



## Technical Guidance Document TGD-025

# Identification and Suitability Assessment of Sites for Primary Schools

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DEPARTMENT OF EDUCATION AND SCIENCE

PLANNING AND BUILDING UNIT

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## 1.0 Introduction

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### 1.1 Objective

- (a) This Technical Guidance Document has been prepared to assist in the identification and assessment of suitable sites for Primary Schools.
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### 1.2 Background

- (b) 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.
- (c) The final design and layout of a school site will be site specific and the guidance in this document should only be used in the identification and procurement of suitable sites for Primary Schools.
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## 2.0 Site Selection

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### 2.1 Typical School Size

- (a) Primary Schools cater for eight separate grades, Junior Infants, Senior Infants, First, Second, Third, Fourth, Fifth and Sixth Class. School sizes are described in Classroom terms and can range from a 2 Classroom School up. 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 larger urban areas the schools tend to be larger and follow a more defined pattern with Eight Classrooms catering for what is called a single stream (all eight grades) and a Sixteen Classrooms catering for two streams (two classes at all eight grades)
  - (b) The School Planning Section in the Department of Education and Science are tasked with determining the size of primary schools to be provided based on projected enrolments and other demographic information and should be consulted in all instances where the size of a school is to be identified.
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### 2.2 Site Suitability

The following general issues should be considered at the initial site identification and assessment stage:

- (a) 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.
  - (b) Safe access and external circulation for pedestrians and vehicles. This will include consideration of the capacity of the site and its approach roads to facilitate safe and adequate pedestrian and vehicular access.
  - (c) All traffic management issues should be considered during site identification and assessment. This will include provision for school buses, pedestrian and cycle access, staff and visitor parking, car set down and pick up provision.
  - (d) Ground Conditions. The site should be reasonably level, not requiring extensive excavation or fill for either the building or site development. Sites with poor ground conditions, large areas of rock, known archaeological features, and extensive over or underground services, should be avoided.
  - (e) The location and adequacy of public utilities, including Gas, Mains Water, Telephones, Electricity, Foul & Surface Water drains, and the cost of connecting into them.
  - (f) Where the proposed site is part of an existing development, attention should be given to any existing building lines, spaces between buildings, avoidance of overshadowing, external lighting, and ease of maintenance, safety and passive security.
  - (g) Site exposure should also be considered due to the risk of excessive heat loss from the building envelope on exposed sites.
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## 1.0 Introduction (continued)

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### 2.3 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 reduction in the running costs of the building.
  - (b) The Classroom accommodation which accounts for the greatest occupancy should ideally face between east and south east 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.
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### 2.4 Tables and Diagrams

- (a) **Table 1 - School Site Area Analysis** on page 6 identifies and quantifies all the elements which form part of a primary school site.
  - (b) **Diagram 1 – Notional Site Layout** on page 7 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 8 sets out the preferred orientation of primary school buildings
  - (d) **Diagram 3 – Overshadowing** on page 8 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.
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Table 1 - School Site Area Analysis.

<b>School Site Area Analysis</b>				
<b>Site Components</b> <i>(all figures in m<sup>2</sup>)</i>	<b>Size of School</b>			
	<b>4 to 8 Classroom</b>	<b>8 to 16 Classroom</b>	<b>16 to 24 Classroom</b>	<b>24 to 32 Classroom</b>
School Footprint <i>(Two Storey Building)</i>	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 <i>(drop + pick up only)</i>	1500	1500	2000	2500
Staff Parking <i>(2 spaces/class)</i>	550	800	1200	1400
Paths and Paving	1000	1200	1800	2400
Waste Treatment Plant	0	0	0	0
Parent Parking <i>(ball court only)</i>	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
<b>Recommended Site Area in Hectares For Two Storey School Buildings</b>	<b>*0.71</b>	<b>*1.04</b>	<b>*1.5</b>	<b>*2.025</b>
School Footprint <i>(Single Storey bldg)</i>	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
<b>Recommended Site Area in Hectares For Single Storey School Buildings</b>	<b>*0.77</b>	<b>*1.14</b>	<b>*1.6</b>	<b>*2.2</b>
<p><b>*Note 1:</b> 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.</p> <p><b>*Note 2:</b> 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.</p> <p><b>*Note 3:</b> 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.</p>				

