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1.0 Overview

This document is intended to clearly convey the underlying principles and processes that are used in the production of photography for a Verified View (VV) / Accurate Visual Representation (AVR) / Type 4 Scale Verifiable Photomontage. The information presented in this document will allow a third party to verify the accuracy of the AVRs produced and to recreate the views if required by using the positional information and details of the equipment used.

The procedures and principles used in the creation of these AVRs are informed by best practice, and where appropriate the processes laid down by the following:

- The Landscape Institute Visual Representation of Development Proposals TGN 06/19
- London View Management Framework 2012 & Erratum 2015
- The Landscape Institute Guidelines for Landscape & Visual Impact Assessment (3rd Edition 2013)
- Scottish Natural Heritage Visual Representation of Wind Farms-Guidance-Version 2.2-February 2017

Accurate Visual Representations fall into four categories numbered AVR 0-3. The "London View Management Framework" has the following to say regarding Verified Views / AVRs:

"By accurately combining an image of a proposed development with a representation of its existing context, all AVRs explain the location and massing of a proposed development. They may also illustrate additional properties including the degree of visibility, architectural form or choice of materials selected. In their most sophisticated form they give a very useful impression of how a completed development would look in its environment under specific lighting and weather conditions. When complex AVRs are requested, more time is required and therefore costs rise. For this reason the assessors of a project should be careful to only request AVRs of a type which show the properties which need to be assessed from a specific location. To assist agreement between all parties prior to AVR preparation, the following classification types are presented to broadly define the purpose of an AVR in terms of the visual properties it represents. This classification is a cumulative scale in which each level incorporates all the properties of the previous."

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1.1 Accurate Visual Representations Levels

AVR Level 0 Location and size of proposal



AVR Level 2 as level 1 + description of architectural form



AVR Level 1 Location, size and degree of visibility of proposal



AVR Level 3 as level 2 + use of materials



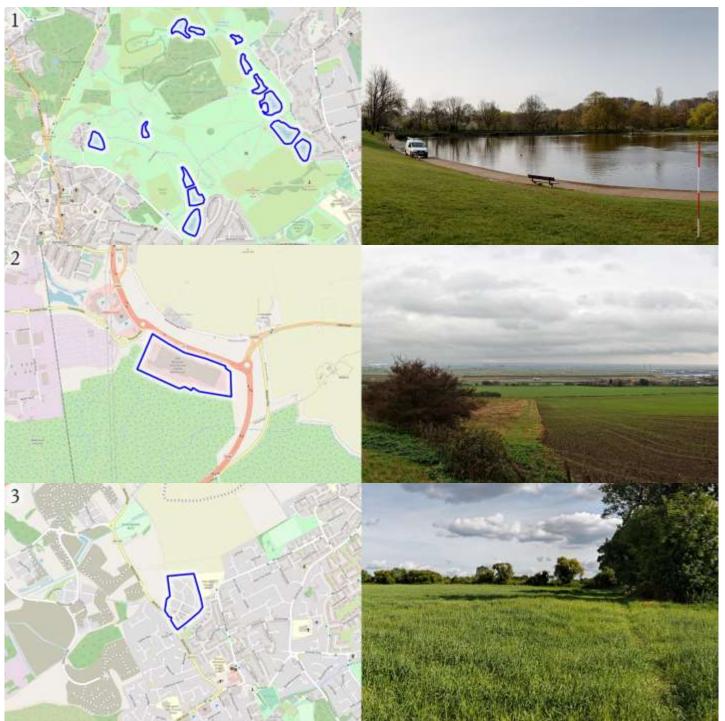
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About Ian Humes Photography 2.0

Ian Humes has a background working in both the photographic and the architectural studio. This enables a fuller understanding of the workflow of photographic images from first specification through to completed planning document. Using this experience, he can customise the way he works and the images produced so as to minimize problems for the other disciplines who will be working with the images. Photography has been provided for numerous verified view projects over a range of scales including:

- [1] Hampstead Heath Ponds Project, London
- [2] Aldi Regional Distribution Centre Warehouse, Isle of Sheppey
- [3] Ayelsbury Drive, Houghton Regis, Bedfordshire
- [4] Colchester Meadows, University of Essex
- [5] Monks Farm, Lancing, West Sussex
- [6] Lansdowne Road mixed-use project in Croydon





Methodology Statement Background 3.0

Ian Humes Photography was commissioned in February 2024 by Ross Marshall of Threesixty Architecture to produce a set of photographs to be used in photomontage for the proposed development at Oldfield Road, Hampton.

