June 2011

River Bend

Master Plan

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BUDC
Buffalo Urban Development Corporation

Mayor Byron W. Brown

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RiverBend

The new image of RiverBend is of a green, modern, and vital community. It represents a tremendous opportunity to reposition the post-industrial land and South Buffalo in a way that is complementary and supportive of the future of the downtown and the greater region.

Introduction

RiverBend is a 260-acre waterfront site undergoing transformation from a vacant brownfield to a key contributor to the economic health of the City of Buffalo and its region. The new image of RiverBend is of a green, modern, and vital urban neighborhood. Green is embodied in the ecological transformation of the site, its renewable energy, and an expansion of the city's open space system. Modern refers to its contemporary architecture and working landscapes with the double function of managing stormwater in ways that contribute to the site's aesthetic. Finally, the new community's role as a regional destination—for jobs, and as a contemporary expression of the city's culture —assure it will be a vital place.

Today, RiverBend's key assets are its vast size, accessible rail infrastructure, adjacency to Downtown Buffalo, extensive frontage on the Buffalo River, and dramatic views. From RiverBend, one can enjoy the city's skyline, distant views of Lake Erie and, in the foreground, dramatically scaled historic grain elevators and bridges. In 2007 the Buffalo Urban Development Corporation acquired RiverBend, with assistance from Mayor Byron W. Brown and the City of Buffalo as part of their partnership to guide redevelopment of the city's former industrial sites and spur private sector investment and job creation. Part of the largest Brownfield Opportunity Area funded by the State of New York, RiverBend still bears the imprint of the departed steel fields. The site's three active rail lines are testimony to residents' stories of their employment there, but the site otherwise stands open and underutilized, with antiquated infrastructure and nutrient-depleted soil as challenges to its redevelopment.

RiverBend's development focus draws upon the region's assets, its real estate and economic trends, the metropolitan area's diverse employment base, and a highly competitive industrial market. While job creation at RiverBend will not compete with that being cultivated in the city's core, it is anticipated that the City's economic anchors will benefit RiverBend growth objectives. Two sectors are central to the transformation: the biomedical and the light industrial and logistics sectors. The Buffalo Niagara Medical Center, with a robust contribution to the city's biomedical sector at the University of Buffalo campus and plans to invest five billion dollars in a downtown health professions campus represents, among other things, the opportunity for research and development to flourish in Buffalo. As this occurs, the resultant prototype testing and manufacturing, not well suited for the downtown location of the medical center and university campus, can be well-supported at RiverBend.

Second, major transportation advantages, including road, freight, and waterway access, bolster RiverBend's appeal as part of a regionally competitive light industrial and logistics market. Recent successes at Buffalo Lakeside

Existing RiverBend Site Facts

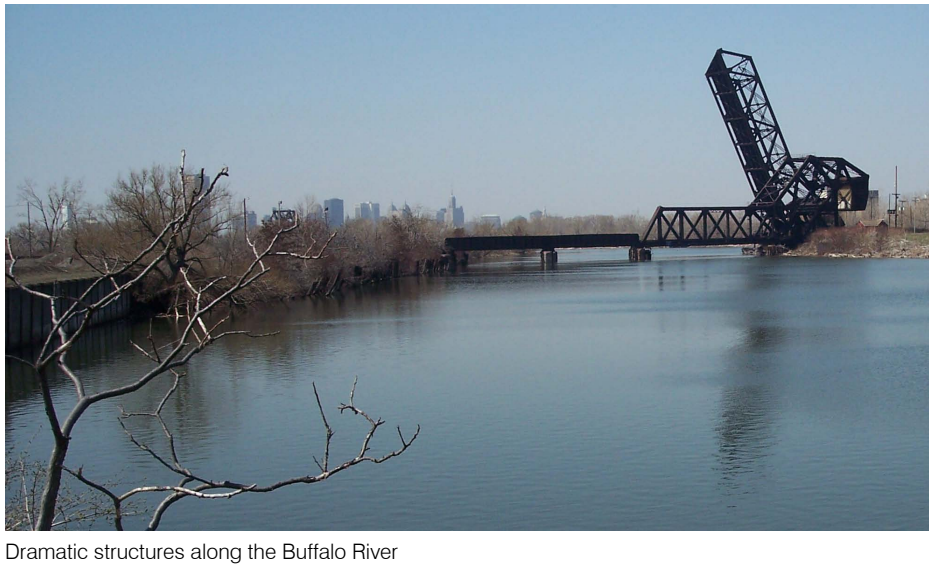
- South Buffalo Opportunity Area – 1,900 acres
- RiverBend Site – 260 acres
- 2 miles south of Downtown Buffalo
- 1.3 miles of riverfront
- Former Republic Steel site

Future RiverBend Site Facts

- 3.3 million gross square feet of development
- 3,550 new on-site jobs created
- 1,200 linear feet new public riverfront promenade
- 9 large commercial and 6 mini wind turbines within the site

The site offers views to Downtown Buffalo.

Future vision for RiverBend



Dramatic structures along the Buffalo River

Bridge abutments

Commerce Park and other active industrial and distribution campuses and sites are testimony to Buffalo's continued opportunity to exploit this locational advantage. RiverBend's scale allows for flexibility in design of parcels that can be adapted to a variety of development needs and accommodate a diversity of uses that should be proximate to downtown and the region's road network, but are not feasible in the city's core due to constraints of cost, available parcels and/or available building types.

The compelling image of the future of this district is unique to the City of Buffalo and metropolitan area; it positions RiverBend to flourish over the next thirty years. Close proximity and views to the downtown skyline reinforce RiverBend's close economic relationship to the center city. RiverBend's industrial history has been interpreted in the site's landscape and urban design. The bulkheaded edges of the river, once used to support industrial activity, will be reused to create public open spaces and to support development. The rail that runs along the western edge of the site will once again relate to the site's new economic activity. Energy will be produced here again, but through renewable sources. Building architecture will be simple and contemporary, a gesture to the utilitarian nature of its history as well as a link to its forward-looking environmental philosophy.

