



An Roinn Oideachais
agus Scileanna
Department of
Education and Skills

**Technical Guidance
Document
TGD-027**

**Identification and
Suitability Assessment
of Sites for
Post Primary Schools**

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1. INTRODUCTION

1.1 Objective

- (a) This Guidance Note has been prepared to assist in the identification and the assessment for suitability of new sites for Post Primary Schools.
- (b) This Guidance Note should be read in conjunction with the relevant design guidelines and technical guidance documents produced by the Department of Education and Skills and other appropriate stakeholders.

1.2 Background

- (a) Each school site is a combination of several elements apart from the school building. In this document each element is identified including the footprint that it generates. When all the elements are identified and quantified a % is added to facilitate the separation areas between the elements and the overall site area is determined. The figures used in this guidance note have been determined following analysis of existing school sites and proposed new school sites.
- (a) **Due to the scarcity of land in urban areas it is not always possible to achieve the ideal site size for school buildings. Where some of the elements required for a school site can be provided outside the designated site area (e.g. traffic management, parking, playing fields, etc.), where it is possible to provide multi-storey (above two storey) buildings and where separation areas can be reduced due to the nature of permitted development on and adjacent to the site, smaller sites can be considered. Constraints in site sizes in urban areas mean that the full suite of external accommodation may not be provided in all cases. In such circumstances priority should be given to the provision of accommodation and services specific to the pedagogical requirements of the school. In many cases this will be in line with Local Authorities' own development policies, e.g. encouraging sustainable transport methods thus reducing parking and set down requirements.**
- (b) The final design and layout of a school site will be site specific and this document should only be used as guidance in the identification and procurement of suitable sites for Post Primary Schools.

1.3 Typical School Size

- (a) Post Primary Schools cater for a varying number of pupils dependent on curriculum. Typically a school may cater for First, Second, Third, Transition, Fifth and Sixth Years plus Applied Leaving Certificate and Post Leaving Certificate Courses. School sizes are described in pupil number terms. The total pupil number in addition to the curriculum will determine the overall size of a school building.
- (b) The Planning and Building Unit in the Department of Education and Skills is tasked with determining the size of post primary schools to be provided based on projected enrolments and other demographic information in addition to the curriculum of the individual school and should be consulted in all instances where the size of a school is to be clarified / determined.

2. SITE IDENTIFICATION

2.1 Site Identification

- (a) It is important that the following issues do not adversely affect the development potential of a site. EU and National law provides a framework within which these issues should be assessed.

2.2 Site Zoning

- (a) Ensure that the lands are zoned appropriately for educational purposes, community facilities or a compatible land use in the County Development Plan or Local Area Plan. If the lands are not currently zoned, there is a need to ensure that the lands will be given the appropriate zoning to allow development to commence (this is normally done through a material contravention).

2.3 Development or Local Area Plan objectives for the site

- (a) The impact on site viability of any development objectives included in the statutory plans for the site should be considered, e.g. possible future distributor roads running through part of the site, utility/services way-leaves, or perhaps the need to upgrade the wastewater infrastructure.

2.4 Flooding or wetland issues

- (a) The 'Floods Directive' (Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risk) requires Member States to undertake a national preliminary flood risk assessment by 2011 to identify areas where significant flood risk exists or might be considered likely to occur.
- (b) As part of the Plan making process, City and County Development Plans along with Town Councils and any Local Area Plans (LAPs) must establish flood risk assessment requirements for their functional areas which may be supplemented by more detailed site-specific flood risk assessment. This assessment includes predictive flood maps (including A, B and C flood zones). Some local authorities have included, flood risk assessment in their statutory plans. The Office of Public Works (OPW) National Flood Hazard Mapping (www.floodmaps.ie) should be used as a source to check if there is a history of flood occurrence on the site.
- (c) Sites that present a risk of flooding, when assessed in accordance with the above, should be avoided for possible school development.

