

5.0 Design Proposal

5.3 Relationship with Existing Teaching Spaces and MUGA



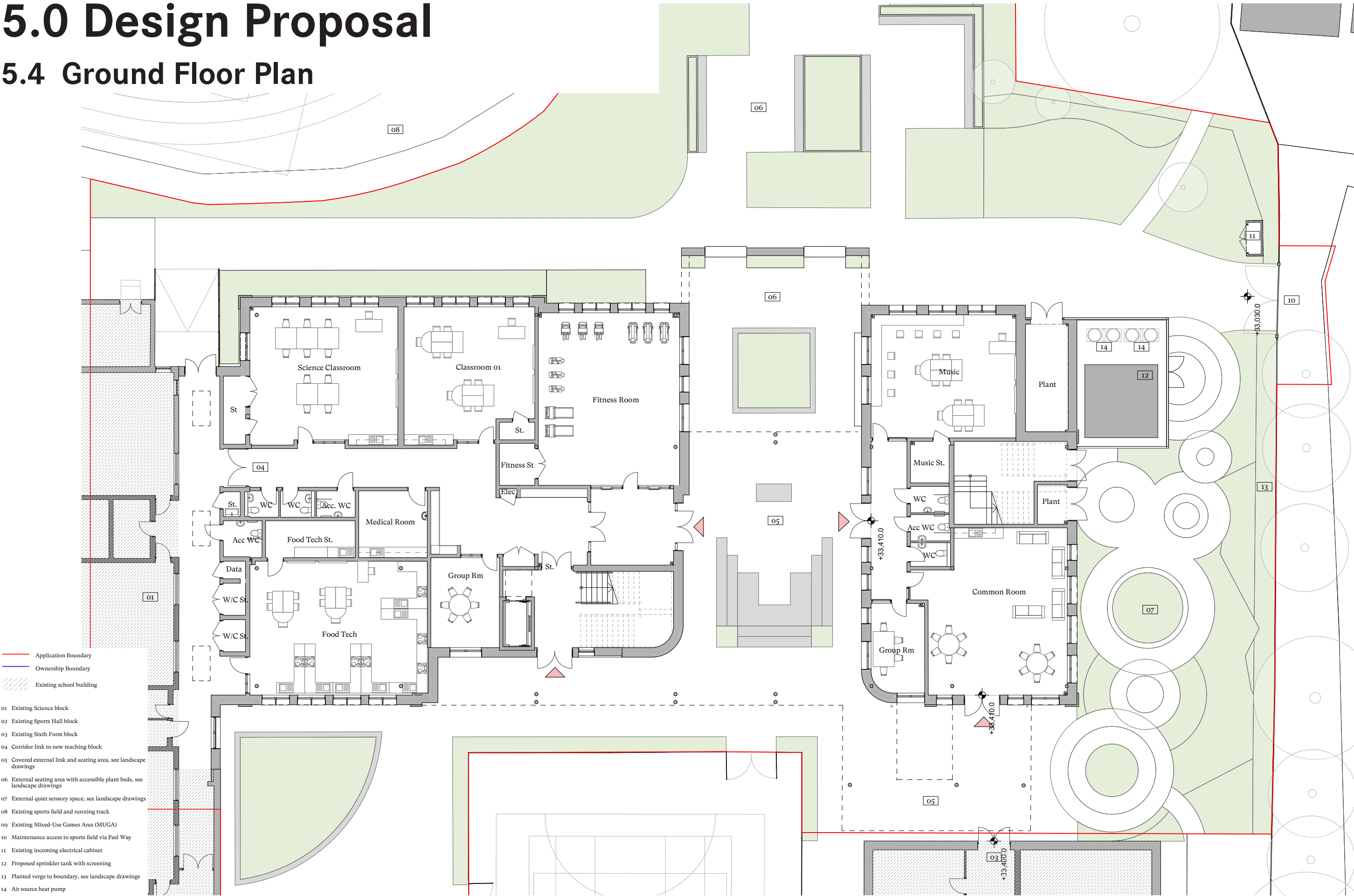
The proposed block is positioned to allow efficient movement of teachers and staff between existing and proposed facilities, both internal and externally.

Internally, the block connects to the existing corridor. Externally, hard landscaping creates external walkways between existing blocks and entrances to the new block. A covered canopy is also proposed, making it possible to walk between every school block while remaining undercover. A gap is proposed to the west of the MUGA allowing circulation as well as space for staff, pupils, and parents to gather while watching activities within the MUGA.



