4.12 Materials + Elevational Treatment

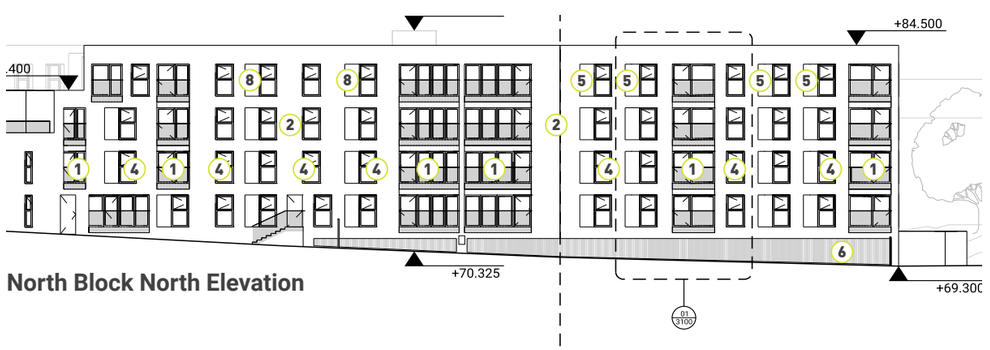
North/South Blocks

The facades of the north and south block are grouped into three broad types; the north and south outward facing facades, the internal courtyard facing facades, and the west facades. All of the elevations use a brick type reflective of the nearby buildings, whilst providing a visual transition between the redder brick of the town houses and the more neutral brick of the rotunda.

The north and south outward facing facades feature inset balconies for privacy, with dark metal vertical bar balustrades. The principal windows are complemented by dark metal angled panels to provide texture and variation to the overall facade. At podium level the north block north elevation makes use of dark metal fins, matching the other metalwork on the facade.

The internal courtyard facades have projecting sculptural balconies, affording views towards the nearby nature reserve and providing visual interest to those in the courtyard. The facades are further articulated by projecting oriel windows finished in dark metal, contrasting the adjacent brickwork. Entrances are defined by surrounding corbelled brickwork.

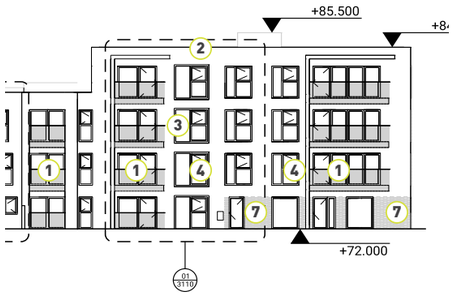
The west facades feature angle dark metal panels next to windows, and panels of corbelled brickwork between windows.



North Block North Elevation

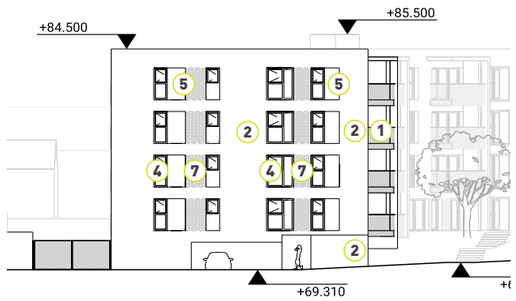
South Block South Elevation

North Block South Elevation

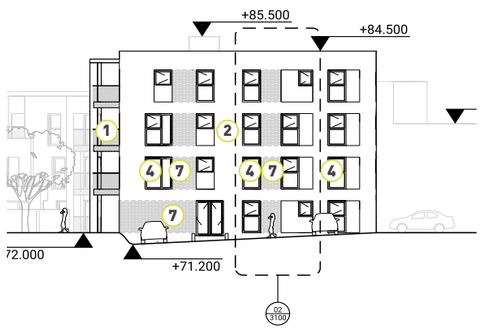


South Block North Elevation

Standard Brick 02



North Block West Elevation



South Block West Elevation

1. Bronze-coloured metal balustrade
2. Red/multi-coloured brickwork
3. Bronze-coloured metal oriel windows
4. Bronze-coloured double-glazed inward opening aluminium framed windows
5. Bronze-coloured perforated metal panels
6. Bronze-coloured metal louvres
7. Corbelled brick detail
8. Bronze-coloured angled metal side panels

North and South Blocks

Standard Brick 02

Bronze-coloured metal balustrade

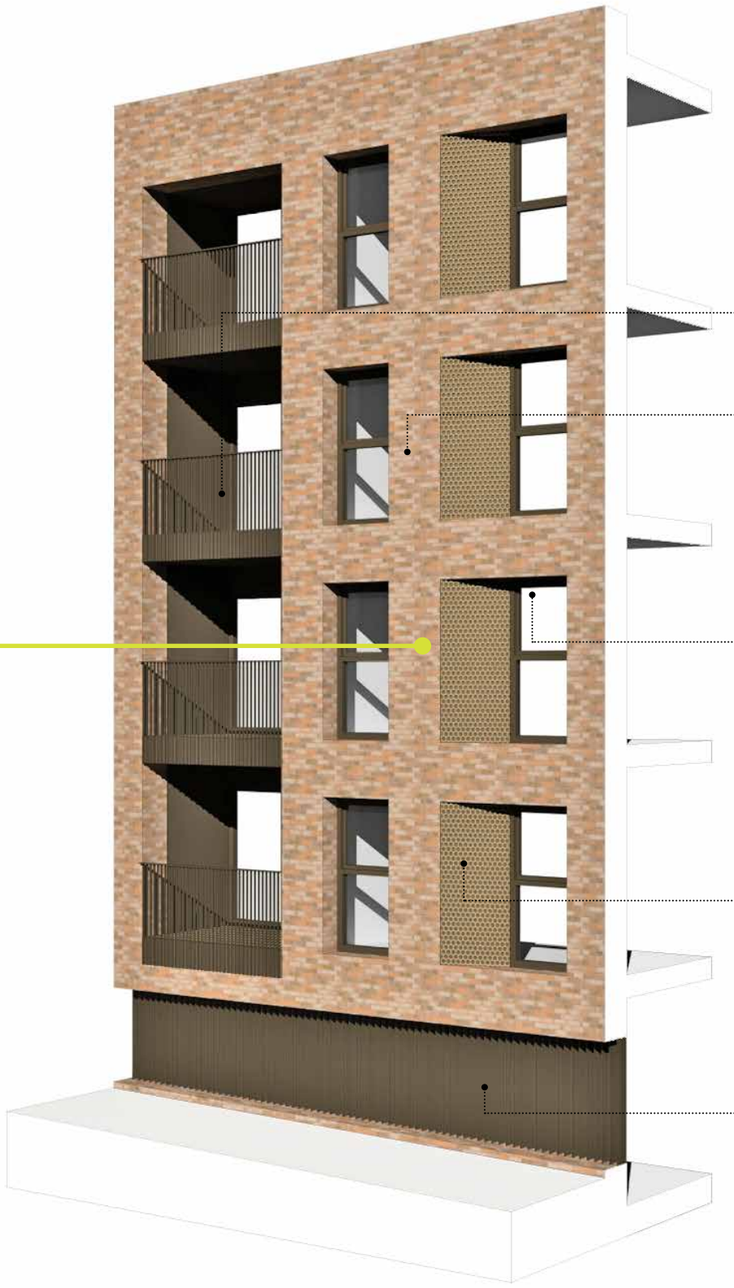
Red/multi-coloured brickwork

Bronze-coloured metal oriel windows

Bronze-coloured double-glazed inward opening aluminium framed windows

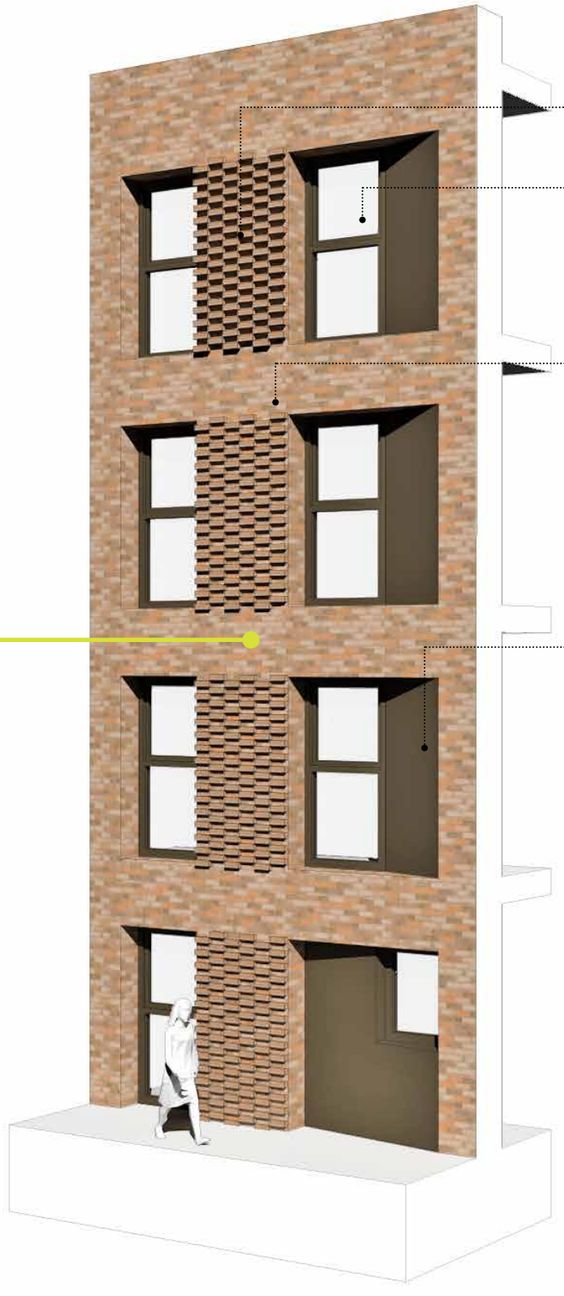
North and South Blocks

Standard Brick 02



North and South Blocks

Standard Brick 02



Corbelled brick detail

Bronze-coloured double-glazed inward opening aluminium framed windows

Red/multi-coloured brickwork

Bronze-coloured angled metal side panels

4.12 Materials + Elevational Treatment

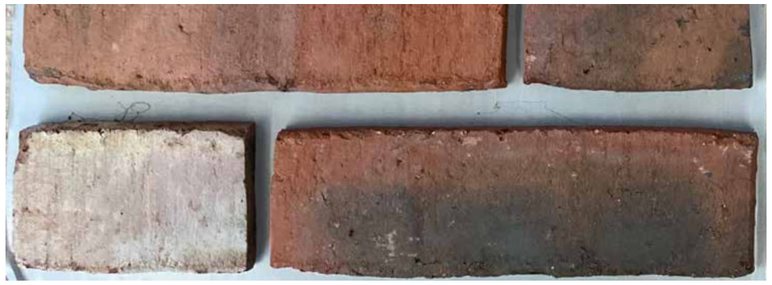
Townhouses

The townhouse facades feature articulated volumes, which provide visual depth from the street, and privacy for the users of the townhouse roof terraces. The different volumes are further differentiated by featuring different brick types, which also reflects the variety of bricks on show in the immediate context.

Dark metal angled panels alongside main windows and matching vertical bar balustrades to the town house terraces complement the brickwork.

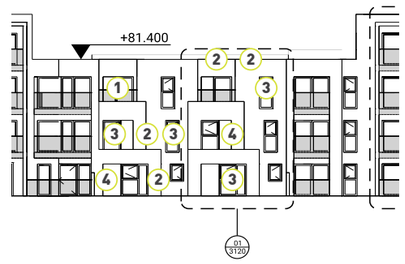
The townhouses step down in pairs to follow the subtle incline of the street.

