



An Roinn Oideachais
Department of Education

School Design Guide (SDG)

SDG 02-06

Sanitary Facilities

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www.gov.ie/en/organisation/departments-of-education/**

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1. BACKGROUND TO LATEST REVISIONS

The Department of Education (DoE) has an ongoing policy of updating and improving its suite of Technical Guidance Documents / School Design Guides* (TGDs / SDGs) for schools with a view to offering better guidance to school authorities and Design Teams. Since the introduction of the 1st Edition of TGD-021-2 and TGD 021-3 in April 2014, the DoE has undertaken an extensive review exercise of recently built schools. Lessons learnt incorporating feedback from schools, international best practice and also from Department specialist subject Inspectors has resulted in significant review of the design guidance. The outcome included here and is reflected in the final versions published on Department's website.

* Updated Technical Guidance Documents will be renamed as School Design Guides. There will be a period of time when both titles remain in used, until all documents have been replaced.

In text contained within this document, when School Design Guides are mentioned we also are including current Technical Guidance Documents issued by the DoE.

2. INTRODUCTION

2.1 PURPOSE

The purpose of the Department of Education School Design Guide as it relates to school sanitary facilities is to ensure that the following points are addressed within the built environment:

- a) To meet the sanitary requirements of Pupils, Staff and Visitors in a hygienic, robust and reliable manner.
- b) To ensure that the sanitary facilities are well designed and distributed in order to facilitate ease of access for all.
- c) To facilitate all users including those with disabilities.
- d) To minimise the risk of bullying, and,
- e) To minimise the consumption of water, energy and other consumables.

The operation of sanitary facilities is a matter for each school authority. As such, early discussion in the design process between the Design Team and the School Authority in relation to the arrangement and layout of sanitary facilities is required.

Bullying is defined by the Department of Education guidelines as unwanted negative behaviour, verbal, psychological or physical, conducted by an individual or group against another person (or persons) and which is repeated over time. Toilets, corridors, cloakrooms, locker areas, changing rooms, showers, the Multi-use Hall and General Purpose Hall may be the scene of verbal, psychological and physical bullying. The behaviour of pupils in those areas needs careful monitoring and passive supervision of these spaces through careful design is required. The safety of the pupils must be balanced against the individual dignity and privacy requirements in sanitary facilities.

Sanitary facilities comprise the spaces required for personal hygiene, together with the systems, equipment and accessories to facilitate their on-going and repetitive use in a robust manner which minimises maintenance.

Spacious and well-lit circulation areas designed with visual connectivity to sanitary facilities build a sense of communality. Equally, well-considered physical connectivity between these spaces enhances accessibility and reduces the risk of bullying. School design must adapt to modern changing needs. The modern school is not only a centre of learning and teaching, but should also be available for community use and for adult education. Architectural flexibility will make a major contribution to the longevity of any new school building. School architecture is guided by the national curriculum and pedagogical requirements.

Where sanitary facilities are carefully designed and operated, they become a significant component of the learning environment and provide a vital and valuable means of support for children in managing their own health, particularly as part of a whole-school ethos promoting health and well-being. The physical aspects of a school should promote well-being in students. School buildings must be open, transparent, adaptable and flexible.

A flexibly designed school enables groups of varying size to migrate easily and safely between spaces with minimal disruption. A truly flexible design is capable of predicting the needs of the future through adapting to meet changing functional requirements. Schools must be designed to be used creatively and imaginatively.

Schools must be multi-purpose centres of learning and provide real opportunities for lifelong learning. Schools must address the skills needed in a global, pluralistic, multicultural society, catering equally and fairly for the needs of all. Increasingly, schools are providing not just academic subjects, but basic life management skills. The school building and environs define the practical parameters of teaching and learning and create the general atmosphere where learning, social interaction and a sense of belonging come together to form positive attitudes in an inclusive environment.

2.2 DESIGN GUIDANCE SUITE

- a) This document sets out the required standards of performance to be used in the design of primary and post primary school's sanitary facilities with an emphasis on achieving build quality; value for money; safety in design, construction and use; effective management and operation of the building. The minimum standard is set out in the current Department of the Environment, Community & Local Government (DoHPLG) Building Regulations Technical Guidance Documents.
- b) This document should be read in conjunction with other relevant School Design Guides. Collectively, these form a Design Guidance Suite – a design tool-kit to inform School Authorities*, School Managers and Design Teams alike. This tool-kit is also a reference used in the evaluation of design submissions. This ensures standards are applied fairly across all schools in the State. Furthermore, these standards and requirements are applied to all school works contracts: re-fitting, refurbishments, alterations, building-fabric replacement, and not solely to new-build and extensions.

[* In the case of Community and Comprehensive Schools, the Minister for Education is the school authority.]

- c) The full suite of DoE design guidance documents for Primary and Post-primary Schools is available at www.gov.ie
- d) This latest suite replaces all previous DoE Design Guidelines, both Primary and Post Primary.
- e) This suite of design guidance comprising School Design Guidance documents along with the DoE Room Layouts is intended to assist in the proper planning and design of buildings; while also in responding to the educational needs of a particular school as determined in the individual Brief Formulation Report.
- f) The DoE Post-Primary Room Layouts are available at www.gov.ie and in Autocad, Revit and PDF formats.
- g) These guidelines and the other relevant documents in the Design Guidance Suite should be read in conjunction with;
 - The Brief/Brief Formulation Report (BFR), and associated Schedule(s) of Accommodation.
 - The DoE Design Team Procedures (DTP) and associated Practice Notes, available at www.gov.ie.
 - The full suite of DoE design guidance documents for Primary and Post-primary schools, available at www.gov.ie.
 - Frequent checking of the Department's website for notices, updates, and for latest-versions of guidance and drawings
- h) In applying these guidelines to projects, school authorities and Design Teams will;
 - Be obliged to comply fully with the current DoE Design Team Procedures and School Design Guides.
 - Be obliged to comply fully with other guidance issued by the DoE, except as stated in the following sections relating to Application, Room Layouts, Brief & Design Team Procedures.

2.3 APPLICATION

- a) This and the above mentioned suite of guidance documents outline the standards for schools that should be applied to all school construction projects funded in part or in whole by the DoE (unless otherwise directed by the DoE in writing) and where a decision to commence architectural design and planning has been confirmed in writing by the DoE Planning and Building Unit.
- b) Where it is proposed to construct a new school

these design guidelines and standards and all associated documents in the suite of DoE School Design Guidelines should be consulted and appropriately applied.

- c) In the case of existing school buildings where an extension, conversion or renovation is proposed, these School Design Guidelines and standards and all associated documents in the suite of DoE School Design Guidelines should apply to all new- build work and so far as is practicable to all alterations and repairs.

2.4 FURTHER INFORMATION

This document and all other DoE Guidance Documents mentioned above are available at www.education.ie / www.gov.ie.

Always check the online resource at www.education.ie / www.gov.ie for the most up-to-date version.

For further advice on these guidelines or any other matters relating to this document, please contact:

Department of Education,
 Planning & Building Unit,
 Portlaoise Road,
 Tullamore,
 Co. Offaly R35 Y2N5
 Telephone: (057) 9324300

2.5 TECHNICAL REFERENCE

The provision of technical references in this document is for guidance purposes only. The list of technical references is not exhaustive and the onus shall be on all the members of the Design Team, acting collectively to ensure that all the relevant standards are applied in all instances. The Design Team must ensure that the design standards used in the design of educational facilities will achieve build quality; value for money; energy efficiency; safety in design, construction and use; appropriate consideration of life cycle costing and timely completion of the project. The design must also facilitate the effective management, supervision and operation of the building.

All references to Acts and Regulations shall be deemed to mean the current Acts and Regulations, and updated standards.

The Design Team shall also apply, where necessary, any new standards or Acts (and their associated Regulations), relevant to the design and construction process, which may also come into force after the publication of this document.

2.6 LAYOUT DRAWINGS & DIAGRAMS

Layout drawings and diagrams provided in this document are intended to complement the text within this document and are intended as guidance only. The adoption of an approach other than that outlined in the guidance is not precluded where the principles outlined in the document are complied with. Drawings/diagrams are not to scale and do not represent fully detailed solutions. Where dimensions are stated, they refer to minimum unless otherwise stated. Allowance should be made for all necessary tolerances and finishes and on-site deviation.

3. HEALTH & SAFETY

3.1 STATUTORY REGULATIONS

Design Teams must ensure that all current regulations relating to safety, health and welfare at work are taken into account in the design of all building projects. In particular Design Teams are required to comply in full with the prevailing versions of Safety, Health & Welfare at Work Act and Safety, Health & Welfare at Work (Construction) Regulations.

3.2 DESIGN TEAM DUTIES

Each Design Team member and the Design Team as a whole must consider safety in the design from acceptance of the commission to handover of the building and the subsequent safe operation of the building by the client thereafter.

4. COMPLIANCE

4.1 BUILDING REGULATIONS

Design Teams are required to comply in full with the prevailing versions of the DoHPLG Building Regulations Technical Guidance Documents, in particular Part G – Hygiene and Part M – Access and Use, international standards and the standards in this document.

Building Components with no relevant Irish Standard or Agrément Certificate or recognised International Standard or Certification shall not be used.

The space allowance and installation of all sanitary appliances should fully comply with the requirements of BS 6465-2, and DoHPLG Building Regulations Technical Guidance Document Part M.

4.2 BUILDING CONTROL (AMENDMENT) REGULATIONS 2009 (S.I. NO. 351 OF 2009)

The Design Team should note the following:

- a) The Disability Access Certificate (DAC) was introduced through SI 351 of 2009 dated 4 September 2009, in order to improve compliance of buildings with DoHPLG Building Regulations Technical Guidance Document Part M. A DAC is required for new buildings other than dwellings (but including apartment buildings) and certain works (as set out in Article 20 D (1) of SI 351) to which the Requirements of Part M apply.
- b) For Frequently Asked Questions on Disability Access Certificates refer to on the DoHPLG website.