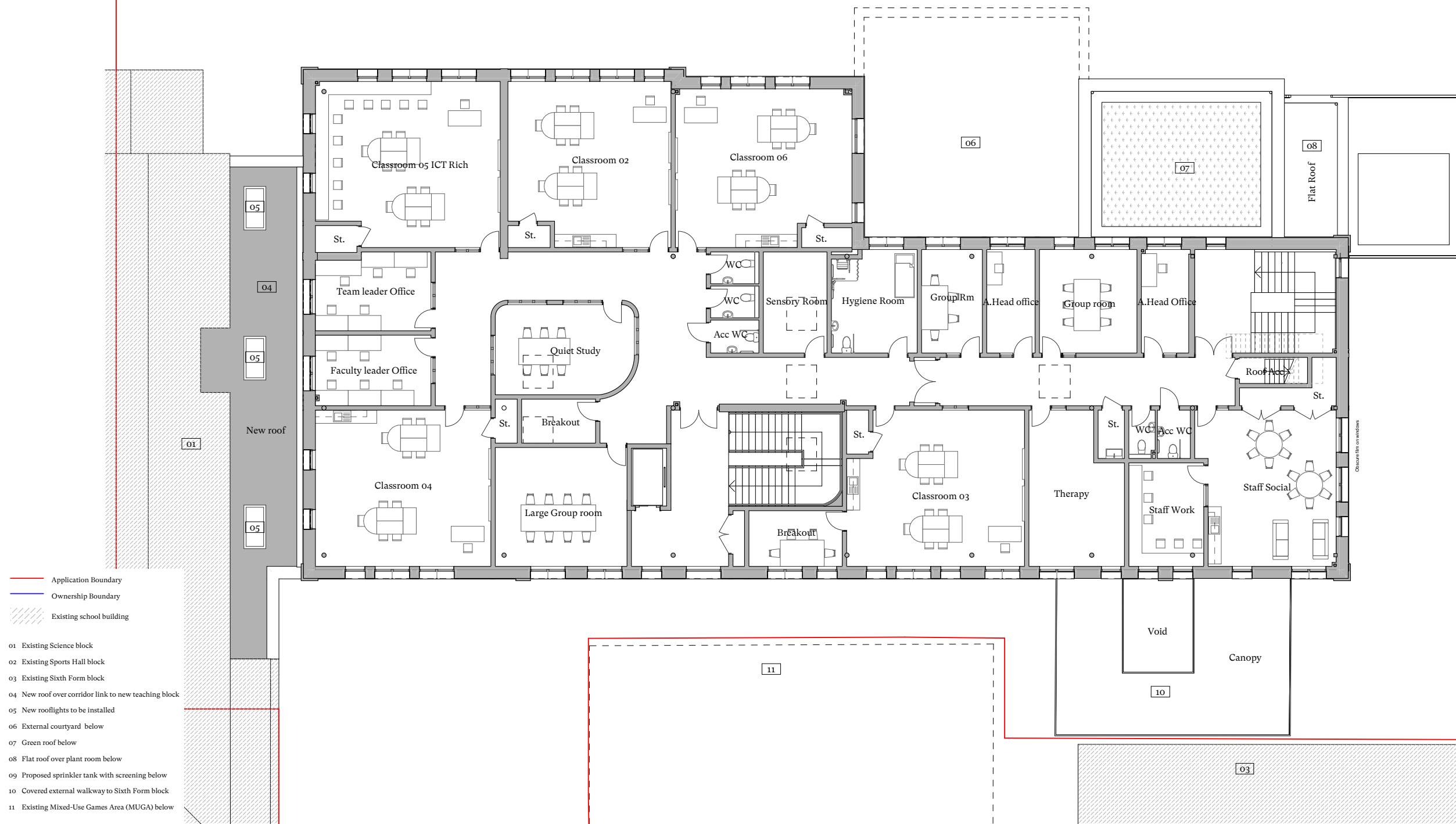
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5.4 Ground Floor Plan



