
ACCESSIBLE SCHOOL FACILITIES

A RESOURCE FOR PLANNING

**Province of British Columbia
Ministry of Education, Skills and Training**

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Council of Educational Facilities Planners

Ministry of Municipal Affairs

Rick Hansen Man in Motion Society

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INTRODUCTION

Purposes of this Resource

This Resource is a reference which school districts can use when planning accessible schools. It is intended as a tool to help school planners take advantage of two significant factors: pro-active planning for accessibility makes good financial sense, and attention paid to accessibility considerations during planning will ensure that facilities are more functional for the whole community.

Financial Factor

Using this resource can help save money. Attention to accessibility considerations at the planning stages of new facilities can prove cost effective. Altering buildings later to accommodate students or staff with special needs is more costly. When planners include the considerations for accessible schools at the design stage, approximately 80% are no-cost items. Features which do have construction or equipment cost impact will fit within the allowable unit rate for school construction.

Functional Factor

This resource provides a listing from research and best practice of those factors which improve the accessibility of schools for students with special needs. Many of these factors will result in buildings which are more functional not only for people with special needs but for all people who use the building, whether it be for educational programs or other community functions.

This Resource as a Tool

Accessible School Facilities: A Resource for Planning can help schools by

- supporting the Province's Special Education policy that all students should have equitable access to learning,
- providing information to school districts which promotes the inclusion of students with special needs,
- serving as a reference for school districts as they plan new schools and renovate existing facilities,
- providing further information for school districts which already have their own guidelines for accessible schools, and
- showing many features that are no-cost or very low cost when included at the design stage.

Special Education Policy and Accessibility

British Columbia Special Education policy states that all students should have equitable access to learning. It states that new schools should be designed for better access and, whenever possible, barriers should be eliminated in existing facilities. The Ministry has made a commitment to develop guidelines for accessible facilities for all school districts. This resource is intended to fulfill that commitment.

Background

Since 1990, school districts have raised concerns about providing accessible learning environments for students with special needs. Accessibility of learning environments is essential, with the majority of students with special needs attending their neighborhood schools. School districts have indicated that there is a need for guidelines for accessible schools, to supplement the information provided in the *BC School Facilities Building Manual*, *BC Building Code*, and *Building Access Handbook: Building Requirements for Persons with Disabilities* from the *British Columbia Code*.

The original impetus for the development of this resource occurred in the spring of 1993, when the (then) Education Advisory Council recommended that the Ministry collect information and provide an analysis to school districts about those factors which make a school accessible and support the inclusion of students with special needs.

Considerable research had already been done by the Ministry in preparation for a collaborative effort with the Rick Hansen Man in Motion Society to build a prototype “accessible schoolhouse” for Independence ‘92, an international conference held in Vancouver. Building on this work, the Ministry sought the assistance and advice of numerous groups and individuals throughout the development and revision of several drafts.

Staff from the Ministry for Municipal Affairs reviewed this document for consistency with the most current version of the B.C. Building Code.

Ways to Use this Resource

This material may be of assistance during the process of facility design, construction, or renovation. Planners must follow British Columbia Building Code standards. They can use this resource to help them identify priorities to enhance school accessibility beyond the minimum standard. Financial resources are always at a premium, so information in this resource can assist in weighing cost decisions.

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The *Building Access Handbook: Building Requirements for Persons with Disabilities from the British Columbia Code* is the base document used by planners to ensure that their work reflects the accessibility standards for British Columbia. This resource supports that document and in some instances makes suggestions which exceed the code.

Although the needs and priorities of school districts will vary, this resource can be a useful tool for school districts to use when

- examining information about accessibility to complement and add to the information in the *B.C. School Facilities Building Manual*, the *B.C. Building Code*, and *Building Access Handbook: Building Requirements for Persons with Disabilities from the British Columbia Code*,
- planning for the design and construction of new schools,
- planning for renovations to existing facilities,
- making decisions about features that will be most effective at improving accessibility in a particular facility,
- developing the *Five Year Capital Plan* ,
- engaging in the process of a facility audit, and/or
- planning school changes that will result in more accessible work spaces, with little or no cost.

PLANNING FOR ACCESSIBLE SCHOOLS

Planners developing a new school or designing renovations for an existing facility gather input from a variety of individuals. The design team should focus part of its discussions with these key people on issues related to accessibility. The design team itself should include individuals with specific expertise in the area of accessibility such as special education teachers, physiotherapists, occupational therapists, public health personnel, parents, students with disabilities, and representatives from related interest groups who have unique knowledge and/or skills helpful for planning.

