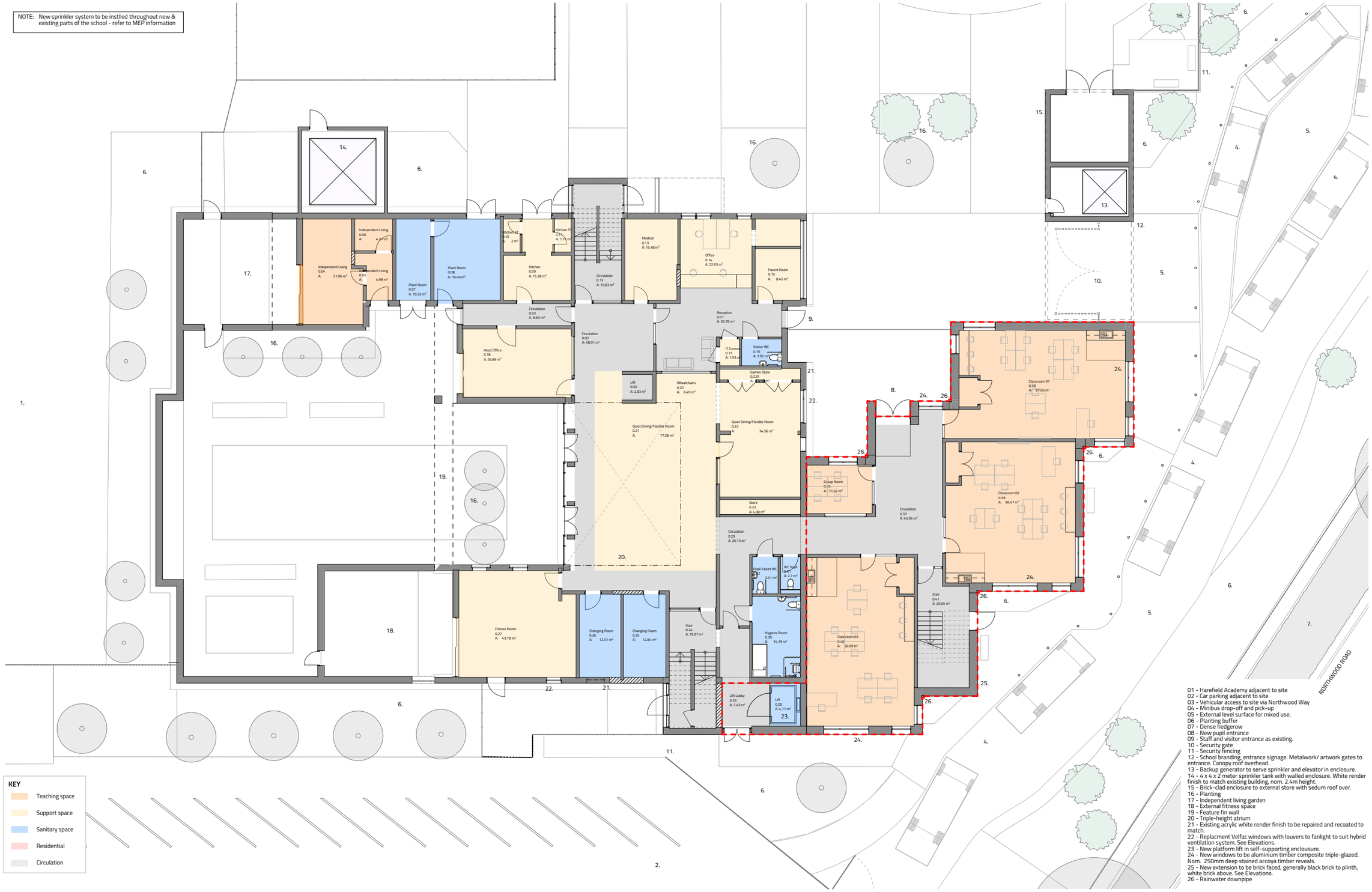
# 5.07 DESIGN PROPOSAL
## GROUND FLOOR PLAN

