SQUAMISH

DISTRICT OF SQUAMISH

Streetscape Universal Accessibility Guidelines

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The District of Squamish is located in the unceded traditional territory of the Sḵwx̱wú7mesh Úxwumixw (Squamish Nation).

We offer gratitude to the Sḵwx̱wú7mesh People who have lived on these lands since time immemorial.

Photo: Pascale Gadbois

ACKNOWLEDGMENTS

These guidelines were created through the generous financial contribution from Vancouver Coastal Health, with references and content summarized by Beairsto & Associates Engineering Ltd. and visual graphics and final document prepared by PWL Partnership. The guideline content was reviewed and guided by District of Squamish Accessibility Committee, local accessibility consultants and Squamish workshops with Canadian National Institute for the Blind (CNIB) and accessibility stakeholders. This is a document made by accessible users for accessible use.

IN PARTNERSHIP WITH

Vancouver Coastal Health

PWL Partnership

Beairsto & Associates Engineering Ltd.

REFERENCES

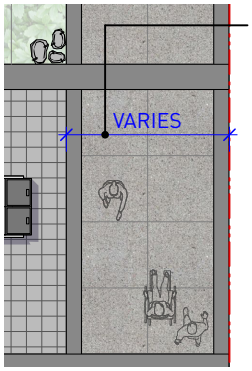
Content has been created with reference to the following accessible guideline documents and best practices:

- ADA Accessibility Standards
- AODA Integrated Accessibility Standards
- ABA US Access Board
- BC Building Accessibility Handbook 2020
- CSA B651:23 National Standard of Canada, Accessible Design for the Built Environment (2023)
- CNIB Clearing Our Path
- TAC Accessible Pedestrian Signals Guidelines (2007)
- City of Burnaby, Vancouver, Richmond, London, Toronto, Coquitlam, Port Moody, West Kelowna.

OVERVIEW

1.0 UNIVERSAL/ACCESSIBLE SURFACE TREATMENT

1.1 SIDEWALK/PATHWAY WIDTH



RESIDENTIAL/LOCAL WIDTH RANGE:
MIN. 1600 - 1800 IDEAL - MAX. 2200

COMMERCIAL CORE WIDTH RANGE:
MIN. 2000 - 2500 IDEAL - MAX. 3000

HIGH TRAFFIC AREAS (EG. PARKS, PLAZAS, SCHOOLS, NEIGHBOURHOOD NODES) WIDTH RANGE:
MIN. 2200 IDEAL - MAX. 3000

Fig 1. Accessible sidewalk

1.1.1 Follow this guideline for general application of universal and accessible widths for sidewalks and pathways along streetscapes, parks and plaza spaces when widths are not specified in the Downtown Streetscape Guidelines.

1.1.2 All surfaces should be stable, firm, slip resistant and produce minimal glare.

1.2 SIDEWALK FINISH

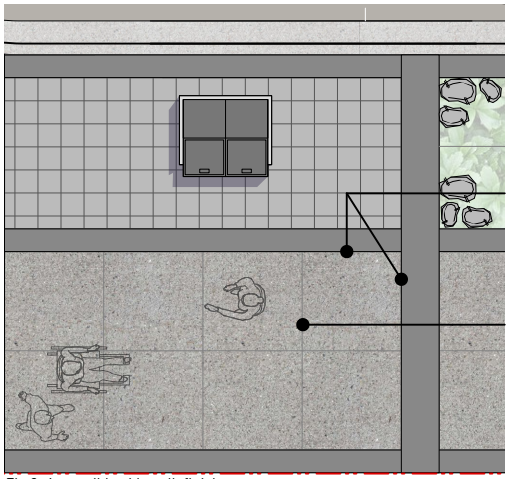


Fig 2. Accessible sidewalk finish

1.2.1 Sidewalks should be broom-finished concrete with saw-cut control joints as they provide the best surface for pedestrians who use wheelchairs, assisted walkers, and strollers. Vibrations are considerably increased from sidewalks that use trowelled control joints. Trowel control joints on sidewalks should not be used.

1.2.2 The use of exposed aggregate should not be used as it can increase vibration and can be slippery when wet.

1.3 PAVER FINISH

Fig 3. Concrete unit pavers with herringbone pattern

1.3.1 Paving stones are not recommended for sidewalks or main accessible pathways. If paving stones are used for other pathways, a herringbone pattern is recommended as it produces less vibration and tends to maintain the integrity of the tight joints over time.

1.3.2 Pavers should have a maximum sand-filled joint that should not exceed 4.8mm and a small chamfer edge 2-6mm.

1.0 UNIVERSAL/ACCESSIBLE SURFACE TREATMENT

1.4 GRAVEL FINISH

Fig 4. Accessible gravel finish detail

1.4.1 In some circumstances gravel pathways may be desired. If supportable, surfaces should have both excavation and compaction to achieve an accessible gravel crush pathway.

1.4.2 Accessible gravel should be coarse crush dust 1/4" minus, compacted several times until surface is firm.

1.4.3 Accessible gravel surfaces must be maintained and compacted overtime to ensure surfaces remain stable and firm.

1.5 USE SURFACE SEPARATION

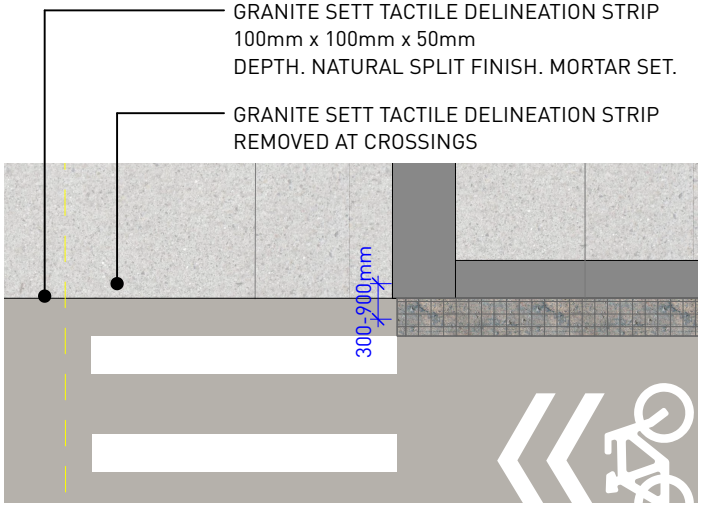


Fig 5. Use surface separation

1.5.1 When bike lanes and sidewalks are adjacent to one another, surface separation should be used to create a visual and abrupt textured delineation between the two uses to avoid conflicts. Beveled curbs can be used to create gradient separation between uses. When change in grades are not feasible, granite setts with a natural split mortar set should be used to create a textured, aesthetic, durable and low maintenance separation.

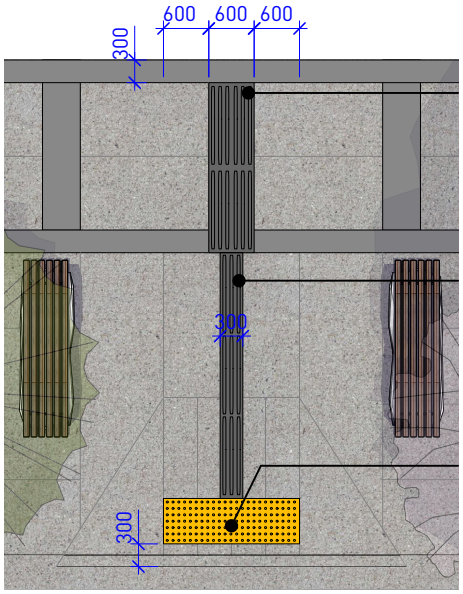
1.5.2 Surface separation should be removed at sidewalk/pathway crossings to indicate directional changes and avoid unnecessary surface abruptions.

