MARY FREE BED
YMCA

"Statement Of Design"

Progressive|AE

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_01 LEED INTERIOR DESIGN + CONSTRUCTION GUIDE

Sustainable Fitness

"LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each rating system, and teams choose the best fit for their project." www.usgbc.org

Designed to provide a state of the art fitness facility for the SE Grand Rapids community and to embrace sustainable design and technologies – this facility is further testament to the YMCA's commitment to community and leadership role in developing highly sustainable environments.

MR Credit 4: Recycled Content [1-2 points]

Potential Strategies | Materials: [by volume]

- Porcelain Mosaic Tile: American Olean | Unglazed Color Body Porcelain Mosaics [pre-consumer content 9.40%, post-consumer content 0%]
- Ceramic Wall Tile: American Olean | Bright Series [pre-consumer content 32.5%, post-consumer 0.0-1.5%]
- Ceramic Wall Tile: American Olean | Matte Series [pre-consumer content 32.5%, post-consumer 0.0-1.5%]
- Porcelain Wall Tile:
- Rubber Sports Flooring: Traction by Conner | Indoor Track Flooring [TBD]
- Rubber Sports Flooring: Traction by Conner | PowerDek Fleck [TBD]

MR Credit 5: Regional Materials [1-2 points]

Potential Strategies | Materials: [by volume]

- Porcelain Mosaic Tile: American Olean | Unglazed Color Body Porcelain Mosaics | Gettysburg, PA [483 mi.]
- Wood Sports Flooring: TBD

MR Credit 7: Certified Wood [1 point]

Potential Strategies | Materials: [by volume]

- Wood Sports Flooring System [Main Gym Court]
- Wood Sports Flooring System [Aerobic Floor]

MR Credit 4.1, 4.2, 4.3, 4.4: Low Emitting Materials [4 points]

Potential Strategies | Materials: [by volume]

- Adhesive & Sealants
- Paints & Coatings
- Flooring Systems
- Composite Wood & Agrifiber Products

_02 UNIVERSAL DESIGN

What is Universal Design?

Everyone, even the most able-bodied individuals, pass through moments of time where they find themselves challenged by language barriers, temporary illness, injury and age [both young and old]. Universal Design involves designing for inclusivity. By designing for diversity we can create things that are more functional and user friendly. Anything IN and AROUND the built-environment should be considered so it can be used by the widest range of people possible.

Universal Design evolved from Accessible Design, a design process that addresses the needs of people with disabilities. Universal Design goes further by recognizing that there is a wide spectrum of human abilities. By designing for human diversity and inclusiveness, we can create things that will be easier for ALL people to use.

Universal Design benefits EVERYONE!

Principles of Universal Design MARY FREE BED YMCA

Point of View:

A unique family friendly resource for fitness, rehabilitation, social, and health movements. The new MARY FREE BED YMCA is practical and visionary as it emphasizes how use of Universal Design can promote diversity, inclusivity, increased performance and participation for the aging population, people with disabilities, psychosocial, and cultural issues, while mitigating the stigma and segregation traditionally characterized by most standard fitness and rehabilitation facilities.

Strategy | Principles In Planning | Key Features

Strategy:

Provide a visionary yet practical integration of materials and resources that go above and beyond YMCA standards and transcend traditional problem-solving for built environments.

Principles In Planning:

Listed using "seven principles of universal design" according to the Center of Universal Design

01_ Equitable Use: the design does not disadvantage or stigmatize any group of users.

02_ Flexibility in Use: the design accommodates a wide range of individual preferences and abilities.

03_ Simple, Intuitive Use: use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.

04_ Perceptible Information: the design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

05_ Tolerence for Error: the design minimizes hazards and the adverse consequences of accidental or unintended actions

06_ Low Physical Effort: the design can be used efficiently and comfortably, and with a minimum of fatigue.

07_ Size and Space for Approach and Use: appropriate size and space is provided for approach, reach, manipulation, and use, regardless of the user's body size, posture, or mobility.

Key Features: Listed using "seven principles of universal design" according to the Center of Universal Design.

