

June 2011

# RiverBend

Design Guidance



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Mayor Byron W. Brown



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## Purpose of Design Guidance

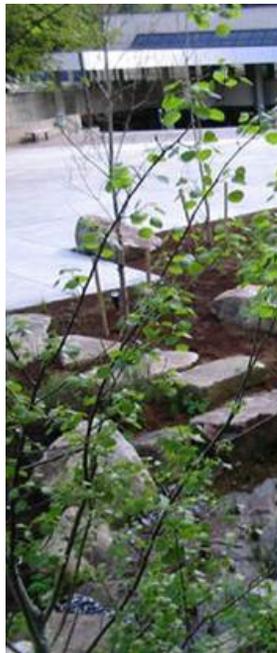
The intent of this document is to provide a flexible framework to guide the development of RiverBend. Priority is placed on defining site related systems and strategies that foster connectivity and ensure a cohesive, contemporary, and well-articulated public realm. Recommended uses are described, but the flexible nature of the plan allows for variety and adaptation as the market demands change over time. Formal, stylistic, and material recommendations remain applicable even as uses change, ensuring a contemporary character for RiverBend that is sustainable, forward-looking, and compliments rather than competes with the more historical downtown.

This design guidance works in concert with the existing regulatory environment, including the Buffalo Green Code initiative, and should be seen as a supplemental tool for directing the design of RiverBend.

# Landscape Strategy

The landscape strategy for RiverBend is a comprehensive and well-connected system that connects to the river, fosters a pedestrian-oriented environment, and plays a functional role in creating green infrastructure and sustainable site systems.

Landscape spaces range from natural to urban, occur along waterfront edges, inland areas, and at a variety of elevations. These spaces permeate the site as a network of bioswales, green streets, woodlands, and trails, as well as discreet, park spaces that give identity to the districts of RiverBend. Landscape spaces within RiverBend relate to one another functionally, spatially, and through material expression. Green infrastructure systems are woven through all landscape spaces. Stylistically, landscape spaces will reflect a contemporary aesthetic that differentiates RiverBend and contrasts with Buffalo's historic downtown, while still reflecting historic ecological patterns.



Landscape Framework



Green Infrastructure

## Green Infrastructure

Landscape areas function as green infrastructure in a series of living, working systems that extend through RiverBend. These systems will promote healthy habitats, restoring the rich ecological history of this site. They will also enhance the value of development sites at RiverBend, linking the human environment in practical, tangible ways to natural systems. Green infrastructure bridges the natural and human environments, enabling engagement with the riverfront and larger natural systems, connecting districts to one another and beyond, restoring the rich ecology of the site, and transforming RiverBend into a vibrant, sustainable, and forward-looking community.

The following systems comprise green infrastructure at RiverBend and are explained in detail in the specific landscape guidance section of this document:

- Stormwater Management
- River's Edge
- Trail Network
- Riparian and Mesic Forest
- Urban Canopy
- Alternative Energy - Wind Turbines
- Grassland



# Planting Strategies

Landscape spaces are integral to green infrastructure strategies and contribute to a strong sense of place. The history of the RiverBend site includes years of damage to ecosystems and habitats. Restoration is a major goal of this effort. Native and habitat-specific species must be used in all planting strategies.

In general, species native to the place in which they are planted require little irrigation and fertilization. This results in a relatively low-maintenance landscape that is site-specific and appropriate to climate and site conditions. Native species will not grow to dominate a landscape, ensuring a healthy ecological balance. See the specific landscape guidance section for details.

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Bioswale planting example

Photo: Biohabitats



Constructed wetland planting example

Photo: Biohabitats



Native species example



Naturalistic river's edge planting example



Meadow example

# Site Elements

Landscape elements will be clean, simple, and contemporary forms. Historical and period motifs must be avoided. Surfaces will reflect their distinct material qualities; faux finishes and decorative elements must be avoided. Preferred colors will follow a neutral palette with occasional expressions of brighter color as accents.

## Lighting

All lighting fixtures must comply with the dark sky initiative, which is focused on reducing light pollution and reducing the effects of unnatural lighting on the environment. By effectively directing light where needed without spilling upwards into the night sky, the night sky is more visible and energy use is reduced. While there is not a selection of light poles and fixtures that are uniformly applied to all of RiverBend, there should be a consistent pole and fixture for each street. Uplighting of all kinds, including architectural uplighting, is prohibited. Light fixtures must be durable and contemporary. LED illumination is preferred, as it uses little energy and gives off bright white light; metal halide or "white" high-pressure sodium lamps that give off neutral, white light are also permitted.

## Paving, Walls, and other Site Materials

Site walls, steps, paving, and other hardscape materials must be durable, simple in form, and reflect the contemporary design of RiverBend. Natural materials and neutral colors that reflect the material qualities of their components are preferred. Where practical, local materials should be sourced

## Furnishings

Site furnishings must be composed of clean, contemporary forms in natural materials of stone, wood, or metal. While there is not a uniform palette for furnishings for the entire district, each street should have a consistent palette of color and materials. All site furnishings will be low maintenance and durable.



This row: contemporary lighting strategies



This row: paving examples



This row: contemporary site furnishings

# Urban Design Guidance

Urban design guidance for RiverBend should provide design parameters that reinforce the vision and goals of the project and direct development towards sustainability, connectivity, and engagement with natural systems and surrounding neighborhoods. Focus is placed on guiding private development and how it relates to the public realm, particularly streets, public open spaces, and the Buffalo River. Suggested uses are described, although the plan remains flexible in allowing a range of uses for the development blocks.

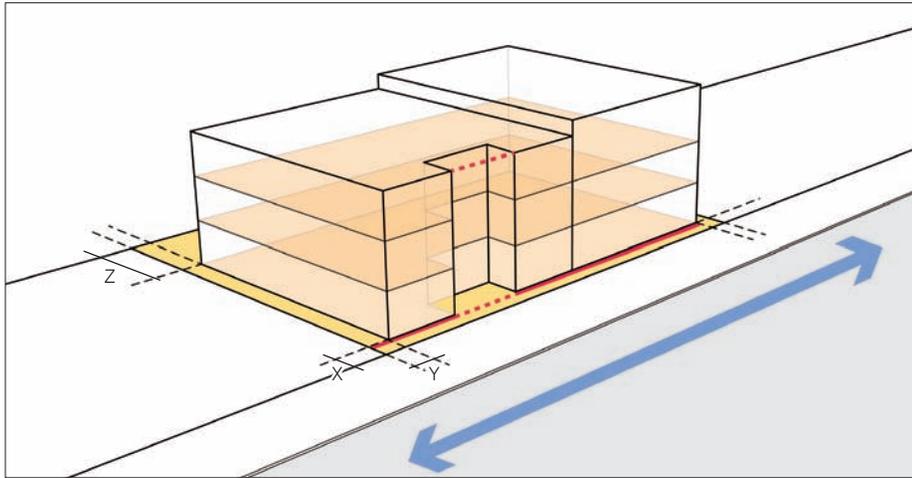
RiverBend’s market orientation will complement rather than compete with downtown Buffalo. This relationship will carry over to urban design guidance and architectural style as well. Development at RiverBend should have a contemporary, modern feel that reflects the sustainable, forward-thinking nature of the project. Guidance is aimed at achieving these goals and promoting high-quality design and construction, but is not overly prescriptive in terms of design solutions.

## Setbacks and Relationship to Right of Way

Building setbacks from streets and parcel lines determine the relationship of building-to-street and influence the dimensions of the building envelope. Urban character is enhanced by minimal setbacks in combination with the requirement of a build-to-line, where a building’s face that must align with the setback along a parcel’s edge. Build-to-line percentages are recommended in the district-specific section of this document. This constraint is primarily applicable along main streets and facing public open spaces where a strong building presence along the parcel line is desired.

Building entrances should face the primary streets on which they front, unless otherwise noted in the district-specific section of this document. Service areas will be located at the rear or side of buildings, away from public view along primary rights-of-way. First floors of buildings will be at or slightly above street level in order to reinforce the relationship between the building and the public domain of the street. First floors of buildings must never be sunken or below-grade.





- X FRONT SETBACK
- y SIDE SETBACK
- Z BACK SETBACK
- LOT
- PRIMARY RIGHT OF WAY

- BUILD-TO LINE (DETERMINED PERCENTAGE OF BUILDING FACADE MUST BE ON THIS LINE, ON THE FRONT SETBACK FROM THE PRIMARY RIGHT OF WAY)
- - - AREAS WHERE BUILDINGS ARE SET BACK GREATER THAN 4' FROM SETBACK LINE DO NOT CONTRIBUTE TO THE REQUIRED BUILD-TO-LINE PERCENTAGE

## Architectural Character: Massing

Overall building massing is dictated by height limitations, setbacks and build-to lines. Within this envelope, building massing must be broken down to achieve a human-scale street presence. This may be achieved by changes in material, articulation in massing, location of windows, doors, and other openings, and building projections where appropriate.

Architectural expression will be clean, contemporary, and avoid reference to historical or period styles or motifs. Buildings must read as compositions of simple forms rather than a collection of stylistic appendages.

The overall form of a building must reflect the material properties from which it was built. For example, masonry components will be located at lower levels, reflecting a heavy and substantial nature. The proportion of void to wall will reflect natural material limits. Expressive elements along facades should express interior use and program, highlighting elements such as entries, lobbies, large gathering spaces, or public areas.



Facade articulation



Simple, contemporary massing and materials



Overall massing reads as a composition of simple forms

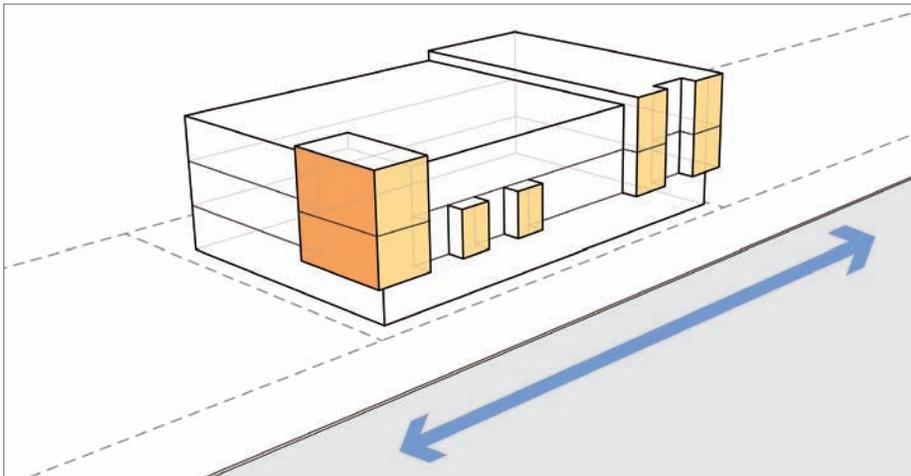
## Facade Articulation

Facade articulation breaks up large expanses of building frontage to contribute toward a human-scale street experience. Façade articulation can include changes to building massing in relation to the build to line, changes in material, balconies or other projections, windows, and varying roof heights and roof lines.

## Building projections

Building projections are permitted on floors above the street level. Projections may be up to 4' deep but must not extend beyond the parcel line or interfere with the public right of way. Projections must not present a hazard to pedestrians below—all balconies and other projections should be designed to minimize snow and ice build up. Projections must not cover more than 40% of a building's surface along a public right of way. Buildings may step back from the build-to line above the street level.

- PROJECTION ON FRONT FACADE, TOTAL AREA OF PROJECTIONS ON ANY FACADE NOT TO EXCEED 40% OF THE BUILDING'S FACADE AREA
- PROJECTION ON SIDE FACADE
- PRIMARY RIGHT OF WAY



Material, aperture rhythm, and roofline articulation



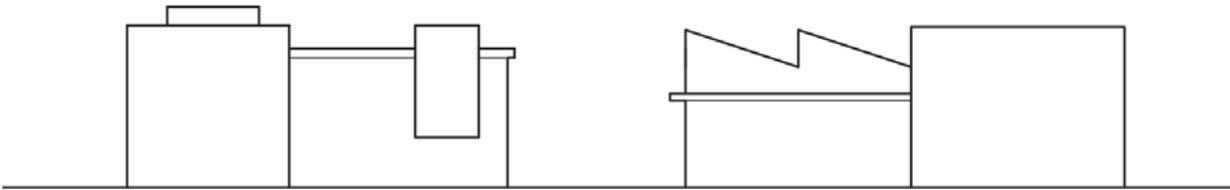
Articulation in massing, projections, and building material

## Rooflines

Unless otherwise noted, rooflines must be flat or single-pitched. Complex pitched roof-lines (multiple gables, mansard roofs, domes, arches) must be avoided to maintain clean, contemporary lines against the sky. Mechanical equipment must be set back from rooflines or screened so it will not be seen from the street. Tops of buildings against the sky should be simple; mechanical equipment, solar panels, and other irregular shapes must be screened. Green roofs may be employed to supplement green infrastructure systems.

## Building Height

Building heights in general should not exceed the height of mature trees on the site. This will place the buildings of RiverBend redevelopment within the extensive reforestation of the site. Building height above the treeline may occur in blocks A and Q, as indicated on pages 20 and 31, respectively, to create more prominent buildings along the bulkhead where the river makes a sharp bend. Maximum building heights are determined and shown on page 10, above.



### Permitted roof types:

Flat roofs where massing achieves a clean, contemporary line against the sky. Mechanical equipment must be set back beyond view or screened.

### Permitted roof types:

Single pitch roofs are permitted. A combination of single-pitched roofs, saw-tooth profiles, and flat roofs may be used together.



Flat roofs read as a composition of simple forms



Green roof



Simple, contemporary massing with clean roof lines



Skyline composed of simple forms

## Windows and Apertures

In Buffalo's cold climate, windows must be high-quality, insulated, placed and sized in accordance with green building standards, and include shading strategies as appropriate. Tinted glazing is prohibited. Specialty window shapes (Palladian, Bell-top, Gothic, etc) that reference historical styles are discouraged; windows must contribute to the overall contemporary feel of Riverbend and reinforce the overall massing and composition of the building. Shading strategies will be employed when necessary to keep out unwanted solar heat on south and west-facing facades.

Primary entries will be highlighted with appropriately significant openings. Retail edges should be highly transparent with extensive use of windows.

## Signage

Signage is permitted on building facades. Lettering on awning or canopies, small lettering on storefront windows, and illuminated signage without visible wiring are permitted on the ground floor of buildings. Rooftop signage, moving or over-scaled signs directed to vehicular traffic, and non-professional looking signage is prohibited. Because buildings front directly on public right-of-ways with minimal setbacks, signage is visible from the public realm. Freestanding or "monument" signs are therefore not needed and are prohibited.

## Details

Architectural details must be functional, clean and not overly ornate. Decorative moulding, ornate railings and other appertanances are discouraged.



Highly transparent retail edges



Clear, high-quality glazing in contemporary design



Permitted signage examples





Sleek, clean stone



Composite material



Masonry siding



Mixed materials in a contemporary composition



Contemporary use of wood siding



Wood and masonry siding used together with glazing



Architectural metal siding. Note accent color near entry

## Building Materials

Building materials will be contemporary, with a focus on durability and high quality. Where possible, building materials will be sourced locally or regionally, and preference given to materials that may be disassembled and re-used at the end of a building's life. Buffalo's cold winter climate necessitates high insulation values in all buildings.

Investment in high quality building materials will be focused along streets and where buildings face public spaces. Sides and rears of buildings may employ lower cost materials. For all facades facing the public domain, brick, stone, panelized stone, wood or wood composite, kiln-fired masonry, architectural metal siding and concrete are preferred building materials. Synthetic siding is permitted, but neutral colors must be used and faux finishes are prohibited.

