

OWAIN MORRIS

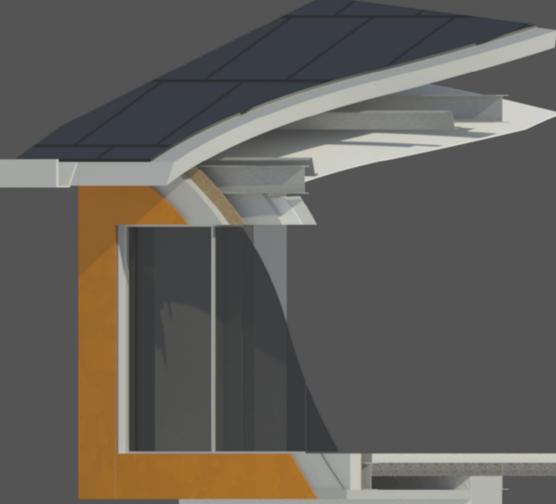
BSc Architectural Design & Technology
Cardiff Metropolitan University
Friars Point Multi-Use Development

About the Project

The brief for this project was to develop a multi-use facility that could comfortably house offices, workshops, galleries and apartments whilst taking careful consideration for the environmental impact of the building. The brief requested that the building would fully utilise the key aspects of the site such as views and landscaping.

About the Site

The site is located on the North-West edge of Friars Point, Barry. The site is a prominent coastal location creating some fantastic views from the site. The site is fully accessible via the public footpath on foot or via the main entrance to Friars Point House via car. The location is also accessible via public transport with the nearest train station and bus stop both within just a 15 minute walk from the site. Due to the topography of the site, the building level has been excavated from the existing topography in order to ensure it is level and suitable for construction. The car park and refuge access use the existing topography of the site making the slight raised from the base level of the building.



Photovoltaics

Within my design, I decided to dove into the integration of photovoltaics into the envelope of the building. With the growing use of these technologies it is making it far easier to incorporate solar energy generation into new developments, therefore reducing the reliance on non-renewable resources which are proven to have lasting negative impacts on the environment.

The building I have designed will integrate these technologies in two different innovative ways. The first form of integration is the use of two fully Building Integrated Photovoltaic (BIPV) roofs. The two roofs will have a combined surface areas of 408m²; The equivalent of around 190 LG Monocrystalline Solar Panels. Taking into consideration mullions and unusable space on the roof, there will be almost 150 solar panels installed on the roofs replacing conventional roofing systems.

As well as a BIPV roof, Onyx Solar BIPV glazing systems have been used on the south face of the apartment areas. The combination of these technologies will ensure that the reliance on non-renewable resources as an energy source will be drastically reduced/eliminated making photovoltaics the sole energy supplier for the development.



1st Floor Duplex Apartment



Ground Floor Duplex Apartment



Single Story Apartment



Single Story Office



1st Floor Duplex Office



Ground Floor Duplex Office



Ground Floor of Building



Corten Steel



LG Monocrystalline Solar Panel



Onyx Solar PV Glazing



ProRend White Render



Double Glazed Windows and Curtain Walls



Ibstock Blue/Black Linear Brickwork

