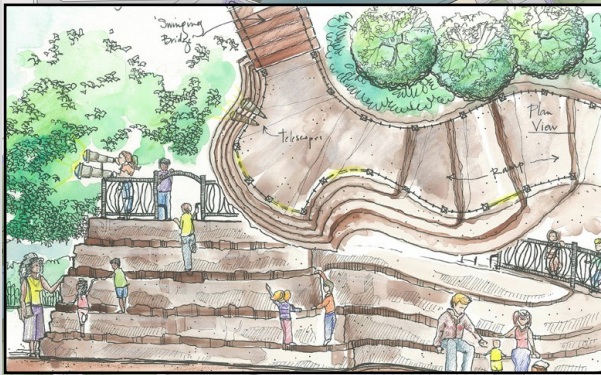


Ice Age Floods Playscape

Pre-Design Study

February 2014



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Introduction: The Playscape Concept

The following information is a pre-design study, conducted for the City of Spokane, to explore the possibility for a destination playscape featuring the Ice Age Floods story as part of the Riverfront Park Phase 2 Master Plan.

Playscape Concept Overview

The general idea behind the playscape design is that it would embody an overview of the IAF story, focusing on the major events and significant floods features throughout the four-state region. The information in this document will further describe playscape goals and conceptual program information, along with character sketches of a few examples of play feature ideas.

Three points that summarize this concept are:

- The playscape will express the Ice Age Floods Geologic story in physical form and focus on free, imaginative play and multi-dimensional learning and interpretation opportunities.
- This playscape will have more of a custom, nature- and art-based approach to playscape design, rather than relying on traditional play equipment for activities.
- A destination playscape provides an additional and significant family activity area in Riverfront Park. One of its major tasks is to draw more visitors into Riverfront Park and downtown Spokane.

The Ice Age Floods Story

The Ice Age Floods (IAF) story describes how the landscape of the Pacific Northwest was formed, and is an important component of our Nation's natural and geologic history. The story, in summary, is as follows: Toward the end of the last ice age, around 15,000 years ago, an ice lobe formed across the present-day town of Clark Fork, Idaho. This lobe backed up waters which formed Glacial Lake Missoula, among the largest lakes ever impounded by an ice dam. Over time, lake waters got deep enough to erode and float the ice dam, leading to a total breach. The resultant catastrophic floods were among the largest of known geologic record. The gigantic Lake and ravaging floods waters scoured and reshaped a distinct northwest landscape with signature features such as the rippling Camas Prairie, the rolling Palouse, the channeled scablands, Moses and Grand Coulees, Dry Falls, Palouse Falls, Hat Rock, the Columbia Gorge, Multnomah Falls, Mima Prairie and the fertile Willamette Valley, to name a few. Geologists estimated the Ice Age Floods happened not just once, but dozens of times.

The IAF geologic story has received Congressional acknowledgement of National Significance. Several groups, including, the Ice Age Floods Institute, are working to make sure this important piece of natural history is comprehensively made available to the public through a variety of ways, including an large-scale interpretive trail. The Ice Age Floods National Geologic Trail is designated the first National Geologic Trail. The Trail route, now being developed, will have interpretive sites across the Pacific Northwest and several special interpretive centers. Spokane, at the midpoint of the floods region, is well-suited to showcase floods features in a special interpretive center. The IAF story is one that is important for people of every age, especially children, and can be incorporated into curriculums at any grade level.

The IAF story is a prime topic for a destination playscape at Riverfront Park for several reasons:

- Because of the dynamic nature of the story and the rich imagery of its components, the story can be transformed into an exciting play environment that also offers rich, multi-dimensional learning opportunities. It provides a completely interactive and fun way for children, families and interested people to learn about the IAF story.
- Geologically- and historically-speaking, the IAF story is unique from other ice age flood events world-wide. Much of our Pacific Northwest landscape was formed as a result of these powerful floods, creating one-of-a-kind geologic features. This playscape presents an educational opportunity to inform area children, student, families and others about the regional landscape and increase interest, awareness and appreciation for the unique qualities of our local natural environment. It is a story every student in the Pacific Northwest should have the opportunity to learn about.
- The IAF story, organized and interpreted by a National Geologic Trail, has the capability of drawing people, not just locally and regionally, but nationally and internationally. Spokane is at the center of the floods region (and the local geography contains many floods features) and is a logical location to host a unique interpretive center.

Specific Floods Features

The physical environment of the playscape will embody the “big picture” of the IAF story, focusing on major events and significant floods features. Major events and large scale features include the process of the accumulation of water and resulting ice dam breach and floods, the ice dam itself, and Glacial Lakes Missoula and Columbia.

Specific floods features, erosional and depositional, can be imagined into exciting play features:

Coulees

The dry, braided channels, sometimes with high, steep walls, formed by glacial drainage of the Scablands of eastern Washington, such as Grand Coulee and Moses Coulee.



Buttes

A butte is a conspicuous isolated hill with steep, often vertical sides and a small, relatively flat top. Examples include Steptoe and Kamiak Buttes in eastern Washington.



Basalt outcroppings

Spokane is full of 'em! Basalt lava flows created a variety of basalt formations we see around the Inland Northwest and beyond. Flood waters exposed these formations.



Potholes

Potholes are cylindrical pits formed by turbulent waters, most often found at the bottoms of river eddies, in plunge pools below cataracts, and sometimes in rock outcroppings indicating the former site of a rapid or cataract. Potholes are often found in formerly glaciated regions where whirling columns of glacial meltwater sank well-like holes, or moulins, through the ice.



Dry cataracts

A dry cataract is a precipice which was once the site of a waterfall, such as Dry Falls cataract.



Erratics and huge boulders

These are glacier-transported rock fragment that differs from the local bedrock. Erratics may be embedded in till or occur on the ground surface and may range in size from pebbles to huge boulders weighing thousands of tons.



Rhythmites

Rhythmites are typically thin band of sediment deposited annually in glacial lakes, consisting of a light layer and a dark layer deposited at different seasons. An example is White Bluffs in the Hanford, WA area.



Mima mounds

Mima mounds are low, flattened, circular to oval, domelike, natural mounds found in the northwestern United States, Idaho, Oregon, and Washington, that are composed of loose, unstratified, often gravelly sediment that is an overthickened A Horizon. Though mima mounds are scattered throughout the region, a prime example is the Mima Prairie in Thurston County, WA.



Floods-related features specific to the Inland Northwest that could be components of the playscape include the pre-flood lava flows, the Spokane River and its unique basalt formations, and the Spokane aquifer. Concepts such as water quality, aquifer function, our impacts on these natural resources, etc. can also be a part of a demonstration area which focuses on local educational issues.

