Waltham Forest

GREATER**LONDON**AUTHORITY

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1. Project & Site Details

Project / Site Name (including sub-catchment / stage / phase where appropriate)	Uplands Business Park (outline site)
Address & post code	Blackhorse Ln, London E17 5QN
OS Grid ref. (Easting, Northing)	E 535695
	N 189846
LPA reference (if applicable)	
Brief description of proposed work	Redevelopment of Uplands buisness park into light industry and residential flats
Total site Area	39000 m^2
Total existing impervious area	39000 m^2
Total proposed impervious area	39000 m^2
Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	No
Existing drainage connection type and location	Pumped/gravity connection to sewer under Goldsmith Street
Designer Name	Luke Boustead
Designer Position	Senior Engineer
Designer Company	Meinhardt

2. Proposed Discharge Arrangements

2a. Infiltration Feasibility

Superficial geology classification	Alluviam - Clay, Silt, S
Bedrock geology classification	London Clay
Site infiltration rate	1.12x10 m/s
Depth to groundwater level	m below ground level
Is infiltration feasible?	No

2b. Drainage Hierarchy

	Feasible (Y/N)	*Proposed (Y/N)*
1 store rainwater for later use	N	N
2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
3 attenuate rainwater in ponds or open water features for gradual release	N	N
4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
5 discharge rainwater direct to a watercourse	Y	Y
6 discharge rainwater to a surface water sewer/drain	N	N
7 discharge rainwater to the combined sewer.		

2c. Proposed Discharge Details

Proposed discharge location	blic surface water sewer under Goldmith Str
Has the owner/regulator of the discharge location been consulted?	Yes

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3. Drainage Strategy

3a. Discharge Rates & Required Storage

	Greenfield (GF) runoff rate (l/s)	*Existing discharge rate (l/s)*	*Required storage for GF rate (m^3)*	*Proposed discharge rate (l/s)*
Qbar	6.5			
1 in 1				6.5
1 in 30				6.5
1 in 100				6.5
1 in 100 + CC				6.5
Climate change allowance used		40%		
3b. Principal Method of Flow Control		Vortex flow control		

3c. Proposed SuDS Measures

	Catchment area (m^2)	*Plan area (m^2)*	*Storage vol. (m^3)*
Rainwater harvesting	0		0
Infiltration systems	0		0
Green roofs	0	0	0
Blue roofs	0	0	1998
Filter strips	0	0	0
Filter drains	0	0	0
Bioretention / tree pits	0	0	0
Pervious pavements	0	0	0
Swales	0	0	0
Basins/ponds	0	0	0
Attenuation tanks	0		3162
Total	**0**	**0**	**5160**

4. Supporting Information

4a. Discharge & Drainage Strategy	*Page/section of drainage report*
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Detailed in section 8.2
Drainage hierarchy (2b)	Detailed in section 8.2
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Detailed in section 8.2
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Detailed in section 8.2 and Appendix
Proposed SuDS measures & specifications (3b)	Detailed in section 8.2
4b. Other Supporting Details	*Page/section of drainage report*
Detailed Development Layout	Detailed in Appendix
Detailed drainage design drawings, including exceedance flow routes	Detailed in Appendix
Detailed landscaping plans	Detailed in Appendix
Maintenance strategy	Detailed in Section 9
Demonstration of how the proposed SuDS measures improve:	Detailed in section 8.2
a) water quality of the runoff?	
b) biodiversity?	
c) amenity?	