4.3 IRISH AND INTERNATIONAL STANDARDS

All building components used must be manufactured to meet the relevant Irish Standard or other recognised European Standard (EN) where no Irish Standard exists. Where standards are quoted within this document the subsequent revised editions of the same standard shall take precedence.

The design, installation, commissioning and handover of the project, including materials, products and workmanship shall comply with the relevant prevailing standards in the following order of preference: national standards transposing European standards, European Technical Assessments, common technical specifications, international standards, other technical reference systems established by European standardisation bodies or – when any of those do not exist- national standards, national technical approvals or national technical specifications relating to the design, calculation and execution of the works and use of the supplies: each reference shall be accompanied by the words or equivalent.

5. GENERAL STANDARD

5.1 GENERAL DESIGN STANDARDS

All sanitary facilities and associated works must comply with the DoHPLG Building Regulations and in particular the following:

- Part F Ventilation
- Part G Hygiene
- Part H Drainage and Wastewater Disposal
- Part M Access and Use

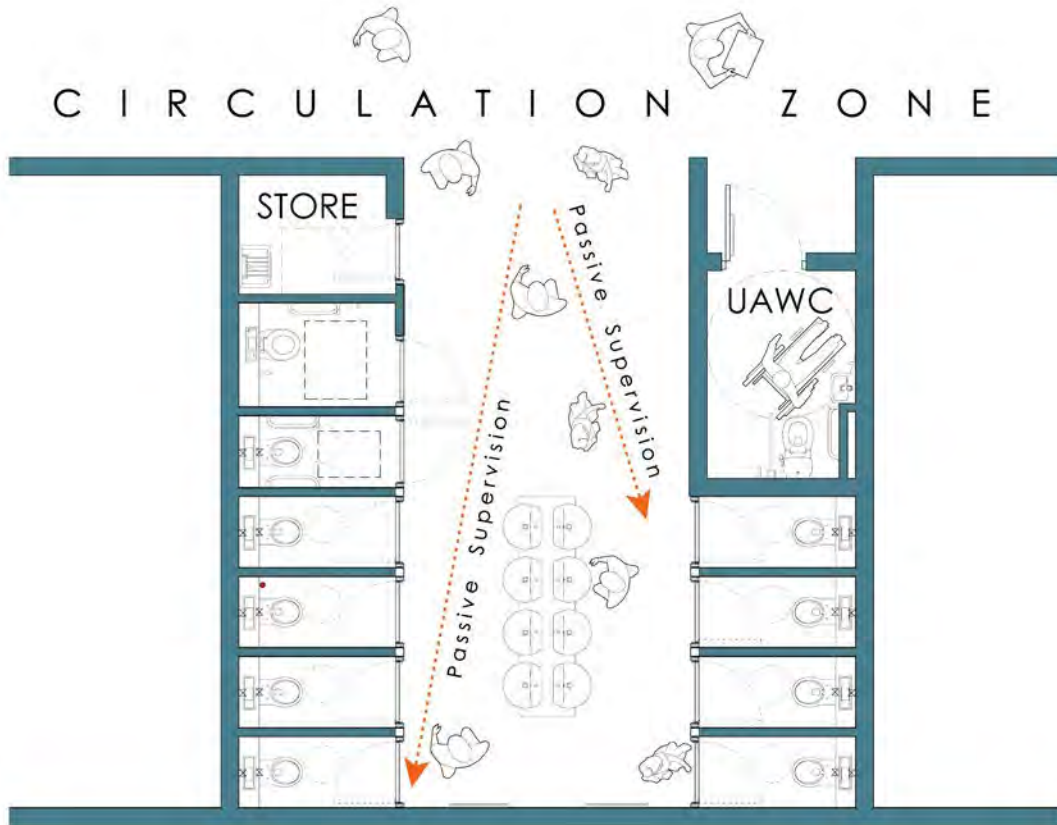
Guidance on compliance with the various parts of the Building Regulations is given in the relevant DoHPLG Technical Guidance Document. Where works are carried out in accordance with this guidance, this will, prima facie, indicate compliance with the DoHPLG Building Regulations. However, the adoption of an approach other than that outlined in the guidance is not precluded provided the relevant requirements of the DoHPLG Building Regulations are complied with, and the agreement of the sanctioning authority has been confirmed prior to the completion of Stage 2A.

All sanitary facilities are to be designed with the physical and emotional safety of pupils in mind, to promote inclusivity and in order to remove the risk of bullying in the school environment. Toilets, corridors, cloakrooms, locker areas, changing rooms and showers may be the location of verbal, psychological and physical bullying. The behaviour of pupils in those areas requires careful monitoring through passive supervision. The sketch below indicates the approach for open visual connectivity between the circulation areas and the Sanitary Facilities for a Post Primary School.

The location, design and layout of sanitary facilities must balance the requirement for passive supervision of sanitary facilities from circulation spaces with the dignity and privacy requirements of each user. Well-designed and well-managed sanitary facilities create cleaner, healthier spaces and are capable of being used, cleaned and maintained in a way that ensures safety and dignity of pupils and staff.

The following represents the additional requirements;

- 1) The number, location and distribution of all sanitary facilities are to be discussed and agreed with the school management prior to the completion of Stage 2A.
- 2) Staff/visitor sanitary facilities should be provided close to the main entrance for both able bodied and disabled persons. The sanitary facilities should have direct access from the circulation area.
- 3) Sanitary facilities should be located in areas that can be easily supervised and evenly distributed throughout the school so as to allow ease of access and to minimise travel distances in accordance with the provisions of BS 6465-1. Facilities should be located conveniently in a visible location to facilitate access without unreasonable delay.
- 4) Sanitary facilities should also be located near the General Purpose/Dining area to facilitate its use outside school hours where teaching accommodation can be secured. A school zoning diagram is to be developed by the Design Team in order to confirm the strategy for out of hours use and access to sanitary facilities.
- 5) The location of washbasins should be carefully considered to allow for visibility, accessibility and minimise the length of pipework. At least one washbasin should be set at a level for ambulant users (between 780~800mm).
- 6) Student sanitary facilities in Post Primary schools should be arranged in small blocks, not in a large central block. Small blocks increase the opportunity for passive supervision, discourage anti-social behaviour, reduce disruption caused by cleaning and maintenance, and cut down curriculum time lost through pupils visiting sanitary facilities during lessons. In multi-storey buildings sanitary facilities should be provided on each floor and should have a stacked configuration in order to reduce services distribution. A suggested layout for standard Post Primary WC block is illustrated above.
- 7) All student sanitary facilities are to be designed and located in order to maximise passive supervision and reduce the risk of bullying and anti-social behaviour. At the same time the privacy of each individual WC unit is not to be compromised.
- 8) WC blocks may be designed so as to provide dual access and egress for student safety, enhance passive supervision, and where the risk of bullying can be further reduced.
- 9) Lobbies or doors into sanitary facilities from the circulation areas are not to be provided as these interfere with clear lines of sight and impede supervision of the general washroom space from the main circulation areas. Passive supervision from the circulation spaces is to be maximised as per the suggested sketch below.
- 10) All wayfinding is to reflect the amenity and function of the sanitary space. The methodology involved in wayfinding and signage is to be agreed with the sanctioning authority prior to stage 2A.



- 11) All cubicle spaces containing WCs are to be designed as self-contained spaces with robust full-height separating walls and access doors. Commercial cubicle systems are not considered sufficiently robust for student facilities.
- 12) As WC usage consumes the highest proportion of water in schools, devices which minimise its use, with the option to select a normal (typically 6 litre) or a low (typically 4 litre) flush, should be supplied. Dual flush system design should ensure a refill time of 1 minute maximum. This requirement can be satisfied by using cistern fed WC's, or direct flush devices, which will usually deliver a faster fill time.
- 13) All pipework shall be installed in accordance with best practice, bracketed and insulated, and valved to facilitate isolation and replacement of accessories in a logical manner. Pipework feeding flushing cisterns is connected to a separate, non-potable tank using Recovered Rain Water when available, and as a consequence must be colour coded appropriately to avoid the risk of cross contamination.
- 14) All pipework and equipment (cisterns, valves etc.) shall be robustly mounted to the solid building structure using a metal frame, and shall be concealed, with tamper proof access provided for cleaning, maintenance and replacement. This requirement, in many cases, can best be achieved using an IPS (Integrated Plumbing System) panel system.
- 15) All equipment shall be robust and low maintenance, with reliable and repeatable flushing or operating mechanisms. Equipment shall be selected based upon the anticipated high usage in schools. Domestic type equipment is not suitable Refer to BS 6465-3 for further details.
- 16) WC's with wall mounted cisterns should have a lockable cistern lid.
- 17) Hot water (blended locally for use at 39 °C) shall be provided for handwashing. Blending shall be via a thermostatic mixing valve type 3 (TMV 3) which is fail safe and eliminates the risk of scalding. Water usage shall be controlled using timed activation taps with spray heads.
- 18) To reduce the risk of contact with potentially soiled surfaces and to reduce the risk of viral or bacteriological contamination, the use of electronic activation of taps and WC flush valves should be considered, using systems which are battery independent if possible. Quality, reliability, repeatability and robustness are an essential requirement for such equipment. This option with associated costs should be tabled in design for consideration, in conjunction with the standard manual activation approach.
- 19) Accessible WCs should comply with the requirements of DoHPLG Building Regulations, Technical Guidance Document Part M 1.4.4 Sanitary Facilities - General.
- 20) As all WC's are located in separate cubicles, fully enclosed, each will require extract ventilation to meet the requirement of Part M of the building regulations. Make up air is normally provided by undercutting the door. Extraction is normally via ceiling mounted extract grilles, with foul air transferred via in line fan and ductwork to discharge via an exhaust louvre with back draft control. System design typically encompasses WC cubicles and wash area/lobby extraction as one system. Appropriate access is required to fan, ductwork, fire dampers etc. for periodic

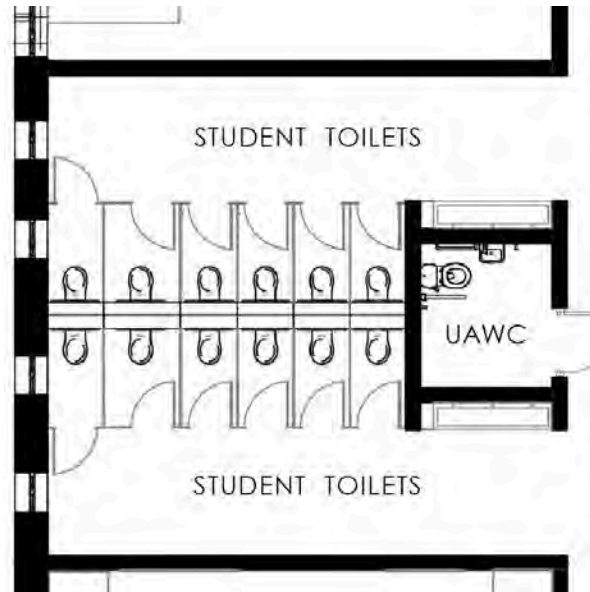


cleaning and maintenance.