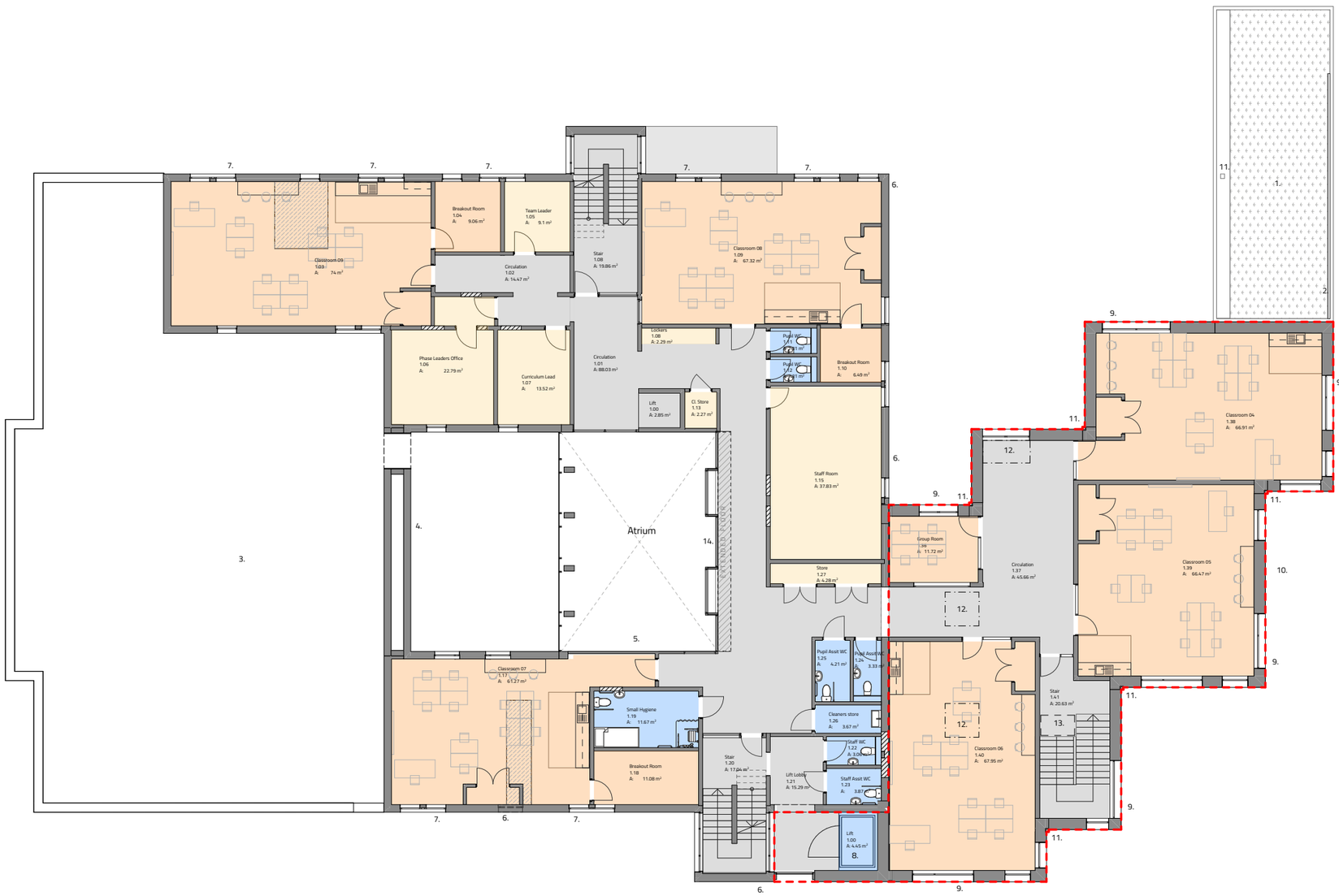
NOTE: New sprinkler system to be instlled throughout new & existing parts of the school - refer to MEP information




01 - Harefield Academy adjacent to site
02 - Car parking adjacent to site
03 - Vehicular access to site via Northwood Way
04 - Minibus drop-off and pick-up
05 - External level surface for mixed use.
06 - Planting buffer
07 - Dense hedgerow
08 - New pupil entrance
09 - Staff and visitor entrance as existing.
10 - Security gate
11 - Security fencing
12 - School branding, entrance signage. Metalwork/ artwork gates to entrance. Canopy roof overhead.
13 - Backup generator to serve sprinkler and elevator in enclosure.
14 - 4 x 4 x 2 meter sprinkler tank with walled enclosure. White render finish to match existing building, nom. 2.4m height.
15 - Brick-clad enclosure to external store with sedum roof over.
16 - Planting
17 - Independent living garden
18 - External fitness space
19 - Feature fin wall
20 - Triple-height atrium
21 - Existing acrylic white render finish to be repaired and recoated to match.
22 - Replacment Velfac windows with louvers to fanlight to suit hybrid ventilation system. See Elevations.
23 - New platform lift in self-supporting enclousure.
24 - New windows to be aluminium timber composite triple-glazed. Nom. 250mm deep stained accoya timber reveals.
25 - New extension to be brick faced, generally black brick to plinth, white brick above. See Elevations.
26 - Rainwater downpipe

# 5.08 DESIGN PROPOSAL
## FIRST FLOOR PLAN

NOTE: New sprinkler system to be instlled throughout new & existing parts of the school - refer to MEP information




**KEY**

- Teaching space
- Support space
- Sanitary space
- Residential
- Circulation

01 - Sedum roof to external store and entrance gateway.
02 - Feature PPC aluminium signage to entrance gateway
03 - Courtyard garden below
04 - Feature fin wall
05 - Triple-height atrium
06 - Existing acrylic white render finish to be repaired and recoated to match.
07 - Replacment Velfac windows with louvers to fanlight to suit hybrid ventilation system. See Elevations.
08 - New platform lift in self-supporting enclosure.
09 - New windows to be aluminium timber composite triple-glazed. Nom. 250mm deep stained accoya timber reveals.
10 - New extension to be brick faced, generally black brick to plinth, white brick above. See Elevations.
11 - Rainwater downpipe
12 - Rooflight above.
13 - Refuge area.
14 - Extended floor slab with screening.

