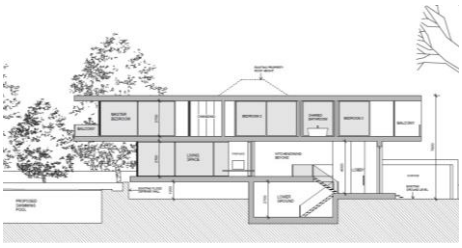
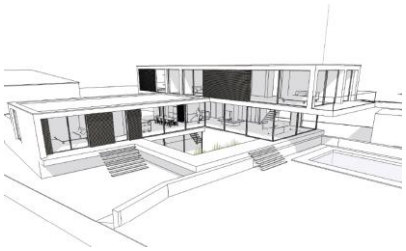
green tiger SUSTAINABILITY





47 Strawberry Vale

Description General information	Client: Dyer Grimes Architects Architect: Liam Foley Area: 75.75 m2 Location: 47 Strawberry Vale, Richmond council Reference number: GT032
Consulting jobs	• Code for Sustainable Homes Assessment (CSH) • Standard Assessment Procedure (SAP) • Energy Strategy report / studies • Renewable Energy Feasibility studies • Life cycle assessment (LCA) • Completion of Richmond Councils Sustainability Construction Checklist.
Sustainable evaluation	Strawberry Vale is a unique site. A large existing site sitting on the banks of the river Thames in Richmond, with its very own jetty and boathouse! The proposal is to demolish the existing 1960's building and create a truly special piece of modern architect as seen in the impression above – due for completion 2014. The project is certifying for **a CODE 5 for the Code for Sustainable Homes scheme**. The **energy strategy** for the proposed scheme is to use a combined heat and power unit (CHP) alongside advanced energy efficiency measures and a 32m2 solar Photovoltaic array to meet the carbon emissions reductions target set by Richmond Council. **The proposal** is to insulate the building to best practice standards, surpassing Part L requirements. The thermal performance targets of the dwelling are the following: U-Values of 0.15 W/m2K for the ground floor and roof, 0.18 W/m2K for walls and windows of 1.1 W/m2K. An air permeability of 4 m3/m2/hr at 50 pa is targeted, and to be achieved on site. Thermal bridging will also be kept to a minimum with an average Y-value of 0.08, thus following accredited construction details for all dwellings as a minimum. A mechanical ventilation system with heat recovery (MVHR) will be implemented in the dwelling, recycling heat that would otherwise be lost. This ventilation system will meet the requirements of Part F. The findings of the **Life Cycle Assessment** are: The carbon emissions of the subterranean development are greater than those of the extension over the buildings' life cycle. • The embodied carbon in a subterranean development is 828 kgCO2 per m2 floor area compared with 279 kgCO2 per m2 for extensions. This equates to 3 times the amount of embodied carbon per m2 floor area provided. • The life cycle analysis shows that there is high level of embodied CO2 in the building materials relative to the operational CO2 emissions of subterranean developments, when looked at over a 30-year life. The structural elements steel piles used in subterranean development