Townhouses East Elevation



Standard Brick 03

Standard Brick 04



Townhouses West Elevation

1. Bronze-coloured metal balustrade
2. Red/multi-coloured brickwork
3. Bronze-coloured double-glazed inward opening aluminium framed windows
4. Bronze-coloured angled metal side panels

4.12 Materials + Elevational Treatment

Townhouses

Standard Brick 03

Standard Brick 04

Standard Brick 03 precedent image

Standard Brick 04 precedent image

ROTUNDA		
Type	No	%
1 Bed	19	28%
2 Bed	30	45%
3 Bed	18	27%
Total	67	100%

NORTH BLOCK		
Type	No	%
Studio	1	2%
1 Bed	17	41%
2 Bed	22	54%
3 Bed	1	2%
Total	41	100%

SOUTH BLOCK		
Type	No	%
1 Bed	9	50%
2 Bed	5	28%
3 Bed	4	22%
Total	18	100%

TOWNHOUSES		
Type	No	%
2 Bed	1	10%
3 Bed	9	90%
Total	10	100%

TOTALS		
Type	No	%
Studio	1	1%
1 Bed	45	33%
2 Bed	58	43%
3 Bed	32	24%
Total	136	100%

ROTUNDA				
Unit	Area (GIA)	Beds	Persons	Amenity
Flat 1	74.0 m²	2	4	6.6 m²
Flat 2	74.0 m²	2	4	6.6 m²
Flat 3	74.0 m²	2	4	6.6 m²
Flat 4	56.4 m²	1	2	6.5 m²
Flat 5	74.0 m²	2	4	6.6 m²
Flat 6	74.0 m²	2	4	6.6 m²
Flat 7	74.0 m²	2	4	6.6 m²
Flat 8	56.4 m²	1	2	6.5 m²
Flat 9	98.9 m²	3	6	8.7 m²
Flat 10	98.6 m²	3	6	8.7 m²
Flat 11	56.1 m²	1	2	6.1 m²
Flat 12	74.0 m²	2	4	6.6 m²
Flat 13	74.0 m²	2	4	6.6 m²
Flat 14	74.0 m²	2	4	6.6 m²
Flat 15	56.4 m²	1	2	6.5 m²
Flat 16	98.9 m²	3	6	8.7 m²
Flat 17	98.6 m²	3	6	8.7 m²
Flat 18	56.1 m²	1	2	6.1 m²
Flat 19	74.0 m²	2	4	6.6 m²
Flat 20	74.0 m²	2	4	6.6 m²
Flat 21	74.0 m²	2	4	6.6 m²
Flat 22	56.4 m²	1	2	6.5 m²
Flat 23	98.9 m²	3	6	8.7 m²
Flat 24	98.6 m²	3	6	8.7 m²
Flat 25	56.1 m²	1	2	6.1 m²
Flat 26	74.0 m²	2	4	6.6 m²
Flat 27	74.0 m²	2	4	6.6 m²
Flat 28	74.0 m²	2	4	6.6 m²
Flat 29	56.4 m²	1	2	6.5 m²
Flat 30	98.9 m²	3	6	8.7 m²
Flat 31	98.6 m²	3	6	8.7 m²
Flat 32	56.1 m²	1	2	6.1 m²
Flat 33	74.0 m²	2	4	6.6 m²
Flat 34	74.0 m²	2	4	6.6 m²
Flat 35	74.0 m²	2	4	6.6 m²
Flat 36	56.4 m²	1	2	6.5 m²
Flat 37	98.9 m²	3	6	8.7 m²
Flat 38	98.6 m²	3	6	8.7 m²
Flat 39	56.1 m²	1	2	6.1 m²
Flat 40	74.0 m²	2	4	6.6 m²
Flat 41	74.0 m²	2	4	6.6 m²
Flat 42	74.0 m²	2	4	6.6 m²
Flat 43	56.4 m²	1	2	6.5 m²
Flat 44	98.9 m²	3	6	8.7 m²
Flat 45	98.6 m²	3	6	8.7 m²
Flat 46	56.1 m²	1	2	6.1 m²
Flat 47	74.0 m²	2	4	6.6 m²
Flat 48	74.0 m²	2	4	6.6 m²
Flat 49	74.0 m²	2	4	6.6 m²
Flat 50	56.4 m²	1	2	6.5 m²
Flat 51	98.9 m²	3	6	8.7 m²
Flat 52	98.6 m²	3	6	8.7 m²
Flat 53	56.1 m²	1	2	6.1 m²
Flat 54	74.0 m²	2	4	6.6 m²
Flat 55	74.0 m²	2	4	6.6 m²
Flat 56	74.0 m²	2	4	6.6 m²
Flat 57	56.4 m²	1	2	6.5 m²
Flat 58	98.9 m²	3	6	8.7 m²
Flat 59	98.6 m²	3	6	8.7 m²
Flat 60	56.1 m²	1	2	6.1 m²
Flat 61	74.0 m²	2	4	6.6 m²
Flat 62	74.0 m²	2	4	6.6 m²
Flat 63	74.0 m²	2	4	6.6 m²
Flat 64	56.4 m²	1	2	6.5 m²
Flat 65	98.9 m²	3	6	8.7 m²
Flat 66	98.6 m²	3	6	8.7 m²
Flat 67	56.1 m²	1	2	6.1 m²

4.13 Unit + Accommodation Schedules

NORTH BLOCK				
Unit	Area (GIA)	Beds	Persons	Amenity
Flat 1	51.3 m²	1	2	5.0 m²
Flat 2	71.3 m²	2	4	6.6 m²
Flat 3	50.5 m²	1	2	5.0 m²
Flat 4	66.7 m²	2	3	6.5 m²
Flat 5	70.1 m²	2	4	7.1 m²
Flat 6	63.1 m²	2	3	6.4 m²
Flat 7	55.6 m²	1	2	5.2 m²
Flat 8	90.2 m²	3	5	9.2 m²
Flat 9	70.7 m²	2	3	4.9 m²
Flat 10	51.3 m²	1	2	5.0 m²
Flat 11	71.3 m²	2	4	6.6 m²
Flat 12	50.5 m²	1	2	5.0 m²
Flat 13	70.4 m²	2	3	6.5 m²
Flat 14	70.1 m²	2	4	7.1 m²
Flat 15	74.3 m²	2	4	6.4 m²
Flat 16	67.6 m²	2	3	6.8 m²
Flat 17	50.0 m²	1	2	4.3 m²
Flat 18	50.0 m²	1	2	5.2 m²
Flat 19	50.6 m²	1	2	4.2 m²
Flat 20	80.8 m²	2	3	7.7 m²
Flat 21	51.3 m²	1	2	5.0 m²
Flat 22	71.3 m²	2	4	6.6 m²
Flat 23	50.5 m²	1	2	5.0 m²
Flat 24	70.4 m²	2	3	6.5 m²
Flat 25	70.1 m²	2	4	7.1 m²
Flat 26	74.3 m²	2	4	6.4 m²
Flat 27	67.6 m²	2	3	6.8 m²
Flat 28	50.0 m²	1	2	4.3 m²
Flat 29	50.0 m²	1	2	5.2 m²
Flat 30	50.6 m²	1	2	4.2 m²
Flat 31	80.8 m²	2	3	7.7 m²
Flat 32	51.3 m²	1	2	5.0 m²
Flat 33	71.3 m²	2	4	6.6 m²
Flat 34	50.5 m²	1	2	5.0 m²
Flat 35	70.4 m²	2	3	6.5 m²
Flat 36	70.1 m²	2	4	7.1 m²
Flat 37	74.3 m²	2	4	6.4 m²
Flat 38	67.6 m²	2	3	6.8 m²
Flat 39	50.0 m²	1	2	4.3 m²
Flat 40	50.0 m²	1	2	5.2 m²
Flat 41	39.9 m²	Studio	1	4.1 m²

SOUTH BLOCK				
Unit	Area (GIA)	Beds	Persons	Amenity
Flat 1	50.3 m²	1	2	5.0 m²
Flat 2	50.3 m²	1	2	5.2 m²
Flat 3	82.2 m²	3	4	8.8 m²
Flat 4	70.4 m²	2	4	5.1 m²
Flat 5	109.3 m²	3	6	9.5 m²
Flat 6	50.2 m²	1	2	5.0 m²
Flat 7	54.0 m²	1	2	5.2 m²
Flat 8	76.7 m²	2	3	4.8 m²
Flat 9	70.4 m²	2	4	5.1 m²
Flat 10	109.3 m²	3	6	9.5 m²
Flat 11	50.2 m²	1	2	5.0 m²
Flat 12	54.0 m²	1	2	5.2 m²
Flat 13	76.7 m²	2	3	4.8 m²
Flat 14	70.4 m²	2	4	5.1 m²
Flat 15	50.3 m²	1	2	5.0 m²
Flat 16	51.6 m²	1	2	9.5 m²
Flat 17	82.2 m²	3	4	8.8 m²
Flat 18	54.0 m²	1	2	5.2 m²

TOWNHOUSES				
Unit	Area (GIA)	Beds	Persons	Amenity
Townhouse 1	108.4 m²	3	6	24.8 m²
Townhouse 2	108.4 m²	3	6	23.9 m²
Townhouse 3*	130.8 m²	3	5	31.5 m²
Townhouse 4	108.4 m²	3	6	20.7 m²
Townhouse 5	108.4 m²	3	6	20.6 m²
Townhouse 6	108.4 m²	3	6	20.7 m²
Townhouse 7	108.4 m²	3	6	20.4 m²
Townhouse 8	108.4 m²	3	6	20.3 m²
Townhouse 9	108.4 m²	3	6	20.2 m²
Townhouse 10	82.2 m²	2	4	12.8 m²

* Townhouse 3 has been designed to meet building regulations Approved Document Part M(3), whereas all other dwellings have been designed to meet Approved Document Part M(2)

4.14 Area Schedule

ROTUNDA

Use Class	Floor	Gross External Area (GEA)		Gross Internal Areas (GIA)		Net Internal Areas (NIA)	
Residential (C3) (67 units)	Ground	607.9 m²	6,543 sq.ft.	564.9 m²	6,081 sq.ft.	278.5 m²	2,998 sq.ft.
19 no. 1 Bed, 30 no. 2 Bed,	Level 1	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
18 no. 3 Bed	Level 2	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 3	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 4	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 5	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 6	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 7	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 8	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
	Level 9	674.6 m²	7,261 sq.ft.	623.1 m²	6,707 sq.ft.	532.2 m²	5,729 sq.ft.
TOTAL (excl. balconies)		**6,679.3 m²**	**71,895 sq.ft.**	**6,172.8 m²**	**66,443 sq.ft.**	**5,068.3 m²**	**54,555 sq.ft.**
Total Balconies		478.2 m²	5,147 sq.ft.	463.0 m²	4,984 sq.ft.	463.0 m²	4,984 sq.ft.

NORTH BLOCK

Use Class	Floor	Gross External Area (GEA)		Gross Internal Areas (GIA)		Net Internal Areas (NIA)	
Residential (C3) (41 units)	Ground	909.4 m²	9,789 sq.ft.	843.9 m²	9,084 sq.ft.	588.7 m²	6,337 sq.ft.
1 no. Studio, 17 no. 1 Bed,	Level 1	903.0 m²	9,720 sq.ft.	834.4 m²	8,981 sq.ft.	686.9 m²	7,394 sq.ft.
22 no. 2 Bed, 1 no. 3 Bed	Level 2	903.0 m²	9,720 sq.ft.	834.4 m²	8,981 sq.ft.	686.9 m²	7,394 sq.ft.
	Level 3	800.5 m²	8,617 sq.ft.	733.6 m²	7,896 sq.ft.	595.5 m²	6,410 sq.ft.
TOTAL (excl. balconies)		**3,515.9 m²**	**37,845 sq.ft.**	**3,246.3 m²**	**34,943 sq.ft.**	**2,558.0 m²**	**27,534 sq.ft.**
Total Balconies		300.3 m²	3,232 sq.ft.	254.9 m²	2,744 sq.ft.	254.9 m²	2,744 sq.ft.

SOUTH BLOCK

Use Class	Floor	Gross External Area (GEA)		Gross Internal Areas (GIA)		Net Internal Areas (NIA)	
Residential (C3) (18 units)	Ground	478.0 m²	5,145 sq.ft.	436.3 m²	4,696 sq.ft.	253.2 m²	2,725 sq.ft.
9 no. 1 Bed, 5 no. 2 Bed,	Level 1	482.4 m²	5,193 sq.ft.	439.8 m²	4,734 sq.ft.	360.6 m²	3,881 sq.ft.
4 no. 3 Bed	Level 2	480.3 m²	5,170 sq.ft.	439.8 m²	4,734 sq.ft.	360.6 m²	3,881 sq.ft.
	Level 3	345.3 m²	3,717 sq.ft.	308.1 m²	3,316 sq.ft.	238.2 m²	2,564 sq.ft.
TOTAL (excl. balconies)		**1,786.0 m²**	**19,224 sq.ft.**	**1,624.0 m²**	**17,481 sq.ft.**	**1,212.6 m²**	**13,052 sq.ft.**
Total Balconies		142.1 m²	1,530 sq.ft.	119.4 m²	1,285 sq.ft.	119.4 m²	1,285 sq.ft.