Playscape Goals & Objectives

GOAL 1. Provide a high quality nature-based play environment for children and their families.

- **FUN**
 - The playscape will be a child-oriented environment where fun and engaging activities are of primary importance.
 - Encourage children to engage in imaginative play activities.
 - Provide for active and passive play opportunities.
 - The playscape should be inclusive, encouraging children of all ages and abilities and their families and caregivers to interact together in meaningful ways.
- **SAFE**
 - Follow appropriate design regulations and guidelines for public playscapes.
 - Allow for child's perception of risk (conquering perceived challenges, important for well-rounded child development and confidence-building).
 - Develop a long-term maintenance and inspection plan and associated budget to ensure a high-quality playscape.
- **NATURE-BASED**
 - (Re)connect children to nature and urban wildlife.
 - Provide for a stimulating, multi-sensory experience
 - Emphasize the use of natural materials (stone, sculpted earth, wood, plantings, water, sand, etc.).
 - Play in all seasons.

GOAL 2. Develop a regionally-distinct destination playscape depicting the Ice Age Floods geologic story.

- **TELLING A REGIONALLY SIGNIFICANT STORY**
 - The playscape will illustrate in three-dimensional form a general narrative of the Ice Age Floods event.
 - Floods features will be interpreted into play features on which children can run, climb, crawl, jump, and play as they choose. Some play features can be designed to be geologically accurate and serve as part of the playscape's educational component.
 - In an effort to reach a wider audience base, explore the possibility of the playscape being designated as a "special interpretive center" for the Ice Age Floods National Geologic Trail. This possibility could be mutually beneficial between the City of Spokane and the National Park Service.
- **A LEARNING LANDSCAPE**
 - The playscape shall have a range of learning opportunities, from self-directed, spontaneous learning that happens through play to more formal, programmed educational learning.
 - Encourage formal learning opportunities for area schools and other child-care facilities by providing space and information for classroom-size groups.
 - Consult local floods experts (Ice Age Floods Institute) and the National Park Service on content of interpretive signage that ensure accuracy of the story and details, and consistency with the larger interpretive effort currently being developed by the National Park Service.
- **CONTEXT-BASED DESIGN**
 - Highlight the floods impact to Spokane and the surrounding area. Provide information to playscape users that will help direct them to local floods features outside Riverfront Park and to nearby National Geologic Trail interpretive sites.
 - Fit the playscape seamlessly into the Riverfront Park fabric in terms of topography, circulation, adjacent complementary uses, etc.
 - Utilize natural materials and plantings that are native/local to the Spokane area and region.

GOAL 3. Create a healthy playscape within a healthy park landscape.

- **A HEALTHY, RESILIENT PLAYScape**
 - Explore Low Impact Development (LID) strategies in relation to stormwater management and landscape and irrigation design.
 - Development of the playscape shall be cognizant of the Spokane River and impact to water quality.
 - Respect the natural features of the site and incorporate them, to the extent possible, into the playscape.

- ENCOURAGING ACTIVE CHILDHOODS
 - Provide play elements that encourage physical activity for children and their families.
 - Connect the playscape to Riverfront Park's main trail system.
 - Provide site elements, like drinking fountains and bike racks, which encourage alternate transportation to the site.

Ice Age Floods Playscape Conceptual Program

The following program information is conceptual-level only and non-site specific. Based on researched case studies and the Consultant's experience in designing children's play environments, the information listed below constitutes recommendations for the Ice Age Floods Playscape conceptual program.

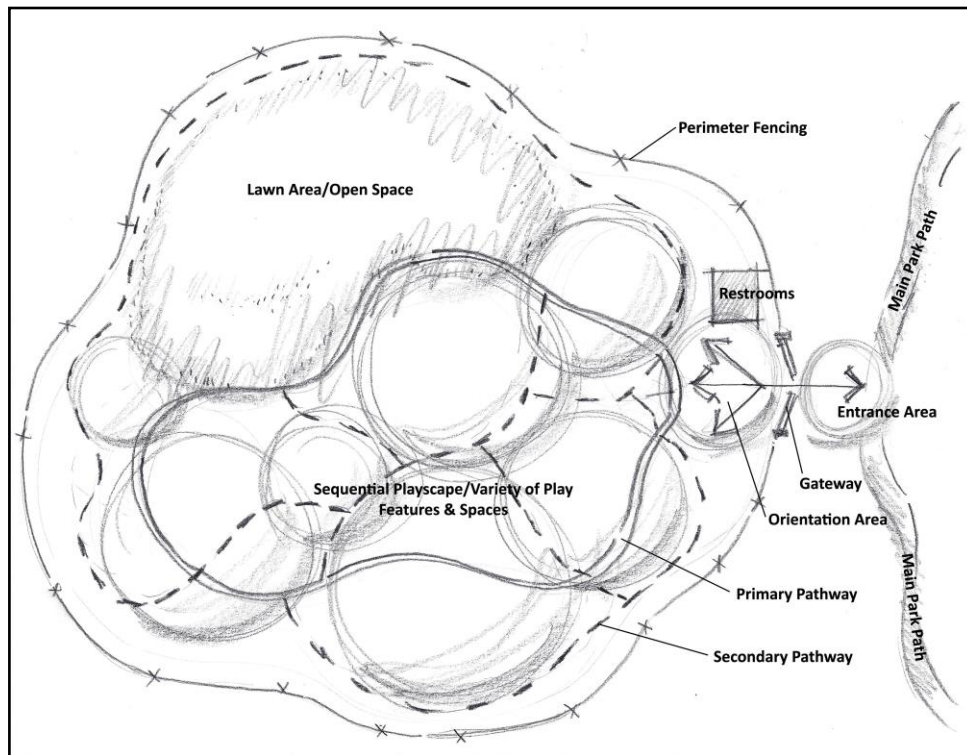
Ice Age Floods Conceptual Program

Size recommendation: 1.0 to 1.5+ acres in size (no less than 1.0 acre)

Parking & Access: An adequate parking area should be within close walking distance from the playscape, and a bus drop-off area is preferred.

Visibility: The playscape should also be directly accessible from a main Riverfront Park path, yet located away from other high intensity use areas.

Restroom Facility: A restroom facility should be incorporated within or immediately adjacent to the playscape.



IAF Playscape Diagram

The playscape can be articulated into three areas: the entrance area, the orientation area, and the main playscape area.