Building materials should reflect the construction method of the building and will not include faux finishes such as brick or stone veneer. Plain concrete block may be used structurally, but not as an exterior surface. Specialty-cut shingle siding is prohibited. Asphalt siding is prohibited. Slump block and weeping mortar construction are prohibited; masonry construction must be clean, sleek, and contemporary.

Buildings will be primarily composed of neutral colors that reflect the nature of their materials. Brightly painted or veneered facades are discouraged. Small areas may be painted in bright colors as accents, and when used should highlight important areas of a building, such as entries.

## Green Building

Green buildings reduce resource consumption, increase human and environmental health, and afford long-term operating cost savings. They are achieved through proper orientation and siting, efficient architectural design, implementation of high-quality building materials and construction, efficient mechanical systems, careful operation and maintenance.

### Green building in New York State

New York State requires new construction to conform to the 2009 International Energy Conservation Code (IECC) with State amendments or ASHRAE 90.1-2007. In general, these codes dictate that buildings must perform to certain energy standards through a combination of high insulation values, limitations to window orientation and maximum size, envelope area, and efficient heating and air conditioning systems. Compliance tools include the software COMCheck 3.8.0 or later for commercial projects. Compliance with these green building standards is a requirement for permit applications.

The City of Buffalo is currently in the middle of a multi-year process to revise its land use plan and zoning ordinances to create the Buffalo Green Code. This process is planned to conclude at the end of 2012. It will result in a form-based code that is intended to support walkable, sustainable communities throughout Buffalo.

### Green building to a higher standard

Sustainability measures beyond those included in the State permitting process include building siting, choosing sustainable materials, and design and construction that allow buildings to be disassembled and their components re-used rather than demolished at the end of their useful lives.

Proper building orientation is among the most important elements of sustainable building design. The layout of streets and blocks in RiverBend creates opportunities for most buildings to be sited such that long facades face north / south and north-facing building entrances are avoided. Developers and builders are encouraged to follow design measures that reinforce proper building orientation.

Building materials should be sourced locally or regionally if possible. Materials that have high embodied energy should be avoided in favor of those with low embodied energy. Building materials that have long life-spans should be chosen over those that must be replaced or upgraded frequently.

In RiverBend, developers and builders are encouraged to exceed the energy standards required by the State. Higher insulation values ensure that less heat is lost and gained through the building envelope, and the incorporation of renewable energy systems such as solar panels or solar hot water systems can have long-reaching positive impacts on operating costs. Shading on windows prone to excess heat gain can significantly reduce the need for mechanical cooling in summer months.

Developers and builders are encouraged to seek third-party verification of their building's performance in terms of sustainability. LEED (Leadership in Energy and Environmental Design) certification is the most common example of such . Buildings that are LEED certified often enjoy higher occupancy rates, charge higher rents and sell for higher prices than comparable non-LEED buildings.

## Flexibility in the Plan

The land uses and building footprints represented in this plan respond to the conclusions of the market study undertaken for this site as part of the master plan process. They represent a modeled demand for growth through three decades. The mix of uses suggested in this plan, in combination with planned site improvements, are expected to optimize the site's real estate value and job creation impact in the City of Buffalo and the region.

However, the plan should not be interpreted as prescriptive of uses, building sizes and parking needs; the market will dictate these specifics. Instead, the plan should be considered as a framework that offers key urban design principles and describes a desired arrangement of land uses and building forms. In the most fundamental way of viewing the physical framework of the plan's urban design logic, the reader can consider the site to have 9 development zones as illustrated in plan for flexible development. This illustration shows the critical relationships of key building sites and buildings to the site's primary streets and open spaces.







# District-Specific Guidance

1. Republic Park
2. RiverBend Promenade
3. South Park Village
4. RiverBend Promenade South
5. RiverBend Commerce Park

# Republic Park District

*This vibrant district is the cornerstone of and the gateway to RiverBend. Embodying a wide range of sustainable strategies as well as a mix of development types, this first phase district sets the standard for development.*

The sites two primary Streets, RiverBend Drive and South Park Avenue, meet to form two edges of Republic Park. This commercial crossroads is host to R&D, office, and a sports complex. Retail and other uses could also be included. Residential or hotel use is permitted on the southern portion of block A. If a building at this corner is developed with hotel or residential use, a building height of 6 to 10 stories is permitted. This parcel is the terminus of RiverBend Promenade.

The juxtaposition of green infrastructure and development in this district sets the precedent and standard for development at RiverBend. Republic Park District includes a variety of green infrastructure systems. A wide setback along the northern edge of RiverBend Drive accommodates a bioswale, which collects runoff from surrounding parcels and directs treated water to an outflow area at the river's edge just north of RiverBend Promenade. Another large bioswale runs between blocks C and B, and extends across South Park Avenue to a constructed wetland located in Republic Park.

Buildings will be oriented to face Republic Park and the district's two main streets, RiverBend Drive and South Park Avenue. Front entrances will be located along these edges, with parking and service located behind.

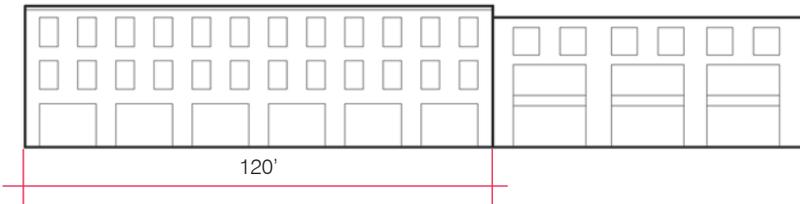
- BLOCK LINE
- 5' SETBACK ALONG PRIMARY STREETS AND OPEN SPACES.
- 85% BUILD-TO LINE
- 5' SETBACK ALONG PARCEL SIDE
- PARKING LOT / POTENTIAL FUTURE DEVELOPMENT PARCEL
- PRIMARY BUILDING ENTRANCE
- SECONDARY BUILDING ENTRANCE
- 6+ STOREY ZONE FOR RESIDENTIAL OR HOTEL USE





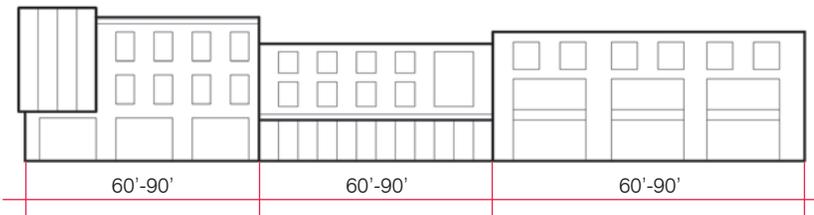
**Minimum Facade Modulation**

120' maximum frontage without a change in articulation



**Preferred Facade Modulation**

Preferred condition: overall building mass articulated into 60'-90' wide segments.



## Urban Design Guidance for Republic Park

Facades facing Republic Park will create a strong line, framing the edge of the park in a distinctly urban character. Recessions along the façade should be limited along these edges, though minor set-backs and projections to introduce texture to the facade are encouraged. An 85% build-to line is recommended. Setbacks and projections within 4' of the parcel line are considered meeting the requirement of the build-to line.

First floors of buildings must be articulated, appearing larger and more prominent than upper floors. First floors of buildings facing Republic Park must be on the same level as the plaza to enforce the visual and physical connection between ground-floor uses and the park.

Building facades along streets and facing public open spaces must be articulated into masses of no more than 120' wide. Articulated masses between 60' and 90' are preferred. The intent of this guideline is to avoid large, undifferentiated expanses of building frontage and to promote a human-scaled streetscape. Articulation will be achieved through a change in building material, a slight recession in the buildings' face, or a change to the rhythm of window patterns or projections.

Vinyl siding, shingles, and other façade treatments most commonly associated with residential construction are discouraged in this district. Brick, stone, concrete, sleek wood or composite materials are preferred.

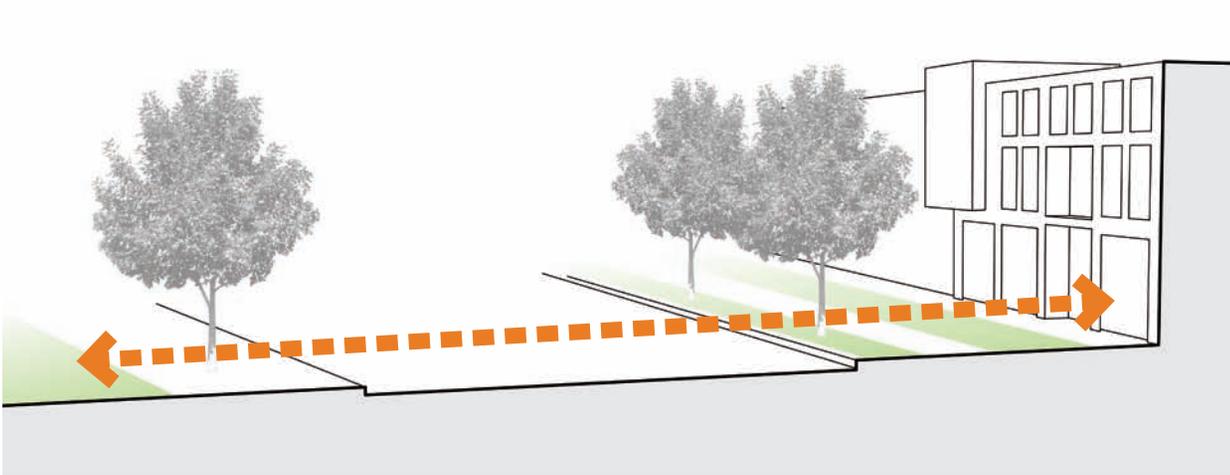
## Republic Park

Republic Park will have a direct visual and spatial connection to surrounding buildings.

The park will be urban in character. Hardscape areas will follow clean, contemporary lines that contrast with the more naturalistic character of bioswale and constructed wetland plantings. Visual connections across the park are encouraged. Trees should not obscure sight lines across the park; species with high canopies should be chosen, and trees should be spaced to allow visibility throughout the park. High site walls and bulky site furnishings are prohibited.

Public art of bright colors and bold forms will provide visual interest and identity to the Republic Park. Site elements in Republic Park will include informational signage as well as benches, trash cans, bicycle racks, and lighting. Preferred materials include metal, stone, and wood. All materials must be durable and low-maintenance. Site elements will follow clean, contemporary styles and avoid historical or period motifs.





First floor of buildings surrounding Republic Park must be at the same level as the park



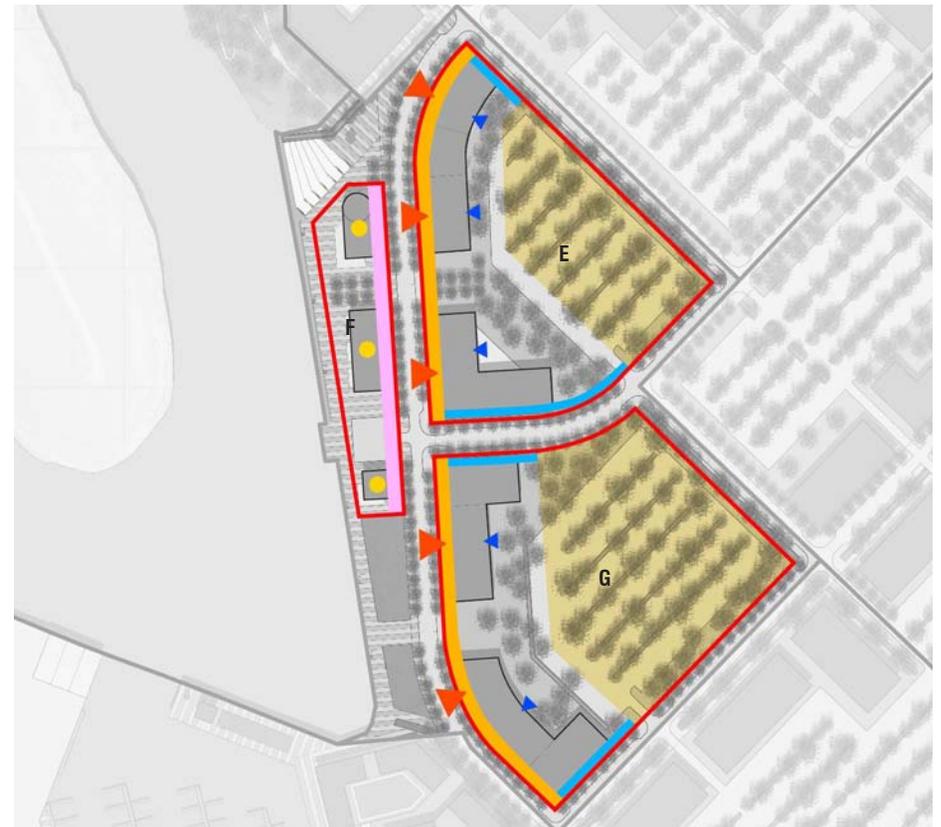
# RiverBend Promenade District

*Bringing urban activity to the Buffalo River waterfront, RiverBend Promenade embodies the goal of “connectivity” and provides unique opportunities for recreation, dining, and shopping.*

The Promenade is the focal point of this district. Three-story buildings line the eastern side of RiverBend Drive, facing the street and views of the Buffalo River and downtown beyond. These buildings must front onto the street. Windows and important building elements such as entrances, lobbies, gathering spaces should orient towards RiverBend Drive, enlivening the street and the Promenade and capitalizing on views to the river. Because of the lack of shading on the western facades of these buildings, windows should be recessed into facades or shaded in order to reduce afternoon solar heat gain.

On the western side of RiverBend Drive, a public promenade gives visitors the opportunity to directly engage with the Buffalo River. A collection of smaller one or two story buildings are located within the Promenade. Their uses must be related to the river, including recreational uses such as canoe and kayak rental as well as food and beverage uses.

- BLOCK LINE
- 5' SETBACK ALONG PRIMARY STREETS AND OPEN SPACES.
- 85% BUILD-TO LINE
- 5' SETBACK, ALIGN BUILDINGS TO SETBACK LINE
- 5' SETBACK
- PARKING LOT / POTENTIAL FUTURE DEVELOPMENT PARCEL
- ▲ PRIMARY BUILDING ENTRANCE
- ▲ SECONDARY BUILDING ENTRANCE
- FOUR-SIDED BUILDINGS - ENTRANCE MAY FACE STREET OR PROMENADE





## Urban Design Guidance for Riverbend Promenade

RiverBend Promenade includes small buildings and pavilions whose use must be waterfront-related. Examples of preferred uses include restaurants and cafes, recreational programs related to the river, and professional office space. These buildings must be high quality building construction and may take on more unique and sculptural forms. As objects in the landscape, these buildings will be seen from all four sides. Masonry, wood, architectural metal siding, and other high-quality materials are preferred. Synthetic, applied sidings of any kind are discouraged. Colors should remain neutral so as not to detract from views of the water, but bright accents may be used for awnings, signage, and to mark building entrances.

Along the eastern side of RiverBend Drive, buildings will form a strong line along the street edge. An 85% build-to-line is recommended. Setbacks and projections within 4' of parcel line are considered meeting the requirement of the build-to-line. The first floor of buildings must be articulated, emphasizing a strong street presence. Street facing facades must also be articulated, breaking down large building masses into a more human-scale. Buildings must be articulated into masses no more than 90' along the street's edge. Articulated masses of 30'-60' are preferred. Articulation will be achieved through a change in building material, a slight recession in the buildings' face, or a change to the rhythm of window patterns or projections.

Preferred building materials include brick, stone, concrete, sleek wood or composite materials. Vinyl siding, shingles, and other façade treatments most commonly associated with residential construction are discouraged in this district.