2.5 Natura Sites

- (a) Natura 2000 is a European network of important ecological sites. The EU Habitats Directive (92/43/EEC) placed an obligation on Member States of the EU to establish the Natura 2000 network. The network is made up of Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC), and Special Areas of Conservation (SACs) established under the Habitats Directive itself. Ireland's contribution to Natura 2000 is being created under the European Communities (Natural Habitats) Regulations, 1997 (S.I. 94 of 1997 as amended by S.I. 233 of 1998 and S.I. 378 of 2005).

- (b) The environmental implications of any development likely to have an impact on any SAC have to be assessed irrespective of the location of the development. In some cases this may require a full Environmental Impact Assessment (EIA). Planning permission would be unlikely to be granted where such an assessment shows that the development would have a significantly adverse affect on the Natural Heritage Area, SAC or SPA.
- (c) Where proximity of a proposed site to, and/or its effect on, the above mentioned areas is likely to give rise to significant delays in the development of school buildings, alternative locations should be considered.

2.6 Archaeological features

- (a) The archaeological heritage of the country is protected by the National Monuments Act 1930-2004 and is comprised of recorded sites and features of historical and archaeological importance included in the Record of Monuments and Places (RMP).
- (b) The RMP was established under Section 12 of the National Monuments (Amendment) Act 1994 and is a statutory list of all known archaeological monuments provided for in the National Monuments Act.
- (c) Where a site (being considered for development) lies within or close to a Recorded Monument, the RMP maps should be consulted. All known sites and monuments are available online on the National Monuments Services website www.archaeology.ie.
- (d) Where a planning application for works close to a monument in the RMP is being considered, the relevant planning authority should be contacted. A pre-application enquiry may also be sent to the Development Applications Unit, Department of Arts, Heritage and the Gaeltacht, Newtown Road, Wexford, County Wexford.
- (e) Major development projects are subject to an Environmental Impact Assessment (EIA) in accordance with the requirements of the relevant EU Directives. A school is considered a major development. An EIA will highlight likely significant effects of the development on the environment, including archaeology.
- (f) Where proximity of a proposed site to, and/or its effect on, identified archaeological features is likely to give rise to significant delays in the development of school buildings, alternative locations should be considered.

2.7 Architectural Heritage (Protected Structures)

- (a) The Planning and Development Act, 2000 (Part II, Section 10) places an obligation on all local authorities to include in its development plan objectives for the protection of structures, or parts of structures, which are of special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest. These buildings and structures are compiled on a register known as the Record of Protected Structures (RPS).
- (b) As required under the Planning and Development Act 2000 Part II, Section 10, when considering site suitability reference should be made to the RPS, which is included in the Development Plan for the area.

2.8 Landscape Appraisals/ Protected Vistas

- (a) Cognisance must be given to any Landscape Appraisals that are included in any Statutory Plans (Development Plan or Local Area Plan) for the area. Reference should also be made to any Natural Heritage Objectives (such as the protection of views) included in that Plan, which may adversely affect the development potential of the site.

2.9 Contamination Potentials

- (a) A site that has been used in the past for landfill or other industrial processes resulting in potential hazards needs to be assessed using appropriate criteria. This may involve specialist site surveys and investigations. Sites requiring extensive de-contamination / remedial works should be avoided.

2.10 Identification of abnormal development costs

- (a) A site presenting issues that may give rise to significant abnormal development costs should be avoided. Examples would be a site that is landlocked or lacks appropriate supporting infrastructure in the locality (e.g. roads, services etc.). Such infrastructure deficits may be an indication of premature development.

2.11 Noise

- (a) External noise sources can adversely affect the internal ambient noise levels in a school. Sources can include, but are not limited to, noise from rail and air traffic and from major roads. Local Authority Noise Maps should be consulted if considering a site within range of such noise sources. For further guidance on acceptable external noise level limits consult www.education.ie.