The Entrance Area

- Distinct, visible gateway element – a single entry/exit for safety, security and supervision
- Space for gathering (approx. 20 people/children)
- Benches or seating elements
- Plantings

The Orientation Area

- This area provides an overview of the Ice Age Floods story through interpretive signage and art features.
- Provide space just after gateway for gathering a classroom-sized group
- Benches or seating elements
- Kiosk with map of playscape identifying the various play/floods features, information handouts, brochures, and other take-away information.
- Sponsor/Donor recognition feature
- Plantings

The Main Playscape Area

The playscape may consist of distinct, but connected play areas that will be programmed in more detail once a site has been selected. This play environment could include:

- Pathways – hierarchy, varying widths, materials, destinations
- Perimeter fencing for safety and security
- Playscape elements:
 - Floods features as play features: (several character sketches are provided in the following section)
 - "Mima Mound" lawn area
 - "Rhythmites" climbing wall/Erratic climbing boulders
 - "Kolk" interactive art sculpture, and other interactive artworks
 - "Columbia River Gorge" exploratory area
 - "Grand Coulee" slides
 - "Dry Falls" sand play area
 - "Channeled Scablands" maze
 - "Steptoe Butte" overlook with telescope
 - Basalt stone features
 - Sound wall – to echo the sounds of the river/falls, depending on site location
- Interpretive Signage and educational elements (see below)
- Custom artwork – showcase a variety of artists from the four-state region

- Variety of seating types and locations
- Picnic Area
- Shade – a very important in playscape design. Trees, shelters, shade sails can provide shade.
- Storytelling area/Amphitheater
- Pavilion/shelter – (30' x 50') A large shelter for group gathering and events. Could be available for rental for birthday parties and other events.
- Family-sized shelters - (12'x12') Artistic in design. Use is more for spontaneous family use. Provides shade and space for picnicking. Large enough to hold 1 – 2 picnic tables. Approximately 3-5 family-sized shelters located throughout the playscape.
- Plantings – Drought tolerant, low maintenance, native/naturalized.
- Water Element- Water features, including sprays and misters. There are other ways of including a 'sense of water' without using actual water features. Features like a sound wall, which can echo the sounds of the river/falls, depending on site location, and other sensory elements can be explored.
- Musical elements

Interpretive Signage and Educational Opportunities

The educational potential of this playscape should be underscored. This playscape presents an opportunity to learn about the Ice Age Floods story in a way that is unique from traditional interpretation and curriculum. First, and most simply, children learn through play, and the act of playing brings children close to their environment. A nature-based playscape encourages self-directed exploration and discovery, and also presents continuous hands-on, experiential learning possibilities.

Second, within our local and regional school and educational facilities, there is an opportunity to integrate the IAF story into the curriculum of area schools. This could be a prime field trip destination for the k-12 age range, public and private schools and home school groups. The Ice Age Floods story is one that area children should be aware of and understand. This story has implications for a broad range of the k-12 curriculum, including, but not limited to, science, geology, natural and cultural history, art, math, and physical education. Interpretive signage (along with accompanying take-away information) could provide the level of detail necessary for meaningful formal learning. Signage could also display QR codes that people could use their mobile devices to access more in-depth information, videos, and other available online media to learn more about a specific floods feature or aspect of the flood event that are embodied in the playscape environment.

Third, given that there are many Floods experts in the Pacific Northwest, and given the local presence of the Ice Age Floods Institute, the playscape could provide the venue for special events and talks.

If the potential for the playscape to serve as a special interpretive center as part of the Ice Age Floods National Geologic Trail were realized there is the ability to collaborate with the National Park Service to provide interpretation consistent with the National Trail. There also lies the potential to work with NPS to provide a variety of educational programming aimed at children and families and special interest groups.

Play Features & Character Sketches

The Ice Age Floods story presents some interesting imagery. Interpretation and portions of the playscape environment can utilize a wider lens to capture the large-scale views of the impacts of the floods. The design of play features, artwork, site furnishings and other site elements can provide more detailed perspectives on floods features and how they were formed.

Specific floods features can be reinterpreted as play features. Floods features will be chosen in terms of their significance in the Pacific Northwest landscape and the ability to provide a 'big picture' view of the floods impact. Also of equal importance is to provide a variety of play features, activities and value for the entire play environment. In the design of these play features, geologists and other experts can be brought in to help inform the composition and potential technical detailing that will enrich the educational value of each feature.

Examples of how Floods Features can be Interpreted into Play Features

"Mima Mound" Lawn Area

As previously mentioned, mima mounds are small, domelike, natural mounds found throughout the region. These mounds have play value in terms of providing dimension to an otherwise flat lawn area. Children can roll down the mounds, run between, and used for a variety of imaginative game-playing. A flat lawn space can also be provided for family picnicking.



"Rhythmites" Climbing Wall

A 'Rhythmites' climbing wall can provide varying degrees of climbing difficulty to cater to children of various ages and abilities. An overlook with telescopes for viewing out into Riverfront Park can be a reward for reaching the top of the wall. This is one play feature that would benefit from having design collaboration with geologists.



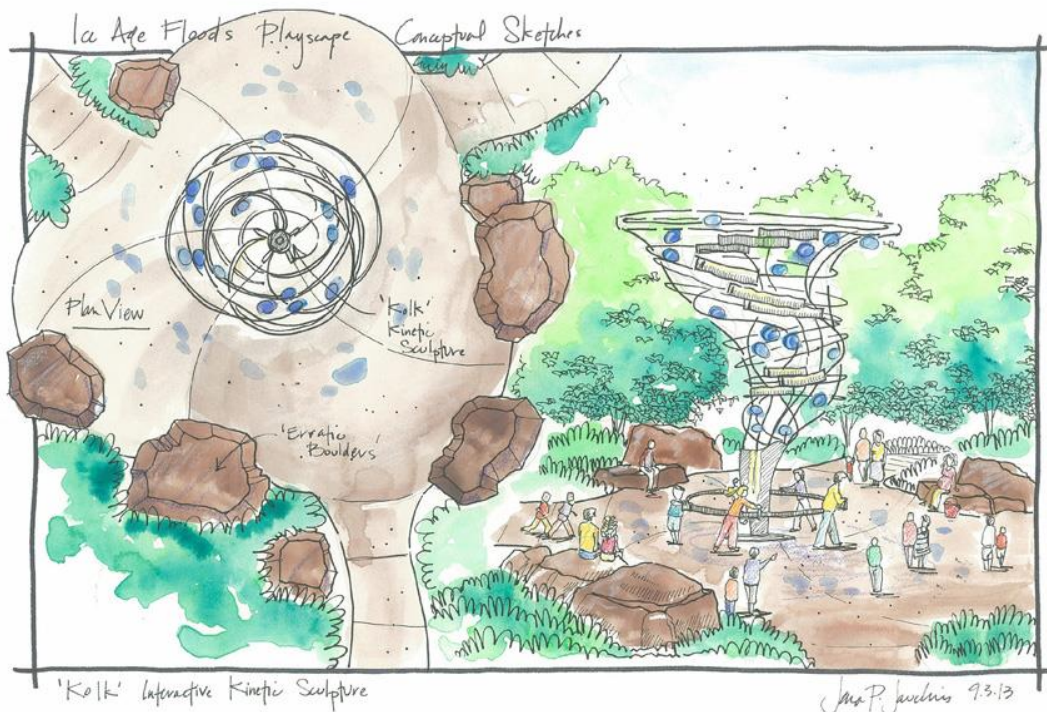
"Kolk" Interactive Kinetic Sculpture

Interactive artwork should be incorporated throughout the playscape and provide a variety of hands-on experiences. The idea for the "Kolk" interactive kinetic sculpture is just one example of how this can be achieved.