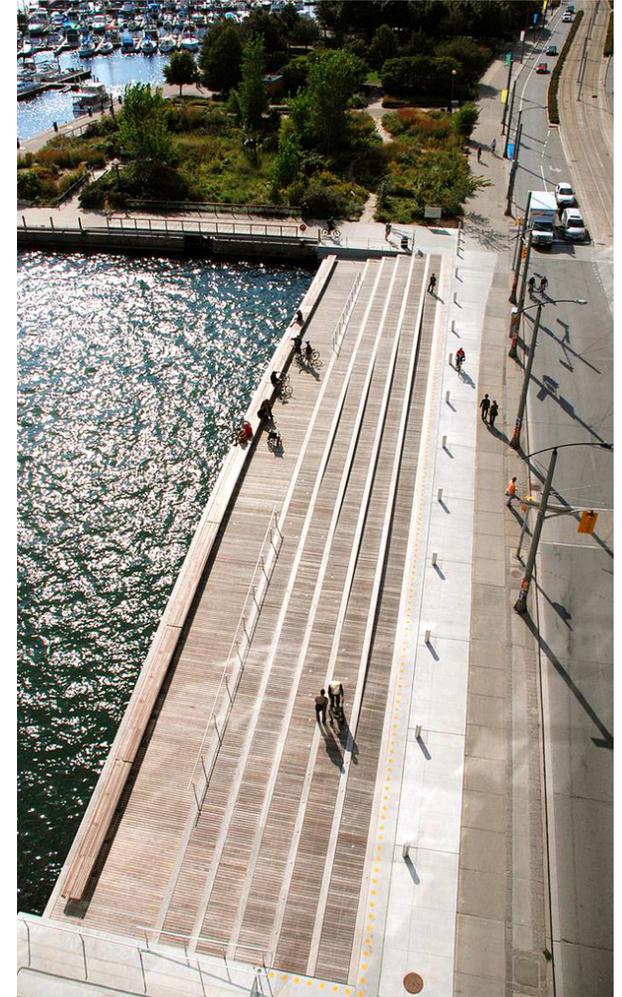
## RiverBend Promenade

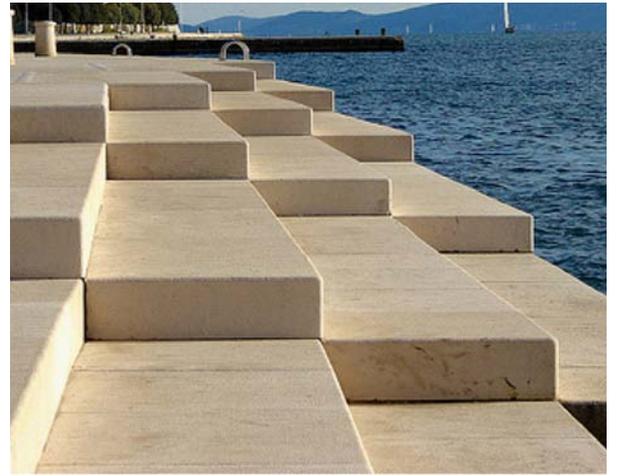
RiverBend Promenade is a character defining open space at RiverBend. It embodies the goal of connecting residents and visitors to the waterfront.

Focus will be on views of the river. Bulky site furnishings and dense plantings that would block river views must be avoided. Site furnishings will be used seasonally, with tables and chairs associated with restaurants and cafes extending into the open space in warmer months.

Natural materials common to marine environments that are preferred that reflect a proximity to the river are preferred. Wooden decking, pavers, benches, and balusters that indicate a pier-like environment are recommended. Metal railings and edge elements are encouraged. Throughout the RiverBend Promenade, materials should be of neutral colors.

At the northern edge of the promenade, a series of landscaped terraces bring users down to the river's edge. These terraces mark a transition from a more naturalized river edge north of the promenade to a more urban condition to the south. Stone and masonry are preferred material in this area.





# South Park Village District

*Buildings and blocks are scaled to create a pedestrian-oriented, mixed use district that supports flexible range of uses in a village-like atmosphere.*

As South Park Boulevard moves from the Republic Park District towards the established South Buffalo neighborhood, it takes on a more village-like character. Blocks and buildings are scaled so that local developers, businesses, and residents may invest, bringing a mix of uses and amenities. Anticipated uses in this district include live/work space, office, incubator, food and beverage, and retail.

Buildings in this district are typically 2-3 stories tall. Building massing must be designed into well-articulated segments facing South Park Avenue. Ground floor uses should provide retail and food and beverage service to create a vibrant street life.

Republic Plaza, located at the corner of South Park Boulevard and the Connector Street, will be a small-scale, urban space with amenities for passive recreation. It must accommodate long-range plans for a light-rail running along South Park Boulevard and an immediate need for a covered shelter for bus commuters.

- BLOCK LINE
- 5' SETBACK ALONG PRIMARY STREETS AND OPEN SPACES, 85% BUILD-TO LINE
- 5' SETBACK, 70% BUILD-TO LINE
- 5' SETBACK ALONG PARCEL SIDE AND BETWEEN BUILDINGS
- PARKING LOT / POTENTIAL FUTURE DEVELOPMENT PARCEL
- ▲ PRIMARY BUILDING ENTRANCE
- ▲ SECONDARY BUILDING ENTRANCE



## Urban Design for South Park Village District

South Park Avenue is the primary street in the South Park Village District. Buildings along this street should orient towards South Park Avenue with entrances and front facades facing the street.

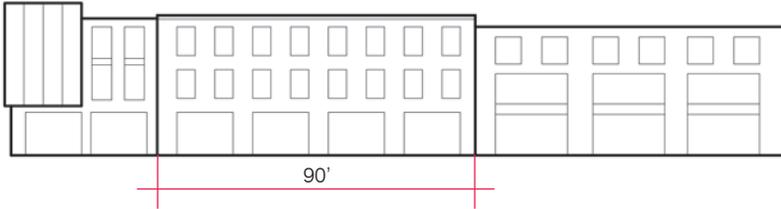
Building articulation will reflect a rhythm that is more closely associated with smaller-scale development. The intent of building articulation guidelines in this district is to avoid long, uninterrupted and monotonous facades. Large buildings must be articulated into smaller masses of no more than 90' wide along the street edge; masses of between 30' and 60' are preferred. Articulation will be achieved through a change in building material, a slight recession in the building face, and / or a change to the rhythm of window patterns or projections.

Buildings facing South Park Avenue and Republic Plaza will define a strong urban edge but still allow for significant facade articulation. A 75% build-to line is recommended in this district. Setbacks and projections within 4' of the parcel line are considered meeting the requirements of the build-to-line.

The smaller scale of buildings in this district requires that adjacent buildings choose materials that complement, rather than compete with their neighbors. Bright colors, even as accents, are discouraged in this district in order to maintain a coherent series of buildings along South Park Avenue.

### Minimum Facade Modulation

90' maximum frontage without a change in articulation



### Preferred Facade Modulation

Preferred condition: overall building mass articulated into 30'-60' wide segments.

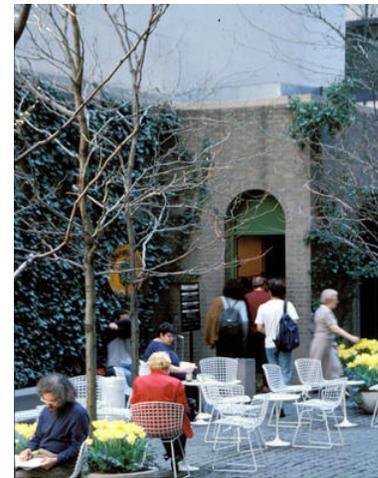
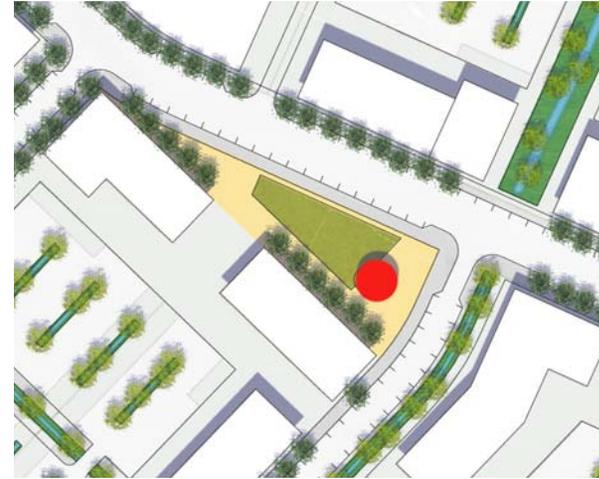


## Republic Plaza

Republic Plaza will be designed to the contemporary standards of RiverBend. High-quality, natural materials are a priority. Green infrastructure elements such as bioswale planting zones will be incorporated and featured in the design.

This small scale park will be distinctly urban in character and include site elements that encourage passive recreation, including seating, pedestrian lighting, and sculptural elements. Surrounding food and beverage businesses may operate small kiosks and concession stands in this park, enlivening the space. South Park Avenue is a major transit corridor within the site, and provision must be made in Republic Plaza for shade and shelter for people waiting for busses. A light rail line might be incorporated along South Park Avenue in the future, making Republic Plaza a multi-modal transit node where buses and light rail interconnect.

Planting should be a continuation of the urban street tree planting strategy along South Park Avenue, and contrast with the more naturalistic planting in the large bioswale between blocks K and L, as shown on page 28.



## RiverBend Promenade South District

*This flexible district includes a marina that takes advantage of the recreational opportunities on the Buffalo River. The existing containment area is transformed into MeadowWorks Sculpture Park with an elevated meadow landscape with views to the Buffalo River and Lake Erie.*

Views of and access to the Buffalo River are key assets that have shaped the plan for this district. A small marina at the sharp bend in the river provides a unique opportunity for riverfront recreation.

Anticipated building uses in this district include research and development facilities as well as offices. Building uses are flexible and may change over time as market demands evolve. Building massing along RiverBend Drive on block Q may be developed as residential, with a height of up to 10 stories as indicated at the right. This parcel forms a terminus to RiverBend Promenade to the north and frames views of the Buffalo River and downtown from RiverBend Drive as it crests at MeadowWorks Sculpture Park.

As visitors approach this district from the south along RiverBend Drive, they enjoy dramatic views to the Buffalo River and downtown. As RiverBend Drive approaches the river, it turns slightly to the east, opening up an important view corridor to the promenade.

- BLOCK LINE
- 5' SETBACK ALONG PRIMARY STREETS AND OPEN SPACES, 85% BUILD-TO LINE
- 5' SETBACK, 70% BUILD-TO LINE
- 5' SETBACK ALONG PARCEL SIDE AND BETWEEN BUILDINGS
- PARKING LOT / POTENTIAL FUTURE DEVELOPMENT PARCEL
- ▲ PRIMARY BUILDING ENTRANCE
- ▲ SECONDARY BUILDING ENTRANCE
- 6+ STOREY ZONE FOR RESIDENTIAL USE



## Urban Design Guidance for RiverBend Promenade South District

On blocks adjacent to the marina, buildings face the marina and river beyond rather than the access road. This creates pedestrian activity along the waterfront with vehicular access from the rear. First floors of buildings may be elevated to create some privacy for residential units at the marina edge.

Buildings should be designed with sleek, modern lines and simple massing. Masonry, metal frame, and curtain wall construction are preferred in this district. Materials most commonly associated with suburban residential development including vinyl siding, shingles, and clapboard, are discouraged.

Setbacks behind parcels on block Q, as shown on page 31, accommodate parking areas. Boat service for the marina will be in view; however other service areas must be screened from view.





# RiverBend Commerce Park District

*Light industrial uses in RiverBend Commerce Park are an important generator of jobs and economic activity. A central bioswale filters rain water and gives an identity to RiverBend Commerce Park.*

RiverBend Commerce Park is an industrial employment zone. This district is an extension of uses at Lakeside Commerce Park. Among the six large parcels in this district, four have access to 3 class A rail lines.

This district's identity comes from several visible green infrastructure strategies. A large bioswale on the southern side of the central street provides a planted foreground to industrial buildings and creates an image that distinguishes this district from the region's other industrial parks. This bioswale will feature native plantings common among other bioswales in RiverBend, and will include a nearly full cover of understory and groundcover plants. Parking lots will include bioswales for stormwater filtration.

Along the south side of the street, a 60% build-to line is recommended to structure the public edge of blocks U, V and W. Setbacks and projections within 4' of the parcel line are considered meeting the requirements of the build-to-line.

North of the street, blocks R, S and T face the public right of way as well as align along the back of the parcel, forming a clean, controlled line against MeadowWorks Sculpture Park. Rear build-to lines are most critical in these parcels, and a 70% build-to percentage is recommended. Setbacks and projections within 4' of the parcel line are considered meeting the requirements of the build-to-line. Service areas should be screened from view along public right of ways.

- BLOCK AND PARCEL LINE
- 5' SETBACK, 60% BUILD -TO LINE
- ALIGN BUILDINGS ALONG THIS EDGE FACING PRAIRIE ART PARK
- ALIGN BUILDINGS ALONG THIS EDGE
- 5' SETBACK ALONG PARCEL SIDE
- PARKING LOT / POTENTIAL FUTURE DEVELOPMENT PARCEL
- ▲ PRIMARY BUILDING ENTRANCE
- ▲ SECONDARY BUILDING ENTRANCE



## Urban Design Guidance for RiverBend Commerce Park

Light industrial uses will occupy large single- or two-story buildings. These buildings must follow recommended setbacks and build-to lines.

These large simple buildings will be articulated to break down their large size. Recommended strategies include articulating entries, modifying the exterior appearance of buildings as appropriate to reflect changes in interior use, and locating windows and other openings along the public right of way. Windows should follow a consistent rhythm that creates an orderly appearance.

Buildings must be high-quality light industrial structures. Architectural forms and exterior finishes will reflect the material properties from which the building is constructed. Recommended materials include concrete panels, SIPS, metal, and brick. Concrete block construction is permitted, though exteriors must be stuccoed and painted.





# Specific Landscape Guidance

1. Stormwater Management
2. Restored River's Edge
3. Trails
4. Mesic Woodland
5. Urban Canopy and Green  
Infrastructure Areas
6. Grassland MeadowWorks  
Sculpture Park
7. Alternative Energy

# Stormwater Management

Municipal and state standards restrict stormwater at RiverBend from entering the City of Buffalo's stormwater infrastructure system. Thus, the site will be developed with a system of "working landscapes" (otherwise known as Best Management Practices) that slow the rate, pace, and amount of site stormwater that flows to the Buffalo River while filtering it to ensure that it is cleaner than the river water at the site's seven discharge points. These practices, while nationally established, are new to this region and unusual in application at such a large site.

A collection of site strategies will combine to achieve these stormwater management goals, as stormwater from all impervious surfaces shall be directed to treatment areas before eventually flowing safely to the Buffalo River. Eight drainage areas have been identified within the site. Within the drainage areas, a combination of parking lot bioswales, street bioswales, biofilters, biofilter planters, and stormwater wetlands will contribute to the reduction of runoff, treat stormwater, and convey flow to outfall treatment areas along the river's edge.

Parking lot and street bioswales are vegetated swales and channels that should incorporate a range of vegetation including trees and understory plants, ground cover vegetation, and overflow drains. Bioswales will be located throughout the site.

A large biofilter in RiverBend Commerce Park and a series of structured biofilter planters along South Park Avenue and RiverBend Drive collect, retain, and infiltrate stormwater. They will be integrated into the landscape and capture runoff from impervious areas adjacent to them.

Two stormwater wetlands are proposed on the site, one in Republic Park and one at the western edge of MeadowWorks Sculpture Park. These wetlands capture and retain runoff and enhance the level of stormwater treatment site-wide. Much of the water captured in these areas will already have been filtered to some degree.

Finally, once treated, stormwater will flow into the Buffalo River at seven locations along the River's edge. Four of these outflows areas along the restored shoreline will be vegetated and graded so as to minimize erosion and create a stable stream-like system to help convey and filter water and provide a healthy habitat area.