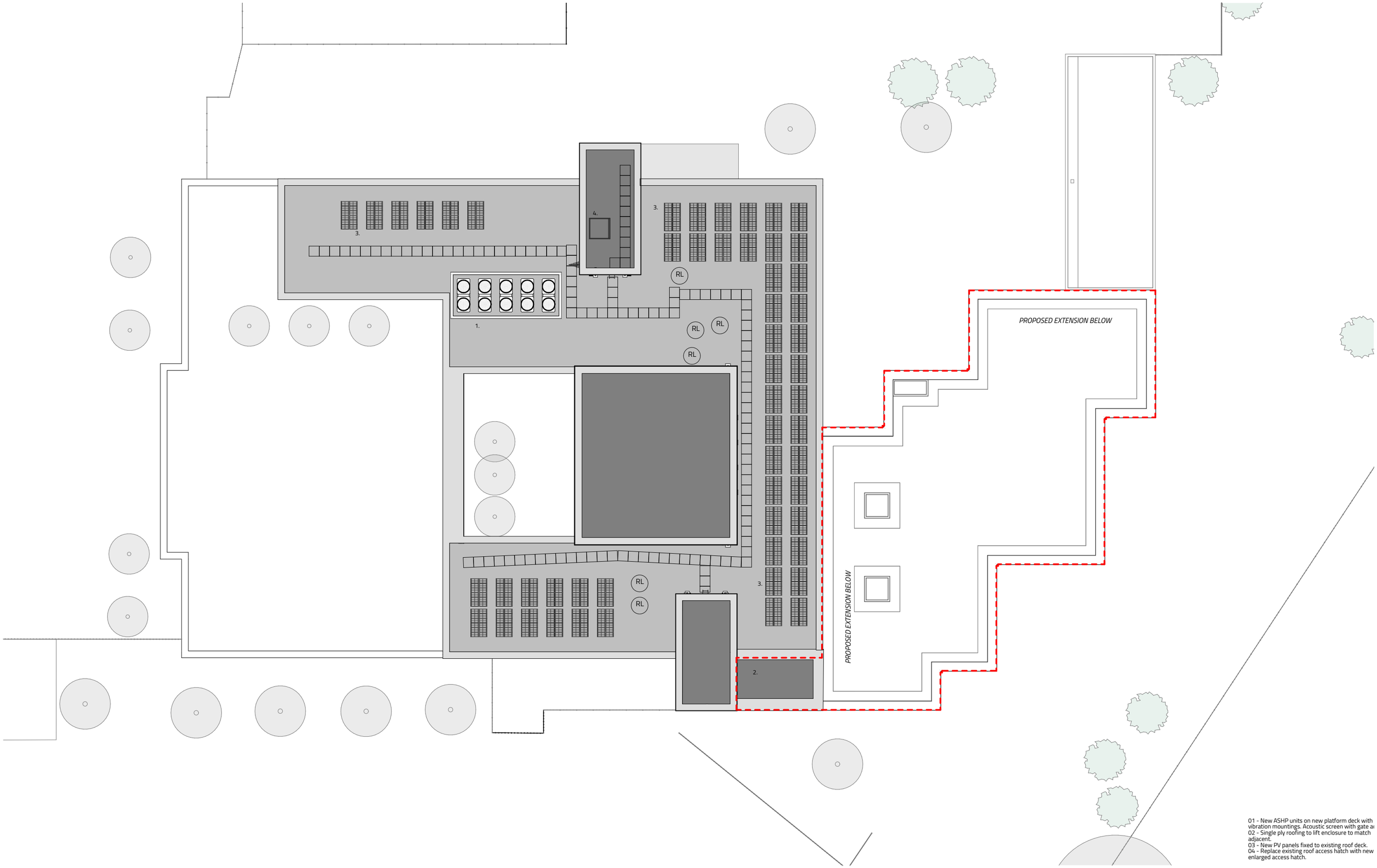
# 5.09 DESIGN PROPOSAL
## SECONDFLOOR PLAN


**KEY**

- Teaching space
- Support space
- Sanitary space
- Residential
- Circulation

01 - Courtyard garden below
02 - Feature fin wall
03 - Triple-height atrium
04 - Existing acrylic white render finish to be repaired an recoated to match.
05 - Replacement Velfac windows with louvers to fanligh suit hybrid ventilation system. See Elevations.
06 - Replacement Velfac windows where adjacent to nev extension
07 - Extensive sedum roof to extension, 300mm gravel r to parapet edge and rooflights.
08 - New platform lift in self-supporting enclousure.
09 - Rainwater chute with hopper head and downpipe
10 - Rooflight
11 - Fall arrest system for safe roof maintenance access
12 - Flat roof parapet
13 - Extended floor slab with screening.