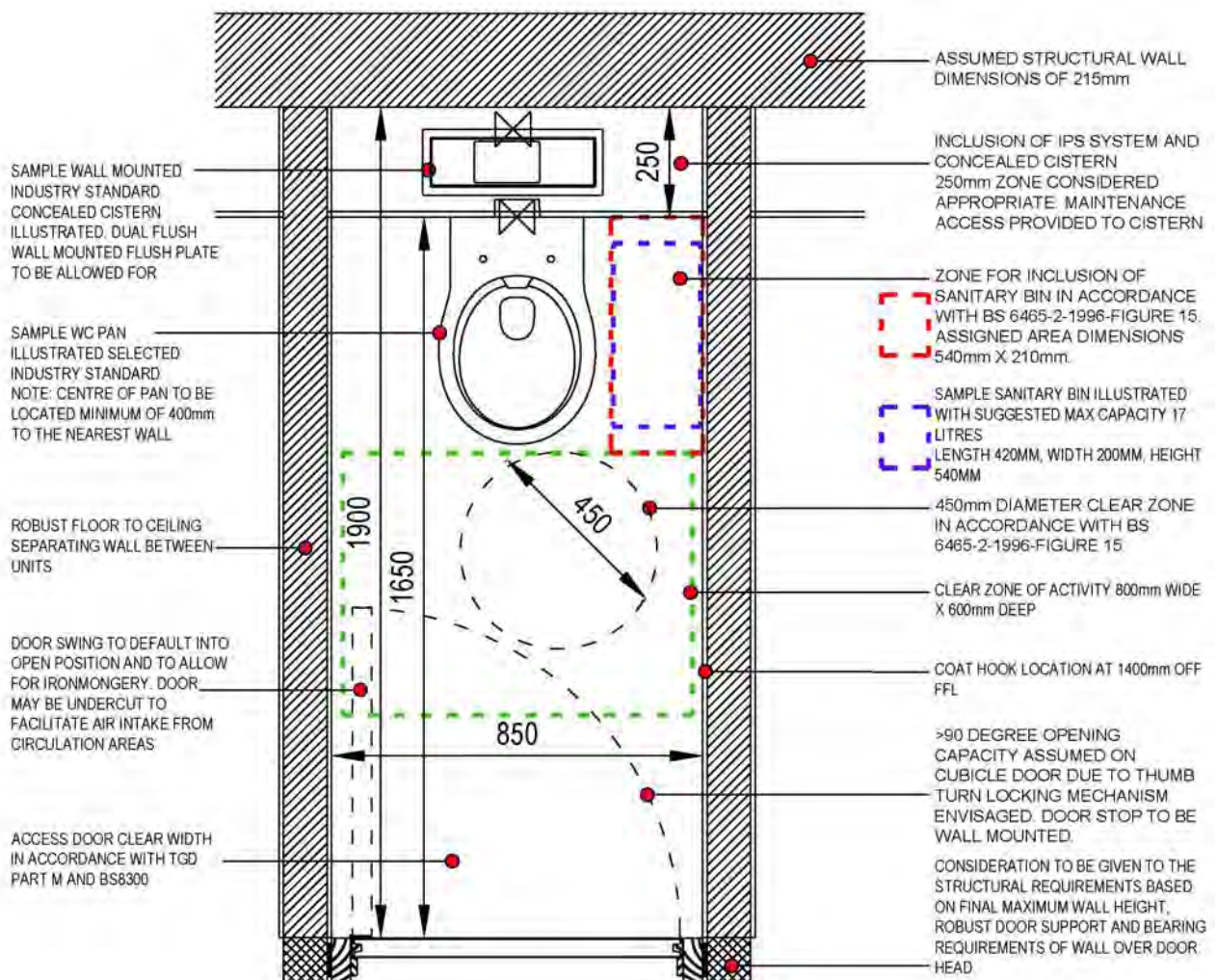
- 21) Ventilation control should seek to meet the requirement to maintain air quality and minimise energy usage. Normally this is achieved using timed operation combined with presence detection.
 - 22) WC cubicle is limited in space and there is no requirement for a radiator. In designing the extract system for a number of adjacent cubicles and associated lobby/wash area it may be beneficial to consider heat recovery i.e. Mechanical Ventilation with Heat Recovery (MVHR).
 - 23) Where included, IPS panel systems are to incorporate access panels with anti-tamper fixings to facilitate ease of maintenance. IPS panels are to be constructed of robust materials, resistant to moisture, and designed facilitate ease of cleaning.
 - 24) Design and layout of all sanitary spaces, fittings and their fixings should be robust and appropriate to the school environment with minimum space recommendations for the installation, use and maintenance of sanitary appliances in accordance with BS6465-2.
 - 25) A suitable robust floor finish should be used in all WC areas with an appropriate slip rating in accordance with the provisions of SDG-02-03.
 - 26) Sanitary facility ceilings should be robust, impervious to moisture and easily maintained and should not allow access into any void above, where items could be hidden. If suspended ceiling tiles are provided then each tile should be firmly clipped to the supporting grid. Separating walls between WC units should be robust and continuous. Due consideration is to be given to the design and location of any ceiling mounted items in relation to access and maintenance. Where access panels are specified these are to be robust and lockable.
 - 27) Generally, cubicle doors are to be designed to be inward opening in standard operation and are to default into the open position when not in use through the use of spring hinges or similar so that all vacancies are obvious. All cubicle door locks should be capable of being opened from the external environment in an emergency situation. The door mechanism is to be robustly designed with a discrete release facility for cases of emergency allowing the normally inward opening door to be opened outwards.
 - 28) The use of robust mirrors within the WC circulation areas is to be carefully considered in order to enhance opportunities for passive supervision from the main circulation space
- 29) All lockable doors should have an internal thumb-turn override. Care should be taken in the design of the door, frame, and opening mechanism to protect against injury to fingers, etc.
 - 30) Due consideration is to be given to durable floor finishes where, for example, coving may interfere with the operation of the doors.
 - 31) The doors should be easy to open and close (with pull-handles on the doors at low level suitable for young pupils – between 800 & 900mm from floor level). Care should be taken in the design and positioning of handles and ironmongery generally to protect from impact with walls. Cubicle doors may be undercut to assist air movement. Door transfer grilles at low level are not permitted.
 - 32) Where windows are provided to the WC spaces the visual privacy of the WC block is not to be compromised and obscure glazing is to be considered. All windows are to be restricted to 100mm clear opening.
 - 33) The provision for hand drying facilities shall be paper towel or cotton/linen towels. Electric hand dryers are not permitted. The sanitary facilities should have adequate space for disposable hand towel dispensers and a refuse bin for the disposal of paper towel. The location of hand towel dispensers and refuse bin is to be carefully considered in the layout, as should the route from sink to hand-drying location to minimise the risk of water droplets/spillage on the floor.
 - 34) Hand towel dispensers, sanitary product provision/disposal, soap dispensers and refuse bins are loose furniture and fittings, and are not part of the construction contract, although their provision is required for full compliance with the DoHPLG Building Regulations. The locations of each of these items and the associated spatial requirements is to be carefully considered in accordance with BS 6465-2. Grab-rails to Universal Access WCs and mirrors are part of the contract.
 - 35) Wayfinding and colour schemes are to be agreed with the school authority prior to Stage 2A and are to be in accordance with the provisions of BS8300. Colour selection in relation to doors, walls, floors and fixtures in sanitary facilities is to be carefully considered in relation to wayfinding, ease of access and to ensure visual clarity. A suggested scheme illustrating best practice is indicated below.
 - 36) Alternative approaches to the design options

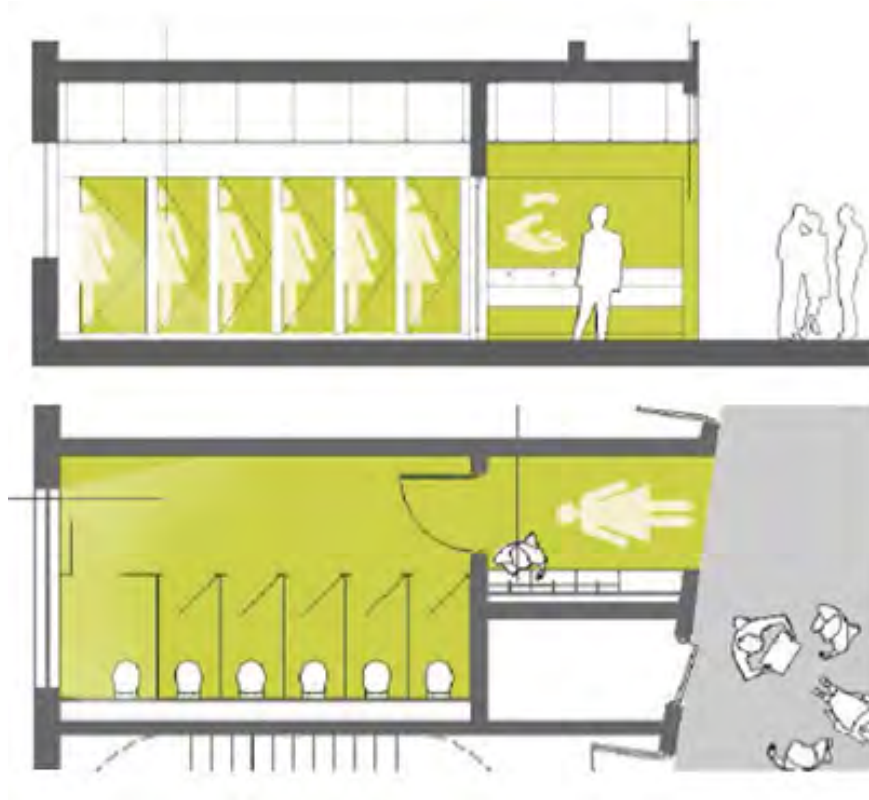
contained in this document may be considered in circumstances where the preferred design solution enhances passive supervision and reduces the risk of bullying in Sanitary Facilities on a site specific basis.