1.5.3 Granite sett separation widths should be between 300mm to 900mm. Beveled curbs can be as minimal as 50mm.

Fig 6. Use surface separation example

1.0 UNIVERSAL/ACCESSIBLE SURFACE TREATMENT

1.6. TACTILE WALKING SURFACE INDICATORS (TWSI)



TACTILE DIRECTIONAL INDICATOR. CAST-IN-PLACE ELONGATED FLAT TOP BAR PANEL. 600mm WIDTH

TACTILE DIRECTIONAL INDICATOR. CAST-IN-PLACE ELONGATED FLAT TOP BAR PANEL. 300mm WIDTH

TACTILE ATTENTION INDICATOR. CAST-IN-PLACE TRUNCATED DOME PANEL 600-650mm WIDTH.

Fig 7. Tactile walking surface indicators, midblock application example

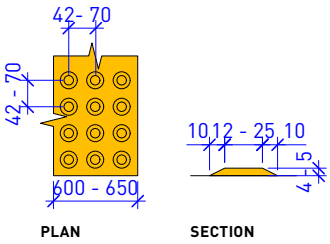


Fig 8. Tactile attention surface indicator - truncated dome details

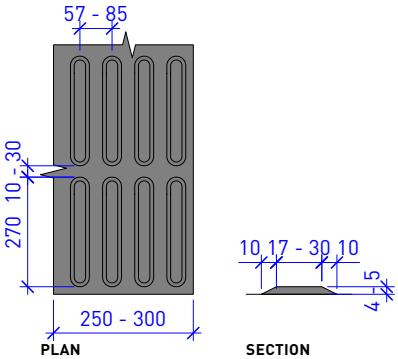


Fig 9. Tactile directional surface indicator - flat top elongated bar details

1.6.1 Tactile walking surface indicators (TWSI) can be used to inform visually and through contact under foot or cane for attention or directional indicators.

1.6.2 Tactile attention surfaces signal a need for caution, identifying unprotected large drop-off edges greater than 250mm, transit stops (see 7.0), crosswalks (see 4.2) and steps (see 2.3).

1.6.3 Tactile attention indicators should be a yellow or contrasting colour, with truncated dome design compliant with CNIB. They should be 600-650mm wide and span the entire length of the opening.

1.6.4 Tactile directional indicator surfaces are used in wide, high traffic areas to indicate a change of direction such as, at a midblock crosswalk, transit stop, or staircase located away from the regular sidewalk/pathway. They can also be used in woonerf or plaza space design to provide directional wayfinding.

1.6.5 Tactile directional indicators should be a 50% contrasting colour that is not yellow, with a parallel pattern, flat toped elongated bar that extends in the direction of travel compliant with CNIB. When installed across a path of travel they should be 600mm wide with a minimum 600mm unobstructed area on each side. When installed to define a wayfinding route, the width should be 250-300mm.

1.6.6 All Tactile indicators should be cast in place with a base surface that is level with the surrounding surface. Surface mounted pads are not recommended. Tactile edges should not be above or below the surrounding surface to avoid further accessible challenges and to reduce opportunities for damage (snow plow).

1.6.7 To clearly differentiate between indicator risk, yellow is recommended for visually impaired contrast for high-risk attention indicators (e.g., crosswalks, transit). Contrasting dark grey colours can be used for lower-risk attention and directional indicator applications (e.g., staircases, directional indicators).

1.0 UNIVERSAL/ACCESSIBLE SURFACE TREATMENT

1.7. SURFACE CHANGES

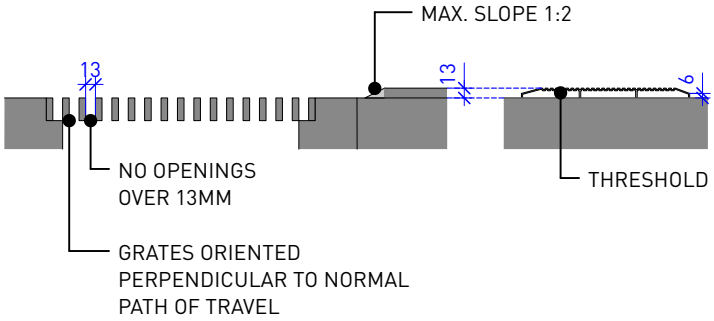


Fig 10. Joints in paths of travel and abrupt schanges in surface elevation

1.7.1 Storm drains should not be designed within the pedestrian sidewalk/pathway. Trench drains are recommended for plaza spaces, midblocks and any other sidewalk or pathway where drainage is required within the sidewalk/pathway width.

1.7.2 Avoid locating storm grates at the bottom incline of ramps.

1.7.3 Storm grates or trench drains should be oriented so that grates are perpendicular to the normal path of travel.

1.7.4 No openings over 13mm in diameter should be permitted to avoid trapping wheels, canes, and other mobility devices.

1.7.5 An abrupt surface change should be avoided with a tolerance of 6mm. If a difference between 6mm and 13mm is necessary, it must include a maximum 1:2 slope ramp and yellow colour contrasting is recommended. Grade changes above 13mm are not acceptable as abrupt surface changes and should be removed/repaired.

2.0 ACCESSIBLE RAMPS AND STAIRCASES

2.1 RAMP GRADES

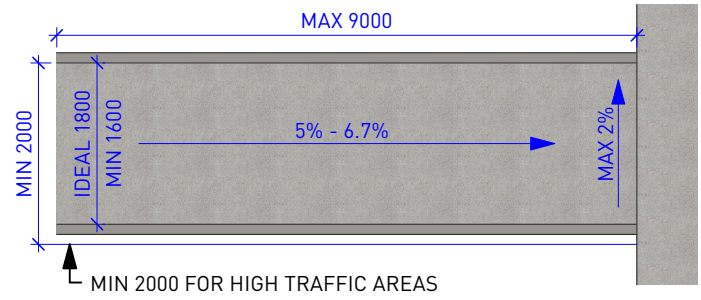


Fig 11. Ramp grades

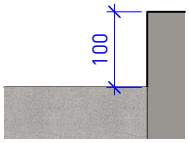


Fig 11.1 100mm high curb

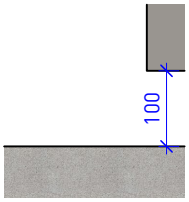


Fig 11.2 100mm opening

2.1.1 Ramp slopes should have a ratio between 1:15 (6.7%) and 1:20 (5%). A maximum ramp slope ratio of 1:12 (8.33%) can be considered for special circumstances at District's discretion.

2.1.2 Ramp length between levels/landings should be no greater than 9m. Ramps with slopes less steep than 1:20 (5%) can have a maximum length of 12m.

2.1.3 Ramp widths should be a minimum of 1.6m, ideal 1.8m, and high traffic areas 2m. A minimum ramp width of 1.2m can be considered for special circumstance at District discretion but is not advisable for high traffic areas.

2.1.4 Maximum cross slope of ramps for drainage is 2%.

2.1.5 Ramps and landings not at grade or adjacent to a wall should provide ramp edge protection in the form of:
a) a minimum 100mm high curb or rail or;
b) a raised barrier that leaves a maximum 100mm opening. Preferred for drainage and snow removal.

2.1.6 Ramp surface should be stable, firm, slip resistant and produce minimal glare. Curve ramps should not be used as a design solution.