A kolk is a special force of nature, essentially it is an "underwater tornado". During a flood, kolks move underwater with such force that they can uproot large boulders from their bedrock and send them out into flood waters. Erratic boulders are often the product of kolk activity.



A kolk is an element of the floods story that have wonderful play and educational value. A large kinetic, interactive sculpture based on this idea could be a landmark feature within the playscape. As an interactive sculpture, children could work to spin the sculpture. As a kinetic piece, wind pipes and other sound elements could be incorporated so as it spins it creates sound and becomes a multi-sensory experience. The landscape around the sculpture reinforces the concept of the kolk and provides a place for parents and caregivers to relax and enjoy watching their children play.



Site Evaluation & Preferred Site Recommendation

Site Evaluation

Several areas in the Riverfront Park Master Plan were identified as appropriate locations for a destination playground use. Through the pre-design study process, three specific sites were identified for further analysis and described below.

Major Factors in Site Analysis

Each of the three sites were evaluated based on overall site recommendations outlined in the conceptual program information. To reiterate, the playscape be approximately 1.0 acres to 1.5+ acres in size and located away from other high activity areas in Riverfront Park. The playscape ideally would have its own parking lot and bus drop-off area, or be located adjacent to or within short walking distance to an existing parking lot. The playscape should also be directly accessible from a main park path. A site with existing topographical variation, mature trees and character is preferable but not critical.

Three site options were given preliminary analysis in terms of their appropriateness for the Ice Age Floods Playscape: A) West Area, B) Canada Island and C) North Bank area. The following table is a summary of Site Options A, B, and C, and the major factors involved with site analysis. Major factors are listed in relative order of importance.

Site Options - Major Factors	Option A - West Area	Option B - Canada Island	Option C - North Bank
Adequate size	-	-	+
Parking	+	-	+
Located on main park path	+	+	+
Located away from other high activity areas	+	+	+
Site has character, varying topography, mature trees	+	+	-
Close to River and/or Falls	+	+	+
Site identified for other uses in Master Plan	-	-	+
Restroom facilities nearby*	+	-	-

* Restroom facilities are recommended to be included in the playscape design

Option A – West Area



Option A – West Area is located on the west end of Riverfront Park, across Post St from City Hall. This area currently contains an outdated playground area and an underutilized parking area. The site contains a variety of mature trees and has topographical variation.

Option A – Major Factors Description

- Approximately 1.0 acres maximum. Minimal opportunity for expansion.
- + Immediately adjacent parking is available, but very limited, assuming partial use of the lot adjacent to Post Street. Other nearby parking areas include the RiverPark Square parking garage located one block south of this site and numerous paid lots two blocks north of site along Post St. The existing, underutilized parking area with the Option A site is recommended for removal.
- + Site is located on a main park pathway
- + Site is located away from other high activity areas
- + Site has topographical variation and mature trees
- + Close to the Spokane River and falls
- Area is currently underutilized and identified as an area for a “destination feature” in the Riverfront Park Phase 2 Master Plan. The Master Plan calls for a 40’ wide main park path to bisect the site.
- + Acceptable walking distance to existing restrooms, but is recommended that the playscape have its own restroom facility.

Other factors:

- + Adjacent to the Conservation Area
- Avista needs existing access maintained. Occasional traffic. Conflicts can be easily avoided through fencing and pedestrian circulation design.

Option B – Canada Island



Option B – Canada Island is a small island accessible from the Howard Street pedestrian bridge. This location is very dynamic, given that it is surrounded by the falls. However, this site is undersized with no possibility for expansion. There are no nearby parking options and the feasibility of providing restroom facilities is difficult. The site does contain a variety of mature trees and has topographical variation.

Option B – Major Factors Description

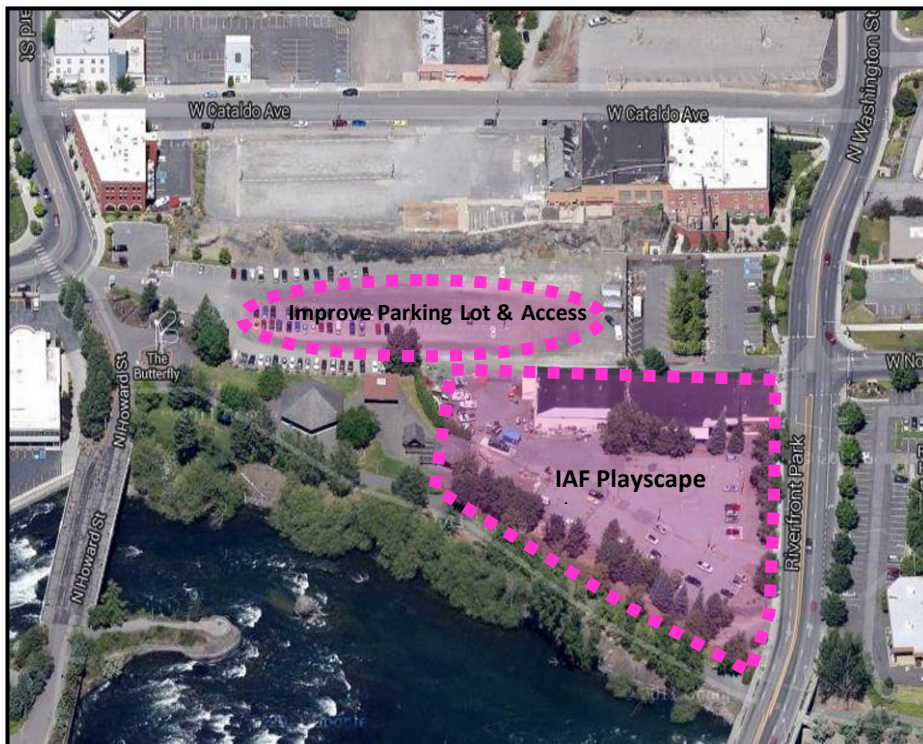
- Undersized at approximately 0.8 acres and no expansion possibility
- No nearby parking options. Assuming use of a parking lot located in the North Bank area.
- + Site is located on a main park pathway
- + Site is located away from other high activity areas
- + Site has topographical variation, mature trees and character

- + Site is completely surrounded by river/falls
- Site identified as appropriate for other special event-related uses in the Riverfront Park Phase 2 Master Plan
- No existing restrooms nearby. Restrooms are recommended to be included in the playscape area

Other Factors

- Site is linear in shape with limited points of access
- Area is currently underutilized but contains cultural features that may need to be preserved.