At RiverBend, a mix of light industrial, logistics warehousing, distribution, emerging and established research and development, and related office activity will be mixed with the complementary uses needed to make it a vital employment center. In time, it is expected that the open space network, proximity to jobs and strategic location of the site will also generate demand for residential life.

RiverBend's redevelopment will extend regional benefits of enhanced real estate value, revenue to the city, and job creation. The site's strategy of flexibility of uses constructed on a foundation of strong urban design is estimated to create approximately 3,550 jobs at full build-out. This strategy, sensitive to the current state of the national, regional and local economies, anticipates that the near-term public investment in site creation will set the stage for its success. The site will generate slow job growth at first, but as the economy emerges from the current recession, this site will be perfectly well positioned to serve as a regional economic catalyst.

connect

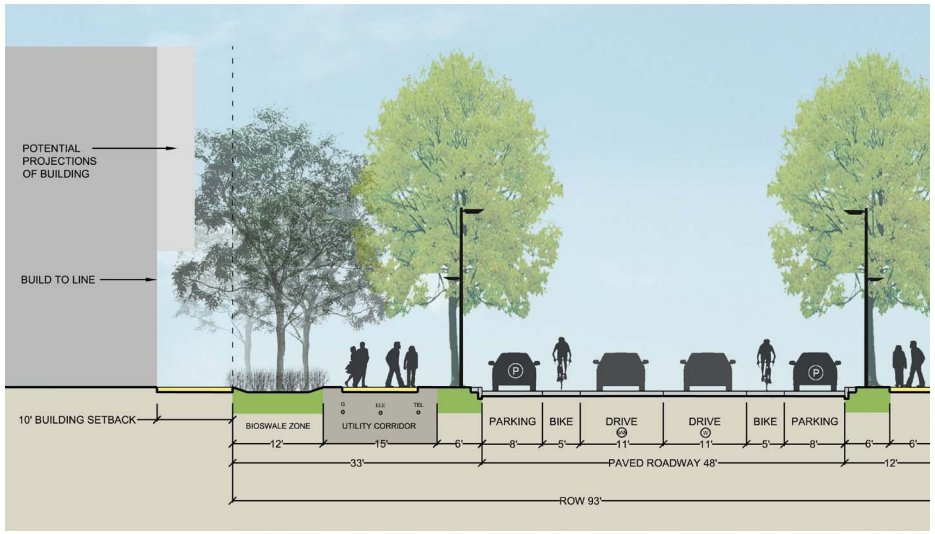
A new system of roads, pedestrian circulation, and transit defines the framework for the urban grid and create a flexible layout of open space and parcels that are adaptable to the market and of a walkable scale.

Restore, Connect, Transform, Engage

A new road and urban street system will connect RiverBend to its surroundings, to downtown, and make links to the regional economy. A comprehensive green infrastructure plan will restore damaged ecosystems and allow the riverfront to be used and appreciated by the local community. Over three million square feet of new development will transform the vacant site into an active engine of job creation for the region. Finally, the site will again engage the local community, working together with the City and other partners to reposition Buffalo for the future.

Connect

The master plan for RiverBend envisions a transformation in scale for this former industrial site, from the massive infrastructure of the industrial era to a more human-scaled community that connects to early master planning efforts for the city, to the city's urban grid, and to the residential neighborhoods to the east. Memories of those historical, industrial icons remain, but the overall experience of the site will be a contemporary and sustainable community, unlike anywhere in or around Buffalo. A new system of roads, pedestrian circulation, and transit define the framework for the urban grid and create a flexible layout of parcels that are adaptable to meet the market and at a walkable and human scale.



RiverBend's streets all integrate multiple modes of transportation.

RiverBend Illustrative Plan

Views from the site link RiverBend's industrial icons with the downtown skyline.