Appendix E – Architects Plans

ILLUSTRATIVE PLAN LOCATION

Meinhardt (UK) Ltd
10 Aldersgate Street
London
EC1A 4HJ
T: +44 (0) 20 7831 7969
www.meinhardt. co.uk

Appendix B: Wind Technical Note

Unit 1, Tilers Road
Milton Keynes, Buckinghamshire
MK11 3LH, United Kingdom

Tel: +44 (0)1908 776970
Fax: +44 (0)1582 470259
E-mail: solutions@rwdi.com

STATEMENT OF CONFORMITY

DATE:	2023-01-12	**RWDI REFERENCE #:** 2004108
TO:	**Vanessa Thorpe** Technical Director Trium Environmental Consulting LLP	**EMAIL:** vanessa.thorpe@triumenv.co.uk
FROM:	**Jeniffer Lowther** Senior Project Engineer **Aimee Crook** Project Manager	**Email:** jeniffer.lowther@rwdi.com aimee.crook@rwdi.com
RE:	**Aberfeldy – Removal of Block A3** **London, UK**	

Introduction

Based upon updated drawings received on 14th September 2022, RWDI has been appointed to qualitatively assess the potential changes to the wind microclimate due to the removal of Block A3 of the proposed Aberfeldy development. In addition to the removal of Block A3, additional amenity and landscaping is proposed. RWDI has familiarity with the project, having assessed the hybrid scheme (RWDI #2004108) for the October 2021 submission and April 2022 Addendum. The general findings indicated the requirement for mitigation measures in the hybrid scheme assessment, including the requirement for mitigation measures to the west of Block A3, which formed part of the outline component at the time. Mitigation was demonstrated in the outline component however the final mitigation strategy would be determined through further wind tunnel testing at the RMA stages alongside the detailed design of these Blocks.

Reported Wind Conditions (October 2021 Submission and April 2022 Addendum)

Wind conditions around Block A3 were generally calm and had wind conditions suitable for the intended use without any landscaping or mitigation measures in situ in the context of existing surrounding buildings (Configuration 4 of the October 2020 submission). However, to the west of Block A3, windier conditions would occur between Blocks A1/A2 and B1, which would be unsuitable for the intended use (probe locations 305, 306, 335 and 339) and in some cases exceed the safety threshold (probe locations 306, 337, 338, 340 and 447). These probe locations are shown in the appended figures, which are figures 20 and

24 of the October 2021 submission. These windier conditions would be due to prevailing winds channelling between the two buildings.

Mitigation measures were developed through further wind tunnel testing of the illustrative scheme (Configuration 5 of the October 2021 submission). The results for the windiest season and safety exceedances have also been appended (Figures 27 and 31 of the October 2021 submission). In addition to the proposed landscaping the following measures formed the mitigation strategy around Block A1/A2 and Block B1:

- 2x evergreen 6m tall evergreen trees with shrubs 1m in height underneath at the north-western corner of Block A;
- 2x evergreen 6m tall trees with shrubs 1m in height underneath along the northern elevation of Block B1; and
- 1x deciduous 6m tall tree with shrubs 1m in height underneath at the centre of the southern elevation of Block A.

With these measures in situ, all wind conditions in the area would be suitable for the intended use with the exception of the northern entrance to Block B1 (probe location 306) and a western entrance to Block A3 (probe location 309). Mitigation measures were recommended qualitatively in the October 2021 submission, noting that as the strategy for the outline component would likely evolve as the detailed design develops, further wind tunnel testing would be undertaken to inform the later reserved matters applications and mitigation developed where necessary.

The April 2022 addendum focused on Jolly's Gren and Ailsa Wharf and did not impact wind conditions around Block A3.

Revised Proposals

The revised proposals comprise the removal of Block A3 to be replaced with amenity spaces (Plot A Linear Park, see Figure 1). The area will be landscaped with trees of up to 7m in height, and a variety of amenity areas would be provided in the form of picnic areas, play areas and seating. The proposed landscaping and mitigation measures around Block A1/A2 and Block B1 would not be changed.

Expected Wind Conditions

The removal of Block A3 may reduce the amount of blockage to the wind which is being channelled between Blocks A1/A2 and B1, therefore may lead to a slight increase in acceleration in these areas. However, the introduction of dense landscaping in the form of trees and hedging to the west of this channel (in place of Block A3) would also act as a form of blockage, and therefore is likely to have a similar effect. It is recommended that the trees to the west range between 4m and 7m in height, and that planters or hedges are

included at ground level to reduce the effective length of the clear stem of the trees. Evergreen varieties or species with large dense crowns is also recommended. It is expected with these measures in place, wind conditions would be materially the same as reported in the October 2021 submission. This will be confirmed at the RMA stage through further wind tunnel testing.

