



RECREATIONAL FACILITY TECHNICAL GUIDELINES

REAL ESTATE, ENVIRONMENT AND FACILITIES MANAGEMENT

Facility Planning and Development

JULY 2024

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1. GENERAL

1.1 INTENT

These technical guidelines are:

- Supplementary technical requirements to the Facilities Standard Manual (FSM) and are to be read in conjunction with the FSM and other city-wide guidelines and requirements.
- To be referenced during the development of the functional program.
- To be applied to the design and construction or renovation of City-owned or leased recreational facilities.
- While recognizing that there is a wide variety of recreational facilities, each with their own unique needs, the intent of this document is to outline the basic technical requirements for any recreational Facility secured by the City of Vancouver as a capital asset.
- To clarify the minimum standard required by the City of Vancouver for materials, finishes, equipment and other items. Variations from these guidelines may be considered but are not to proceed without prior discussion and acceptance by the City of Vancouver.
- To be used as a tool for Facility cost estimates early in the design process.
- To be used as a tool by Consultants in developing their designs and specifications.
- To be used as a tool at Facility occupancy stage to gauge whether these minimum standards have been met.

1.2 REGULATIONS AND STANDARDS

Consultants and developers are to ensure that all applicable building codes, government acts and health regulations are met. These include, but are not limited to:

- The City of Vancouver Building Bylaw (VBBL).
- Occupational Health and Safety Regulation (Work Safe BC).
- The Consultant is responsible for ensuring all applicable updates or revisions to the Code or regulations are addressed and included in the work.

New and renovated recreational facilities to be held as capital assets by the City are expected to follow the City's normal permitting and regulatory processes. Rezoning, Development, Building and Occupancy Permits are required for all new recreational facilities. For detailed information concerning these permits and other relevant codes and requirements, contact the Enquiry Centre, Development Services Department.

1.3 SUSTAINABILITY

- Refer to Facilities Standards Manual for details.

1.4 ACCESSIBILITY

- Refer to Facilities Standards Manual for details.
- Specific sports accessibility requirements to follow sports organization standards and to be reviewed with service group, building operator and / or Rick Hansen Foundation Accessibility Certification consultant.

1.5 DISCLAIMERS

- Some items that have been noted throughout this document are Operator preferences and the selection should be confirmed with the City of Vancouver regarding their appropriateness for each Facility.
- Any specific products named in this document are not to be taken as the City of Vancouver's endorsement of that product, but rather as an example of a standard of quality that has proven successful in the past. Any other products that meet this level of quality will be considered for use, but their use is not to proceed without prior discussion and acceptance by the City of Vancouver.

2. PLANNING

2.1 INTENT

- All recreational facilities require functional programming to be completed with the facility operators, user groups, and municipal staff.
- The following information supplements the functional programming documents required by the City for each unique recreational amenity facility.

2.2 PARKING

- Vehicle and bicycle parking provided must meet the minimum requirements of the Parking By-Law.
- Additional vehicle and/or bicycle parking may be required. Consult with the City and Facility operator at the rezoning phase or at the development permit phase if no rezoning, in order to ensure that the additional vehicle requirements are included in the rezoning and/or development permit conditions.
- Location of bicycle and vehicle parking should be within easy access of the Facility's entrance.
- Parking design is to follow CPTED principles.

2.3 MAIL

- Refer to Facilities Standards Manual for details.

2.4 STORAGE

- Storage is a critical design consideration. Ensure that sufficient, appropriate storage is provided.
 - Storage space to be sized to accommodate program storage requirements and located adjacent to the program space.
 - Provide storage for seasonal and themed items as required.

2.5 GARBAGE AND RECYCLING

- Refer to Facilities Standards Manual for Garbage & Recycling room design requirements.

2.6 SERVICE SPACES

- Refer to Facilities Standards Manual for service room design requirements.

2.7 EXITING

- Public exits shall be planned in such a way that the public does not have to cross through a secure recreational amenity space for exiting.

2.8 GENERAL HAZARDS AND ENTRAPMENT

- For prevention of entrapment, spaces (i.e. holes or openings) accessible to children must be smaller than 9cm (3.5”) or larger than 23cm (9”).
 - Slots that vary in dimension such that either of the above conditions are encountered are not acceptable.
- Small dimension protuberances that may cause eye or puncture injuries are not acceptable.
- In general, edges and corners are to be rounded and eased. Sharp edges and corners are not acceptable.

2.9 BIRD FRIENDLY DESIGN GUIDELINES

- Refer to City of Vancouver Bird Friendly Design Guidelines (<http://vancouver.ca/parks-recreation-culture/vancouver-bird-strategy.aspx> <http://vancouver.ca/files/cov/vancouver-bird-strategy.pdf>). This guideline is intended to support the design and implementation of bird friendly development throughout the city.

2.10 REDUCING BARRIERS FOR TRANS* AND GENDER-VARIANT COMMUNITY MEMBERS

- T2SLGBTQIA+ Advisory Committee: the 2SLGBTQIA+ Advisory Committee works to create safe, inclusive, and welcoming spaces for transgender and gender diverse, Two-Spirit, and queer individuals. It does this by working with staff to ensure that city facilities are accessible for people who identify outside the gender binary.