The MeadowWorks Park provides views to downtown Buffalo

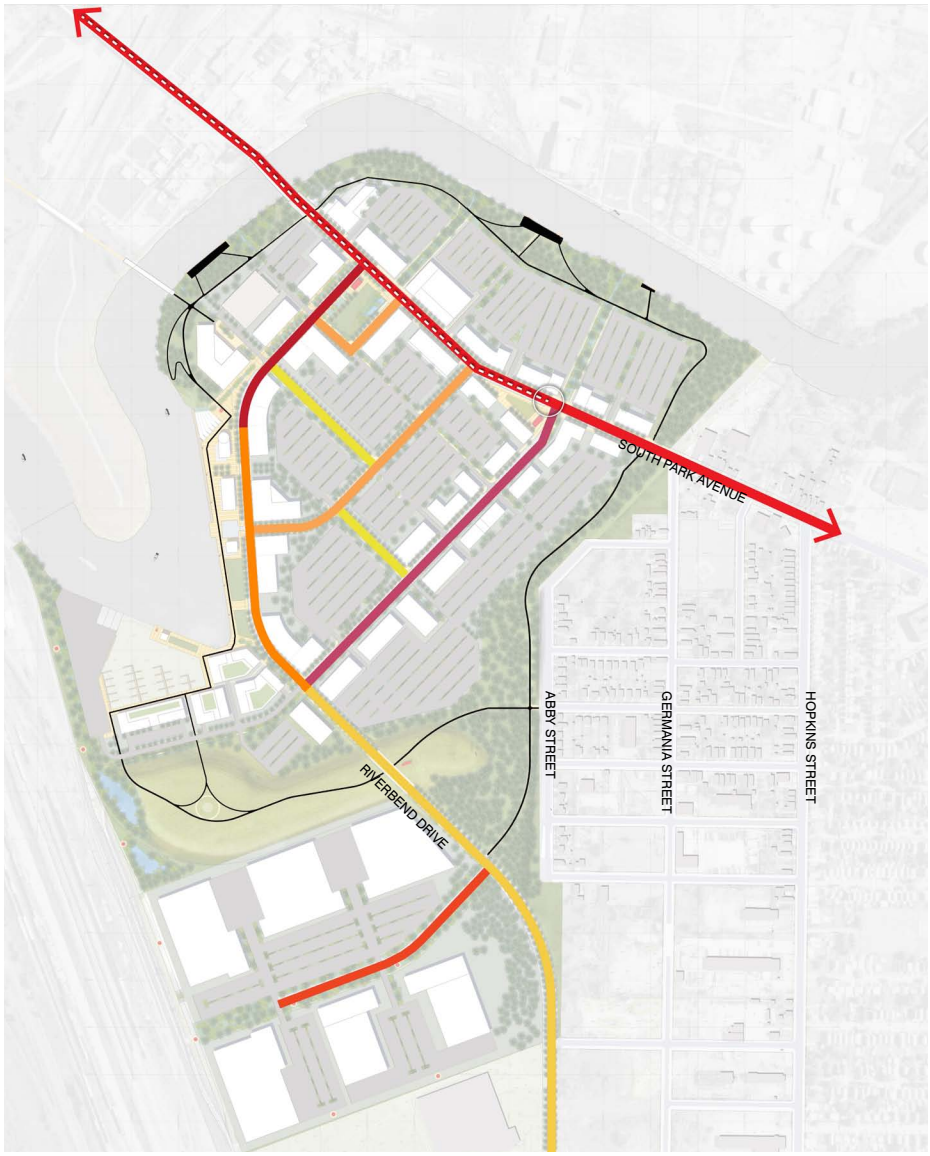
Heritage

RiverBend's location affords myriad views that are enhanced by the urban design of the site, which emphasizes visual connections to downtown, the river, and industrial icons. Views from the publicly accessible riverfront promenade, the higher scaled buildings in the marina development, and from key areas of Republic Park offer visual access to both the skyscrapers of downtown and the interesting industrial structures that remain along the Buffalo River; including the historically protected grain elevators and magnificently scaled steel trusses. New buildings and open spaces are carefully oriented to maximize open views to downtown, as well as provide filtered views through the new forest of trees within the site and along the restored naturalized river edges.

While views from the site to downtown are critically important, the future RiverBend will also include iconic elements that create new landmarks to capture views toward RiverBend that will be visible from Downtown Buffalo and the surrounding areas. A linear array of 95 to 165 feet tall wind turbines line the western edge of the site, including five utility scale turbines along the railroad edge. Views of the wind turbines express a cleaner energy future, while making reference to the site's productive past as a major steel plant. New symbols of wind energy now have a place alongside the relics of the Republic Steel Plant, with a scale that is visible from a distance and holds its own among the massive grain elevators and steel structures.

A twelve feet tall capped containment cell bisects the north and south quadrants of RiverBend, ranging in width from 300 to 575 feet and spanning 1,200 feet in length. To mediate the potential barrier, a new MeadowWorks Park is designed as a meadow landscape on top of the area that takes advantage of the high ground. Pedestrian trails lead up to the MeadowWorks from the neighborhoods east of the site and the marina district. RiverBend Drive, the district's new main street, connects through the site by extending up and over the containment area so that all travelers through RiverBend gain dramatic views and experience MeadowWorks Park from an elevated position.

RiverBend's urban design concept connects to ideas embodied in the early city plans that shaped Buffalo's growth. The city's first formal development was outlined in Ellicott's 1804 Master Plan, which established the core downtown square and a series of radial boulevards linking to surrounding blocks. Ellicott's plan, however, only extended as far south as the Buffalo River, leaving the RiverBend development area separate from downtown. Frederick Law Olmsted produced an open space plan for the city that created a series of parks within the downtown, its surroundings, and on the waterfront, with plans that extended south of RiverBend. The parks were linked by a network of green parkways and planted traffic circles that collectively created the Buffalo Olmsted Park System. Support for Olmsted's plan has had a recent renaissance in the city, supported by increased maintenance and reinvestment from public and private resources, as well as a 2008 report outlining the plan's revival, "The Olmsted City: The Buffalo Olmsted Park System Plan for the 21st Century." No parks or parkways were planned through RiverBend by Ellicott or Olmsted. However, future development of the site provides the opportunity to reconnect the site to the city grid and to extend Olmsted's city-wide park network through a connected system of green infrastructure.



[1] 120 FT PRIMARY ST ROW (RIVERBEND COMMERCE PARK)
[2] 80 FT PRIMARY ST ROW (SOUTH PARK AVENUE)
[3] 85 FT PRIMARY ST ROW (RIVERBEND DRIVE)
[4] 79 FT ROW (EAST/WEST CONNECTORS)
[5] 70 FT ROW (RIVERBEND DRIVE)
[6] 87 FT ROW (SOUTH PARK VILLAGE CONNECTOR)
[7] 93 FT ROW (RIVERBEND DRIVE AT REPUBLIC PARK)
[8] 80 FT ROW (INTERNAL CONNECTOR)

TRAILS
PARKING LOTS

Vehicular and pedestrian circulation

Neighborhood Connections

Five street typologies compose the RiverBend street network. A defining feature of the RiverBend district is integration with the existing city street, South Park Avenue. With a ninety-foot right of way that is lined with new mixed use commercial buildings, South Park Avenue connects RiverBend to the Old First Ward, Larkin district and downtown to the north, as well as Hickory Woods to the immediate east, and the balance of South Buffalo. All street widths accommodate bike lanes - either shared or dedicated lanes - in both directions and space for potential transit in the future, such as a trolley or streetcar, to be integrated into the street. RiverBend Drive and South Park Avenue will have a dedicated bike lane, and the remaining internal steets will have wide shared lanes with space to accommodate both vehicles and bicyclists.

Currently, South Park Avenue is the only existing road linking RiverBend to its surroundings. A new north-south connection will be created that extends from Tifft Street at the southern boundary of RiverBend and along the eastern edge of the site along the existing Rittling right of way, before crossing the site south of the containment cell. This alignment of RiverBend Drive does not travel through the light industrial area of site, below the containment cell, allowing this area to remain extremely flexible for large parcel development in the future. RiverBend Drive is the gateway street within the plan and its course allows drivers through the site to take in the view of the MeadowWorks Park before arriving at the dramatic bend in the Buffalo River where the new Waterfront Promenade and Marina District converge, presenting a strong arrival image for new development. RiverBend Drive varies from a seventy feet right-of-way through the southern area of the site up to a ninety-three feet right-of-way as it exits the promenade area and turns into the denser, mixed use northern district. In the northern, mixed use districts of the site, RiverBend Drive accommodates a two-lane, two-way street with parking on both sides, a bicycle lane, and generous pedestrian zones with dedicated sidewalks and integrated bioswales for stormwater management.