TOWNHOUSES

Use Class	Floor	Gross External Area		Gross Internal Areas		Net Internal Areas	
Residential (C3) (10 units)	Ground	533.8 m²	5,746 sq.ft.	469.5 m²	5,054 sq.ft.	447.3 m²	4,815 sq.ft.
1 no. 2 Bed, 9 no. 3 Bed	Level 1	482.9 m²	5,198 sq.ft.	427.8 m²	4,605 sq.ft.	406.0 m²	4,370 sq.ft.
	Level 2	312.3 m²	3,362 sq.ft.	234.2 m²	2,521 sq.ft.	224.9 m²	2,421 sq.ft.
TOTAL (excl. roof terraces)		**1,329.0 m²**	**14,305 sq.ft.**	**1,131.5 m²**	**12,179 sq.ft.**	**1,078.2 m²**	**11,606 sq.ft.**
Total Roof Terraces		104.3 m²	1,123 sq.ft.	102.8 m²	1,107 sq.ft.	102.8 m²	1,107 sq.ft.

PODIUM

Use Class	Floor	Gross External Area (GEA)		Gross Internal Areas (GIA)		Net Internal Areas (NIA)	
33 Parking Spaces	Lower Ground	1,182.3 m²	12,726 sq.ft.	1,090.8 m²	11,741 sq.ft.		
TOTAL		**1,182.3 m²**	**12,726 sq.ft.**	**1,090.8 m²**	**11,741 sq.ft.**		

GRAND TOTAL	**14,492.5 m²**	**155,996 sq.ft.**	**13,265.4 m²**	**142,788 sq.ft.**	**9,917.1 m²**	**106,747 sq.ft.**
TOTAL BALCONIES + ROOF TERRACES	**1,024.9 m²**	**11,032 sq.ft.**	**940.1 m²**	**10,119 sq.ft.**	**940.1 m²**	**10,119 sq.ft.**

TOTAL SURFACE CAR PARKING SPACES = 64
TOTAL CAR PARKING SPACES = 97
TOTAL NUMBER OF UNITS = 136 (1 no. Studio, 45 no. 1 Bed, 58 no. 2 Bed, 32 no. 3 Bed)

4.15 Secured By Design

The scheme will follow the guidance in Building Regulations Part Q: Security - Dwellings and The National Planning Policy Framework (NPPF) and be completed with reference to Secured By Design Homes 2019. This will involve the implementation of a variety of design measures including those outlined on this page. Following planning permission, the design team will meet with a local Sevenoaks Police officer to discuss the scheme in detail and make any amendments accordingly.

Layout of Roads and Footpaths

Vehicular and pedestrian routes are visually open, direct, well used and do not undermine the defensible space of the units. This is accomplished through the use of changes in road surface materials and low walls.

Through-Roads

The road promotes intuitive wayfinding and enhances the passive surveillance of the street by residents within their homes.

Footpath Design

Routes for pedestrians provide easy, intuitive wayfinding that is inclusive and increases activity, therefore providing natural surveillance.

Footpath Lighting

Environmentally-friendly light sources will be used throughout that will not conflict with tree canopies and will be lit in accordance with BS 5489-1:2013

Communal Areas and Play Space

Large inclusively designed public open makes a valuable contribution towards the quality of the development and the character of the neighbourhood.

Dwelling Boundaries

For purposes of natural surveillance, dwelling frontages should be open to view, so walls, fences and hedges will be kept low.

Layout and Orientation of Dwellings

Dwellings are positioned facing each other to allow neighbours to easily view their surroundings and thus making any potential offender feel vulnerable to detection.

There is a mix of dwellings, enabling greater potential for homes to be occupied throughout the day. This gives increased opportunity for natural surveillance, community interaction, engagement and participation and environmental control.

Dwelling Identification

Clear signage of properties throughout the development will assist residents, postal workers and the attendance of emergency services.

Vehicle Parking

The parking bays benefit from good natural surveillance from the dwellings.

Planting in New Developments

Future maintenance requirements and budgets have been considered at the planting design stage and management programmes will be put in place to ensure the landscape fulfils the aims of the design.

Doorsets and Windows

All communal and private doors and windows shall be certified to PAS 24: 2016 standard.

CCTV

Good quality CCTV cameras will be installed throughout the development where appropriate

5.0 Landscape

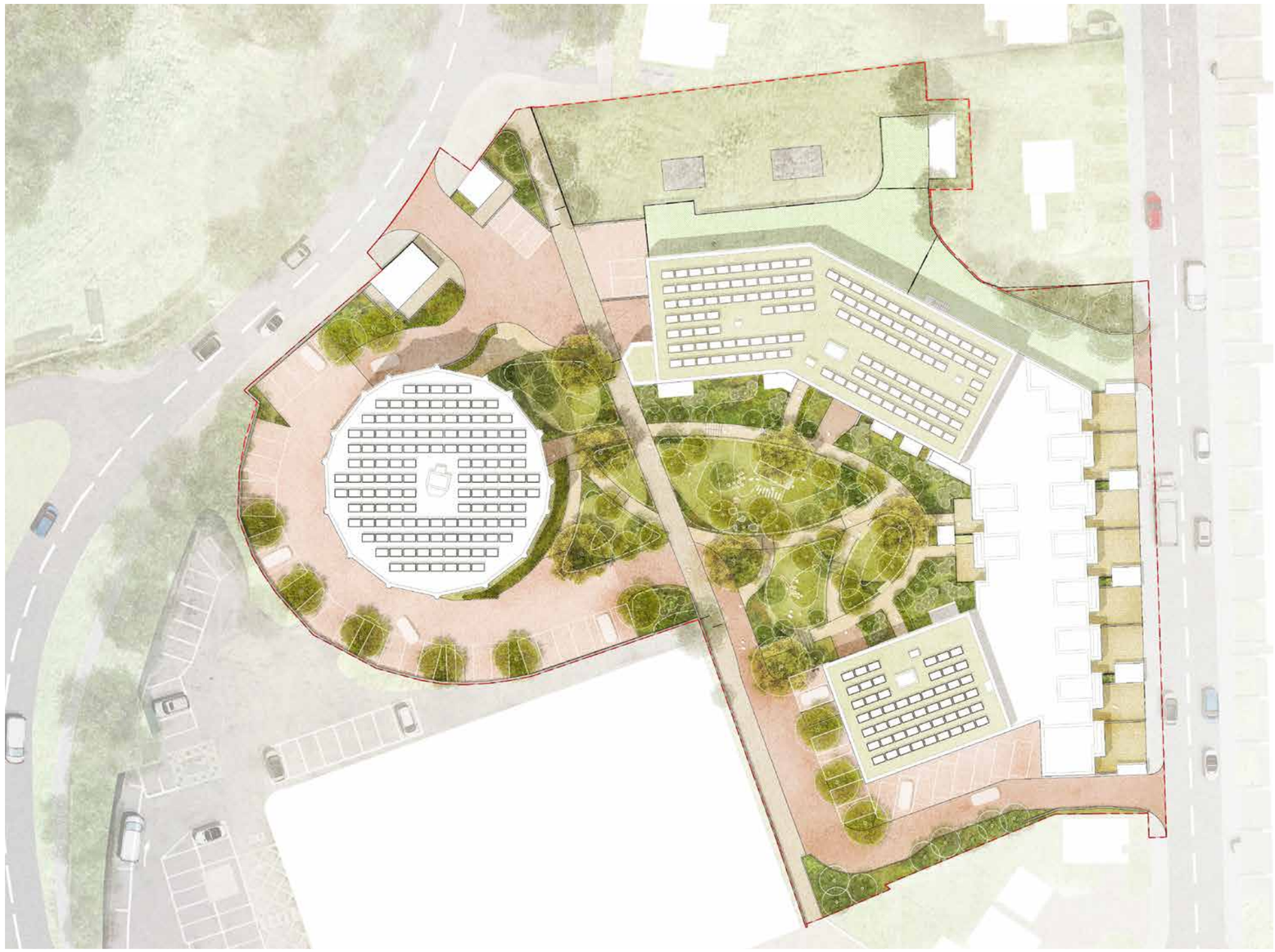
5.1 Landscape Proposal

The landscape strategy for Sevenoaks Gasholder Station has been developed to provide an open green space with strong character and high amenity value for the residents and members of the community.

All vehicular circulation including operational access and car parking courts are set around the edges of the site so that pedestrian circulation and amenity areas are the central focus, crossed by the enlarged public footpath.

The regeneration of the Gasholder site requires the excavation and disposal of large quantity of material. This created the opportunity to re-use the backfill material within the site to realise a new topography that animates the central green space.

The proposal includes a series of landforms emerging with gentle slopes and cut out by the pedestrian circulation. The resulting irregular mounds have flat tops that can be populated for relaxing or socialising. Consideration has been taken in setting the scale of these landforms so that they activate the space creating a hide and seek effect whilst providing open visibility across the space.



Illustrative landscape plan

Illustrative view of the central green space crossed by the public footpath

5.2 Access Strategy

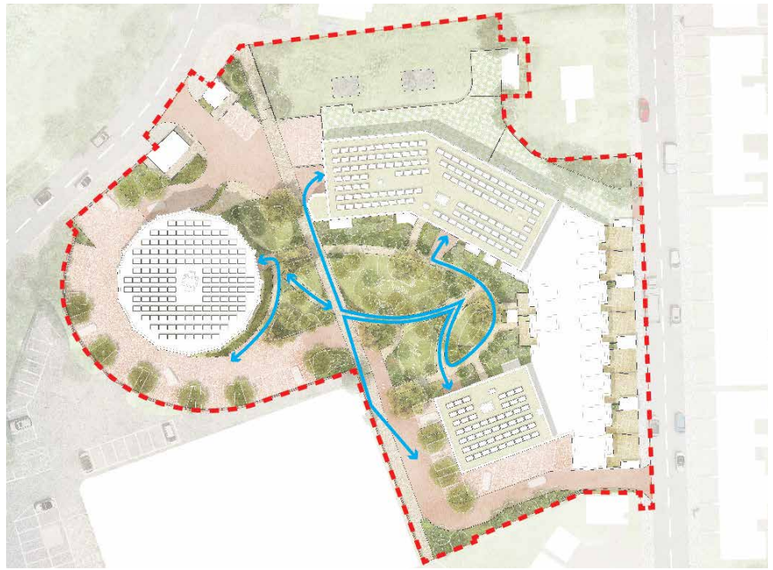
The main pedestrian gateways into the site correspond with the north and south access points of the existing public footpath, crossing the centre of the site longitudinally. These arrival points are demarcated by the enlargement of the footway, framed by the existing and proposed birch trees.

The existing character will be enhanced by removing the boundary fences, which used to segregate the path from the former gasworks. This footway is to be the primary axis through the site, drawing the pedestrian circulation into the central green open space, connecting with routes to Bat and Ball train station to the south, and a retail area to the north.

The proposal for the public footpath material is to be repaved and widened to 3 metres for most of its length. Signage and cycle gates (in case of use by cyclists in practice), are provided where the path is crossed by roads.

The level changes across the site have been addressed so that all main access to the Rotunda, North and South Blocks and the Townhouses are fully accessible with DDA compliant routes, acknowledging desire lines across the site.

Vehicular access for residents is provided from two directions: Otford and Crampton Roads. The latter as part of a one-way system. Due to the convoluted route, the Crampton Road access will serve residents only and not general flow through traffic.



Accessible route to building access core

Public footpath

Stepped route

Step-free route

Operational and emergency access

Residents vehicular access

Arrival point

5.2 Play Strategy

The play strategy provides a local area of play with formal and natural play, located in the green open space in the centre of the site, well supervised and providing seating for carers and parents.

The overall open green space can be considered part of the play strategy as the landforms represent a topographic playscape which is safe for children of all age as there is no crossing of vehicular roads and it is overlooked by the residential units facing the space.

The location of the site is afforded good access to the surrounding countryside and informal recreation spaces including the local Sevenoaks Wildlife Reserve.

Local Area of Play

Topographic Playscape

Natural Play - South Brent Adventure Play by Eden Design

Play features integrated with topography - Salute playground by AFA

Topographic playscape - Overflow by Sensomoto

Natural play - South Gardens by CTF

Topographic playscape - Overflow by Sensomoto

Topographic playscape - Hammersmith Park by Churchman Thornhill Finch

Logs as natural balancing play features - Millstone Creek Park Nature Play by POD Design

Topographic playscape - Chicago Botanic Gardens by Jacob Ryan Associates

5.3 Materiality

The paving materials across the scheme have been selected to respond to the new building palette.