3. SITE SUITABILITY

3.1 Site Suitability

- (a) The following general issues should be considered at the initial site assessment stage:
- (i) Sites should generally be regular in shape and have good useable road access and road frontage to allow for efficient use of the site, flexibility in the location and orientation of the school building and all other site elements. The site should have sufficient space to allow for expansion.
 - (ii) Safe access for all as well as circulation to public roads approaching the school site and safe internal and on-site circulation should be considered. All traffic management and mobility issues should be considered during site identification and assessment. This will include appropriate provision for school buses, pedestrian and bicycle access, staff and visitor parking, car set down and pick up provision. The site should accommodate, where possible, approaches from a number of directions to facilitate and promote diversity of modes of transport thereby reducing vehicular congestion, reducing the need for excessive vehicular infrastructure (roads, parking, set down, etc.) and thereby focusing on land use directly associated with educational function. Consideration should be given to Government policy on Transport. (Useful references include the Department of Transport's current transport strategy; the National Transport Authority's publication **Tool Kit for School Travel, Smartertravel** and An Taisce's **Green School Initiative**.)
 - (iii) Ground Conditions - the site should be reasonably level, not requiring extensive excavation or fill for either the building or site development structures. The provision of a suitable approach to the building should be considered in the context of **Technical Guidance Document M 2010 Access and Use** as published by the Department of the Environment.
 - (iv) Steeply sloping sites should be avoided. A site would be considered to be steeply sloping if outside the following parameters:
 - The maximum slope for a school site should not exceed 4% when measured diagonally between any two points along the site boundary.
 - No localised area of the site should exceed a slope of 10%.
 - (v) Sites with poor ground conditions, large areas of rock, marshy or poorly drained sites, peaty ground, karst features and known archaeological features, should be avoided.
 - (vi) The location of watercourses, rivers, streams, lakes, etc., bounding or within the site, or public or private wells or aquifers in close proximity, should be determined, to establish if they will have an impact on the development. Minimum separation distances as set out in the EPA wastewater manual should be maintained from specified features.
 - (vii) The location and adequacy of public utilities, including Gas, Mains Water, Telephones, Broadband, Electricity, Foul & Surface Water drains and the cost of connecting to these utilities should be considered fully.
 - (viii) An assessment on whether wastewater and surface water can be disposed of off-site or whether wastewater treatment and surface water attenuation/ percolation/ treatment will be required on site should be carried out, as this may have significant impact on development costs.

- (ix) An assessment on ground water vulnerability should be carried out. Guidance should be sought from the Geological survey of Ireland (GSI) www.gsi.ie , which has groundwater vulnerability maps and permeability maps available and also from the Environmental Protection Agency (EPA) www.epa.ie .
- (x) Sites with extensive over or underground services which would require diversions and would give rise to significant costs should be avoided.
- (xi) Where the proposed site is part of an existing development, attention should be given to any residual site burdens (way-leaves, rights-of-way), existing building lines, necessary separation spaces between buildings, avoidance of overshadowing, minimisation of overlooking and loss of privacy for adjoining land owners, external lighting, and ease of maintenance, safety and passive security.
- (xii) Site exposure should also be considered due to the risk of excessive heat loss from the building envelope on exposed sites.

3.2 Site Orientation

- (a) The location and orientation of a school building on a given site can benefit directly from solar heat gain and optimum day-lighting with a corresponding improvement in the internal school environment and a reduction in the running costs of the building.
- (b) The classroom accommodation which accounts for the greatest occupancy rates in a post primary school should ideally face between east and south in order to take advantage of useful passive solar gains. This maximises early morning solar gains and reduces the likelihood of overheating in the afternoon.

3.3 Tables and Diagrams

- (a) **Table 1 - School Site Area Analysis** on page 9 identifies and quantifies all the elements which form part of a Post Primary school site.
- (b) Potential Reduction in Recommended Site Area
- (c) **Diagram 1 - Site Use Analysis**
- (d) **Diagram 2 – School Orientation** on page 12 sets out the preferred orientation of post-primary school buildings
- (e) **Diagram 3 – Overshadowing** on page 12 sets out the parameters to be considered where there is a risk of the site being overshadowed by an adjoining building, trees or adjoining raised ground.