Option C – North Bank



Option C – The North Bank area, located on the northern periphery of the park, sits between Washington Street and Howard Street. This area currently contains the Parks Department maintenance shop and yard, and a relatively underutilized public parking lot. The Riverfront Park Phase 2 Master Plan calls for an improved main park entry adjacent to the Howard Street Bridge, and a main park path runs between the river and this site. An existing, gravel parking area exists just northwest of the proposed site. This parking area could be improved to allow for

good vehicular and pedestrian circulation and access, parking and provide a bus-drop off area to accommodate school buses and other large groups.

Option C – Major Factors Description

- + Approximately 1.5 acres, includes dedicated bus drop-off area.
- + Plenty of space for auto circulation, parking area and bus drop-off. Other paid parking lots nearby.
- + Site is located near future main park entry
- + Site is located away from other high activity areas
- “Blank slate” site, with a basalt wall on north side. All play features, topography, etc. would have to be constructed. No site character to inform design.
- + Close to Spokane River
- + Area is identified as a possible site for a destination playground in the Riverfront Park Phase 2 Master Plan. In the Master Plan, the North Bank area is also planned for climbing and athletic facilities, a boulder park and a parking structure which would be complementary adjacent uses.
- + Existing restrooms immediately adjacent to area

Other Factors

- Site is located on park periphery, adjacent to commercial uses

Preferred Site Recommendation

The analysis of the three sites were reviewed by the City of Spokane Park Board, the Riverfront Park Advisory Committee and Park Staff. The North Bank site was agreed upon as the most appropriate site for the Ice Age Floods playscape. This area can accommodate the IAF playscape, other complementary facilities and uses identified in the Master Plan, provide ample parking and access (improved), and provide a high intensity use on the north bank, away from other high intensity use areas.

Looking east down Centennial Trail, proposed site is located between pavilion and hotel in background.





Looking west down Centennial Trail, proposed site is immediately to the right of the photo.

At eastern edge of edge of existing parking lot, looking west. Proposed playscape would call for the removal of this underutilized paved parking area.



A view of the existing gravel parking lot that could be improved to serve uses on the North Bank.

Next Steps

At this early stage in the project it is estimated that the Ice Age Floods playscape will draw in the range of 150,000-200,000 visitors annually. In an effort to help ease the financial burden to the City, part of this project's process will be exploring a variety of funding sources for construction and long-term operations and maintenance. A fund and/or endowment can be set up specifically for the playscape to handle annual operations and maintenance expenses.

Exploration of Potential Funding Sources

Playscape Facilities & Events

Free admission to the playscape is recommended. The IAF story and its play experience should be accessible to all children, families and park users. However, elements of the playscape itself have the potential to generate a portion of needed revenue. Facilities such as the large pavilion, the amphitheater, and smaller picnic shelters can be rented out for birthday parties, family gatherings and other events and special occasions. Also, fee-based events and programming that target a range of interests and populations can be identified (i.e. expert presentations that discuss different aspects of the floods in varying technical detail, programs for formal group/student education, etc.). These fee-based events can be advertised to a wider audience to draw in different segments of the community and region.

Grants

This playscape reaches across a number of topics for which grant monies are often allocated. These topics include, but are not limited to, water quality/stormwater management, education/programming/interpretation, arts and culture, active childhoods/counteracting childhood obesity, and nature play. Grant money is available to the Parks & Recreation Department through both public and private sources. Public grant money is available at the local level to the federal level. Private grant money is available from a variety of sources including corporate, charitable and community foundations. The following grants have been identified to this date as potentially applicable to this project. Some of the grants listed below require 501 (c)(3) status, which could be provided through a non-profit "Friends of..." organization. With further exploration, additional grant sources will be identified:

- Inland Northwest Community Foundation/Florence Wasmer Fund for Arts & Culture
 - This fund awards grants to organizations and programs whose mission is to further education, enjoyment and awareness of the arts and humanities in the Inland Northwest. Grant amounts typically are between \$1,000 and \$10,000.
- Washington State Department of Ecology, Statewide Stormwater Grant
 - This grant is to be used by eligible cities, towns, counties and ports covered by the National Pollutant and Discharge Elimination (NPDES) Phase I and II Municipal Stormwater Permits. This grant applies to the

Low Impact Development (LID) component of this project. Grant amounts vary.

- Environmental Protection Agency: Environmental Education Model Grant
 - The purpose of the Environmental Education Regional Grant Program is to increase public awareness and knowledge about environmental issues and provide the skills that participants in its funded projects need to make informed environmental decisions and take responsible actions toward the environment. Grant amounts vary.
- U.S. National Endowment for the Arts: Our Town
 - Organizations may apply for creative place-making projects that contribute to the livability of communities and place the arts at their core. Matching grants range from \$25,000 to \$200,000.
- U.S. National Endowment for the Arts: Art Works
 - To support the creation of art that meets the highest standards of excellence, public engagement with diverse and excellent art, lifelong learning in the arts, and the strengthening of communities through the arts. Matching grants generally range from \$10,000 to \$100,000.
- Washington State Recreation & Conservation Office/Washington Wildlife Recreation Program (WWRP)
 - The Washington Wildlife and Recreation Program provides funding for a broad range of land protection and outdoor recreation, including park acquisition and development, habitat conservation, farmland preservation, and construction of outdoor recreation facilities. A comprehensive plan is required. Grant amounts range from \$500,000 to \$1 million.
- CVS All Kids Can
 - CVS Caremark All Kids Can™, a program of the CVS Caremark Charitable Trust and supported by CVS Caremark, is a five-year, \$25 million commitment to making life easier for children with disabilities. Through this signature program, CVS Caremark and the Trust will support nonprofit organizations that provide innovative programs and services in local communities focused on helping children with disabilities learn, play and succeed in life. The goals of All Kids Can are to raise awareness in schools and in local communities about the importance of inclusion; build barrier-free playgrounds so children of all abilities can play side-by-side; and provide medical rehabilitation and related services to children with disabilities. Grant amounts vary.
- The North Face/Explore Fund
 - This fund supports organizations that encourage youth outdoor participation, focusing primarily on creating more connections of children to nature, increasing access to both front and backcountry

recreation, and providing experiential education for both personal and environmental health. Grant amounts vary.