# 5.10 DESIGN PROPOSAL
## ROOF PLAN




01 - New ASHP units on new platform deck with vibration mountings. Acoustic screen with gate a
02 - Single ply roofing to lift enclosure to match adjacent.
03 - New PV panels fixed to existing roof deck.
04 - Replace existing roof access hatch with new enlarged access hatch.

# 5.11 DESIGN PROPOSAL
## MATERIALS

**VIEW OF COURTYARD TO NEW EXTENSION**


The material palette of the building has been selected to pick up characteristics of the existing building without using render finishes.

For fire and robustness purposes, brick is the preferred cladding material. A pale/ white brick is used for upper areas, with a dark/ black brick used in key areas and particularly at low level to suggest a solid plinth to the new extension (similar to the existing building). Soldier coursing is proposed an key areas around openings and at the entrance gate.

Windows are intended to be aluminium/ timber composite to match the existing buidling, but will be triple glazed to the extension to ensure a better thermal performance. High-level louvres are integrated into the window assembly to suit the hybrid ventilation strategy.

The windows are intended to be picked out in a durable Accoya timber to add visual warmth and close the wall cavities.

The roof will be edged with gravel towards a PPC aluminium coping.

**KEY TO MATERIALS**

1. White textured brick with white mortar
2. Black textured brick with black mortar
3. PPC Aluminium/ Timber composite window with matching louvres to ventilation behind
4. 30mm width Accoya timber surround to window reveals
5. PPC aluminium coping to sedum/ wildflower flat roof behind

# 5.12 DESIGN PROPOSAL
## INTERIORS

**VIEWS OF CENTRAL HEART SPACE**

The atrium provides an attractive 'heart space' for the school, that will open out into the sensory garden and support diverse uses such as assembly, indoor PE and dining. A number of stores and rooms around the perimeter of the atrium support this multi-functional use.

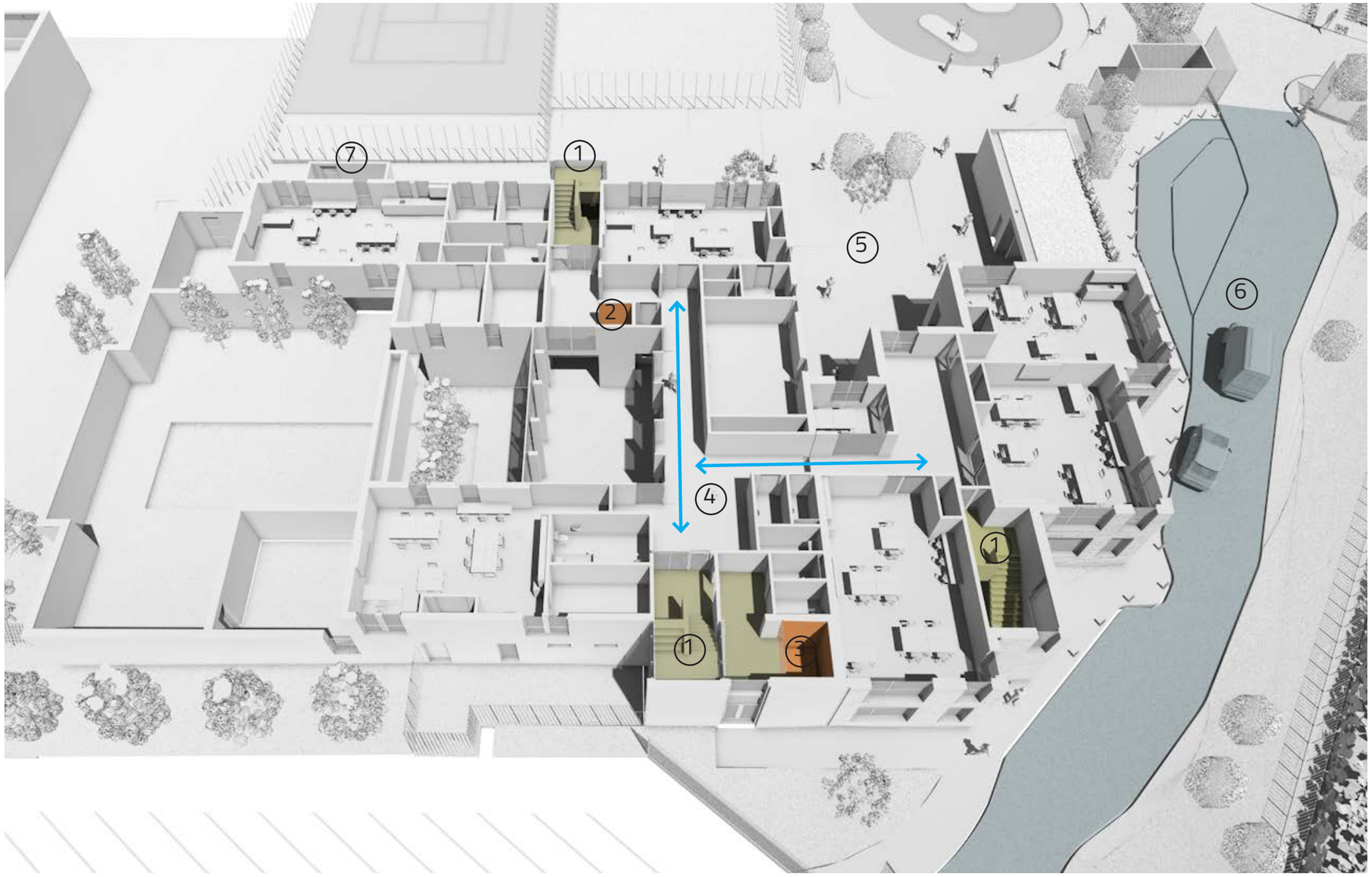
Walkways around the atrium will be widened to allow the passing of wheelchairs, and additionally the atrium will be screened to prevent objects being thrown from upper floors. The intention is to express these as projecting seating areas to promote socialising in the upper circulation areas.