The introduction of the amenity spaces instead of Block A3 introduces new intended uses in comparison to the October 2021 assessment. None of the amenity spaces are being proposed as bistro seating, therefore wind conditions would be required to be suitable for sitting use at seating areas and standing use at active amenity areas (as defined by the Lawson Comfort Criteria). These spaces are generally well sheltered to the west by trees and hedging, in particular the play area and northernmost picnic area. The northern allotments and seating area should also be well sheltered by the landscaping and Blocks A1/A1. The southern picnic area should receive shelter from Block B1 as well as the trees located to the north-west and south-west. However, this space would receive less direct shelter in comparison to the other spaces, therefore may benefit from a hedge or planter of 1m total height located at the west of the picnic area. It is expected with the proposed landscaping and additional landscaping suggestions wind conditions would be suitable for the intended amenity uses, however, this will be confirmed at the RMA stage through further wind tunnel testing.

Figure 1: Illustrative Plan for the new Amenity Area ("AVL-LDA-SBX-XX-XX-DR-L-004.pdf" received 12th January 2023).

Conclusion

RWDI have reviewed the proposed changes and provided a qualitative assessment of likely wind conditions using professional judgement informed by the previous wind microclimate assessment (for the October 2021 submission).

It is expected that with the proposed landscaping in situ wind conditions around Block A3 would not materially change from that presented in the October 2021 results. The new amenity spaces which would replace Block A3 would be expected to have wind conditions suitable for the intended uses with the inclusion of the proposed landscaping and additional recommended landscaping suggestions. As for the October 2021 submission, wind conditions in the outline component will be confirmed at the RMA stage through further wind tunnel testing.

Yours sincerely,

Aimee Crook
Project Manager

Jeniffer Lowther
Senior Project Engineer

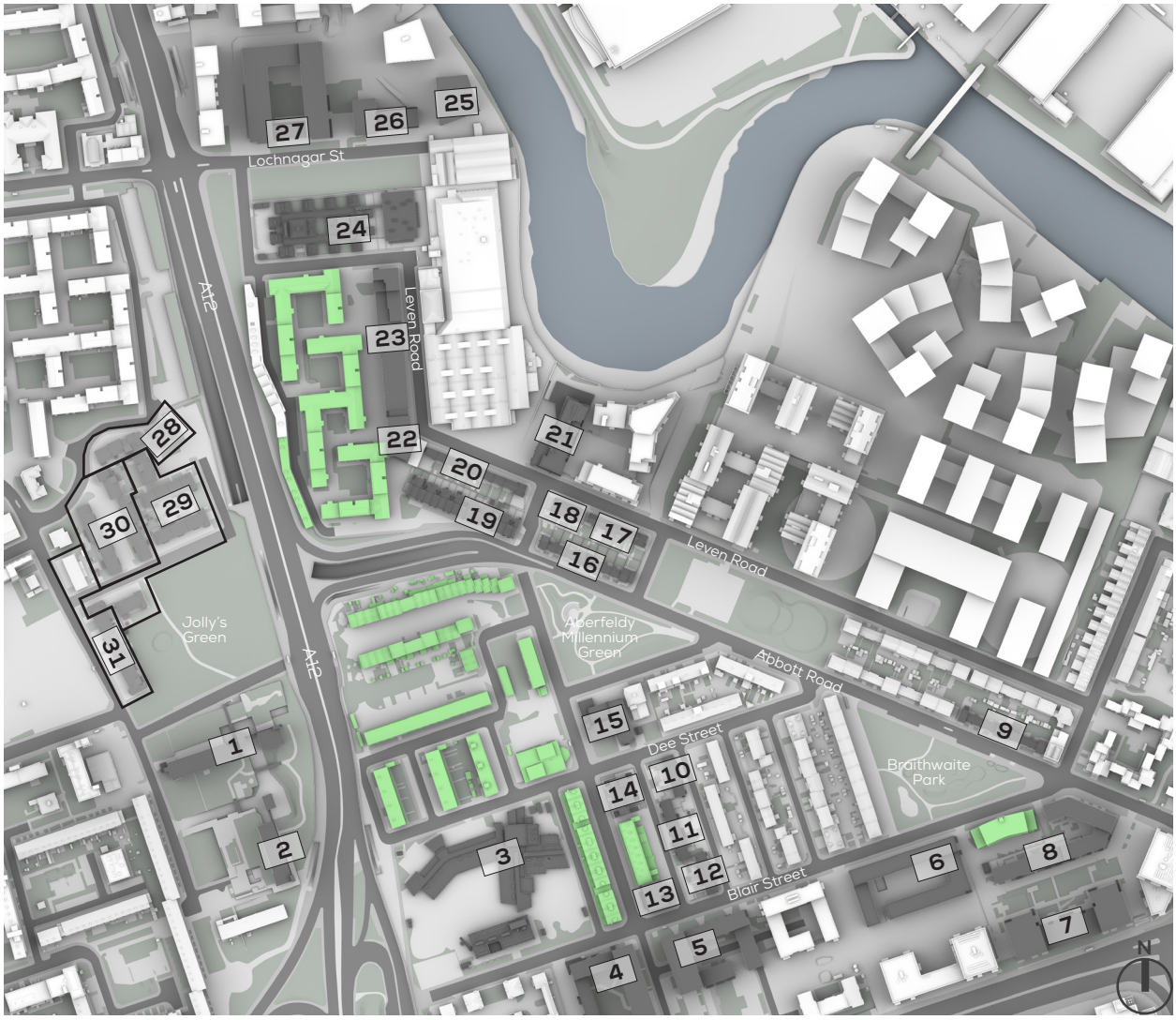
Appendix C: Daylight, Sunlight and Overshadowing