In the development of *District Facilities Plans*, *Five Year Capital Plans*, and other facilities plans, the school district should refer to the *B.C. School Facilities Building Manual* and the *Capital Budget Instructions for School Districts* for the current year.

Major capital projects involve renovations and expansion to existing facilities, as well as new buildings. Projects involving existing facilities include upgrading, modernization, and expansion. Both minor and major modernization and expansion projects must complete the full Facilities Branch and Ministry of Finance and Corporate Relations review process. Very small renovations to schools should be paid for by the school districts using maintenance funds.

A school district may also use the Annual Capital Allowance to fund minor facility upgrades. The Annual Capital Allowance is that portion of the block of operating funds that is identified specifically for capital projects not included in a board's Capital Plan Bylaw. The allowance is a supplementary funding source for projects not subject to competition with other high priority projects for existing capital envelope funding.

When upgrading, modernizing or expanding, school districts should take advantage of opportunities to promote the inclusion of students with disabilities. Barriers to access should be reduced or removed. Furniture and other capital equipment should be readily adaptable for a broad range of users, including those with disabilities.

School districts can use the checklist in this document when planning projects prior to submission of budget proposals. Planning which includes the access considerations in the checklist will result in buildings which are more functional for all.

ACCESSIBLE SCHOOL FACILITIES: ACCESS CONSIDERATIONS

Identifying Access Considerations for School Facilities

Research and input from architects, the Workers' Compensation Board, and the Rick Hansen Man in Motion Foundation went into the development of the following list of access considerations. Staff from the Ministry of Education, Skills and Training School Facilities Branch, Council of Educational Facility Planners, and representatives from groups such as secretary-treasurers, superintendents, principals and vice principals, facility planners, architects, engineers, consultants, and teachers all reviewed the list. Through the process of planning, school districts may identify additional features which would enhance accessibility.

Using the List of Access Considerations for School Facilities

Planners can use this section as a companion checklist to *Building Access Handbook: Building Requirements for Persons with Disabilities from the British Columbia Code* and its companion checklist (copy attached). They can use it during planning for new construction or as a tool for reviewing and commenting on the appropriateness of existing facilities. The completed checklist and accompanying comments can be useful to teachers and support staff as they develop Individual Education Plans (IEPs) with goals and objectives related to developing independence for students with special needs.

The list is a useful reference for classroom teachers, resource teachers, teacher-librarians, occupational therapists, physiotherapists, and adaptive physical educators. The list of features suggests ways that existing work areas can be adapted to make them more accessible. These changes could include relatively simple changes such as rearrangement of tables and desks to ensure that aisles are at least 900 mm (3 feet) wide, maintaining barrier-free paths of travel, or making classroom signs or posters with large, high contrast, raised printing. Not all items in the check list are necessarily applicable to all schools.

ACCESSIBLE SCHOOL FACILITIES: LIST OF ACCESS CONSIDERATIONS

PARKING

PARKING		Comments
<p>See <i>Building Access Handbook</i> pp. 27-28 for details.</p> <ul style="list-style-type: none"> • disabled parking spaces clearly identified • ten percent of parking spaces accessible and distributed in different areas: visitors, students, staff • accessible spaces 3.7 m by 2.4 m (12 feet by 8 feet) • accessible parking near main school entrance without passing behind parked cars • accessible parking near main school entrance without passing through traffic • parking lot surface is smooth and hard • parking lot surface is level • parking lot surface is slip-resistant • accessible spaces are clearly identified (See <i>Handbook</i> p. 55 for specifications of signage.) • passenger drop off zone with curb cuts near entrance • access to points of public transportation near accessible entrance • accessible parking near gym entrance and track/playing fields 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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DOORS

		Comments
<ul style="list-style-type: none">• accessible main entrance• automatic main entrance doors• pairs of doors and automatic doors where appropriate• all doors at least 900 mm (3 feet) wide• levers instead of door knobs• all doors operate with minimum amount of strength or pressure of 22 N• kick plates on doors at least 410 mm (16 in) high• thresholds no more than 13 mm (1/2 inch) high with warning strip• in renovations, if some doors remain inaccessible, signs should direct to accessible routes• self-closing mechanisms with time delay• (minimum 5 seconds closing time)• pull-close handles on non-automatic doors• audible warning device and textured handle for emergency exit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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RAMPS

