

Horizontal Field of View

The central field of vision for most people covers an angle of between 50° and 60°. Within this angle, both eyes observe an object simultaneously. This creates a central field of greater magnitude than that possible by each eye separately. This central field of vision is termed the 'binocular field' and within this field images are sharp, depth perception occurs and colour discrimination is possible. These physical parameters are illustrated in the **Figure A11.1**.

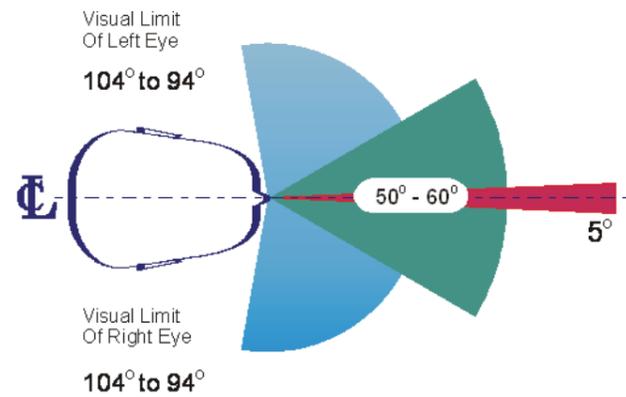


Figure A11.1 Horizontal field of view

Horizontal field of view –The central field of vision for most people covers an angle of between 50° and 60°. The visual impact of a development will vary according to the proportion in which a development impacts on the central field of vision. Developments which take up less than 5% of the central binocular field, are usually insignificant in most landscapes (5% of 50° = 2.5°). The SHW development is comprised of continuous clusters of buildings, in assessing the visual impact, it is therefore assumed that the largest horizontal components are clusters of buildings as approximately 200m. **Table A.1** shows the relationship between the impact of new structures and the distance of view, considering what proportion of the horizontal line of sight it occupies.

Table A.1 Visual impact based on horizontal field of view

Horizontal Field of View	Visual Impact	Distance of view to a approx. 200m wide structure
< 2.5° of view	<u>Insignificant</u> The development will take up less than 5% of the central field of view (5% of 50° = 2.5°). The development, unless particularly conspicuous against the background, will not intrude significantly into the view. The	>2300m

Horizontal Field of View	Visual Impact	Distance of view to a approx. 200m wide structure
	extent of the vertical angle will also affect the visual impact.	
2.5° – 30° of view	<u>Potentially noticeable</u> The development may be noticeable and its degree of visual intrusion will depend greatly on its ability to blend in with its surroundings.	100m – 2300m
>30° of vertical angel	<u>Potentially visually dominant</u> Developments that fill more than 50% of the central field of vision will always be noticed and only sympathetic treatments will mitigate visual effects.	<100m

As shown in the **Table A.1**, the calculations suggest that the impact of proposed new structures would reduce to insignificant at approximately 2300m, when they would form less than 2.5° of the horizontal field of view.

Vertical Field of View

A similar analysis can be undertaken based upon the vertical line of sight for human vision. As can be seen in the **Figure A11.2** the typical line of sight is considered horizontal or 0°. A person's natural or normal line of sight is normally a 10° cone of view below the horizontal and, if sitting, approximately 15°.

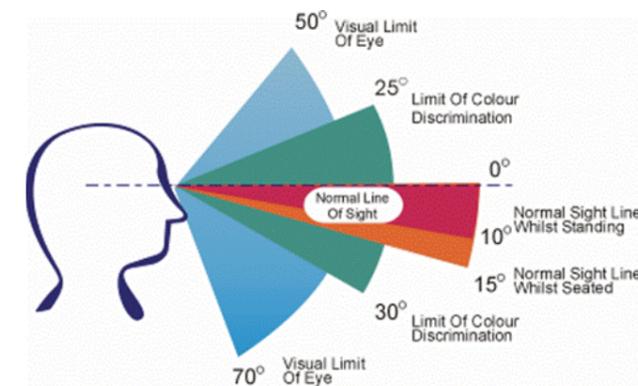


Figure A11.2 Vertical field of view

Vertical field of view – Objects which take up 5% of this cone of view (5% of $10^\circ = 0.5^\circ$) would only take up a small proportion of the vertical field of view, and are only visible when focused on directly. Given the varying number and heights of built structures in the proposed development, the tallest building has been chosen as a reference point for assessing the visual impact based on vertical field of view. The highest structures in the proposed development are approximately 100m, **Table A.2** shows the relationship between the impact of a new structure and the distance of view, considering what proportion of the vertical line of sight it occupies.

Table A.2 Visual impact based on vertical field of view

Vertical Line of Sight	Visual Impact	Distance of view to a approx. 100m tall structure
< 0.5° of vertical angle	<u>Insignificant</u> A thin line in the landscape	>12,500m
0.5° – 2.5° of vertical angle	<u>Potentially noticeable</u> The degree of visual intrusion will depend on the development's ability to blend in with the surroundings.	200m – 12,500m
>2.5° of vertical angle	<u>Visually evident</u> Usually visible, however the degree of visual intrusion will depend of the width of the object and its placement within the landscape	<200m

As shown in **Table A.2**, these calculations suggest that the impact of a 100m tall structure would reduce to insignificant at about 12,500m away, as they would form less than 0.5° of the vertical field of view.