- Bullitt Foundation
 - The Bullitt Foundation awards grant monies to nonprofits that are working to safeguard the natural environment by promoting responsible human activities and sustainable communities in the Pacific Northwest. Projects of interests are those that demonstrate innovative approaches that promise to solve multiple problems simultaneously. Their areas of focus that may apply to this project are urban ecology and ecosystem services. Grant amounts vary.

Volunteers & Donations

One way to tap volunteerism and support is by forming a “Friends of the Ice Age Floods Playscape” non-profit organization. This non-profit would exist to assist the Parks & Recreation Department maintain the playscape. This non-profit entity has the ability to obtain grants on behalf of the agency when the agency itself is not eligible. A “Friends of...” organization can fundraise, receive donations, coordinate volunteer support and assist with match requirements (cash and in-kind labor) for grants to the agency. Additionally, the non-profit can assist the Department in the ongoing operations and maintenance of the playscape.

Groups such as local gardening groups, master gardener’s programs, and youth/school groups may be sought out to assist with landscape maintenance and construction/maintenance of other playscape features.

Many individuals, businesses and other organizations will likely be interested in donating money to the construction of this project. These sponsors can be recognized by sponsor/donor feature inside the entry area of the playscape.

Identifying Potential Partnerships

The IAF story is of interest to a number of local groups and various public and private entities. The Ice Age Floods Institute is a non-profit organization with informational and organizational resources that have a direct correlation to this project. Developing a relationship with the Institute could be mutually beneficial for the Institute and the playscape. This project also has the potential to spark collaboration between the City of Spokane and the National Park Service. Identifying potential partnerships will occur as the design and outreach process progresses.

Anticipated Schedule

The City and Consultant are moving forward with exploring grant opportunities and other funding opportunities. Depending on funding, construction of the playscape could start as soon as Spring 2015.

References

Alt, D. (2001) *Glacial Lake Missoula and Its Humongous Floods*. Missoula: Mountain Press Publishing Company.

Ice Age Floods Institute website. *Ice Age Floods National Geologic Trail*.
<http://www.iafi.org/trail.html>

Jones & Jones. (2001) *Ice Age Floods Study of Alternatives: Final Report*. National Park Service.
<http://www.nps.gov/iceagefloods/>

J. Jauchius. Phone conversation with Dan Foster, Superintendent of Ice Age Floods National Geologic Trail and Lake Roosevelt NRA, National Park Service (Nov. 18, 2013)

J. Jauchius. Personal conversation with Gary Ford, President of the Ice Age Floods Institute (Nov. 22, 2013)

J. Jauchius. Personal conversation with Denise Bausch, Chief of Interpretation and Education, National Park Service (Jan. 28, 2014)

Appendix

Case Study #1: Teardrop Park

Type: Public Park & Playscape

Location: Manhattan, New York

Established: September, 2004

Size: 1.8 acres

Description: (from Michael VanValkenburg Associates website, www.mvvainc.com)

Teardrop Park is a 1.8-acre public park in lower Manhattan that transcends its small size, shady environment, and mid-block location through bold topography, complex irregular space, and robust plantings. Teardrop's design and construction were coordinated with the development of four surrounding apartment buildings, each ranging from 210 feet to 235 feet in height.



In the development of Teardrop Park, sustainability was not merely a goal, but rather an organizing principle that influenced everything from material selection to contractor practices. Based on decades-long research into urban soils and non-toxic plant maintenance, environmental aspects of the park's design include fully organic soils and maintenance regimes that don't rely on pesticides, herbicides or fungicides. Treated and recycled graywater from the adjacent LEED Gold-rated Solaire Building and stormwater runoff from the site are captured in an underground storage pipe, supplying all the park's irrigation needs.

As children are considered Teardrop's most important users, the park is designed to address the urban child's lack of natural experience, offering adventure and sanctuary while also engaging mind and body. Site topography, water features, natural stone, and lush plantings contribute to an exciting world of natural textures, dramatic changes in scale, and intricately choreographed views.



The slide hill and climbing boulders are primary play features

Case Study #1: Teardrop Park

Tear Drop Park received a 2009 ASLA Design Honor Award.

Facilities & Key Features:

- *Water Play areas and Fountain*
- *Slide Hill*
- *Sand Lot*
- *Seating Steps*
- *Amphitheater*
- *Overlook*
- *Marsh*
- *Lawn Bowl*
- *Beech Grove*
- *Reading Circle*
- *Geologic Section*
- *Ice Wall*
- *Witchhazel Dell*



Construction Costs: \$17 million

Designers: Michael VanValkenburg Associates

Monument and wayfinding signs are posted at park entries



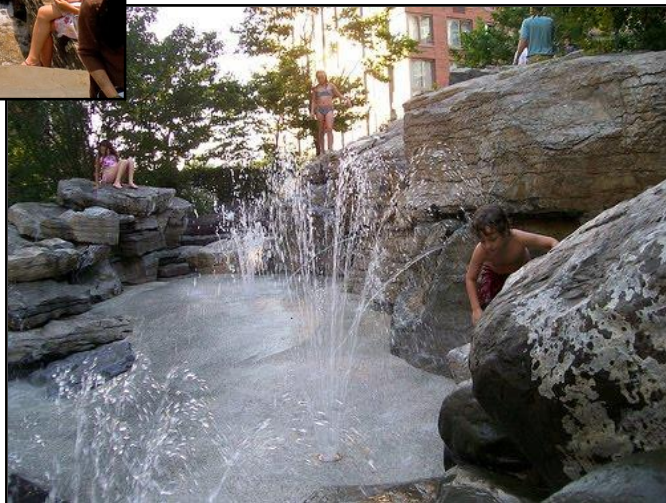
Case Study #1: Teardrop Park



The Ice Wall – a signature park feature



A variety of play spaces and activities



Case Study #2: Diana, Princess of Wales Memorial Playground

All photo credits: Land Use Consultants

Type: Public Playground

Location: Kensington Gardens, Hyde Park, London, England

Established: June, 2000

Size: approximately 3 acres

Description: (from the Royal Parks website)
http://www.royalparks.org.uk/parks/kensingtongardens/diana_playground.cfm



A huge wooden pirate ship is the amazing centrepiece of the Diana, Princess of Wales' Memorial Playground. This children's wonderland opened on the 30th June 2000, in memory of the late Princess. Located next to her Kensington Palace home, the playground is a fitting tribute for a Princess who loved the innocence of childhood.