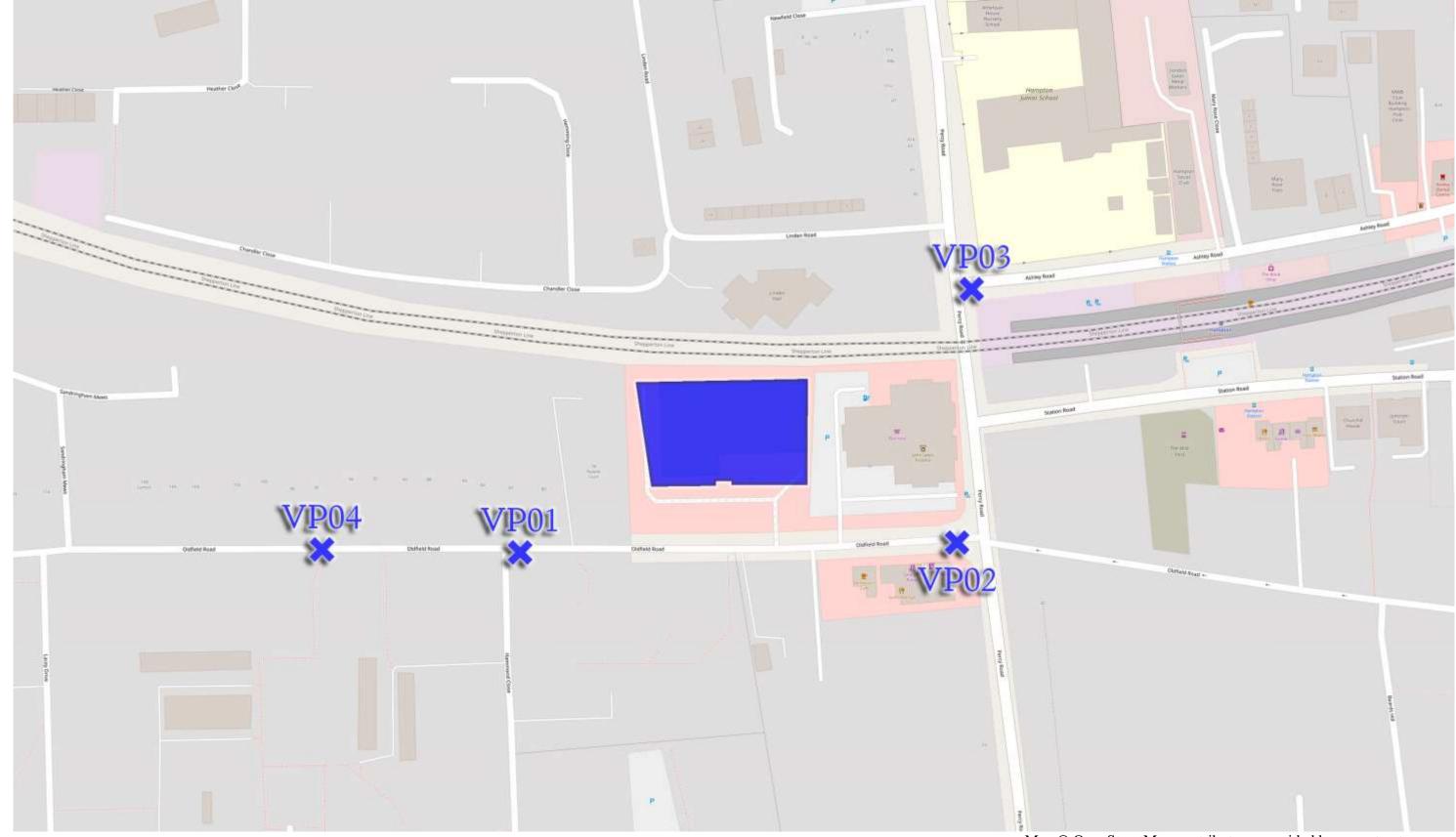
A map with the view locations was supplied along with a mass model visualisation from each viewpoint to aid in image creation.