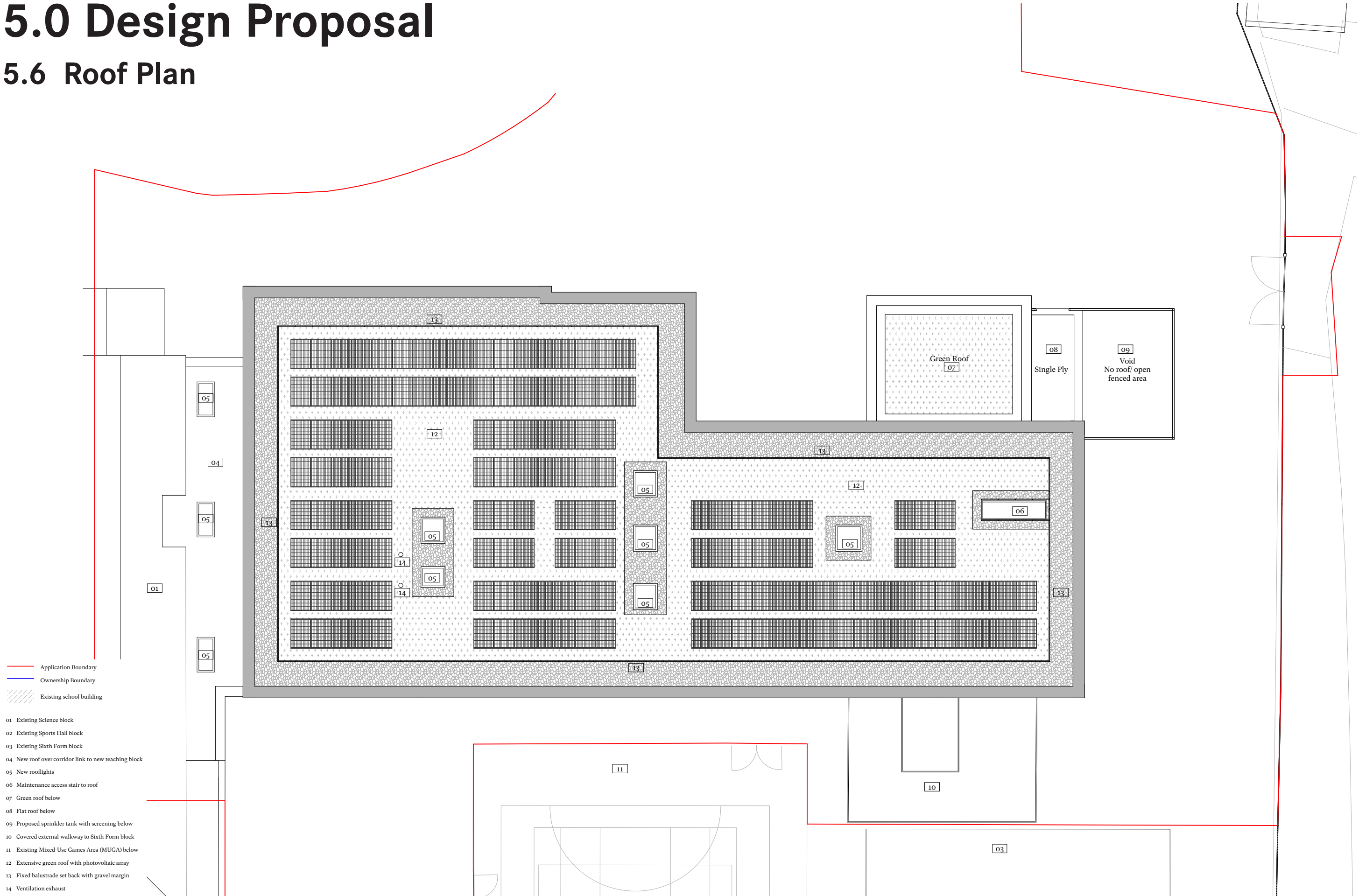
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5.5 First Floor Plan



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5.6 Roof Plan



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5.7 Materials



A bright, playful, and varied pallet of materials has been used in order to create a joyful addition to the school site. The school is currently made up of a collection of buildings consisting of a variety of different materials and colours. The use of 3 different brick types aims to continue this theme of a collection of unique and varied buildings that together form the school. One of the three bricks is proposed to be similar to the brick used on the newly completed school buildings, offering a level of continuity.

Louvered Ventilation Panel

Intake and exhaust for ventilation units.

Shading Louver

PPC vertical louver positioned to reduce solar gains.

Coloured Windows

External PPC windows with brick reveal.

Brick Type 01

Dark multi brick

Brick Type 02

Oatmeal brick inspired by the brick used on the newly completed school buildings.

Brick Type 03

Red brick



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5.8 External Courtyard Space

A transitional courtyard space has been created at ground floor in between the existing playing fields and the proposed external covered gathering space. Clustered around the courtyard are a number of teaching spaces and the fitness suite. These spaces are visually connected to the courtyard and have the ability to spill out into this space, offering opportunities for outside teaching.

The courtyard is bounded by a brick wall with integrated seating and large openings. These openings frame views out to the rest of the school site. A large planting bed and tree are positioned at the centre of the courtyard, creating a green heart to the space.

- 1 Teaching space
- 2 Seating
- 3 Planting bed and tree
- 4 Connection to sports field



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5.9 External Canopy Area

The proposed massing creates a large covered area adjacent to the MUGA. As well as enabling free movement across the school site for pupils and staff, the large covered area creates a large multi-use gathering and teaching space. The space is located close to the sixth form and sixth form common room, as well as a number of teaching spaces that overlook it. The spaces weather protection increases its all-year usability, and creates a sheltered space to gather.

The landscape design for the space incorporates a raised seating amphitheatre that will enhance the spaces teaching function.



- 1 Raised Seating
- 2 Planting
- 3 Teaching space
- 4 Sixth form block

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5.10 Sustainability and Environment

The roof design incorporates an expansive use of green roof. The large area of green roof replaces a previously mostly hard-landscaped area, helping to increase the greening of the site.

The green roof also benefits the sites drainage strategy by attenuating the flow of rainwater from the roof. The green roof system will also retain an amount of rain water and reduce run-offs of pollutants.

