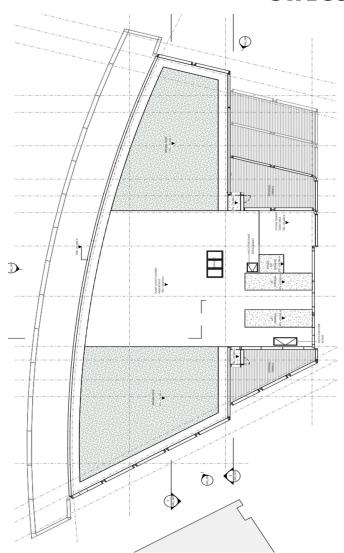
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BREEAM - Ecology

Actions required at this stage (cont.)

Ecology

- Understand that ahead of Stage 3, Argent are looking to involve a landscape architect to look at the planting design and specifications in more detail. Involvement of ecologist to be maintained.
- Argent Sustainability have been asking questions about the brown roof and how this meets the wider requirements of the Kings Cross Green Roof Strategy.
- **Terraces:** looking for planters which allow flexibility in terrace areas (movable planters?), not closer than 600mm to parapet edge.
- 2018 scheme has an uplift in contractor responsibilities in the ecology section which need consideration detailed in later slides.



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BREEAM - Ecology

Ecology – opportunities at this stage



Established Sandy Heath Roof System (>5 years) Teufelssee, Berlin-Gruenwald (Germany)

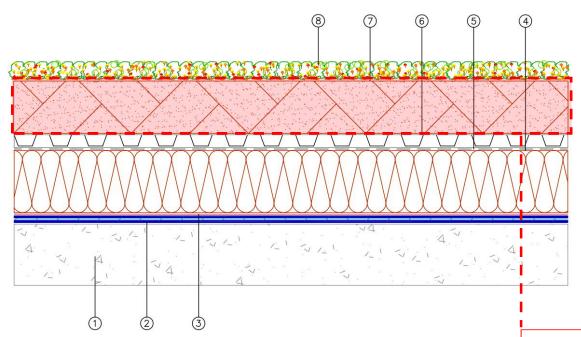


Sandy Heath Roof System at Kings Cross (~2 years) Kings Cross B6 (3 Pancras Square)



BREEAM - Ecology

Ecology - opportunities at this stage



Section Key

- Concrete deck primed with PermaTEC Primer
 2 coats of PermaTEC ECOWRAP incorporating PermaFLASH-R reinforcement
- 3. Permatorch Anti-root
- 4. Dow SLX/SLA extruded polystyrene insulation board (or equal)
- 5. Dow M-K separating layer (or equal)
- 6. Plasfeed ND 5+1 drainage/moisture retention layer
- 7. IKO Growing Medium
- 8. IKO sedum blanket

Substrate depth can be as little as 50mm to be 'successful'.

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BREEAM - Ecology

Ecology – opportunities at this stage



Bauder example - brown roof with plug plants

- Height of system typically 150-200mm
- Plant selection is bespoke to project and can accommodate variety of 'plug plants'
- Similar system and plants used at 3 Pancras Square
- Dual ecology and surface water runoff benefits

Product	Thickness (mm)	Saturated Weight (Kg/m²)
Vegetation *	N/A	N/A
Bauder Extensive Substrate	100.0 (varies)	120.0
Bauder Filter Fleece	1.0	0.125
DSE40 Drainage Layer	40.0	15.3
Bauder FSM600 Protection Mat	4.0	0.6
Bauder PE Foil Separation Layer	0.2	0.190
Totals	145.20	136.215



BREEAM - Ecology

Ecology – opportunities at this stage

Kings Cross B6 (3 Pancras Square) Sandy Heath Roof

- Admittedly at first glance not the most aesthetically pleasing finish, but this is still early in it's establishment.
- Considered a success by London Wildlife Trust in latest review report of Kings Cross roofs.
- Increase from 24 to 47 species of plant diversity between year 1 and year 2.
- Noted to be attracting a variety of invertebrates

Lessons learned from KXB6

- Addition of stones/log piles to increase biodiversity
- Provision of water in shallow bowl/equivalent
- Artificial irrigation for prolonged dry periods (not essential)