[2SLGBTQIA+ Advisory Committee | City of Vancouver](#)
[2SLGBTQIA+ Advisory Committee Full Terms of Reference](#)

- Refer to Vancouver Board of Parks and Recreation “Building a Path to Parks & Recreation for All: Reducing Barriers for Trans* & Gender Variant Community Members”

Note: Trans* (with an asterisk) is an inclusive umbrella term used to refer to communities and individuals with gender identities and/or expression not matching gender binary stereotypes.
https://parkboardmeetings.vancouver.ca/2014/140428/documents/SUMMARY_TGVI-Working-Group_report_Building-a-Path-or-All_2014-04-28.pdf

2.11 RESILIENCY

- In general, guaranties and warranties are to be provided per the industry standard.
- Where extended guarantees and warranties are required, they are noted in the specification section of this document.
- Where extended guarantees and warranties are provided, the certificates shall be issued to the City of Vancouver.

2.12 HAZARDOUS MATERIALS

All materials used in the constructing and finishing of the Facility are to be free of hazardous materials, including materials such as asbestos, lead and PCBs. Contact the City of Vancouver Environmental Planning Group with any questions regarding the sourcing of appropriate materials.

2.13 GENERAL FINISH REQUIREMENTS

All surfaces, edges, corners and protrusions shall be finished to reduce or prevent hazards. All corners shall be rounded, edges eased, and surfaces shall be smooth. Particular attention shall be focused on concrete surfaces, windowsills, flashings, and laminate edges/corners.

2.14 LANDSCAPING

- Refer to Facilities Standards Manual.
- Identify the municipal department that will maintain any exterior sports related programming and consult with them regarding landscape requirements.
- Provide storage for sports field operations and maintenance as required.
- All landscaping material selection to be made in consultation with the departments responsible for maintenance and operations, such as: Park Board, City of Vancouver Facilities Maintenance and Operations Excellence department, and / or building operator.
- The Park Board Standard Landscape Specifications covering items such as irrigation, growing media, etc. are to be used unless prior written consent is obtained from the Director of Park Planning and Development or other designate as specified by Park Board staff. It is the responsibility of the consultants to request these specifications from the project manager.
- Fences:

- Refer to Facilities Standards Manual for details.
- Landscaped areas / playgrounds (general)
 - Refer to Facilities Standards Manual for details.
- Drainage and grading:
 - Refer to Facilities Standards Manual for details.
- Irrigation:
 - Refer to Facilities Standards Manual for details.
- Where Park Board Landscape Specifications and Facilities Standards Manual vary consultant to seek clarification with the project manager.

2.15 ACOUSTICS

- Engage a 3rd party acoustic consultant to develop an acoustic report outlining specific performance requirements for room acoustics and reverberation control, HVAC and mechanical systems noise control within the building, internal sound isolation, and external sound isolation.

2.16 SECURITY

- Refer to the City of Vancouver Electronic Security Systems specifications, and Facilities Standards Manual for additional information.
- Secure access system planning:
 - To ensure a proper security solution for each Facility (particularly if the Facility is located in a multi-use building), it is required that meetings occur with the Security Consultant, the City of Vancouver, the Operator and any other interested parties at appropriate points in the design and construction phases.
 - Utilize an appropriate entry security system e.g. bell, buzzer, intercom, etc. which will operate during program hours (confirm type required for this Facility).
 - If the entrance is remote from the Facility a video enterphone system shall be provided linking the entrance to the Facility.
 - Secure access to and from the parking to be addressed to suit the proposed plan for each Facility.

- If the Facility is accessed by elevator, secure access to the elevator and secure control of the elevator shall be addressed.

- Access equipment:
 - Access equipment must be compatible with the City of Vancouver standards, an acceptable product is Keyscan System Vantage.
 - Confirm number of swipe cards, fobs and/or keys required for each Facility.
- Security systems:
 - For intruder alarm type systems, acceptable product is the Ademco Vista, or preapproved alternate.
 - For surveillance type systems, refer to the City of Vancouver Security Standards for acceptable products.
 - Entrance and exit doors may require chimes or other door monitoring system (confirm requirements for each Facility).

3. SPECIFICATIONS

3.1 ARCHITECTURAL MILLWORK

- Refer to Facilities Standards Manual for details.

3.2 BUILDING ENVELOPE AND ROOFING

- Refer to Facilities Standards Manual for details.

3.3 GLAZING

- Refer to Facilities Standards Manual for additional details.
- Aluminum Windows and Frames (general):
 - Where a sill is 457mm (18”) or less above the floor, or where impact with a window may occur, use tempered and/or laminated glass as appropriate:
 - Tempered only at interior single glazed windows.
 - Tempered only at interior where exterior grade is within 610mm (2’0”) of the interior floor level.
 - Tempered at interior and laminated at exterior where the exterior grade is a significant drop below the interior floor level (i.e. a storey or more)
 - Consider the location of Low-E coating, if used, in conjunction with the location of tempered and/or laminated glass as appropriate for each Facility.