Stormwater Management System



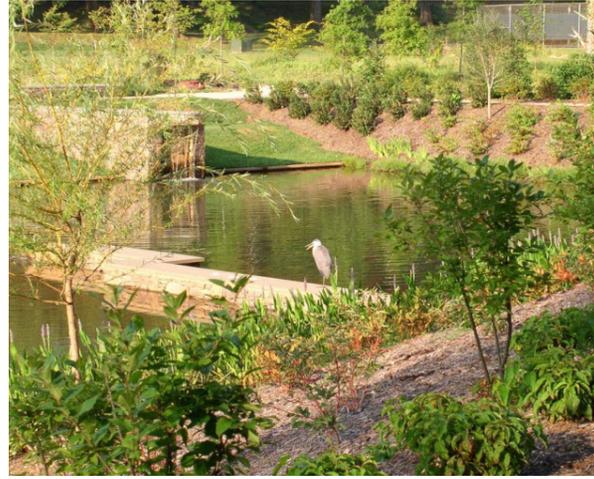
Parking Lot Bioswale



Parking Lot Bioswale



Street Bioswale



Constructed wetland

Photo: Biohabitats



Constructed wetland



Large Bioswale

## Bioswale and Biofilter Suggested Plant Palette

### Biofiltration Salt Tolerant Trees and Shrubs

Latin name	Common name
<i>Amelanchier canadensis</i>	serviceberry
<i>Aronia arbutifolia</i>	red chokeberry
<i>Aronia melanocarpa</i>	black chokeberry
<i>Celtis occidentalis</i>	hackberry
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Ilex verticillata</i>	winterberry
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Larix laricina</i>	tamarack
<i>Lindera benzoin</i>	Spicebush
<i>Myrica pensylvanica</i>	northern bayberry
<i>Nyssa sylvatica</i>	blackgum
<i>Platanus occidentalis</i>	sycamore
<i>Populus deltoides</i>	cottonwood
<i>Prunus serotina</i>	black cherry
<i>Quercus bicolor</i>	swamp white oak
<i>Quercus palustris</i>	pin oak
<i>Rosa palustris</i>	swamp rose
<i>Salix discolor</i>	pussy willow
<i>Sambucus canadensis</i>	elderberry
<i>Vaccinium angustifolium</i>	lowbush blueberry
<i>Vaccinium corymbosum</i>	highbush blueberry

### Biofiltration Herbaceous (\*salt tolerant species)

Latin name	Common name
<i>Acorus calamus</i>	Acorus sweet flag
<i>Calamagrostis canadensis</i>	blue joint grass
<i>Carex vulpinoidea</i>	fox sedge
<i>Elymus virginicus</i>	Virginia wild rye
<i>Eupatorium maculatum</i>	spotted joe pye weed
<i>Eupatorium perfoliatum</i>	common bonset
<i>Glyceria striata</i>	fowl manna grass
<i>Hibiscus moscheutos</i>	*marsh mallow
<i>Iris virginica</i>	blue flag iris
<i>Juncus effusus</i>	common rush
<i>Leersia oryzoides</i>	rice cut grass
<i>Panicum virgatum</i>	*switchgrass
<i>Pontederia cordata</i>	*pickerel weed
<i>Sagittaria latifolia</i>	*arrowhead
<i>Scirpus acutus</i>	hard stem bulrush
<i>Scirpus pungens</i>	*common three-square
<i>Scirpus validus</i>	*soft stem bulrush
<i>Spartina pectinata</i>	*prairie cordgrass
<i>Verbena hastata</i>	blue vervain

# Restored River's Edge and Riparian Woodland

A primary goal of the project is to re-connect the site to the river's edge. This happens in a variety of ways throughout RiverBend's waterfront; strategies include both naturalized edges and urban edges. The Buffalo River Open Space Corridor mandates that non-water dependent use be set back 100' from the river's shoreline. This 100' setback should be maintained with natural plant growth or planted yard, and is intended to promote a healthy synergy between development and environmental protection, ensuring that the river be used for public enjoyment as well as economic development.

The river's riparian habitat will be restored through the part of the site where the river is not bulkheaded. In restoration areas, native plants will be re-introduced, and a gradual transition in the vegetation community will be evident along the climb in elevation upwards and away from the river. Close to the river itself, emergent aquatic vegetation will give way to wet meadow, then to hydrophytic shrub and eventually to a riparian forest.

In order to achieve a robust habitat condition and align with the Buffalo Niagara RiverKeeper Conservation Framework (2005), the minimum width for shoreline restoration areas is 100 feet.

Within these 100-foot restoration areas, human interference must be minimal. Paths are permitted within the riparian forest areas. Raised wooden boardwalks and walkways are permitted in non-sensitive habitat areas closer to the river's edge.

Site furnishings such as benches and trash cans must be limited to lookout locations and be located on or adjacent to trails. Lighting is not permitted anywhere along the restored river's edge or riparian woodland. Site furnishings must not visually or ecologically detract from their environment; neutral colors and simple forms are preferred.

Signage may be present along the river's edge, both for directional and informational purposes. Signage should be located along trails. Preferred materials include wood, stone, and unpainted metal. Colors should be muted and forms simple.



Naturalistic river's edge

## Buffalo River Habitat Enhancement Suggested Plant Palette

### Aquatic Submerged

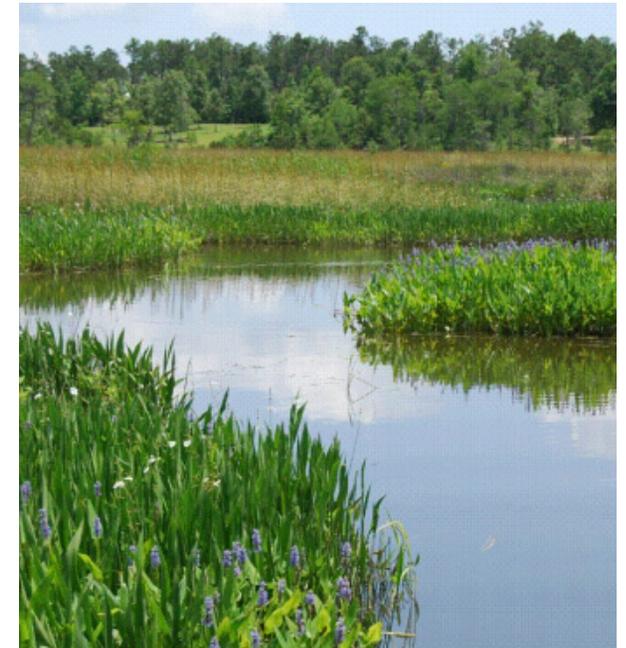
<i>Latin name</i>	<i>Common name</i>
<i>Brasenia schreberi</i>	watershield
<i>Nuphar advena</i>	spatterdock
<i>Nymphaea odorata</i>	American white waterlily
<i>Polygonum amphibium</i>	water smartweed
<i>Potamogeton</i>	pondweeds
<i>Vallisneria americana</i>	American eelgrass

### Associates

<i>Latin name</i>	<i>Common name</i>
<i>Elodea canadensis</i>	Canadian waterweed
<i>Najas flexilis</i>	nodding waternymph

### Floating

<i>Latin name</i>	<i>Common name</i>
<i>Ceratophyllum demersum</i>	coontail
<i>Lemna minor</i>	lesser duckweed
<i>Myriophyllum</i>	watermilfoil
<i>Utricularia macrorhiza</i>	common bladderwort



Restored riparian edge precedent

Emergent	
Latin name	Common name
<i>Carex lacustris</i>	lake sedge
<i>Carex stricta</i>	tussock sedge
<i>Iris virginica</i>	blue flag iris
<i>Leersia oryzoides</i>	rice cutgrass
<i>Pontederia cordata</i>	pickerelweed
<i>Potamogeton nodosus</i>	longleaf pondweed
<i>Potamogeton pectinatus</i>	sago pondweed
<i>Sagittaria latifolia</i>	broadleaf arrowhead
<i>Schoenoplectus acutus</i>	hardstem bulrush
<i>Schoenoplectus fluviatilis</i>	river bulrush
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush
<i>Sparganium eurycarpum</i>	greater bur-reed

River Shoreline Restoration Suggested Plant Palette

Terrestrial - Canopy	
Latin name	Common name
<i>Acer saccharinum</i>	silver maple
<i>Juglans nigra</i>	black walnut
<i>Platanus occidentalis</i>	American sycamore
<i>Ulmus americana</i>	American elm

Associates	
Latin name	Common name
<i>Acer negundo</i>	box elder
<i>Fraxinus pennsylvanica</i>	green ash
<i>Populus deltoides</i>	eastern cottonwood
<i>Salix nigra</i>	black willow

Woody Understory	
Latin name	Common name
<i>Cornus amomum</i>	silky dogwood
<i>Cornus sericea</i>	red-osier dogwood
<i>Salix interior</i>	sandbar willow

Associates	
Latin name	Common name
<i>Alnus serrulata</i>	hazel alder
<i>Alnus rugosa</i>	speckled alder
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Clematis virginiana</i>	Virgin's bower
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Rosa palustris</i>	swamp rose
<i>Salix bebbiana</i>	Bebb's willow

<i>Salix discolor</i>	pussy willow
<i>Salix eriocephala</i>	heart-leaf willow
<i>Salix lucida</i>	shining willow
<i>Salix petiolaris</i>	meadow willow
<i>Salix sericea</i>	silky willow
<i>Salix serissima</i>	Autumn willow
<i>Vitis riparia</i>	riverbank grape

Herbaceous Understory	
Latin name	Common name
<i>Bupthalmum salicifolium</i>	ox-eye
<i>Carex emoryi</i>	Emory's sedge
<i>Eupatorium purpureum</i>	joe-pye weed
<i>Solidago gigantea smooth</i>	goldenrod
<i>Symphotrichum lanceolatum</i>	white panicked aster
<i>Verbesina alternifolia</i>	wingstem

Associates	
Latin name	Common name
<i>Cinna arundinacea</i>	sweet woodreed
<i>Elymus virginicus</i>	Virginia wildrye
<i>Impatiens capensis</i>	jewelweed
<i>Laportea canadensis</i>	Canadian woodnettle
<i>Leersia virginica</i>	whitegrass
<i>Muhlenbergia frondosa</i>	wirestem muhly
<i>Pilea pumila</i>	Canadian clearweed
<i>Teurium canadense</i>	Canada germander

Riparian Woodland Suggested Plant Palette

Canopy	
Latin name	Common name
<i>Acer rubrum</i>	red maple
<i>Acer saccharinum</i>	silver maple
<i>Carya ovata</i>	shagbark hickory
<i>Fraxinus americana</i>	white ash
<i>Fraxinus nigra</i>	black ash
<i>Liriodendron tulipifera</i>	tulip tree
<i>Platanus occidentalis</i>	American sycamore
<i>Pinus strobes</i>	white pine
<i>Populus deltoides</i>	eastern cottonwood
<i>Quercus bicolor</i>	swamp white oak
<i>Salix nigra</i>	black willow
<i>Tilia americana</i>	American basswood

Associates	
Latin name	Common name
<i>Acer negundo</i>	box elder
<i>Betula populifolia</i>	grey birch
<i>Carya cordiformis</i>	bitternut hickory
<i>Fraxinus pennsylvanica</i>	green ash
<i>Juglans cinerea</i>	butternut
<i>Juglans nigra</i>	black walnut
<i>Larix laricina</i>	tamarack
<i>Nyssa sylvatica</i>	black gum
<i>Quercus macrocarpa</i>	burr oak
<i>Quercus palustris</i>	pin oak
<i>Ulmus americana</i>	American elm

Woody Understory	
Latin name	Common name
<i>Alnus serrulata</i>	hazel alder
<i>Alnus rugosa</i>	speckled alder
<i>Amelanchier canadensis</i>	Allegheny serviceberry
<i>Carpinus caroliniana</i>	ironwood
<i>Clematis virginiana</i>	Virgin's bower
<i>Cornus amomum</i>	silky dogwood
<i>Cornus sericea</i>	red-osier dogwood
<i>Hamamelis virginiana</i>	witchhazel
<i>Ilex verticillata</i>	winterberry
<i>Lindera benzoin</i>	spicebush
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Physocarpus opulifolius</i>	ninebark
<i>Salix bebbiana</i>	Bebb's willow
<i>Sambucus canadensis</i>	American elderberry
<i>Sassafras albidum</i>	sassafras
<i>Viburnum lentago</i>	nannyberry viburnum
<i>Viburnum trilobum</i>	cranberrybush viburnum

Herbaceous Understory	
Latin name	Common name
<i>Ageratina altissima</i>	white snakeroot
<i>Arisaema dracontium</i>	greendragon
<i>Boehmeria cylindrica</i>	false nettle
<i>Impatiens capensis</i>	spotted jewelweed
<i>Impatiens pallida</i>	pale touch-me-not
<i>Laportea canadensis</i>	Canadian wood nettle
<i>Lobelia cardinalis</i>	cardinal flower
<i>Lobelia siphilitica</i>	great blue lobelia
<i>Onoclea sensibilis</i>	sensitive fern
<i>Peltandra virginica</i>	green arrow arum
<i>Polygonum virginianum</i>	Virginia knotweed
<i>Saururus cernuus</i>	lizard's tail
<i>Symphotrichum puniceus</i>	purple stem aster

## Trails

A network of trails throughout RiverBend promotes walkability and connectivity and provides valuable habitat connections for wildlife. These trails loosely circumscribe the perimeter of the site, connecting all portions of the river's edge, the mesic forest, and the MeadowWorks Sculpture Park. These trails connect to the existing and proposed street network.

The character of the landscape changes throughout the trail network, and the forms and materials of the trails themselves will respond to the level of sensitivity in surrounding habitats and soil / ground conditions. Raised wooden or high quality, naturally-colored composite walkways must be constructed in ecologically sensitive lowland and wetland areas. Trails within the riparian and mesic forests and in the grassland MeadowWorks Sculpture Park should be paved on the ground plane or raised through sensitive areas. At urban waterfront areas, trails are implied in the hardscape areas rather than explicitly delineated. Primary trails must be 8' wide, and secondary trails 6' wide. If federal funding is sought for bike trails, these trails must be 10' wide.

The trail network will have cohesive elements. Signage and environmental graphics will direct and educate trail users. Signage along trails within natural areas such as the river's edge, the mesic forest, and the grassland MeadowWorks Sculpture Park must be consistent, unifying the site's landscape systems together. Preferred materials include wood, stone, and unpainted metal. Synthetic materials must be avoided. Trail signage will continue throughout urban areas, achieving a cohesive identity. In urban areas, additional materials including powder coated metal as well as brighter accent colors may be used.

Pedestrian lighting is required along trails and streets in urban areas, and prohibited within riparian and mesic forests, along the restored river's edge, and in MeadowWorks Sculpture Park. Where permitted, lighting fixtures will be consistent among districts, providing continuity and safety for night-time walking. Site furnishings such as trash cans and benches along all trails must be discreet, contemporary, and should not interfere visually or functionally with natural systems or sensitive habitat areas.



Trail system



Wooden decking



High quality composite decking



Wooden boardwalk with overlook



Paved trails



Site furnishing example



Signage example

# Mesic Woodland

Land to the east of Hopkins Street will be restored as a mesic woodland. This forested area includes a right-of-way that will be used for the Southtown Connector road project, should it receive funding.

This woodland will ideally be a minimum of 100' wide to provide sufficient cover for birds. At maturity, its trees will have grown into a complete canopy. Like all landscape areas in RiverBend, the mesic woodland will use native species.

Trails will run through this wooded area providing a pedestrian link from the river's edge to the grassland MeadowWorks Sculpture Park. Trails may have occasional benches as well as directional and educational / interpretive signage, but should not have trash cans or lighting elements of any kind.