01_ Equitable Use:

- Providing same or identical means of use for all users: [ex.: entry, ramps, stairs, access to programs | equipment]
  + Covered entry to provide weather protection from car to door.
  + Balconies conveniently located near "kidzone" overlook basketball area - for easy viewing by all users.
- Made provisions for privacy, security, and safety - equal for all users:
  + Glass entry vestibule that let staff easily see visitors at door.
  + Private changing areas including areas equipped with full beds for side transfer, accessible coat hooks, and grab bars to promote independent changing opportunities.
- The design is appealing to all users:
  + Ramp and stairs are celebrated as part of wellness | rehabilitation program. Use of elevator is de-emphasized.
  + Climbing wall system to be made of durable non-aggressive texture - allowing smearing techniques to be practiced.

02_ Flexibility in Use:

- Providing choice in methods of use:
  + Stairs | ramp | elevator.
  + Variety of self-operated ADA pool lifts and other assisted access devices at each pool.
  + Zero entry pool access available.
- Facilitate the user's accuracy and precision - making things easily adaptable.
  + Adaptive climbing wall features and equipment.
- Adaptable to the user's pace.
  + Overhead garage door located at greenhouse allows easy accessibility from teaching kitchen.

03_ Simple, Intuitive Use:

- Eliminated unnecessary complexity to the design:
  + Intuitive architecture, signage, and color cues to identify program elements and signal way finding.
- Be consistent with user expectations and intuition:
  + Intuitive use of universal color pallette [blues, yellows, and complementary colors] for easy wayfinding and program identification can be found in all environments for consistent message.
- Accommodate wide range of literacy and language skills:
  + Intuitive use of color and visual signals offset need for large amounts of written content.
  + Signage and other information elements shall be designed to accommodate a variety of literacy.
- Arrange consistent with its importance:
  + Bolder color contrast at critical areas such as ramps, stairs, public accessible counter surfaces, water hydration stations, family and accessible locker rooms [counters and grab bars] - to distinguish between two surfaces.

- Providing effective prompting and feedback during and after task completion:
  + Review of interior architecture and material finish pallette with Universal Design Consultant - to review requirements and opportunities for design completion. [completed at several stages in process]

04_ Perceptible Information:

- Uses different modes [pictorial, verbal, tactile] for redundant presentation of essential information.
  + Water stations - color | information | identification is consistent throughout.
  + Elevator cab button devices to accommodate range of visual limitations.
- Provide adequate contrast between essential items | information and its surroundings.
  + Color sensitivity and image detection have been considered with color selection.
  + Millwork materials highly contrast to signify change from cabinet to counter top material.
- Maximize "legibility" of essential information.
  + Signage and other environmental branding to be clear, contrasting, as well as tactile to accommodate a variety of users.
  + Adequate lighting to be added in areas to increase safety - such as for stairs.
- Differentiate elements in ways that can be described [i.e., makes it easy to give instructions or directions].
  + Employ way finding strategy which uses color identification.
  + Architectural thresholds have been strategically designed at each program to signify main point of entry.
  + State of the art climbing wall to incorporate color coding system - to identify climbing path | level of difficulty | complexit in design.
- Providing compatibility with a variety of techniques or devices used by people with sensory limitations.
  + Adequate light levels to reduce glare and eye strain.
  + Accommodations for acoustics have been made - to mitigate adverse "sensory" consequences - including use of tectum ceiling and wall panels in natatorium and suspended "decorative" acoustical ceiling treatments.

05_ Tolerance for Error:

- Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
  + Covered entry to provide weather protection from car to door.
  + Providing glass entry vestibule that let staff easily see visitors at door.
  + Wide swing hinges to be used to allow use of entire doorway.
- Provide warnings of hazards and errors.
  + Ramp and stair color is such to contrast from horizon view and help identify edges.
  + Accent colors located at edge of stair, ramp, and pool - signify change in plane | elevation.
- Providing fail safe features.
  + Climbing wall padding to be used at the climbing tower portion - to prevent injury with falls.
  + Grab bars | railings and other devices to be used frequently throughout space - including surrounding the track and wet - corridors.

- Discourage unconscious action in tasks that require vigilance.
  + Use of apron at millwork - to protect users from exposed plumbing and supportive steel structures.