Building off of South Park Avenue and RiverBend Drive, the two primary streets in the development, are a series of smaller connective streets that create a flexible urban grid that organizes future development. The southern zone remains largely uninterrupted by public roads in order to retain the large, flexible parcels that are desirable for light industrial development. Entrance to these parcels is provided through a connection to RiverBend Drive. Within the northern zone, a network of smaller east-west and north-south connector streets provide access to future development and parking while extending the walkable, human-scale pattern of South Park Avenue and RiverBend Drive.

Regional Connections

A new arterial road, RiverBend Drive, aligns along the eastern edge of the RiverBend site before turning west into the heart of the development zone and connecting to South Park. (Currently, the southern portion of the future RiverBend Drive already exists as Rittling Boulevard.) Where RiverBend Drive turns west to enter the site, another connection is possible that would be constructed to connect the site and Tifft Street north to I-190 at an improved interchange in the Seneca / Elk / Bailey area. This alignment allows seamless integration with a future Southtowns Connector. The proposed road consists of a new four-lane (or two-lane expandable to four-lane) arterial road with signalized intersections at Seneca Street, Elk Street, and South Park Avenue. New on / off ramps will be constructed at the existing Seneca Street interchange on I-190 with the alignment following a former railroad right-of-way to a new fixed bridge over the Buffalo River, beyond the river's navigable portion for commercial vessels, where it aligns with RiverBend Drive eventually to the intersection with Tifft Street.

The master plan remains flexible to support future decisions related to the Southtowns Connector / Buffalo Outer Harbor Project. In the future, the Southtowns Connector can link directly to the RiverBend Drive alignment at the southern end of the site.The Southtowns Connector project includes a proposed series of transportation improvements that collectively will improve road access to key development sites including RiverBend and Buffalo Lakeside Commerce Park. It will also provide adequate commuter and commercial traffic service between the Southtowns and Downtown, improve access to existing and developing public recreational areas; and enhance waterfront access for alternative modes of transportation (transit, bicycles and pedestrians).

Transit accessibility is one of the most powerful tools for transformation of an urban site. A future transit line is accommodated in the master plan for RiverBend, to be located in the center of South Park Avenue, linking RiverBend to the central business district and moving employees between the major employment centers of downtown, the Buffalo Niagara Medical Campus, Larkin District, and RiverBend. In the near term, increased bus service will move greater numbers of people, while in the future a possible light rail connection will improve the level of service provided. This selected route for future transit builds on existing proposals for a new line from Downtown to the airport, and provides a new link between downtown and existing residential neighborhoods in South Buffalo.

Future trails will line the restored and forested river's edge.

Current and future investments in the restoration of the Buffalo River waterfront and in a comprehensive green infrastructure system open up new possibilities for a connected trail system that is integrated with future development and open space. The connected nature trails will provide continuous public access to the Buffalo River, from the naturalized edge to the urban waterfront promenade to the new marina. The trails also link through the naturalized forest buffer zone between the RiverBend site and eastern neighborhoods, with direct access to this new natural amenity from the South Buffalo neighborhoods at Baraga Street. A pedestrian bridge across the Buffalo River southwest of South Park Avenue links the RiverBend trail system to the opposite riverbank, and to planned development of the Buffalo River Greenway trail system.

Regional Connections

restore

A holistic approach to regenerative design and development that integrates the rich ecological legacy of the waterfront site with contemporary development, creating a sustainable landscape that complements the plan's economic and urban dimensions.

RESTORE

RiverBend represents a holistic approach to regenerative design and development that integrates the rich ecological legacy of the waterfront site with contemporary development, creating a functional and sustainable landscape that complements the economic and urban dimensions of the plan. Through implementation of a green infrastructure system throughout the site, RiverBend is able to realize a new, post-industrial potential for ecologic functionality, despite its decades-long history of industry. New parks, including Republic Park, MeadowWorks, and the Waterfront Promenade, create areas for active and passive use of the landscape by the residents and users of RiverBend, bringing this previously inaccessible landscape back to the community.

Green infrastructure includes stormwater management, as well as natural and designed systems such as ecological corridors, recreational trails and open space, wastewater treatment, renewable energy systems, and public transportation. Within the Great Lakes ecosystem the benefits are particularly important for sustaining and strengthening ecosystem health and resilience. The Great Lakes basin, covering 20,000 square miles, has an incredible level of biodiversity. Through this lens, RiverBend is restored to a diverse place that reconnects to the Buffalo River corridor and neighboring natural areas, including the Tifft and Times Beach Nature Preserves.

The strategy for the site combines naturalized areas that aim for more full ecological restoration with strategies that are integrated into the development footprint in a way that bridges the natural landscape with the built environment, providing more natural approaches to stormwater and landscape management within an urbanized context. Restored riparian and mesic forest and grassland on the RiverBend site will provide habitat corridors and connections to existing preserves, creating important ecological stepping-stones for birds and other native wildlife. Habitat improvements along the shoreline of the Buffalo River will contribute to concurrent river restoration efforts, providing improved water filtration before it reaches the river, and increased shade cover from overhanging vegetation for aquatic species. Realization of the plan entails coordination with the US Army Corp of Engineers, USEPA, NYSDEC, Buffalo Niagara RiverKeeper, and the City of Buffalo.

Benefits of bringing nature and development into greater balance on site:

- Provides continuous public access to the Buffalo River,
- Reduces heat island effect and moderates microclimate,
- Enhances river channel and riparian habitat consistent with the USACOE, USEPA, NYSDEC and RiverKeeper,
- Treats all stormwater and contributes to the ongoing enhancement of the Buffalo River,
- Provides songbird and migratory bird habitat,
- Strengthens wildlife corridors to Tifft Nature Preserve and surrounding habitat,
- Establishes pollinator habitat,
- Cleans air and generates healthy soils, and
- Creates a healthy, vibrant and resilient place.