Alternative approaches to layouts as illustrated below will also be considered on a case by case basis where agreed in advance with the school authority.



37) Cubicle dimensions should reflect the minimum dimensions as set out in the diagram below.





These images shows a possible toilet layout with the wash hand basins located in a space, directly off the a corridor, which can be supervised.



5.2 ACCESSIBLE SANITARY FACILITIES

All users of diverse abilities should be able to use school buildings comfortably and safely, as far as possible without special assistance. Routes to sanitary facilities should be free of obstructions and the travel distance as short as possible in order to preserve the dignity and privacy of building users. Accessible sanitary facilities must be approached separately from other sanitary accommodation.

The Design Team should note the following points;

- 1) For every toilet block grouping provided in a school, a Unisex Universal WC should be provided close by unless as otherwise stated in this document (refer to point 5.2-5 below). Care should be taken in locating the Universal Access Unisex WC to ensure that it retains separate access from the main circulation areas in accordance with the requirements of BS 8300-1. Only enlarged cubicles and/or ambulant disabled cubicles are to be accessible from the main WC block. Refer to Figures 1 and Figure 2 for details of the Universal Access Toilet Plan & Elevation.

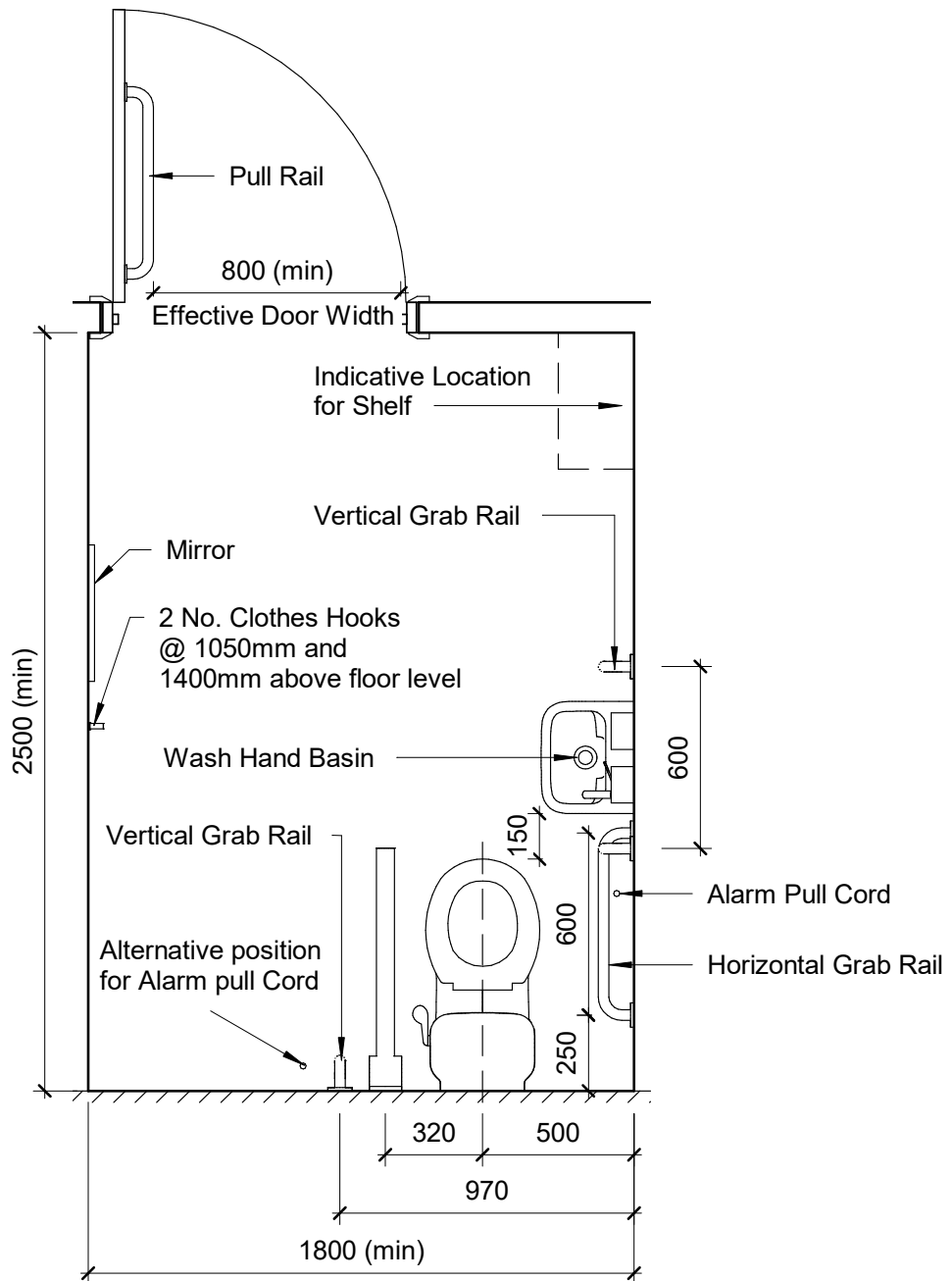


Figure 1: Universal Access Toilet Plan

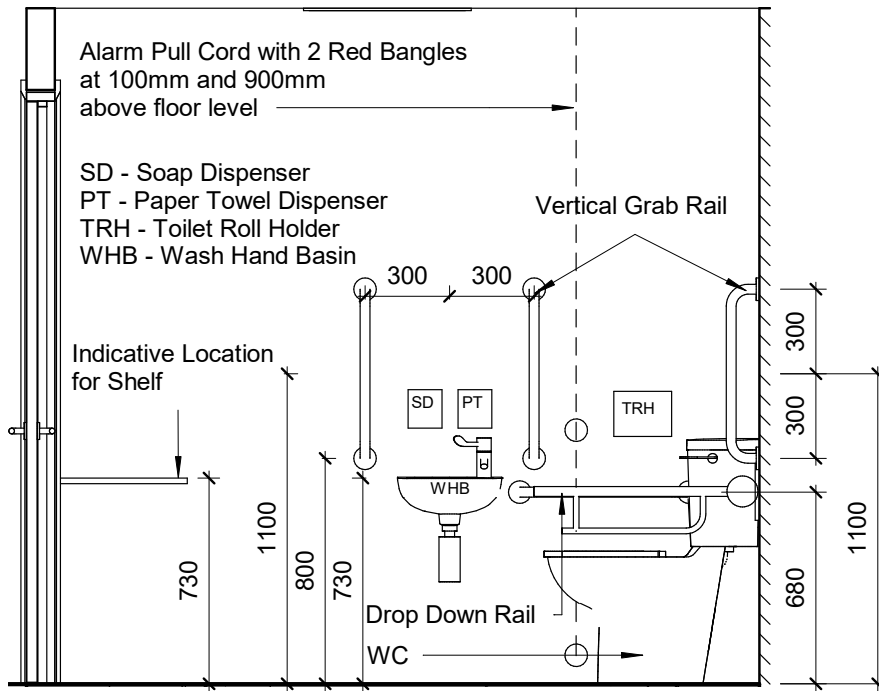


Figure 2: Universal Access Toilet Elevation

- 2) Where WC cubicles are provided in a sanitary facility, at least one Ambulant Disabled WC should be provided for ambulant disabled people. Refer to the Ambulant Disabled Cubicle illustration below.

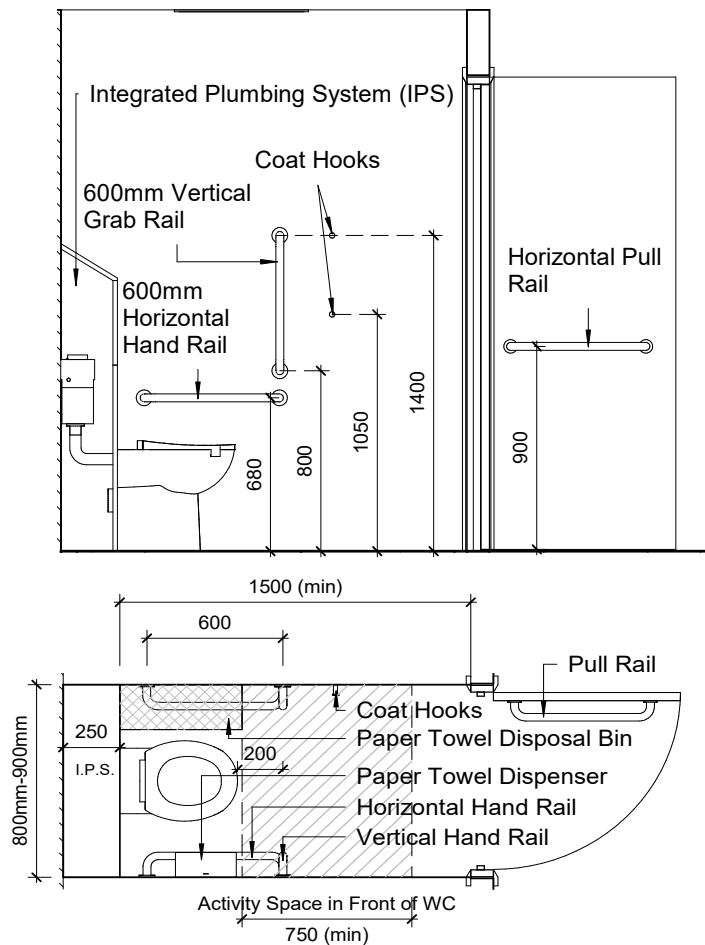


Figure 3: Ambulant Disabled Cubicle Plan & Elevation

- 3) Where four or more WC cubicles are provided in a sanitary facility, one cubicle should be an Enlarged Cubicle. Refer to Figure 4, below, Enlarged Disabled Cubicle. Note that the position of the pull rail on the outward opening door is not to reduce the clear opening below minimum requirements.