Annex 1

Updated Scenario Overviews

BASELINE

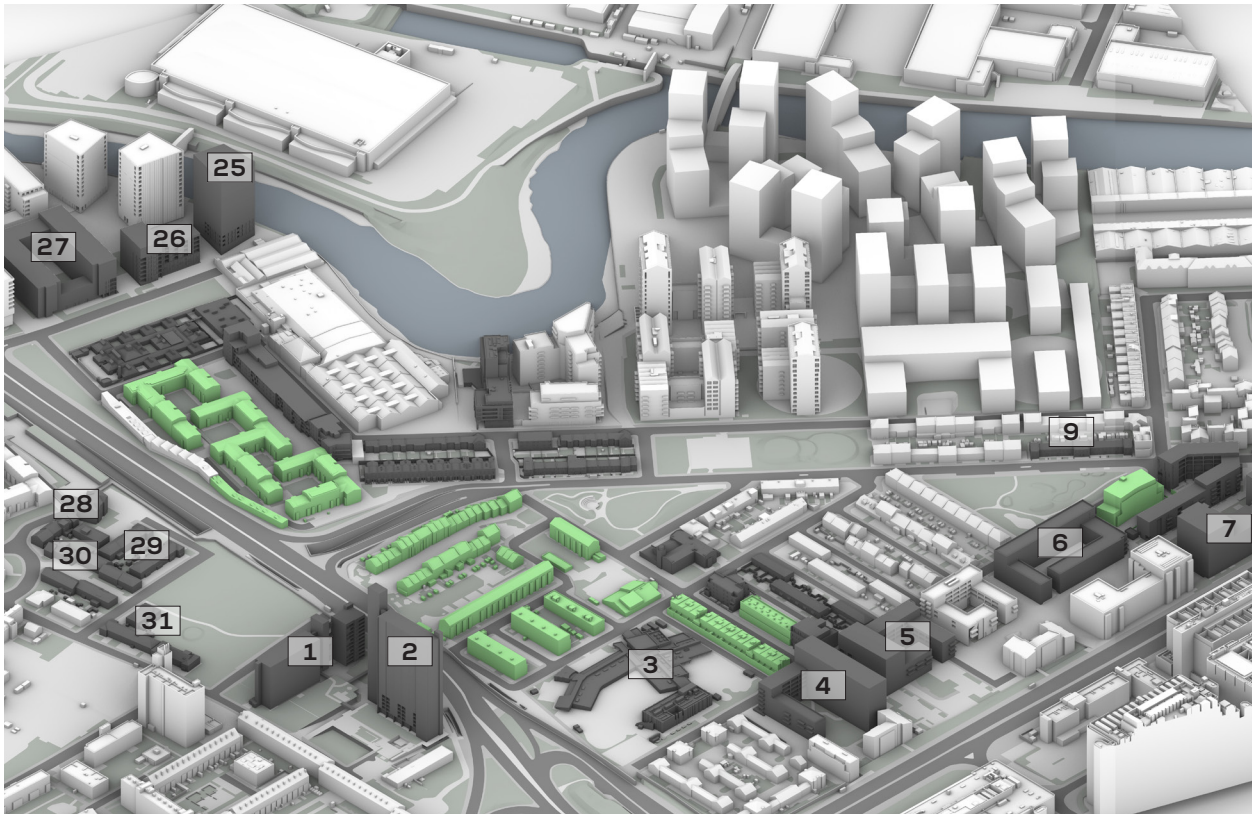
Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	01



