

## DRAFT

### **ChildConstructPDX:** Portland Children's Museum 2010 Summer Exhibit

#### **Quotes:**

"Being in places involves social encounters, immersion in the sights, sounds, sun, wind and atmosphere of a locale, and curiosity about the traces of thought, imagination and investment that have guided their construction and use over time." – *excerpt from Wikipedia definition of Placemaking.*

"I am an investigator. I make probes. I have no point of view. I do not stay in one position. I don't explain, I EXPORE." – *Marshall McLuhan, arKIDecture article*

"Children have a natural fascination with their surroundings that can serve as the focus of creative activities and an integrated approach to learning. At the same time, their priorities for the design of the urban environment would undoubtedly result in better places for everyone, especially older and disabled persons." –*Sharon Sutton, Professor of Architecture and Urban Design, Director, CEEDS*

"It is critical that people have a good understanding of their environment in order to help sustain it and keep it beautiful. After all, the public plays a major role in the design process although few of them comprehend either the process or their part in it." – *Global Movement in Architectural Design Education for Youth by Atsuko Sakai, Quinn Evans Architects.*

#### **Goals:**

1. Through three-dimensional invention, planning, and play, foster development of spatial and mathematical constructs in children ages 0-9 years.
2. Engage children in structural science through problem-solving and physics experiments in material and architectural engineering.
3. Offer an enjoyable urban planning experience for children and their parents to become aware of and feel empowered to participate in local sustainability.
4. Create an environment where children are afforded the opportunity to build social connections and an understanding of the concept of community.

#### **Purpose:**

To create meaningful awareness of and investment in the local social and physical urban environment in order to foster thoughtful stewardship of the future world. To help children build spatial mathematical and physics/engineering skills in order to be more able to be active participants in urban planning. To relate to and raise visitor anticipation for the PCM Outdoor Exhibit.

*This exhibit could be transformed into a traveling exhibit with regional specificity – each community that requested it could engage in a workshop process, the outline/book for which could be sold by PCM as well as core exhibit components- also perhaps an option could be that PCM staff travel to offer the workshop at museum sites to individualize the exhibit.*

**Core Concepts:**

1. Building and brain development- Christakis 2007, Seattle PI and Parenting articles
2. Building and children's social/community development- research shows that, among a group of Kindergarteners and first-graders, the construction of shared cognitive experiences in which children worked together and solved problems resulted in cognitive growth (Cannella, 1993).
3. Children's empowerment through urban planning (engagement phase)- Sharon Sutton,
4. PCM as an ideal place to engage all sorts of 0-9 local children and their caregivers/teachers
5. Portland as a "hub" of sustainable urban planning- a wave of the future
6. Green Building as a social equalizer – also a wave of the future. (Malone, 2004)

**Keywords:**

1. Placemaking
2. Place Identity
3. Social Constructivism
4. "100 languages" (Reggio) and Gardner's "multiple intelligences"
5. Playful inquiry
6. Architecture

7. Material engineering
8. Urban Planning
9. Sustainability/Stewardship
10. Constructionist learning theory
11. Environmental Psychology
12. Charrettes
13. Universal access

**Vision:**

Provide various developmentally- appropriate areas allowing for “six dimensions of contrast” described in the Reggio literature. These areas would offer children ages 0-9 opportunities for movement, comfort, competence, and control.

Begin with a process of inquiry before building exhibit, and design it to the elements that children note as being most important to them. This will be done through art activities and provocations offered to child museum visitors at random and an Opal class.