Following DfE requirements a significant proportion of the developments energy needs will be fulfilled by renewable energy sources generated on site. Energy harvested with photovoltaic panel arrays and the building is efficiently heated with air source heat pumps.

The BioSOLAR system allows the PVs to sit above the green roof and the roof area is therefore able to be used as green roof and for PVs.



- 1 Roof access to via stair.
- 2 BioSOLAR green roof with PVs.
- 3 Green roof above music room.
- 4 Enclosure for ASHPs and sprinkler tank.



An example of a BioSOLAR roof



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5.11 Approach to Sustainability

Building Fabric Performance

The proposed building is designed with low u-values in order to become efficient and environmentally sustainable to heat. Greater details about the steps taken to create an energy efficient building can be found in the energy statement.

Element	Target U-Value
Walls	0.14
Floors	0.11
Roof	0.11
Windows	0.8

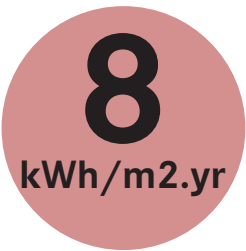
See energy statement for more information.

Air Tightness = 3 m³/h.m²@50Pa

Energy Use

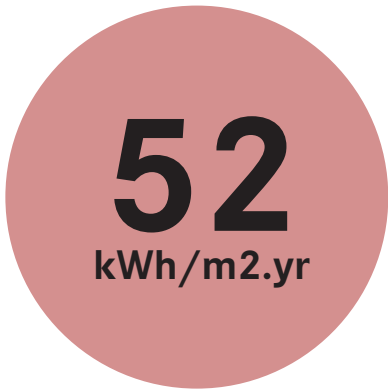
The building aims to meet the targets set out by the Department for Education, to the right. The key requirement of net-zero carbon in operation means the building requires a large number of PVs to meet its energy consumption.

Space Heating Demands



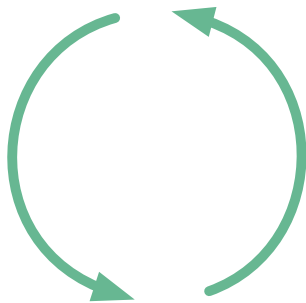
Taken from Dept. of Education

Total Energy Use (excluding renewable)