Drawing: 01

NEIGHBOURS ADDRESSES					
1	Carradale House	11	2-12 Lansbury Gardens	21	Devons Wharf
2	Balfron 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

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	02-03



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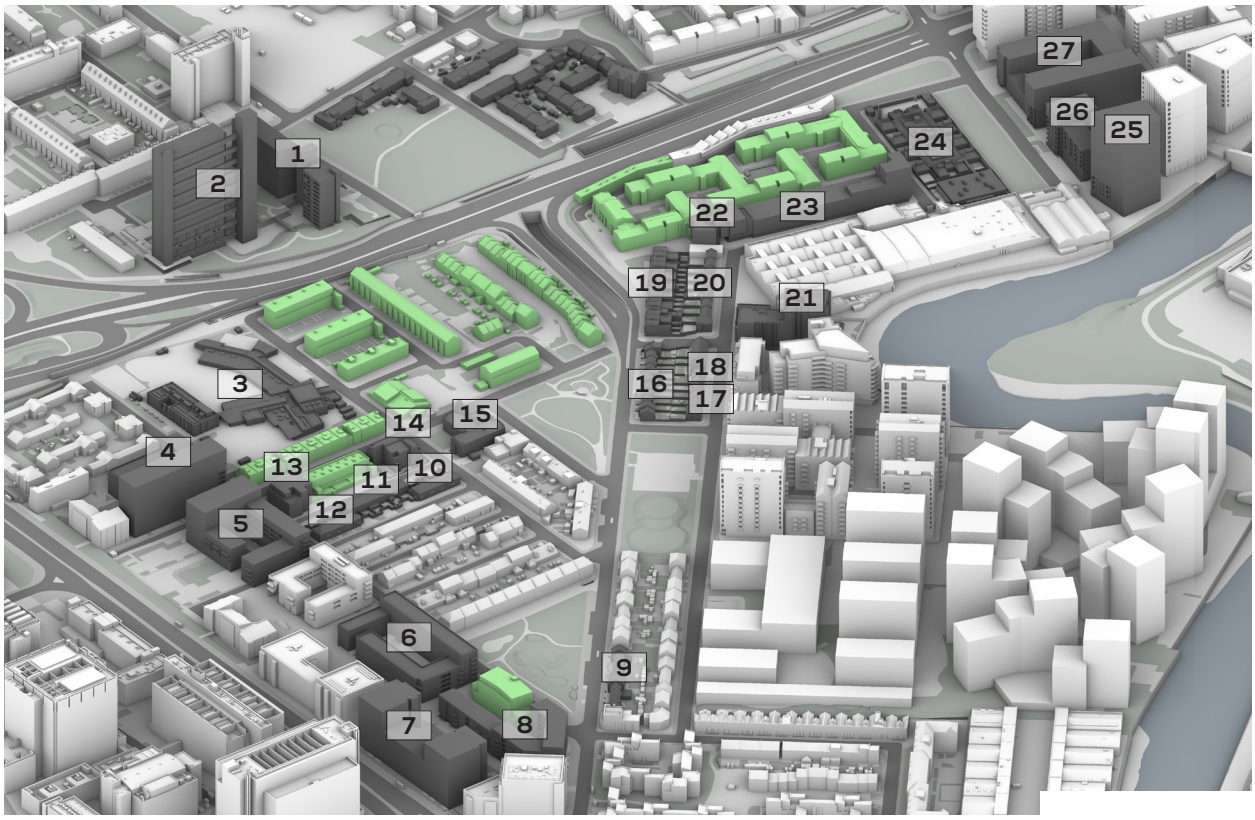
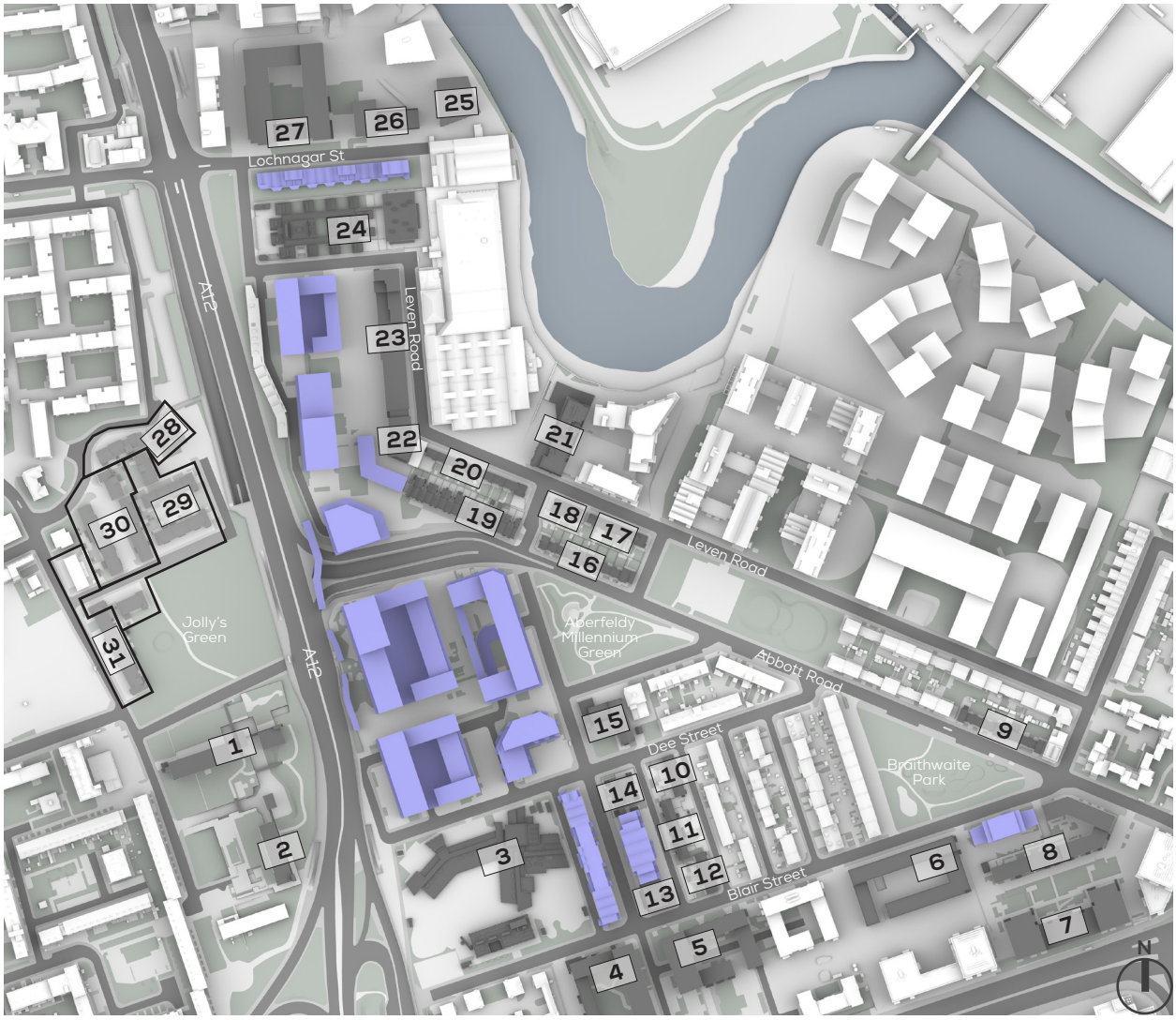