Mesic woodland



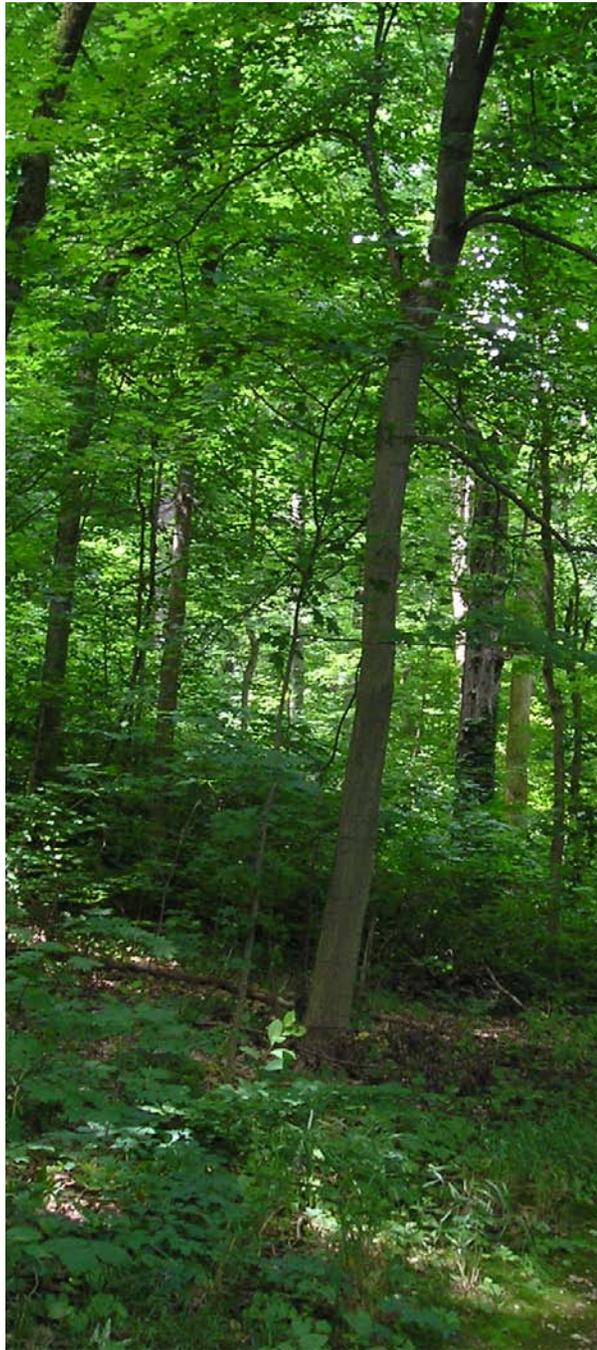
Mesic woodland environment



Native species example



Native species example



Mesic woodland environment

## Mesic Woodland Suggested Plant Palette

### Canopy

<i>Latin name</i>	<i>Common name</i>
<i>Acer rubrum</i>	red maple
<i>Acer saccharinum</i>	sugar maple
<i>Betula lenta</i>	sweet birch
<i>Fagus grandifolia</i>	American beech
<i>Fraxinus americana</i>	white ash
<i>Liriodendron tulipifera</i>	tulip tree
<i>Prunus serotina</i>	black cherry
<i>Quercus rubra</i>	northern red oak

### Associates

<i>Latin name</i>	<i>Common name</i>
<i>Carya cordiformis</i>	bitternut hickory
<i>Carya ovata</i>	shagbark hickory
<i>Juglans nigra</i>	black walnut
<i>Magnolia acuminata</i>	cucumber magnolia
<i>Nyssa sylvatica</i>	black gum
<i>Pinus strobus</i>	eastern white pine
<i>Quercus alba</i>	northern white oak
<i>Tilia americana</i>	American basswood
<i>Tsuga canadensis</i>	eastern hemlock
<i>Ulmus americana</i>	American elm
<i>Ulmus rubra</i>	slippery elm

### Woody Understory

<i>Latin name</i>	<i>Common name</i>
<i>Acer pensylvanicum</i>	striped maple
<i>Amelanchier laevis</i>	Allegheny serviceberry
<i>Asimina triloba</i>	pawpaw
<i>Carpinus caroliniana</i>	ironwood
<i>Cornus alternifolia</i>	alternate-leaf dogwood
<i>Cornus rugosa</i>	round-leaf dogwood
<i>Diervilla lonicera</i>	northern bush honeysuckle
<i>Hamamelis virginiana</i>	witchhazel
<i>Lindera benzoin</i>	spicebush
<i>Lonicera canadensis</i>	American fly honeysuckle
<i>Staphylea trifolia</i>	American bladdernut
<i>Vaccinium pallidum</i>	lowbush blueberry
<i>Viburnum acerifolium</i>	maple-leaf viburnum
<i>Viburnum lantanoides</i>	hobblebush

### Herbaceous Understory

<i>Latin name</i>	<i>Common name</i>
<i>Actaea pachypoda</i>	white baneberry
<i>Actaea racemosa</i>	black cohosh
<i>Allium tricoccum</i>	ramp
<i>Arisaema triphyllum</i>	jack-in-the-pulpit
<i>Asarum canadense</i>	wild ginger
<i>Aster macrophyllus</i>	large-leaf aster
<i>Cardamine diphylla</i>	crinkleroot
<i>Carex plantaginea</i>	plantain-leaved sedge
<i>Caulophyllum giganteum</i>	giant blue cohosh
<i>Caulophyllum thalictroides</i>	blue cohosh
<i>Claytonia virginica</i> Virginia	springbeauty
<i>Clintonia umbellulata</i>	white bluebead-lily
<i>Collinsonia canadensis</i>	richweed
<i>Dentaria laciniata</i>	cutleaf toothwort
<i>Dicentra canadensis</i>	squirrel corn
<i>Dicentra cucullaria</i>	Dutchman's breeches
<i>Disporum lanuginosum</i>	yellow fairybells
<i>Eriogonum bulbosa</i>	Harbinger of spring
<i>Erythronium americanum</i>	American trout lily
<i>Eurybia divaricata</i>	white wood aster
<i>Eurybia macrophylla</i>	large-leaved aster
<i>Hepatica nobilis</i>	liverwort
<i>Mertensia virginica</i>	Virginia bluebells
<i>Mitchella repens</i>	partridge berry
<i>Osmunda claytoniana</i>	interrupted fern
<i>Podophyllum peltatum</i>	mayapple
<i>Polygonatum pubescens</i>	downy Solomon's seal
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Sanguinaria canadensis</i>	bloodroot
<i>Sanicula marilandica</i>	black snakeroot
<i>Solidago caesia</i>	wreath goldenrod
<i>Solidago flexicaulis</i>	zigzag goldenrod
<i>Smilacina racemosa</i>	false Solomon's seal
<i>Thalictrum dioicum</i>	early meadow rue
<i>Tiarella cordifolia</i>	foamflower
<i>Trillium erectum</i>	stinking Benjamin
<i>Trillium grandiflorum</i>	Large flowered trillium
<i>Viola blanda</i>	sweet white violet
<i>Viola canadensis</i>	Canada violet
<i>Viola pubescens</i>	downy yellow violet
<i>Viola rostrata</i>	long spurred violet
<i>Viola sororia</i>	common blue violet

# Urban Canopy and Green Infrastructure Areas

Green infrastructure systems extend into the developed areas of RiverBend, managing stormwater, providing ecological connectivity, and creating rich, pleasant environments for users. A major green infrastructure system in RiverBend is an urban canopy, a site-wide presence of canopy trees that, when mature, will provide coverage throughout streets, parking lots, and at the interfaces with restored natural areas. A variety of species are recommended for urban areas in order to create a diverse and multilayered native vegetation palette and foster linkages to restored natural areas.

Urban parks and plazas (Republic Park, RiverBend Promenade, and Republic Plazas) serve important roles in the site's green infrastructure systems. These spaces are discussed in the district-specific section of this document.

Urban landscape areas may include a range of site furnishings, lighting, and other materials. Signage and environmental graphics must not compete with retail and other types of signage, but should set a standard for a high-quality, contemporary aesthetic that will be followed throughout the site.



Urban Canopy



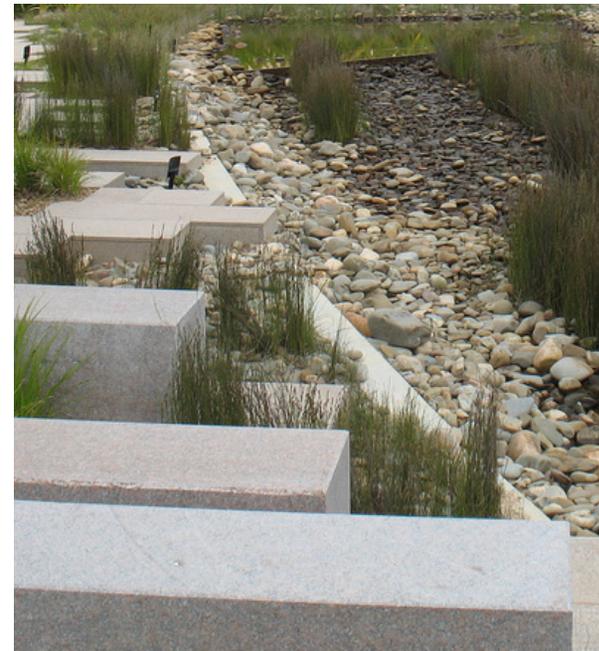
Eastern redbud



Swamp white oak



Biofilter planter



Biofilter planter

## Urban Canopy Suggested Plant Palette

### Urban and Street Trees

<i>Latin name</i>	<i>Common name</i>
<i>Betula nigra</i>	river birch
<i>Celtis occidentalis</i>	hackberry
<i>Cercis canadensis</i>	eastern redbud
<i>Cladrastis kentukea</i>	yellowwood
<i>Gleditsia triacanthos</i>	honeylocust
<i>Gymnocladus dioicus</i>	Kentucky coffeetree
<i>Liquidambar styraciflua</i>	sweetgum
<i>Ostrya virginiana</i>	hophornbeam
<i>Quercus bicolor</i>	swamp white oak
<i>Quercus coccinea</i>	scarlet oak
<i>Robinia pseudoacacia</i>	black locust

### Woody Understory

<i>Latin name</i>	<i>Common name</i>
<i>Alnus serrulata</i>	hazel alder
<i>Ilex verticillata</i>	winterberry
<i>Physocarpus opulifolius</i>	ninebark
<i>Sambucus canadensis</i>	American elderberry
<i>Viburnum lentago</i>	nannyberry viburnum

### Herbaceous Understory

<i>Latin name</i>	<i>Common name</i>
<i>Ageratina altissima</i>	white snakeroot
<i>Aquilegia canadensis</i>	Eastern red columbine
<i>Asclepias tuberosa</i>	butterflyweed
<i>Impatiens capensis</i>	spotted jewelweed
<i>Impatiens pallida</i>	pale touch-me-not
<i>Laportea canadensis</i>	Canadian wood nettle
<i>Lobelia cardinalis</i>	cardinal flower
<i>Onclea sensibilis</i>	sensitive fern
<i>Polygonum virginianum</i>	Virginia knotweed
<i>Symphotrichum novae-angliae</i>	New England aster

### Meadow Species (to be integrated into planters in plaza and open space areas along the greenway)

<i>Latin name</i>	<i>Common name</i>
<i>Andropogon gerardii</i>	big bluestem
<i>Helianthus grosseserratus</i>	saw-tooth sunflower
<i>Liatris spicata</i>	dense blazing star
<i>Oligoneuron ohioense</i>	Ohio goldenrod
<i>Oligoneuron rigidum</i>	stiff goldenrod
<i>Oxalis violacea</i>	violet wood sorrel
<i>Ratibida pinnata</i>	gray head Mexican hat
<i>Rudbeckia hirta</i>	black-eyed Susan
<i>Schizachyrium scoparium</i>	little bluestem
<i>Spartina pectinata prairie</i>	cordgrass
<i>Tradescantia ohiensis</i>	Ohio spiderwort

# Grassland “MeadowWorks Sculpture Park”

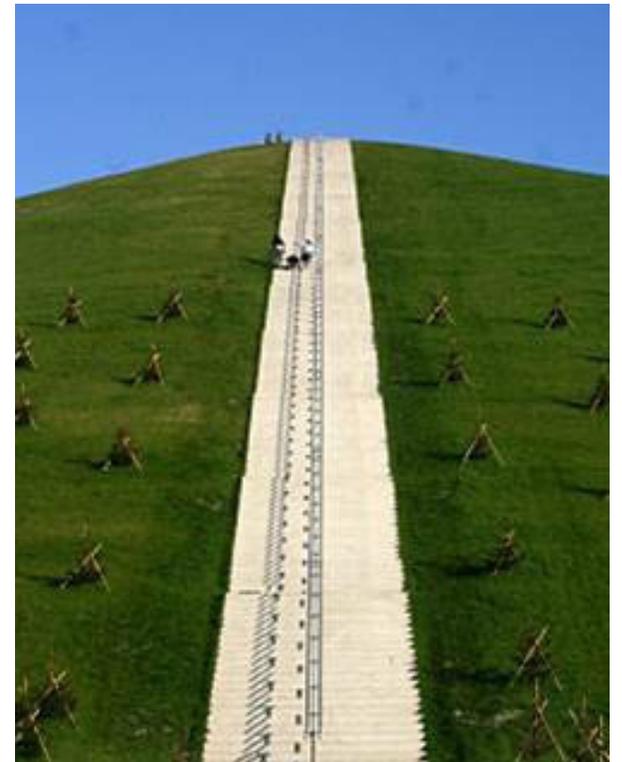
The site includes an 17 acre area where part of the former industrial complex was demolished and partially buried. This mounded area, the “containment area,” is 1,200 feet long and traverses the site in an east-west direction. To take advantage of its location and elevation, RiverBend Drive has been routed over it, providing drivers with a vantage point for dramatic views of the river and the city beyond. The containment area will also be transformed into a park.

The containment area will be planted with a native grassland and will be characterized by diverse species that thrive on deep, fertile, and well-drained soils. Low vegetation will enable maximum views, and public art, occasional site furnishings, and walking trails will punctuate this expansive landscape.

The design of the grassland MeadowWorks Sculpture Park must take the underlying soil conditions into account. Apart from the proposed RiverBend Drive, cut is not permitted in this area. Any landscape grade changes must be achieved by fill only.



Grassland MeadowWorks Sculpture Park





Meadow native species



Meadow native species



Meadow native species

## Grassland Suggested Plant Palette

<i>Latin name</i>	<i>Common name</i>
<i>Andropogon gerardii</i>	big bluestem
<i>Galium tinctorium</i>	stiff marsh bedstraw
<i>Helianthus grosseserratus</i>	saw-tooth sunflower
<i>Liatris spicata</i>	dense blazing star
<i>Oligoneuron ohioense</i>	Ohio goldenrod
<i>Oligoneuron rigidum</i>	stiff goldenrod
<i>Oxalis violacea</i>	violet wood sorrel
<i>Panicum virgatum</i>	switchgrass
<i>Ratibida pinnata</i>	gray head Mexican hat
<i>Rudbeckia hirta</i>	black-eyed Susan
<i>Schizachyrium scoparium</i>	little bluestem
<i>Sorghastrum nutans</i>	yellow Indian grass
<i>Spartina pectinata</i>	prairie cordgrass
<i>Tradescantia ohiensis</i>	Ohio spiderwort

# Renewable Energy

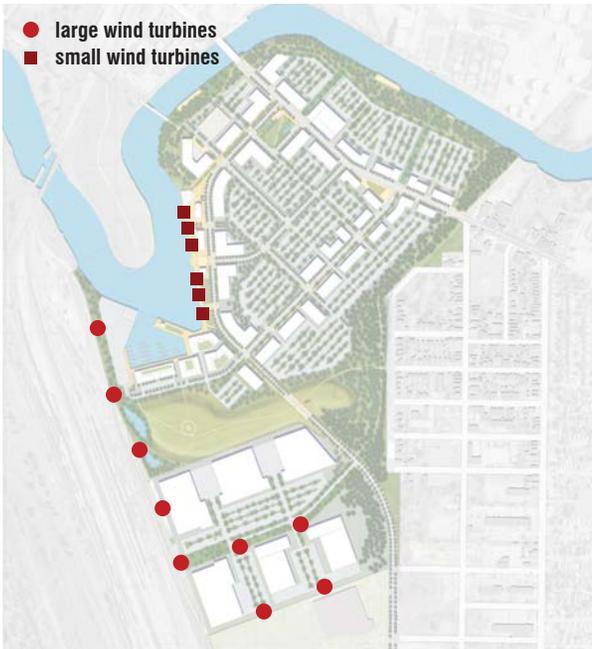
A series of wind turbines will be located throughout the site, generating renewable energy and punctuating the landscape as a visual reference.

