



5/8/2015

Riverfront Crossings Park

CONCEPT DESIGN REPORT



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RIVERFRONT CROSSINGS PARK

The City of Iowa City has realized several large floods along the Iowa River which have created extensive damage to public, private, and University of Iowa properties. In an effort to move critical infrastructure facilities out of the floodplain after the major flood event in 2008, the City secured funding through the Iowa Flood Mitigation Program to decommission and demolish the City's North Wastewater Treatment Plant (WWTP) and convert the area into a new riverfront park. This park will provide public open space area, recreational facilities, and access and trail connections to the river and the adjacent mixed-use redevelopment area; as well as provide floodplain storage and restoration of Ralston Creek to enhance Iowa City's flood mitigation efforts. Restoration of Ralston Creek was studied by Tetra Tech as part of the EPA Green Infrastructure Technical Assistance Program (see Reference 6). Stream restoration and the associated wetlands were conceptually designed by Tetra Tech and have been incorporated into the park grading plan.

The demolition of the plant was designed by Strand Associates for the City of Iowa City and construction is set to begin shortly. Early grading plans for Riverfront Crossings Park were provided to Strand Associates to coordinate with the demolition design effort.

In 2008, Iowa City was designated as a UNESCO City of Literature to recognize the City's commitment to promote cultural diversity through creative literary works, programs, events, and festivals and make connections with writers and artists. An Iowa Department of Cultural Affairs Great Places Grant was awarded to Iowa City to incorporate City of Literature elements into the park.

The Riverfront Crossings Park Master Plan includes project goals, plan view of the park, a preliminary grading plan, riverfront connection and circulation plan, and description of major elements (park, recreational, and celebration of arts and culture).

1. Park Case Study

As part of the supporting research for this master plan, we looked at a series of riverfront parks across the country to better understand their strengths and challenges. Here we focus on three parks that have tackled a primary challenge of transitioning from urban zone to riverfront edge with a variety of amenities and approaches. The third park presented in these case studies, Denver's Commons Park, perhaps best parallels the scope and conditions of Iowa City's Riverfront Crossings Park. All three parks, however, provide some interesting examples and insights to consider in the planning and development of Riverfront Crossings Park.

RIVERFRONT PARK, LYNCHBURG, VIRGINIA



Source: www.lynchburgva.gov/riverfront-park

This 3.38 acre park shares some commonalities with the circumstances of Iowa City's Riverfront Crossings park by virtue of the park's need to transition from an urban area to a more natural river's edge treatment.

The park focuses on connectivity – linking to a Riverwalk along the trail's Northern edge and allowing users to make their way to a popular site in the James River known as Percival Island. Unlike the terrain at Riverfront Crossings, this park addresses level terrain making connections simple – and less prone to erosion despite the site's riverfront location.

This park emphasizes parking on nearby streets, more so than within the park and employs a number of nature-based features for enhanced user experiences including rain gardens, shade trees and native wildlife plantings. Boardwalks drive the connections of those features.

To accommodate festivals and events, this park employs large open lawns and a specific stage area (used for apparently "routine" Friday night concerts during the summer months).



A key feature of the park is its zero depth fountain, which serves as a backdrop for special events as well as an ongoing entertainment/recreation feature for park users.

JOHN W. GALBREATH BICENTENNIAL PARK, COLUMBUS, OHIO



Source: downtowncolumbus.com/home/moving-forward/Scioto-mile

Columbus, Ohio's 4.66 acre Bicentennial Park serves as the south terminus of the dynamic and popular "Scioto Mile" – a wide array of features (public and private) intended to link from Columbus's "Arena District" to the Whittier Peninsula. Described as "nature at its friendliest," the mile and its associated parks connect through technology, structures, and signature features.

A promenade sets the stage for the Scioto Mile's connectivity – a promenade featuring a "stunning plaza" and an iconic fish-sculpture fountain.

Two outstanding features drive "Mile" users to Bicentennial Park – 1) a permanent, striking performance pavilion, intended for significant event performances along the river; and 2) a fountain – more than 1/3 acre in footprint with 1,000 pop-up jets "creating a dancing wall of water, five halos that spray mist and fog, and a blossom features that shoots a stream of water over 70 feet in the air." In other words, this is a fountain to end all fountains. It appears to serve as an icon for the park and the larger-scale Scioto Mile as well. A popular restaurant also sited at the park turns Bicentennial Park into a true triple-threat.

The Parks and Recreation Department programs the pavilion with a series of free concerts and other performances, and also makes the facility available for other community events.

The Fountain operates seasonally from April through October. It's considered both an "architectural marvel and interactive area for aquatic play."



Source: www.sciotomile.com/explore/Scioto-mile-fountain/

COMMONS PARK, DENVER, COLORADO

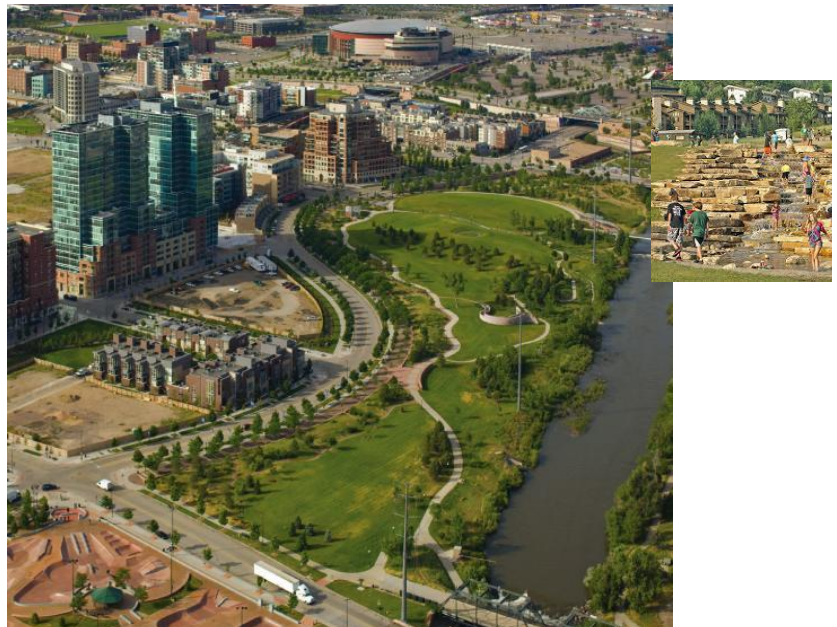
Once a brownfield site, Commons Park is bordered by the South Platte River -on its western edge while its eastern edge borders an urban environment. It's accessible by foot, bicycle, bus and car. The surrounding neighborhoods have a variety of connecting points via bridges, tunnels and paths.