2.1.7 High traffic ramps and landings should include surface level lighting to illumination level 5 avg lux standards.

2.1.8 Universal design suggests some people find using steps easier and safer than a ramp. Grade changes should include both stairs and a ramp and can be combined to share landings.

2.2 RAMP LANDINGS

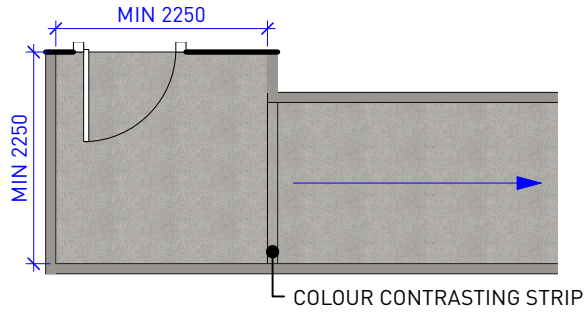


Fig 12. Ramp landings

2.2.1 Landings should be located at all ramp direction changes and should be a minimum clear width and length of 2.25m to accommodate most wheelchair users. A landing width of 3.1m would accommodate large scooters and may be needed depending on the ramp intended use and location. A minimum landing width of 1.7m should only be considered for special circumstance at District discretion.

2.2.2 Doorways at landing should have a minimum 2.25m x 2.25m space with no reduction for special circumstances.

2.2.3 Landings should be level and not sloped.

2.2.4 Ramp entrances and landings should include a colour contrasting strip the full width of the ramp at each level change before the slope starts. The contrast colour should be at least 50% different to the ramp surface colour.

2.0 ACCESSIBLE RAMPS AND STAIRCASES

2.3 STAIRCASES

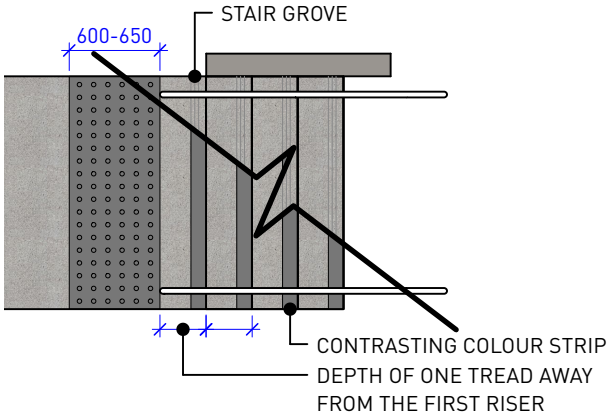


Fig 13. Stair detail - tactile attention indicator

2.3.1 Stairs in public streetscapes to be designed to meet BC Building Code rise and run standards.

2.3.2 Outdoor stairs should have slip resistant surface, avoid patterned textures, and avoid the use of metal grate stairs as they can catch on mobility devises.

2.3.3 To aid in the visibility and awareness of stairs, the top of stairs should provide a colour contrasted truncated dome tactile attention strip at least 600-650mm in depth and located a depth of one tread away from the first step (see 1.6 for more details).

2.3.4 Stairs should consider a contrasting colour strip or groove between 10-50mm at stair nosings so that the tread edge is clearly visible. The contrasting colour should be at least 50% different from the stair surface colour, and yellow is not necessary.

2.3.5 High traffic staircases should include surface level lighting to illumination level 5 avg lux standards.

2.4 HANDRAILS

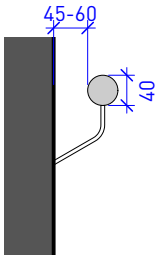


Fig 14.1 Handrail

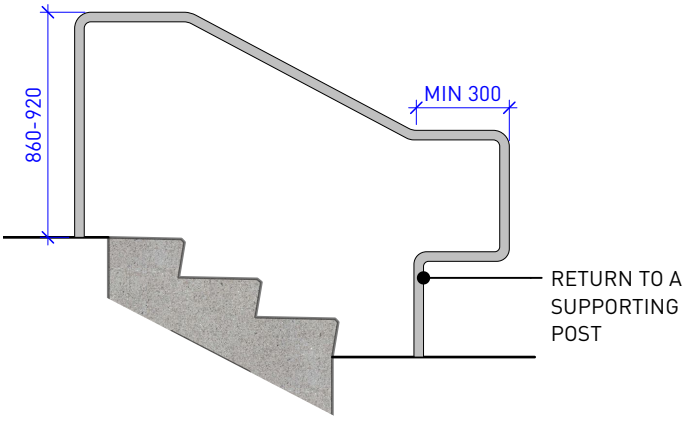


Fig 14.2 Handrail extensions and handrail returns

2.4.1 Many people rely on handrails to maintain balance, prevent falls, and serve as a visual and tactile wayfinding guide. At least one handrail should be installed on all exterior ramps and staircases, though two handrails are recommended.

2.4.2 Handrails should be circular with a diameter not more than 40mm to ensure they are graspable and should support a 30% contrasting colour compared to the adjacent background surface so they can be seen.

2.4.3 Handrails should be a uniform height from 860 -920mm measured vertically from the leading edge of the tread.

2.4.4 Handrails should have a clear space between 45- 60mm from an adjacent hard surface to support a proper hand size grasp. Handrails can project into the ramp clear width, but should not protrude more than 100mm from the wall.

2.4.5 Handrails should be continuous along staircases, ramps and landings where possible to assist in negotiating changes in direction. Avoid breaks and obstructions that can break a consistent hand hold.

2.4.6 Railing designs to comply with BC Building Code standards for fall hazard and climbability considerations.

2.4.7 Handrails should extend at least 300mm beyond the top and bottom ramp or staircase to provide support and orientation and should return to a supporting post, floor or wall to avoid being a pedestrian hazard in the path of travel.

2.4.8 Wide staircases over 2.5m can benefit from additional handrails in the middle.

3.0 ACCESSIBLE FURNISHING

3.1 UNIVERSAL SEATING DESIGN

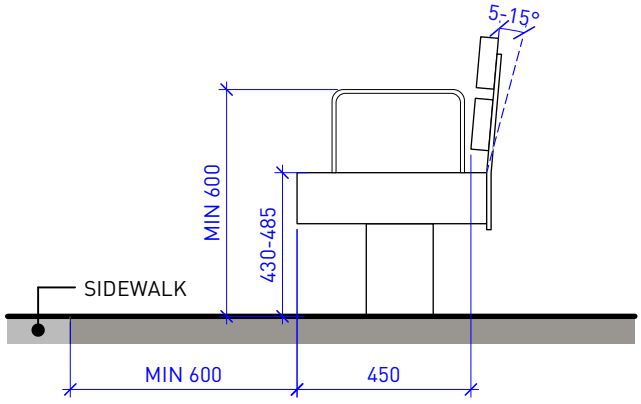


Fig 15. Bench universal accessible features

3.1.1 Benche seating provides important rest stops along a streetscape or public space and should be considered every 30m and placed 600mm away from the edge of a sidewalk/pathway.

3.1.2 Bench seating heights should be between 430-485 mm from the surface and at least 450mm wide by 460m deep for universally accessible use.

3.1.3 Where there is more than one bench, provide a mix of benches with backrests, armrests or both.

3.1.4 Backrests should be 450 mm away from seat edge and at a 5-15 degree angle.

3.1.5 Armrests should be a minimum 600mm from the ground. One or two armrests can be provided in a bench design. If a bench adjacent space (3.2) is created, consider not having an armrest on that side to allow for side transfer.

