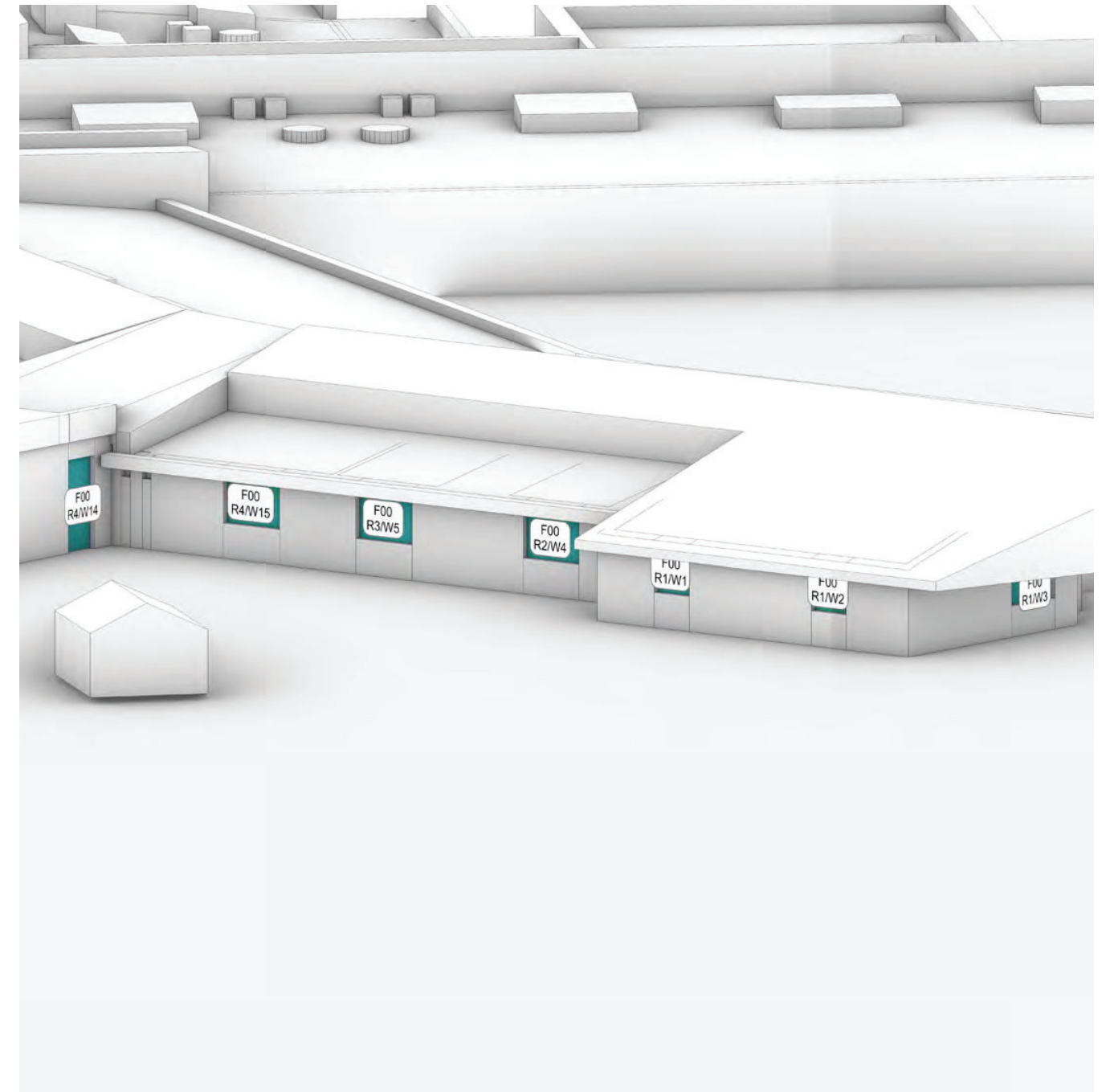
3. Culloden Primary School



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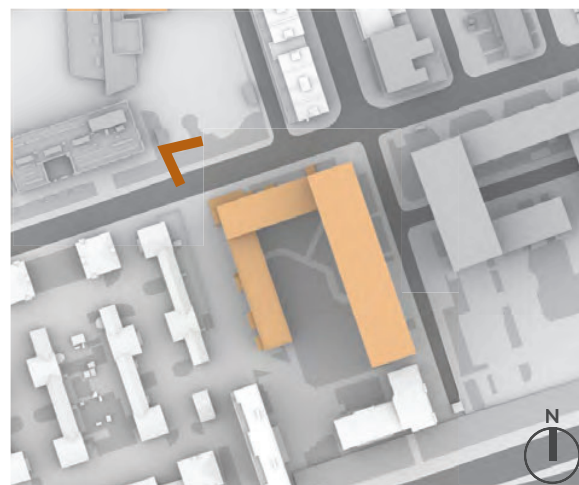
3. Culloden Primary School



4. Aberfeldy Estate Phase 3 - Block J



4. Aberfeldy Estate Phase 3 - Block J



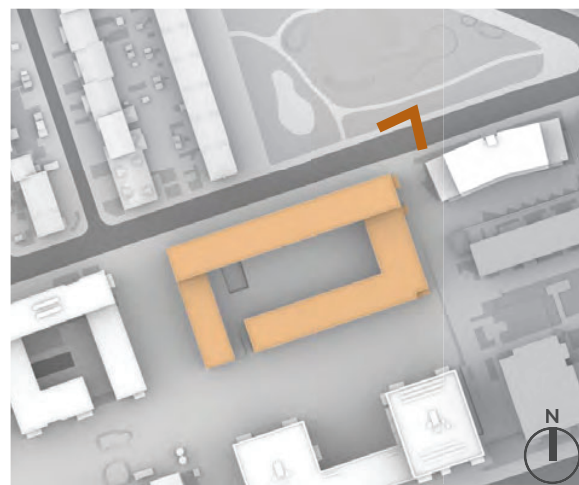
5. Aberfeldy Estate Phase 3 - Block G



5. Aberfeldy Estate Phase 3 - Block G



6. Aberfeldy Estate Phase 2 - Block D



6. Aberfeldy Estate Phase 2 - Block D