This park presents some distinct parallels to Iowa City's Riverfront Crossings Park. Despite the scale of the Denver Metropolitan Area, this park uses a similar approach to transition from the urban grid to a more natural riverfront setting through a tree-lined promenade, plaza, seating areas and park gateway features. A cascading wall invites users more deeply into the park through a series of flex-spaces and artful features – aiding in that shift from urban lines to more organic features. The park is directly connected to Denver's dynamic downtown character and yet it successfully develops a landscape approach that allows wetlands and natural characteristics to fit into the overall park scheme.

The large scale “commons” or lawn/open space areas also assist in that transition. The emphasis in this park is on the greenspace and not on cars or parking. As the Project for Public Spaces reports, the Commons hosts picnics, games, and pickup sports – even without formal designated sports fields (placemaking.pps.org).

In addition to the cascading wall, facilities incorporated into Commons Park reflect the interest in providing a mix of areas for activity and for quiet or smaller scale/personal spaces. In addition to bike/pedestrian paths, the park parallels the South Platte River with an active trail that also provides scenic vistas and resting points. Benches, drinking fountains, shade facilities, additional jogging paths and direct access to natural areas strengthen both the urban and natural zones of this park. The park also generates winter activity as a site for sledding.



Source:www.denver.org/listings/Commons-park

2. Project Goals

A draft of the park master plan was presented to the public on January 28, 2015 at the Terry Trueblood Recreation Area Lodge. The draft presented at that public meeting was based on:

- Past public involvement in support of Riverfront Crossings Master Plan
- Public input developed through earlier park system planning efforts
- Insights provided by city staff, and
- A series of park case studies (See Park Case Study Section 1 of this report).

The presentation and open house event specific to this plan was well-attended (crowd estimate, approximately 150) with the public showing great interest in a variety of details related to the plan – from flood resilience, plantings and programs, adventure features, water quality treatment/wetlands and particularly strong interest in arts/culture/heritage components. The consulting team received a number of thoughtful comments orally, in writing, and through interaction with the presentation boards.

The final park master plan was modified to accommodate the public’s many helpful suggestions and address as many specific concerns as possible. Based on past public input and input received at the January open house, several overarching goals have emerged:

- Promote better environmental stewardship of our urban waters, in this case the Iowa River and Ralston Creek;
- Improve public access to the Iowa River and Ralston Creek through enhanced trail connections, boardwalks, creek crossings, river overlooks and by providing new opportunities to get down to the water for fishing, boating, wildlife viewing, and other activities;
- Provide a variety of active and passive recreational opportunities for all seasons;
- Transform the land from impervious industrial hardscape into a regenerative and flood-resilient riverfront greenspace with a focus on native trees and landscapes, improved riparian corridors, wetlands, natural river and stream bank restoration, open greens, gardens and plazas that will invite quiet contemplation, nature play, education, community gathering, festivals and events;
- Include features, elements and programming in the park that celebrate Iowa City as a “river town” and as a center for literature, art, and local history and culture; and
- Consider the park a “changeable canvas” for environmental education, recreation and community events, celebrations and programs that respond to current and future needs and desires of the community as the new Riverfront Crossings neighborhood grows around it.

As the park is constructed over the coming years, the community would greatly benefit from public involvement to advocate and volunteer for park, river, and creek clean-up events, planting and maintaining landscapes, and organization of community events. The formation of a “Friends of Riverfront Crossings Park” or “Friends of Ralston Creek” community organization could promote advocacy and action for the park in the future.

3. Riverfront Crossings Park Master Plan

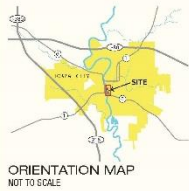
Below are exhibits showing the Riverfront Crossings Park Master Plan and Grading Plan.