		Comments
<p>See <i>Building Access Handbook</i> pp. 20-26 for ramp standards and detailed drawings of ramp requirements.</p> <ul style="list-style-type: none"> • at least 1500 mm (5 feet) wide • hard, smooth non-slip surface • gradient no more than 1:12 (8%) • handrails at both sides • handrails at two heights for elementary schools: 720- 770 mm (28-30 in) for children and 800-920 mm (32-36 in) for adults and larger students • handrails for secondary schools and middle schools: 800-920 mm (32-36 in) high • handrail diameter of 30-60 mm (1-1/4 to 2- 1/3 in) • on long ramps, level platforms at intervals (See <i>Handbook</i> p. 23 for standards.) • level surface 1.5 m x 1.5 m (5 feet x 5 feet) at top and bottom of ramp • night lighting throughout length • international access symbol marking ramp 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

ELEVATORS

		Comments
<p>See <i>Building Access Handbook</i> pp. 39-43 for details of both code requirements and explanations of each standard. Because elevators are usually purchased from manufacturers, planners should ensure that suppliers follow all code standards which includes sizes, features and control details such as Braille instructions. In addition, it is also recommended:</p> <ul style="list-style-type: none"> • graspable handrails in the car • doors which remain open at least 5 sec., with additional key controls and reactivating detectors if a person or object passes through the doorway • visual and auditory signals announcing floors 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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DRINKING FOUNTAINS

		Comments
<ul style="list-style-type: none"> • upper edges of drinking fountain basins not more than 900 mm (3 feet) above floor • controls and spouts located in front; if set in recessed area, recess should be no less than 3 feet (.9 m) wide • lever or push bar controls with a force not more than 13 N • additional foot bar for control 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

TELEPHONES

		Comments
<ul style="list-style-type: none"> • at least one public pay telephone accessible from a wheelchair with a clear front approach of 810 mm (32 inches) and dial, receiver and coin slot 900-1200 mm (36 to 48 inches) above floor • accessible telephones clearly identified • at least one telephone with amplification control compatible for use with hearing aids • accessible Telecommunications Device for the Deaf (TDD) available for students and staff 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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SIGNAGE

		Comments
<ul style="list-style-type: none"> • emergency evacuation plan posted • international symbols for accessibility posted • large, high contrast, and raised for individuals with print impairments • obstacles that do not continue to floor have a vertical clearance at least 210 mm (7 feet) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

ROOM IDENTIFICATION

		Comments
<ul style="list-style-type: none"> • plaques with 1 mm raised or notched numbers placed on corridor walls next to doorways 1350 mm (5 feet) above floor level (side nearest handle when door is closed), to identify spaces <p>See <i>Building Access Handbook</i> p. 56 for more details.</p>	<input type="checkbox"/>	

SIGNALS/ALARMS

		Comments
<ul style="list-style-type: none"> • accessible from wheelchairs as per light switches • flashing light signals for bells in all rooms (from 1 to 3 flashes/second) • flashing clear or translucent light signals for alarms in all rooms (from 1 to 3 flashes/second) • elevators have "help is on the way" signs that light when stalling occurs 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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STAFF AREAS/CENTRAL OFFICE		Comments
STAFF ROOM <ul style="list-style-type: none"> • accessible stove controls, refrigerator, sink and cupboards • accessible staff washroom 	<input type="checkbox"/> <input type="checkbox"/>	
OFFICE AREA <ul style="list-style-type: none"> • low counter not greater than 815 mm (32 in) above floor • accessible work areas • accessible offices • counters intended to be used as work surfaces should be at least 760 mm (30 in) wide 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

WORK ROOMS		Comments
CLASSROOMS <ul style="list-style-type: none"> • accessible work tables not less than 700 mm (28 in) high • adjustable chalkboards • aisles at least 900 mm (3 feet) wide • background noise level is no greater than 30dBA • space and area for storing large equipment 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
LIBRARY <ul style="list-style-type: none"> • one percent or a minimum of one study carrel accessible to wheelchairs (for new construction, plan all carrels accessible for universal access) • accessible carrels distributed throughout library • aisles between stacks at least 1200 mm (4 feet) wide • all tables have clear minimum of 760 mm (30 in) floor to underside of work area or adjustable height • access to library ensured (even when electronic monitoring devices are in place) • workroom and charge desk accessible • area set aside for Braille books, cassette books and large print materials • card and computer catalogues are accessible to persons in wheelchairs • microfiche readers are accessible to persons in wheelchairs • photocopiers are accessible to persons in wheelchairs 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
PORTABLES <ul style="list-style-type: none"> • accessible • accessible path/walkway to portable (For ramp specifications, see Ramps section.)	<input type="checkbox"/> <input type="checkbox"/>	