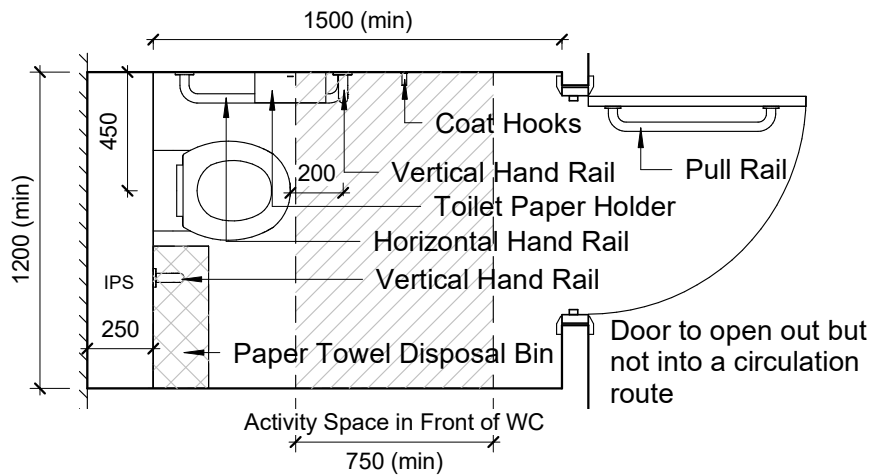


Figure 4: Enlarged Cubicle for Disabled Users

- 4) In accordance with universal access guidelines urinal bowls/troughs are no longer required in schools and must not be specified.
- 5) If an Toilet/Shower for Assisted Users is provided close (Figures 5, 6 & 7 below) to a toilet block then there is no requirement to also provide an adjoining Universal WC, as an Assisted Users rooms may also be used by independent wheelchair users, as they allow for wheelchair transfers or assistance from carers.
- 6) The number and location of Toilet/Shower for Assisted Users is detailed in section 6 (Room Layouts) below.

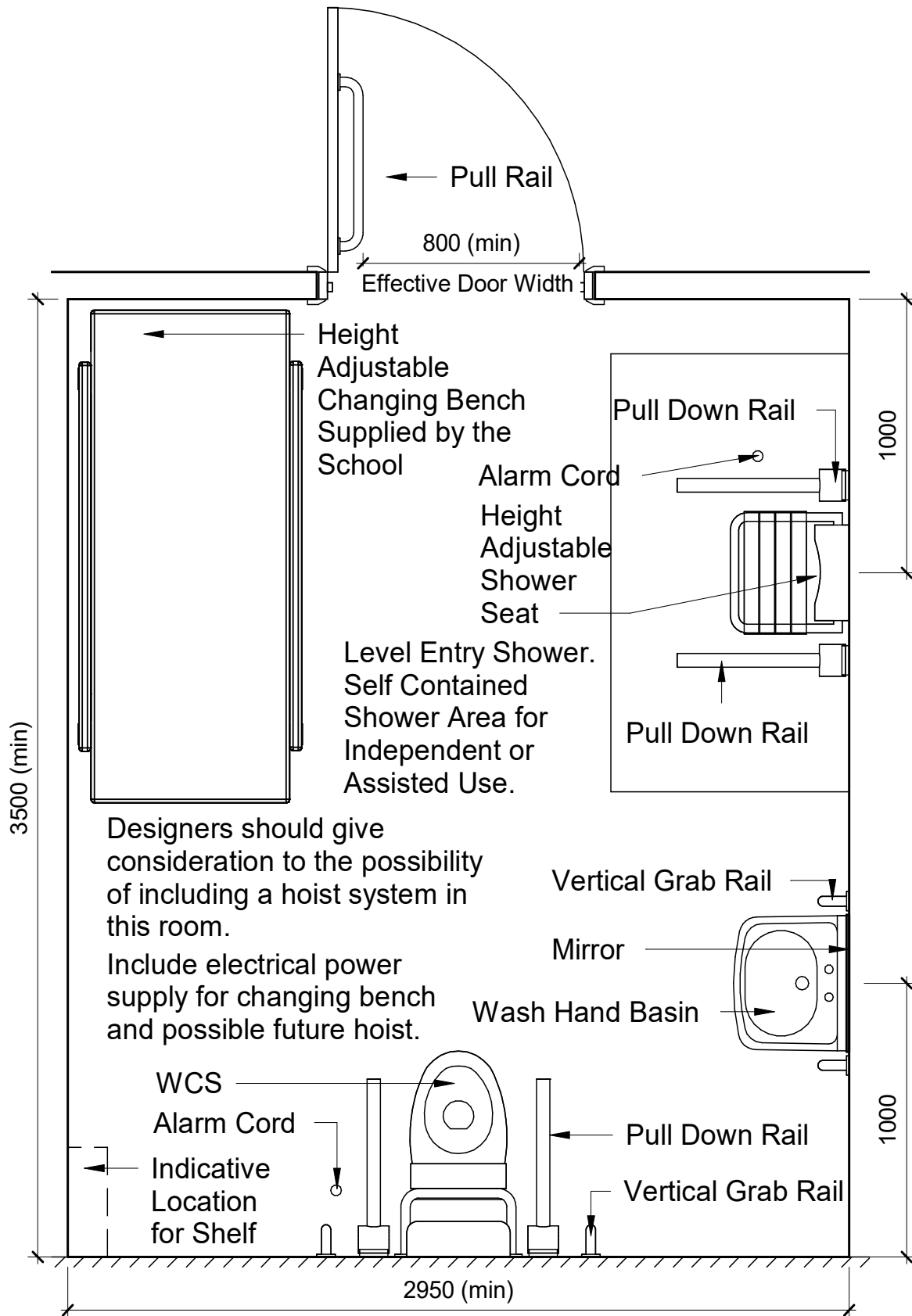


Figure 5: Toilet/Shower for Assisted Users (Plan)

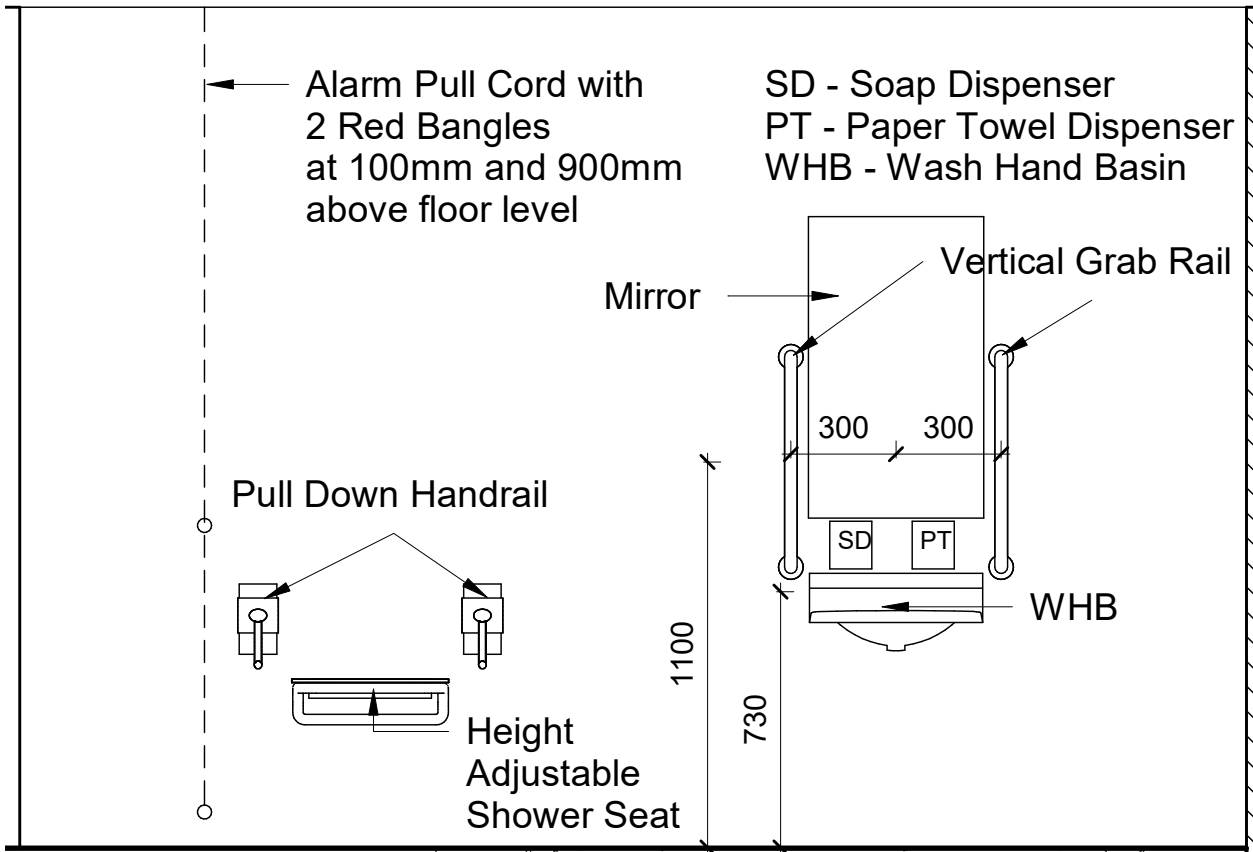


Figure 6: Toilet for Assisted Users with changing bench (Elevation 1).