Spaces throught the building generally will maximise daylight hrough existing windows, and withiin the new extension daylight levels will work towards CIBSE daylight factor guidance. Internal electric lighting will be modulated to adjust for daylight levels adjacent to windows.

Many pupils at the school are sensitive to noise levels, and therefore the acoustic performance of the school will need to be greatly enhanced to meet the recommendations of BB93. Sharps Redmore acoustic consultants have produced a noise report making recommendations for plant noise and the ventilation strategy of the building to ensure internal noise levels are adequate.

Hearing loops will be integrated to the requirements of the school.

# 5.13 DESIGN PROPOSAL
## FIRE SAFETY & ACCESSIBILITY




CUT-AWAY VIEW AT FIRST FLOOR

As a school for children with special educational needs and disabilities, accessibility and fire safety have been paramount in the design development.

Hoare Lea consultant fire engineers have inputted into the design proposals, which has resulted in the proposal of a fire evacuation lift discreetly knitted into an existing stair core to fit with the architecture of the existing building. This will assist the evacuation of pupils on upper floors in the event of an emergency.

The new extension is intended to match floor levels to ensure a seamless transition between new and old. Likewise, door thresholds at ground floor level will provide level access for wheelchair users.

Walkways around the atrium will be widened to allow the passing of wheelchairs, and additionally the atrium will be screened to prevent objects being thrown from upper floors.

Existing doorways will need to be widened to meet the provisions of Part M of the building regulations, and otherwise the internal design of the building will be governed by Part M, BS 8300 and BB104.

**KEY**

1. Escape staircase with refuge point
2. Existing platform lift
3. New larger 1000kg platform lift to assist pupils with motorised/ larger wheelchairs. Also fire evacuation lift.
4. Existing walkways widened to provide circulation to allow passing wheelchairs
5. Level threshold into external areas for wheelchair users from pupil entrance
6. Level threshold from drop-off zone
7. Sprinkler tank location (if required)

# 5.14 DESIGN PROPOSAL
## SUSTAINABILITY AND ENVIRONMENT


AERIAL VIEW

Re-purposing the redundant residential building to a new active community use is a highly sustainable approach by the school. The existing building is only 11 years old and as such has reasonably good levels of thermal performance and energy use.

Although the building currently runs on gas, the proposals indicate replacing this energy source with Air Source Heat Pumps, to be mounted in a dedicated acoustically-attenuated enclosure on the roof. This will greatly reduce the carbon use of the building, including the new extension.

PV panels are proposed to be mounted in unshaded south-facing positions on the roof also, helping to run the ASHP and providing further carbon savings.

The extension is proposed to be roofed in a sedum/ wildflower extensive roof to increase the site's urban greening factor and encourage invertebrates and wider biodiversity.

Due to noise impacts, it is expected that the new extension and some classrooms in the existing building require louvres to hybrid ventilation units behind. These will ensure good levels of fresh ventilation to these rooms whilst helping to mitigate overheating.

The extension is expected to be framed using Cross Laminated Timber (similar to the existing building), which is a low-embodied carbon solution.

**KEY**

1. Sedum/ wildflower extensive roof to extension
2. Roof-fixed PV panels
3. ASHP units in acoustic enclosure and on anti-vibration mountings
4. Louvres to Hybrid ventilation units