Drawing: 03

BASE SCHEME (A3 REMOVED)

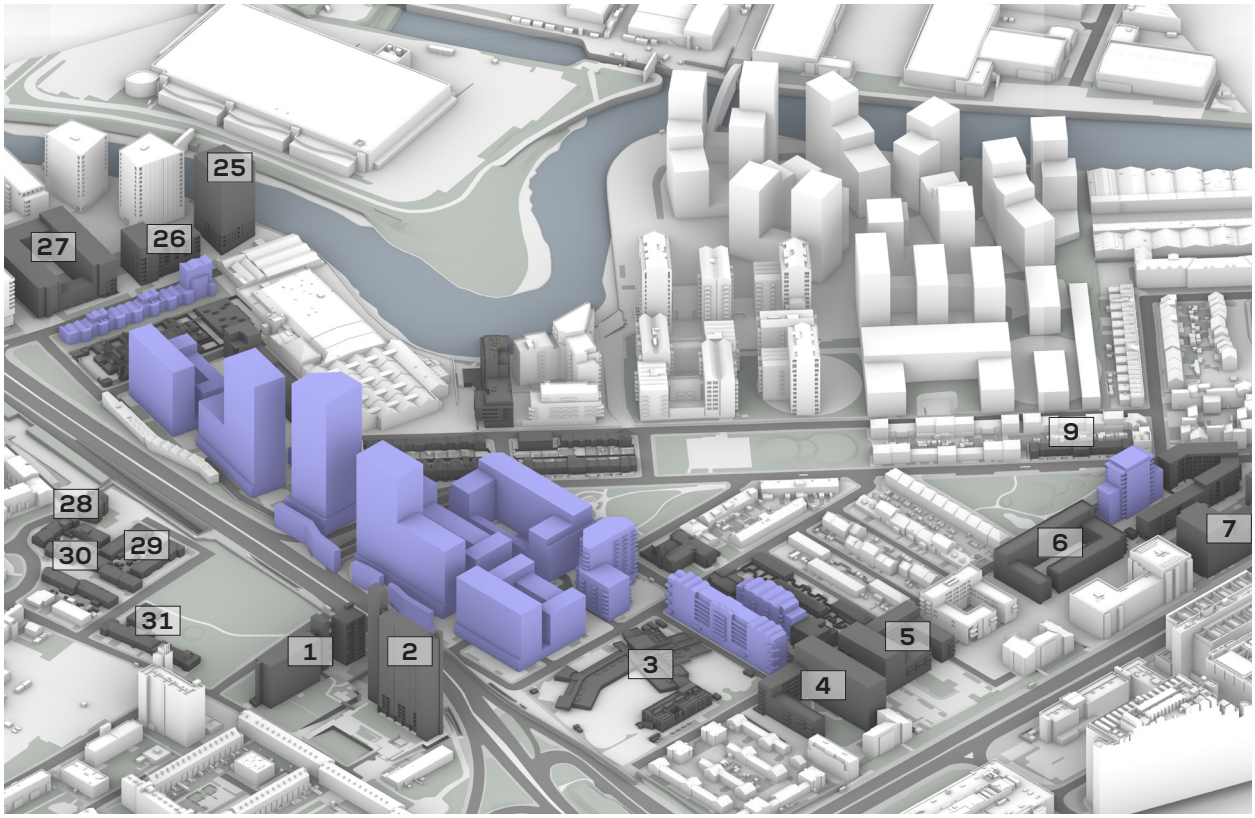
Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	04



