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Technical Guidance Document TGD-025

Identification and Suitability Assessment of Sites for Primary Schools

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PLANNING AND BUILDING UNIT

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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 Primary Schools.

(b) (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.

(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 Primary Schools.

1.3 Typical School Size

(a) Primary Schools cater for eight separate grades, Junior Infants, Senior Infants, First, Second, Third, Fourth, Fifth and Sixth Class.

(b) School sizes are described in classroom terms (and can range from a 4 classroom school upwards). In rural areas the number of classrooms can vary from school to school; the actual number being a result of the number of pupils attending the school. In urban areas the schools tend to be larger and follow a more defined pattern with 8 classrooms catering for what is called a single stream (all eight grades) 16 classrooms catering for two streams and 24 classrooms catering for three streams.

(c) The Planning and Building Unit in the Department of Education and Skills is tasked with determining the size of Primary Schools to be provided based on projected enrolments and other relevant demographic information and should be consulted in all instances where the size of a school is to be clarified / determined.

(d) Where more than 24 classrooms are required on a single site, the general approach (subject to site suitability and local circumstances) will be to have more than one school on a single shared site.

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 provide 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 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 primary school site.

(b) **Diagram 1 – Notional Site Layout** on page 10 is a scaled example of a two storey sixteen classroom school on a 1.04 hectare site and shows the possible relationship of all the elements identified in Table 1.

(c) **Diagram 2 – School Orientation** on page 11 sets out the preferred orientation of primary school buildings

(d) **Diagram 3 – Overshadowing** on page 11 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			
Site Components *(all figures in m²)*	**4 to 8 Classroom**	**8 to 16 Classroom**	**16 to 24 Classroom**	**24 to 32 Classroom**
School Footprint *(Two Storey Building)*	1000	1600	2200	3500
Ballcourts	600	1200	1800	2400
Matching Green space	600	1200	1800	2400
Junior Play area	200	400	600	800
Matching Green space	200	400	600	800
Traffic Circulation *(drop off + pick up)*	1500	1500	2000	2500
Staff Parking *(2 spaces/class)*	550	800	1200	1400
Paths and Paving	1000	1200	1800	2400
Waste Treatment Plant	0	0	0	0
Parent Parking *(ball court only)*	0	0	0	0
Future Extension	0	0	0	0
Sub Total	5650	8300	12000	16200
+ Separation Zones 25%	1412.5	2075	3000	4050
Totals in sq m	7062.5	10375	15000	20250
Acres	*1.75*	*2.56*	*3.70*	*5.00*
Recommended Site Area in Hectares For Two Storey School Buildings	***0.71**	***1.04**	***1.5**	***2.025**
School Footprint *(Single Storey bldg)*	1500	2400	3100	5000
All other site elements	4650	6700	9800	12700
Sub Total	6150	9100	12900	17700
+ Separation Zones 25%	1537.5	2275	3225	4425
Totals in sq m	7687.5	11375	16125	22125
Acres	*1.90*	*2.80*	*4.00*	*5.47*
Recommended Site Area in Hectares For Single Storey School Buildings	***0.77**	***1.14**	***1.6**	***2.2**

***Note 1:** 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 the site conditions and therefore must be calculated on a case by case basis. Sites where on site treatment is not possible should be avoided.

***Note 2:** Where additional accommodation (e.g. community facilities, special needs accommodation, etc.) is proposed or where there is a possibility that it may be required, the above figures should be adjusted accordingly. (Please refer to TGD 026 for Specialist Accommodation Provision for Pupils with Special Educational Needs in Primary Schools with 2 or more special classes & Post Primary Schools)

***Note 3:** In higher density urban developments where the optimum site area set out above can not be identified the Planning and Building Unit should be consulted at the earliest possible stage.

Diagram 1 – Notional Site Layout to scale *(Two Storey 16 Classroom School on a 1.04 hectare site)*