3.1.6 Bench design should consider allowing foot space under the bench to allow individuals to lean forward to stand.

3.1.7 Where possible, paving of the rest area should have a different treatment or colour contrast to help bring attention and luminance to locate the seating area.

3.2 SEATING ADJACENT SPACE

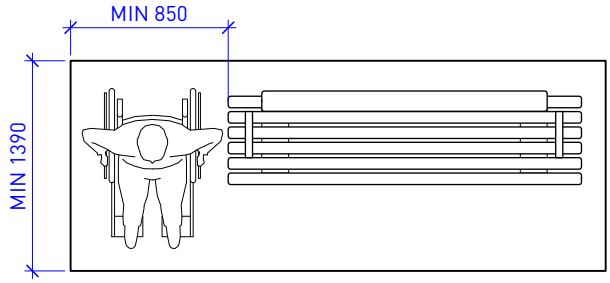


Fig 16. Bench adjacent space

3.2.1 A level area adjacent to a bench can accommodate a space for a person with a wheeled mobility devise, service animal, stroller or walker to use the bench without impeding the main path of travel. This space should be considered for 50% of bench designs along streets and 80% of bench designs within or along parks.

3.2.2 This space should be a minimum of 850 mm by 1390 mm.

3.0 ACCESSIBLE FURNISHING

3.3 ACCESSIBLE PICNIC TABLE

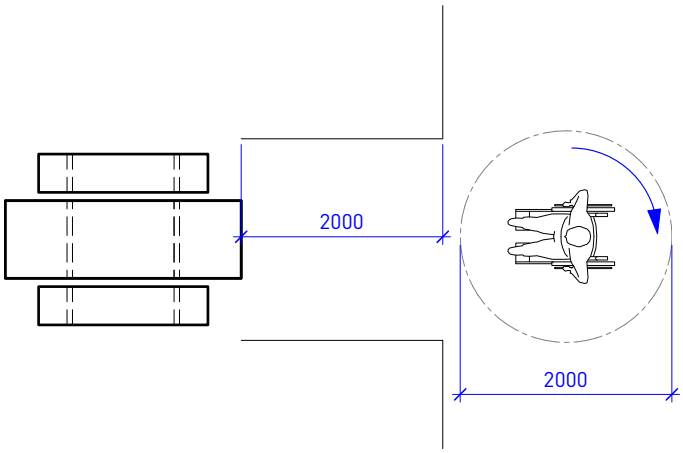


Fig 17. Accessible picnic table - plan

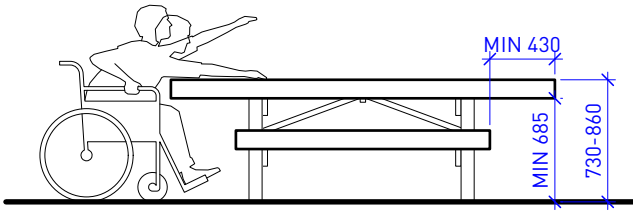


Fig 18. Accessible picnic table - cross section

3.3.1 Accessible picnic tables should be considered in all park and plaza design and should be considered the primary picnic table if only one is provided or one accessible picnic table for every four tables if several are provided.

3.3.2 Consider accessible access, surfaces and pathways to an accessible picnic table when deciding where to locate or orient accessible picnic tables.

3.3.3 Accessible picnic table seatings areas should have a 2m clearance zone from edge of table to other obstructions or furnishings where accessible seating is considered. 2m clearance zones in all directions around the table are ideal but not required if not practical.

3.3.4 Accessible picnic table seating should provide a firm forward approach surface at minimum 820mm x 1390mm but ideally should be 2000mm x 2000mm to support independent use and 360 degree turns of wheeled mobility devises.

3.3.5 Accessible picnic tables should have a minimum vertical knee clearance of 685mm from surface to table edge and a horizontal clearance of 430mm from table edge to table legs. The top of table can be between 730 and 860mm from the surface.

4.0 ACCESSIBLE CROSSINGS

4.1 CURB LET DOWNS

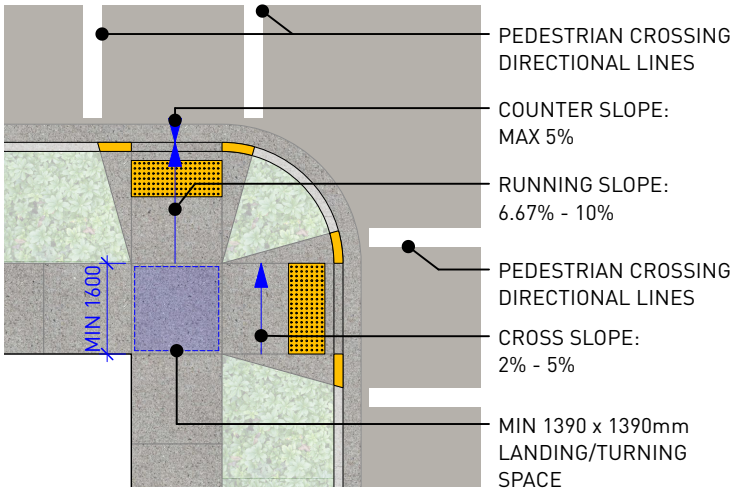


Fig 19. Curb let downs at intersections

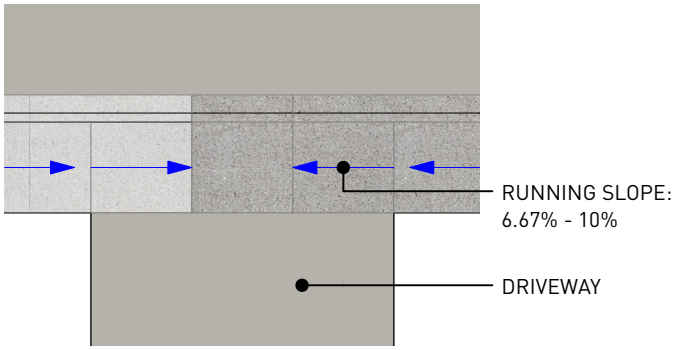


Fig 20. Curb let downs on laneways and driveways

4.1.1 Curb let downs are typically used for intersection and midblock crossings. Curb let downs at intersections should be separated in alignment with each pedestrian crossing directional lines.

4.1.2 The curb let down should be located before a curved curb return in alignment with the curb let down across the roadway. When not possible, curb let downs can intersect the curved curb return but should still have a running slope and tactile attention surface indicator in alignment with the pedestrian crossing directional lines.

4.1.3. Where curb let downs are necessary within a sidewalk/pathway, a minimum flat landing area of 1390 x 1390mm should be provided at the top of the running slope to provide a safe rest area and to avoid crossing curb lets downs when continuing along a sidewalk/pathway.

4.1.4 Curb let down widths should match the width of the sidewalk with a minimum width of 1.6m.

4.1.5 Curb let down running slope should be between a ratio of 1:15 (6.67%) and 1:10 (10%).

4.1.6 Curb let down cross slope should be no steeper than 1:50 (2%), but never steeper than 1:20 (5%).

4.1.7 The counter slope is the gutter slope adjacent to the curb let down running slope and should not exceed a maximum of 1:20 (5%).

4.1.8 Where sidewalks and pathways cross driveways or laneways the path of travel should stay at the sidewalk/pathways grade. When not possible, a sidewalk/pathway curb let down or running slope parallel with the path of travel should be added with a running slope between 1:15 (6.67%) and 1:10 (10%).