All main access roads are surfaced with clay pavers, while car parking bays will have a similar finish but using a permeable product to contribute to the Sustainable Drainage System (SuDS) strategy.

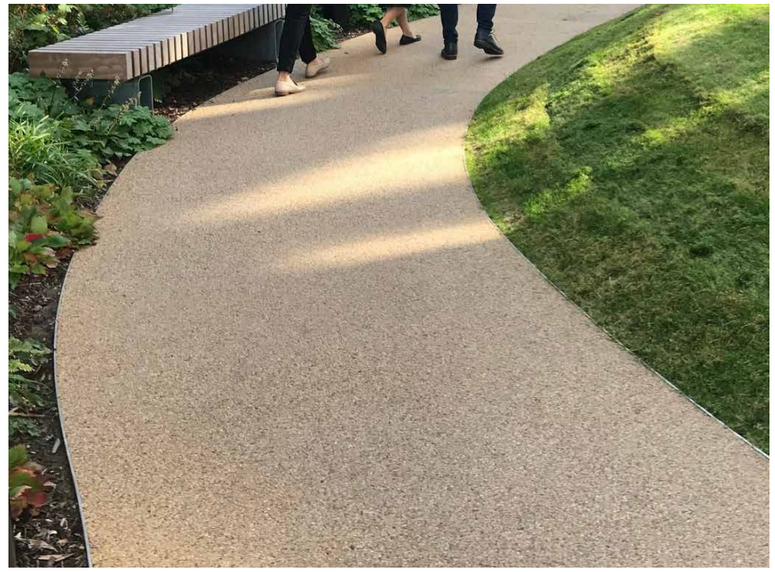
The proposed paving material for the pedestrian paths across the central green space is resin bound gravel, that adapts well to the curve geometry of the footpaths.

The main access to the blocks core is identified by a threshold of clay brick pavers, while private roadways and patios to the townhouses are paved with concrete blocks like ‘Tegula’.

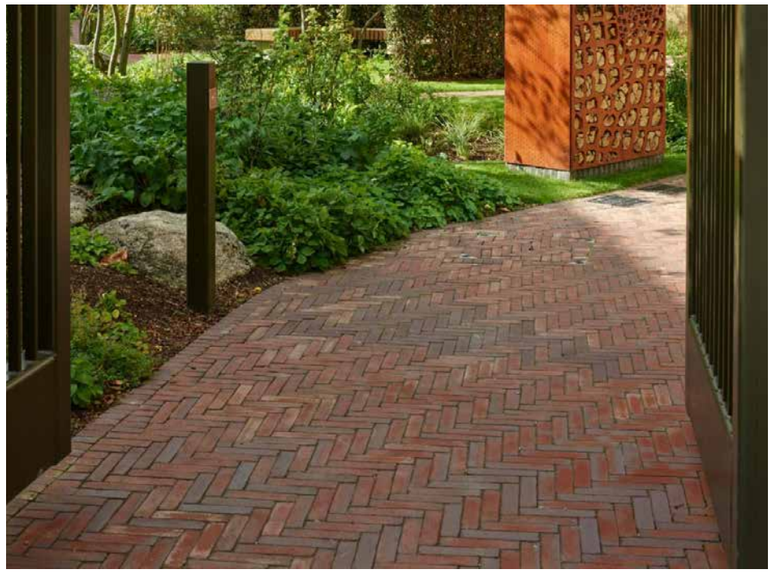
Grasscrete paving is proposed for the access road to the SGN land as it would be only occasionally used for operational or emergency fire access.

Clay pavers

Permeable clay pavers



Resin bound gravel



Clay brick paving

Grasscrete

Concrete blocks type ‘tegula’

5.4 Boundary Conditions

To the vehicular access on Otford Road the existing retaining wall is to be replaced with a new brick wall forming the gateway to mark the main site entrance.

The new treatment continues to the north-west of the Rotunda and down on the boundary with Wickes carpark, where a retaining wall with a welded mesh fence is proposed to address the level change, replacing the existing concrete upstand and fence.

To the north the site is adjoining the SGN land that will remain operational. The boundary treatment will be left as existing where it adjoins the public footpath and to the north with the neighbouring properties, while a new fence with 3 gates to SGN requirements will be installed to isolate the compound from the operational access road and adjoining the new development.

The access road to SGN operational compound will be gated on both ends to restrict access to the general public.

To the south the boundary conditions will be left as existing where the site adjoins the private properties on Crampton Road and Wickes to the east of the public footpath.

5.5 Tree Planting

The site at Sevenoaks will benefit from the addition of varied tree planting, differing between the bosque to the central green space, trees for parking areas and access roads, and columnar species to frame the inner courtyard.

The site is to benefit from marker trees, species such as pine and oak that will grow to a larger size and provide shading and biodiversity value.

Parking trees chosen are to be slim and medium in growth habit thereby providing shade and appropriate for vehicles below.

These trees will be planted in treepits with a rootcell system to provide the new specimens with the best rooting condition for a successful establishment. The root volume per tree to be provided is ca. 23 cubic metres.

The bosque trees chosen such as silver birch and bird cherry are to integrate with species present on site and add ornamental value with flowers and fruits, decorative bark, and seasonal interest.

The columnar trees marking the curved paths in the central green have an elegant feathered habit with an open canopy to avoid overshadowing to the residential units, and striking autumn colours.

To facilitate the development 10 singular trees and 4 tree groups are to be removed.

Category	Key	Species	Size (girth)	No.	Native
Marker Trees	**Ld**	*Larix decidua*	20-25	1	
	Lt	*Liriodendron tulipifera*	20-25	2	
	Qp	*Quercus palustris*	25-30	1	
	Qr	*Quercus robur*	25-30	1	x
	Ps	*Pinus sylvestris*	25-30	2	
Bosque Trees	**Bpe**	*Betula pendula*	16-18	20	x
	Bpu	*Betula pubescens*	16-18	15	x
	Pc	*Prunus cerasifera*	16-18	2	x
	Pp	*Prunus padus*	16-18	3	x
Columnar Trees	**LSS**	*Liquidambar styraciflua* 'Slender Silouhette'	16-18	17	
Parking Courtyard Trees	**Ac**	*Acer campestre*	20.-25	4	x
	Ls	*Liquidambar styraciflua*	20-25	3	
	PaP	*Prunus avium* 'Plena'	20-25	4	

Marker Trees

Quercus palustris

Quercus robur

Liriodendron tulipifera

Larix decidua

Pinus sylvestris

Columnar Trees

Liquidambar 'Slender Silohuette'

Bosque Trees

Prunus cerasifera

Betula pubescens

Car Park Trees

Prunus avium 'Plena'

Acer campestre

Liquidambar styraciflua

5.6 Planting Strategy

The planting strategy responds with a variety of planting mixes to the character areas identified across the proposed scheme.

The landforms in the central courtyard are intended to be accessible for amenity use by providing grass to cover the top and sloping sides. The softness of the mounds is then to be enhanced by the choice of blocks of grasses interplanted with structural herbaceous perennials that provide colours and seasonal interest.

A structural planting mix have been chosen for the perimeter areas between the buildings and the footpaths. This mix presents the character of the woodland edge, with a low matrix of groundcover interplanted with ferns and flowering plants. Groups of shrubs and evergreen are layered in proximity of the residential units to offer privacy and security to the ground floor balconies.

The beds in between parking bays and marking the perimeter walls are planted with low growing species to form a vigorous and diverse mat, while flowering climbers have been chosen to grow on boundary walls and fences.

The area of planting within the operational access on Crampton Road acts as borrowed landscape for the site. The large mature trees are to be retained, with only maintenance works to be conducted to the group of lawson cypresses marking the former Gasholder boundary. The canopies will have to be cleared up to 4 metres in height to allow for visibility on the site access road. The existing lower vegetation is also to be retained and interplanted with a mix of groundcover and evergreen shrubs.

The planting mix for the biosolar green roof selects species which are of high biodiversity value, generally low growing, shade and drought tolerant.

Climbers will be allowed to grow on partitioning balustrades set in between the neighbouring townhouses driveways.

Blocks of grasses - Charlotte Garden by SLA

Structural planting - Elephant and Castle landscape podium by Gillespies

Structural Planting Mix

Sarcococca hookerina var humilis

Cornus alba 'Siberica'

Sambucus ebulus

Rubus thibetanus

Polystichum setiferum

Polygonatum x hybridum multiflorum

Geranium sylvaticum

Euphorbia epithymoides

Lunaria rediviva

Polemonium 'Northern Lights'

Allium 'Early emperor'

Narcissus 'Thalia'

Landforms Ornamental Planting Mix

Anemanthele lessoniana

Stipa gigantea

Stipa tenuissima

Eringyum yuccifolium

Angelica archangelica

Sanguisorba officinalis 'Tanna'

Narcissus 'Rijnveld's Early Sensation'

Allium atropurpureum

Crocus tommasinianus

Hedge

Prunus lusitanica

Climbers

Vitis coignetiae

Hydrangea anomola subsp petiolaris

Lonicera periclymenum

Groundcovers

Pachysandra terminalis 'Green Carpet'

Vinca major var oxyloba

6.0 Community Engagement

The following is a summary (with excerpts) of the Statement of Community Engagement completed by Kaizen. Please refer to the full report submitted as part of this planning application.

Introduction

Kaizen was contracted to engage with the community to gather feedback on the emerging designs, by:

- Organising for the distribution of flyers and letters to local residents
- Hosting a survey to gather feedback on the emerging designs. The survey was accessible in hard copy and online formats
- Analysing responses to the online and paper survey and producing a report on what was said

Limitations

The impact of the covid pandemic on pre-planning community engagement has been substantial. The SGN covid policy, which aimed to maximise community safety, went beyond the government guidance and meant that face to face engagement and outreach in the community was not possible. Because face to face engagement was not included in the plan extra effort was made to help local residents to find out about the emerging plans and to be able to give their feedback on them. This included sending letters with printed survey forms and stamp addressed envelopes to approximately 400 homes closest to the site.

Approach

Local residents were informed about the emerging plans and how they could have their say through different channels:

- Letters were posted to local residents who live within 150 metres of the site (395 properties). Included in the letters was a copy of the flyer, a printed feedback form and a stamp addressed envelope (see Appendix 1 for a copy of the letter and a map of the distribution area)
- Flyers were hand distributed to a larger number of residents (900 properties) who live slightly further away from the site (see Appendix 1 for a copy of the flyer and a map of the distribution area)
- Key local stakeholders such as the local councillors were informed about what was happening
- A micro-website was built to host the emerging designs. The site had a direct link to an online survey form. (see Appendix 2 for screenshots of the micro site)
- Additionally, a dedicated phone line, and email address, was set up to receive calls and requests for further information

While letters had been posted with sufficient time to allow for residents to have a 2-week window to share their feedback, significant delays within the Royal Mail meant that many of the letters arrived much later than would otherwise have been the case. As a result, the response deadline was pushed back from March 8th to March 15th, to allow extra time for responses to be received. While we recognise that some responses may yet come in after March 15th, we do not think these will impact the overall assessment of community views on the proposed scheme given the large majority of respondents who shared a negative view on the emerging designs.

Visits to the Website

There were 905 unique viewers of the website that explained the plans for the site and had the emerging plans and a link to the online survey. The emerging designs were downloaded 376 times. By analysing website data we can see that information about the emerging plans were shared in the local community as nearly 30% of website visitors came from social media platforms including Facebook and the hyperlocal platform NextDoor.

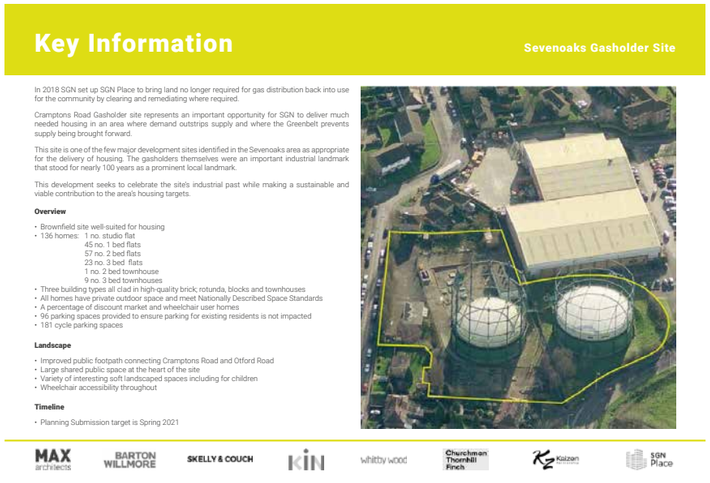
Many more people viewed the website and the emerging designs, than chose to complete the online survey or send in a paper survey.