Taken from Dept. of Education

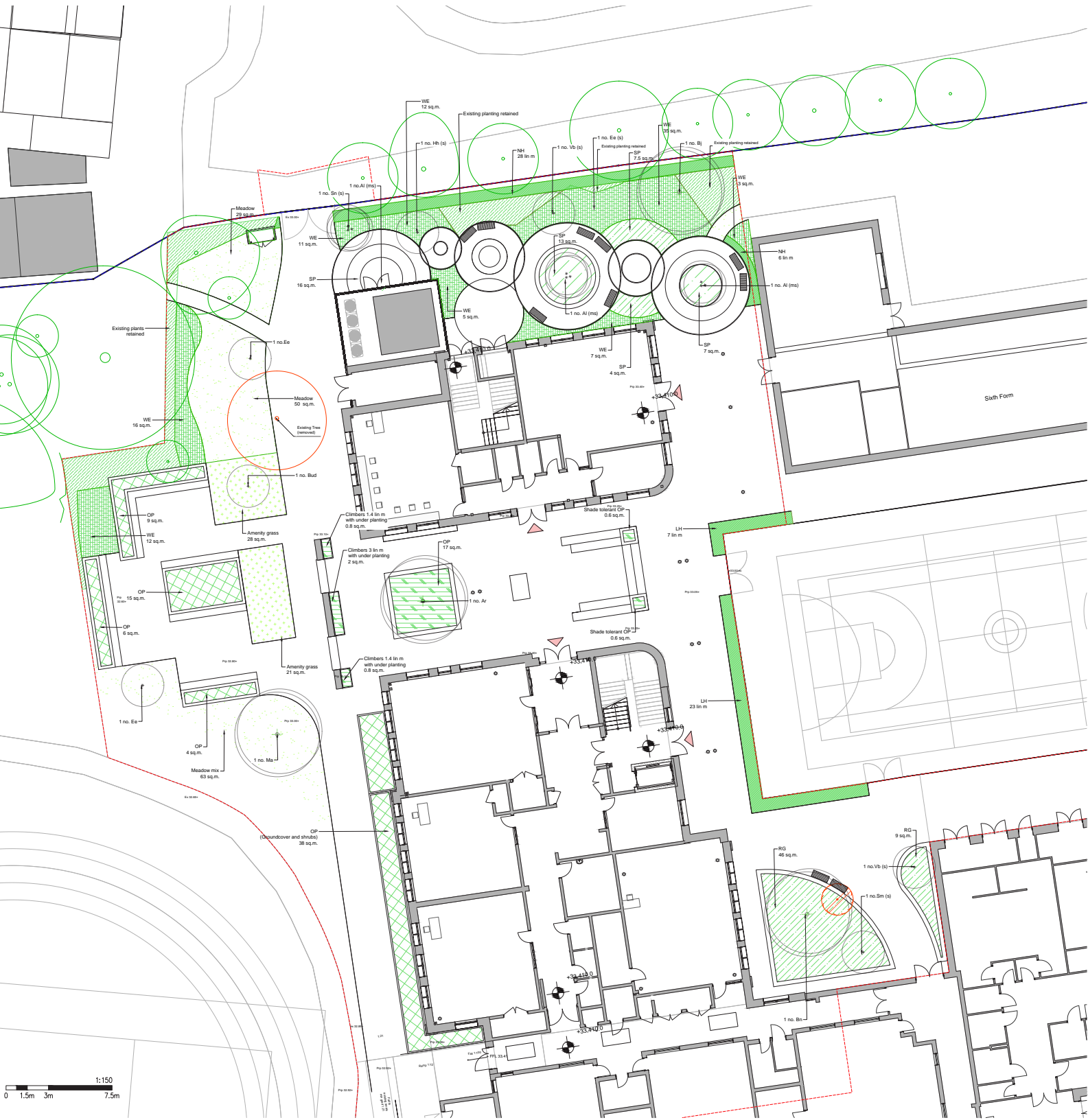
Net Zero Carbon in Operation



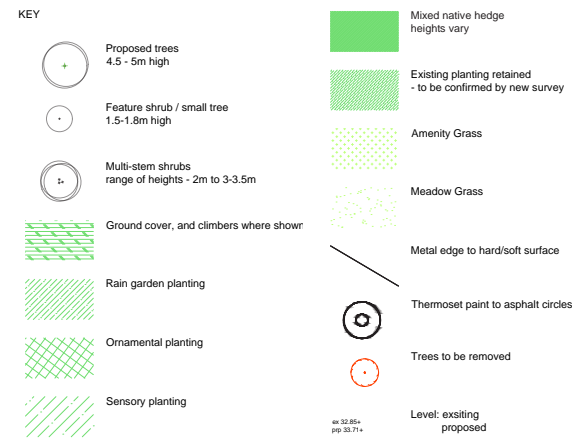
Taken from Dept. of Education

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5.12 Landscape and Ecology



PLANTING SCHEDULE MEADOW SCHOOL - STAGE 3					
Code	Species	Form	Specification	Size	Density
Trees					
Ar	Acer rubrum October Glory	Clear stem specimen			As Shown
Bn	Betula nigra	Multi stem			As Shown
Bu	Betula utilis Jacquemontii	Clear stem specimen			As Shown
Ma	Magnolia x brooklynensis Yellow Bird	Clear stem specimen			As Shown
Large shrubs					
Al	Komarovitchi lamarckii	Multi stem shrub			As Shown
Bud	Buddleja x weyrana 'Sungold'	Large shrub			As Shown
Ee	Euonymus europaeus	Large shrub			As Shown
Hh	Hamamelis x intermedia 'palida'	Large shrub			As Shown
Sm	Sambucus nigra 'Black Lace'	Large shrub			As Shown
Vb	Viburnum bodianense 'Dawn'	Large shrub			As Shown
Woodland Edge Planting Mix (WE)					
	Cornus alba 'Sibirica'	Bushy Shrub	1+1 BR		2/m2
	Acer campestre	Bushy Shrub	1+2 BR		2/m2
	Hedera hibernica	Bushy Shrub	1L CG		6/m2
	Rosa canina	Bushy Shrub	1+1 BR		3/m2
	Corylus avellana 'Coscord'	Bushy Shrub	1+2 BR		2/m2
	Ilex aquifolius (shrub form)	Bushy Shrub	3L CG		1/m2
	Euonymus europaea	Bushy Shrub	3L CG		1/m2
	Viburnum opulus	Bushy Shrub	1+2 BR		2/m2
	Sorbus Aucuparia	Bushy Shrub	1+2 BR		2/m2
	Lonicera henryi	Bushy/Climbing Shrub	3L CG		2/m2
	Craegus monogyna	Bushy Shrub	1+2 BR		2/m2
Ornamental planting Mix (OP)					
La	Lavandula x intermedia 'Grosso'	Bushy Shrub	3L CG		6/m2
Bs	Buxus sempervirens	Bushy Shrub	3L CG		6/m2
Ger	Geranium x oxianum 'Wargrave Pink'	Bushy Shrub	3L CG		4/m2
GeM	Geranium macrorrhizum 'Mount Olympus White'	Bushy Shrub	3L CG		4/m2
Vma	Vincia major 'variegata'	Bushy Shrub	3L CG		6/m2
Pte	Pachysandra terminalis	Bushy Shrub	3L CG		4/m2
Drf	Dryopteris filix-mas	Healthy Spreading growth	2L CG		4/m2
Sby	Stachys byzantina	Evergreen carpeting perennial	3L CG		6/m2
Ste	Stipa tenuissima	Grass	2L CG		6/m2
Vb	Verbena bonariensis	Bushy Shrub	3L CG		as shown
Doa	Daphne odora 'Aureomarginata' E	Bushy Shrub	2L CG		6/m2
CrB	Camellia 'Sparkling Burgundy' E	Bushy Shrub	3L CG		6/m2
PM	Potentilla fruticosa manian red robin	Bushy Shrub	3L CG		6/m2
Hed	Hibiscus syriacus magenta chifon	Specimen shrub	3L CG		as shown
EmB	Exochorda x macrantha 'The Bride'	Specimen shrub	3L CG		as shown
Sensory planting (SP)					
Sight					
HM	Heuchera 'Marmalade'	Clump-forming perennials	3L CG		6/m2
Vb	Verbena bonariensis	Bushy Shrub	3L CG		6/m2
KN	Kniphofia 'nobilis'	herbaceous perennials	3L CG		6/m2
Touch					
Sby	Stachys byzantina	Evergreen carpeting perennial	3L CG		6/m2
Al	Anemonehe lessoniana	Grass	3L CG		6/m2
Smell					
Hi	Helichrysum italicum	Bushy Shrub	3L CG		6/m2
Lan	Lavandula angustifolia	Bushy Shrub	3L CG		6/m2
Ca	Cosmos atrosanguineus	Perennial	2L CG		6/m2
Cl	Chiosya ternata	Bushy Shrub	3L CG		6/m2