Small-scale turbines along the promenade and in the marina area will serve a largely sculptural and decorative purpose. They will generate a small amount of energy and will be critical in demonstrating the technology in highly public areas. These turbines may be approximately 40 feet tall.

Throughout RiverBend Commerce Park District and along the edge of the containment area, medium to utility-scale wind turbines will each produce 1 megawatt of energy and may be 95 to 165 feet tall. These larger turbines are at the small end of utility-scale turbines, significantly smaller than are found offshore and in very large scale uses. They are located along the western edge of the site, adjacent to a rail corridor and proposed industrial and commercial buildings.



This row: large scale wind turbines

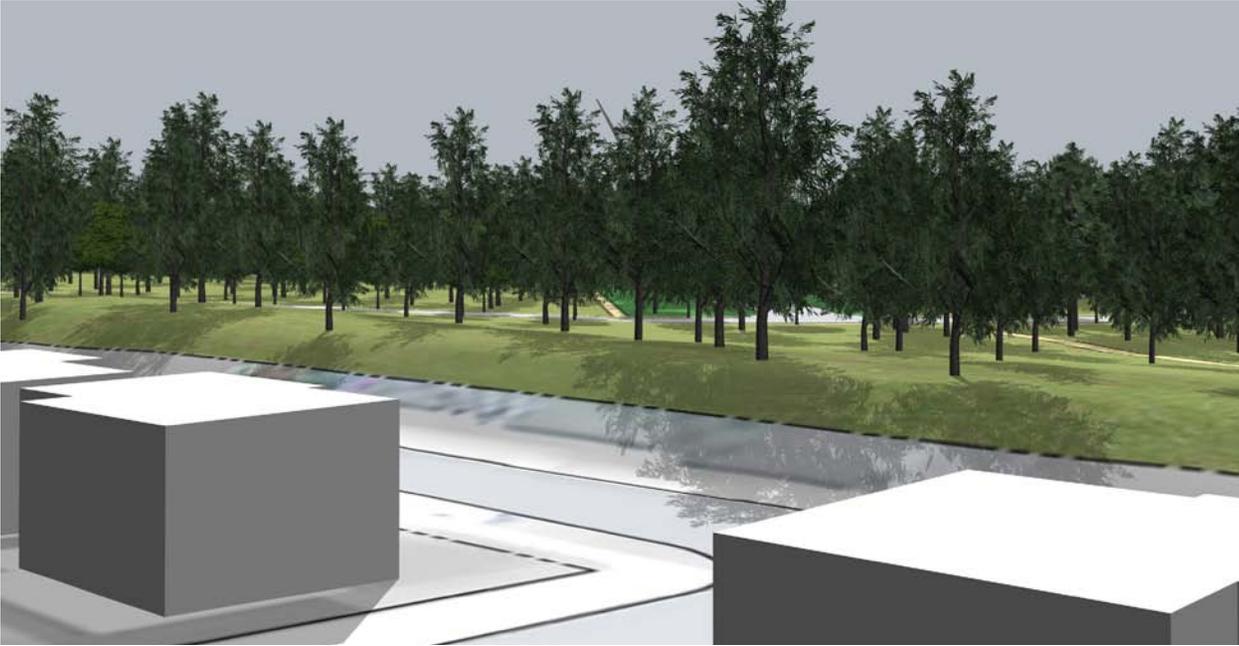


Wind turbines

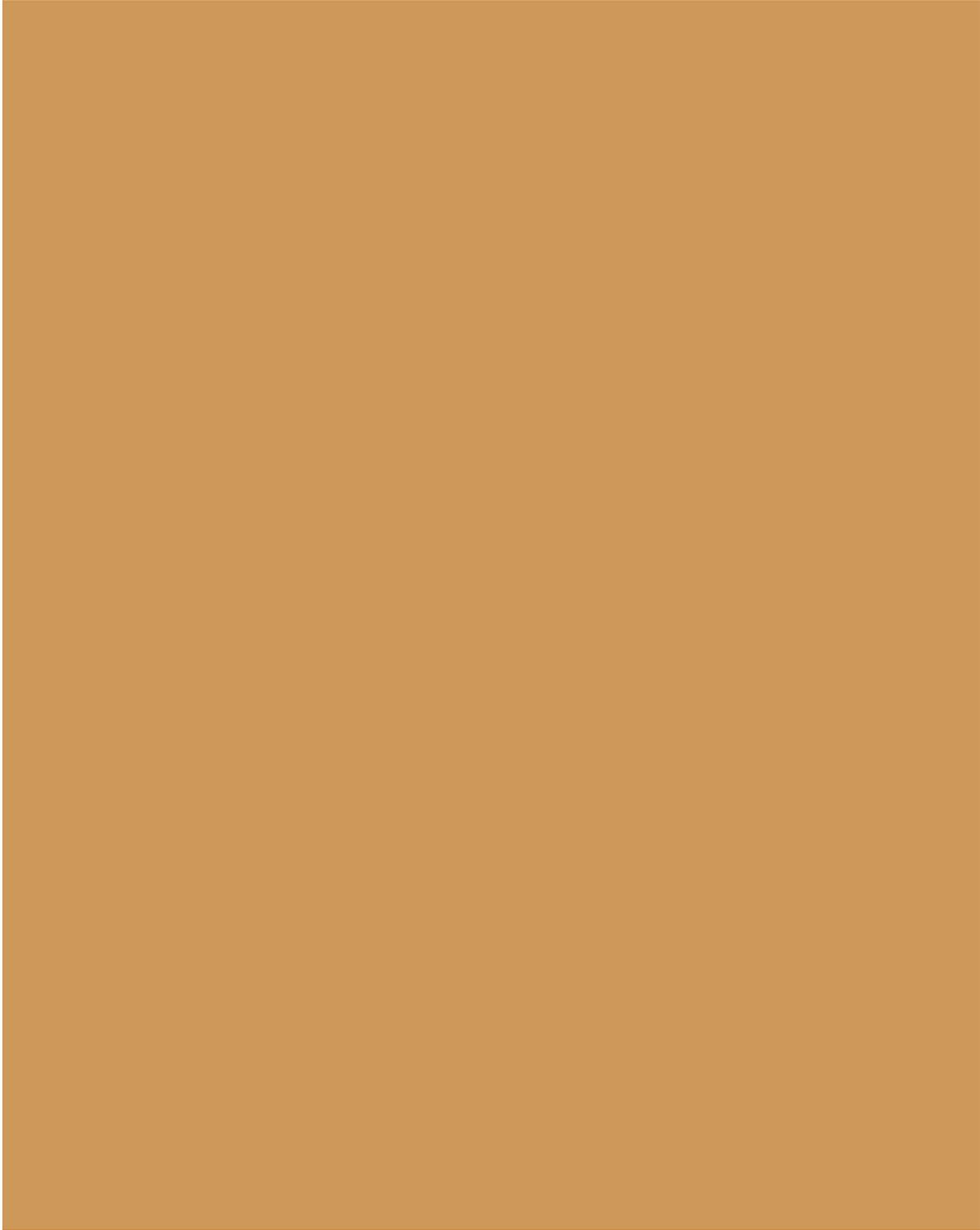


This row: small scale wind turbines





Relative scale among South Buffalo neighborhood, RiverBend, and turbines



# Streets and Parking

# Streets and Parking

## Right of Way and Street Hierarchy

South Park Avenue and RiverBend Drive are the primary streets within the site. These two main thoroughfares organize the layout of the site and provide critical access to adjacent neighborhoods. Building off of these two primary streets, a network of smaller streets creates a grid of urban blocks at a walkable, human scale, gives access to parking lots behind buildings on major streets, and serves as an address to accommodate future development. Electrical lines must always be buried rather than overhead.

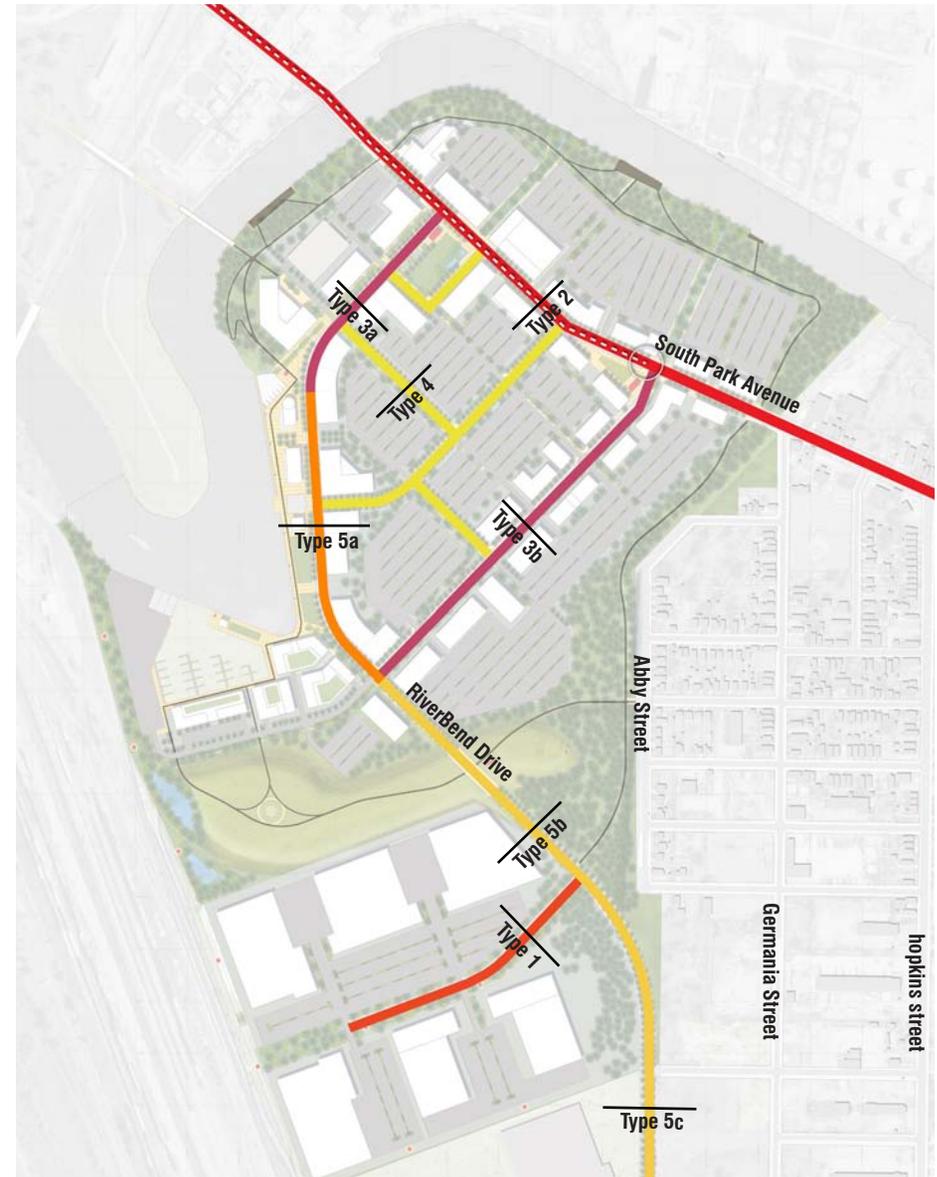
All streets within the site promote walkability, support bikeability, and showcase green infrastructure systems. Streets will include biofilter planters with a range of vegetated material, street trees, pedestrian lighting, directional and informational signage, and occasional site furnishings where needed. Buildings will front onto these streets, creating visual interest and activity along public right-of-ways. Where possible, dedicated and separated bike lanes have been provided within the street; however, in other cases bikers and pedestrians share a multi-use path located above the utility corridor. In all cases, continuous bike access is provided.

South Park Avenue connects South Buffalo to downtown. Proposed improvements will occur within its 90-foot right-of-way, accommodating two lanes of traffic, bicycle lanes, sidewalks, and a possible future light rail line and street parking on both sides. Street parking will be convenient to those visiting businesses that will line the street and will slow traffic in this important pedestrian area.

RiverBend Drive extends north / south through the site, providing a valuable connection from South Park Avenue to Tiff Street and linking all of the site's districts together. Its right of way changes from 85' wide at the Republic Park district, where commercial uses are clustered and its character is more urban, to a narrower 70' wide moving south along the Promenade towards RiverBend Commerce Park.

City and State plans to improve the regional transportation network call for a road that will connect towns south of Buffalo to I-190 through this site. If constructed, this currently unfunded project will also serve RiverBend businesses through enhanced access to the highway.

Clear utility corridors of 8-10 feet are present throughout much of RiverBend, beneath parking lanes and sidewalks, as indicated on the following street sections. Few streets will require utilities to run through roadways.