*Elements might include:*

1. River with variously textured structures for walkways
2. Bridge/s
3. Raised area In relief such as Mount Tabor with pathways and a slide (all ages to climb on)
4. Materials engineering and architecture area for testing, experimenting, learning, and building (tree building, maybe houses too)
5. Small blocks building area for parallel play (babies and toddlers)
6. Construction area for individual projects/houses (boxes), “Garage-“ style– could be modified for different age group activities, staffed (?)
7. Display area of above houses- i.e., shelving area
8. Planning area- grid of Portland with plots given out via “permitting” process aimed at ages 7-9

9. "Permit office"- modulate activity on the grid; could be timed and/or ticketed
10. History and architecture- Current and historical pictures of neighborhoods in Portland hung around grid
11. Environmental elements- trees, rain screen, sun, clouds, rocks, rain barrel, view of outdoors linked to inside exhibit (windows)
12. Community garden in the plaza to be seen through the windows above
13. Community event on the plaza like cob building workshop- create a museum structure or sculpture
14. Include list of ideas for neighborhood elements- houses, apartments, grocery stores, parks, community center, city hall, water bureau, hospital, police, fire department, jail, animal shelter, homeless shelter, landfill, recycling plant, factories, restaurants, schools, etc.
15. Large, child-sized building area aimed at ages 4-6. Perhaps a cob structure/ cob bricks, sandbags, cardboard blocks, cardboard interlocking logs?
16. May be LEED-certified, National Green Building Standard, or other sustainability standard (pretend).

**Exhibit Development:**

*Phase I:*

Brainstorm and preliminary idea work-up. Meetings with PCM staff, compilation and review of relevant research, outline of proposed exhibit in written and visual form.

*Phase II:*

Develop verbal and non-verbal inquiries for children so that the exhibit is designed directly around their wants and needs. Using a standard set of inquiries developed with the PCM staff, address these questions to both an Opal classroom and to a random sample of PCM child visitors, noting age and date for each response. Set up the opportunity for an artistic response to “My City of Portland” and directly incorporate the results into the exhibit plan. These results are elemental to the direction of the exhibit.*Phase III:*

Set up exhibit prototype/s and observe children interacting with the exhibit and each other. Note what works and what does not; perhaps implement a visitor studies questionnaire. Plan and develop interpretive. Make changes to exhibit design based on results.

*Phase IV:*

Construction and installation of exhibit, based on above results.

*Phase V:*

Generalization and extension of essential elements to traveling exhibit, with regional specificity derived from initial stages of development. There would be some modular components from Phase I/IV; the specificity would come from a site-specific workshop and resulting inquiries/responses derived from Phase II.

## **Description of Exhibit:**

*River*

Upon entering the exhibit, children and families will encounter the winding Willamette River painted on the floor, lined with varied, textured paths. The pathways might include sidewalks, gravel, sand, boardwalk, pavers or bricks, and stepping stones. A low-relief rock wall and river rocks could provide an area for hopping across the river to Mount Tabor park.

The inclusion of multiple textures would address children’s needs for multiple and rich sensory experiences to learn at their best.

*Small Block Parallel Play “Pond”*

Entry from the main hall will offer a 0-3 year old parallel play area with wooden blocks and a large, circular rug and storage/sitting area/divider to the left of the river. This area will be simple and designed for parallel play. Interpretives for parents in this area could include information about blocks and cognitive development, and blocks and increased attention span/impulse control.

### *Large Building Area*

To the right of the entry area, there is a 4-6 year-old large block building area featuring large blocks for cooperative play, such as the cardboard interlocking logs, sandbags, cob bricks, cob structure, and/or cardboard blocks. Interpretives in this area could include pictures of different types of buildings and information on the importance of blocks and cooperative play.

### *Mount Tabor*

Mount Tabor park includes a row of three gas lamp replicas similar to what is found in the park for historical reference and spatial divider between the park and the large block area, as well as a visual transition and marker. It would be built in relief so that children could climb on it, perhaps out of cob. A "slide" would come off the opposite side of the park (I.E., Clifford). There would be texturized "trails" on the mountain.