Table 1 - School Site Area Analysis

School Site Area Analysis			
	Size of School (Pupil Number)		
Site Components (all figures in m ²)	500	750	1000
School Footprint Only (Two Storey Building) ¹	3594	5556	7517
Parking ²	865	1298	1730
Traffic circulation (plus set down and pick up)	2000	3000	4000
Paths, Cycle ways and Paving	1725	2588	3450
Bicycle Parking	68	102	136
Covered Storage and Yard	405	608	810
Ballcourts ³	2550	2550	3060
Playing Pitches ⁴	10900	10900	10900
Waste Treatment Plant ⁵	0	0	0
Future Expansion ⁶	1089	1684	2278
Sub Total	23196	28284	33881
Separation Areas (35%) ⁷	8118	9899	11858
Totals in sq m	31314	38183	45740
Acre	7.74	9.44	11.30
Recommended Site Area in Hectares for a 2 Storey School Building	3.13	3.82	4.57
<p>Note 1: This footprint is based upon a two storey building design. Should a three storey design be permissible, the building footprint size should be reduced by a factor of 10%. Footprint size may also be affected by the inclusion of a Special Needs Unit (SNU). Typically, an SNU will be approximately 500m² in size and located on the ground floor.</p> <p>Note 2: Due to the scarcity of land in urban areas it is not always possible to achieve the ideal site size for school buildings. Where some of the elements required for a school site can be provided outside the designated site area (e.g. traffic management, parking, playing fields, etc.), where it is possible to provide multi-storey (above two storey) buildings and where separation areas can be reduced due to the nature of permitted development on and adjacent to the site, smaller sites can be considered.</p> <p>The DoES is in the process of developing an urban site area calculator based on analysis carried out on built schools and proposed new school sites to inform urban school site sizes. Pending its completion, in higher density urban developments where the optimum site area set out above cannot be identified the Planning and Building Unit should be consulted at the earliest possible stage.</p> <p>Constraints in site sizes in urban areas mean that the full suite of external accommodation may not be provided in all cases. In such circumstances priority should be given to the provision of accommodation and services specific to the pedagogical requirements of the school. In many cases this will be in line with Local Authorities' own development policies, e.g. encouraging sustainable transport methods thus reducing parking and set down requirements.</p> <p>Note 3: The figure allocated to parking is based on previous best practice. An area of 200m² represents 10 standard parking spaces arranged in two rows of 5 plus a 6m wide access road. Should the relevant local authority require additional or reduced parking, an adjustment can be made on the basis of 12.5m² per standard parking space. The relevant Development Plan should be consulted for guidance on appropriate parking provision.</p>			

Note 4: Ball courts should be designed in a manner so as to allow use as overflow car parking.

Note 5: The inclusion of playing pitches may be subject to space availability and school requirements. The following areas should be added for the corresponding sports pitch: Gaelic Games 10900m², Soccer 5000m², Hockey 5017m², Rugby 9936m². *(The table above includes a Gaelic Playing Pitch.)* Where such facilities are available locally this should be identified and taken into account.

Note 6: Where there is no public sewer and the on site treatment of effluent is necessary, the provision of a percolation area or other filter mechanism may require the site to be increased in size. The area required will be determined by site conditions and therefore must be calculated on a case by case basis.

Note 7: An Area adjoining the school building should be allocated for future expansion. This area shall be 20% of the footprint of the planned school, be reasonably level and allow future expansion with minimum disruption to the existing school. Where this is not possible this should be identified and taken into account.

Note 8: Separation areas represent the total unused landscaped areas on the site. The Figure of 35% is based on a well arranged site located in a rural town environment. This figure may be adjusted; however, empirical data shows that it should not be reduced below 27%. Excessively sloping sites may result in greater separation being required between site elements, therefore increasing this figure.

Potential Reduction in Recommended Site Area

The provision of playing pitches (Gaelic, Rugby, Soccer or Hockey) has a significant impact on an overall site area. Where the recommended site area cannot be achieved and the use of these facilities can be provided on a permanent basis at a convenient location near the school then consideration could be given to the reduction in the overall site area. **Diagram 1** below is an analysis of the site usage and the impact of each element on the overall site area. If a playing pitch were to be provided at an alternative location then the potential impact on the site area required can be determined from this diagram. This diagram could also be used when identifying sites in urban locations where the provision of some elements such as parking and traffic circulation are provided off site.