- Use glass systems with good insulating values (low U-value) and thermal breaks.
- Products:
 - Polished plate, float glass: glazing quality of the thickness required for the opening size, minimum 6mm (1/4").
 - Georgian wired glass: 6 mm (1/4") polished both sides with 12 mm (1/2") square steel wire mesh centrally embedded in the glass.
 - Laminated safety glass: two sheets of 6mm (1/4") float glass laminated to 1.5 mm clear vinyl interlayer.
 - Mirrors: 6mm (1/4") float glass, silvered type 1-A with a five (5) year guarantee.
 - Glass for exterior windows: hermetically sealed, double glazed units, both panes clear float glass, except where tempered glass is required by Code.
 - Extruded aluminum with thermal break complete with operable hardware, weather-stripping and insulated glass for outside glazing. Fixed or operable.
 - Finish anodized or factory applied baked enamel finish.
- Exterior openings:
 - All opening windows to be:
 - Limited to a maximum opening of 100mm (4") where accessible by children.
 - Screened.
 - Where a window opens into a walkway or occupiable landscaped area, provide either a sliding window or restrict its swing so as not to create a safety hazard outside.
- Entrances and Storefronts:
 - Provide a five (5) year manufacture's guarantee on all units.
 - Use thermally broken units that form a rigid unit without the use of fasteners or other thermal bridging elements.
 - Clear anodized or baked enamel finish.

3.4 DOORS AND HARDWARE

- Main facility entry doors from the street and from the parkade to be equipped with a power-assisted door operator button for accessibility. Coordinate accessible operator button function with security requirements for these doors.
- Use institutional quality shop fronts and aluminum entrance doors and hardware for main entry doors.

- Wood doors:
 - To meet AWMAC requirements for millwork (refer to Facilities Standards Manual for details).
 - To be solid wood core, except bi-fold and sliding doors to closets may be AWMAC hollow core doors.
 - Use solid core 45mm (1¾") paint grade birch wood doors in wood frames in most locations. In wet areas such as pools, change rooms etc., use hollow metal doors and frames galvanized using the G90 process. Wipe coat galvanizing is not acceptable.
 - Doors in wet areas are to be hot dip galvanized using the G-90 process.
- Hardware:
 - Refer to Facilities Standards Manual for details.
 - Additional support for half doors when not mounted in regular door frame; use heavy-duty piano hinge for full height of door.
 - Door stops to be wall mounted where possible complete with backing provided in the wall.
 - Sliding doors to have the ability to pin in place at open position.
 - Kick plates are required on the push side of all doors with closers and at all storage room doors.
 - Rolling shutters can be used to close off reception counters or concession areas. These should be heavy duty galvanized metal in metal frames with locking slide bolts. Exterior shutters should be weather and vandal proof. Paint with semi-gloss alkyd enamel.
- Locks:
 - All locks to meet the City of Vancouver Security Standards.
 - Lock type and grade to be established for each Facility.
 - All keying and locking systems to be coordinated with facility operators, as required.
 - Automatic Door Opening Systems:
 - All automatic door opening systems to be designed in accordance with the building code to ensure that they do not interfere with the manual operation of the doors, in the event of fire exiting during a power outage.

3.5 FINISHES

- Partitions:
 - Walls in wet areas to be constructed using concrete, concrete block, brick, galvanized steel studs and cement board or another approved durable waterproof material.

- Walls in wet areas are not to be constructed using wood frame.
 - Frame walls in wet areas, including washrooms, showers, changerooms, etc, to be mounted on a minimum 150mm (6") concrete upstand.
 - Do not use gypsum board below 1,200mm (4'-0") to finish walls in any public area. Acceptable materials include: concrete, concrete block, masonry, solid wood or other durable hard wearing material with approval.
 - Do not use gypsum board to finish washroom walls, acceptable materials include masonry, concrete or ceramic tile on cement board.
 - Do not use gypsum board to finish storage room walls, acceptable materials include concrete block, concrete, or 12mm (1/2") plywood.
- Acoustic measures:
- Acoustical insulating tape and strips, as required by wall assembly to meet required STC ratings.
 - Acoustical sealant, non-hardening, as required by wall assembly to meet required STC ratings.
 - Acoustical insulation, as required by wall assembly to meet required STC ratings.
 - Provide adequate blocking inside walls at all millwork locations and furniture locations where furniture will be fixed to walls and at wall-mounted door stops.
- Wall finishes:
- Paint: painting and finishing to be the "Premium Grade" Master Painter and Decoration Association Recommendations and Standards; products to be MPI approved Institutional Low Odour VOC quality paint.
 - Provide a two (2) year MPI Guarantee or 100% two (2) year Maintenance bond both in accordance with MPI Painting Specification Manual requirements.
 - All painting work to be inspected by a Paint Agency Inspector acceptable to the specifying authority and the operator.
 - Provide documentation that the MPI approved Institutional Low Odour VOC quality paint is being used.
 - All surfaces, including those to be covered with wall vinyl, to have one coat of Hihide sealer primer to suit surface.
 - Apply three finish coats and additional coats to cover as required.
 - Paint to be brush and roller applied, completely dried and sanded between coats and finished to a smooth surface without streaks or marks.
 - Gloss levels:
 - Kitchens, washrooms, laundry and janitor's room walls and ceilings to be G5 (semi-gloss).