Map © OpenStreetMap contributors, provided by openstreetmap.org Ian Humes Photography have also produced wide-angle stitched panoramas and the required documentary evidence necessary for Visual Impact Assessment for both wind and solar farms.

Viewpoint Selection 4.0

The viewpoint locations were chosen to show the changes to the views from around the proposed site and the visual impact the development would have on people using those resources. The view location information supplied contained the following documents / information:

- Map of the local area showing the approximate view locations and lens axis direction.
- Mass model sample views and shot locations.



Map © OpenStreetMap contributors, provided by openstreetmap.org

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4.1 Viewpoint Location Details

Viewpoint #	View Description	Approx. Dist. to site	Approx. View Direction	Easting & Northing	What3Words
VP01	Looking east from the junction of Oldfield Road and Hammond Court.	35m	070°	513076.532 E, 169718.393 N	fully.awake.store
VP02	Looking north west from the junction of Oldfield Road and Percy Road.	40m	300°	513207.085 E, 169723.111 N	nodded.part.area
VP03	Looking south west from the junction of Ashley Road and Percy Road.	60m	250°	513217.679 E, 169804.750 N	decide.picked.exams
VP04	Looking east from the pavement outside no. 123 Oldfield Road.	100m	075°	513009.004 E, 169716.432 N	wasp.insect.brain

Digital Photography 5.0

Digital photography was used to produce the highest quality images with the best dynamic range, and the minimum amount of noise or grain appearing within the images. It removes any variation caused by different treatments when developing the negatives using a chemical process.

Digital Camera 5.1

The photographer used a Canon 5DSr, full frame digital SLR. This produces exceptional high resolution digital images. The sensor size for this full frame camera is 36mm x 24mm.

Image Resolution 5.2

The Canon 5DSr produces raw and/or JPEG images that are up to 8688 pixels wide by 5792 pixels high. In order to have maximum control over the workflow the camera is set to create raw files.

5.3 Lenses

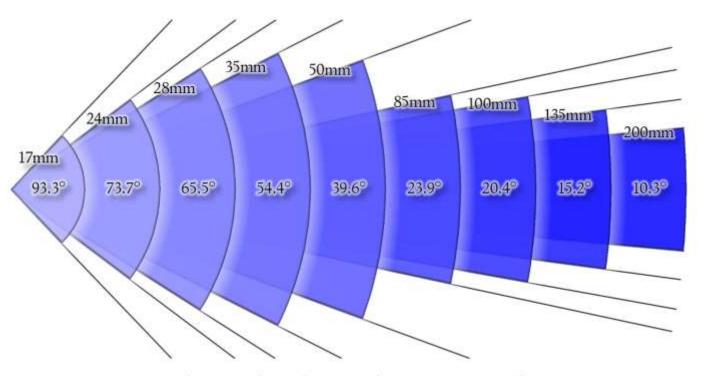
The lenses used were chosen for their ability to clearly describe the site and the impact of the proposed changes upon the existing landscape. The Guidelines for Landscape & Visual Impact Assessment (3rd Edition 2013) recommends using a 50mm lens for most developments shot with the 35mm film format. Further the Landscape Institute TGM 06/19 Visual Representation of Development Proposals says the 50mm lens is to be considered the benchmark for the 35mm format but goes on to say that other lenses can be used depending upon the image composition (Appendix 1: 1.1.5-1.1.7).

When photographing in an urban environment it is widely recognised that the use of only the 50mm lens is impractical in many situations as the horizontal field of view will not suit all viewpoints. The following is a list of the Horizontal Field of View (HFOV) and Vertical Field of View (VFOV) for a selection of un-shifted lenses:

Lens	HFOV	VFOV
17mm	93.3°	70.4°
24mm	73.7°	53.1°
28mm	65.5°	46.4°
35mm	54.4°	37.8°
50mm	39.6°	27.0°
85mm	23.9°	16.1°
100mm	20.4°	13.7°
135mm	15.2°	10.2°
200mm	10.3°	6.9°

These values are used to calibrate the degree markers on the evidence images supplied with the viewpoint images in Section 8 and explained in Section 9.