Conclusion

It is clear there is a significant number of local residents who have concerns about the proposed development, with the main over-riding issues expressed being about how the development would exacerbate existing issues around traffic and parking. There were quite a few people who also said they did not like the designs and who raised other concerns, such as the number of homes and the impact the new residents would have on existing services such as Doctor surgeries.

Having said this, there were many people who recognised that new homes in principle are needed in Sevenoaks, and some who recognised that this site was well suited for homes, and who liked the designs.

Pandemic restrictions meant it was not possible to go out and about and talk to people in the way that we normally would. We realise that this means we were reliant on people self-generating their response in terms of giving feedback either online or by completing a paper survey. Inevitably this means it is more likely that those that took the time to respond, in amongst very busy lives in this stressful time for all, might be expected to have more polarised views about the development (either for or against it). By analysing the website traffic we were able to see that while the designs were downloaded 376 times, only 205 feedback responses were received. This does not in any way detract from the clear views and comments from those residents who did respond, most of whom were critical of the proposed scheme, but recognises that quieter voices of people who might be more ambivalent about the scheme are perhaps less likely to have been received.



7.0 Townscape

The following is a summary (with excerpts) of the Townscape Assessment completed by MAX Architects. Please refer to the full report submitted as part of this planning application.

Methodology

Due to the significant predominance of the original gasholders as a landmark on the townscape for almost 100 years, it was agreed with SDC that the existing townscape views would include the outline of the gasholders as the baseline townscape view from which to assess the proposed development townscape against.

Conclusion

Overall, the impact of the development on the townscape is fairly minor for the short, mid and long-range views. The fundamental reasons for this is the similarity in height and massing of the proposed rotunda building with the original west gasholder and that the proposed blocks and townhouses to the east are smaller and more closely aligned with the scale of the surrounding terraced housing than the original east gasholder. Additionally, the existing character of the immediate area is very mixed with little or no visual or architectural cohesion which makes it less sensitive and more inviting of a new development of high architectural quality.

The view of greatest visual significance; that from the Sevenoaks Wildlife Reserve, is undoubtedly a beautiful vantage point, albeit one that the footpath doesn't access directly (the views from the footpath are substantially shielded by trees). However, it is also a man-made view. A successfully designed building of a high quality in the proposed location can serve to act as a focal point in this man-made view, replacing the focal point provided by the original gasholders and very much in the tradition of buildings and monuments used in 18th Century English Landscape design, drawing the eye through the landscape and successfully terminating the view.

The development has a positive impact on the townscape because the proposed rotunda reinstates the gasholder site as a landmark for Northern Sevenoaks. The rotunda with its vertical piers and graded green colour palette is designed to relate to the varied colouration of the surrounding trees, wildlife reserve and rolling landscape backdrop.

8.0 Daylight and Sunlight

The following is a summary (with excerpts) of the Daylight and Sunlight report completed by eb7. Please refer to the full report submitted as part of this planning application.

Introduction

eb7 have been instructed to assess the effect of proposed development at the Gasholder Site, Land to the South of Otford Road, on daylight and sunlight to the existing surrounding properties as well as the overshadowing impacts on neighbouring and proposed amenity spaces.

The methodology and criteria used for these assessments is provided by Building Research Establishment's (BRE) guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (BRE 209 2nd edition, 2011).

In order to carry out an assessment, we have generated a 3D computer model (Test Environment) of the existing site, the key surrounding properties and the proposed scheme. Using this model and our specialist software, we have calculated the daylight and sunlight levels in both the existing and proposed conditions for the relevant neighbouring buildings.

As well as considering the daylight and sunlight to neighbouring properties, we have also quantified the overshadowing effects to neighbouring amenity areas and gardens, again considering both the existing and proposed conditions.

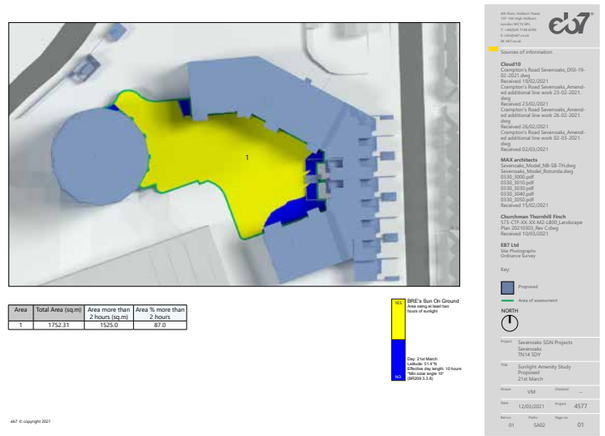
As the proposed development includes residential accommodation, the daylight and sunlight to rooms within the proposal has also been considered by Skelly and Couch in a separate assessment.

The numerical criteria suggested within the BRE guidelines has been applied to each of the assessments mentioned above. It is important to note that these guidelines are not a rigid set of rules, but are advisory and need to be applied flexibly according to the specific context of a site.

Conclusions

This practice has undertaken a detailed assessment of the potential daylight and sunlight effects of the proposed development at the Gasholder Site to the east of Otford Road, Sevenoaks, on the key neighbouring properties. We have also undertaken an assessment of the impact on overshadowing to neighbouring amenity spaces.

Image 1 - 3D view of the proposed development and context



Daylight and sunlight impact to neighbouring properties

Our assessments have been undertaken using the VSC and NSL (daylight) and APSH (sunlight) tests set out within the BRE guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (2011). It is important to reiterate that alterations in daylight and sunlight to adjoining properties are often inevitable when undertaking any meaningful development, especially in an urban environment. Therefore, the BRE guide is meant to be interpreted flexibly because natural lighting is only one of many factors in site layout design. Indeed, the guidelines suggest that different criteria may be used based upon the requirements for natural lighting in an area viewed against other constraints.

The results of these tests have shown that high levels of overall compliance in daylight, with some isolated minor deviations. These deviations are primarily driven by the underdeveloped and vacant nature of the existing site or are caused by self-constraining features such as inherently deep rooms. The vacant and underdeveloped nature of the site results in unusually high levels of daylight in certain cases, which leaves the receptors more susceptible to high proportional reductions. These deviations are generally marginally beyond the targets and show high levels of retained daylight.

For sunlight, the assessments show all properties with the exception of one showing full compliance. The one exception to this, shows minor deviations in winter sunlight, where there is a lower expectation of direct sunlight.

Overshadowing impact to neighbouring properties

The assessment of sunlight amenity (overshadowing) within the rear gardens of 114-116 Otford road and 107-111 Crampton Road has shown that all gardens will retain at least 0.8 time their former value of direct sunlight and therefore are all considered in line with the BRE guidance.

The developments impact upon the neighbouring properties is therefore considered to be entirely consistent with the BRE guidance and relevant planning policy in terms of daylight and sunlight.

Overshadowing / sunlight within the proposed amenity areas

The assessment of sunlight (overshadowing) within the proposed area of shared amenity space have shown that 87% of the amenity space will receive more than two hours of sunlight on 21st March and thereby in line with the BRE targets.

9.0 Energy

The following is a summary (with excerpts) of the Energy Strategy report completed by Skelly & Couch. Please refer to the full report submitted as part of this planning application.

Introduction

This report outlines the energy strategies proposed for all aspects of the development at Sevenoaks and following the energy assessment guidance will demonstrate how regulated carbon emissions reductions will be met in line with all relevant local planning policies.

Energy and Sustainability Strategy

The energy and sustainability strategy is based on an investment in the building fabric which will reduce the space heating as far as possible.

Low space heating loads will be met with direct electric panel radiators, which keeps the amount of plant to a minimum whilst enabling the scheme to benefit from the reducing carbon intensity of the electricity grid.

Hot water will be provided by local direct electric hot water cylinders with thermostatic control.

Whole dwelling ventilation rates are to be provided by MVHR, which ensure heat can be recovered from bathroom and kitchen extracts whilst providing controlled rates of fresh air throughout the heating season.

High performance glazing will ensure the need for sufficient winter solar gains are balanced with the need to limit summertime overheating and provide good levels of daylight to living spaces.

Artificial lighting will be provided through low energy LED fittings used throughout.

Energy Assessment Results

Part L Compliance

The site-wide target emission rate (TER) and dwelling emission rate (DER), as calculated with the new draft Part L methodology. The design exceeds the Building Regulations' requirements significantly with a 37% reduction in carbon emissions. A further 10% reduction in carbon emissions is achieved on the DER with the implementation of PV panels.

Planning Compliance

Photovoltaic panel arrays are proposed to further reduce the development's energy and carbon consumption, as well as to comply with Sevenoaks Council's requirement that 10% of the site-wide energy load be provided through on-site renewable energy generation. The site wide energy load is the combination of the building's regulated (SAP10) and unregulated (BREDEM) loads.

The addition of the PV panels results in a further carbon saving of 11,200 kg of CO2 per year.

Overheating Risk Analysis Results

Glazing G-Value

The modelling has assessed the sensitivity of dwellings to changes in Gvalue, and the impact of reduced G-values on overheating risks. This process has validated the design decision that glazing with a medium level of solar control (G=0.45), this is shown to be necessary to mitigate overheating risks across the developments.

Natural Ventilation Free Areas

The free areas required for each room are shown in Appendix I, these have been calculated through an iterative modelling process and provide the ventilation necessary to ensure that all spaces pass the TM59 criteria. For dual aspect spaces, this area should be spread distributed across multiple elevations to encourage cross-ventilation.

The window design will be carried out by the architect with Skelly & Couch reviewing against the natural ventilation requirements.

TM59 Assessment Results and Discussion

Utilising the solar control measures alongside the natural ventilation regime and free areas outlined above, all spaces modelled (as outlined in Section 6.4) pass the TM59 overheating criteria using the Gatwick DSY1 2020 50th percentile high emissions scenario weather data.

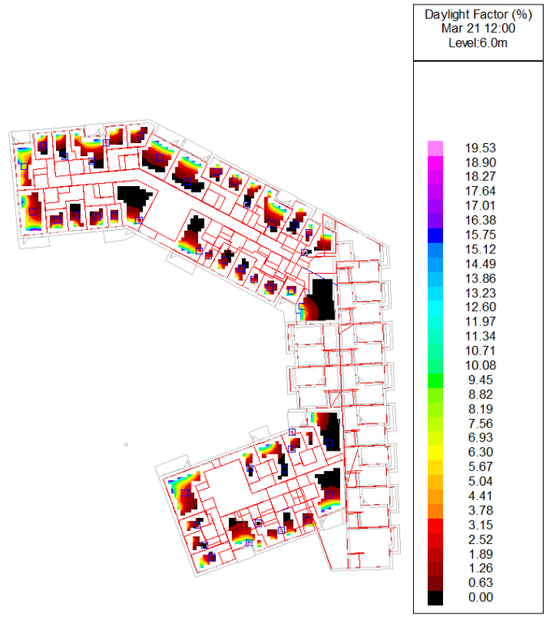
The natural ventilation opening areas were refined through the modelling and assessment process to ensure sufficient ventilation to mitigate overheating risks.

Other design measures taken to minimise overheating risks are described in Section 1.1. In combination these measures combine to ensure that a comfortable environment can be sustained through the summer period.

Daylight Assessment Results

Calculated average daylight factors are summarised in Appendix II. A summary of average daylight factors for spaces modelled is tabulated below:

Area	Average Daylight Factor
1st Floor Rotunda Living Room	3.0
1st Floor Rotunda Bedroom	2.5
1st Floor North Block Living Room	4.0
1st Floor North Block Bedroom	3.1
1st Floor South Block Living Room	4.6
1st Floor South Block Bedroom	3.2
Townhouse Living Room	3.4
Townhouse Bedroom	2.9



North and South Block 3rd Floor Daylight Factors

10.0 Drainage

The following is a summary (with excerpts) of the Drainage Strategy report completed by CUBE Consulting Engineers. Please refer to the full report submitted as part of this planning application.

Development Proposal

The site includes approximately 7,120m^2 of building and hardstanding areas, this represents approximate 78% of the total site area, a reduction on the existing.