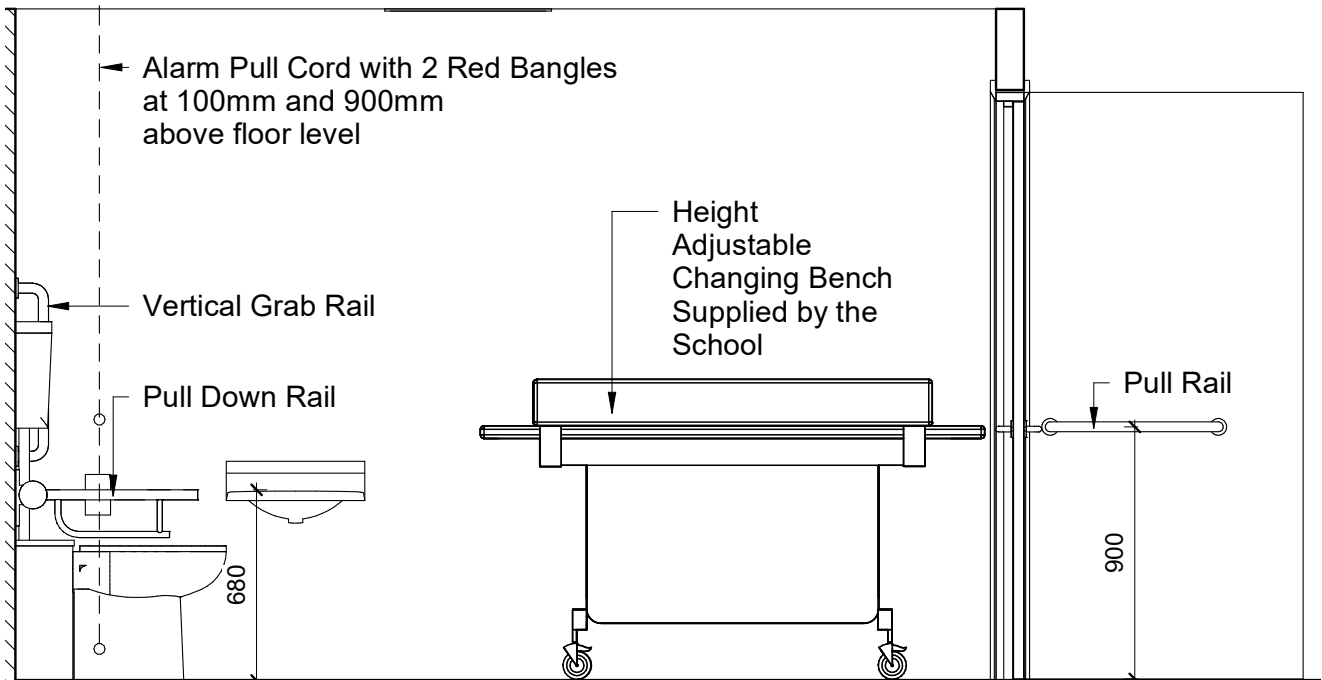


Figure 7: Toilet for Assisted Users with changing bench (Elevation 2).

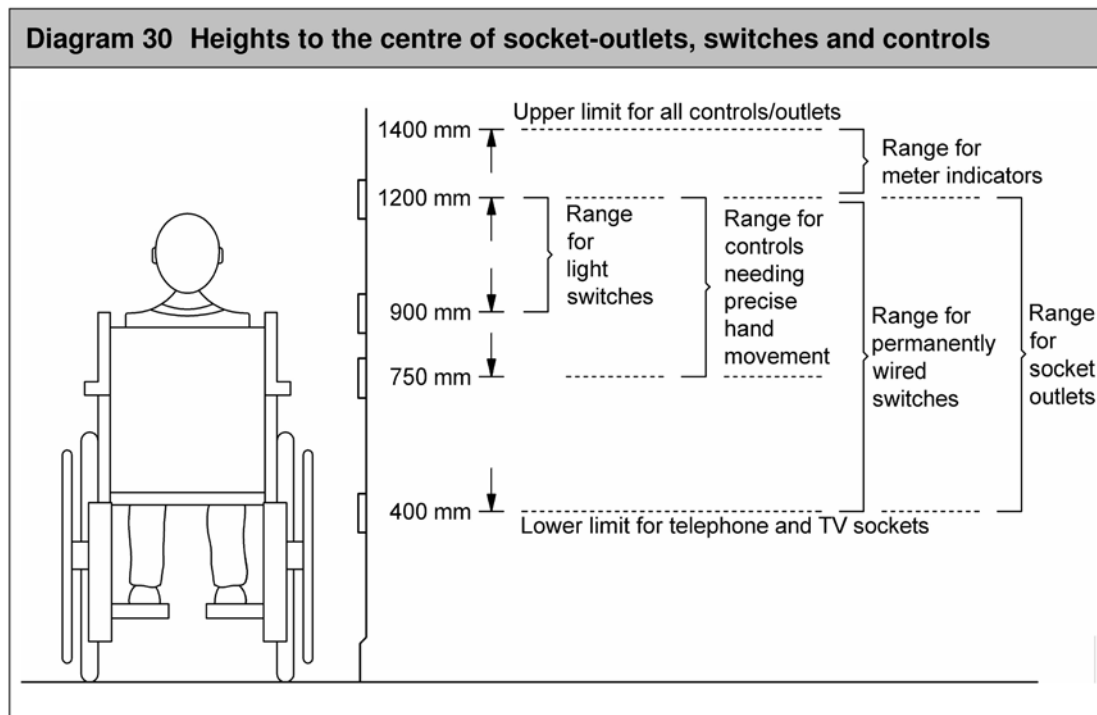
- 7) Accessible sanitary facilities should be located in a convenient and accessible part of the school and be clearly identifiable.
 - 8) All fittings and ironmongery associated with accessible facilities should be capable of being operated using a closed fist.
 - 9) Accessible sanitary facilities should have outward opening doors. If inward opening doors are provided the size of the area should be increased so that the door swing does not encroach into the wheelchair turning space and the door should have emergency release hinges.
 - 10) Grab/hand rails should be contrasted in colour against walls, floors and doors (refer to BS 8300 Annex B).
 - 11) If more than one Unisex Universal Access Toilet or Toilet/Shower for Assisted Users is provided, layouts should be handed.
 - 12) A colostomy changing surface should be provided in most cases in all accessible WCs. A separate colostomy changing shelf 125 mm to 150 mm deep x 400 mm wide (min), with its surface 950 mm (max) above floor level should be provided. Where a toilet with flat topped close-coupled cistern is provided a separate colostomy changing self is not required. The flat topped cistern is considered adequate to provide a colostomy changing surface.
 - 13) Where specific needs dictate, it may be necessary to fit a ceiling/wall mounted track hoist system into Toilets/Showers for Assisted Users and the structure must be capable of supporting a track system and a live load of 100kgs minimum.
 - The provision of a ceiling/wall mounted track hoist system (i.e. rails and equipment) should be based on the particular requirements of the school. The necessity for its provision should be set out in the early design stages for consideration and approval.
 - Where the provision of a hoist system has been approved the supply and installation of the hoist will form part of the building contract.
 - A power supply to facilitate battery charging of the lift cassette/charger station, at high level in a convenient location must be provided as part of the contract.
 - Concealed conduit drops for the changing bench and ceiling hoist should be coordinated to provided economical and workable solution.
 - 14) Where specific needs dictate, it may be necessary to fit an electronically height adjustable changing bench in Toilets/Showers for Assisted Users.
 - A changing bench will not normally be provided unless specifically sanctioned in writing by the DoE at or prior to Stage 2(A).
 - Where this has been agreed the supply and installation of the changing bench will form part of the building contract.
 - The typical size of the changing bench shall be 1600mm in length.
 - Concealed conduit drops for the changing bench and ceiling hoist should be coordinated to provide economical and workable solution. Power supply with appropriate conduit for a changing bench is to be supplied in every case.
- 15) Refer to Figure 5 Toilet/Shower for Assisted Users Plan for further guidance.
 - 16) The school authority is responsible for funding on-going maintenance and must enter into periodic maintenance contracts as specified by the suppliers of any adjustable height changing benches and track hoist systems.
 - 17) The importance of signing a maintenance contract should be highlighted by the Design Team at the handover talks, on completion of the contract.
- ### 5.3 REQUIREMENTS FOR WASTE & WATER SERVICES
- a) All soils and wastes (above ground) are the remit of the Building Services Consulting Engineer and should be covered in the mechanical sections of the tender documentation. The provision of sanitary ware and associated taps, traps and fixing brackets are the remit of the Architect with the agreement of the Building Services Consulting Engineer and should be covered in the main building work sections of the tender documentation.
 - b) Wastes shall include sufficient blank caps and cleaning doors for access for cleaning rods. Where possible all services should be enclosed but accessible. All vents shall be provided with cowls. PVC pipe sleeves with puddle collars shall be fitted as required.
 - c) Waste pipe up-stands rising from the sub floor are to be provided individually for all WCs. Back-to-back and multiple pairs of wash-hand basins (WHB) may share a single waste pipe upstand.
 - d) In the interest of safety, long term maintenance and aesthetics it is critical that there is no surface routing of water and waste services pipe

