



BROWN ROOF WITH PHOTOVOLTAIC SOLAR PANELS

Sustainability is an important issue for Chassay Studio and we design to the highest standards. Separate energy and sustainability statements by Price & Myers accompany this report and shows how the design will minimize energy use and carbon emissions. High levels of insulation are increasingly difficult to incorporate into the building fabric so we have indicated how the proposed level will be achieved in the detailed section — drawing 20

This design also takes exceptional measures to maximise the planting potential of the site, for the amenity of residents and neighbours, as well as the benefits to biodiversity. The roof is fully used, and the south façade continues this into a cascade of climbing plants down to the courtyard where new trees are proposed together with state-of-the-art 'eco-passerelles'

BROWN ROOF

Industrial brownfield sites can be valuable ecosystems, supporting rare species of plants, animals and invertebrates. Increasingly in demand for redevelopment, these habitats are under threat. "Brown roofs", also known as "biodiverse roofs", can partly mitigate this loss of habitat by covering the flat roofs of new developments with a layer of locally sourced material.

Construction techniques for brown roofs are typically similar to those used to create flat green roofs, the main difference being the choice of growing medium, usually locally sourced rubble, gravel, spoil etc. They are seeded—and plug planted in patches—to increase their biodiversity potential in the short term. The roofs are colonised by spiders and insects (many of which are becoming extremely rare in the UK as such sites are developed) and provide a feeding site for insectivorous birds.

Solar/Photovoltaic A-Frame panels at roof level are known to work more efficiently when installed on a green roof rather than a on a conventional surface. The green roof can increase the efficiency of PV by maintaining a more efficient microclimate around them. The performance of photovoltaic panels is lowered by 0.5% per°C above or below 25°C.

SUDS

Living roofs reduce both the pollution and surface run off entering the drainage system as part of a Sustainable Drainage Systems (SUDS) . In the summer a green roof can typically retain between 70% - 80% of the runoff. This is the first part of a site-wide rainwater control & watering system. The roof drainage automatically waters planters at each level of the building on the south façade before exiting into specialist reservoir voids beneath the paving for dispersal into the soil and for watering the ground-level planting. This is explained in drawing 33

ECO-PASSERELLES

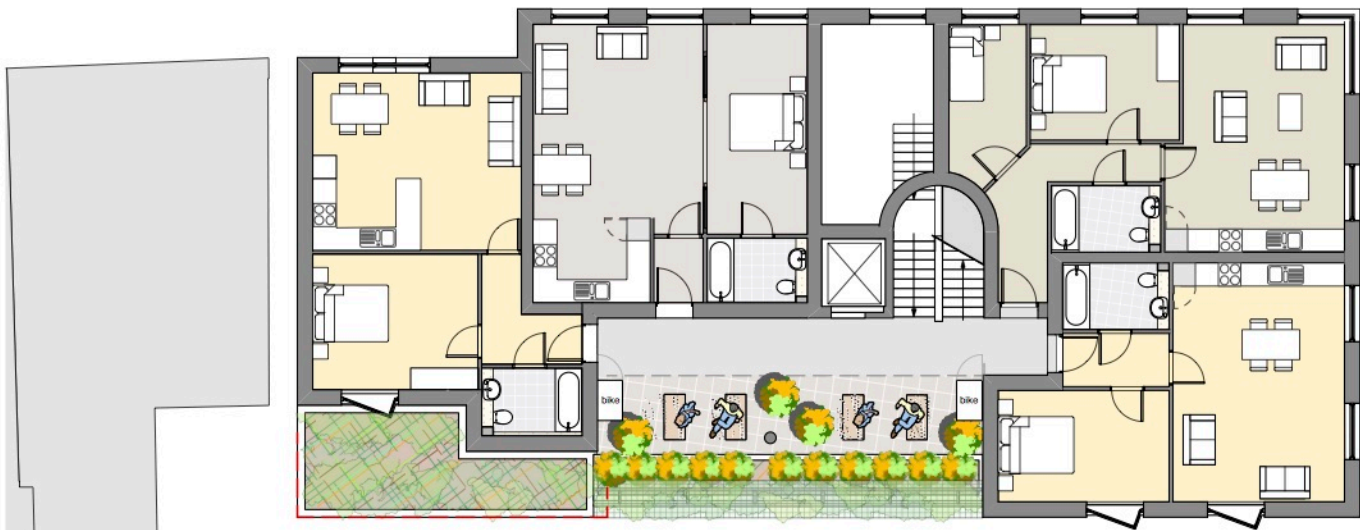
Eco-passerelles are an idea pioneered in Switzerland; in essence they create planting areas below ground level. There are several benefits which we have exploited here. In terms of amenity they provide an extended area of planting in places where occasional vehicle and pedestrian access is required. Driving over them does not compact and kill the plants as happens in other systems. It also allows a large area of natural soil for roots, which is particularly important for trees, but also allows other plants a better chance of survival. The climbing plants proposed are small at ground level but have extensive foliage and require equally extensive root zones. Finally, the fact that there are extensive interlinked stretches of undisturbed planting is a great benefit to the micro-fauna which make for a healthy living world.