Green Infrastructure

In addition to public open spaces—the newly restored river's edge, Promenade, and new parks—a green network throughout the site is created through a combination of mesic forest zone, riparian woodland, grasslands area, and sustainable stormwater treatment of the streets and parking areas. Green infrastructure is a seamless combination of natural and designed features that are linked and integrated across the site, providing ecological, stormwater, and community benefits. The forms of green infrastructure most appropriate for RiverBend include: native landscape vegetation in lieu of conventional turf, biofiltration, bioswale conveyance (both in the street right of way and within surface lots); stormwater ponds and wetlands; and outfall treatment. The practices form a treatment train for stormwater that promotes infiltration and evaporation, as well as quality and quantity control.

RiverBend's major naturalized areas include a mesic forest on upland areas and along a corridor on the eastern edge of the site; recreated marsh areas in sites historically showing wetland characteristics; and a grasslands sculpture park on the containment zone. Together with the riparian forest along the greenway, these ecological zones couple with green infrastructure in the streets and parking lots to create seamless natural connectivity throughout the site.

Green infrastructure systems

Mesic Forest

The mesic forest along the eastern edge creates a visual buffer to the existing neighborhoods to the east. With varying widths of 100' to 300,' the tree canopy will provide adequate cover for birds and will have a diverse structure with multiple layers of vegetation and a plant palette that provides nesting and forage habitat for birds and other wildlife as well as travel corridors. Along with the riparian forest, this woodland will help to regulate microclimate, providing shade and cooling, and screening as necessary.

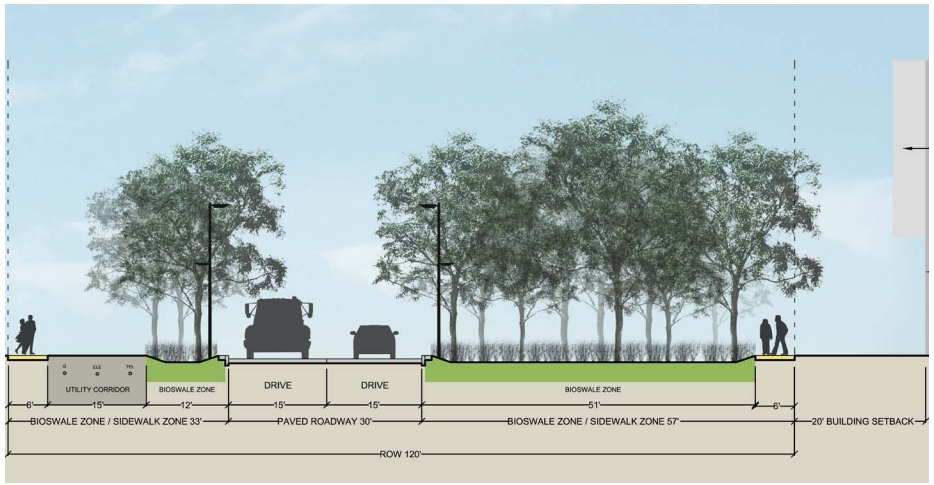
Grasslands

The containment cell bisecting the RiverBend site is transformed into a grassland that also serves as the site for an iconic sculpture park. This grasslands zone provides 40 acres of potential habitat, ample area for functional habitat for grassland birds and pollinators, and has direct aerial access to the Tifft Nature Preserve (over railroad tracks) for movement. Native grassland restoration on the containment zone will increase local and regional biodiversity and provide forage and resting habitat for migratory bird and butterfly species. Native grassland species in this large central zone of the site, in lieu of conventional turf, prevent soil loss and damage from erosion on the containment cell. They also provide an important location for pollinators of native plants, an additional opportunity for ecotourism and wildlife viewing in conjunction with the neighboring Tifft Preserve, and a dramatic site for art installations.

Working Landscape

RiverBend's innovative stormwater management approach combines different landscape strategies that provide water quality treatment, reduce impacts of water runoff, and safely convey flows to the Buffalo River. Technology and design engage with one another to make sustainable methods visible and part of the landscape experience, such as a created wetland in Republic Park, bioswales, and the rich urban tree canopy. The comprehensive approach will serve as a green infrastructure demonstration site, complementing on-going efforts by the Buffalo Sewer Authority (BSA) and the Buffalo Niagara RiverKeeper to demonstrate the feasibility of using green infrastructure for stormwater management in Buffalo. The strategy ensures that no stormwater runoff will be delivered to the City of Buffalo's combined sewer system. Instead, stormwater runoff will be treated, then allowed to flow naturally to the Buffalo River.

The containment cell is transformed to an iconic sculpture park and grasslands landscape.



Bioswales are incorporated into the street design in order to manage stormwater on-site.

Bioswales are integrated in all surface parking lots throughout RiverBend.

GREENWAY PLAN
- BUFFALO RIVER HABITAT ENHANCEMENT
- RIVER SHORELINE RESTORATION
- RIPARIAN WOODLAND
- TRAILS AND ACCESS

STORMWATER MANAGEMENT
- GREEN ROOFS
- PARKING LOT BIOSWALE
- BIOFILTER PLANTERS
- BIOFILTER
- BIOSWALES
- OUTFALL TREATMENT

URBAN ECOLOGY
- MESIC WOODLAND
- WETLAND
- GRASSLAND
- URBAN CANOPY

Wetlands

Constructed wetlands are proposed on two locations on the site – west of the containment area and within republic Park. The wetland west of the containment area will resemble a natural wetland, whereas the wetland proposed for Republic Park will have a more structured form with a combination of natural and hardened edges. The wetlands will be planted and maintained with vegetation adapted to wetlands and wetland fringes. The low lying fringes are planted with forested and scrub-shrub wetland species; while the areas in lowered ponds are planted with emergent wetland species. Both wetlands are incorporated into the site's stormwater management system.