### *Grid #1*

Across from Mount Tabor, to the left of the river and adjacent to the 0-3 year old play area, a Portland City Grid is laid out. Grids are a real part of urban planning, but also they provide a structure on which children can organize themselves, making interactions to create community more comfortable between strangers. The grid might be rectangles of green on black chalkboard "roads," or actual map projections on chalkboard floor (these could be changed to represent various city quadrants). Chalk is provided to add details to the environment and roads/sidewalks.

Permits are needed to build a house and place it on a plot. Interpretives in these areas focus on the permitting process and direct the families to the kiosk for a permit and the Construct areas to make a house.

The grid area is designed for older children, although the family may participate together in chalk drawing. The building/permit process is time-limited, either by the day, half-day, or 2-hour ticket. This is the core concept in the exhibit, and urban planning as well as social constructivism is exemplified here. Buildings might stay on their plot until there is a change in grid, unless a child wants to take the house home; then the plot would become available for another child's building. Children are encouraged to consider the plan of their block and their city when developing their plot. There is a second City Grid quadrant located across the bridge.

Grids offer structure to support the unfamiliar social experience of constructing a community with strangers. The houses are large doll-house sized so that 6-9 year old children can easily manipulate materials to make house details as well as move the houses themselves.

### *Transition: Kiosk and Bridge*

Next is the transition area of the exhibit. The Building Permit Kiosk would be located here, across from the small door leading into and out of the exhibit to the left. A circular shape modifies visitor flow so that people are forced to slow down and cue. The round kiosk allows access from any direction of the exhibit. A bridge crosses the river- it could be constructed of two arched head boards. The bridge leads to a tree construction area, which provides a quiet, individual building activity linked to the active Mount Tabor section. The trees can be "planted" on Mount Tabor. It also leads a second City Grid area.

### *Grid #2 and Tree Construction*

The Grid area would be like the first in that it would have historic references in pictorial form. The interpretive might have different information such as sustainable planning. An audio of children's responses to community, the Story Project, will be broadcast in this grid area at the back of the exhibit.

The Tree Construction area is separated from the second City Grid area by hanging strands of "Rain."

### *Construct Area*

The final section of the exhibit is the "Construct" area. This is the last building part of the exhibit, designed for older children. It will be segregated with a narrow opening in a "door" of a simple house that serves as a marker for the area, to slow down passage to one at a time. This area is designed for ages 6 and up, much like The Garage.

The term "construct" is meant to have a dual meaning, both as the psychological term to describe the way ideas are formed and meaning is derived from the environment, as well as to describe the process of building. Please see the illustrations of the construction stations in this section.

Construct will be supplied with scrap materials, much as The Garage is. Boxes, tubes, and corrugated cardboard for making buildings are the core elements for the Construct area. Cutting tools, glue, glue guns, tape, measuring tools, drawing materials, paper, string, fabric, and other materials which might simulate building materials are important to include. These will be stored in the stations. Entry into this area might be combined with the time spent on The Grid, so that it is time-limited to allow for others to also construct.

In this area, the Construct Stations will have photos or other examples of architecture and architectural elements. A list of buildings (i.e., school, grocery store, home, power station, fire station, police station, flower shop, garden, restaurant, playground) might be useful as well. As a

header for each station, there would be a provocation, such as “How do make buildings strong? What is community? The future of Portland will be...” etc.

The Construct area will be supplied with a sturdy, multi-sided, large work table so that children may come together to work on projects.

When projects are finished, they may be placed on a Grid for a limited amount of time. Then, they may be taken home or displayed in a cube-type shelving area that serves as a divider.

### **Wayfinding and Definition of Areas:**

By definition, children/adults naturally find their way through a well-planned exhibit. The wayfinding devices in this exhibit will be spatial and textural, using few signs. Dividers to store blocks and display buildings, translucent environmental screens and mobiles, a building permit kiosk, river, pathways, textures, colors, gas lamps and rugs will help with wayfinding in the exhibit.