Over 750,000 children enjoy this free playground each year. Kids love to play, explore, dash about, and let their imaginations soar in this magical space. There is a sensory trail, teepees, a beach around the pirate ship and various toys and play sculptures; all set against a lush backdrop of trees and plants. There's plenty of seating so the grownups can relax too.

The design has created an area where less able and able-bodied children can play together and seeks to provide for the physical, creative, social and educational development of your children. Inspired by the stories of Peter Pan, the playground encourages children to explore and follow their imaginations, learning whilst they play.

{*Peter Pan* author J M Barrie was the guiding force behind an earlier playground built on the same site in 1906.}

Facilities & Key Features:

- *Pirate ship*
- *Beach area*
- *Treehouse encampment with walkways, ladders, slides and 'tree phones'*
- *Water play features*
- *Sensory trails*



Case Study #2: Diana, Princess of Wales Memorial Playground

- Teepee area
- Timber pergola
- Play tunnel, various toys and play sculptures
- Lush vegetation (plantings selected for sensory quality and play value)
- Play areas for children with special needs
- Plenty of seating and space for families, parents and grandparents
- Restrooms, baby changing areas, and cafe

Construction Costs: 1.7 million euros (approx. \$2.2 million US)

Designers: Land Use Consultants



Aerial view of the 3 acre playscape

Case Study #2: Diana, Princess of Wales Memorial Playground



Tick-Tock



The popular water feature



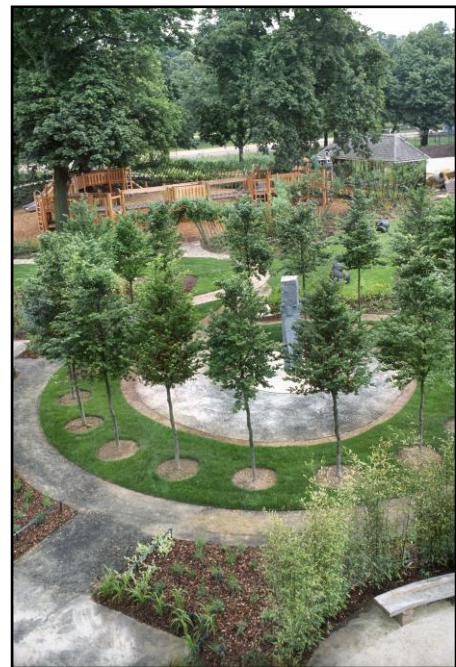
Captain Hook's Ship



Case Study #2: Diana, Princess of Wales Memorial Playground

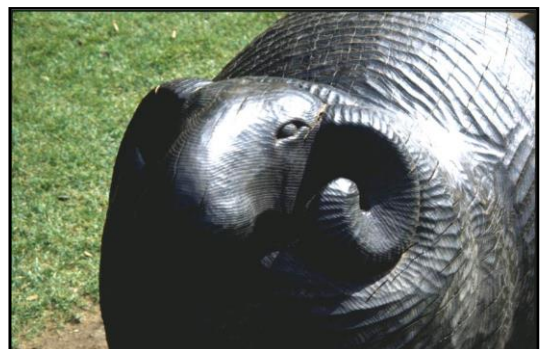


Tree House Encampment



Music & Movement Garden

Art sculptures are located throughout the playscape



Case Study #3: Camden Children's Garden

Photos by author

Type: Private Garden

Location: Camden, New Jersey

Established: July, 1999

Size: 4.5 acres

Description: (from the CCG website)
<http://www.camdenchildrensgarden.org/>

The Camden City Garden Club, Inc. was established in 1985. The Club is a non-profit (501) (c) (3) environmental and educational organization. Originally formed for the purpose of assisting Camden City residents with community gardening, the Club's programs soon expanded in 1989 to include the in-school Grow Lab Program and the Youth-at-Risk Job Training and Employment Program. The organization's community gardening program has been expanded to include community greening and beautification projects as well as urban farming.

In 1993 the Club began planning the Camden Children's Garden. The Garden opened in July 1999 as a four-acre "horticultural playground." Today, the organization also provides both on-site and distance learning educational programs covering over 30 available lessons, each aligned to the NJ Standards.

Camden Children's Garden is designed for children and families. It is a special place to explore and discover the natural world. The four-acre garden provides horticultural experiences for creative and imaginative play.

The Garden includes three indoor attractions, the popular Philadelphia Eagles Four Seasons Butterfly House, the tropical exhibit, Plaza de Aibonito and Ben Franklin's Secret Workshop. Other exhibits include a Dinosaur Garden, Maze, Tree House, Picnic Garden, CityScapes Garden, Storybook Gardens and the Fitness Garden. Visitors can round out their visit by riding the Carousel, Train and the Spring Butterfly Ride.



Camden Children's Garden Entry

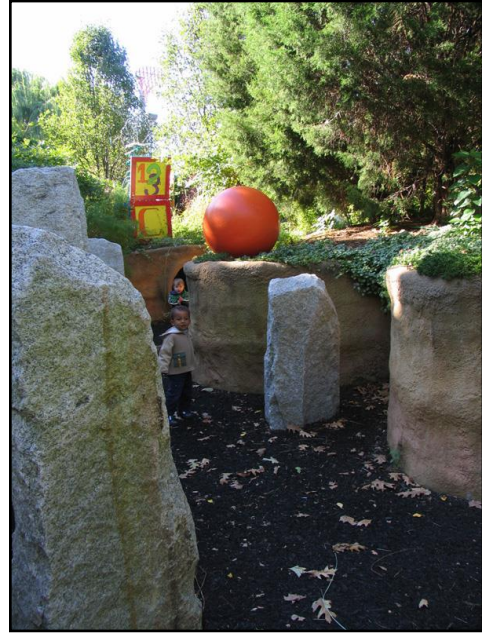


The Picnic Garden

Case Study #3: Camden Children's Garden

Facilities & Key Features:

- *Violet Plaza*
- *Picnic Garden*
- *Potting Shed*
- *Cityscapes Garden*
- *Arrow River Train*
- *Garden Tent*
- *Benjamin Franklin's Workshop*
- *Butterfly Tent*
- *Philadelphia Eagles Four Season Butterfly House*
- *Garden Carousel*
- *Storybook Gardens*
- *Red Oak Run*
- *Irish Faerie Garden*
- *Piney Woods Amphitheater*
- *Dinosaur Garden*
- *Tree house & Peace Plaza*
- *Plaza de Aibonito*
- *Ginkgo's Gift Shop*
- *Restrooms*



The Maze leading to the Dinosaur Garden

Construction Costs: \$7.5 million

Designers: Camden Children's Garden; Camden Garden Club; Rodney Robinson Landscape Architects; Venturi, Scott Brown and Associates, Inc.; and Cueto Kearney Design, LLC