06_ Low Physical Effort:

- Allow user to maintain a neutral body position.
  + Providing provisions for accessible "roll-in" showers with minimal to no slope.
  + Wherever possible employ zero - to - zero transitions between materials of different thicknesses - to maintain | minimize potential tripping hazards.
- Use reasonable operating forces.
  + Providing automatically operated and lever handled doors for ease of access and opening.
- Minimize repetitive actions.
  + Cluster water stations nearest to restrooms | locker rooms | endurance programs for easy accessibility and minimal travel distances.
- Minimize sustained physical effort.
  + Design of fitness facilities | natatorium | locker rooms can be used efficiently and comfortably and with a minimum of fatigue.
  + Providing ergonomic design having an environment that accommodates commonly used wheeled devices - such as baby strollers | walkers | wheelchairs

07_ Size and Space for Approach and Use:

- Providing a clear line of sight to important elements for any seated or standing user.
  + Providing immediate access to family | accessible changing rooms off main gym area - conveniently located at bottom of ramp for immediate access.
  + Adequate seating areas located near family | accessible - changing rooms | locker rooms | main entry - to accommodate wait and respite
- Make reach to all components comfortable for any seated or standing user.
  + All millwork countertops to meet ADA requirements of 34" a.f.f.
- Accommodating variations in hand and grip size.
  + Push | pull levers faucets to be used to accommodate those with limited hand strength or dexterity.
- Providing adequate space for the use of assistive devices or personal assistance.
  + Access to pool lifts | changing table mats | ADA accessible equipment have been accommodated.
- Doors that are wide enough for mobility devices.
  + Providing doors which are a minimum of 3' in width.
- Size and space for approach and use.
  + Ramp and stair width is wide enough to accommodate two paths of travel comfortably.

_03 COLOR UNIVERSAL DESIGN + COLOR THEORY

Technically Color Doesn't Exist

Color is created only when our brain tries to make sense from light signals it receives from the outer world. In other words, it's all in your head!

People see color with significant variations. In most caucasian societies 1 in 10 men suffer. In Japan, there are more than 5 million people in total who see color differently from ordinary people, due to their genetic types or eye diseases. Making facilities and programs and activities safe and accessible for participants who are blind or visually impaired does not necessarily require a great deal of time, energy, or money. It is a matter of knowing the basics and planning for easy access during the initial design of the facility and its programs.

The use of lighting, color contrast, and the reduction of glare are important factors architects and interior designers must be aware of for effective environmental design.

Color Universal Design Explained

What is Color Universal Design

Color Universal Design is a user-oriented design system, which has been developed in consideration of people with various types of color vision, to allow information to be accurately conveyed to as many individuals as possible.

Points for Color Universal Design

- Choose color schemes that can be easily identified by people with all types of color vision, in consideration with the actual lighting conditions and usage environment.
- Use not only different colors but also a combination of different shapes, positions, line types and coloring patterns, to ensure that information is conveyed to all users including those who cannot distinguish differences in color.
- Clearly state color names where users are expected to use color names in communication.

Color Theory Explained MARY FREE BED YMCA

Color Interaction - Developing the SE YMCA Color Scheme

Although the color reflected from a surface or object of a particular color under a given light source will be fixed quality, how such color appears to a viewer can vary considerably as a result of a number effects known to color theorists. When making the SE YMCA color selections, we had these effects in mind so that effects seen in the below stated examples would not distort judgment in application.

Color Principles

+ Current color scheme refrains from use of blues and reds [cyans] hues - due to potential sensitivity to center of color spectrum.
+ Current color scheme utilizes use of opponent [contrasting] colors, including but not limited to, blue[s] and yellow[s] | yellow-green hue[s] - compatible with Universal Design color palettes.
+ No blue is used at critical areas where edges may be difficult to distinguish from other atmosphere | architecture.
+ Where blue is used, such as inside pool, highly contrasting color tile is used to distinguish pool edges and stairs.
+ No blue tile is used within pool deck tile pattern - to distinguish change in plane | surface area.
+ Higher color brightness levels have been utilized to help distinguish change in color[s] - adequate for older users.
+ Avoid use of single-color distinctions, mixture of colors differ in 2 or 3 colors | LRV.

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Psychological Properties of Color

There are four psychological primary colors - red, blue, yellow and green. They relate respectively to the body, the mind, the emotions and the essential balance between these three.