Signage will be very limited; most of the intended audience is not yet reading. More signage is useful within the “garage” or 6-9 year old building and materials engineering area. A 4-directional street sign can define the “Permits” kiosk. The entry to the older children’s building area can be labeled “construct.” The building stations in the area might have provocative inquiries or information on architecture/structural design/physics.

More interpretive writing will be present at an adult enrichment level. For example, there can be interpretive signs on the walls related to each exhibit, bridging history with urban design, to involve parents in teaching their children generalizations of skills used while participating in the exhibit.

## References and Resources-Web:

### *Placemaking*

Places-journal.org  
CEEDS (University of Washington)  
Sustainable.org  
Placematters.com  
Placemakingtools.org  
Energy.ca.gov/places  
Segd.org

### *Architecture and Green Building*

Ecobuildnetwork.org  
Aiaphila.org/ae/newstuff  
Greenhomebuilding.com  
Sbicouncil.org  
Ilovecob.com  
Claysandstraw.com  
Ecobuild.org

### *Children and Building*

arKIDecture.org  
architects.org/kidsbuild  
naeyc.org/bfj  
usgbc.org  
dcat.net  
CEEP Clearinghouse on Early education and Parenting  
Adenweb.org  
<http://www.alvaraalto.fi/academy/>

## Possible Partners:

City of Portland- Bureau of Planning and Sustainability  
University of Oregon Sustainability Leadership Program  
NW Ecobuilding Guild  
GIF  
Nohad a. Toulan School of Urban Studies and Planning  
PNCA- Applied Craft and Design  
PCC- Architectural Design and Drafting  
Portland Wiz Kids (.com)  
LEGO  
Mega Blocks  
Cob Builders  
Mentor Graphics

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Area Architects practicing sustainably- such as Ankrom Moisan, SERA, Seed Architecture Studio  
AIA Portland  
PDC  
Portland Parks  
Metro

### **Important Researchers/Authors:**

Vygotsky (social constructivism)  
Dimitri Christakis (UW Child Health Institute)  
Sharon Sutton (UW Urban Studies and CEEDS)  
David Solul  
Karen Malone  
David Eisenberg  
Louise Caldwell  
Robin Vande Zande- Kent State University  
Miyagi University  
Quinn Evans Architects

### *Articles/Books:*

Jenks, C. (2000). Children's places and spaces in the world. *Childhood*, 7, 1, 5-9.

Kolb, D. A. (1984). *Experiential Learning: Experience as a Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.

Malone, Karen. 1999. Holding Environments: Creating Spaces to Support Children's Environmental Learning in the 21<sup>st</sup> Century, *Australian Journal of Environmental Education*, Volume 20(2), 2004. Available at PSU, Lewis and Clark, PCC, and Marylhurst libraries.

Nyhan, Paul. (October 2, 2007). Old-School Blocks Prove Best for Brains, *Seattle Post-Intelligencer*.

Sobul, David. 1993. *Children's Special Places: Exploring the Role of Forts, Dens, and Bush Houses in Middle Childhood*. Available at Lewis and Clark or UP libraries.

Sutton, Sharon and Kemp, Susan P. (March 2002). Children as partners in the place-making process: Lessons from intergenerational design charrettes. *Journal of Environmental Psychology*, pp. 171-189.