Overall Riverfront Crossings Park Master Plan

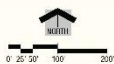
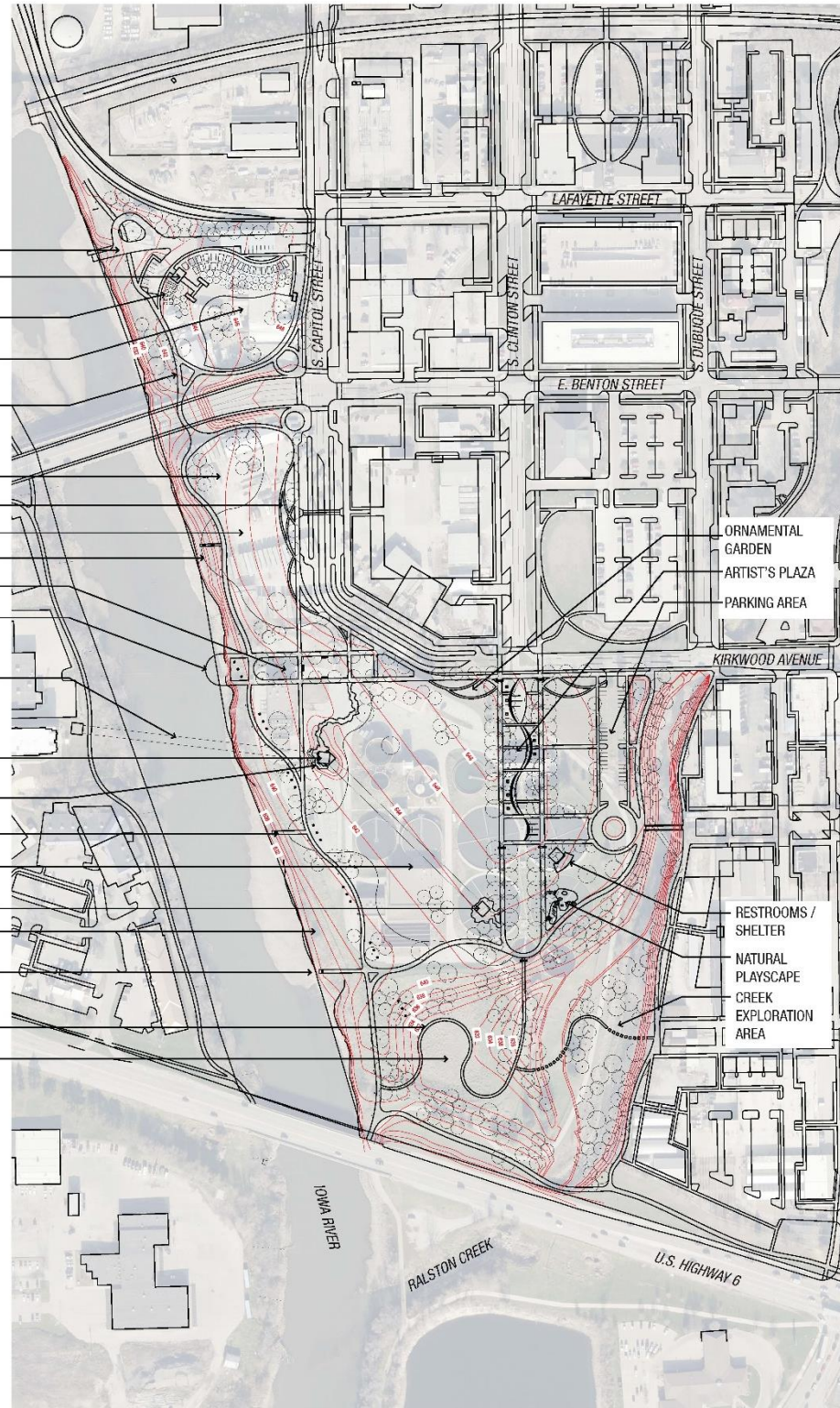
MASTER PLAN – Illustrative Plan View



MASTER PLAN - Grading Concept



- BOAT RAMP
- RESTROOM / TOOL
STORAGE BUILDINGS
- COMMUNITY
GARDEN PLOTS
- DOG PARK
- EAST RIVER TRAIL
- NATIVE PLANTINGS
- ORNAMENTAL GARDEN
- OPEN MEADOW
- TERRACES
- KIRKWOOD PROMENADE
- RIVER OVERLOOK
- ZIP LINE OVER RIVER
(OPTION)
- ZIP LINE TOWER
- BOULDERING COURSE
- RIVER OVERLOOK
- OPEN MEADOW
- ZIP LINE TOWER
- TERRACES
- RIVER OVERLOOK
- WETLAND BOARDWALK
- WETLAND / FLOOD PLAIN
RESTORATION



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RIVERFRONT CROSSINGS PARK

APRIL 2015



Overall Riverfront Crossings Park Grading Plan

The planned components that make up the park include adventure elements, art elements, and park elements that provide a wide variety of activities for park users. These elements are further described below.

4. Adventure Elements

Zip line

Features such as zip lines activate the park, for not only the park users on the zip line, but also for those on the ground watching the people glide overhead. The zip line would be a community attraction to draw users to the park. The zip line is comprised of park towers with cables strung between them at inclines. Users would zip from tower to tower, suspended from the cables via a harness and pulley system. The towers would have two launch and landing platforms at different heights to allow two-way travel. An optional third tower is illustrated on the west side of the river to allow for zip line travel across the river. Due to their height, the towers become landmarks within the park and can be designed as icons, or canvases for art. The zip line will require either City staff or a contracted vendor for operation and supervision.

Some have expressed concern over operations and liability and have wondered about the “fit” of a zip line in a park with potentially beautiful, restive elements. Many, however, endorse the concept of a zip line – particularly crossing the river – as a means of engaging young adults and providing some excitement in the park. Some want to see the tower provide a potentially iconic art element for the park.