Diagram 1 – Site Use Analysis

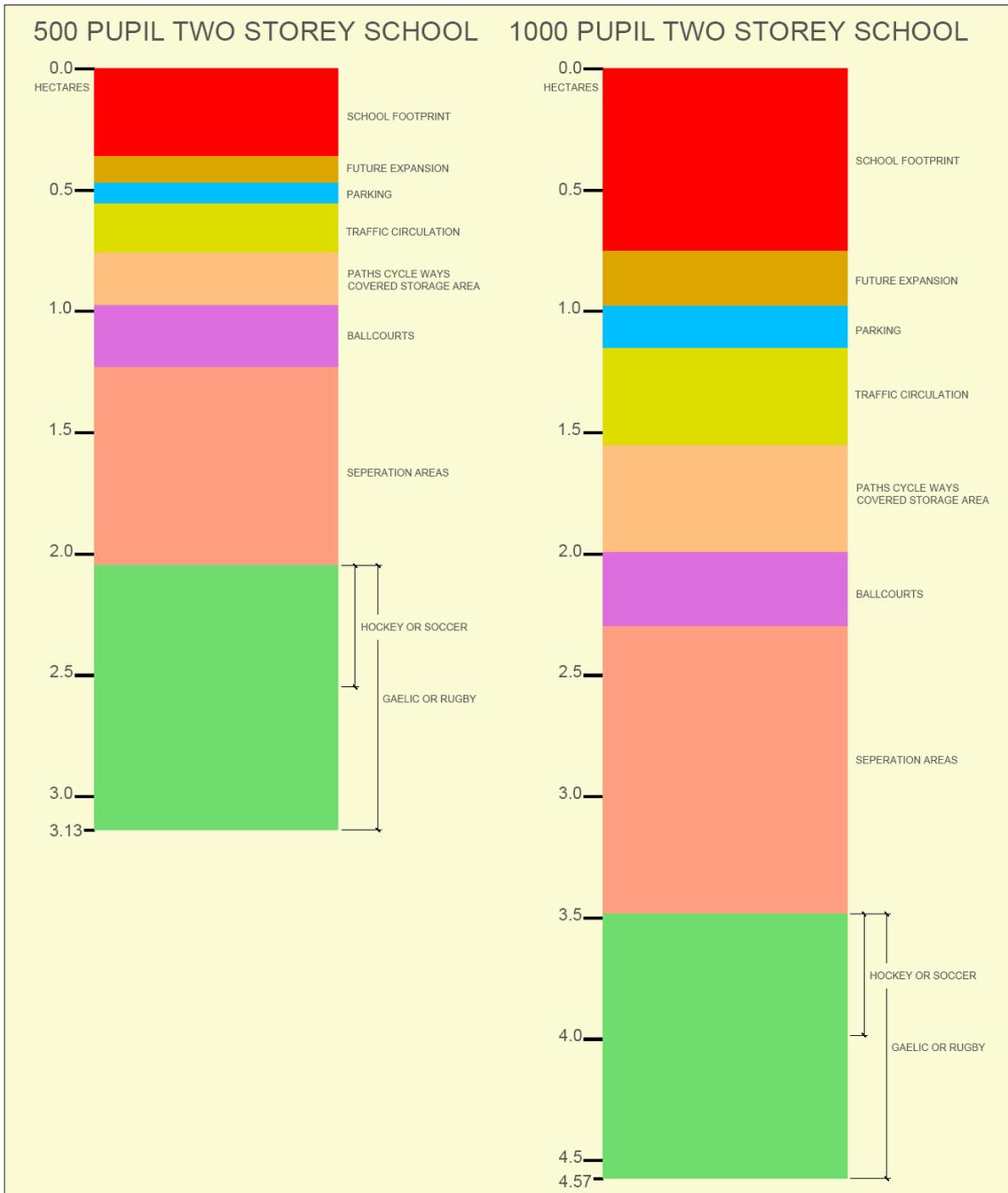
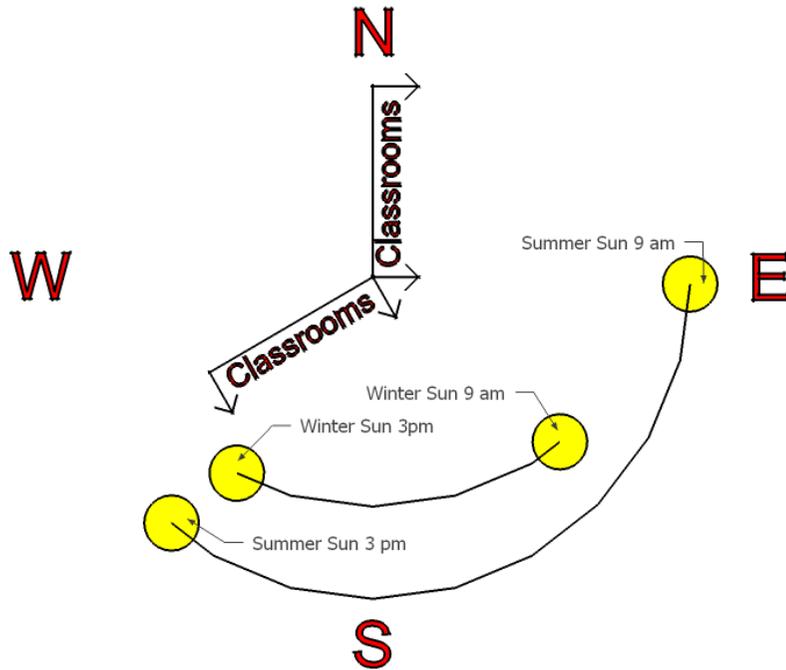