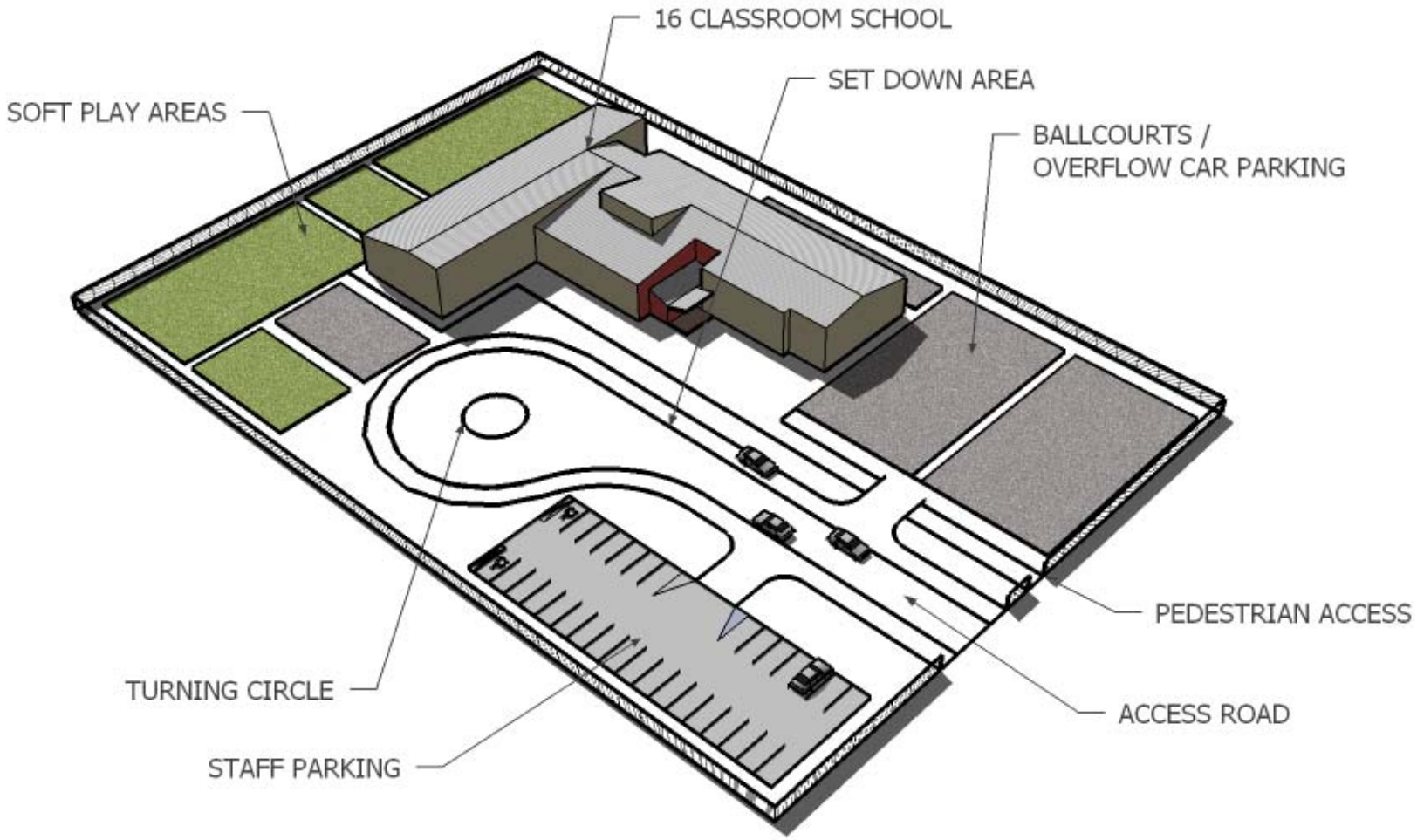
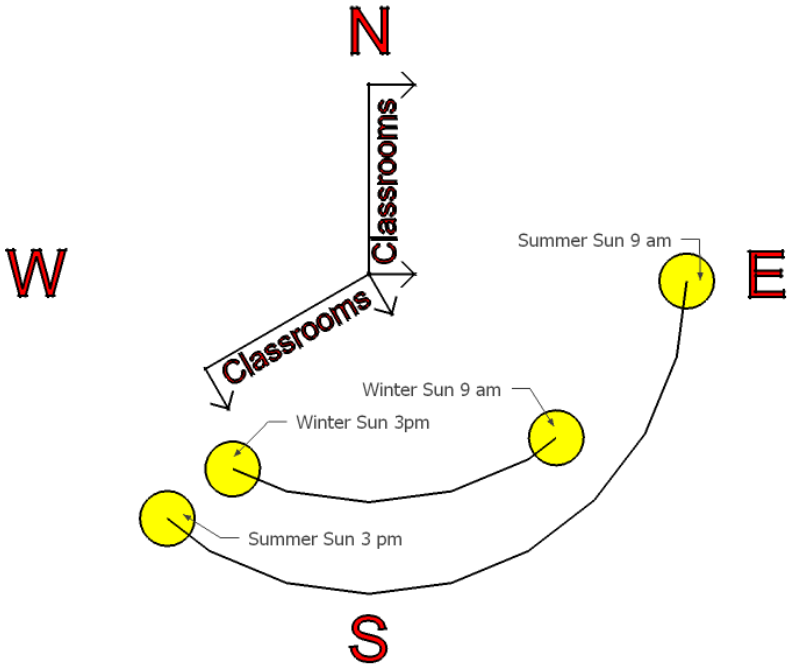


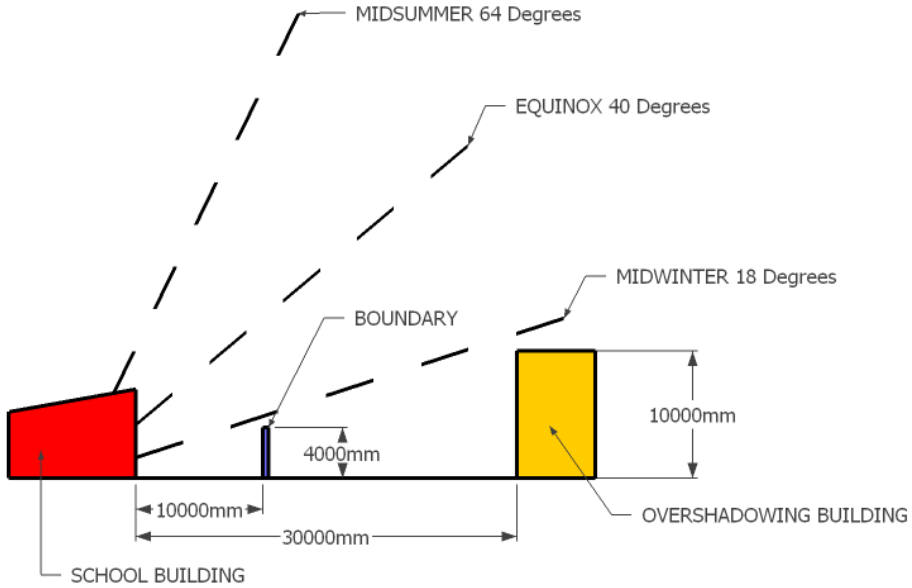
Diagram 2 – School Orientation



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.