Sound					
PaH	Pennisetum alopecuroides 'Hameln'	Grass	2L CG		6/m2
Bm	Briza maxima	Grass	2L CG		6/m2
Grass Seed for General Grass Area (Amenity)					
British Seed House			A24 Mix		50g per m2
Grass Seed for long meadow grass area (Meadow)					
Emonsgate Seeds			EL1 Flowering Lawn Mix		5g per m2
Rain Garden Mix (RG)					
Ba S	Bistorta affinis 'Superba'	Pot grown	3L CG		6 per lin m
De c	Deschampsia cespitosa	Pot grown	3L CG		6 per lin m
Ho F	Hosta Frances	Pot grown	3L CG		6 per lin m
Ir p	Iris pseudocorus	Pot grown	3L CG		6 per lin m
Pr d	Penstemon digitalis	Pot grown	3L CG		6 per lin m
Po s	Polystichum setiferum	Pot grown	3L CG		6 per lin m
Native Hedge Mix (NH)					
Ac H	Acer campestre	Pot grown	6L CG		7 per lin m
Ca H	Corylus avellana	Pot grown	6L CG		7 per lin m
Cb H	Carpinus betulus	Pot grown	6L CG		7 per lin m
Ia H	Ilex aquifolium	Pot grown	6L CG		7 per lin m
Ma H	Malus sylvestris	Pot grown	6L CG		7 per lin m
Sa H	Sorbus aucuparia	Pot grown	6L CG		7 per lin m
Low Hedge (LH)					
Eu j	Euonymus japonica	Pot grown	5L CG		7 per lin m



The existing landscaping to the north of the site along Benson Close is proposed to be more densely planted to provide a more efficient screen to the northern edge of the site.

Please refer to information by HEDuk and ecology & habitat managment ltd.

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5.13 Proposed Landscape Characteristics

The proposed landscaping proposes a number of different surfaces and outdoor furniture, including wheelchair accessible planters.

For more information please refer to information by HEDuk.



1 PAVING: Concrete block paving (permeable)
NTS
Approximate area - 175 sq.m.



2 PAVING: Coloured tarmac surface (permeable)
NTS
Approximate area - 770 sq.m.



3 PAVING: Tarmac and Thermoplastic Markings
NTS
Approximate area - 52 sq.m.



4 FURNITURE: Planter seating
NTS



5 FURNITURE: Accessible growing bed
NTS



6 FURNITURE: Seating
NTS



7 SECURITY: Perimeter Fence (requirement to be confirmed)
NTS



8 SHELTER: Pergola
NTS



9 BIRD BOX: Scwegler 1B Nest Box
NTS



10 BIRD BOX: Scwegler 3SV Nest Box
NTS

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5.14 Proposed Landscape and Ecology Planting Pallet

Planting
Palette



Amelanchier lamarckii



Acer rubrum October Glory



Magnolia x brooklynensis Yellow Bird



Betula Jacquemontii



Betula nigra

Native screen shrub planting mix



Cornus alba 'Sibirica'



Rosa canina



Corylus avellana 'Cosford'



Lonicera henryi



Viburnum opulus

Biodiverse Roof



Seed mix with sedum cuttings

Ornamental planting mix



Lavendula angustifolia
(Sensory planting - Smell)



Geranium x oxonianum 'Wargrave Pink'



Geranium macrorrhizum 'Mount Olympus White'



Vinca major 'variegata'



Pachysandra terminalis



Heuchera 'Marmalade'
(Sensory planting - Sight)



Dryopteris filix-mas



Stachys byzantina
(Sensory planting - Touch)