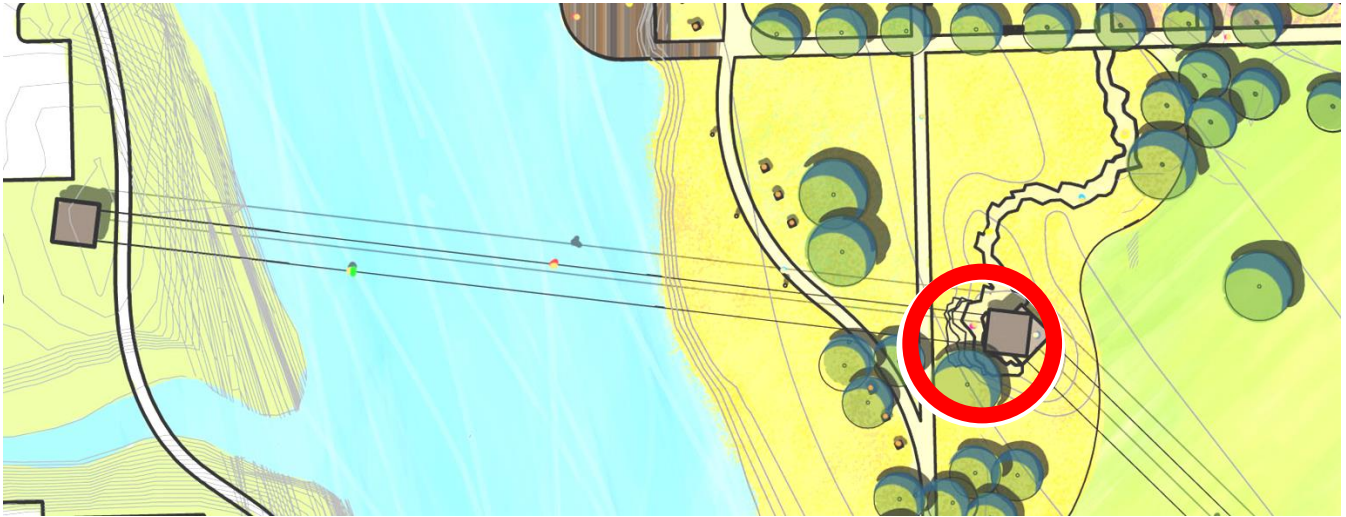


Photo Credit: The Columbian

Examples of a zip line (left) in Washougal, Washington, and an adventure tower (right) at Walker Johnson Park in Urbandale, Iowa

Bouldering Course

Bouldering courses are another opportunity to activate the park and provide for a people-watching experience. The bouldering course would be composed of predetermined climbing hand-holds fastened in natural or artificial stone for climbing practice. The height of the bouldering course would be kept at a lower height to mitigate the risk of falls. Below the bouldering course, mulch, or rubberized play surfacing would be placed for added fall protection. The proposed bouldering course would be located at the base of one of the zipline towers and built into a mounded hill. This would allow access to both the top and bottom of the bouldering course.



Bouldering course integrated into the topography of the park at the base of the north zip line tower



Photo Credit: Nicros Inc.

Examples of artificial stone bouldering course



Photo Credit: Sport Rock Intl, Inc.

Natural Playscape

The natural playscape is an opportunity for non-structured play that relies on the child's imagination while engaging the child in the outdoor environment. The natural playscape can be comprised of salvaged materials that encourage children to think about new uses for everyday materials. Old barrels can become drums, logs can become climbing steps, and stumps can be a performance stage. Sand and water become the building blocks for miniature engineering projects.

The natural playscape is located at the southeast corner of the park, near parking, restrooms, and the more natural elements such as the wetland and creek exploration areas. Done well, the playscape should aid in transitioning young people from constructed, to true nature-based "real world " experiences.



Example of natural playscapes at Jester Park in Polk County, Iowa and ISU Vet-Med Child Care in Ames, Iowa.

5. Park Elements

Restrooms / Concessions / Shelter

A combined restroom building with concession stand and picnic shelter is located at the SE corner of the park. This will serve as the primary park shelter and restroom for the main portion of the park. It's located next to the artist's plaza, natural playscape, zip line tower, and flexible park open space. A secondary restroom building is identified in the northern portion of the park to serve the community garden and dog park areas.

The program for these buildings would be sized to handle the average daily park users. For large events additional food vendors or portable toilets will need to be added.

The restroom building should be designed with durable, non-organic, non-porous materials and finishes that can withstand flooding. Provisions for electrical and other equipment should either be removable or mounted higher on the walls above the protected floodplain elevation. Consideration can be given to heating the concession stand for winter activities and/or providing a sufficient footprint to accommodate some basic equipment rental.



Examples of a combination restroom building and park shelter at Memorial Park in Spirit Lake, Iowa (left) and a park shelter at Precedence Park in Ankeny, Iowa (right)

Providing a flood resilient park building to host indoor activities, such as classes, art activities, winter activities, and a farmer's market was considered. While some citizens suggested using the 1930 Wastewater Operations Building for this purpose and to preserve the sense of history that it represents, others recognized that it would be difficult to flood-proof the building and make it accessible to persons with disabilities. Since there is limited usable space within the building, the City Council determined that the costs of repurposing this building, flood-proofing it, and making it accessible outweighed the potential benefits. While the benefits of an indoor venue for community events in Riverfront Crossings would be considerable, particularly as the population increases over time, the location of such a facility should be carefully considered to ensure that it is accessible during flood events.

Creek / Nature / Wetland Exploration

As stated in the Riverfront Crossings 2011 Subarea Plan, “the riverfront park has the potential to be designed to address water quality and quantity issues at a regional scale, as well as flood control during larger storm events. Ralston Creek has the opportunity to be designed to both stabilize the creek bank and create a restored riparian corridor alongside the creek. A larger constructed wetland is designated for the southern portion of the riverfront park. This wetland would be designed to retain, infiltrate and treat stormwater runoff.” In furtherance of those stated goals, the City received a grant of technical assistance through the U.S. EPA’s Green Infrastructure Program. Tetra Tech, a consultant hired by the EPA has developed a plan for naturalizing the reach of Ralston Creek that forms a portion of the east boundary of the park. In addition, Tetra Tech has developed a concept plan for constructing a system of off-channel wetlands that will become a major feature of the new park. The report and concept plan from Tetra Tech is available on the City’s Riverfront Crossings webpage. This design will be further refined and be implemented as the first phase of park with estimated completion about December 2016.

The public supports the reconstructed wetland areas and encourages these areas to be maximized at the park since wetlands are a source of beauty and habitat. The educational story of the wetland areas is critical to enable park users to understand the importance of these natural systems. Elements that can be implemented at the park to enhance learning about wetlands, habitat, and flooding through this feature are welcomed by members of the public.

Bridges, gravel paths, stepping stones and interpretive elements along and across the creek and in the wetland area provide opportunities for nature exploration, observation and education. Interpretive displays can highlight lessons about various topics, including native plant communities, aquatic animals, green storm water management, the importance of wetlands, and floodplain geology.



Photo Credit: Maureen Bovet Horticulture Presentations

Stepping stones along a pond at the Coastal Maine Botanical Garden (left) and proposed creek exploration area at Forest Grove Park in Bettendorf, Iowa (right)

Wetland Boardwalk

A boardwalk is proposed for the wetland area to allow park users access to observe plant and wildlife commonly found in wetlands and along the Iowa River. The boardwalk will provide another opportunity for educational and interpretive signage and public art highlighting the importance of the environmental features of the park.