Streets and right of way

- [1] 120 FT PRIMARY ST ROW (RIVERBEND COMMERCE PARK)
- [2] 87 FT PRIMARY ST ROW (RIVERBEND DRIVE & CONNECTOR)
- [3] 80 FT PRIMARY ST ROW (SOUTH PARK AVENUE)
- [4] 80 FT ROW (EAST/WEST CONNECTORS)
- [5] 74 FT ROW (RIVERBEND DRIVE PROMENADE)
- [6] 70 FT ROW (RIVERBEND DRIVE)

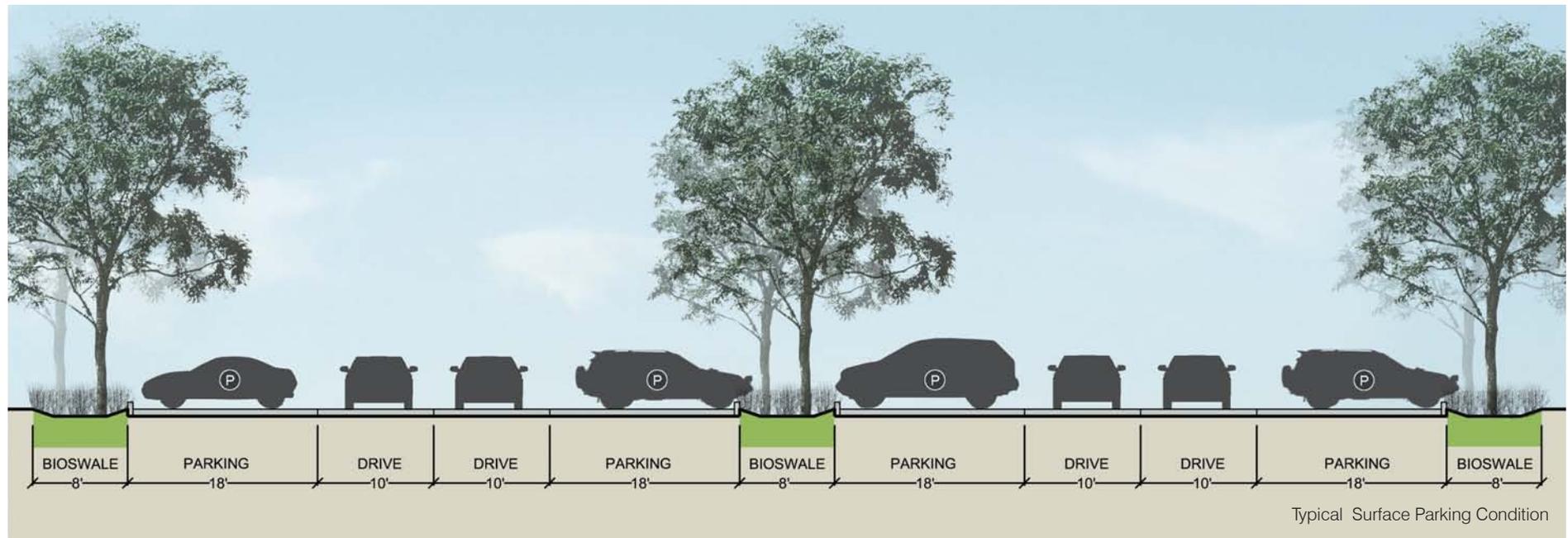
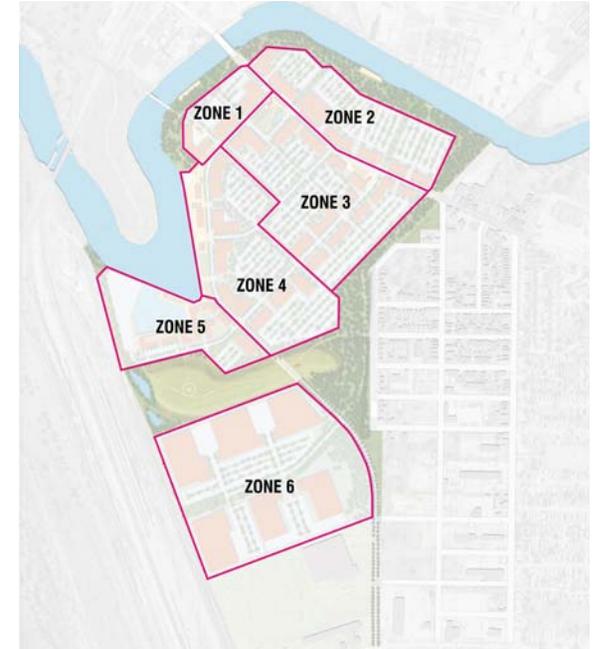
## Parking

Parking lots are an integral part of RiverBend's urban design and green infrastructure. Buildings will line primary streets and parking lots will be located behind buildings. The parking lots are sized so that, with growth of market demand, they can be converted to supply additional building sites with structured parking.

Parking lots at RiverBend are sized to include bioswales between each parking bay. This working landscape feature provides needed stormwater management and makes for a distinct landscape style as the bioswales' trees will create a natural canopy across the surface.

Parking demand is calculated based on standard practices. Except for the residential use in zone 6, parking lots and on-street parking will be shared. Site-wide, parking supply exceeds demand for the assumed scenario.

Paving must comply with NYS DOT standards. Permeable paving is not recommended due to increased cost, maintenance, and because parking lot bioswales will be sufficient to treat runoff.

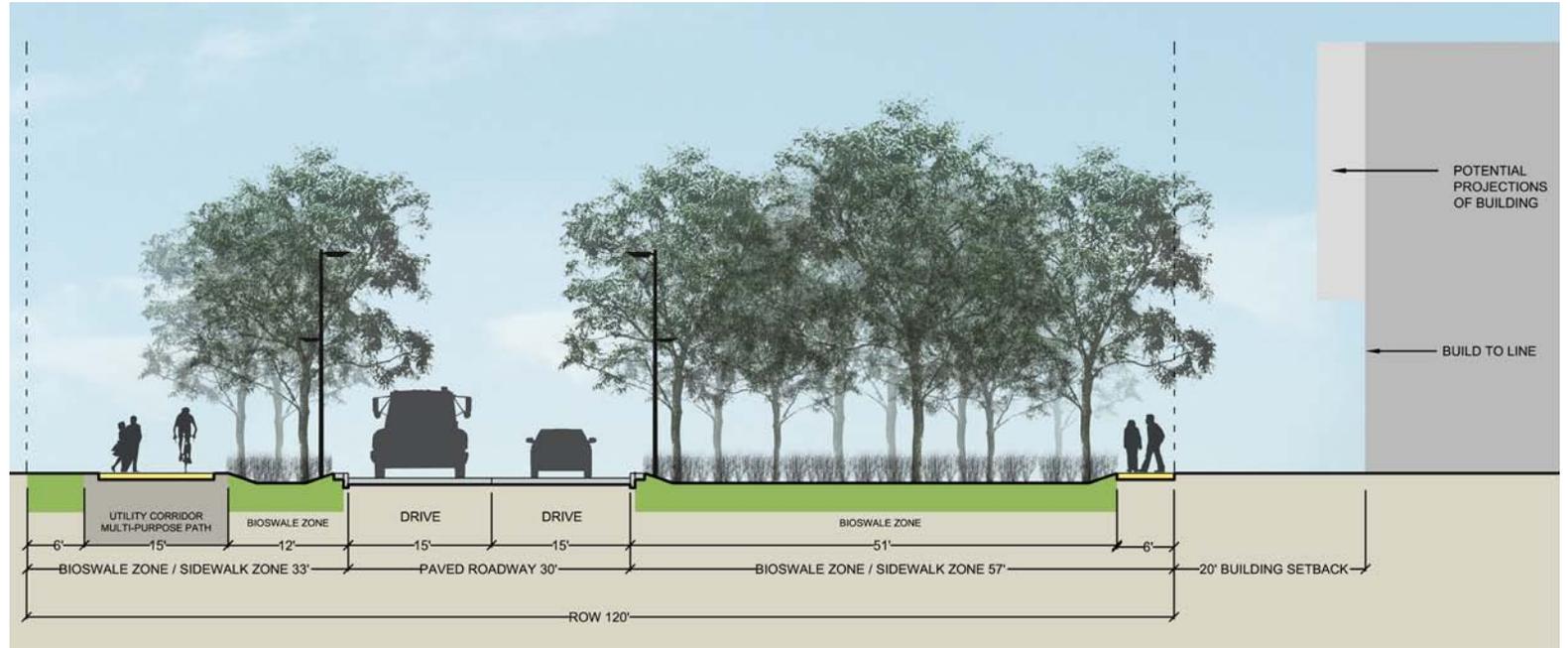


# Street Sections



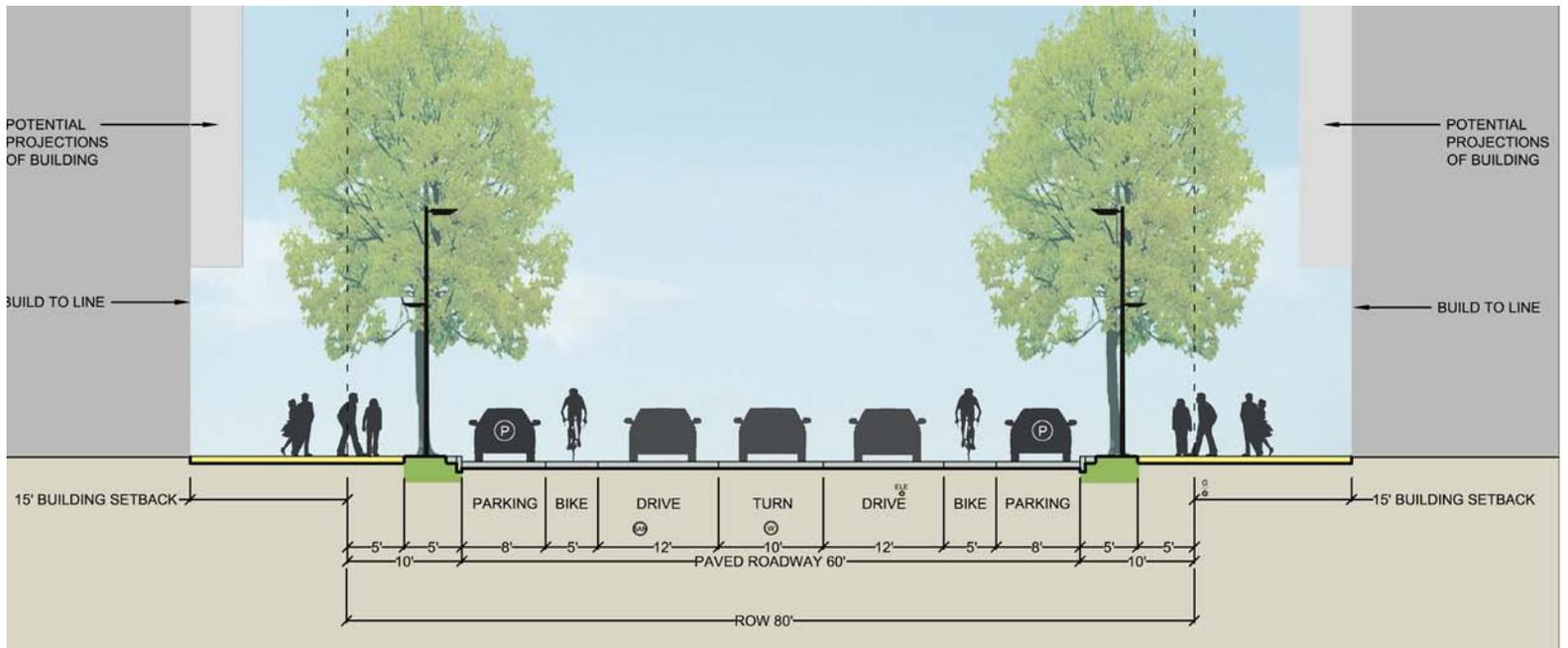
Potential Utility Corridor

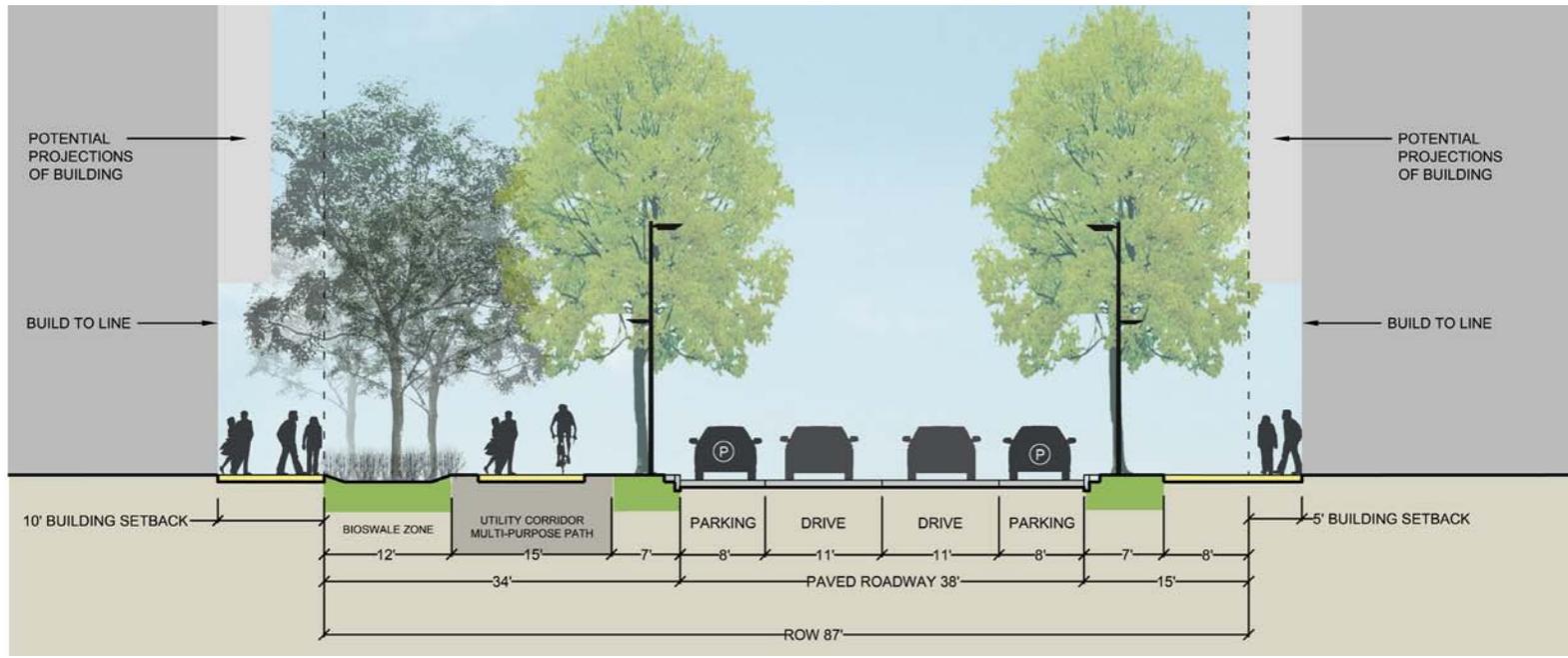
Type 1



Potential Utility Corridor

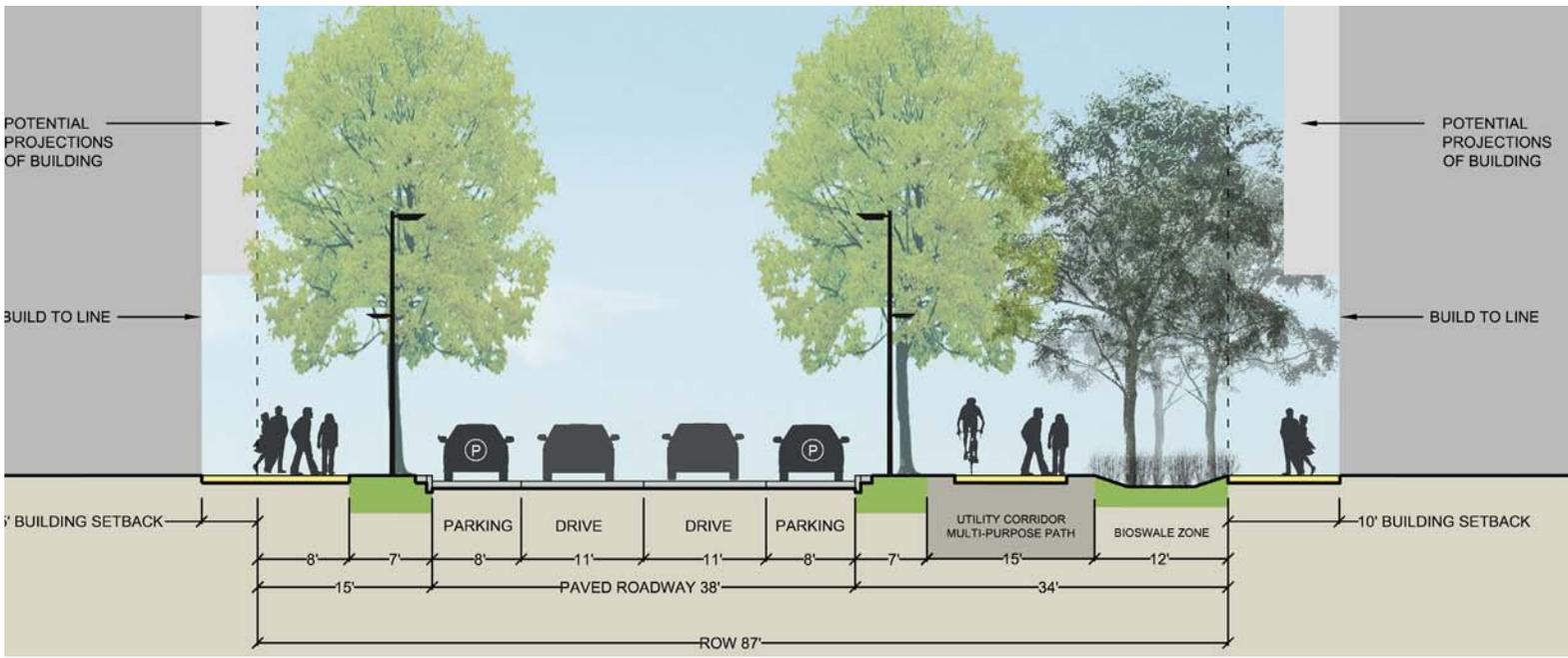
Type 2 - South Park Drive  
(Note: RiverBend Promenade  
Trees are in Filter Boxes)





