VERIFIED VIEW METHODOLOGY

OVERVIEW
The process of generating verified views (also referred to as accurate visual representations (AVR)) for the Cremorne Wharf development was carried out by Waterman Energy, Environment & Design (WEED).

WEED use a methodology that is compliant with relevant sections of: The Landscape Institute/IEMA Guidelines for Landscape and Visual Impact Assessment; Landscape Institute Advice Note 01/09 (Use of photography in landscape and visual assessment).

Digital photographs were taken from the agreed locations by WEED. An adequate number of visible features were subsequently surveyed, including the precise location of the camera. A development model was imported to correct geographical co-ordinates. With a known camera position, photographic and surveyed existing visible features, the development model was accurately aligned to the photograph.

PHOTOGRAPHY
For each agreed photoviewpoint location, photographs were taken with a digital SLR camera. The location at which the photographs were taken was marked (where possible) with a nail and spray paint to allow the surveyor to record the exact location on a subsequent visit. The camera was levelled horizontally and laterally by means of two camera mounted spirit levels and minimum of 50% overlap of shots for panoramic photography was used.

Equipment Used for Photography
- Canon EOS 350D SLR camera
- Canon EFS18-55mm lens
- Tripod
- Street marking paint

POST PRODUCTION
Each photoviewpoint photograph was processed from a jpeg data file in 8bit colour space.

The individual shots were stitched together using a method of cylindrical projection to form a panorama.

Standard (digital) photographic post production techniques were used to create a corrected final 8bit tif file to be used as the basis for each photomontage.

SURVEY
For each agreed photoviewpoint location an instructional document was released to the survey subcontractor. The surveyor was instructed (by means of a marked up photograph) to record a range of reference points that would enable a very high degree of accuracy.

Survey Equipment Required
- Global Positioning System (GPS)
- Total Station (with good reflectorless EDM range)
- Precise Level

Field Survey Methodology
- It should be noted that some locations will often contain coincidental reference points and hence the work should be carefully analysed to prevent excessive back-tracking.
- Camera Locations - To establish the position of a viewpoint, the surveyor must set up a GPS on it and record enough points to ensure a high level of accuracy.
- Reference points - To survey the various reference points, the surveyor should set up two temporary stations (TBMs) within view of each reference point and establish their location using the GPS. Once these co-ordinates have been established, the surveyor will set up a Total Station on the TBMs and take 3 reflectorless survey shots to the reference point in question.

Note: Where GPS positioning is not possible near to the required survey point – due to poor signal, for instance – the surveyor will set up his TBMs at the nearest position possible and traverse traditionally to a position where he can survey the point.

Data Processing & Delivery
GPS data is processed through Leica Geo-Office to acquire the OSGB36 co-ordinate system information and then processed to produce co-ordinate information for the surveyed points.

THE PROPOSED DEVELOPMENT
In this case, the development model was supplied by the project architect. The cumulative scheme model was built from available planning application drawings.

The proposed development model was checked for accuracy and consistency with supplied sections and elevations and subsequently aligned to the OSGB36 co-ordinate system.

Using EXIF data that is attached to each photograph, an exact time of photography was noted and a lighting system was created in the 3D model to match the theoretical sunlight conditions at that time of day.

ALIGNING THE MODEL AND THE PHOTOGRAPH
The collected survey reference point and camera location data was imported relative to the OSGB36 co-ordinate system by means of a proprietary script.

For each view, two renders (panoramic) were made from the 3D model from the same ‘matched’ 3D camera: one render showed only the development (in the chosen method of presentation); the other showed only the survey reference point data.

Using a photo editing package, namely Adobe Photoshop CS5, the photography, rendered survey reference points and proposed development were aligned. Any residual distortions in the underlying panoramic photography was matched at this stage.

OCCLUSION AND PERCEPTION OF THE PROPOSED VIEW
Within the limits of current technology and available data, techniques and experienced judgement were employed by the visualiser to manipulate the rendered image so that it appears as photoreralistic as possible. With the rendered proposals aligned to the photography, a mask was applied to hide aspects of the proposed development that would be occluded by existing features. This process was performed on all views.

waterman
Energy, Environment & Design
Merchants House, Wapping Road, Bristol, BS1 4RW
T: 0117 937 82005 F: 0117 937 8279 W: www.watermangroup.com