The boardwalk feature at Riverfront Crossings Park will provide park users unique opportunities to a connection to a restored wetland environment in an urban environment along the Iowa River.

The boardwalk could be built of wood, composite, or metal decking and designed to withstand inundation during normal river/creek fluctuations. Floating sections could even be considered.



Photo Credit: Doug Cornelius

Example of a wetland boardwalk at the Broadmoor Wildlife Sanctuary in Natick, Massachusetts (left), and a proposed boardwalk system along the I-35 Bluebelt in Ankeny, Iowa (right)

Flexible Open Spaces

Flexible open spaces are planned for the park for year-round use. These areas can be used for enjoyment of a sunny day, ball games, picnics, festivals, concerts, and winter activities. Winter activities can include cross country skiing and snow shoeing along the trails, holding winter events in the plaza, interaction with the frozen creek, and viewing wildlife, particularly the eagles from the overlooks.

As opposed to typical park turf grasses, we envision the lawn/meadow areas seeded in native, drought tolerant low-rise mixes, appropriate for periodic mowing. The extent of the mowed areas can change throughout the year depending on space needs and mowing can occur in preparation for specific events. In areas of anticipated frequent mowing, there may be a need to include some non-native species in the seeding mix; however, it is this plan's intent for native species to dominate this park.



Flexible open spaces in New York City's Central Park (left) and the Palace Garden in Stuttgart, Germany (right)

Landscape (Native and Ornamental) Plantings

A combination of plant material will be planned for the park. Native shade trees would provide the overstory canopy for the park. These trees will provide habitat for birds and bats which will help control insect populations, as well as provide shade and comfort for park users. Trees will be used to frame views along promenades, as well as form an edge to the park along the adjacent streets. In other areas trees will be located throughout the park to provide informal settings.

In most of the park, understory shrubs and trees would be kept to a minimum to maintain open views and a safe atmosphere. Along the river banks and in the wetland, native riparian shrubs would be planted to create additional stabilization and habitat. Fruiting shrubs and trees could be located in key areas to provide edible food for humans and animals alike.

Along the adjacent streets, ornamental plant beds would be an opportunity for showy native and or edible perennials to enhance the streetscape and park edge. In open areas of the park, predominately native turf type grasses would be planted that could withstand mowing (see above). Minimizing areas of highly maintained turf grass and mowed areas and substituting low-rise prairie plants or other landscaping reflective of our natural heritage will greatly reduce maintenance costs, enhance rain water quality and quantity management capacities of the park and limit the use of chemical fertilizers and pesticides.

Landscaping plantings at the artist's plaza and ornamental garden areas will transition from traditionally formal, to a celebration of natives/prairie heritage. Preservation and protection of the mature trees at rivers' edge, especially considering their role in providing eagle habitat, will be a priority as the park is implemented.

Along the perimeter of the park and in more natural areas, mesic native grasses and forbs would be planted. Paths within these native plantings could be mowed to allow for access and educational opportunities. At the river, creek and wetland edges, a wet mix of native plants would be planted. These would include sedges, rushes, water lily, iris, buttonbush, rose mallow among other water loving plants.



Photo Credit: Matthew Rothenberg & Pam Penick

Native grasses and forbs at Standing Bear Lake in Omaha, Nebraska (left) and mixed native and non-native ornamental plantings at the Lurie Garden in Chicago, Illinois (center and right)

Community Gardens

Community garden plots are proposed at the north end of the park, but based on community interest, particularly as the new residential neighborhood grows around the park, additional areas may be designated for community gardens. Edible plant material and fruit trees would be planned for this area and in other appropriate areas of the park to supplement the community garden plots. A tool shed would also be located in this area along with hose bibs for watering plants.



Photo Credit: NYC Community Garden Coalition

Example of urban community garden plots in New York City (left) and a garden shed and shelter at the P-Patch Community Garden in Seattle, Washington (right)



Photo Credit: Eye On Design

Dog Park

Also located in the north end of the park is the proposed off-leash dog park. This would be a fenced area with a combination of shaded and open spaces for dogs to run freely. The size of this area will need to be appropriate for the limited space within this urban park. Activity structures could be installed. A source of potable water should be included. Maintenance and upkeep should be carefully considered due to the limited size, particularly if the area is heavily used.



Photo Credit: City of Coconut Creek

Example of off-leash dog park at Windmill Park in Coconut Creek, Florida

6. Riverfront Connection and Circulation Plan

Neighborhood Connections

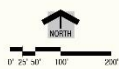
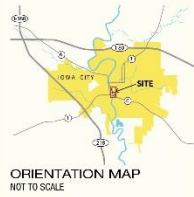
The importance of the trail network and its connectivity to the surrounding neighborhood cannot be overstated as a means of encouraging walking, biking, and other alternative modes of transportation in the Riverfront Crossings District. See the next page for an exhibit showing the Riverfront Connection and Circulation Plan. A full size exhibit is included in Appendix F.

The location of the Park within the larger Riverfront Crossings District Sub-Area provides several opportunities for connections between high density land uses and public open space. The 2011 Riverfront Crossings Sub-Area Plan identifies a 76-acre redevelopment zone east of the Park designed to accommodate up to 900 residential units and up to 220,000 sq. ft. of ground floor retail/office space. The goals established for the Sub-Area Plan below are reinforced by the programmatic elements of the Park:

- Develop a new mixed-use, pedestrian-oriented district
- Create a resilient riverfront park system
- Enhance Ralston Creek to become a community asset
- Develop a multi-modal transportation system
- Create a network of green streets throughout the district
- Promote sustainable design practices within the district

Connectivity of the Iowa River Trail along the east bank of the Iowa River from the south to north edges of the Park, safe and accessible crosswalk connections from the Park across Capitol Street and Kirkwood Avenue as well as pedestrian connections to the Benton Street bridge, which will provide access from development on the west side of the river. The main entranceway to the Park is planned at the terminus of Clinton Street, which will provide a direct connection between the park and Downtown Iowa City along the planned Clinton Street promenade. A bridge across Ralston Creek is proposed to provide a trail connection and direct access between the Park and adjacent mixed-use development proposed on the east side of Ralston Creek, west of Gilbert Street. Pedestrian streets will extend from Gilbert Street to Ralston Creek where they will intersect with a trail network on the east side of Ralston Creek and the planned bridge crossing across the creek. A stepping stone pathway crossing is also proposed across Ralston Creek to the adjacent mixed-use development proposed on the east side of Ralston Creek. This pathway is intended to provide a ‘creek exploration’ experience for Park users.