Potential Utility Corridor

Type 3A - RiverBend Drive near Republic Park (Note: RiverBend Promenade Trees are in Filter Boxes)



Potential Utility Corridor

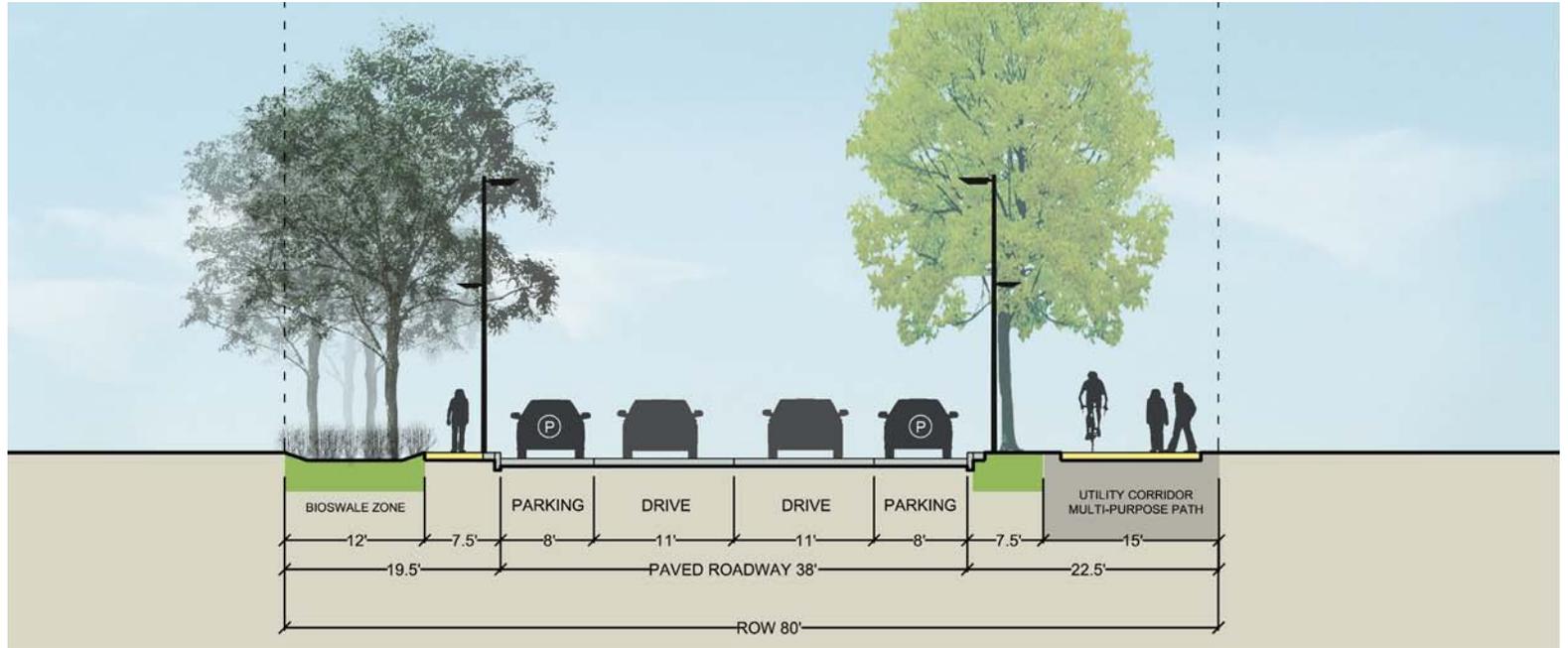
Type 3B

# Street Sections



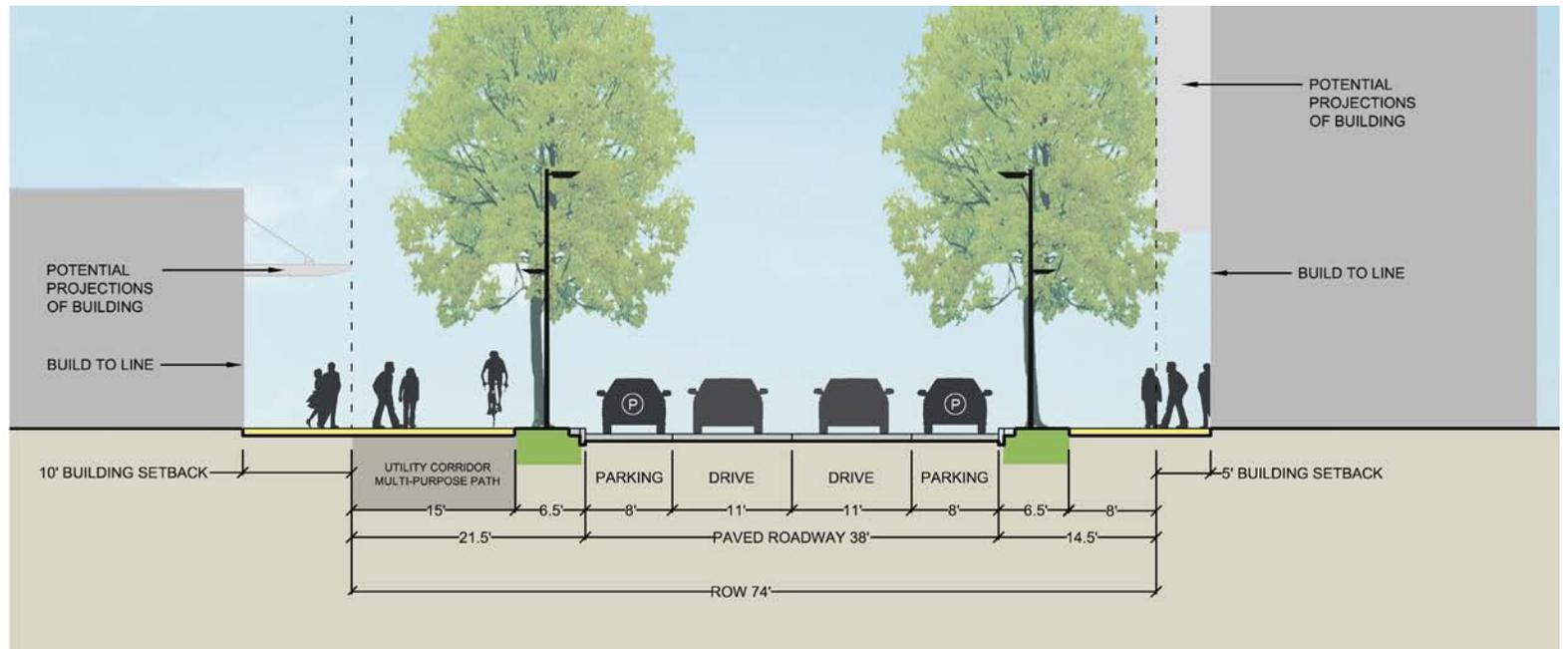
Potential Utility Corridor

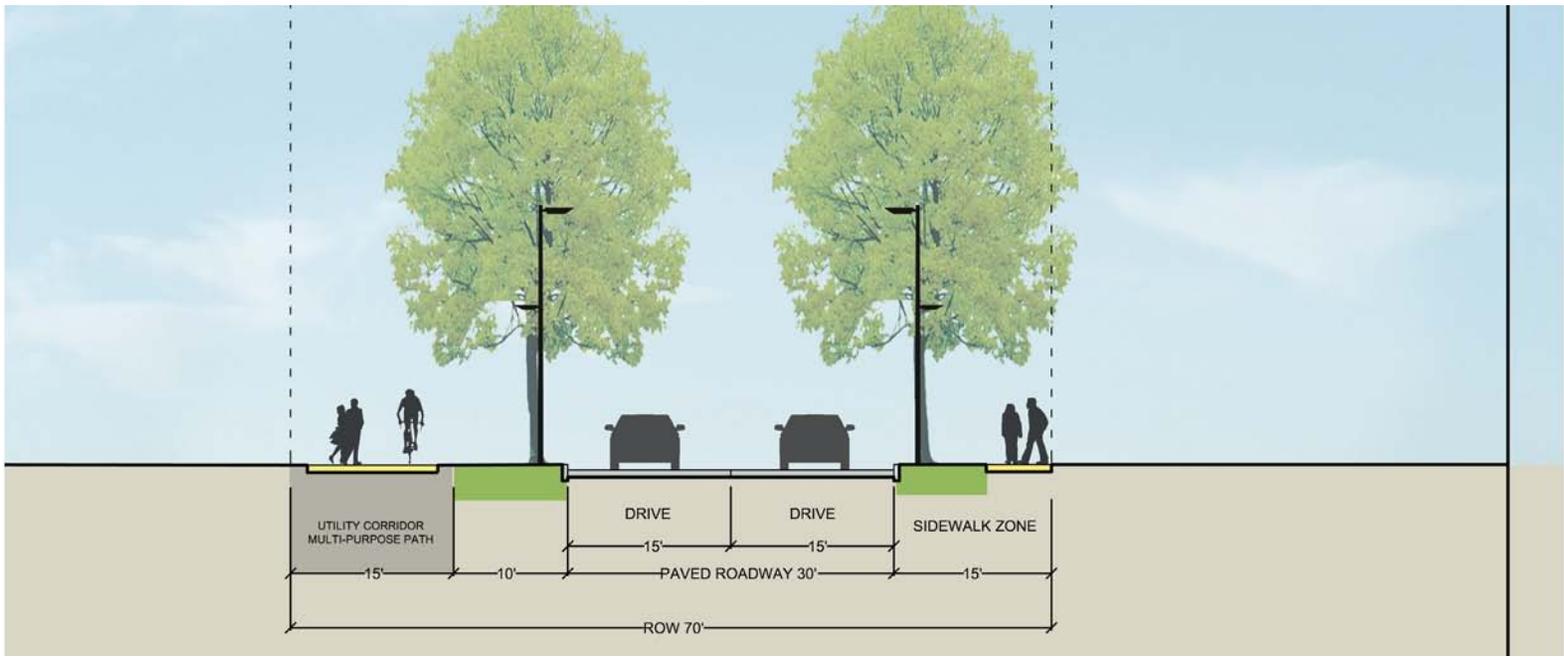
Type 4



Potential Utility Corridor

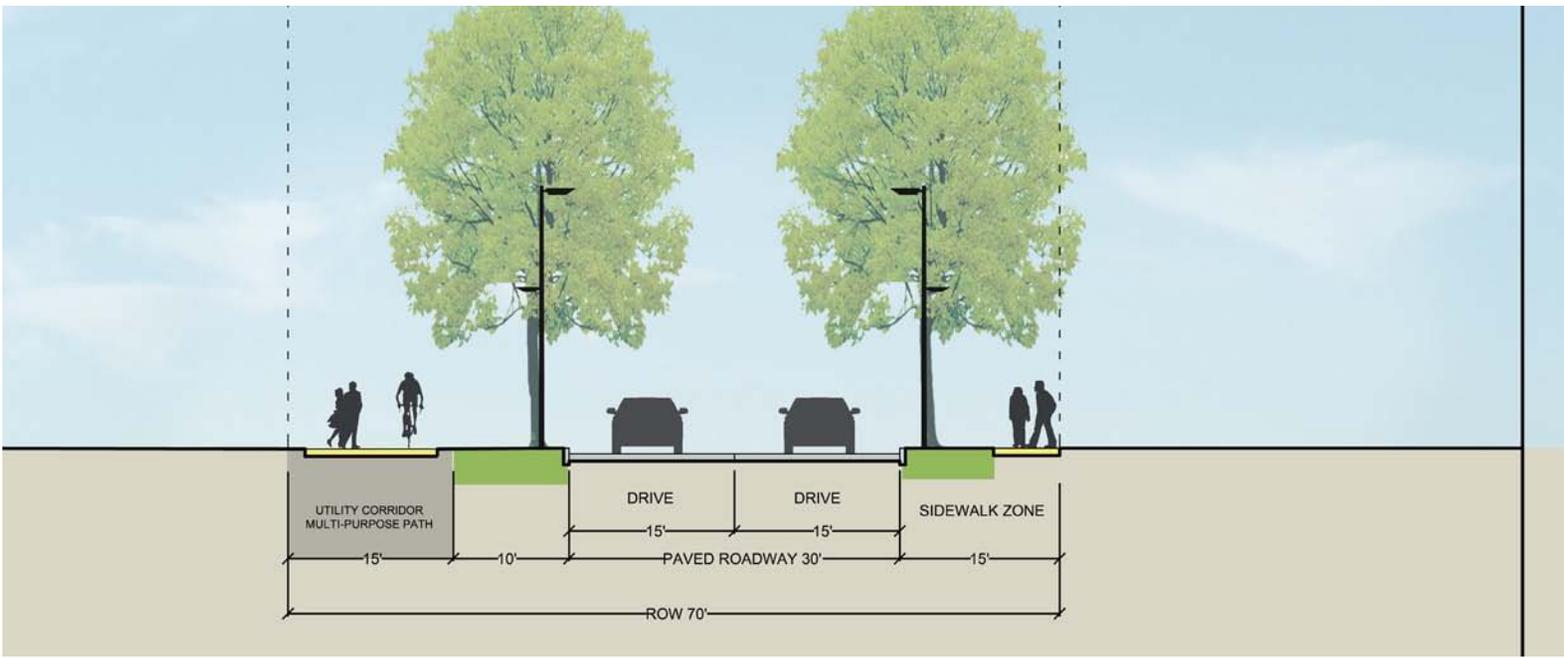
Type 5A - RiverBend Drive  
(Note: RiverBend Promenade  
Trees are in Filter Boxes)





Potential Utility Corridor

Type 5B



Potential Utility Corridor

Type 5C - RiverBend Drive

## Street Lighting

Street lighting will be consistent throughout the site in order to provide continuity among different districts. Street lighting fixtures that limit light pollution by effectively directing light downwards onto roadways are required to reduce light pollution and energy use. Light fixtures must be durable and contemporary. Forms that reference historical periods or motifs are prohibited.



High quality, durable screening strategies

## Screening

Service areas must be screened from streets and public view. Screening strategies should include high-quality fences and dense plantings, and screening should reach 6' tall. Materials may vary but must be clean, contemporary, and neutral in color. Preferred materials include wood, metal and neutral-colored composite materials that provide at least 80% opacity. Chain-link fence, wind-screen fencing, and other temporary or low-quality fencing is prohibited. Picket fences and other fencing types most commonly associated with residential uses are prohibited.



Street lighting strategies



Street lighting strategies



## Signage

Signage will be located along public right of ways and in open spaces. Throughout all districts, signage will provide a sense of identity for RiverBend. Signage strategies will be artful and iconic rather than text-heavy, referencing elements of the surrounding landscape.

The example image below, taken from Elmwood Village, demonstrates artful, iconic signage. Similarly, a silhouette of the iconic industrial artifacts surrounding RiverBend could be made into RiverBend's signature signage.



Form-based, iconic signage example



Potential inspiration for signage in RiverBend