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CHANGE ROOMS AND GYMNASIA		Comments
<p>CHANGE AREA</p> <ul style="list-style-type: none"> • one percent or minimum of one locker is/are accessible • wheelchair accessible vanities • hand dryers at different heights • hair dryers at different heights • aisles in locker area at least 1200 mm (4 feet) wide • faucets at wheelchair accessible height • lever handle faucets • temperature safety controls on water faucets • insulated pipes where exposed • mirror mounted at 900 mm (3 feet) from floor • accessible change table or bench in an area with ensured privacy 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p>GYMNASIUM</p> <ul style="list-style-type: none"> • access to weight room • access to equipment room storage 	<input type="checkbox"/> <input type="checkbox"/>	
<p>SHOWERS</p> <p>See <i>Building Access Handbook</i> pp. 70-72 for details of both code requirements and explanations of each standard.</p> <ul style="list-style-type: none"> • shower stall at least 1500 mm (5 feet) wide and not less than 900 mm (3 feet) deep • shower stall has slip-resistant floor surface • shower stall has horizontal grab bar 725-775 mm (28-30 in) • shower stall has hand held shower • shower stall has fully recessed soap holder that is accessible from sitting position • benches in drying area of shower stalls • wheelchair accessible shower stalls with threshold not more than 13 mm (1/2 in) high • shower stall has hinged seat that is not spring loaded or a fixed seat no greater than 450 mm (18 in) wide and deep, equipped to withstand 1.33 KN (290 lb.) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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RECREATIONAL SPACES		Comments
<p>TRACK</p> <ul style="list-style-type: none"> • asphalt or other hard, smooth surface • avoid track edges (i.e., lips) 	<input type="checkbox"/> <input type="checkbox"/>	
<p>TENNIS COURT</p> <ul style="list-style-type: none"> • asphalt (avoid rough and rubberized surfaces) • adequate space for maneuvering by coaches, referees, spectators, players • basketball hoops on cantilevered L-shaped posts outside fence 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p>PLAYGROUND(S) See <i>The Universal Playground: A Planning Guide</i>, Ministry of Education, 1993.</p> <ul style="list-style-type: none"> • access to playground area • multiple ways to access equipment • multiple ways to exit equipment • provide surfaces appropriate for persons in wheelchairs • auditory cues on moving equipment • appropriate modifications to equipment providing access to students with special needs 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p>PLAYING FIELDS</p> <ul style="list-style-type: none"> • access to playing fields • accessible viewing spaces located on level surface adjoining bleachers, in several locations 	<input type="checkbox"/> <input type="checkbox"/>	

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GENERAL		Comments
LIGHT SWITCHES <ul style="list-style-type: none"> • light switches located on plate 900 mm (3 feet) above floor • rocker switches wherever possible 	<input type="checkbox"/> <input type="checkbox"/>	
ELECTRIC OUTLETS <ul style="list-style-type: none"> • outlets 460 mm (18 inches) above floor; in areas specifically designed for people with disabilities, outlet height should be 610 mm (24 inches) 	<input type="checkbox"/>	
VENDING MACHINES <ul style="list-style-type: none"> • vending machine controls 2 to 4 feet (.6 to 1.2 m) above floor • pull-on or push control knobs requiring no more than 13 N of force 	<input type="checkbox"/> <input type="checkbox"/>	
FLOORING <ul style="list-style-type: none"> • resilient flooring • tightly woven, non-static, direct glued level carpet • contrasting colours to indicate function changes • all floor coverings installed at same level • all floors non-reflective to reduce glare • all floors non-slip surfaces (See <i>Building Access Handbook</i> p. 45 for chart of slip resistance in flooring finishes.) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
WINDOWS <ul style="list-style-type: none"> • all windows low enough for people using wheelchairs and people of short stature to use 	<input type="checkbox"/>	
LOCKERS <ul style="list-style-type: none"> • at least one percent of total lockers, with a minimum of one locker per school, is accessible (an assessment of individual student need should determine height of hooks, shelves, etc.) • accessible lockers distributed throughout school 	<input type="checkbox"/> <input type="checkbox"/>	

OTHER ISSUES RELATED TO EDUCATIONAL FACILITIES PLANNING AND STUDENTS WITH SPECIAL NEEDS

Physical accessibility is not the only consideration in planning school facilities to accommodate students with special needs. A variety of other building features influence the ability of students with special needs to maximize their learning potential.