- Painted doors and door frames to be G5 (semi-gloss).
 - All other surfaces to be either G5 (semi-gloss), G4 (satin), or G3 (eggshell) as required for the particular Facility.
 - G1 and G2 (matte) finishes are not acceptable.
- Wall protection to be provided as required for each Facility. Top edges and corners of wall protection material to be in turn protected (details to be provided). Acceptable materials:
 - Plastic laminate.
 - Vinyl-acrylic sheet material (PVC-free) such as Acrovyn® or pre-approved alternate.
 - Sheet flooring.
 - Or pre-approved alternate.
 - Note that due to re-finishing costs, wood is not preferred.
 - Tile: quarry and ceramic tile installation is to be in accordance with the recommendations of the Terrazzo Tile and Marble Association of Canada.
 - Seal concrete or masonry walls with a minimum of two coats of clear silicon based sealer or paint.
 - Wood finishes can be painted or stained and clear finished with urethane.
 - Heavy duty vinyl wall coverings can be used in offices or private meeting rooms.
 - Walls in Showers, Steam Rooms and other wet areas should be finished floor to ceiling with ceramic tile on concrete or concrete block or on cement board on galvanized steel studs. Concrete or concrete block are the preferred substrate.
 - Tile wall finishes are the best in Change Rooms, or semi-gloss enamel or clear sealers on concrete or masonry.
 - Walls in Gymsnasiums take considerable abuse and should be covered in FRP panels for the first 2.4m (8'-0") glued directly to 19mm (3/4") plywood. Provide acoustic control through the use of sound absorbing panels. The area of the acoustic material should be equal to the area of the ceiling.
 - Do not use a gypsum board finish in weightlifting areas. Masonry, fiberglass panels, or crezon faced plywood are acceptable finishes. The base of any mirrors should be 450mm (1'-6") above the floor. Mirrors should be installed on 12mm (½") plywood backing and have polished and eased edges.
- Ceiling finishes (coordinate with acoustic requirements):
 - No ceiling (this may occur in janitor, storage and utility rooms):
 - Paint all exposed structure and services (refer to paint section above).

- Gypsum board:
 - Paint (refer to paint section above).
 - Commercial quality suspended acoustic lay-in panel T-bar system:
 - Tiles to be minimum 16mm (5/8") thick.
 - System to have an NRC of .70 or better.
- Access to be provided to all above-ceiling services.
- All kitchens and washrooms to have ceiling finishes that are washable.
- Do not use moisture resistant gypsum board in Shower ceilings as it does not stand up over time, instead use a system such as Georgia Pacific Densheild with a plaster finish or ceramic tile or exposed concrete. Slope the ceiling to allow condensation to run off.
- Use ceramic tile finish in steam rooms, whirlpools etc. and slope the ceiling to allow condensation to run off.
- Do not use T-bar ceiling in Change Rooms. Generally, expose the ceiling structure to the deck above or use moisture resistant 16mm (5/8") gypsum board. Ceilings in this area should be as high as possible.
- The ceiling structure can be left exposed if this will provide an attractive ceiling.
- Suspended acoustic tile ceilings can be used in areas such as private meeting rooms or public corridors. Do not use acoustic tile ceilings in areas where damage or vandalism is a problem such as gymnasiums or teen rooms.
- Normally the structure in a Gymnasium is left exposed. All elements such as speakers, lights, sprinklers, ducts, etc., must be protected from or be able to resist damage from balls. There should be no crevices or spaces where balls can lodge.
- Ceilings in Washroom with concrete ceiling structures can be left exposed if this will provide an attractive ceiling. Moisture resistant gypsum board is acceptable (15mm 5/8" aqua board) paint with alkyd enamel.
- Ceilings in Fitness areas can be exposed concrete or a high level "T"-bar ceiling with acoustic tiles work well. Ceiling heights should be as high as possible, 2.7m (9'-0") as a minimum in the weight training area with 3.3m (11'-0") or higher preferable.
- Floor finishes:
 - Use hard wearing, durable materials that are easily maintained in public area: vinyl composite tile, sheet vinyl, rubber tile, quarry tile and non-slip ceramic tile. Small private or semi-private meeting rooms may be carpet.
 - Carpet can be used in meeting rooms, offices and other spaces not subject to heavy traffic. Heavy duty commercial quality carpet or carpet tile is acceptable. Do not use polypropylene carpet.