Wetlands along the rail edge and containment cell

Restored River's Edge and Riparian Woodland

A restored greenway along the nearly mile long northern edge of the RiverBend site embraces the Buffalo River shoreline and integrates shoreline ecological restoration and enhancement into the redevelopment of the RiverBend site as a whole. This natural area offers a distinct contrast to the more urban areas of Downtown Buffalo or its surrounds. The plan includes strategies to restore shoreline natural habitat function in conjunction with Buffalo Niagara RiverKeeper's work. It surpasses the city's 100 feet standard for a green buffer along the river. A restored riparian forest along the river's edge creates a natural matrix of habitat types along the river shoreline with integrated trails and access points and habitat improvements both for aquatic as well as terrestrial species, and connections to the urban canopy throughout the more developed areas of the site. As part of the broader green infrastructure framework, the Buffalo River greenway's habitat improvements will contribute to concurrent river restoration efforts, providing improved water filtration before it reaches the river, and increased shade from overhanging vegetation will improve cover for aquatic species.

Urban Waterfront and Marina

One of the most compelling features of RiverBend is its 1.3 miles of waterfront characterized by distinctive, tight bends in the river. A new waterfront promenade—1,300 feet long—takes advantage of this sinuous river course with a central location at the tightest turn in the river, along the bulkheaded edge. The promenade is a new public space with an open riverwalk right up to the river's edge that allows a close connection between visitors and the water below. In contrast to the naturalized river's edge, the formal linear open space of the promenade brings an urban element to the experience of the river. At the northern end, a three hundred foot terraced space integrates usable green turfs into the design, providing a transition between the hard materials of the promenade and the continuous naturalized river's edge beyond. Small, water-related retail uses, including restaurants and cafes, as well a canoe and kayak launch bring activity to the waterfront.

Buffalo River Coordination

The Buffalo River is the subject of intensive ongoing study and investment. The Buffalo River Area of Concern (AOC) is 6.2 miles long and extends from the mouth of the river to the farthest point upstream at which the backwater condition exists during Lake Erie's highest monthly average lake level. RiverBend's green infrastructure coordinates with plans for the greater area, working together toward a healthier Buffalo River. A feasibility study by the US Army Corp of Engineers, determined that they will dredge contaminated sediment from areas of authorized Buffalo Harbor Federal navigation channels in 2011 and the US EPA will dredge additional areas outside of the navigation channels. The dredging work will be followed by aquatic habitat restoration, which is early in the design process. All river remediation work is being done in coordination with the Great Lakes National Program Office and Buffalo Niagara Riverkeeper; both of whom may also be involved in implementation of green infrastructure.

transform

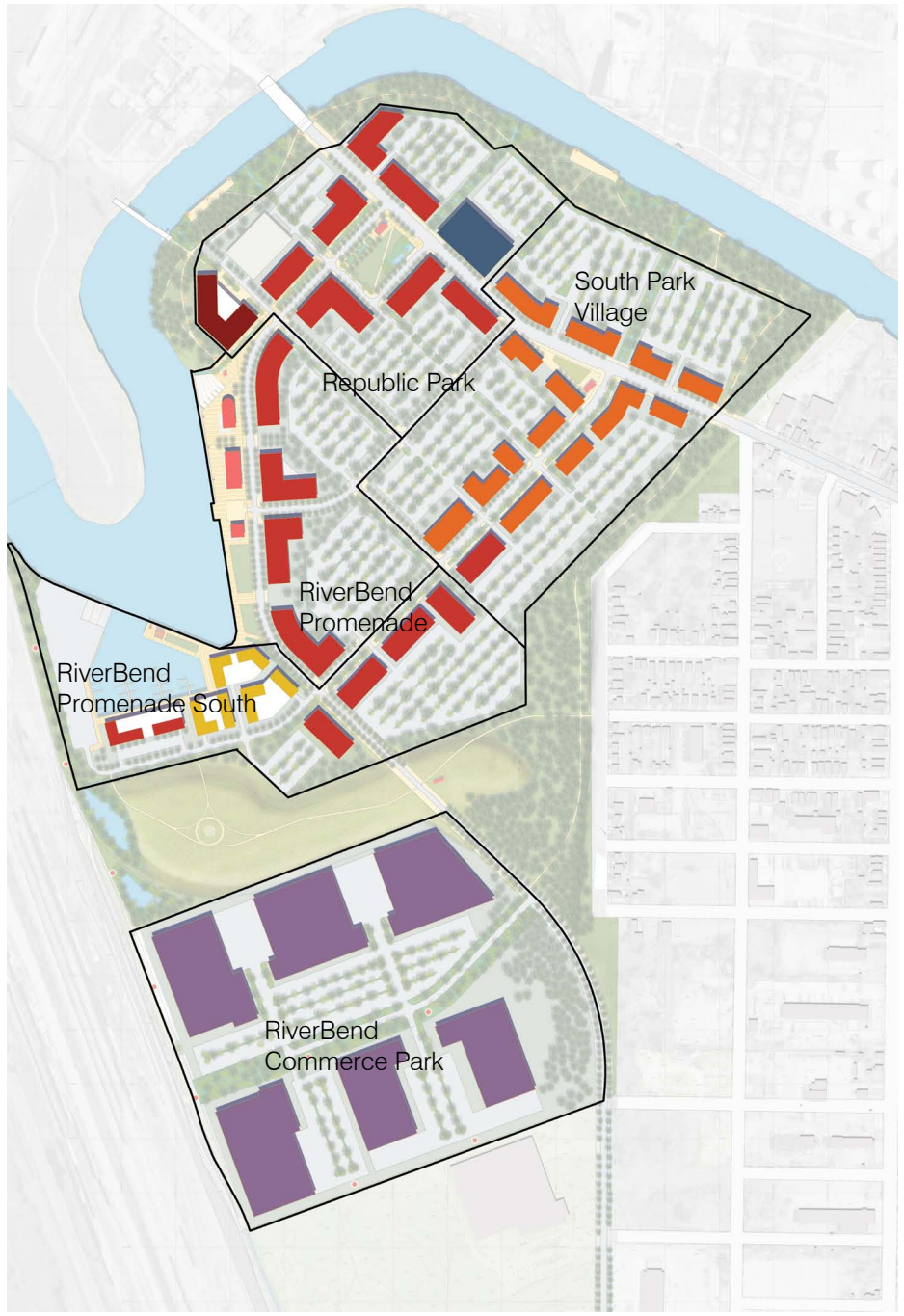
RiverBend is comprised of five neighborhoods, with a total development potential of 3,115,000 GSF that can generate 3,550 jobs on-site. Within these neighborhoods, flexible land uses and parcel sizes provide market adaptability.