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

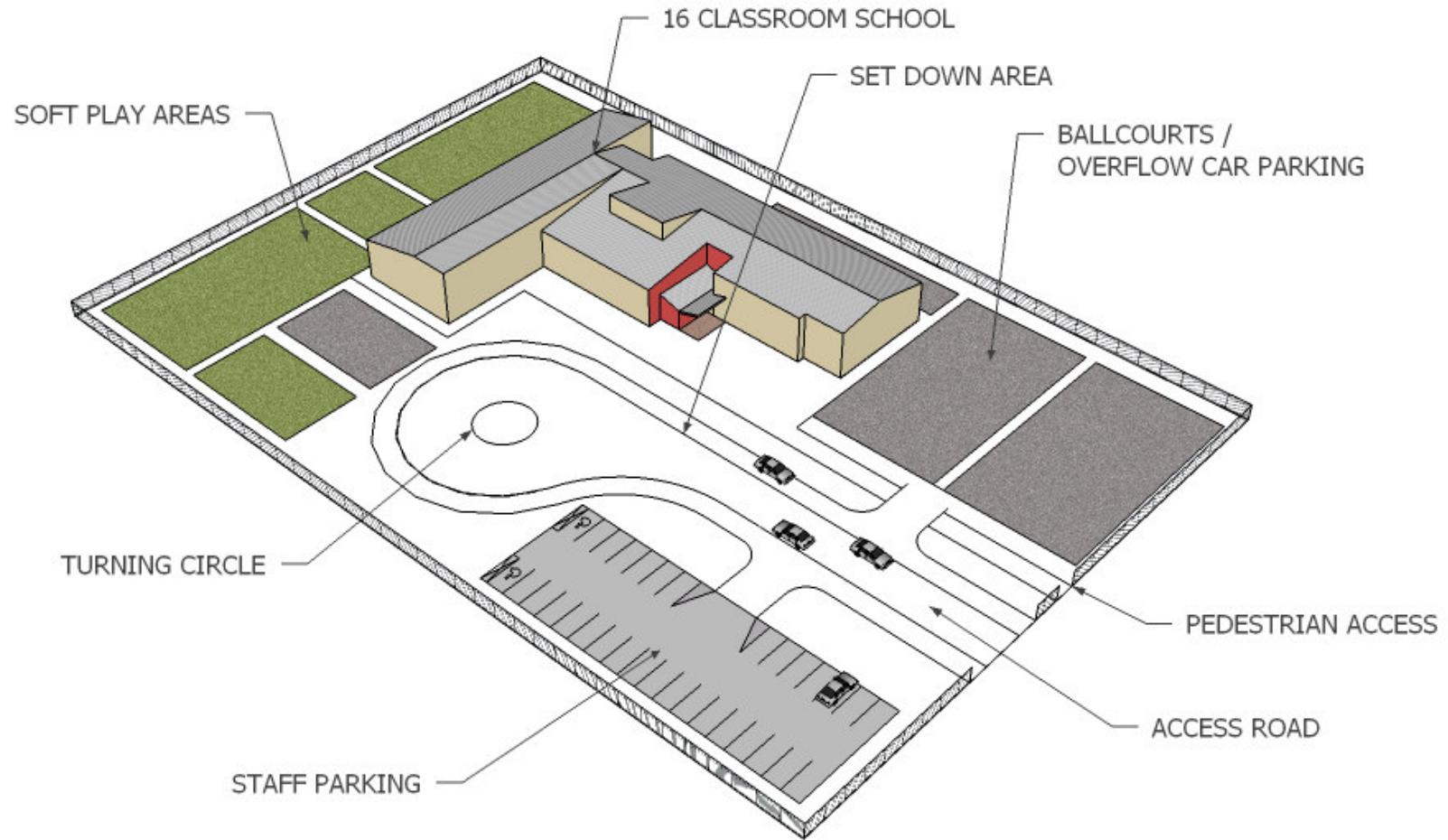
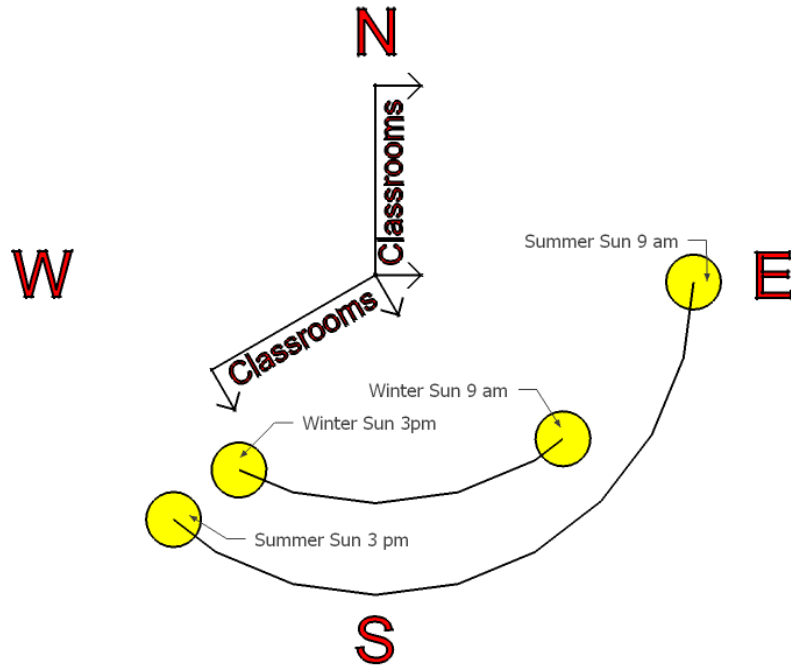