- Do not use carpet in weight rooms, instead use rubber sports flooring or other rubber flooring such as raised dot Pirelli rubber flooring.
- Seal all quarry or ceramic tile and concrete floors.
- Use dark colored epoxy grout in ceramic tile floors.
- Solid maple flooring is preferred in Gymsnasiums with special consideration given to the sub-floor design to provide some spring or give to avoid body joint shock. Consult the Owner for the exact specifications for the flooring system before designing and specifying. Finish with clear moisture cured urethane or epoxy ester finish. All game lines must be done with epoxy coating. Do not use gym floor varnishes.
- Floor finishes in Change Rooms to be non-slip ceramic tile, seamless quartz or equal on a concrete sub-floor. Provide multiple 150mm (6") drains as required. Slope floors to drain at 10mm per meter (1/4" to 1'-0"). Use dark colored grout in tile joints. Continue floor finish 150mm (6') up the walls insert flush with the face of the walls.
- Floor finishes in Showers to be non-slip ceramic tile with a dark coloured grout, continue floor finish up the walls. Provide multiple 150mm (6") drains as required. Slope floors to drain at 10mm per meter (1/4" to 1'-0").
- Floor finishes in Washrooms to be non-slip ceramic tile, non-slip quarry tile, non-slip terrazzo tile, Sheet vinyl. Use integral baseboard, not rubber base. Provide multiple. 150mm (6") drains as required. Slope floors to drain at 10mm per meter (1/4" to 1'-0"). ○ For the Fitness areas use, a synthetic rubber floor such as "Mondo-Ramflex" in free weight and weight machine areas. Ensure proper sub-floor conditions and colour retention in the specification.
- Carpet and resilient flooring installation to be in accordance with the recommendations of the National Floor Covering Association as detailed in their "Floor Covering Specification Manual" as issued by the BC Floor covering Association.
- Use adhesives and sealants that have low VOC levels per LEED® requirements listed under credit 4.1 "Low-Emitting Materials, Adhesives and Sealants".
- Maximize recycled content and end-of-life recycle-ability.
- Carpet requirements:
 - Carpet systems must meet or exceed the Carpet and Rug Institute's Green Label Plus testing and product requirements per LEED® requirements listed under credit 4.3 "Low-Emitting Materials, Carpet Systems".
 - Underpad, if required, acceptable product: 6mm (1/4") Duracushion, or preapproved alternate.
 - The carpet pattern must be integrated, not applied.
 - Carpet may be broadloom or carpet tile.
 - Carpet to be solution dyed nylon, level loop construction, pile weight 950g/m² (28 oz/yd²) minimum if broadloom, or 610g/m² (18 oz/yd²) minimum if carpet tile.

- All edges to be sealed.
- Provide 5% extra of carpet of the same dye lot as installed for future maintenance requirements.
- Carpet installer to guarantee in writing the installation of the carpet for two (2) years against loose fitting, breaking of seams, breaking away from the sub-base or any other installation defect.
- Carpet manufacturer to provide a ten (10) year guarantee that the carpet shall retain 90% or more of its pile fibre. The guarantee shall also cover against defects of zippering, unravelling, colour fading, deterioration and delamination of backing materials, pulls, piling, matting, shedding or any other manufacturing defect.
- Resilient (smooth, non-absorbent, non-slip and washable) flooring required in kitchens, washrooms, laundry, janitorial closets, and others as required for each Facility.
- Flooring to be:
 - Homogeneous sheet vinyl with heat welded seams, for example Tarkett or other pre-approved alternate (minimize VOC off-gassing).
 - Homogeneous sheet rubber with welded seams.
 - Consider flash coving the walls if sheet vinyl is used.
 - Or pre-approved alternate.
 - Linoleum is not acceptable.
 - All edges to be sealed.
- Resilient flooring may be tiles in less intense use contexts such as office environments, for example. The appropriateness of tile use vs. sheeting flooring to be reviewed for each Facility. If tiles are used, they are to be:
 - 0.25% dimensionally stable to minimize joint size.
 - Acceptable product: Karndean International Heavy Duty Commercial Vinyl Tile, or pre-approved alternate (minimize VOC off-gassing).
- Either sheet flooring or tiles to be 0.11" or 2mm thick, minimum. Provide 5% extra of resilient flooring material of the same production run as installed for future maintenance requirements. Provide sheet materials in full roll width by the length required.
- Resilient flooring installer to guarantee in writing the installation of the flooring material for two (2) years against loose fitting, breaking of seams, breaking away from the sub-base or any other installation defect.
- Provide a minimum of five (5) year guarantee that the resilient flooring will provide the specified level of appearance and wear, subject to proper care and maintenance.

- Wood Flooring:
 - Install wood flooring in accordance with good trade practices and the Manufacturer's recommendations.
 - The wood flooring installer to guarantee in writing the installation of the flooring material for one (1) year against loose fitting, breaking away from sub-base or any other installation defect covering materials, labours and installation.
- At high wear and tear locations in the Facility, such as the main entrance, consider the use of a more durable flooring material such as ceramic tile. All surfaces must be nonabrasive, washable and cleanable.
- Base to be rubber, continuous throughout, and minimum 100mm (4") high.
- Where demountable partitions and other items are indicated for installation on top of flooring material, install flooring material before these items are to be installed.