### **Examples:**

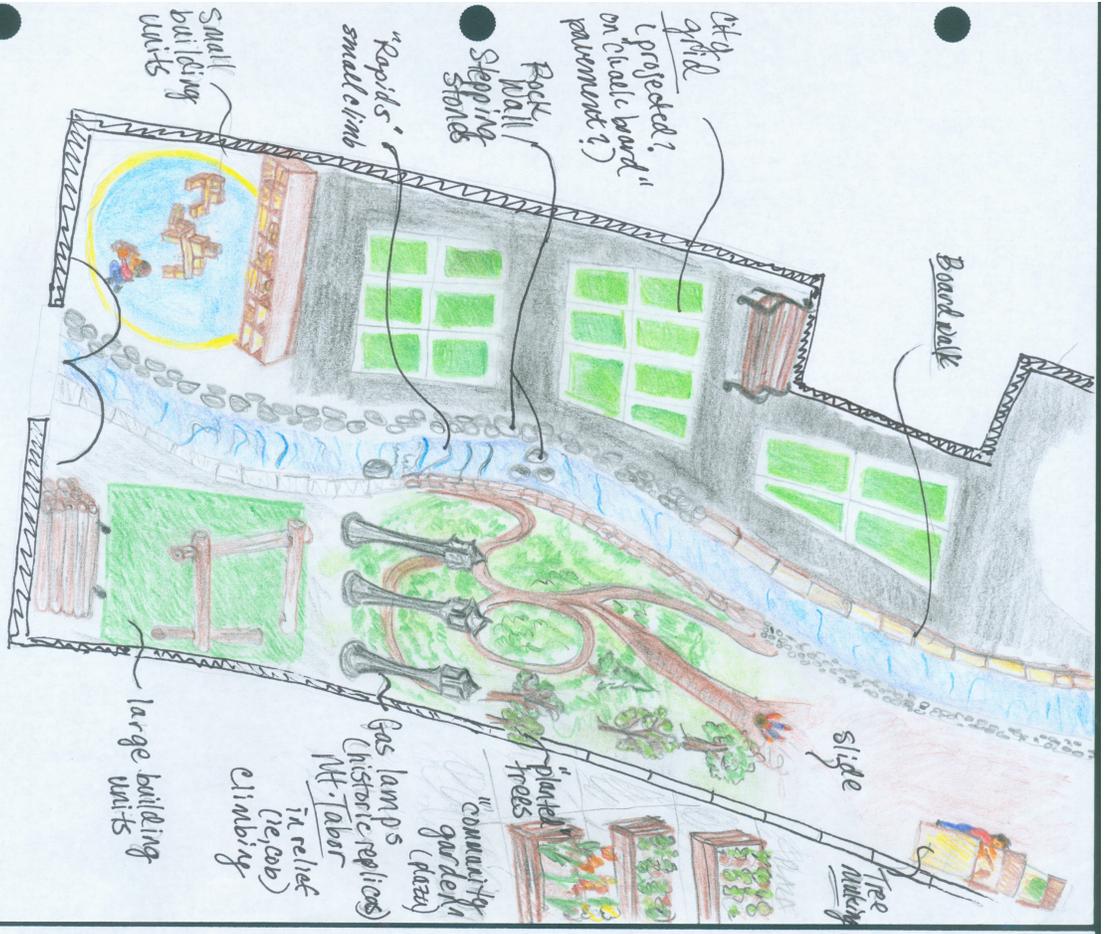
Kids Build  
ArKIDtecture Build It!  
Learning by Design  
Block Kids  
Project Inter-actions  
City of Neighborhoods program, Cooper-Hewitt National Design Museum  
Milwaukee Public Museum- "Old Milwaukee" exhibit  
Old Sturbridge Village- Sturbridge, MA  
Frank Lloyd Wright Residential Trust- Youth and Family Programs  
Turtlewing  
Youth Learning Academy  
Alvar Aalto Academy  
Center for Engineering Educational Outreach (CEEEO) at Tufts

**Regional Exhibit Examples:**

Tualatin Kaiser Medical Offices- Native and Poisonous plants, bioswale  
People's Food Coop, Rebuilding Center- Cob Construction  
REAL. LIFE. Medical Teams International exhibit  
[http://www.medicalteams.org/sf/real\\_life\\_exhibit.aspx](http://www.medicalteams.org/sf/real_life_exhibit.aspx)

PORTLAND PLACE 2010

E. (front) Purple Turtle Hall



PORTLAND PLACE 2010

W. (back) Purple Turtle Hall