Foul Water Drainage

Drainage Design Parameters

The below ground foul water drainage system will be designed in accordance with Design and Construction Guidance for foul and surface water sewers or "the Code", BS EN 752 Parts 3 & 4, and Building Regulations Approved Document H.

Proposed Foul Water Discharge

The foul water discharge rate has been calculated assuming a peak residential discharge rate of 4000l/unit/day in accordance with "the Code".

DISCHARGE POINT	NO. OF UNITS	PEAK DISCHARGE RATE
Crampton's Rd	10	0.46l/s
Otford Rd	121	5.60l/s
Total	136	6.06l/s

Table 2: Proposed Foul Water Discharge Rate

Proposed Foul Water Drainage Strategy

The foul water drainage strategy is to collect foul water in the internal landscaped area in a piped system and convey it to two new connections to Thames Water sewer. It is currently proposed to discharge foul water under gravity however this is subject to confirmation by a CCTV drainage survey. The proposed connection to Otford road will be with a new junction connection and with the Crampton's Road connection reusing the existing if feasible, this is subject to a connection agreement with Thames Water.

The proposed foul water discharge rate is 6.06l/s as per the calculations above.

Surface Water Drainage

Drainage Design Parameters

The below ground surface water drainage system will be designed in accordance with local policy, local Sustainable Drainage System (SuDS) guidance, national standards and best practice.

Proposed Surface Water Drainage Strategy

A detailed hydraulic model of the development has been produced using the Microdrainage modelling software, this model indicates that approximately 650m^3 for a restricted discharge rate of 4.7l/s for an impermeable area of 7120m^2.

Due to the significant level change and building density of the development the options for SuDS are limited. Due to the high volume of attenuation required the majority of attenuation will be provided using below ground cellular attenuation tanks. However, the development will also include extensive use of Greenroofs and permeable paving which will provide ecological and water quality benefits as well as providing interception and retention of surface water. The existing site is primarily hardstanding with limited landscaping, the proposals include areas of high quality landscape which will reduce the total runoff volume as well as providing biodiversity and amenity benefits.

The proposed below ground surface water drainage will be designed to accommodate a 1 in 100-year storm event + 40% climate change and therefore will protect the proposed development from the risk of surface water flooding. All surface water runoff will be managed onsite and stored in attenuation before being discharged into the nearby watercourse at a reduced rate via a new connection.

Overland Flow and Exceedance

The hardstanding landscaped areas of the site will be constructed of permeable paving and therefore any overland flows which may occur on the site due to failure or blockage of the drainage system will enter the network in a different location by percolating through the surface. In an exceedance event or offsite infrastructure block surface water will surcharge at the low point of the site. This is located to the northwest of the development, any exceedance flows will then drain into Otford Road away from the habitable areas of the site.

Offsite Impact

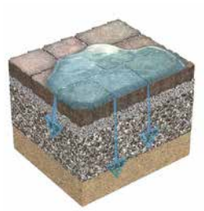
The proposed surface water drainage strategy outlined in the report demonstrates that the proposed drainage network included in the development will manage all surface water run off during events up to and including the 100 year return period storm including the upper end allowance for climate change. This represents an improvement in surface water management on the site. The discharge from site will be restricted to greenfield runoff rates for all storms up to and including the 100 year plus climate change storm. It is understood that the site currently discharges at an unrestricted rate imparting significant hydraulic load to the surrounding infrastructure. As such, it is expected that the proposed development will have a positive impact on surface water flooding offsite reducing the surface water flood risk to downstream properties.

Drainage Maintenance Strategy

A drainage maintenance and management strategy has been produced in accordance with the SuDS Manual, best practice and manufacturers guidance (refer to the full report).

5: Overland Flow Paths

Cellular Attenuation Tank



Permeable Pavers

11.0 Flood Risk

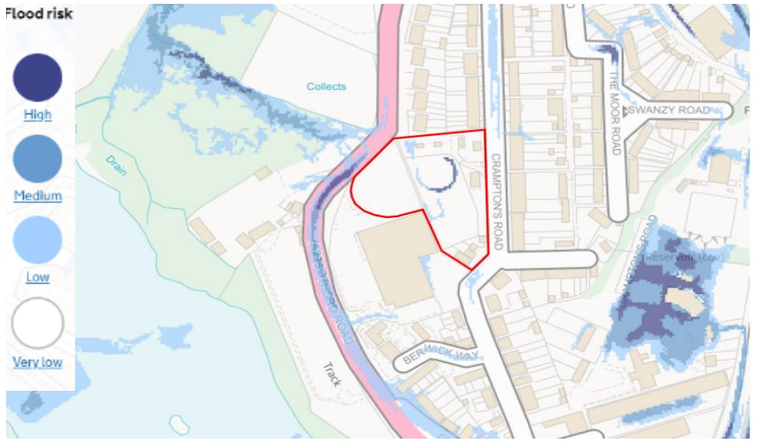
The following is a summary (with excerpts) of the Flood Risk Assessment completed by CUBE Consulting Engineers. Please refer to the full report submitted as part of this planning application.

Flood Risk Summary

The site is in Flood Zone 1 and the flood risk can be summarised in the chart below.

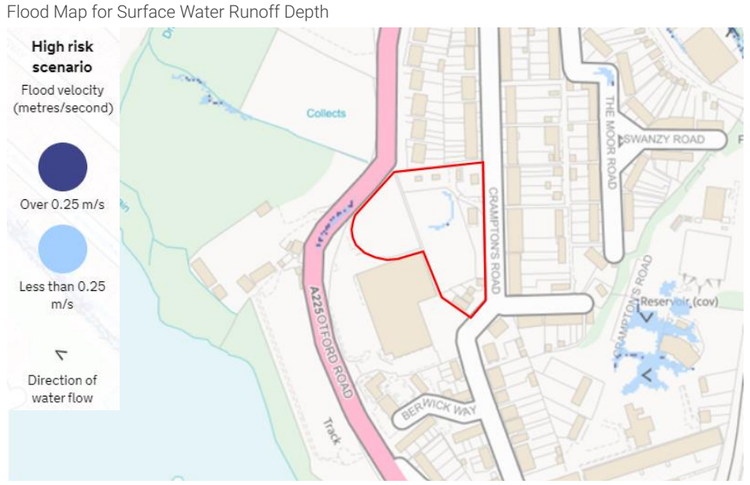
Flood Source	Risk Category			Comments
	High	Medium	Low	
Tidal/fluvial			X	The site is designated Flood Zone 1 therefore the risk of flooding to is deemed a very low.
Surface Water Run-off from Heavy Storm Events			X	There is some very minor surface water flooding in the public realm around the site. It is not determined what is causing the flooding however the proposed surface water drainage network will be designed to accommodate the surface water runoff for this catchment for a storm event up to a 1 in 100 year + 40% climate change. The surface water runoff will be stored and discharged at a reduced rate to the public sewer. Therefore, the risk of surface water flooding onsite can be considered as low.
Groundwater			X	The risk of groundwater flooding is considered low due to the information stated in Sevenoaks Level 1 SFRA. The site is also higher than the surrounding area therefore any ground water will naturally flow away from the site towards the River Darent.
Reservoirs			X	The site is in an area not at risk from reservoir flooding. Therefore, the risk is deemed to be low.

Flood Map for Planning (Tidal and Fluvial)



Flood Map for Surface Water Runoff

Flood Map for Surface Water Runoff Depth



Flood Map for Surface Water Runoff Velocity

Recommendations

On Site Flood Management

This report has demonstrated that there is very low flood risk posed to the development from fluvial, tidal, or pluvial sources or from infrastructure failure.

Off Site Flood Management

The proposed development is unlikely to increase the risk of flooding off-site by restricting the surface water runoff rate to provide a betterment on the existing surface water discharge rate. For details of the proposed surface water drainage strategy, refer to the Below Ground Drainage Strategy report.

Surface and Ground Water Pollution during Construction

The Construction Environment Management Plan (CEMP) for the proposed development should follow the guidance provided within the EA Pollution Prevention Guidance 6. The guidance sets out best practice for producing an incident response plan to deal with an environmental incident on the site. It can also help to prevent environmental damage if an incident does occur.

12.0 Contaminated Land

The following is a summary (with excerpts) of the Preliminary Contaminated Risk Assessment section of the Geotechnical and Geoenvironmental Desk Study completed by A-squared Studio. Please refer to the full report submitted as part of this planning application.

General Approach

A means to assess the risk posed by potential contamination on or under a site is to carry out a Preliminary Contaminated Land Risk Assessment. The risk assessment process is defined within the Contaminated Land Statutory Guidance of Part 2a of the Environmental Protection Act 1990 (DEFRA 2012). The Statutory Guidance states that:

For a relevant risk to exist there needs to be one or more contaminant, pathway, receptor linkages – known as a contaminant linkage - by which a relevant receptor might be affected by the contaminants in question. In other words, for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property; or significantly pollute controlled waters. For the purposes of the Guidance:

a) A contaminant is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.

b) A receptor is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property or controlled waters.

c) A pathway is a route by which a receptor is or might be affected by a contaminant.

The contaminant linkage is described within the Statutory Guidance as:

The relationship between a contaminant, a pathway and a receptor. All three elements of a contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part2a, including evidence of the actual presence of contaminants. The term significant contaminant linkage means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as Contaminated Land. The term significant contaminant means the contaminant which forms part of a significant contaminant linkage.

Part 2a of the guidance takes a risk-based approach to define contaminated land. For the purposes of this guidance, risk means the combination of:

a) The likelihood that harm, or pollution of water, will occur as a result of contaminants in, on or under the land.

b) The scale and seriousness of such harm or pollution if it did occur.

The following sections relate to a Qualitative Preliminary Contaminated Land Risk Assessment of the site and surrounding environs based on the results of the Desk Study and the site walkover carried out to date by A-squared.

The data within this assessment will be employed to produce a Conceptual Site Model which will be tested to assess if a significant possibility of significant harm to human health, non-human health or significant pollution to controlled waters is likely to occur and the risk level posed by any such linkages. The risk level classification system employed in the risk assessment is generally based upon those described in CIRIA Report C552: Contaminated Land Risk Assessment: A Guide to Good Practice (Rudland et al 2001).

Summary

The Preliminary Contamination Risk Assessment has identified complete Contaminant-Pathway-Receptor (CPR) linkages with a maximum moderate to high risk level from the potential contamination sources risk drivers identified on the site and in the surrounding area.

ACMs within the existing buildings on site, contamination associated with the existing on-site electrical sub-station, and historical contamination from nearby land-uses, including the gas works which extended off-site are also considered to be potential sources of contamination at the site.

It is recommended that prior to any demolition or refurbishment works on site that an asbestos survey is undertaken / updated within the buildings and structures on site to determine the presence of asbestos-containing materials. If present, removal works will need to be undertaken by a specialist contractor prior to the demolition phase, in accordance with the Control of Asbestos Regulations (CAR 2012).

Based on the results of the PRA, it is recommended that further appropriately targeted site investigation is undertaken for geoenvironmental purposes to enable a refinement of the ground model and geo-environmental risk assessments. All potentially complete pollutant linkages as identified in the PRA should be further investigated and assessed during the future works. The entire site should form part of the works, including the former gasholder footprints which have been infilled. The works may need to be phased, depending on access, site logistics and findings. Future site investigation should take account of the existing ground investigation information to inform the ground investigation design.

Following further targeted ground investigation the next stage of geo-environmental assessment should include a generic quantitative risk assessment (GQRA) for human health and controlled waters purposes. Appropriate assessments should also be made with respect to potentially sensitive ecology identified in the surrounding area and the proposed on-site buildings and structures including an assessment of the risk from sulphate 'attack' to foundations. The results of the recommended further site investigation and assessments should be presented in a 'Phase II' type geo-environmental interpretive report.

It is noted that based on the results from the next stage of ground investigation and geo-environmental assessments, it may be considered that geo-environmental risks for the proposed redevelopment require further assessment (such as via detailed quantitative risk assessment - DQRA) or remediation. Further comment in this regard should be provided in the recommended 'Phase II' report.

This report is suitable to be submitted to the Local Authority in support of a Planning application for the proposed redevelopment.

Should any details of the proposed redevelopment change from those considered herein prior to application then the assessment should be reviewed to ensure it remains appropriate prior to its submission to the Local Authority.

13.0 Ecology

The following is a summary (with excerpts) of the Preliminary Ecological Appraisal completed by Middlemarch Environmental Ltd. Please refer to the full report submitted as part of this planning application.