The following colors have been identified as part of the overall color scheme...

GREY

Pure grey is the only color that has no direct psychological properties.

BLUE "Intellectual"

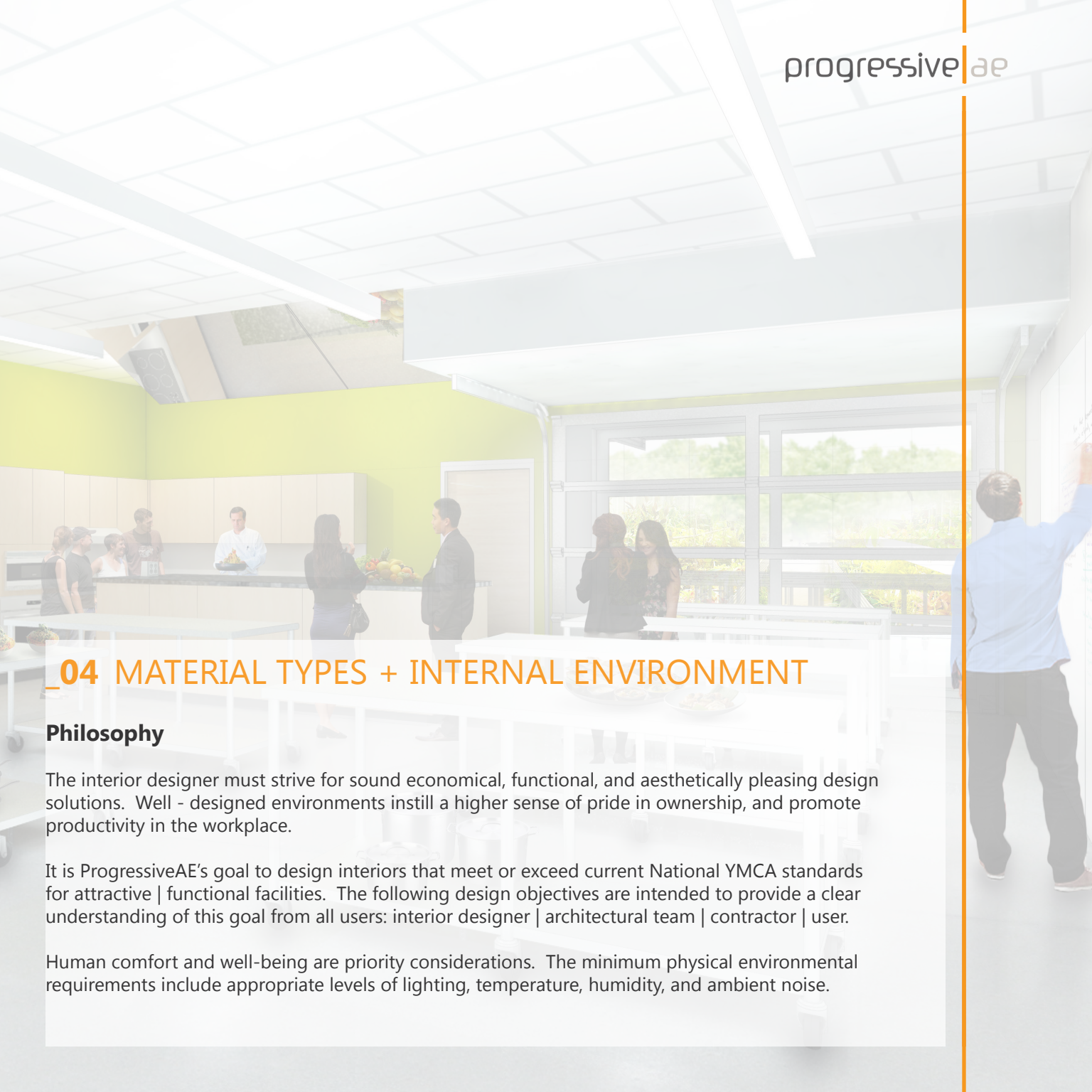
Blue is the color of the mind and is essentially soothing; it affects us mentally, rather than the physical reaction we have to red. Strong blues will stimulate clear thought and lighter, soft blues will calm the mind and aid concentration. Consequently it is serene and mentally calming. It is the color of clear communication. Blue objects do not appear to be as close to us as red ones. Time and again in research, blue is the world's favorite color.