work at low level in sanitary facilities

- e) The water supply serving WC flush requirements must be gravity based as the school WCs must be capable of operation in the event of a power failure.
- f) All WHBs should be fitted with a single percussion spray tap only and this tap should deliver a temperature controlled water supply via a thermostatic mixing valve.
- g) Push type percussion spray taps require the user to push down gently on the tap head to deliver flow. The tap automatically closes off after a delay period. Aerators restrict the flow of water from the tap without reducing water pressure. All automatic shut-off taps must be of a commercial quality suitable for use in schools and must be suitable for the system head pressure available. Note that it is possible to get percussion taps with different pressure drops and if taps with a particularly high pressure drop are specified then they may not work with a gravity system. The typical flow rate required from a wash hand basin tap is 0.033 litres per second; this is the same as 1.98 litres per minute.
- h) Thermostatic mixing valves (TMVs) shall be fitted on all hot water outlets (excluding the Cleaner's Store sinks) and are to be located such that a maximum dead leg of 1 linear metre of pipe only is achievable on the mixed water supply. This is to minimise the potential risk of Legionella. It is not acceptable to locate the TMV above the ceiling with a single pipe drop to the tap below or above; TMVs must be easily accessible from the room or adjacent room where they are located.
- i) All TMVs must be of TMV3 standard. They must be fail safe and lockable and be capable of limiting the outlet temperature to 42 / 430 . Where WHBs are adjoining or back-to-back these shall be fed via a single TMV unit in accordance with manufacturer's instructions. All TMVs must:
- Be suitable for the system head pressure available,
 - Comply with IS EN 1287:2017 for low pressure,
 - Be suitable for under basin installation,
 - Provide safe thermostatic shutdown,
 - Be complete with isolation valves on all inlets, check valves and easily removable strainers
 - Have tamper proof temperature adjustment and lockdown
- TMVs serving WHBs should be selected to give a flow rate of 0.1 litres per second at an inlet head of 1.5m. All TMVs must be tested for shut-off in the event of loss of the cold water supply and test certificates included in the handover documentation. TMVs must never be connected to the mains water supply; they must only be connected to the hot water and cold water distribution services.
- j) So as not to contaminate the mains water supply, a manual mixing tap (where the hot and cold water only mixes on exiting the spout outlet) must only be used with mains water. On all sinks the temperature controlled mixed supply should be taken from the under sink TMV outlet to the hot water inlet on the manual sink mixer, a mains water supply shall be connected to the cold water inlet side on the same manual sink mixer tap.
- k) Where rainwater harvesting is used to serve the WCs the rainwater distribution pipe work must be fitted with proprietary labelling identifying the connecting pipe as a rainwater supply pipe, in accordance with the prevailing Irish Standard. Design Team members should refer to the guidance on rainwater harvesting given in DoHPLG Building Regulations Technical Guidance Document Part H Section 1.3.10 Greywater Recovery Systems and BS 8515. Such systems should be designed to reduce the risk of cross contamination and should comply with the requirements of IS EN 1717 – Backflow Prevention and the National Annex to this standard.

5.4 REQUIREMENTS FOR LIGHTING & POWER SERVICES

- a) All sockets, switches and controls are to be positioned in accordance with TGD Part M, Diagram 30, as outlined on next page.
- b) Appropriate LED light fittings shall be specified.
- c) Ordinary sanitary facilities should have a lighting level of 120 lux at 700mm above finished floor level.
- d) All Disabled WCs should have lighting levels of between 200 and 300 lux as measured at finished floor level.
- e) Light switches should generally be located between 400mm and 1200mm above finished floor level and be capable of being operated using a closed fist.
- f) Lighting controls in all student sanitary facilities shall be based on key operated manual "On/Off" switching with automatic presence and absence



detection. Lighting in student facilities that have a window shall be based on key operated manual "On/Off" switching with automatic absence detection only.

- g) Lighting controls in all staff and public sanitary facilities shall be based on manual "On/Off" switching with automatic absence detection only.
- h) Appropriate lighting in shower areas shall be positioned outside the cubicle wet areas i.e. in common circulation spaces. Lights should not be capable of being switched off while someone is still in the shower cubicles i.e. motion sensors or absence detection sensors should be provided.
- i) A pull chord, anti-ligature switch(s) shall be provided on emergency assistance alarms in Universal Access Toilets and Toilets/Shower for Assisted Users. Refer to Fig 1: Unisex Universal Access Toilet for Independent Use, Plan & Elevations supplied. These shall be installed as per the manufacturer's instructions.
- j) Power points for final connection to a height adjustable bench and to facilitate charging of the lift cassette/charger station on a ceiling/wall mounted overhead tracked hoist system shall be provided in suitable locations in the Toilet/Shower for Assisted Users.
- 5.5 REQUIREMENTS FOR VENTILATION SERVICES**
- a) Ventilation in compliance with DoHPLG Building Regulations, Part: F shall be provided in sanitary facilities in schools.
- b) All sanitary facilities in schools should:
- Be provided with general (background) ventilation of 7000mm² equivalent area for sanitary facilities of up to 10m² in area. For facilities greater than 10m² in area, 700mm² equivalent area per additional m² of floor area should be provided.
 - Be provided with intermittent extract ventilation with the following ventilation rates
 - Shower areas 15 litres per second per shower
 - Toilets 6 litres per second per WC.
 - In a facility that contains both a shower and WC then the larger sized value only should be applied
- c) For multiple unit student sanitary facilities the intermittent extract ventilation for each WC unit may be based on presence and absence detection and the controls shall be separate from the lighting controls outlined in Section 5.4 Requirements for Lighting & Power Services, Clause (e) above.
- d) In single/multiple unit WCs, e.g. staff and public sanitary facilities, intermittent extract ventilation shall be provided via a suitably sized mechanical extract fan incorporating a run-on timer set to 5 minutes and controlled by a local PIR control. These should be separate from and in addition to local PIR controls on the lighting.
- e) Multi-unit sanitary facilities must be ventilated via a mechanical extract fan incorporating a

run-on timer set to 15 minutes and controlled via presence and absence detection controls as outlined in Section 5.4 Requirements for Lighting & Power Services, Clause (f) above.

Ventilation Systems for Dwelling – Achieving Compliance with Part F” and DoHPLG Building Regulations, Technical Guidance Document Part F Section 1.2 Dwellings, Par 1.2.1.7.

- f) Individual internal staff and public sanitary facilities must be ventilated via a mechanical extract fan incorporating a run-on timer set to 5 minutes and should be controlled via the local light switch.
- g) There should be no need for treated mechanical supply air to internal sanitary facilities spaces. Make up air should be via natural means drawn from adjacent circulation spaces. Ventilation extraction shall be via wall or ceiling grilles.
- h) Floor grilles or door transfer grilles shall not be used in school projects; where make up air is required to spaces this should be achieved by undercut doors or high-level wall transfer grilles of at least 7000mm² equivalent area.
- i) Extract grilles should be selected to give reasonable coverage. These should be ceiling or wall mounted with one extract grille per toilet enclosure.
- j) Ventilation systems should in general be localised at high level with minimum ducting and local wall exhaust louvres only; not through the roof.
- k) Sanitary facilities locations and exhaust ventilation ductwork routes should be selected to eliminate the need for fire dampers; fire dampers are only to be provided in fire compartmentation walls.
- l) Make up air to the changing rooms and sanitary facilities in Multi-Use Halls should be drawn from the circulation areas via high level wall transfer grilles and ducting if necessary.
- m) Fans serving multiple spaces should be operated through appropriate variable speed controllers.
- n) Extract systems in areas containing multiple shower units should be based on demand led humidity ventilation control with variable speed fans.
- o) Ventilation systems should be tested and commissioned at completion so that the systems and their controls are left in the intended working order and can operate effectively and efficiently. A way of demonstrating compliance would be to commission and test in accordance with the CIBSE commissioning codes in order to verify that the systems perform in accordance with the specification.
- p) Detailed information on the installation and commissioning of ventilation systems is provided in “Installation and Commissioning of

6. ROOM LAYOUTS

6.1 TOILET FACILITIES IN PRIMARY SCHOOLS

- a) For Sanitary Facilities in Primary Schools, 1 No. WC should be provided for every 15 pupils, or part thereof, in accordance with the provisions of BS-6465-1. Refer also to the requirements of SDG-02-02.
- b) 1 WHB should be provided for each WC provided.
- c) Two ambulant disabled WCs should be provided en-suite to each classroom in accordance with the diagram below. These sanitary facilities should, unless unavoidable, be located on an external wall.
- d) Classroom sanitary facilities in Primary Schools should be separated from the teaching space by a full height wall/partition with no gaps to the top or bottom, and a self-closing door.
- e) Alternate arrangements for the location of WC facilities in Primary Schools, such as those accesses directly from circulation areas, may be considered. The location and distribution of WC facilities is to be agreed with the School Authority.
- f) The building services requirements as set out in sections 5.2 to 5.5, above, apply to sanitary facilities in Primary Schools.
- g) The selection, flow time, and operating pressure of percussion taps for younger age groups is to be considered.
- h) Provision of a Universally Accessible Toilet may count as part of the overall WC provision.
- i) The General Purpose Room Toilet Suite must consist of self-contained WC units for general access, and an accessible WC in accordance with the guidance in this document. The General Purpose Room Toilet Suite should be located adjacent to the GP Room with access directly from a circulation route. This sanitary facility is intended for use by the staff and visitors during school hours, and for afterhours activities when the main body of the school is closed.
- j) At least one Toilet/Shower for Assisted Users per floor should be provided in primary school buildings. The travel distance to this Toilet/Shower should be minimised (maximum of 40m from the toilet door to classroom door). If as a result of the school's layout the maximum travel distance cannot be complied with then additional Universal Access WCs should be provided.
- k) Staff toilets should be evenly distributed throughout the school for ease of access, with an appropriate number located adjacent to the staff room. Staff sanitary appliances should comply with the number contained within Table 01 below.