MASTER PLAN - Riverfront Connection and Circulation Plan



Overlooks and River Terraces

The Iowa River has a diverse wildlife and riparian habitat culture, including eagles that congregate and nest in the tall trees along the river. In order to provide views and access to the river several overlooks and access points are planned along the east bank of the Iowa River in the park. A large river overlook point is proposed for the end of the Kirkwood Promenade. This deck structure would be cantilevered over the river bank with views up and down the river. Benched river terraces north and south of this overlook would provide spots to walk along the river. Three ramped and or stepped access paths are proposed connecting the terraces to the trail that runs along the river bank.



Photo Credit: Turenscape



Photo Credit: WKVI FM

Examples of overlooks at Shanghai Houtan Park in Shanghai, China (left) and at Tippecanoe River State Park in Indiana (right)

Boat Access

At the north end of the park, a paved boat ramp and turn-around space is planned for launching canoe, kayaks, and motorized boats. This boat ramp could also be used as a put-in point to the Iowa River for those portaging around the Burlington Street Dam. In addition to the boat access, a few members of the public expressed an interest for a kayaking course to be considered along the Iowa River at the park.

Trails

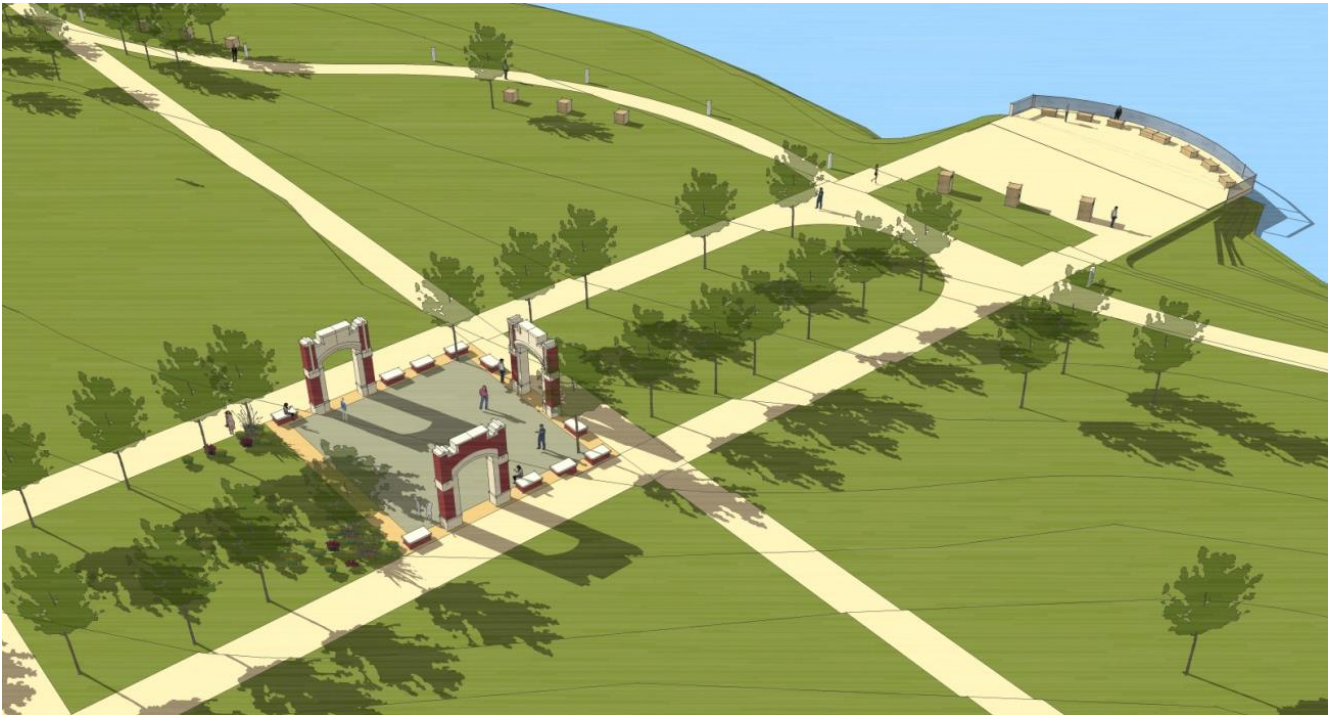
Combinations of paved and granular trails would be planned for the park. The main trail links would be paved and at ADA accessible grades. Secondary trails could be gravel covered, or simply mown paths. Where feasible, trails within the Park should be located above the 10-year flood elevation of 640 feet.



Examples of paved trails (left) and granular trails (right)

Kirkwood and Clinton Street Promenades

At the end of Kirkwood Street, Capital Street, and Clinton Street, two promenade spaces are proposed that would continue the street grid into the park and provide inviting framed views and termini from the adjacent streets. Many park and art elements would be located within these promenade areas.



Aerial view of the proposed Kirkwood Avenue promenade

Parking (Auto and Bike)

Two parking areas are planned for the park. One area is located at the north end of the park to serve the boat ramp, community gardens, and dog park. The other parking area is located just south of Kirkwood on the east side of the park to serve the main park area. Bio-retention areas within or adjacent to the parking lot would be installed to collect, treat, and infiltrate storm water run-off before it is released into the Iowa River or Ralston Creek. Bicycle parking areas with bike racks would also be provided at these and other locations in the park.