YELLOW "Emotional"

The yellow wavelength is relatively long and essentially stimulating. In this case the stimulus is emotional, therefore yellow is the strongest color, psychologically. The right yellow will lift our spirits and our self-esteem; it is the color of confidence and optimism.

GREEN "Balance"

Green strikes the eye in such a way as to require no adjustment whatever and is, therefore, restful. Being in the center of the spectrum, it is the color of balance - a more important concept than many people realize. When the world about us contains plenty of green, this indicates the presence of water, and little danger of famine, so we are reassured by green, on a primitive level.



_04 MATERIAL TYPES + INTERNAL ENVIRONMENT

Philosophy

The interior designer must strive for sound economical, functional, and aesthetically pleasing design solutions. Well - designed environments instill a higher sense of pride in ownership, and promote productivity in the workplace.

It is ProgressiveAE's goal to design interiors that meet or exceed current National YMCA standards for attractive | functional facilities. The following design objectives are intended to provide a clear understanding of this goal from all users: interior designer | architectural team | contractor | user.

Human comfort and well-being are priority considerations. The minimum physical environmental requirements include appropriate levels of lighting, temperature, humidity, and ambient noise.

Design Issues | Potential Strategies MARY FREE BED YMCA

Entrances

+ Hard wearing surface finishes to be used
+ Firm | dense | non-directional patterns to be used
+ Flooring is effective in removing and retaining water and dirt from feet and wheels
+ Materials are easy to clean
+ Walk off grate | mat is flush with adjacent floor finishes
+ All edges will be firmly fixed using accessible transition strip | detail
+ Providing visually contrasts with wall surfaces | finishes
+ Material is high in slip resistance when both wet and dry

Corridors | Access Routes | General Public Areas

+ Hard wearing surface finishes to be used
+ Flooring is flush with adjacent surface finishes
+ Matte or satin finish visual will be used to reduce glare
+ Plain | small patterns will be used with complementary colors
+ Surface finishes will promote even levels of illumination throughout
+ Floor surface finishes visually contrast with wall surfaces | finishes
+ Design incorporates use of color coding to aid orientation and wayfinding

Stairs | Ramps

+ Floor materials to be firm | level | securely fixed
+ Floor material is slip resistant when both wet and dry
+ Ramp slope visually contrasts with landings
+ The top and bottom of a flight of steps visually contrast with landings
+ Where different materials are used to highlight a change in level, at the top and bottom of the flight, the slip resistance characteristics of each material is similar | consistent throughout flight
+ Floor finishes extend full width of stair | ramp
+ Plain | small patterns will be used with complementary colors
+ Surface finishes will promote even levels of illumination throughout

Wet Areas

+ Floor material is slip resistant when both wet and dry
+ Materials are non-abrasive [with exception to required tile in pool area - minimally abrasive in texture]

+ Materials are comfortable underfoot
+ Materials are easy to clean
+ Where possible surface materials accommodate use of flush drains

Teaching Kitchen

+ Floor material is slip resistant when both wet | dry | contaminated with spillages
+ Flooring and other surface materials are easy to clean

Fitness Areas

+ Hard wearing surface finishes to be used
+ Firm | dense | non-directional patterns to be used
+ Floor materials to be firm | level | securely fixed
+ Flooring is flush with adjacent surface finishes [where possible - exception, necessary transition at wood flooring]
+ Materials are easy to clean
+ Material is slip resistant when both wet and dry
+ Plain | small patterns will be used with complementary colors
+ Design incorporates use of color coding to aid orientation and wayfinding
+ Surface finishes will promote even levels of illumination throughout
+ No use of shiny or reflective surfaces are used