# 5.15 DESIGN PROPOSAL
## LANDSCAPE AND ECOLOGY


| PLANTING SCHEDULE | | | | | |
|---|---|---|---|---|---|
| **Code** | **Species** | **Form** | **Specification** | **Size** | **Density** |
| **Trees** | | | | | |
| MbY | Magnolia x brooklynensis Yellow Bird | Clear stem specimen | 4/tr. RB | 125-150cm | As Shown |
| PcC | Pyrus calleryana 'Chanticleer' | Clear stem specimen | 3/tr. RB | 20-30cm girth | As Shown |
| Bj (m) | Betula Jacquemontii | Multi stem | 3/tr. RB | 20-25cm girth | As Shown |
| Bp (m) | Betula Pendula | Multi stem | 3/tr. RB | 20-25cm girth | As Shown |
| Ps | Prunus sargentii | Clear stem specimen | 4/tr. RB | 25-30cm girth | As Shown |
| Ar | Acer rubrum Octobor Glory | Clear stem specimen | 3/tr. RB | 25-30cm girth | As Shown |
| Qr 30-40 | Quercus robur | Clear stem specimen | 4/tr. RB | 30-40cm girth | As Shown |
| Al | Amelanchier lamarckii | Multi stem | 4/tr. RB | 20-25cm girth | As Shown |
| Cf | Carpinus fastigiata | Clear stem specimen | 4/tr. RB | 30-40cm girth | As Shown |
| **Buffer space trees** | | | | | |
| Bp | Betula Pendula | Clear stem specimen | 3/tr. RB | 20-25cm girth | As Shown |
| Sa | Sorbus Acuparia | Clear stem specimen | 3/tr. RB | 20-25cm girth | As Shown |
| Pa | Prunus avium | Clear stem specimen | 3/tr. RB | 20-25cm girth | As Shown |
| Ms | Malus sylvestris | Clear stem specimen | 3/tr. RB | 20-25cm girth | As Shown |
| Qr | Quercus robur | Clear stem specimen | 3/tr. RB | 20-25cm girth | As Shown |
| **Fruit trees** | | | | | |
| Mc | Malus Cox's Orange Pippin | Espalier 3 Tier | 2/tr. C.M26 | 180-200 cm | As Shown |
| PwS | Prunus avium 'Stella' | Fanned | 2/tr. C Colt | 175-180 cm | As Shown |
| PcO | Pyrus communis 'Onward' (D) | Espalier 2 Tier | 2/tr. C. Pyrodwarf | 175-180 cm | As Shown |
| **Native planting mix (NS)** | | | | | |
| | Cornus alba 'Sibirica' | Bushy Shrub | 1+1 BR | 400-600cm | 2/m2 |
| | Acer campestre | Bushy Shrub | 1+2 BR | 175-200cm | 2/m2 |
| | Hedera hibernica | Bushy Shrub | 1L CG | 450-600mm | 6/m2 |
| | Rosa canina | Bushy Shrub | 1+1 BR | 450-600mm | 3/m2 |
| | Corylus avellana 'Cosford' | Bushy Shrub | 1+2 BR | 125-150cm | 2/m2 |
| | Ilex aquifolia (shrub form) | Bushy Shrub | 3L CG | 300-450mm | 1/m2 |
| | Euonymus europaea | Bushy Shrub | 3L CG | 300-450mm | 1/m2 |
| | Viburnum opulus | Bushy Shrub | 1+2 BR | 300-450cm | 2/m2 |
| | Sorbus Acuparia | Bushy Shrub | 1+2 BR | 125-150cm | 2/m2 |
| | Lonicera henryi | Bushy/Climbing Shrub | 3L CG | 600-900mm | 1/m2 |
| | Crataegus monogyna | Bushy Shrub | 1+2 BR | 125-150cm | 2/m2 |
| | Quercus robur | Bushy Shrub | 1+2 BR | 125-150cm | 2/m2 |