4.2 CROSSWALK TACTILE ATTENTION SURFACE INDICATORS

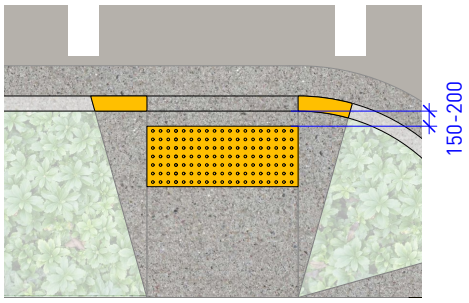


Fig 21. Crosswalk tactile attention surface indicator

4.2.1 See section 1.6 for tactile attention surface indicator design standards.

4.2.2 Crosswalk tactile attention surface indicators should be the length of the curb cut with a minimum 1.5m, a depth of 600 - 650 mm with a setback from the curb of 150 – 200 mm to avoid friction at the apex of the slope.

4.2.3 Elevated curbs on each side of the crosswalk should be painted yellow to assist people with low vision to identify elevated curbs to avoid tripping hazards.

4.0 ACCESSIBLE CROSSINGS

4.3 ACCESSIBLE PEDESTRIAN SIGNALS

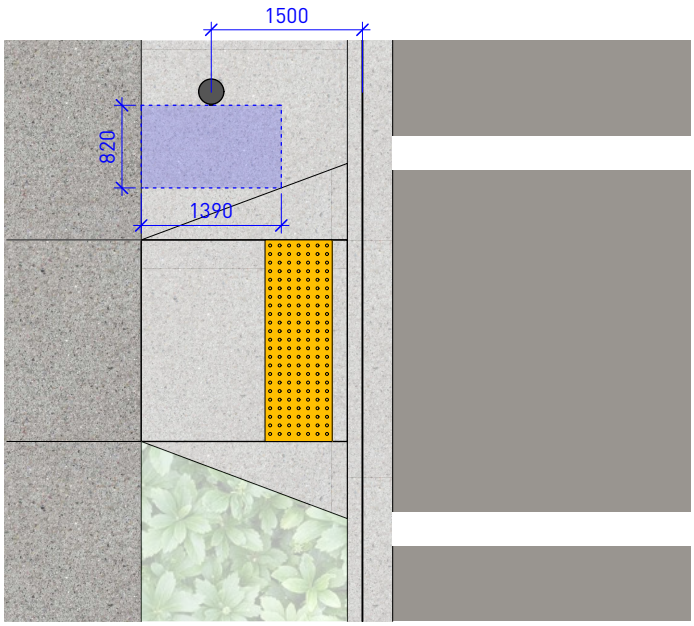


Fig 22. Accessible pedestrian signal placement

4.3.1 An Accessible Pedestrian Signal (APS) provides auditory, visual and tactile information for people with visual impairments. They should be installed at high pedestrian /vehicle traffic locations and/or cross walks located close to an area serving the elderly population in compliance with Transportation Association of Canada (TAC) Guidelines.

4.3.2 Audible locating tones increase awareness of crosswalk locations and where to locate push buttons for people with visual impairments. The volume of the pushbutton locating tones should automatically adjust (up and down) with the volume level of the ambient sound so that they can be heard in any traffic conditions. To mitigate the noise impacts on the adjacent neighbourhood, range or limit guidelines should be adhered to.

4.3.3 Place a push signal adjacent to a sidewalk or pathway without obstructing it and beside a clear level surface of a minimum of 820 by 1390 mm, and considered 1500 from edge of curb, so push buttons are not located on a sloped area.

4.3.4 The push button should be located on a pole at a height between 1100 - 150mm above the level of the sidewalk/pathway.

4.3.5 The push button face should be aligned on the pole parallel to the direction of travel/crossing. The push button should be large, visible (contrasting colours) and provide a textured surface indicating direction.

4.3.6 Accessible crossing times should be calculated with zero point eight seconds of crossing time provided per 1,000 mm of crossing distance (0.8 m/sec).

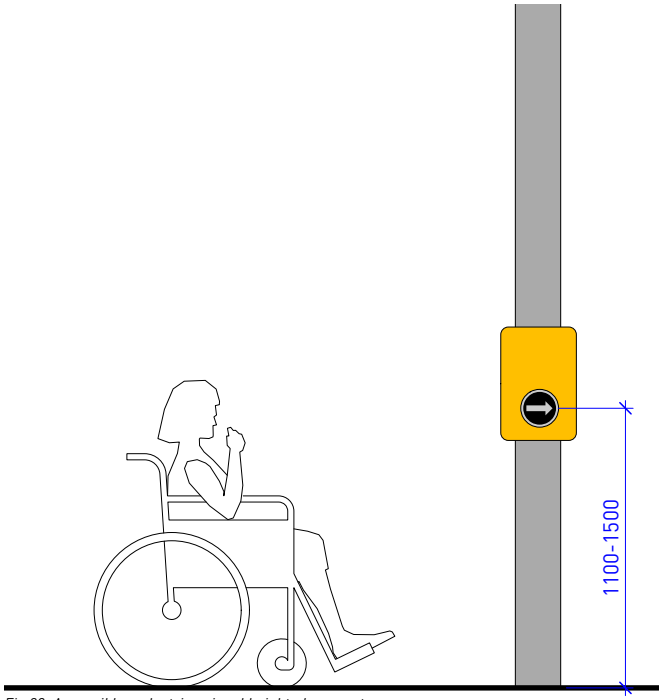


Fig 23. Accessible pedestrian signal height placement

5.0 ACCESSIBLE PARKING STALLS

5.1 ACCESSIBLE PARKING AMOUNTS & DESIGN CONSIDERATIONS

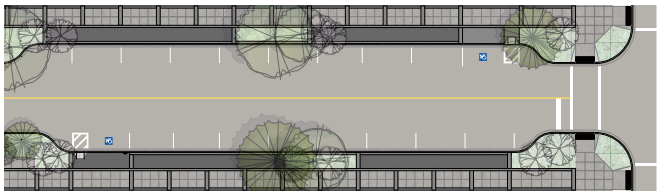


Fig 24. 10% accessible parking spaces

5.1.1 Where on-street parking is provided, at least 10% of the spaces per block should be designated an accessible parking space.

5.1.2 To maximize accessible on-street parking spaces it is recommended that accessible parking spaces be located adjacent to intersection or midblock curb bulges.

5.1.3 All public accessible parking spaces should have a 2.5m unobstructed height clearance from parking surface to building canopies or hanging objects.

5.1.4 Accessible parking spaces support a variety of accessible and universal needs to accommodate regular cars with passengers who have walkers or mobility assistant devises or can accommodate larger vans where mechanical side or rear loading is required for independent or assisted wheelchair use. The various vehicles and uses require various sizes and clearance zones, however it is recommended that all public accessible on-street spaces be designed to accommodate all accessible needs and the largest accessible van standard. The only exception to this is angled parking, where rear loading cannot be supported in the design.

5.2 ACCESSIBLE PARALLEL PARKING

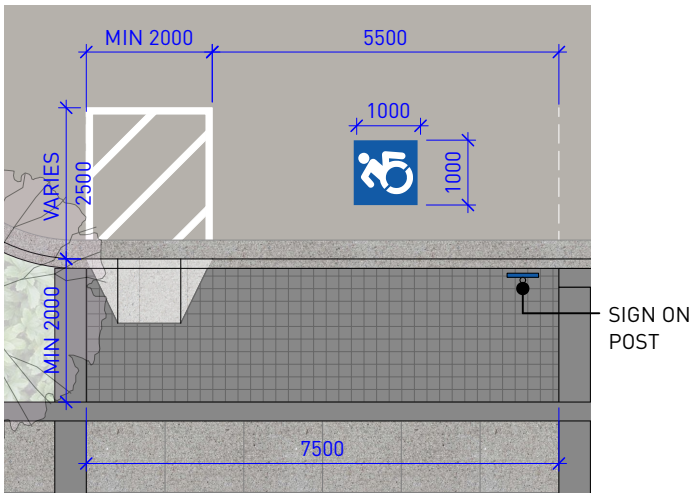


Fig 25. Accessible parallel parking

5.2.1 Most Downtown Squamish on-street parking will be parallel parking. Accessible parallel parking spaces should comply to the following general design and guidelines.