The Landscape Institute TGM 06/19 Visual Representation of Development Proposals says that non-50mm fixed lenses can be used and that tilt-shift lenses with appropriate documentation are acceptable (Appendix 1: 1.1.7 and Appendix 13).



The above diagram shows the relationship between the lens length (measured in mm) and the HFOV (measured in degrees) for various lens types along with its actual field of view (blue arc).

The lens chosen to produce an image depends on the distance from the object being photographed and the view required. In most cases the following selection produces the images required:

- Short distance (0-800 meters) 14mm to 50mm lens
- Medium distance (800-5000 meters) 24mm to 200mm
- Long distance (5000+ meters) 50mm to 400mm

Tilt-shift lenses may be used so that by adjusting the amount of shift you can change the position of the horizon whilst preserving the parallel alignment of vertical lines. Canon professional lenses produce images with excellent colour transmission, minimum distortion, high contrast and detail rendition.

For this project the following Canon professional lens was used:

• Canon TS-E 24mm f3.5L MK2

5.4 Camera Support

The tripod used for this project was a Gitzo GT5543XLS Series 5 Systematic XL extra-tall, 4-section, professional carbon fibre tripod which can be seen in the below image. This tripod does not have a central column therefore increasing the cameras stability in windy conditions. The extra-long legs still enable the lens axis to reach the required 1.6m height. The central column has been replaced by a video bowl levelling base with platform which is used for initial levelling and as a place to mount the plumb line.

For single shot verified views the Leofoto G2 Geared Head (shown below with the silver dial and opposite) is used. This allows the levelling of the camera correcting for both roll and pitch.



For panoramic shots (if required) the Leofoto DH-55 and DM-55 Indexing Rotator Kit is used as shown below (the part with the blue dial above the G2 Geared Head).

To this is added the Rogeti TSE Frame which clamps around the lens. Using the TSE Frame in conjunction with the shift function of tilt-shift lenses means the lens axis remains constant and therefore there is no vertical parallax between the horizon line image and any image created with shift. The Rogeti TSE Frame also mounts the lens so that the point of no parallax is on the axis of rotation for the G2 Geared Head and therefore directly above the survey point. Also shown, shutter release cable and precision spirit level.



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Project Workflow 6.0

The following workflow was used to produce the final image set.

On Site 6.1

The viewpoint location is found and the tripod is set up to best recreate the required view.

For Tilt-Shift Images

The Plumb line is hung from the bottom of the bowl levelling platform and the tripod is raised so that the lens axis will be at 1.6m above the survey mark (survey pin, paint or fixed geographic marker).

The camera is then mounted on the tripod head and levelled so that the lens axis is horizontal; this is achieved by using high precision spirit levels allowing the camera to be corrected for both roll and pitch. In practice it is impossible to get any camera perfectly level but this method usually produces images that are within $+/-1^{\circ}$ of level. Final levelling (if required) will be achieved during Digital Image Correction (Section 7.2).

The lens height is measured and confirmed/adjusted so that it is at 1.6m above the survey pin. The plumb line is then adjusted until it just makes contact with the survey mark.

Documentation images are taken of the setup and survey location. The lens is manually focused so that the subject or a point between the subject and the hyperfocal distance is at the plane of focus. The aperture is set to f8 to create a large depth of field whilst retaining sharpness throughout the image. Images are captured in raw format so that the original data is preserved and no "automatic" changes are made to the data.

The documentation images consist of camera, tripod, plumb line location, view datum point/survey peg and weather above the viewpoint location. These images are supplied with the selected views in Section 8 of this document.



6.2 In Studio

The images are checked for colour balance, highlight and shadow detail. If noise is present in the images, then this is corrected for as required. This is usually only required for low light or night time photography. The images are de-spotted to remove sensor dust marks from the image after which they are converted from the raw files to full size 16-bit TIFF files using DxO PhotoLab 7 and the following processes are applied:

For Tilt-Shift Images

- Sharpen the image as required.
- Add the graticules to the images to display the optical axis and fields of view.
- Save as 8-bit TIFF file with the naming convention listed in Section 7.3.