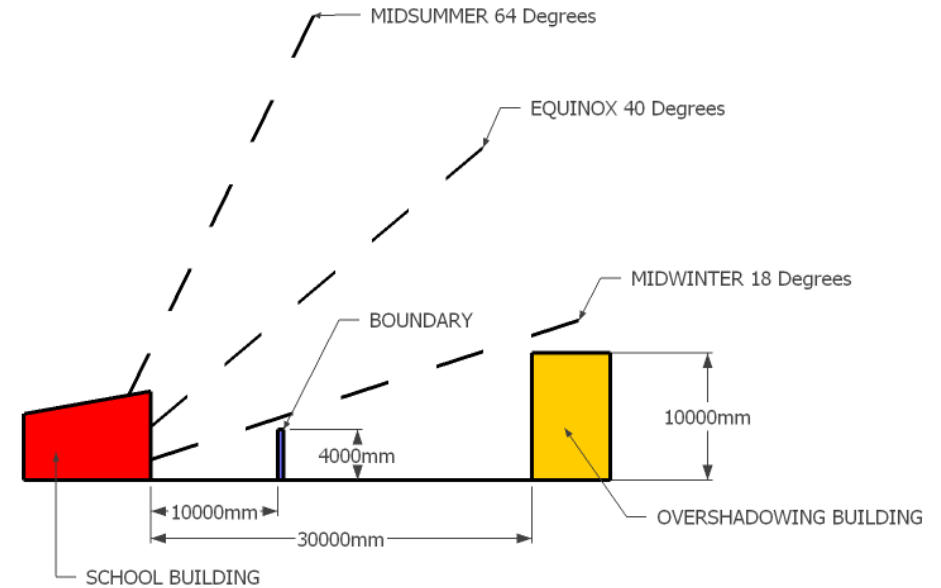
Diagram 2 – School Orientation



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. 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 direction and elevation of the sun throughout the year. The direction of the sun is illustrated from a due south position. Where the optimum orientation for a school building is possible the proximity of adjoining buildings or other potential obstructions located due south of the school need to be considered.