5.2.2 Accessible parallel parking should be 2.5m in width and 7.5m in length, with width varying in size depending on the streetscape design. Length should include a 2.0m hatched rear clearance zone.

5.2.3 Adjacent to the parking space should be a sidewalk/ boulevard clearance zone 7.5m by 2m-2.25m dependent on the boulevard space provided. The space should include no obstructions, with only a curb let down at the rear and an accessible sign post located at the front of the space. The clearance zone can be delineated with additional signage to ensure the space is not used for sandwich boards or other temporary obstructions.

5.2.4 Parallel accessible parking stalls should be painted with a 1m x 1m royal blue box with a white accessibility symbol (see 5.5), located in the center of the 5.5m stall length. Rear loading zone should be painted with white hash marks.

5.2.5 Curb let down details to comply with 4.1 and 4.2 and accessible signage to comply with 5.5. Curb ramp should be located adjacent to midblock bumpout and/or intersection bumpout.

5.0 ACCESSIBLE PARKING STALLS

5.3 ACCESSIBLE PERPENDICULAR PARKING

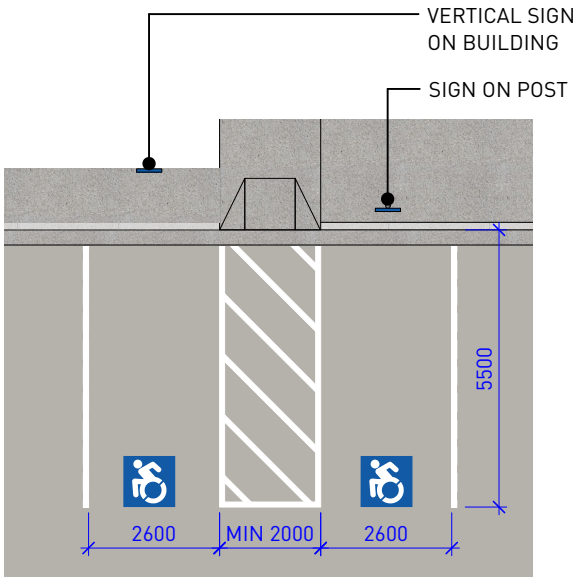


Fig 26. Accessible perpendicular parking

5.3.1 Perpendicular parking is common in public parking lots. Accessible perpendicular parking spaces should comply to these general design and guidelines.

5.3.2 Accessible Perpendicular parking should be 2.6m in width and minimum 5.5m in length.

5.3.3 Adjacent to the entire length of the space should be a minimum 2m clearance zone. The space should include no obstructions. The clearance zone should be delineated by white painted hash marks and can be combined with other accessible stall clearance zones.

5.3.4 Perpendicular accessible parking spaces should be painted with a 1m x 1m royal blue box with a white accessibility symbol (see 5.5), located in the center of the 2.6m stall width and closer to the entrance of the stall. Signage should be mounted on a post or on a building face in the middle of the 2.6m stall and compliant with 5.5 accessible signage details.

5.3.5 Curb let downs if needed should be connected to the 2m clearance zone and comply with section 4.1 and 4.2.

5.4 ACCESSIBLE ANGLED PARKING

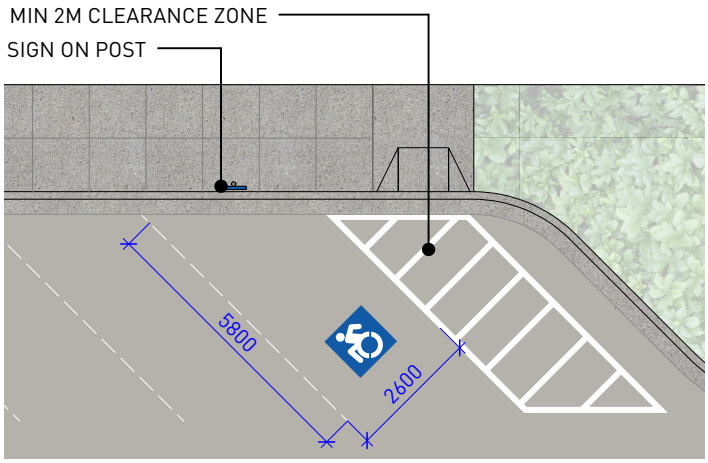


Fig 27. Accessible angled parking

5.4.1 Angled parking is still common on-street parking in Downtown Squamish and may be a preferred design for some public parking lots. Accessible angled parking spaces should comply to these general design and guidelines. These stalls are not able to safely accommodate rear loading vans but do provide additional space and comfort for side loading vans.

5.4.2 Accessible angled parking should be 2.6m in width and 5.8m in length.

5.4.3 Adjacent to the entire length of the space on the passenger side should be a minimum 2m clearance zone. The clearance zone should include no obstructions, be delineated by white painted hash marks and be connected to a curb let down in compliance with section 4.1 and 4.2.

5.2.3 Angled accessible parking spaces should be painted with a 1m x 1m royal blue box with a white accessibility symbol (see 5.5), located in the center of the 2.6m stall width and closer to the entrance of the stall.

5.2.3 Vertically mounted sign should be located at the front middle of the 2.6m stall and compliant with 5.5 accessible signage details.

5.0 ACCESSIBLE PARKING STALLS

5.5 ACCESSIBLE PARKING SIGNAGE

Fig 28. Vertically mounted accessible parking sign

5.5.1 All accessible parking stalls shall be identified by both a vertically mounted sign and a painted pavement marking.

5.5.2 Painted pavement markings should be a 1m x 1m royal blue box with a white accessibility symbol.

5.5.3 Vertical mounted signs can be mounted to a post or a wall with the lower edge of the sign at a minimum 2.5m from the space surface. The sign should be located in the centre of the parking stall, not including the clearance zone.