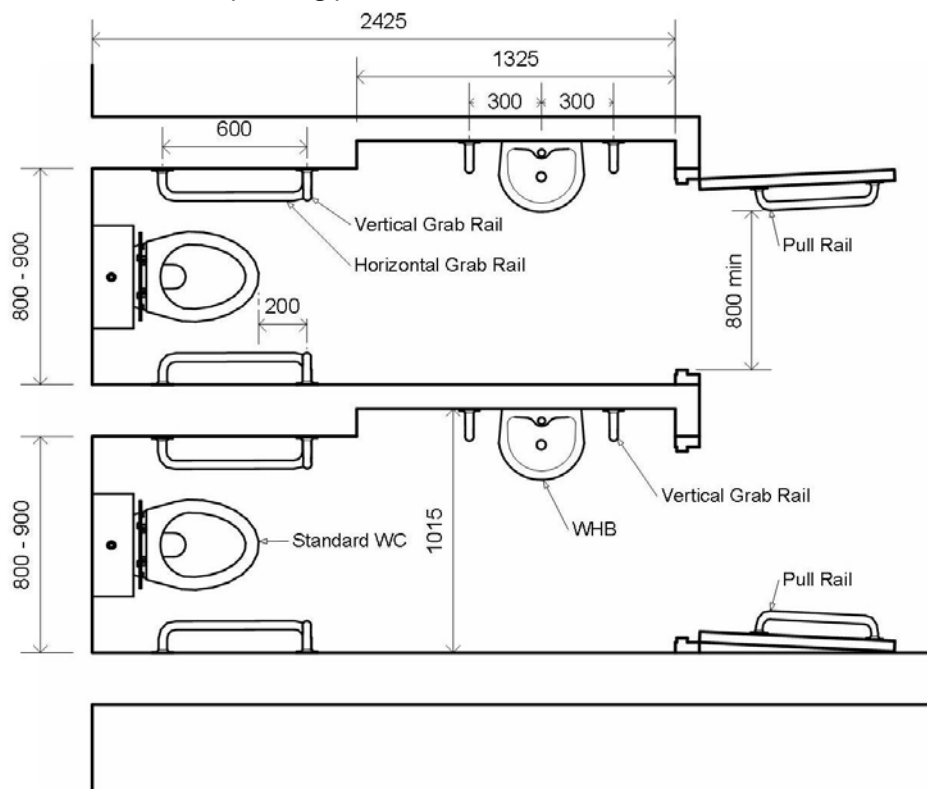


Figure 8: Primary School Classroom En-suite Toilets

6.2 TOILET FACILITIES IN POST-PRIMARY SCHOOLS

- a) For Post-Primary Schools, WCs should be provided in the ratio of 1:20 for all students in accordance with the requirements of BS 6465-1, and in accordance with general principles outlined in Appendix A.
- b) WHBs should be provided in the ratio of 1 WHB to every WCs, up to three WCs in a block, and when there is over three WCs provided in a block then WHBs are to be provided in the ratio of 2 WHBs for every 3 WCs.
- c) Provision of a Universally Accessible Toilet may count as part of the overall WC provision.
- d) There should be at least one Toilet/Shower for Assisted Users provided per floor, in addition to one provided to serve the GP/Dining Area facilities. These should be centrally located and open directly off a main circulation corridor. One of these toilets should also be provided adjacent the Changing Rooms in a Multi- Use/ Physical Education (PE) Hall. The ceiling or walls should be structurally capable of supporting a ceiling or wall mounted track hoist system. The shower should be enclosed by half height doors which are strong, durable and easy to clean (to guard against splashes to the care assistant). Refer also to Figures 5 and 6, above, Toilet/ Shower for Assisted Users, Plan & Elevations.
- e) Staff toilets should be evenly distributed throughout the school for ease of access, with an appropriate number located adjacent to the Staff Room. Staff sanitary appliances should comply with table 01 below.

6.3 CHANGING ROOMS AND SHOWER FACILITIES (MULTI-USE HALL)

- a) The PE Tutor's Use dedicated changing facility with level universal access shower, WC, and WHB should be located close to the PE Teacher's Office/Control Room.

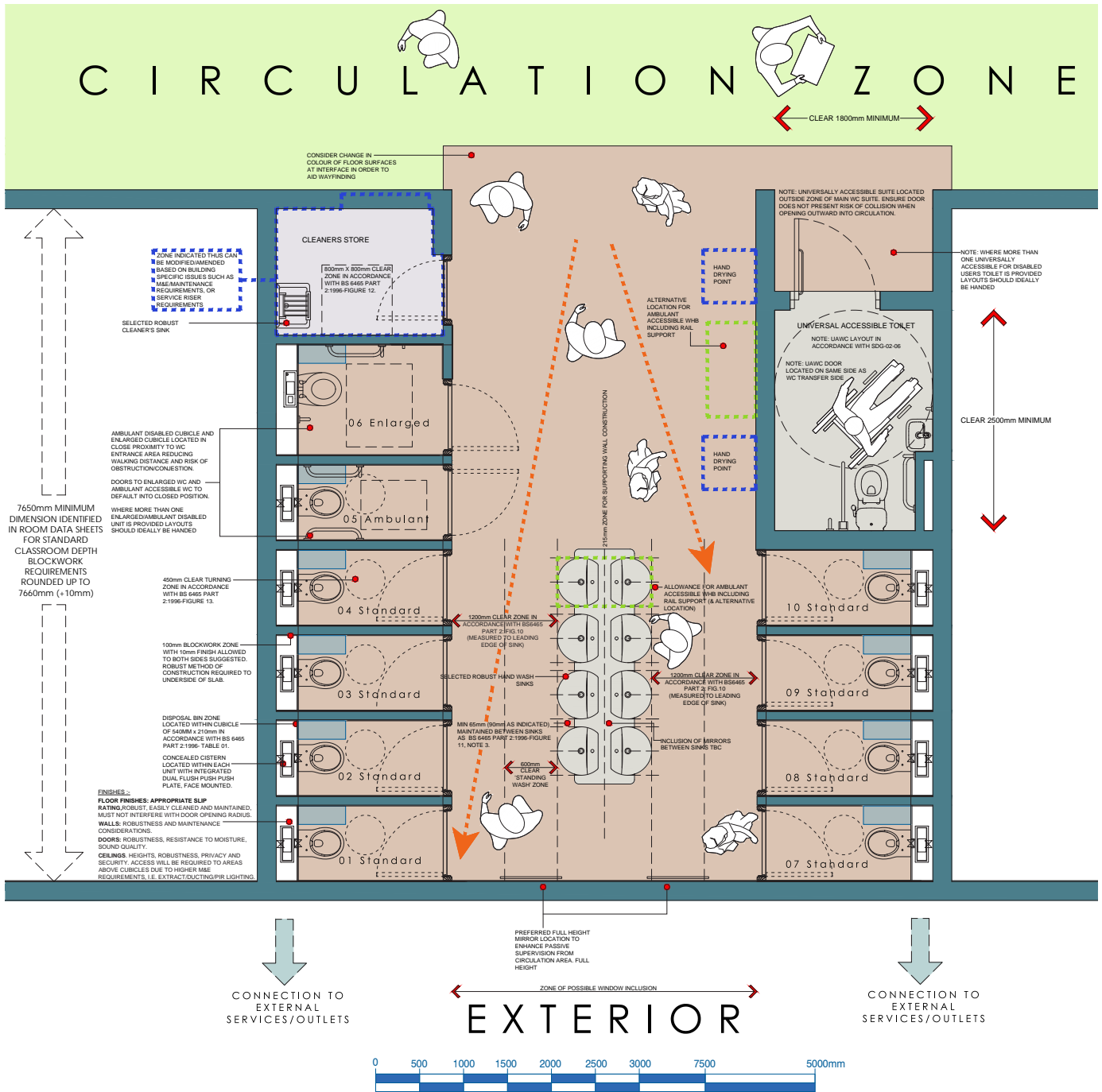
- b) Changing rooms are to be designed and located to facilitate safe access to and from any external sports areas and floor finishes are to be robustly designed to facilitate heavy usage and minimise maintenance. Both internal and external matwells are to be considered.
- c) As the community may use the Multi-Use Hall in the evenings, the changing rooms should be capable of being used as either male or female changing rooms. The Universal Access space located adjacent to the Multi-Use Hall may be used as a changing facility where appropriate.
- d) Four showers with cubicle dividers and privacy doors should be provided opening directly off each Changing Room. Mirrors should not allow vision into cubicles.
- e) The layout of the changing areas, WCs and showers should be designed to minimise the likelihood of vandalism and/or bullying.
- f) Any windows should have obscure glass, be restricted to 100mm opening and when opened should not provide a view into the shower or changing areas.
- g) Floor finishes should be tiled or other / water resistant appropriate flooring, durable, easily cleaned, hygienic and consistent with the room's use.
- h) Wall should be resistant to wear, and easily cleaned. The wall finish must be durable and water resistant consistent with the room's use.
- i) The ceiling and any exposed pipe-work or conduits should be water resistant consistent with the room's use.
- j) Drinking water facilities should be provided in or adjacent to the changing rooms.
- k) Refer to DoE SDG - 02-03 Section 10.5 Changing Rooms & Showers for additional information.

| Number of Staff | Number of WCs | Number of Washbasins |
|-----------------|---|----------------------|
| 1 to 5 | 1 | 1 |
| 6 to 15 | 2 | 2 |
| 16 to 30 | 3 | 3 |
| 31 to 45 | 4 | 4 |
| 46 to 60 | 5 | 5 |
| 61 to 75 | 6 | 6 |
| 76 to 90 | 7 | 7 |
| 91 to 100 | 8 | 8 |
| Above 100 | 8, Plus 1 WC and WHB for every unit or fraction unit of 25 persons. | |

TABLE 01: Minimum Provision of Sanitary Appliances for Staff.

Appendix A

SUGGESTED SANITARY FACILITY IN POST PRIMARY SCHOOLS





An Roinn Oideachais
Department of Education