Stipa tenuissima



Potentilla fruticosa marian red robin



Verbena bonariensis
(Sensory planting - Sight)



Camellia 'Sparkling Burgundy'



Hibiscus syriacus magenta chiffon



Magnolia liliiflora 'Nigra'



Exochorda x macrantha 'The Bride'



Briza maxima
(Sensory planting - Sound)



Native mix of
Acer campestre
Carpinus betulus
Corylus avellana
Malus sylvestris
Sorbus aucuparia

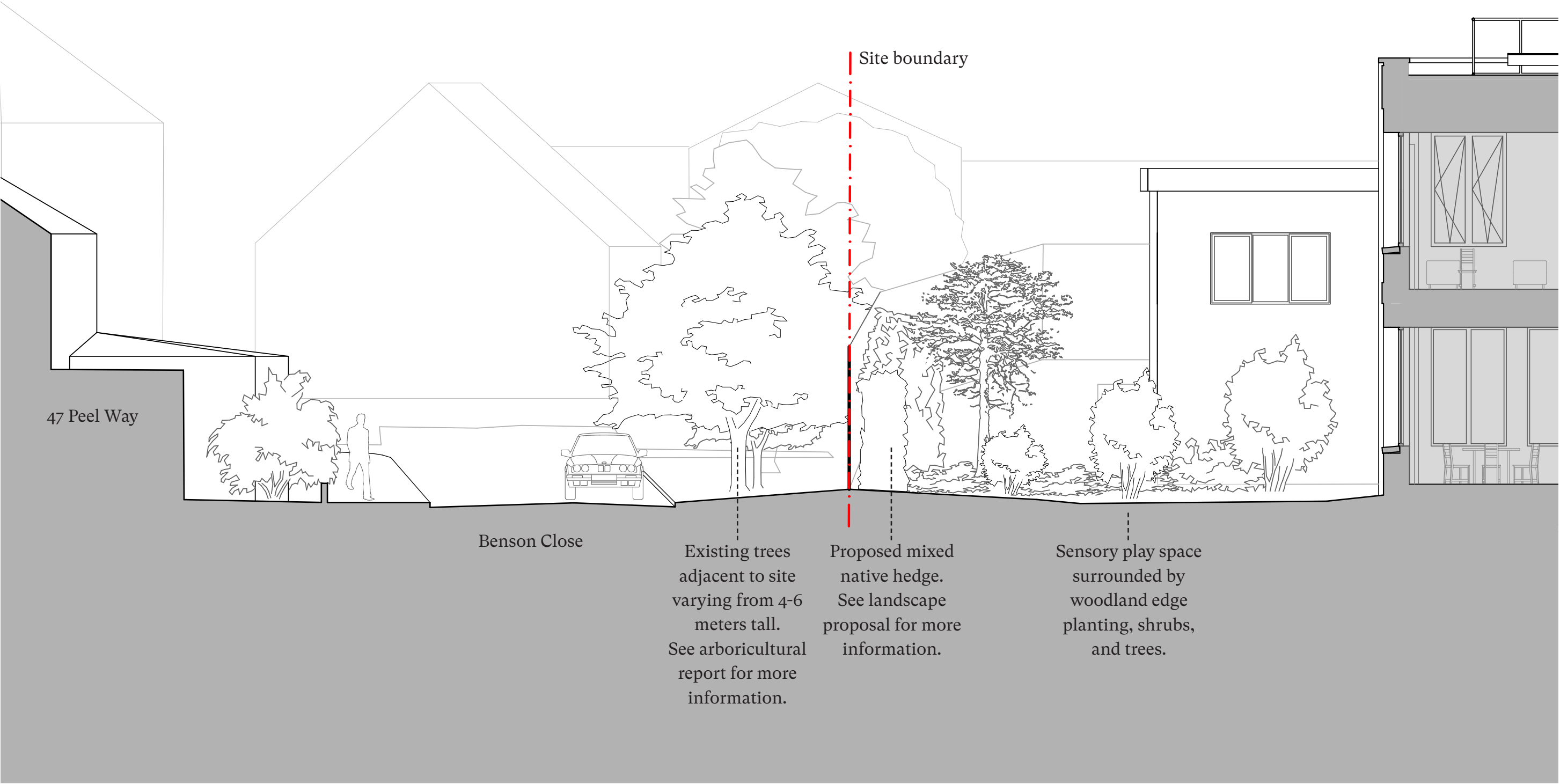
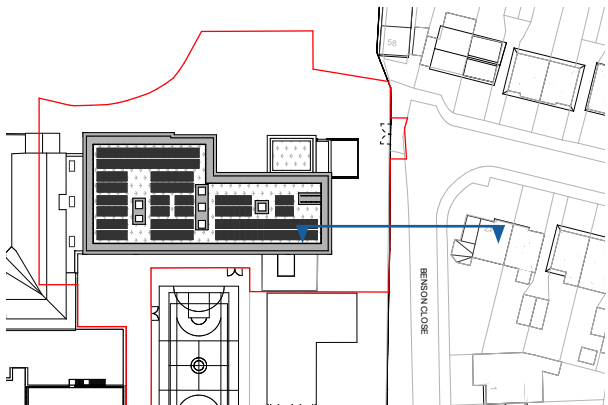


Flowering Lawn Mix - Emorsgate Seeds

The species shown are subject to further development and changes, as design progresses.