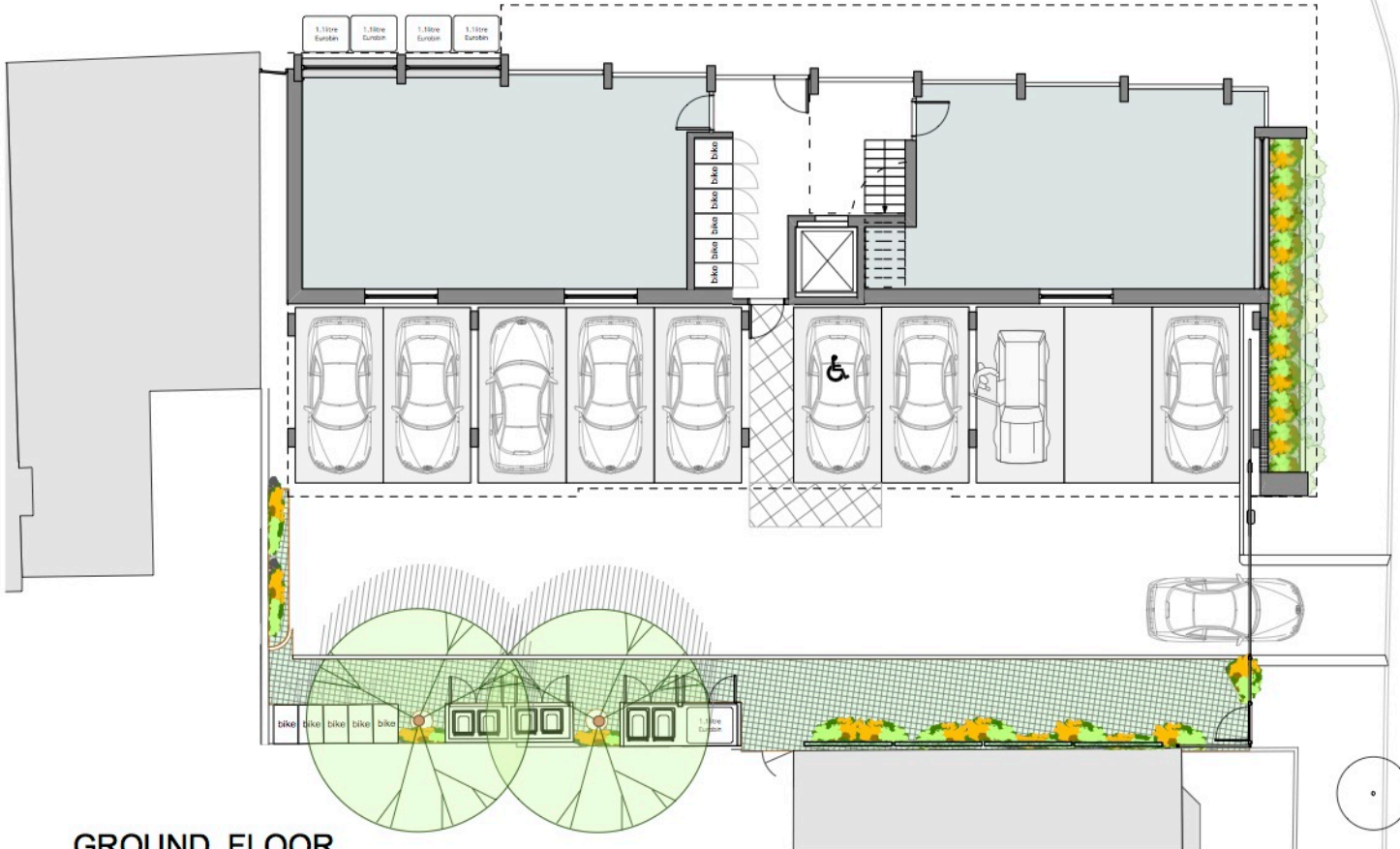
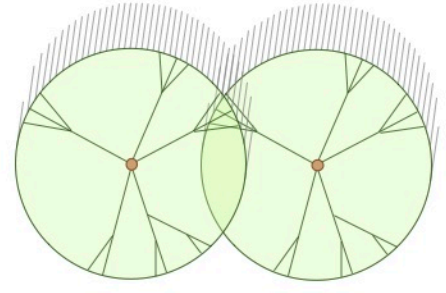
CLIMBING PLANT SCREENS & TRELLISES