Summary

The ecological desk study identified no European statutory site within 5 km of the survey area, four UK statutory sites within 2 km and nine ancient woodland sites within 2 km. The site is also located within 10 km of a statutory site designated for bats. The desk study also provided records of bats, badger, hedgehog, reptiles, amphibians, birds and invertebrates.

The walkover survey was undertaken on 22nd July 2020 by Indre Barsketyte (Principal Ecological Consultant). At the time of the survey the site as dominated by areas of hardstanding which have started to become colonised by ephemeral vegetation, with scrub, scattered trees and small areas of grassland located around the site boundaries.

The key ecological features on and surrounding the site in relation to the works proposed are Sevenoaks Gravel Pits SSSI, wall cotoneaster, bats, nesting birds, invertebrates and herpetofauna.

Recommendations

Nature Conservation Sites

Sevenoaks Gravel Pits SSSI: The proposed works could potentially directly or indirectly impact upon Sevenoaks Gravel Pits which is designated as a Site of Special Scientific Interest.

To control potential construction-phase impacts, it is recommended that a Construction Environment Management Plan (CEMP) be compiled for the site. The aim of the CEMP is to minimise the potential impact of the construction phase of the development on the existing ecology of the site and off-site receptors, and ensure works proceed in accordance with current wildlife legislation. This document should be agreed with Natural England and Local Planning Authority prior to any works commencing.

A further assessment of the potential for the proposed development to impact upon the SSSI has been undertaken, the results of which are detailed in Report RT-MME-154152, which should be read in conjunction with the Preliminary Ecological Appraisal.

Habitats

R2 Habitat Retention and Protection: The development proposals should be designed (where feasible) to allow for the retention of existing notable habitats including mature trees. Protection measures comprise:

o Trees: Any trees on or overhanging the site, which are retained as a part of any proposed works should be protected in accordance with British Standard 5837: 2012 "Trees in relation to design, demolition and construction - recommendations". Protection should be installed on site prior to the commencement of any works on site.

If retention is not possible, appropriate replacement planting should be incorporated into the soft landscape scheme in accordance with the ecological mitigation hierarchy. Only native and/or wildlife attracting species should be planted.

R3 Biodiversity Enhancement: In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and Local Planning Policy, biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed development to work towards delivering net gains for biodiversity. As such, a Biodiversity Enhancement Strategy should be developed for the site.

Protected / Notable Species

R4 Roosting Bats: Recommendations made in the Bat Survey Report (RT-MME-152714-02) should be followed.

R5 Nesting Birds: Vegetation and building clearance should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August). If this is not possible then any vegetation/ buildings to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them should be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.

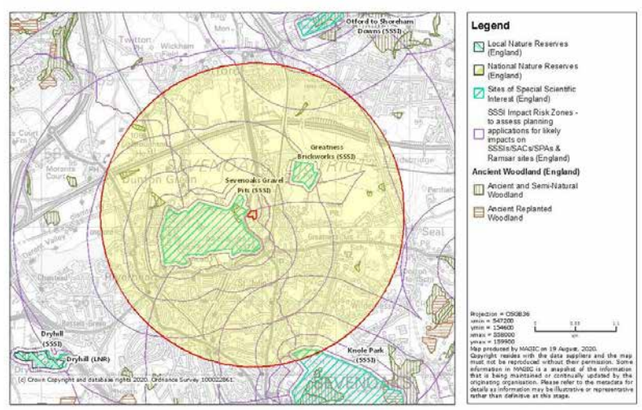
R6 Terrestrial Mammals including Badger, Shrews, Fox and Hedgehog: Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape. Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each workday to prevent animals entering/becoming trapped.

R7 Herpetofauna: A reasonable avoidance method statement should be compiled detailing how the proposed works will be undertaken in a sensitive manner to avoid any potential breach of legislation. This document should describe working methods, timings and should detail any ecological control measures that will be implemented e.g. vegetation management and ecological supervision.

Invasive Plant Species

R8 Wall Cotoneaster: A Method Statement must be developed for the proposed works to ensure that they do not result in the spread of any invasive non-native species. This method statement should reflect established best management practices for the treatment of the species.

MAGIC **UK Statutory Sites within 2 km**



14.0 Arboriculture

The following is a summary (with excerpts) of the Preliminary Arboricultural Assessment as well as the Arboricultural Impact Assessment; both completed by Middlemarch Environmental Ltd. Please refer to the full reports submitted as part of this planning application.

Results of Preliminary Arboricultural Assessment

Desk Study

No direct consultation with the Local Planning Authority, Sevenoaks District Council, has taken place. However, having used the online search facility on the website for the Local Planning Authority, it is understood that there are no Tree Preservation Orders or Conservation Areas that would apply to trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees. Prior to any tree works being undertaken, confirmation of the online information should be sought from the Local Authority.

Reference to the Multi-Agency Geographical Information for the Countryside (MAGIC) website indicates that an area of ancient woodland has not been recorded within 15 metres of the survey area.

Summary

Thirteen individual trees and four groups of trees were surveyed as part of the Preliminary Arboricultural Assessment. Trees assessed during the survey are listed as individual trees and groups of trees in the Tree Schedule (Appendix A) in accordance with BS5837:2012 recommendations. Table 3.1 below provides a summary of the survey results in terms of categorisation.

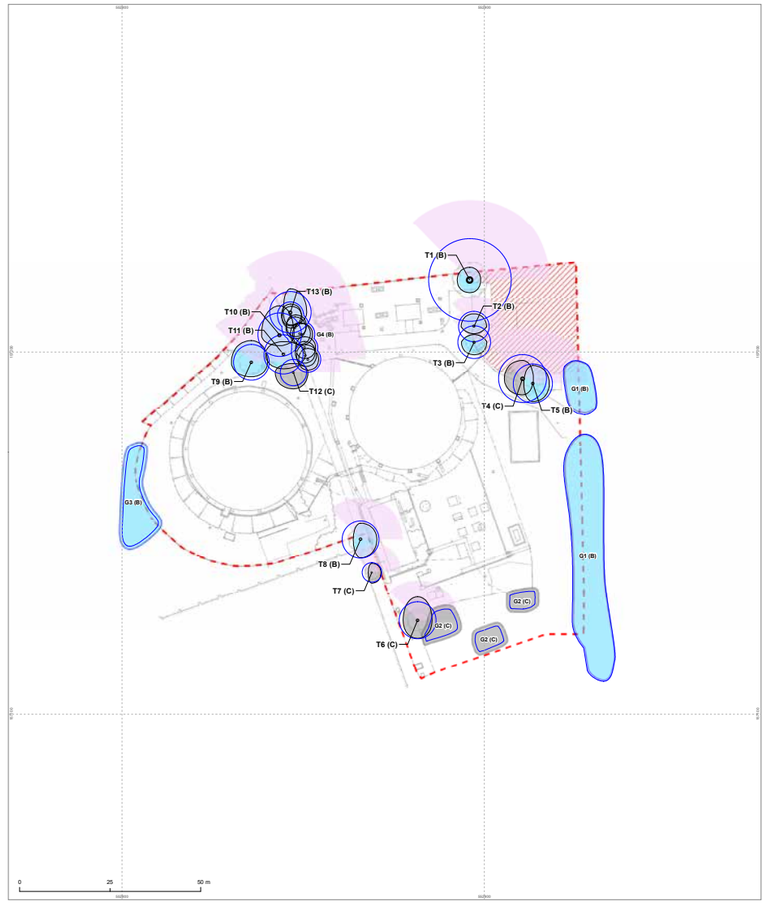
Tree/ Group Reference	Species	Retention Category	Proposed Works
T1	Lombardy poplar	B	Installation of new hard surfaces. Installation of foundations of proposed building.
T2	Cherry	B	Installation of new hard surfaces.
T3	Hawthorn	B	Installation of new hard surfaces.
T10	Silver birch	B	Installation of new access road. Installation of new wall.
T13	Silver birch	B	Installation of new wall.
G4	Silver birch	B	Installation of new wall.

The majority of trees recorded during the arboricultural survey were considered to be of a moderate retention value and located adjacent to the northern, eastern, and western boundaries of the site. These specimens, which include Silver Birch (Betula pendula), Lombardy Poplar (Populus nigra) and Sycamore (Acer pseudoplatanus) among others, offer important screening between the site and adjacent residential development. These trees in turn offer a valuable amenity contribution to the site and consideration will be made where possible for their retention in the context of new development.

Other specimens recorded were deemed less significant. These included individual Silver Birch, Goat Willow (Salix caprea) and Rowan (Sorbus aucuparia), as well as groups of Ash (Fraxinus excelsior), Cherry (Prunus sp.), Hazel (Corylus avellana), English Oak (Quercus robur) and Dogwood (Cornus sanguinea). These lower quality specimens were more scattered in distribution but were generally noted towards the edges of the site.
It was considered that these have a reduced potential contribution to the overall aesthetic of the site and as such are a lower priority with respect to tree retention.

Summary of Arboricultural Impacts

The proposed development of the site is unlikely to significantly impact the visual amenity of the local area as a result of the proposed tree removal subject the adoption of a suitable replacement tree planting strategy. The proposed works are unlikely to impact significantly upon the long-term health of retained trees and whilst some works are to be undertaken within the RPAs of retained trees, the nature of those works are such that they can be completed without impacting significantly upon the trees subject to the adoption of appropriate working practices as detailed in a future Arboricultural Method Statement following approval of the current planning application



15.0 Air Quality

The following is a summary (with excerpts) of the Noise Impact Assessment completed by Ensafe Consultants. Please refer to the full report submitted as part of this planning application.

Executive Summary

The site is located within the vicinity of the A225 and A25, as well as within the vicinity of an area designated by Sevenoaks District Council as experiencing elevated pollutant concentrations resulting from road vehicle exhaust emissions. As such, an Air Quality Assessment was required to quantify pollution levels across the site, consider its suitability for the proposed end-use and assess potential impacts as a result of the development.

Potential construction phase air quality impacts from fugitive dust emissions were assessed as a result of earthworks, construction and trackout activities. It is considered that the use of good practice control measures would provide suitable mitigation for a development of this size and nature and reduce potential impacts to human and ecological receptors to an acceptable level.

Dispersion modelling was undertaken in order to predict annual mean pollutant concentrations across the application site as a result of existing road vehicle exhaust emissions associated with the A225 and A25. Additionally, modelling was undertaken to quantify impacts as a result of additional road vehicle exhaust emissions generated by the proposed development. Results were subsequently verified using local monitoring results provided by Sevenoaks District Council.

The dispersion modelling results indicated that annual mean pollutant levels across the application site were below the relevant air quality objectives. The location is therefore considered suitable for the proposed end-use without the implementation of protective mitigation techniques.

Additionally, the assessment concluded that impacts on pollutant levels as a result of operational phase pollutant emissions were predicted to be not significant at all sensitive locations in the vicinity of the site, as a result of negligible impacts at discrete sensitive receptor locations. The use of robust assumptions, where necessary, was considered to provide sufficient results confidence for an assessment of this nature.

Based on the assessment results, air quality issues are not considered a constraint to planning consent for the proposed development.

Conclusions

During the construction phase of the Proposed Development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM methodology.

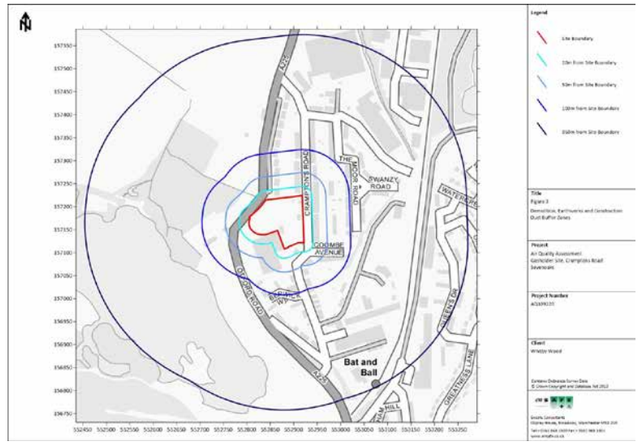
Assuming good practice dust control measures are implemented, the residual potential air quality impacts from dust generated by construction, earthworks and trackout activities was predicted to be not significant for nearby sensitive receptors, including the Sevenoaks Gravel Pits SSSI.