3.6 SPECIALTIES

- Toilet partitions:
 - Toilet partitions are particularly susceptible to vandalism and must be carefully selected. Do not use metal toilet stalls or urinal screens.
 - Use plastic laminate covered high density particle board or solid phenolic partitions if the budget allows.
 - Plastic laminate covered high density particle board, acceptable product:
 - Bobrick 1042.65 Series floor anchored and overhead braced partitions with, stile base, full height institutional hardware, high density particle board cores covered with plastic laminate and continuous sheet steel reinforcing in the stiles are our standard.
 - Or pre-approved alternate.
 - or Phenolic if budget allows acceptable product:
 - Bobrick 1842 Series FRP faced phenolic core partitions with institutional hardware are preferred if the budget allows and are required for high vandalism areas.
 - Or pre-approved alternate.
 - Hardware: heavy duty stainless steel with tamper-proof screws, concealed where possible.
 - Use floor mounted overhead braced partitions.
- Washroom accessories:

- Do not use wall hung lavatories use vanity mounted lavatories except in dedicated handicapped accessible washrooms.
- Paper towel dispensers to accommodate single-fold towels with no saw tooth cutting bar. Alternate types may be considered depending on Operator preference - confirm type required for each Facility.
- Hand Dryers to be Dyson air blade model EF1-CA-EDA0551A 4. Outside Lighting to have HOA (Hand/Off/Auto switch) controls for servicing.
- Provide a waste receptacle in each washroom: confirm type required for each Facility.
- Soap dispensers: generally, provide one at each sink (confirm type and locations required for each Facility).
- Sanitary napkin/tampon dispenser and disposal: Bobrick B-3506 Trimline, with satin stainless steel finish or preapproved equal. Not required in ice rink change rooms, fieldhouses or standalone washrooms not part of a community centre.
- Condom dispenser: By others
- Grab bar: Use 32mm (1 ¼") diameter, 18 gauge stainless steel bars with a satin finish, grab areas should have a knurled finish.
- Shower rod, curtain and rings: Rod - 32mm (1-1/4") dia. satin stainless steel, 18 Ga., Bobrick B 6047. Curtain - Opaque matt white vinyl .2mm thick with nickel plated grommets along one edge at 150mm o/c, Bobrick 204-2. Curtain hooks - stainless steel, Bobrick 204-1 or preapproved equals.
- Shower Soap dishes: stainless steel with bright polished finish, recessed mounting, Bobrick B-665 or equal.
- Shower seats: Type 304 stainless steel frame and mounting brackets with self-locking mechanism and 8mm thick solid phenolic seat, barrier free design, Bobrick B-5191 or preapproved equal.
- Mirrors: For large mirrors use 6mm (¼") mirror glass (wall to wall over vanities). For small mirrors use 450 x 760mm 18" x 30" glass mirrors in a stainless steel frame. Consider solid stainless steel mirrors if vandalism is a problem. Mount one mirror so that it is usable by a person in a wheelchair.
- Confirm any other requirements for each Facility.
- Provide a change table in one of each male and female washrooms. It may be a prefabricated item. Acceptable product:
 - Koala Kare surface mounted change station that supports static loads up to 400 lbs. complete with child protection straps.
 - Or pre-approved alternate.

- Lockers:
 - Staff Use:
 - Half-sized lockers or quarter sized lockers (to fit a backpack, if a coat closet is provided) required for staff if not provided as millwork or as part of office furnishing (confirm number and type required for each Facility).
 - Public Use:
 - The general consensus of our Recreation staff is that a mix of bring your own lock and coin or token returning lockers are the best. (Confirm number and type required for each Facility).
 - Install well-ventilated metal lockers with a baked enamel finish on 150mm (6") high concrete up stands. All lockers should have sloped tops to prevent the accumulation of garbage and dust.
 - Use high quality stainless steel lockers where high moisture and vandalism are a problem, otherwise high quality steel lockers can be used. Stainless steel is the only option for swimming pools.
 - All lockers must be securely fastened to the backing wall and must be on a 150mm (6") minimum concrete upstand to prevent rusting. Continue the floor finish up the upstand.
- Benches:
 - Wall mounted benches shall be on hot dip galvanized or aluminum frames. Provide 150mm (6") minimum clearance below benches for ease of cleaning.
 - Seats shall be of solid wood planking, fastened to the frame or legs with galvanized carriage bolts.
- Blinds:
 - All blinds to be commercial grade; chain operated roller style preferred.
 - Blinds to be installed on all exterior windows.
 - Blinds to be installed at interior windows as required for each Facility.
 - All cords or chains to terminate 1.5m (5'0") above the floor, or to be supported on a hook at that height.
- Mailboxes:
 - One large mailbox accessible from interior at main entrance (confirm need for this Facility).