TRANSFORM

RiverBend Master Plan

The RiverBend site is comprised of five neighborhoods. The grasslands containment cell band creates a natural division between the northern region—an urban, mixed use district—and the southern half of the site, intended for light industrial and logistics uses that can take advantage of RiverBend's rail access and large parcels. Within these neighborhoods, flexible land uses and parcel sizes provide market adaptability.

Total Program	GSF
Research & Development / Office / Scale-up manufacturing	1,220,000
Sports / Entertainment	60,000
Light Industrial / Logistics	850,000
Infill - retail, residential, incubator	795,000
Hotel	165,000
Retail, water-related uses	25,000
Total	**3,115,000 GSF**



RiverBend Landuse by District

Republic Park

Republic Park is a mixed use district occupying the northernmost tip of the site, and benefitting from riverfront views in three directions. This vibrant district is the gateway to RiverBend that sets the standard for development with contemporary architecture, a range of sustainable strategies, and a mix of development types and land uses. Stormwater management techniques, such as bioswales and enhanced wetlands, are created as visible, beautiful elements of the landscape design. Republic Park is the centerpiece of an urban environment with buildings that front onto South Park Avenue, RiverBend Drive, and Republic Park. A visible bioswale occupies a wide landscape zone along the northern edge of RiverBend Drive that 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 connects to a constructed wetland located in republic Park. The integration of green infrastructure and development in this district sets a precedent for the balance of development at RiverBend.

The district contains a mix of research and development (both emerging and established entities) and office sites, as well as several landmark users including an indoor sports arena and a waterfront hotel site. The hotel, at four to six stories, occupies a central, desirable site with views to downtown and the riverfront, and anchors the northern tip of the promenade. A new community park, Republic Park, anchors this district and serves the larger RiverBend neighborhood. With high visibility on South Park Avenue and ringed by significant new development, republic Park is an important landmark in RiverBend. A wetland within Republic Park will capture runoff from buildings, parking lots and roads, which will have already been filtered through bioswales and biofilters before connecting to the park.

RiverBend Promenade

Development within the RiverBend Promenade neighborhood benefits from the new 1,300 foot long waterfront plaza that connects people to the river's edge, unlike any other location in Buffalo. The waterfront will be a destination for people from throughout the city with cafe, restaurant, boathouse, and other maritime related small scale, active uses that populate the river's edge. On adjacent blocks, nearly half a million square feet of R&D (emerging and established entities) and office uses provide a daytime population of workers who bring daily life to the area and benefit from the newly reopened waterfront and visibility of the river and downtown in this prominent location.

The RiverBend Promenade public space is the focal point of this waterfront district. Medium scale, three-story buildings line the eastern side of RiverBend

Republic Park forms the heart of a mixed use district at the northern point of the site.

RiverBend Promenade waterfront plaza providing accessibility to the river's edge

District Program	GSF
Republic Park	
Indoor Sports Arena	60,000
Research & Development/Office	475,000
Hotel, Office	165,000
RiverBend Promenade	
Retail or destination water-related use	24,000
Research & Development/Office	465,000
South Park Village	
Infill - retail, residential, incubator	295,000
RiverBend Promenade South	
Research & Development	180,000
Residential	195 units
RiverBend Commerce Park	
Light Industrial	850,000

South Park Village along South Park Avenue

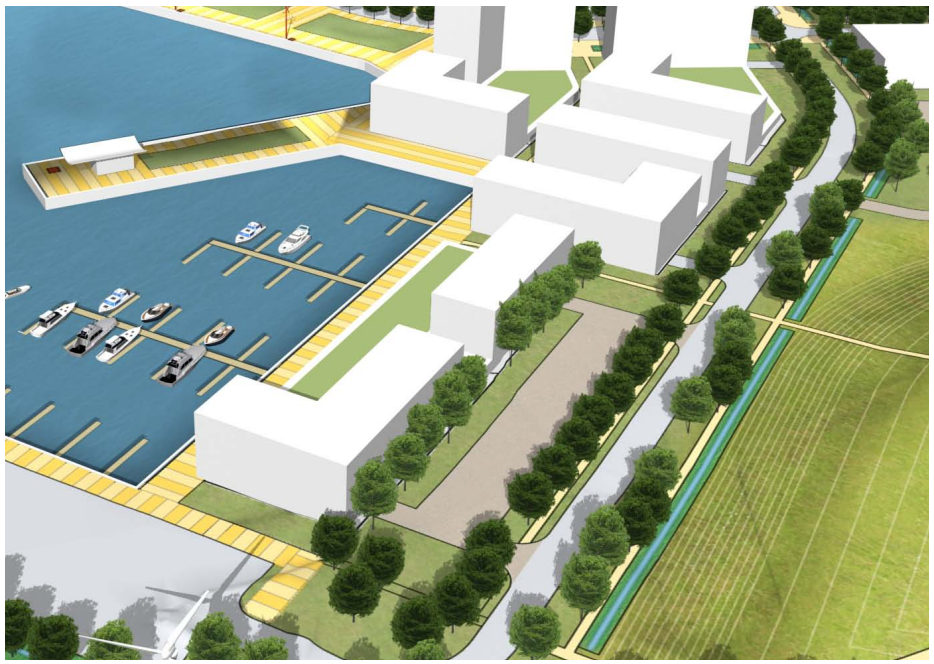
Drive, facing the street with views of the Buffalo River and landscape beyond. These buildings are strongly related to the street, with entries oriented to the Promenade and RiverBend Drive. Single-story buildings containing retail or water-related uses are located along the Promenade and kept to a low scale to preserve views to the river.

South Park Village

South Park Village is a district of small scale development that includes a diverse land use pattern with flexible incubator spaces, R&D (emerging and established entities) and office, live / work space, and restaurants and retail. Existing, regional businesses and retailers can find new opportunities to locate in this district. Buildings and blocks in this district are broken down to a smaller scale, creating a pedestrian-oriented, mixed use district that supports a flexible range of uses in a villiage-like atmosphere.