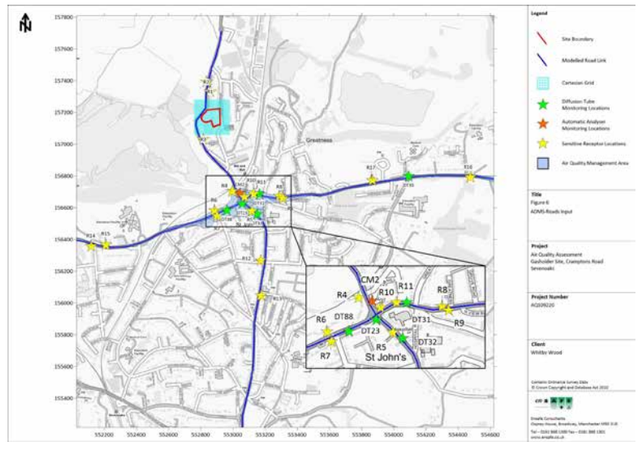
Dispersion modelling was undertaken to quantify annual mean NO2 and PM10 concentrations across the application and subsequently verified using SDC local monitoring data.

The dispersion modelling results indicated that annual mean NO2 and PM concentrations across the application site were below the relevant AQOs. The location is therefore considered suitable for the proposed end-use without the implementation of protective mitigation techniques.

Predicted impacts on annual mean NO2, PM10 and PM2.5 concentrations as a result of operational phase exhaust emissions were predicted to be negligible at all 17 sensitive receptor locations within the vicinity of the site. The overall significance of potential impacts was determined to be not significant in accordance with the EPUK and IAQM guidance. The use of robust assumptions, in the form of worse-case road vehicle emission factors, was considered to provide sufficient results confidence for an assessment of this nature.

Based on the assessment results, air quality is not considered a constraint to planning consent and the Proposed Development is considered suitable for residential use.





16.0 Noise

The following is a summary (with excerpts) of the Noise Impact Assessment completed by Sound Matters. Please refer to the full report submitted as part of this planning application.

Summary

This report provides:

- The results of a baseline noise survey together with the assessment of site suitability (with respect to noise break-in and ventilation design) for its intended use.
- Plant noise emission limits to minimise potential noise impacts generated by fixed plant upon the nearest noise sensitive receptors (NSRs).

Baseline Noise Survey

A baseline noise survey has been undertaken at the application site in order to provide:

- A formal record of the existing noise climate;
- Data required to establish noise emission limits for the new building service plant associated with the development.
- Data required to assess the site suitability for development, with respect to ensuring occupants experience suitable indoor ambient noise levels.

Noise Assessment

This noise assessment follow guidance provided in the following documents:

- ProPG: Planning & Noise Professional Practice Guidance on Planning & Noise (May 2017) This document sets out the approach to the management of noise with respect to new residential development within the planning system and complements the Government's overarching Noise Policy Statement for England (NPSE), the National Planning Policy Framework (NPPF) and Planning Practice Guidance (including PPG-Noise).

- The ANC - Acoustics, Ventilation and Overheating Guide ('AVO Guide') This document recommends an approach to acoustic assessments for new residential development that take due regard of the interdependence of provisions for acoustics, ventilation, and overheating. Application of the AVO Guide is intended to demonstrate good acoustic design as described in the ProPG: Planning & Noise, May 2017, when considering internal noise level guidelines.

Conclusions

The proposed residential development at the Gasholder Site of Crampton's Road, Sevenoaks has been assessed in relation to noise within the guidelines of National Planning Policy Framework (2010), the Noise Policy Statement for England (2012), the Planning Practice Guidance (2014) and the Professional Practice Guidance on Planning and Noise for new residential development (ProPG 2017).

An environmental noise survey has been undertaken to establish the noise clime at the site. The survey included long term noise monitoring (5 days continuous monitoring) at two locations.

An initial assessment showed that part of the site is low risk with regard to noise. In fact, the future building elevations on Crampton's Road and on the South and North Blocks have external noise levels below 55 dB Daytime and between 45-50 dB during the Night-time period. The maximum noise level from individual events (LAmax) during night-time does not exceed 60 dB more than 10 times per night.

The Rotunda building and the West and North elevation of the North Block will experience higher noise levels and therefore a detailed noise assessment of the internal ambient noise levels has been undertaken.

Approved Document F whole dwelling ventilation requirements will be satisfied using continuous mechanical supply and extract with heat recovery (MVHR).This strategy will ensure that external noise is well attenuated as there is no need for open trickle ventilators on the building façade.

Glazing performance requirements to achieve the indoor ambient noise levels of BS8233:2014 have been calculated.

The apartments require additional ventilation (above ADF whole dwelling ventilation provisions) in order to mitigate overheating. An assessment has been undertaken in line with guidance set out in the ANC - Acoustics, Ventilation and Overheating Guide ('AVO Guide') (2020).

While standard opening windows will be suitable to provide the additional air necessary to mitigate overheating on most elevations, acoustically attenuated natural ventilation openings will be used where exterior noise levels are too high to reduce impact on the occupants.

External amenities area will generally comply with the 50-55dB LAeq, 16hrs exterior noise level recommendation of BS8233. Where this is not possible apartments will still have access to a quiet communal outdoor area.

Noise emission limits for new mechanical plant (which will be very limited considering the passive cooling strategy) have been set based on representative background noise levels measured on site in line with guidance from BS4142.

Overall the proposed development complies with the relevant national planning policy in relation to noise and therefore a recommendation is made for the application to be granted.

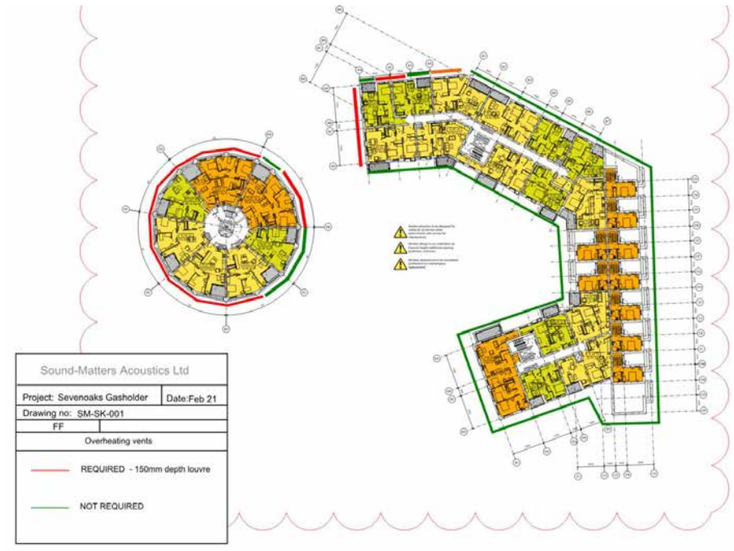


Figure 7 *Mark-up of proposed development showing provisions for acoustically attenuated overheating vents*

17.0 Transportation

The following is a summary (with excerpts) of the Transportation Assessment completed by Vectos. Please refer to the full report submitted as part of this planning application.

Introduction

This Transport Assessment (TA) will outline the existing transport conditions surrounding the Site, relevant policy guidance and the likely impact of the development proposals in traffic and transport terms.

As part of the design process Vectos engaged with KCC Highways to agree the scope of this report and the included assessments. It is noted that due to the ongoing COVID-19 pandemic it was not possible to undertake new traffic surveys and as such the assessments included within this report reflect the data which was available at the time of writing.

This Transport Assessment has been submitted alongside a Residents Travel Plan and a Delivery and Servicing Plan, which have been produced to support the sustainable operation of the development.

Conclusions

The existing Public Right of Way through the Site will be retained and enhanced as part of the proposals and will form part of a network of footways through the Site.

The Site benefits from being in close proximity to Bat and Ball Station, located a 7-minute walk away. The station provides frequent services towards London and Sevenoaks, which would provide an important commuting link. The Site is also in the vicinity of a range of amenities, including food stores, pharmacy, post office, takeaways, community centre and outdoor leisure space. This will allow future residents the opportunity to use sustainable transport as their primary mode of transport.

The development is likely to generate approximately 59 two-way vehicle trips during the AM peak hour and 53 two-way vehicle movements during the PM peak hour. This equates to approximately one additional two-way vehicle movement per minute during the AM and PM peak hours on the local road network.

The Site will provide two points of vehicular access for residents, one on Otford Road and another on Crampton's Road. The access on Crampton's Road will be for vehicle ingress movements only and will provide access to an internal spine road with areas of parking located off it. The Otford Road access point will be a point of vehicular access and egress. Due to the lack of vehicular desire lines and convoluted internal route, with significant horizontal and vertical deflection, it is not anticipated that rat-running will occur as a result of the development.

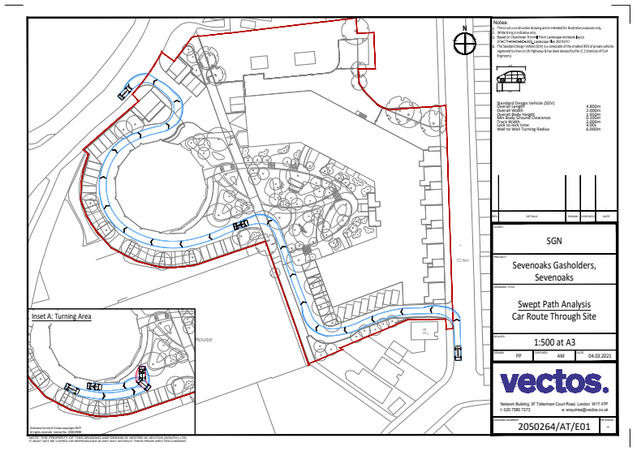
In addition to residents' cars, delivery and servicing vehicles and emergency vehicles, SGN will require access to the Site on occasion for maintenance purposes. The structures which they require access to are located towards the northern edge of the Site and will be located within a secure area.

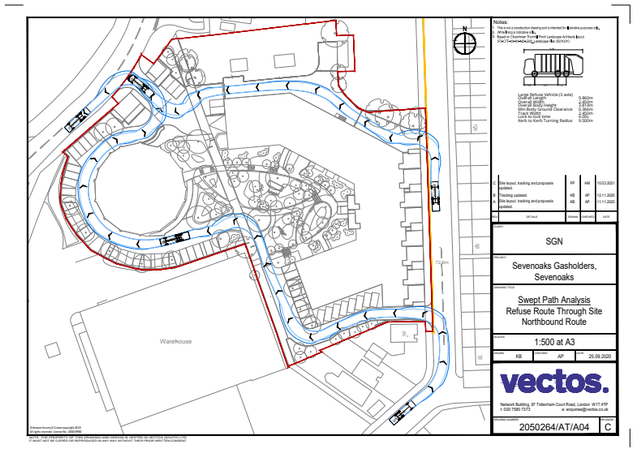
Access for SGN maintenance vehicles and emergency vehicles accessing the North Block will be via their existing access on Crampton's Road. The needs of SGN have been considered throughout the design process.

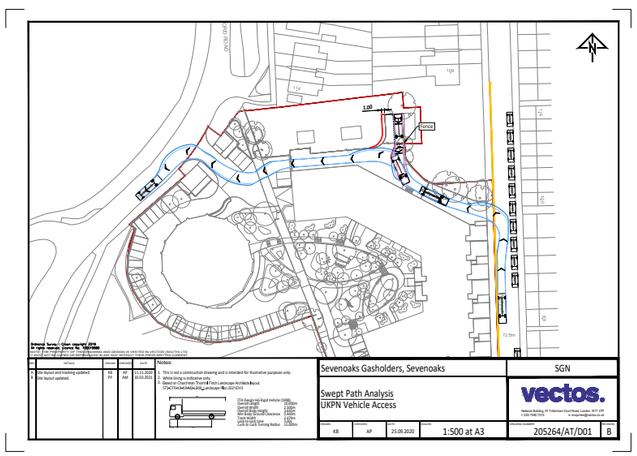
Analysis of parking beat survey data has determined that the area surrounding the Site is not currently subject to parking stress. The construction of the development would result in a small reduction in parking capacity. In the worst-case scenario a small amount of overspill parking may result from new residents (up to 11 vehicles overnight), however the analysis has shown that this would not result in parking stress in the surrounding area.

The junction capacity assessment of Bat and Ball junction has determined that the Site will have a minimal impact on the operation of the junction, which is already understood to be operating beyond its capacity. The additional vehicles which will pass through this junction as a result of the development are very low and will have a negligible impact on its operation. It is understood that improvements to the junction may come forward as part of over proposed developments in the area, should this be the case the proposed development will have a negligible impact on any new layout as well.

It has been demonstrated through this Transport Assessment that the development will have a negligible impact on the operation of the local highway network.







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