| | | | | | |
|---|---|---|---|---|---|
| **Ornamental planting Mix (OP)** | | | | | |
| La | Lavandula × intermedia 'Grosso' | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| Bs | Buxus sempervirens | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| Ger | Geranium x oxonianum 'Wargrave Pink' | Bushy Shrub | 3L CG | 300-450mm | 4/m2 |
| GeM | Geranium macrorrhizum 'Mount Olympus White' | Bushy Shrub | 3L CG | 300-450mm | 4/m2 |
| Vma | Vinca major 'variegata' | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| Pte | Pachysandra terminalis | Bushy Shrub | 3L CG | 300-450mm | 4/m2 |
| Drf | Dryopteris filix-mas | Healthy. Spreading growth | 2L CG | 300mm | 4/m2 |
| Sby | Stachys byzantina | Evergreen carpeting perennial | 3L CG | 300mm | 6/m2 |
| Ste | Stipa tenuissima | Grass | 2L CG | 300mm | 9/m2 |
| Vb | Verbena bonariensis | Bushy Shrub | 3L CG | 300mm | as shown |
| Dsa | Daphne odora 'Aureomarginata' E | Bushy Shrub | 2L CG | 400-600mm | 6/m2 |
| Crb | Camellia 'Spanking Burgundy' E | Bushy Shrub | 3L CG | 400-600mm | 6/m2 |
| PtM | Potentilla fruticosa marian red robin | Bushy Shrub | 3L CG | 400-600mm | 6/m2 |
| Ml | Magnolia liliiflora 'Nigra' | Small Tree | 3L CG | | as shown |
| HsM | Hoisicus syriacus magenta chiffon | Specimen shrub | 3L CG | | as shown |
| EmB | Escochorda × macrantha 'The Bride' | Specimen shrub | 3L CG | | as shown |
| **Sensory planting (SP)** | | | | | |
| **Sight** | | | | | |
| HiM | Heuchera 'Marmalade' | clump-forming perennials | 3L CG | 400-600mm | 6/m2 |
| Vb | Verbena bonariensis | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| KN | Knipholia 'Nobilis' | herbaceous perennials | 3L CG | 300mm | 6/m2 |
| **Touch** | | | | | |
| Sby | Stachys byzantina | Evergreen carpeting perennial | 3L CG | 300mm | 6/m2 |
| Al | Anemanthele lessoniana | Grass | 3L CG | 300mm | 6/m2 |
| **Smell** | | | | | |
| Hi | Helichrysum italicum | | | | |
| Lan | Lavandula angustifolia | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| Ca | Cosmos atrosanguineus | Perennial | 2L CG | 300-600mm | 6/m2 |
| Ct | Choisya ternata | Bushy Shrub | 3L CG | 300mm | 6/m2 |
| **Sound** | | | | | |
| PaH | Pennisetum alopecuroides 'Hameln' | Grass | 2L CG | 300mm | 8/m2 |
| Bm | Briza maxima | Grass | 2L CG | 300mm | 9/m2 |
| **Grass Seed for General Grass Area** | | | | | |
| Lawn | British Seed House | A24 Mix | | | 50g per m2 |
| **Grass Seed for long meadow grass area** | | | | | |
| Meadow | Emorsgate Seeds | EL1 Flowering Lawn Mix | | | 5g per m2 |
| | ***Wild Flowers*** | ***Grasses*** | | | |
| | *Lady's Bedstraw* | *Common Bent* | | | |
| | *Rough Hawkbit* | *Crested Dogstail* | | | |
| | *Oxeye Daisy* | *Slender-creeping Red-fescue* | | | |
| | *Birdsfoot Trefoil* | *Smaller Cat's-tail* | | | |
| | *Cornflip* | | | | |
| | *Selfheal* | | | | |
| | *Meadow Buttercup* | | | | |
| | *Common Sorrel* | | | | |
| | *Wild Red Clover* | | | | |
| **Native Hedge Mix (NH)** | | | | | |
| Ac H | Acer campestre | Instant Hedge | 1 m trough | 800-1000mm | 2/m2 |
| Ca H | Corylus avellana | Instant Hedge | 1 m trough | 800-1000mm | 2/m2 |
| Cb H | Carpinus betulus | Instant Hedge | 1 m trough | 800-1000mm | 2/m2 |
| Ma H | Malus sylvestris | Hedge | 5L CG | 800-1000mm | 2/m2 |
| Sa H | Sorbus aucuparia | Instant Hedge | 1 m trough | 800-1000mm | 2/m2 |



SAFETY, HEALTH AND ENVIRONMENT INFORMATION
Unusual residual risks which cannot be dealt on experienced and competent contractors working to approved method statements.

UNUSUAL RISKS
Construction:
Operations:
Maintenance:
Dismantling/Demolition:

Key

- Existing Tree, to be retained
- Proposed Tree (47 no.)
- Proposed ornamental shrubs. (320 sqm approx)
- Proposed native shrubs (infill and new) (742 sqm approx - total area)
- Proposed groundcover planting. (227 sqm approx)
- Proposed lawn / grass bed (55 sqm approx)
- Proposed wildflower/grass mix. (372 sqm approx)
- Proposed hedge planting. (31 linear m approx)
- Proposed green roof. (285 sq.m approx)

Courtyard Garden

- Existing planting retained / in-filled (48 sqm)
- Proposed Planters with ornamental planting (15 sqm)
- Proposed Raised Beds with vegetable planting (5 sqm)

North

1:250
0 2.5m 5m 10m

REVISIONS

H E D Hyland Edgar Driver Landscape Architects & Urban Designers
One Wessex Way Colden Common Winchester SO21 1WG t. 01962 711 600

CLIENT
CHADWICKDRYERCLARKE STUDIO

| DATE | DRAWN BY | CHECKED BY |
|---|---|---|
| 06/05/2022 | AW | IN |

DRAWING STATUS: PLANNING — A1 SCALE @ 1:500

PROJECT
NORTHFIELD ROAD SCHOOL, HAREFIELD HILLINGDON

DRAWING TITLE
PLANTING SCHEME

DRAWING NUMBER: 1468-HFD-HED-ZZ-XX-DR-3000 — REVISION: A01



The existing soft landscaping to the site - particularly along Northwood Road - is proposed to be more densely planted to provide a more efficient screen to the southern edge of the site.