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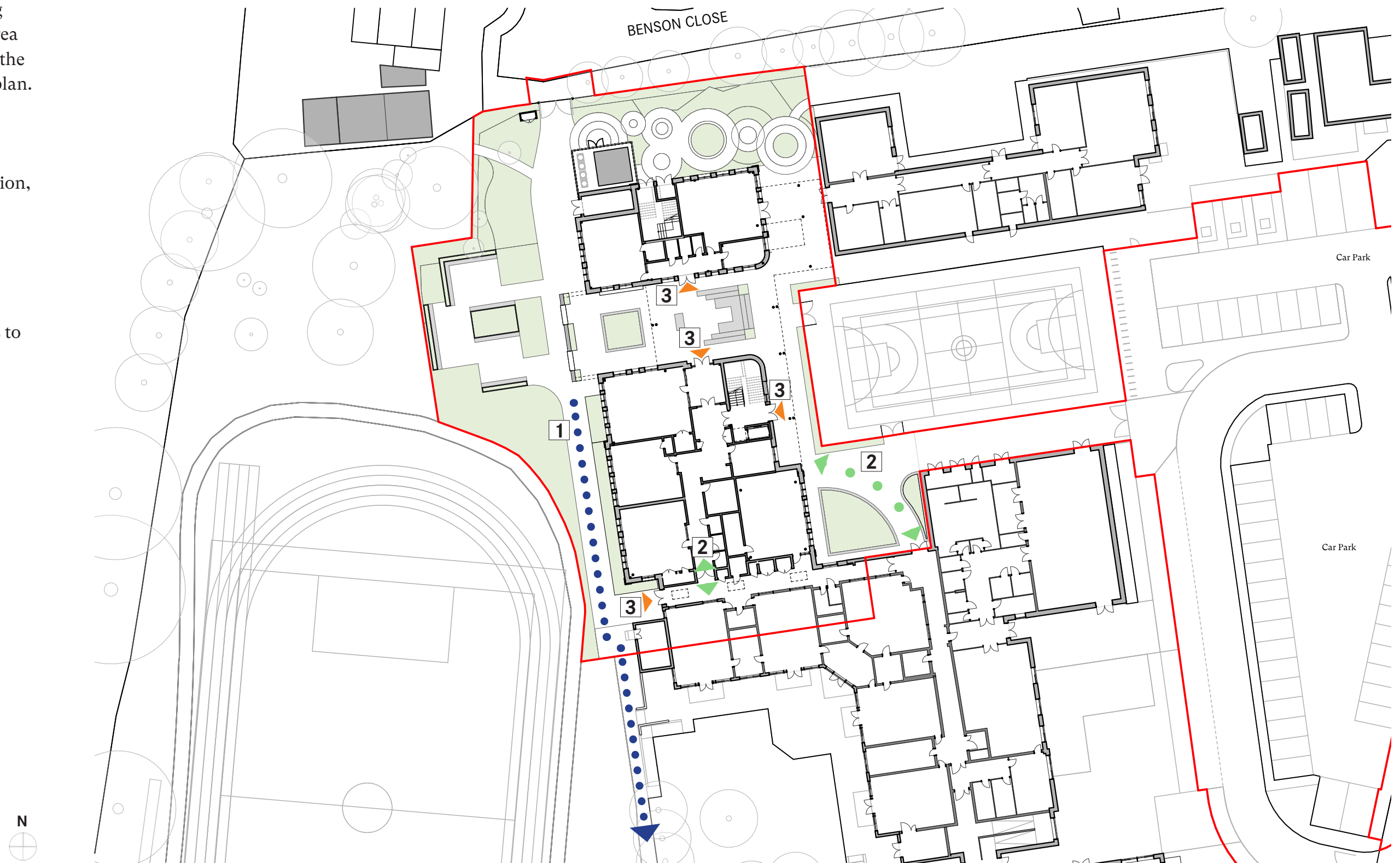
5.15 Building Relationship with Benson Close



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5.16 Site Movement, Access & Refuse Management.

- 1 It is proposed that waste is taken to the existing refuse management area and dealt with within the exiting management plan.
- 2 The building has been designed to allow uninterrupted circulation, both internally and externally, between existing and proposed facilities.
- 3 Level threshold access to proposed building.



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5.17 Relationship with School Woodland Area

The design aims to create a series of outdoor spaces that link the proposed building with the school's woodland area to the west.

The view to the right shows the proposed building as seen from the school's woodland area. A landscaped seating area with wheelchair accessible planters encourages movement from the proposed building out towards the woodland area.



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