- Entrance mats:
 - At all entrances from the outdoors provide walk-off mats (minimum size should allow for an adult to take two steps before stepping onto another flooring surface). Either a recessed grille or surface walk-off mats are acceptable.
- Notice boards:
 - Tackboards:
 - Corkboard complete with trim, or pre-approved alternate.
 - White boards & Magnetic white boards
 - Confirm size, type and mounting locations for each Facility.
- Signage:
 - To conform to the City of Vancouver Sign By-Law.
 - To conform to requirements for disabled persons and reduce barriers for trans* & gender variant community members. Refer to Section 2.12.
 - Multilingual signs may be required (confirm requirements for each Facility).
 - Ensure signage is provided for the following:
 - To identify the Facility.
 - To indicate the entrance to the Facility.
 - At dedicated parking stalls.
 - For all necessary wayfinding.
 - At entries.
 - At service rooms.
 - Provide any other signage required for each Facility.
 - Ensure all signage required by Building Code, including Fire and Life Safety Evacuation Plans, is provided.
- Fire and Life Safety Plans:
 - Fire safety plans to be reviewed with the Operator prior to submitting to the Fire Department at Occupancy.
 - Ensure a copy is provided to the City of Vancouver with the operations and Maintenance Manuals.

- Fire Extinguishers:
 - To be recessed
 - If surface mounted, all corners and edges are to be rounded.
- Elevator:
 - Refer to Facilities Standards Manual for details.
 - The elevator lobby should not open directly into any secure social Facility space.

3.7 EQUIPMENT

- All appliances to be “Energy Star” where “Energy Star” has that appliance category.
- Provide minimum one (1) year warranty on all appliances except provide a minimum two (2) year warranty on microwave ovens.
- Kitchen appliances:
 - If a commercial dishwasher is required it shall have a sani-cycle, 70⁰F heat booster, and back-flow preventer valve. Note that these dishwashers require deeper than standard millwork: millwork to be designed to suit.
 - Refrigerator: 21.5 cubic feet, frost free, with freezer compartment (bottom mounted preferred), or as required by the City of Vancouver.
 - Additional freezer may be required if the Facility plans a lunch program.
 - Stove with oven: 760mm (30”) wide, with 4 burners; placement of controls to be suitable for child safety, for example at back; self-cleaning convection oven. (separate wall oven and range top are also acceptable).
 - Range hood to mechanically exhaust stove to the outside; exhaust rate (CFM) to be determined by HVAC engineer.
 - Microwave oven: 2.0 cubic feet, 1100 watt, minimum.
- Laundry room:
- Entrances:
 - Provide walk off mats at entrances if recessed grilles are not provided (minimum size should allow for an adult to take two steps before stepping onto another flooring surface).

3.8 FURNISHINGS

- Furniture:
 - The legal requirements for funding or provision of furniture and equipment will vary from project to project and will be confirmed for each facility.
 - Furniture selection will be coordinated with the building operator, the project manager and the consultant team. The following criteria will be used to evaluate the selection:
 - Price
 - Durability
 - Functionality and compatibility
 - Visually and acoustically suitable for the space
 - Sustainability and Environmental
 - Ergonomics
 - The project manager will provide office furniture selection guidelines.
- Seismic:
 - All furnishings greater than 1.22m (4'0") high to be secured to prevent tipping.

3.9 MECHANICAL

- HVAC:
 - Refer to Facilities Standards Manual for additional information.
 - HVAC system to be designed to suit spaces with operable windows.
 - All rooms to be adequately ventilated to remove odours, especially from laundry, kitchen and washroom areas (to meet ASHRAE Standard 62).
 - All air intakes to be located away from sources of fumes or dust, including parking and/or loading areas.
 - If baseboard heaters or radiators are used, they are to be shielded to prevent child access to hot surfaces where applicable. Electric base baseboard heaters are discouraged.
 - Equipment to be easily accessible for maintenance. For example, filters and remote condensing units shall be accessible without the use of temporary scaffolding or Genie Lift type equipment (unless approved and signed off by REFM during design). Install permanent cat walks for access and utilize best practices for fall arrest if required for service access.
 - Units shall not be located over parking stalls.

- Better than average exhaust ventilation should be provided for Washrooms. Exhaust fan must be rated for continuous operation with a sound rating of less than 3.5.
 - Above average ventilation is required in the Fitness area. Do not design minimum ASHRAE requirements.
- Controls:
- Refer to the City of Vancouver DDC Technical Guidelines for more details.
 - Controls to be DDC and to have internet access.
 - Each major room is to be controlled individually.
 - Perimeter to be on separate zones if the layout of spaces / windows create problem areas.
 - Install a permanent carbon dioxide monitoring system. Install monitoring devices at areas with the highest occupancy per the Controls Engineer's direction.
 - Refer also to Landscape (irrigation controls), Roofing (leak detection system monitoring), Metering and Lighting Controls sections for other items to be on DDC.
- Plumbing:
- Refer to Facilities Standards Manual for additional information.
 - All drains in outdoor landscaped areas with playgrounds, especially if they are also roof drains, to have sediment traps. Type and style of trap to be confirmed with the City of Vancouver for each Facility.
 - Traps to be accessible for clean-out.
 - If there is not sufficient head room in the space below for a sediment trap, then at minimum provide a wye 45° elbow complete with clean-out access. Review with the City of Vancouver for each Facility.
 - At roof drains in occupiable landscaped areas, use two level drains (at play surface and at roof membrane) and provide sediment traps in hard surfaces near loose fill and entrances - refer also to the "Drainage and Grading" section in 2.16 Landscaping.
 - Interior floor drains to be provided in each washroom, kitchen and janitor room.
 - All floor drains to have pre-approved trap primers.
 - Trap primers to be accessible within the same room as the floor drain behind access panels.
 - Hose bibs requirements are identified and outlined in the City of Vancouver's Facilities Standards Manual.
 - Domestic hot water requirements are identified and outlined in the City of Vancouver's Facilities Standards Manual.