The Dinosaur Garden



Case Study #3: Camden Children's Garden



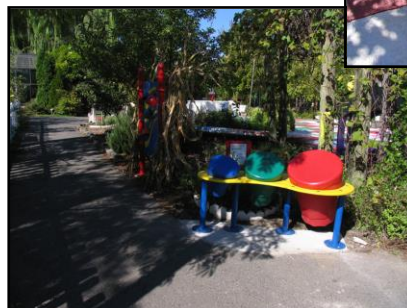
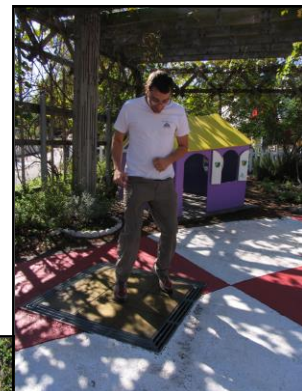
Storybook Gardens



Giant's Garden in
Storybook Gardens



Garden Carousel



Music Area near
Entry

Case Study #3: Camden Children's Garden



**Potting Shed and
Gardens**



Arrow River Train



**Child and Adult-Sized
Restroom Facilities**

Case Study #4: Ibach Park

Type: Public Park & Playground

Location: Tualatin, Oregon

Established: 1996

Size: 19.4 acres

Description: (from the Tualatin Parks & Recreation website)

<http://www.tualatinoregon.gov/recreation/ibach-park>



Historical Interpretation Playground

This gem is a 19.40 acre active park, with an award-winning play area, located at 10455 SW Ibach Street. There are also passive recreational opportunities available through connections to the Indian Meadows and Hedges Creek greenways.

Ibach Park (pronounced "I-back") has an award-winning, nationally recognized playground that translates history into an interactive educational play area for children of all abilities. The play area design includes distinct areas reflecting Tualatin's significant historic eras: pre-historic, Native American, and pioneer.

Interpretive signs in the park offer information about the cultural as well as natural history of the area. A teen play area set away from the main playground provides a place for young people to "hang-out". The park also has an assortment of active park facilities such as basketball and tennis courts and ball fields. Ball fields are available for reservation through the Community Services Department at 503-691-3061 or in person at 8515 SW Tualatin Road during normal business hours.



Aerial view of the 19.4 acre park

Case Study #4: Ibach Park

Ibach Park has picnic shelters available for smaller parties although they are not reservable. They are a first-come, first-serve type of picnic shelter. For reservable and/or larger picnic shelter options, park users can contact Tualatin Community Services.

Facilities & Key Features:

- *Play & History Area depicting Tualatin's past, from prehistory to early settlement days. Includes a water feature that is child-activated.*
- *Interpretive signage with information about the area's natural and cultural history.*

Awards: Design Award from the Oregon Park and Recreation Association (1996); Red Tricycle Totally Awesome Parks Award (2012)

Designers: Moore, Iacofano & Goltsman, Inc. (MIG)



Custom play features depict the area's natural history



The water feature is child-activated



Accessible and family-friendly

Case Study #5: Waterworks Gardens

Type: Public Park

Location: adjacent to King County South Treatment Plant, 1200 Monster Road SW, Renton, Washington, 98055

Established: 1996

Size: 8 acres

Description: (from Lorna Jordan's website)

www.lornajorda.com

"Waterworks Gardens" is an environmental artwork and earth/water sculpture located on the northern border of a water reclamation plant. The project naturally treats stormwater, enhances an on-site wetland, provides five garden rooms, and creates eight acres of new open spaces for public use. The progression of five garden rooms engages the visitor on an intimate scale and follows the story of the water's cycle: impure, working, mysterious, beautiful, and life-sustaining.



(from King County website)

<http://www.kingcounty.gov/environment/wtd/About/System/South/Plant/WaterworksGardens.aspx>

Waterworks Gardens is a public park next to King County's South Treatment Plant in Renton, Washington. This is a place where art, technology and nature join in a unique way. Along with trails, public art, native plants and wildlife, the ponds and marshes of Waterworks Gardens filter and clean stormwater from the treatment plant's 50 acres of roads, parking lots and hard surfaces. After passing through Waterworks Gardens, the treated stormwater flows into Springbrook Creek. The treatment is so successful King County was able to get a federal permit to discharge to the creek. Waterworks Gardens is designed as a series of garden "rooms." The Knoll is the entry to Waterworks. The path then passes through a series of leaf-shaped ponds, an inlaid mosaic Grotto and wetlands. Waterworks Gardens opened in 1996. The gardens are open between dawn and dusk year-round.



The Knoll, one can see stormwater flowing under the weathered metal grate work

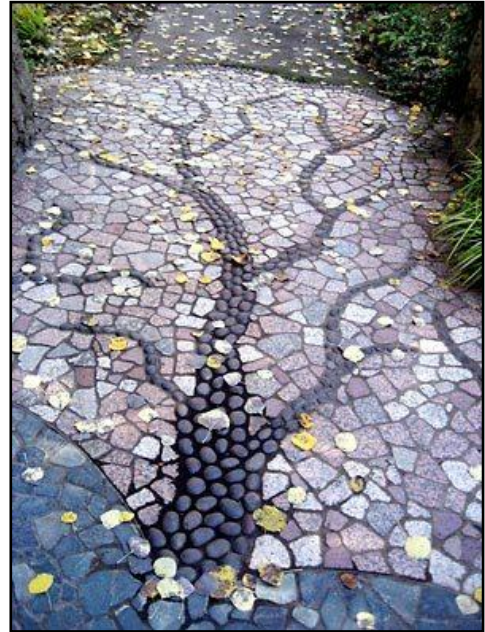
Case Study #5: Waterworks Gardens

Facilities & Key Features:

- *"The Knoll" – garden entry and provides an overlook to the environmental art landscape*
- *"The Funnel"*
- *"The Grotto" – Shaped as a seed pod, the room's walls and benches are formed of shotcrete with recycled stone mosaic covering. This room also has a stormwater fountain and lush plantings.*
- *"The Passage" – The walking trail winds along a row of Lombardy poplars and past 3 leaf-shaped ponds, which symbolize the trees' fruit*
- *"The Release" - Stormwater treatment wetlands & walking trails*

Construction Costs:

Partners & Designers: King County Department of Natural Resources and Parks: Wastewater Treatment Division, Lorna Jordan (Artist), Jones & Jones Landscape Architects, Brown & Caldwell Consulting Engineers



Mosaic stonework is a consistent artistic feature



The Grotto, with plantings beginning to mature

The stormwater fountain



Case Study #5: Waterworks Gardens



The Grotto



"The Release" - Walking trails wind through stormwater treatment wetlands