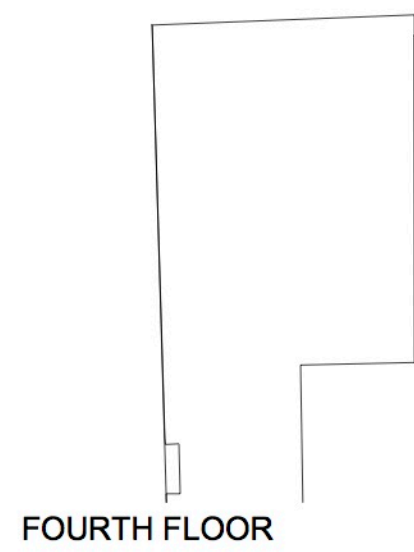
ECO-PASSERELLES



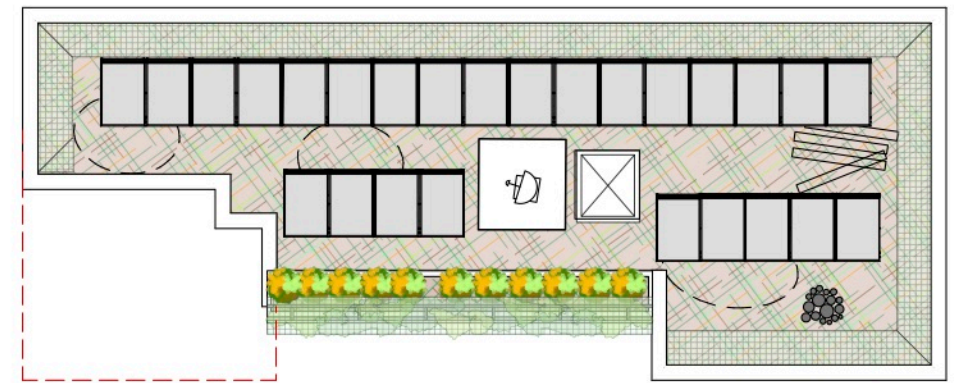
FIRST FLOOR



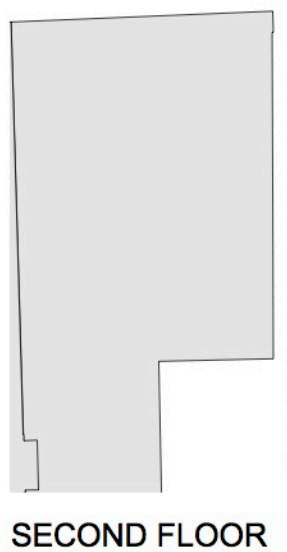
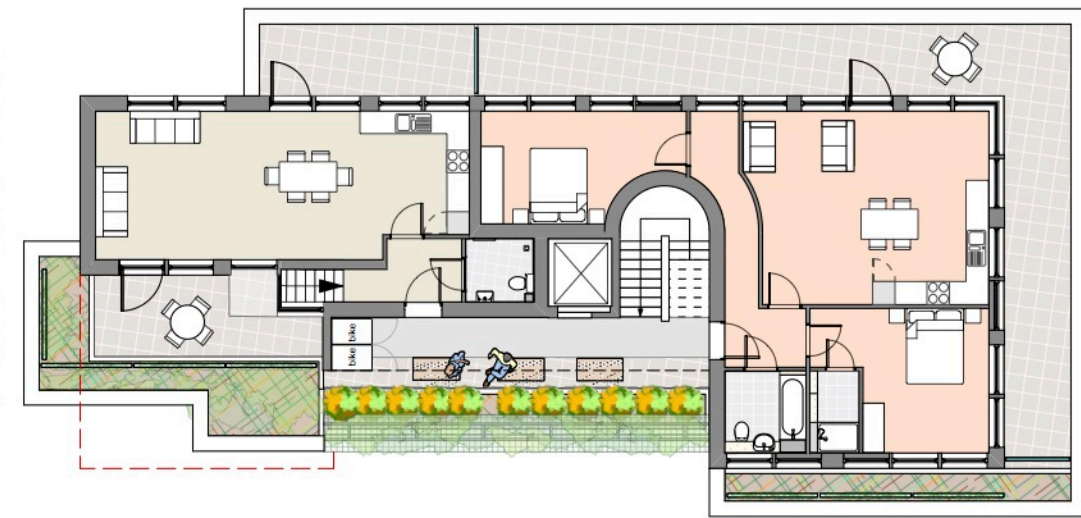
GROUND FLOOR



FOURTH FLOOR



THIRD FLOOR



SECOND FLOOR

The proposal in this application will replace unsightly hoardings and redundant offices with a high quality new building which provides modern commercial space and ten fine new homes in this town-centre location.

The design has been developed through extensive consultation with the planning authority, local residents and their ward councillor. This process has generated a fine looking building which will take its place in improving the high street.



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