- In each kitchen:
 - Refer to City of Vancouver City-Affiliated Kitchen Facility Guidelines.
 - Provide a two-compartment stainless steel sink complete with faucet ledge.
 - Provide a separate single compartment stainless steel hand washing sink, complete with faucet ledge, in the largest kitchen to support a catered lunch program. If space allows, also provide this sink in other kitchens.

- Showers heads:
 - Mount shower heads at 1.98m (6'-6") for men and -1.8m (6'-0") for women.
 - Shower heads should be flush vandal proof types from the approved list of products.
 - Provide one handicap accessible shower with a telephone type adjustable shower head, with a quick disconnect.
 - One shower in each bank of showers shall be equipped with a twin handle shower control to provide tempered and cold water. All other showers shall have self-closing shower controls.
 - Drinking water fountains and bottle filling stations must be located in or near the Fitness area use best-practice to determine the locations. Additional outdoor drinking water fountains may be required. Consult with the City and Facility operator to confirm.

- Metering:
 - Facilities to have dedicated gas, electricity and water metering and/or sub-metering.
 - Where a Facility occurs in a mixed-use building, meters and/or sub-meters are to be located in service rooms that are easily accessible to the staff of the Facility.
 - All meters to be connected to DDC and trended for monitoring.

3.10 ELECTRICAL

- Power:
 - All outlets to be childproof; to have childproof and shatterproof faceplates.
 - GFCI receptacles to be Tamper Resistant
 - Electric Panels to be bolt on Square D or Cutler Hammer.
 - Power to be provided in exterior landscaped areas.
 - A weather-proof outlet to be provide at any roof-top or exterior-located mechanical equipment.
 - Appropriate power provisions to be made for:
 - Photocopier.
 - Stove/oven.
 - Washer/dryer.

- Freezer.
- Fridge.
- Microwave.
- Portable phones and answering machines.
- Fitness equipment (TBD)
- Power in staff kitchen to be to residential standards plus additional outlets (confirm number required for each Facility).
- All power in Change Rooms, Shower areas, and Washrooms must be GFIC., on individual circuit breakers and have red cover plates.
- A sound system should be considered in the Fitness Room. As a minimum the conduit for the speaker cabling must be installed. Minimize the number of floor mounted receptacles. Install cable TV or rough in the outlets.
- Wiring methods – refer to Facilities Standard Manual for requirements.
- Lighting:
 - LED lighting is required.
 - Minimize the number of fixture types and lamp types; no more than four (4) fixture types for indoor use. No more than three (3) fixture types for exterior uses.
 - No halogen or incandescent lamps permitted.
 - Exterior lighting is required in play areas and other occupy-able landscaped areas, to illuminate entries, exits, and as required for security.
 - Where the building has an emergency generator, the emergency lighting system shall be powered by the generator and not be powered by separate battery packs.
 - In Shower areas provide above average light levels.
 - Use vapour proof and rust resistant light fixtures in Change Rooms, Showers and Washrooms.
- Lighting Controls:
 - Each room or area is to have its own light switch/controls – to be designed to be simple and intuitive.
 - Dimmers and stage lighting should be installed in all public program or multipurpose rooms.
 - Storage rooms must have occupancy sensors.
 - Occupancy sensors may be provided throughout to turn off lighting, in which case the wall switches function only to turn lighting on.
 - Lighting control system to be connected to DDC system. Refer to City of Vancouver DDC Technical Guidelines for additional information and requirements.

- Fire Alarm:
 - Coordinate set-up of fire alarm monitoring with the monitoring company of the City's choice – to be confirmed for each Facility.
 - Coordinate with Smudging requirements. Refer to Facilities Standard Manual.
- Cable:
 - Provide home runs to Electrical room from all offices and meeting/staff rooms (confirm cable requirements for each Facility).
 - Provide cable outlet in activity room, parents' room, and as required by the Operator.
- Telephone:
 - Provide outlets as required for each Facility
 - Alarm, fire, intruder, and emergency elevator phone can capture regular lines when needed.
- Data:
 - Provide outlets as required for each Facility.
 - Include 1 with fixed IP address for DDC controls.
 - Structured cabling to be CAT 6.