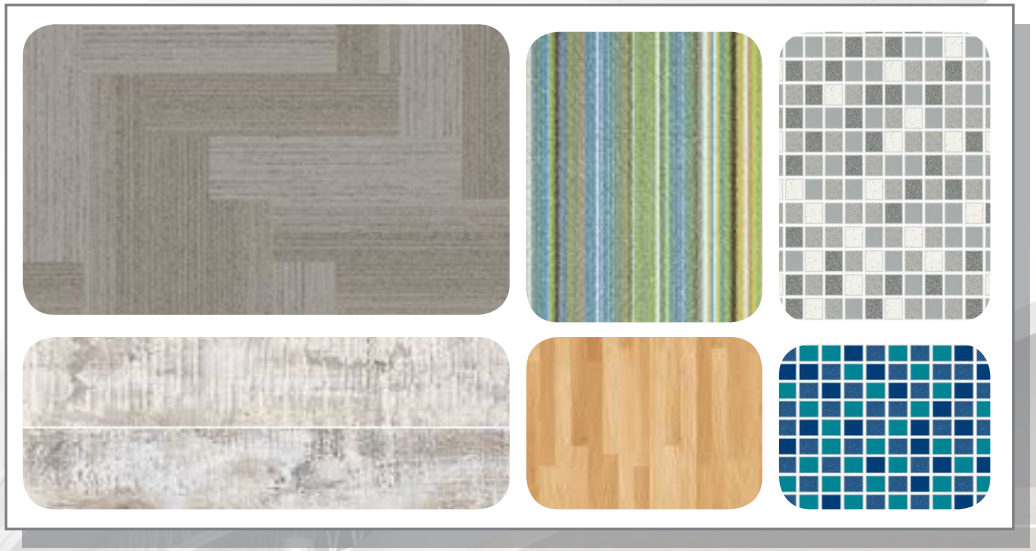
Acoustics

+ Quiet areas such as chapel | classrooms | office areas have been conveniently located away from external | internal noise sources
+ Where possible - a balance of surface finishes [hard and soft] have been provided to mitigate noise levels
+ Combination of acoustical ceiling tiles | tectum ceiling and wall panels | decorative wool ceiling panels will be used throughout

Signage | Branding

+ Signage | branding are the responsibility of the YMCA - to be coordinated with design architect
+ Clear Sans Serif typeface and tactile methods [potential for various language] should be considered | used
+ Recommended letter height in signage is as follows [based on typical viewing distance]

6000 - letter height 200mm	2300 - letter height 75mm
4600 - letter height 150mm	1500 - letter height 50mm
2500 - letter height 100mm	750 - letter height 25mm



Floor Finishes Explained

Floor finishes have a significant impact on the safety, usability, legibility, and comfort of spaces within the built environment, in addition to defining the buildings aesthetic characteristics.

The following materials have been identified as part of the overall finish scheme...

Overview

Floor finishes in the building have been selected based on a number of criteria including safety, functional performance, durability, ability to maintain finish quality through current [subsequent] maintenance program, acoustical performance [where applicable] and visual characteristics. Safety is paramount. The key safety issues in the building are slip resistance [co-efficient of friction] and surface roughness [tactile hazard - tripping].

Where there is a change in floor finish and the slip resistance characteristics of adjacent materials are significantly different, there is increased risk of tripping or slipping. To reduce this risk changes in flooring materials occur out of direct line of travel, to the side of main access corridors, or at center of door thresholds - where people are already alerted to potential change in material.

Visual contrast in surface materials and features have been provided throughout the building to enable navigation for people with low visibility | identify features and potential obstacles. Visual contrast between floor, wall, and ceiling surfaces in public areas have been provided to help people assess the shape and extent of area and identify potential tripping hazards.

The use of large bold patterns on floors have been avoided as they can be a visual obstacle and cause confusion for some people making it hard to identify potential obstacles. The use of visual contrasting strips have been used at the ramp entry | exit and edge of stairs [at nose] to help identify change in elevation.

The acoustic characteristics of the flooring have been considered [where applicable] to reduce noise and enable people to hear speech and other desired sounds without sacrificing durability to heavy traffic loads. In general, a balance of hard and soft surfaces have been provided [where applicable] to contribute to good acoustics.

Source[s]

- LEED 2009 for New Construction and Major Renovations rating system
- Extension - America's Research-based Learning Network
- 2010 ADA Standards [Accessible Design - Gym]
- The Center for Universal Design [1997] - The Principles of Universal Design, Version 2.0
- CUDO - Color Universal Design Organization
- American Foundation for the Blind
- Colour Affects - Psychological Properties of Colours
- Universal Design - "Building for Everyone", A Universal Approach, Center For Excellence In Universal Design