ROOM SIZE AND SHAPE

A number of features related to the organization of a room or the expected use should be considered when planning or renovating educational facilities. The following are examples of room size and organization issues related to students with special needs:

- providing adequate space for wheelchair or walker maneuvering,
- accommodating larger work areas or adapted workspaces needed for some students,
- planning adequate space so that support staff such as teacher assistants or child care workers can carry out their classroom duties, and
- including space for storage of specialized equipment which may be needed.

SPECIALIZED ROOMS

Adequate space which is located in an integral part of the school needs to be allocated for carrying out the special programs and services required by students with special needs. Individual Education Plans often call for services to be provided outside the regular classroom, and appropriate areas in the facility should be planned to locate delivery of these services. The following spaces should be designated in the plans for all new schools or renovations:

- private space for support services such as physical therapy, speech therapy, and medical or personal hygiene procedures,
- appropriate available space for carrying out psycho-educational assessments:
 - quiet, well-lighted, appropriately furnished and decorated to enhance concentration,
 - private, yet windowed to ensure staff and student security, and
 - equipped with telephone to school or facility office.
- private space for counselling services:
 - equipped with telephone and security signal system,
 - large enough for group counselling sessions, and
 - arranged with space for storage of confidential records,

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- functional spaces for meetings:
 - private, yet centrally located,
 - separate from the staff room,
 - appropriate for groups including parents and other professionals for gatherings, such as School-Based Team or Individual Education Plan meetings, and
 - available for regular teacher collaboration and planning.

Flexibility in the design of these rooms should ensure that they are available for other uses when they are not required for these specialized functions related to special needs. Consideration should be given to multi-use of such spaces so that they are not limited in function.

SOUND FEATURES

The architectural design should take into consideration the needs of students with various hearing or listening difficulties:

- locating the building on the part of the lot which is most free from environmental noise and further shielding the building through landscaping,
- sound proofing of surfaces with carpeting and other acoustical materials to reduce noise confusion for students who have difficulties with auditory comprehension (including students who are deaf or hard of hearing, students with learning disabilities, and students with attention deficits),
- selecting plumbing, lighting, heating, and other equipment which reduce noise and vibrations in the building
- locating sound producing equipment and spaces for noisy educational activities such as shops and music rooms in areas away from classroom space, and
- providing wiring for potential sound amplification systems.

HEALTH CONSIDERATIONS

Increasing numbers of students have health problems related to responses to the environment. For example, there has been a sharp increase in asthma which can have a negative impact on children's ability to learn in school. Planners should consult with experts who have knowledge of the current research about allergies so that materials used in construction and decoration are the most advantageous for students who are particularly sensitive. They should also access prevailing research into the psychological effect of colour and lighting on human behaviour when considering school lighting and decoration alternatives.

RECORDS STORAGE

The need for complete and comprehensive records has become more important as schools include more children with diverse needs. Along with this has come an increased need for protection of personal privacy in the storage of records. Facilities should be planned to accommodate records storage related to students with special needs or other support services such as counselling. Storage capacity and location should ensure that records are secure and easily accessible to staff who need them.

DIMENSIONS OF CHILDREN FOR PLANNERS

The planning of facilities for young children can be complicated by the fact that code dimensions do not always take into consideration that users may be smaller than adults. For example, standards for accessible toilets and grab bars are often too high for elementary aged children. In recognition of typical child and adult sizes, a range of measurements is often provided in the *Building Access Handbook* to accommodate planning for children. In addition, the *Building Code* itself acknowledges that facilities such as schools which are used predominantly by children can use dimensions other than those in the Code to accommodate smaller sizes (p. 72 of the Handbook, Sentence 3.6.4.8.(12) of the Code).

It may also be advantageous for planners to carefully examine average dimensions of children and also typical measurements of children in wheelchairs at various ages. To provide such data, see the British Columbia document *Enhancing Accessibility - A Resource Manual for Communities, Child Care Settings and Child Care Providers* 1997, (pp. PL 18-19).

RELATED RESOURCES

American National Standards Institute. *American National Standard for Building and Facilities: Providing Accessibility and Usability for Physically Handicapped People*. New York: American National Standards Institute, 1986.

British Columbia Ministry for Children and Families. *Enhancing Accessibility: A Resource Manual for Communities, Child Care Settings and Child Care Providers*, 1997.

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