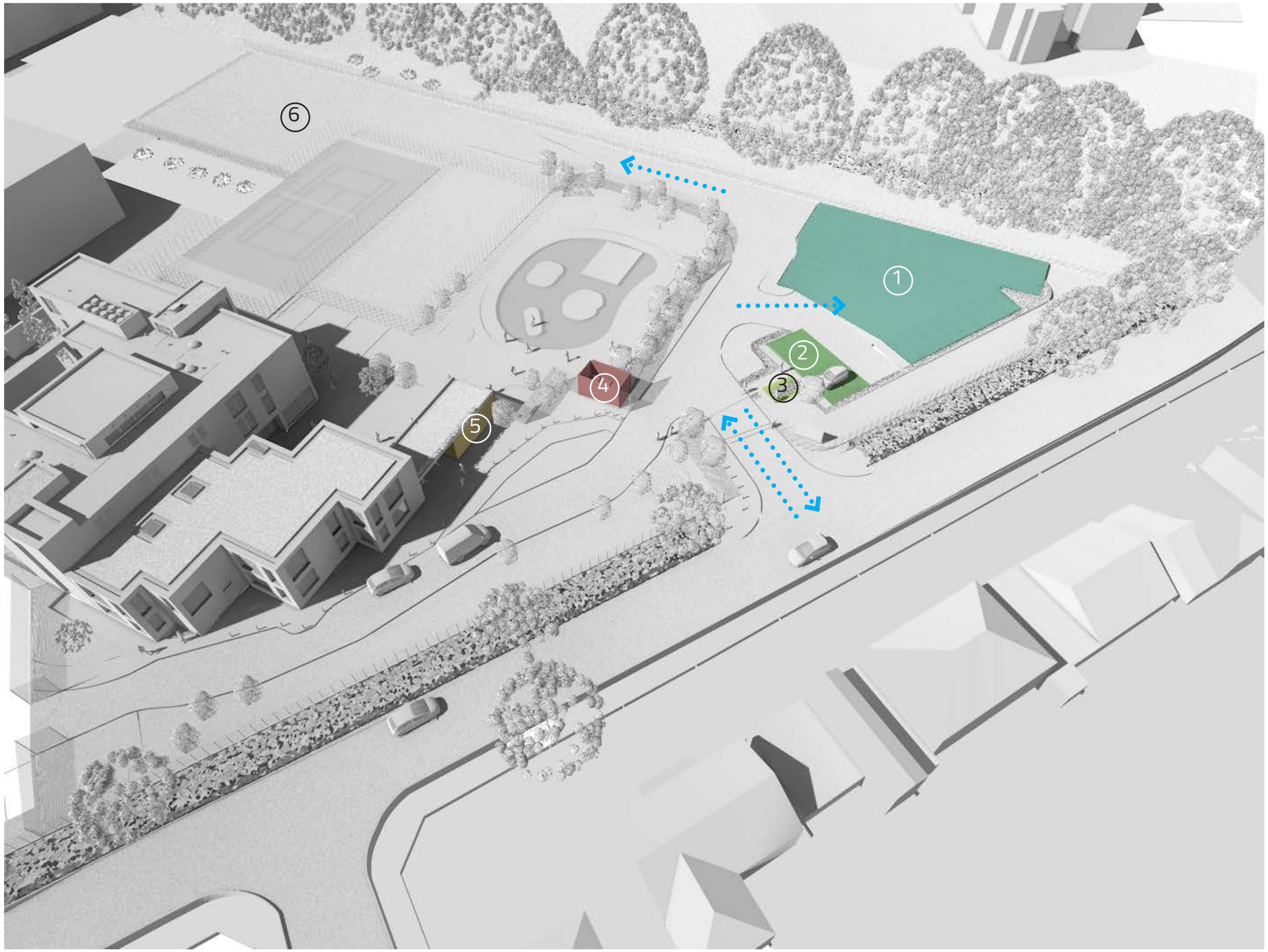
Soft landscape across the site generally has been calculated using the London Plan Urban Greening Factor principles to indicate that soft landscape on the site generally can be improved.

An ecologist has undertaken a preliminary assessment of the site and the findings will be developed at future design stages.

Please refer to HEDuk landscape information.

## LANDSCAPE ARCHITECT SOFT LANDSCAPE PLAN

# 5.16 DESIGN PROPOSAL
SERVICING AND MANAGEMENT




## SITE SERVICING

The proposed new vehicular access from Northwood Road allows a direct path for refuse vehicles etc to access the Academy's service yard without passing the new school. The access has been sized to suit the vehicles that would be expected for both the academy and Meadow High School.

The new shool will have a bin enclosure sited adjacent to the new access to allow for collection, currently expected to be by Hillingdon Council services.

Visitor and cycle parking are located close to the access point for ease of access and due to the proximity to the new school entrance.

Please refer to Robert West transport assessment for details of parking and servicing.

**KEY**

1. Staff Parking
2. Visitor/ Disabled Parking
3. Cycle Parking
4. Bin Store (3 x 1100l Eurobin Capacity)
5. External PE store (built under canopy)
6. Harefield Academy Service Yard

HILLINGDON
LONDON

chadwickdryerclarke studio
architects + designers

5-7 Tanner Street London SE1 3LE
Studio, 17 Comberton Road, Barton, Cambs CB23 7BA

T: 01223 262413
E: info@chadwickdryerclarke.co.uk
W: www.chadwickdryerclarke.co.uk