Drawing: 04

NEIGHBOURS ADDRESSES					
1	Carradale House	11	2-12 Lansbury Gardens	21	Devons Wharf
2	Balfron 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

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	05-06



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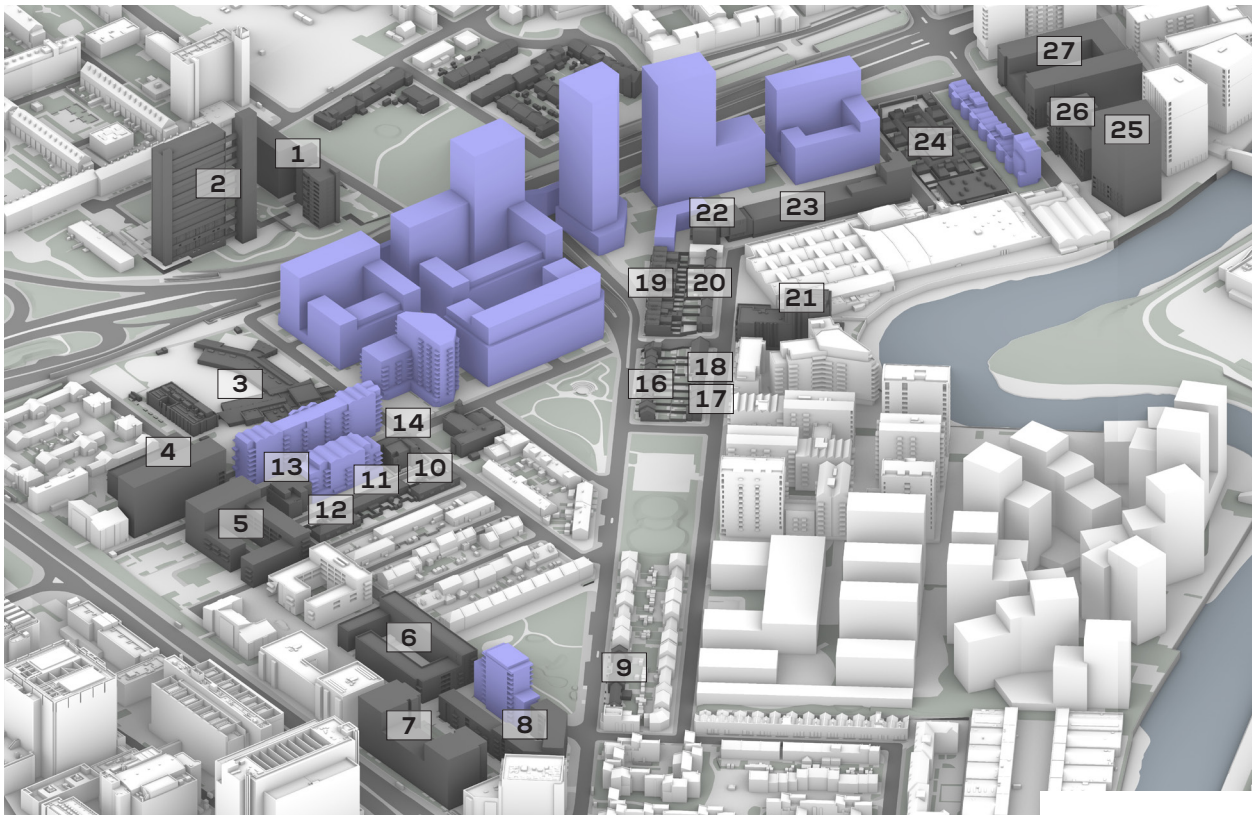

Drawing: 06

CUMULATIVE

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	07

Drawing: 07

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

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 25-26
IR:	IR64
Source of information:	Vu.City, Levitt Bernstein Architects IR64, Morris And Co. Architects IR39
Date:	16/10/2022
Drawing no.:	08-09

Drawing: 08

Drawing: 09