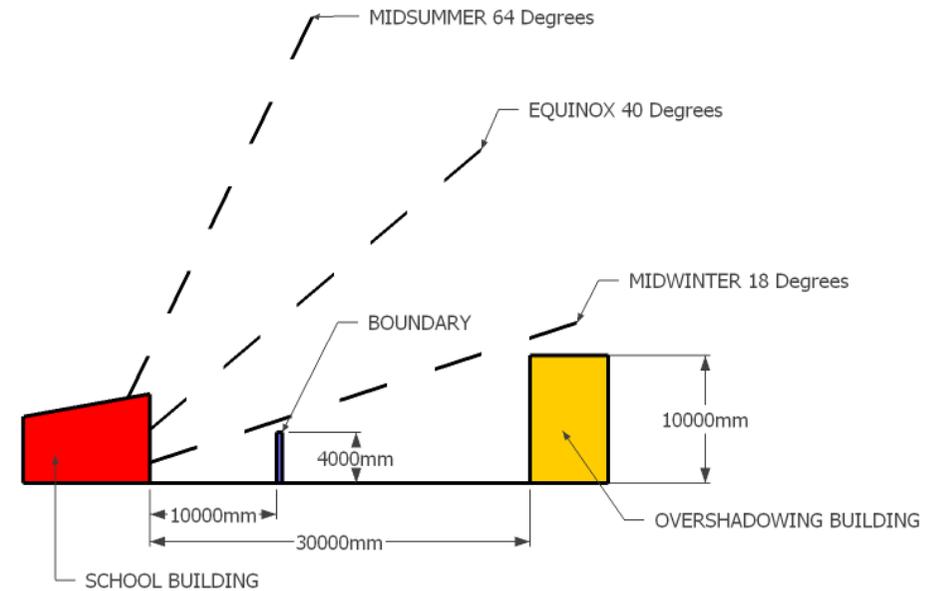
Diagram 2 – School Orientation



The passive solar gain available on a given site can have a significant impact on the running costs and comfort of a school building. To maximise the potential solar gain buildings should be generally orientated with the longest face (Classrooms) facing between East and South East (as indicated above) as this maximises early morning solar gains and reduces the likelihood of overheating in the afternoons. This is preferable to classrooms facing South West and West. The above factors should be taken into account when identifying School Sites.

Further guidance on orientation is given in [TGD 020 - General Design Guidelines for Schools \(Primary & Post-primary\)](#)

Diagram 3 - Overshadowing



The diagram above illustrates the elevation of the sun throughout the year. The direction of the sun is illustrated from a due south position at noon.

Where the optimum orientation for a school building is possible the proximity of adjoining buildings or other potential obstructions located due East and South of the school need to be considered.