7. Celebration of Arts and Culture Elements

Initially, the concepts related to public art for inclusion in this park were focused primarily on City of Literature components. The City of Literature is an exceptional honor bestowed on Iowa City and worthy of celebration. To a large extent, the public endorsed the concepts proposed in the master plan to celebrate the City's designation as a UNESCO City of Literature. They viewed these elements as dynamic and potentially significant to the overall park impact. They appear to resonate as a powerful, valuable distinction for the park. Goals for the City of Literature park components, based in part on the City of Literature charter, include:

- Engaging the public in appreciating the importance of words/language
- Creating an awareness of the role of literature in the larger Iowa City community
- Connecting writers to readers, and
- Developing new audiences for literature through awareness and interaction

At the same time the designers developed components to address those goals, they learned through the public engagement process of the strong community interest in expanding the arts components for the park to appeal to a wider audience to also engage visual arts, theatre, dance, movement, and music – diverse arts experiences. They look for hands-on arts activities, opportunities for artists/artisans to display/demonstrate, and visual and interactive elements (e.g., sculpture park or changing visual arts exhibits). On a related note, a few emphasized the need for the arts components to appeal to persons of wide-ranging developmental abilities. The public spoke of welcoming City of Literature as a vital component of the park, but it was not their exclusive interest in the arts. The arts elements still work cooperatively to achieve City of Literature goals, but they also provide the public a variety of opportunities to engage in many different art forms as artist or audience. As an example, some would like to see the trail markers expand beyond the City of Literature feature to become more distinct art objects in and of themselves, and/or serve as means to display sculpture or other art components.

Finally, these arts and interpretive components also serve to achieve an equally significant park goal – to build awareness around the role of floodplains, water quality, and natural water systems in our everyday lives. The concept of a curvilinear public art installation as the signature entranceway feature to the park that combines the theme of water with literary or artistic themes, a sort of “river of words or ideas,” resonated with the public particularly with its potential for water play and for creating small performance, community gathering, or activity spaces within the curves.

Gateways

Also dubbed “poetry portals,” these gateways to the park are purposely monumental in scale, designed to link downtown to the park. The designers sought a vertical visual that could be captured from a distance to help with that link. These portal sites have been chosen to frame significant views from the urban-grid environment as the park user transitions into a more natural, organic setting. They essentially lead the visitor to water while echoing City of Literature themes. Addressing more than poetry, these portals intend to intrigue the park visitor. Much like a book cover begs to be opened, these portals compel you to pass through. These portals lend themselves to celebrating a wide range of literature options. While the design of these portals will need to be refined, there would be opportunities for dynamic lighting and specific words or phrases incorporated into the design.



View of City of Literature Gateways from S. Clinton Street looking into the park. Close-up view of City of Literature Gateway

Sabin Arches

Due to major flood damage to the University of Iowa arts campus in 2008, the University is relocating its music school and art museum to the northern part of the Riverfront Crossings District. As a result of this move and resulting exchange of properties, the former Sabin Elementary School will be demolished. To mitigate for loss of this historic building, certain architectural elements of the school building will be preserved and interpretive signage developed to celebrate the history of the school. These architectural features, including the distinctive entryway arches, will be featured prominently in the new park.

Through preservation of the Sabin arches (significant artifacts of an historic area school), coupled with the resonance of the poetry portals above, this park reflects past, present, and future. The alignment of the arches reflects their historic configuration in relation to each other and provides destination point, river view observation point, and performance/gathering/display space to serve multiple purposes based on public needs and interests. The design of the courtyard formed by the arches will be designed with seating, gardens, plaza space or a combination of the above depending on the desires of the community. Interpretive signage will provide historical information about the stone arches and the school.



View of Sabin arches looking west along the Krikwood Avenue Promenade (left) and view of the Sabin School (right)

An Artist's Trail

Iowa City's new Riverfront Park is a large park with many opportunities to locate art and experience it. In addition to the many gathering spaces, mowed-meadow venues, and the plaza already mentioned, a series of informal pads are planned along the trail. Their function is to provide an additional option for ongoing artistic/cultural and/or interpretive display and interactivity. The temporary placement of public art on an ongoing basis is one of the outcomes this trail feature hopes to encourage.

Stone Markers and Creek Stepping Stones

While this park plan launches literature skyward through the poetry portals, it also engages the public in discovery of words etched in stone markers and stepping stones. These elements lead the public through the park and into/through Ralston Creek, creating more informal park spaces and ultimately, direct immersion into the park's environment. They provide a "poetic" connection as stones and words disappear and reappear as the waters rise and fall.



Proposed stone markers viewed from the wetland boardwalk (left) and example of a stone marker at Jester Park in Polk County, Iowa (right)



Photo Credit: Andrew Lawson

View of poetry art installation "Little Sparta" near Edinburgh, Scotland by Ian Hamilton Finlay (left) and proposed stepping stones crossing Ralston Creek (right)

Artist's Plaza

The Clinton Street terminus and primary gateway into the park had originally been slated to serve as the Writer's Plaza, but public feedback confirmed the interest in developing this space to serve wide-ranging artistic interests. It was desirable to introduce water engagement at this park's entryway, but a fountain-display was less valuable to the public and planners than a more organic feature, aiding in that city-to-river transition.

Through a meandering wall, runnel, and seeps, the plaza offers many spaces for medium-sized gatherings, smaller group interactions, and also personal, reflective experiences. Voice plays, music performances, temporary outdoor "galleries", dance, yoga or larger markets – all have opportunity to occur at the plaza. The programming options have few boundaries.