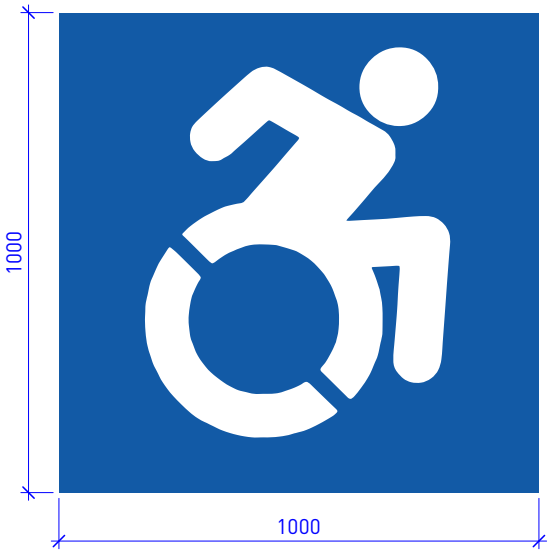


Fig 29. Accessible parking pavement marking

6.0 ACCESSIBLE MARINE GANGWAYS, DOCKS & FLOATS

6.1 ACCESSIBLE GANGWAYS

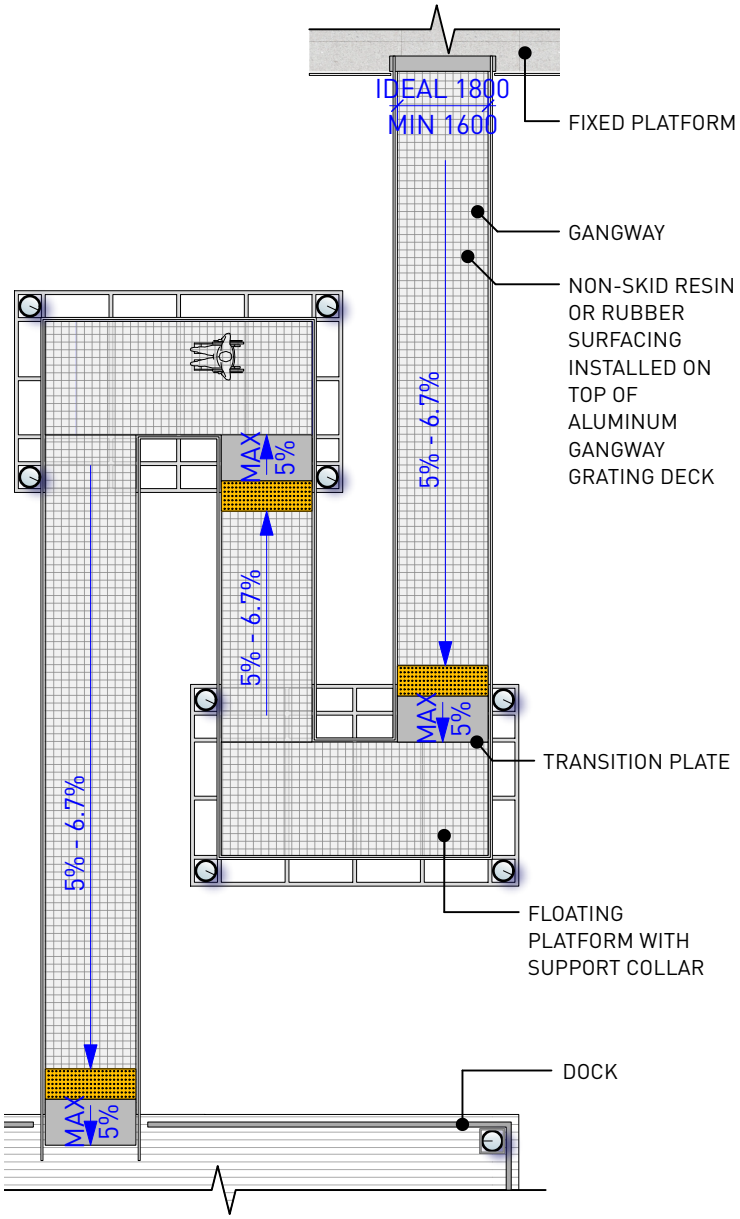


Fig 30. Compound gangway structure

6.1.1 Access to docks and water recreation amenities in the marine built environment present several accessibility challenges due to the large tidal range and associated grade changes experienced in Squamish. The following guidelines for public docks and floats aim to ensure that new or renovated facilities are, to the greatest extent possible, inclusive and accessible for people of all abilities.

6.1.2 Gangways provide access from a fixed foreshore or platform to a floating dock. Gangway ramps should have a ratio between 1:15 (6.7%) and 1:20(5%) within the tidal range from Lower Low Water Large Tide (LLWLT) (El. -3.11m) to Higher High Water Large Tide (HHWLT) (El. 2.07m). A maximum slope ratio of 1:12 (8.3%) can be considered for special circumstance at District discretion, but should not exceed this ratio during the LLWLT to HHWLT range.

6.1.3 To reduce gangway grades, design should use a series of longer gangways with intermediate level landings in compliance with Section 2.1.2 and 2.1.3. Compound gangway structures (a combination of gangways, fixed platforms and floating platforms with support collars) should be used to design ramps below the maximum ramp slopes. Mechanical devices (lifts) may be explored in some cases where a compound gangway structure is not feasible.

6.1.4 Gangway widths should comply with Section 2.1.3. with larger widths considered for primary access gangways.

6.1.5 Gangway landings should be level and not sloped with widths in compliance with 2.2.1.

6.1.6 Gangway handrails should be compliant with section 2.4.

6.1.7 Gangways and gangway ramps should provide edge protection with drainage in compliance with 2.1.5.

6.1.8 Ramp surfaces should use non-skid resin or rubber surfacing that remains non-slip under wet conditions installed on top of aluminum gangway grating deck.

6.1.9 Ensure the path of travel is free of abrupt surface changes in level or gaps. Use of transition plates (sloping pedestrian walking surface located at the ends of a gangway) should have no more than a 5% slope.

6.1.10 As tidal conditions may vary, all ramps should incorporate high-contrast signage indicating design tidal range, ramp slope and warning of steep grades at times where assistance is required (slope greater than 8%).

6.1.11 Gangways designed to be used after dusk (e.g., access to float homes, marinas, transportation services, does not include recreational only use), should include marine resistant, directional surface level lighting along routes of travel, entrances, and important features or hazards. Illumination levels should be between 2-5avg lux standards and should not exceed 2200K or amber colours with placement of lighting directed to the pathway and away from the water.

6.0 ACCESSIBLE MARINE GANGWAYS, DOCKS & FLOATS

6.2 ACCESSIBLE DOCKS AND FLOATS

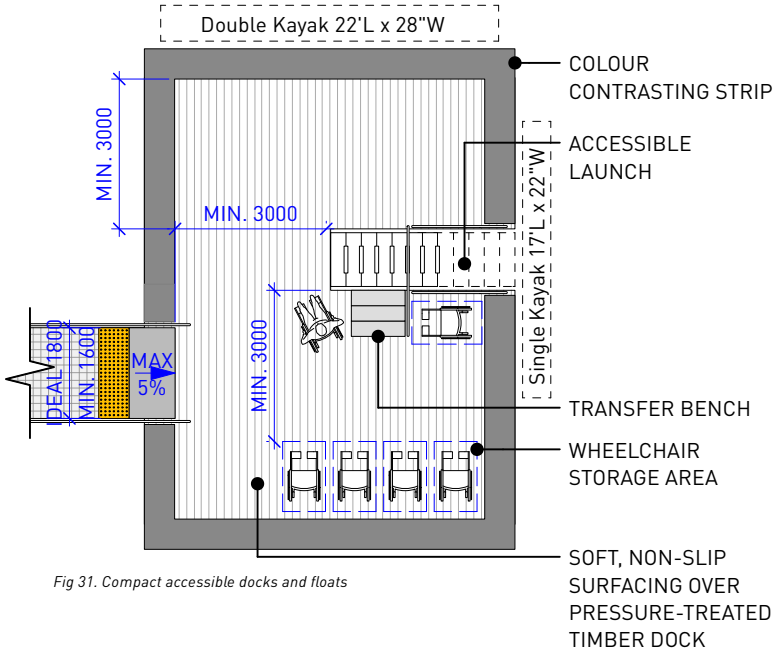


Fig 31. Compact accessible docks and floats

6.2.1 Primary access walkways on docks and floats shall be a minimum of 3.0 metres in width.

6.2.2 Incorporate Tactile attention surface indicators before transition plates and at the end of dock pathways to indicate the end of the path of travel. A 50% colour contrasting material or 50mm 50% colour contrasting strip should be used along dock edges to indicate the dock or float edge for the visually impaired. Tactile directional surface indicators should be used when paths of travel change direction along large docks such as marinas or houseboat dock designs. Toe rails in compliance with 2.1.5 can be used when there is concern about rolling into the water. Toe rails can be considered at the end of a path of travel with a ramp, narrow paths of travel where there is risk of straying off the dock and at wheelchair storage areas. Toe rails are recommended to be used sparingly and only when necessary to avoid creating further barriers to dock or float universal recreational use.