Credit: David O'Brien

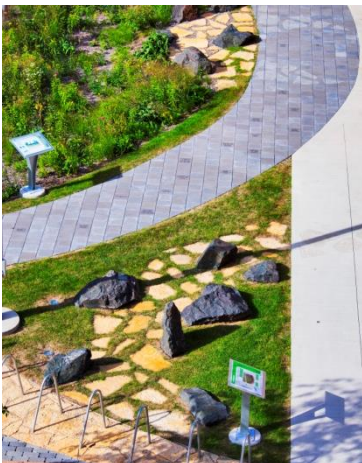


Photo Credit: Ian Poellet

Photo

Examples of limestone wall water features at City Garden in St. Louis, Missouri (left) and Jamison Square Park in Portland, Oregon (right)

The gateway wall's form evolved from the desire to lead park visitors to the water as well as provide these varied spaces. The main plaza promenade blends some formality with the introduction of wilder spaces and provides a unique, dramatic backdrop for large-venue events occurring on the main gathering meadow.



Examples of serpentine stone and pavement patterns at Western Technical College in La Crosse, Wisconsin, that serve as inspiration for the water feature in the artist's plaza.



The Artist's Plaza at Riverfront Crossings Park will provide spaces for smaller intimate gatherings and larger community events.

WEST BANK RESTORATION AND PEDESTRIAN TRAIL

During a site visit in November 2013 to the City's North Wastewater Treatment Plant (now decommissioned), the team observed severe erosion along the west bank of the Iowa River between U.S. Highway 6 and Benton Street. The east bank of the river appeared to be more stable and riprap and concrete rubble protection is visible along the waterline for much of the reach. Photos from the site visit are shown in Figures 3, 4, and 5.



Figure 3. View of the eroded west bank of the Iowa River looking southwest from the City's WWTP



Figure 4. View of the eroded west bank looking west from the City's WWTP



Figure 5. View of the east bank of the Iowa River from underneath Benton St. Bridge.

To investigate the apparent bank erosion, Shoemaker & Haaland surveyed sections of the damaged west bank spaced at approximately 200 feet to compare to the aerial topography developed by Ayres Associates in 2008 after the historic flooding occurred. Cross sections from the west bank survey effort are included in Appendix G comparing the 2008 topography to the 2013 field survey. The surveyed sections demonstrate that drastic bank erosion has occurred since 2008, especially within 700 feet upstream of Highway 6. The bank has eroded as much as 17 feet horizontally and 10 feet vertically when compared to the topography from 2008. It is likely that saturation of the bank, scour at the toe of the bank, and loss of armoring and vegetation that occurred during the 2008 flooding contributed to the rapid bank erosion that followed. Much of the west bank is highly susceptible to further bank erosion. This threatens existing structures and the installation of the proposed trail along the bank. Additionally, it detracts from health of the aquatic environment and should be addressed to make the river an amenity to the community. Efforts to restore or at least stabilize the bank and protect it from future erosion are paramount.



Figure 6. Existing channel bank represents possible model for restored river bank – note that the proposed riprap armoring would be buried beneath the surface.

The structural portions of the proposed bank improvements include restoring the bank with fill at a maximum slope of 2:1 and placing soil-mixed rock riprap under a layer of topsoil and seeding (above normal flows). The toe of the bank would be protected by extending a riprap layer of armoring to existing bedrock or below the estimated scour depth, or with self-launching rock. The selection of the toe armoring will depend upon future analysis and survey of bedrock elevations. Self-launching toe protection typically requires less excavation to install in the streambed compared to the more traditional method of extending rock riprap protection below the estimated scour depth. Armoring the toe of the bank in one of these manners is needed to safeguard the bank from the destabilizing effects of potential riverbed scour. A scour analysis should be completed during preliminary design to determine scour depth and required size of riprap protection. For initial costing purposes, an approximate scour depth of 10 feet was assumed and Iowa Department of Transportation Class D revetment was assumed to be sufficient for the riprap. Riprap will extend up to 15 vertical feet from the toe of the bank where restoration is needed. Areas of existing bank that have not eroded are planned to be left undisturbed and the remaining vegetation above the scour zone would be protected and left in place. Additional vegetation would be integrated into the bank armoring for a more natural appearance. The concept plan and cross sections for the west bank improvements are included in the Appendix G.

Preliminary design for a regional trail along the west bank was completed for the City by Shive-Hattery in 1997. The portion of this trail from Benton Street to Highway 6 should be designed in conjunction with the bank restoration improvements to coordinate the proposed grading. The trail will connect to the existing path on the upstream side of Benton Street, be routed under the Benton Street Bridge, and connect to a proposed trail on the upstream side of Highway 6 that is proposed to be routed under the Highway 6 Bridge by others. The majority of the 1997 trail design is shown along the top of bank. This alignment will need to be adjusted to account for new buildings that have been constructed along the river since the preliminary design was completed. The City may also want to consider an alternative alignment to lower the trail on the bank in order

to allow trail users to get closer to the river and to preserve some of the taller overstory trees that are currently providing habitat for bald eagles and osprey. The 1997 plans proposed a pedestrian bridge to cross an existing tributary channel. An option is shown on the concept plan to extend an existing 10' x 5' concrete box and fill in the channel, instead of installing a bridge. At this concept level, the design by Shive-Hattery was used to provide concept-level costs. The approximate trail alignment, adjusted for existing buildings and parking lots, has been shown on the west bank concept plan and cross sections included in Appendix G.

REFERENCES

1. *Downtown and Riverfront Crossings Master Plan*, Prepared by HDR for the City of Iowa City, January 2013.
2. Floodplain Management Standards, *Iowa City, Iowa - City Code*, February 2015.
3. *Iowa River Corridor Trail from Benton Street to Sturgis Ferry Park Preliminary Plans*, prepared by Shive-Hattery for the City of Iowa City, 1997.
4. *University of Iowa – Hydraulic Memorandum*, Ayres Associates, April 2, 2009.
5. Section 4130 – Revetment Stone, Erosion Stone, and Gabian Stone, *Iowa Department of Transportation Specifications*, 2012.
6. Draft 2014 Green Infrastructure Technical Assistance Program Report, Iowa City, IA, prepared by Tetra Tech for United State Environmental Protection Agency, October 2014.
7. Johnson County, IA Property Stormwater Management Plan, dated July 1, 2013.