6.2.3 Integrate accessible dock features for adaptive water use. Transfer benches, accessible launch facilities, and designated on-dock wheelchair storage areas should be considered for all large public docks.

6.2.4 Reinforced concrete docks with soft, non-slip surfacing are encouraged over pressure-treated timber docks for durability, maintenance and superior traction when wet.

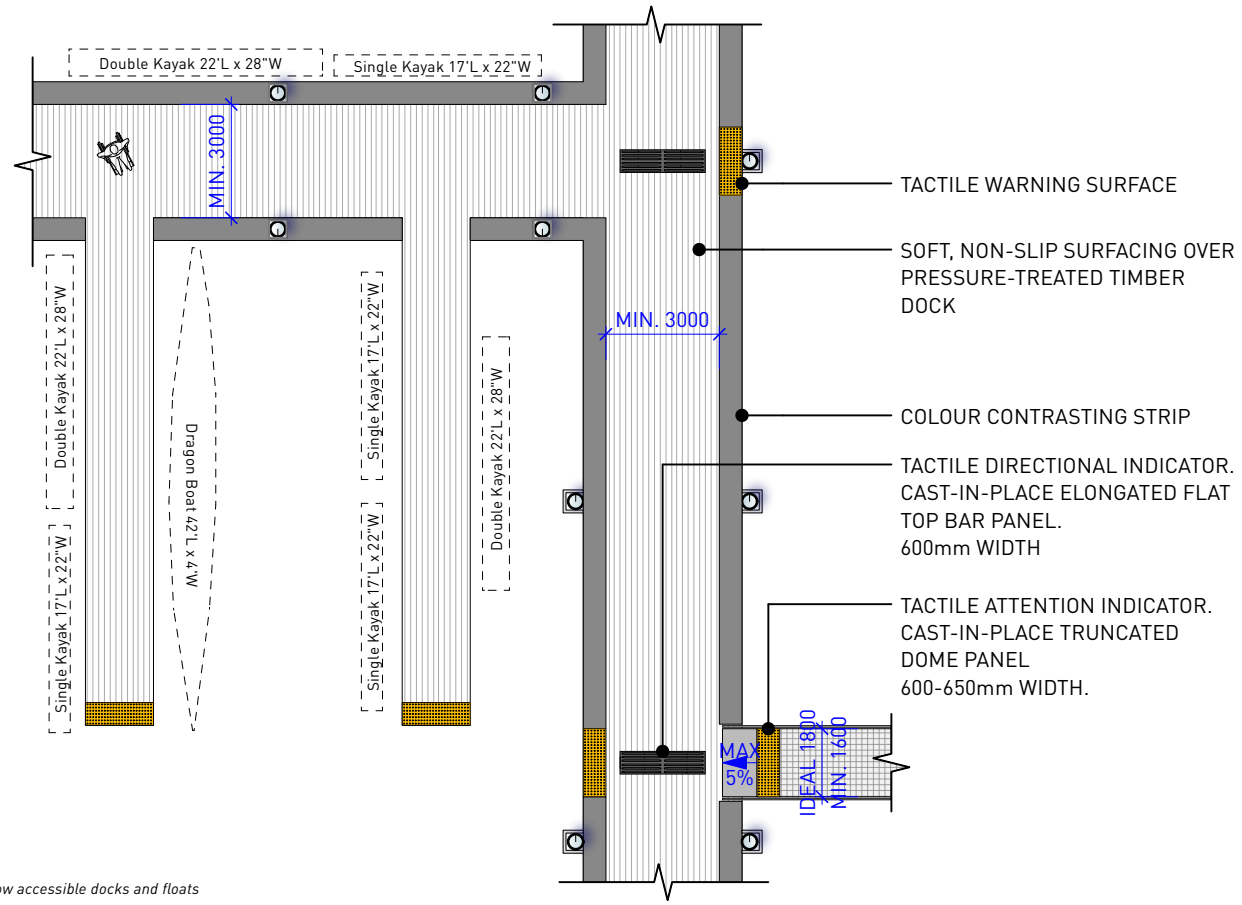


Fig 32. Narrow accessible docks and floats

7.0 ACCESSIBLE BUS STOPS & SHELTERS

7.1 ACCESSIBLE BUS STOPS & SHELTERS

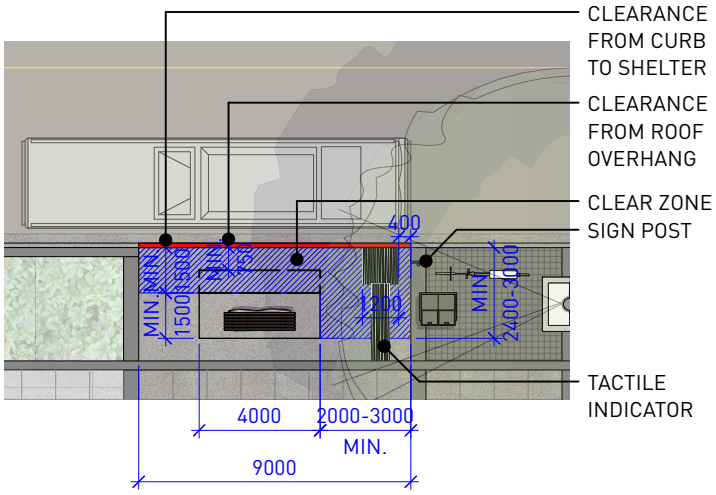


Fig 33. Typical bus stop design

7.1.1 A bus stop should have an accessible passenger landing pad where passengers wait to get on and off the bus. Passenger landing pads should be connected to existing curb and sidewalk pedestrian infrastructure and networks. They can also be floating (platforms with no connecting curbs or sidewalks typically applied in rural/residential areas) or island platforms (disconnected from sidewalk network typically applied when adjacent to separated bike lanes).

7.1.2 Bus shelters should be provided at all bus stops at District of Squamish discretion and include a seating area in compliance with 3.1 universal seating design and 3.2 seating adjacent space. Additional furnishing such as waste bins and bike racks, should be considered near bus shelters where appropriate, but should not be located within the accessible clear zones. Where bus shelters are not feasible, seating (3.1) should still be installed to provide a place to rest.

7.1.3 Wheelchair clear areas should be provided in all passenger landing pads and should be a minimum 2m (parallel to the roadway) by 2.4m (perpendicular to the roadway) with 3m preferred in both directions if possible. Clearance areas can be included within shelters without obstructions.

7.1.4 Bus stop landing pads and shelters should follow the design standards identified in BC Transit's On Street Infrastructure Design Guide (as amended) and should follow typical bus stop design considerations identified in figure #33.

7.1.5 Floating bus stops or island platforms should include additional signage, tactile surfaces and design features in compliance with British Columbia's Design Guide for Bus Stops Adjacent to Cycling Infrastructure (gov.bc.ca).

7.1.6 Tactile directional surfaces should be used in downtown or high traffic areas and may not be necessary for all transit stop applications.

District of Squamish
Streetscape
Universal Accessibility Guidelines

Version 1.0
Published: 2025-05-06

SQUAMISH