Buildings in this district are typically two to three stories tall. Parcels may densify and redevelop over time with structured parking replacing surface lots and additional buildings along the river's edge. The architectural facades and massing are human-scaled, and broken down into well-articulated segments that face South Park Avenue and the Connector Street. Ground floor uses may be devoted to retail and restaurants as well as employment uses in order to create an active street life.

The transit station for improved bus service and a potential light rail line along South Park Avenue is located within this neighborhood, in a small new park, Republic Square. From Republic Square, landscape features are connected to the riparian forest and water's edge. Biofilter planters, which are structured biofilters incorporated into the sidewalk, line South Park Avenue to aid in water treatment.



RiverBend Promenade South with future marina and the waterfront housing

RiverBend Promenade South

RiverBend Promenade South is part of the long term vision for redevelopment of the site. It includes a future marina at the Buffalo River's dramatic bend that provides unparalleled river access and the possibility for a new type of waterfront housing in Buffalo. MeadowWorks Park forms the southern edge of this district, providing a meadow landscape with art in contrast to the urban blocks along the water. The approach to this district from the south along RiverBend Drive is one of the most memorable experiences at RiverBend, with the road ascending over the sculpture park, with elevated topography allowing for dramatic views to the Buffalo river and downtown beyond. As RiverBend Drive approaches the river, it turns slightly to the east, opening up an important view corridor to the Promenade.

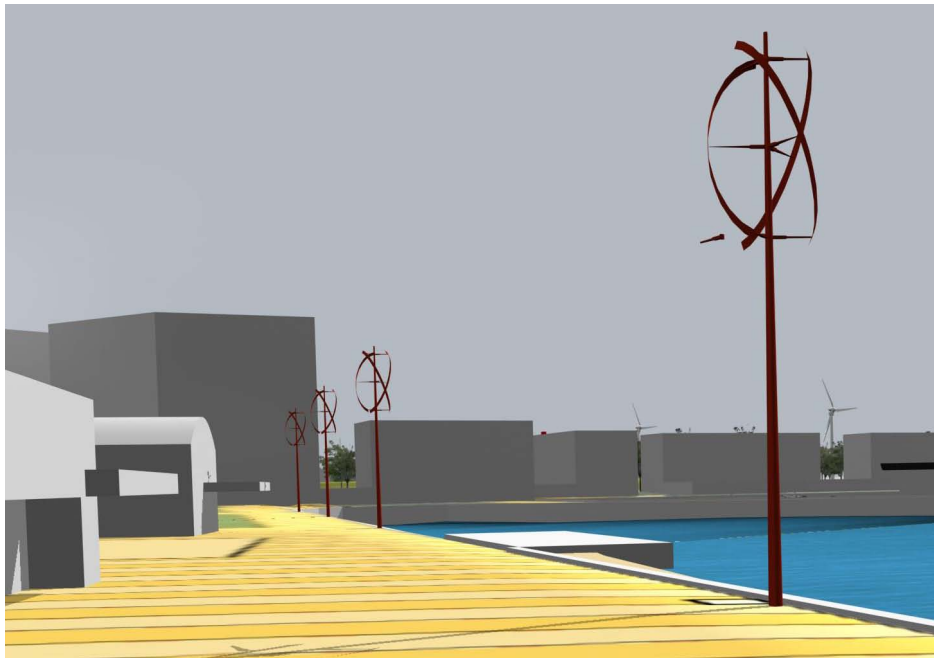
Nearly two hundred housing units are envisioned in this district, in a four to ten-story waterfront development with views to downtown, the river, and Lake Erie. Marine-related commercial uses are mixed within this district, providing a lively range of both daytime and evening populations to activate this unique area of the site. Building uses are flexible and may change over time as market demands evolve.

RiverBend Commerce Park South

RiverBend Commerce Park

The southern portion of the RiverBend site is devoted to a new type of light industrial park, with space for 850,000 GSF of new industrial and logistics uses that are buffered from the northern mixed use district by MeadowWorks. This site serves as an extension of BUDC's successful Buffalo Lakeside Commerce Park. Four of the six sites in this neighborhood benefit from direct rail access, either to the immediate north-south lines or on a spur.

Sustainability is interwoven to the green technology park, with wind turbines lining the rail, and within the southern edge and central roadway, to symbolically redefine the relationship of industrial productivity to the natural environment. A biofilter along the central roadway is a green amenity which makes sustainability visible and aids in treatment of stormwater runoff from parcels and roads south of the containment area. Surface parking lots include bioswales to aid in stormwater runoff management.



RiverBend Promenade with 30 feet tall wind turbines along the edge of bulkhead

Renewable Energy

RiverBend represents a forward-thinking approach to energy use and production in an urban development. Wind turbines, solar energy, and energy efficient buildings combine to create an environment where renewable energy is produced on-site and consumption is managed and minimized by good design.

Wind turbines throughout the site are one of the most visible and productive approaches to energy at RiverBend. These turbines in the landscape are a visual reference to the sustainability goals of the project, and give a new aesthetic expression to energy production. According to site conditions, neighborhood proximity, and proposed development patterns, the siting of the turbines includes a series of large commercial turbines in the RiverBend Commerce Park and the RiverBend Promenade South Districts, well away from South Buffalo neighborhoods. Micro turbines are also located along the RiverBend Promenade. Implementation of this strategy will combine federal government Investment Tax Credit, Department of Energy and Department of Agriculture grants with New York State incentives and grants through NYSERDA if available. Payback for initial investments in these wind turbines is approximately seven years. Turbines in the promenade will stand up to 30 feet tall, while the commercial-scale wind turbines will each produce up to 500 kilowatts of energy each and stand 95 to 160 feet tall.

The small-scale turbines in the promenade will be implemented as part of the overall infrastructure and landscape scheme. One strategy for implementation of the large, industrial turbines is to develop a Power Purchase Agreement (PPA), a financial arrangement in which a third-party developer constructs, owns, operates, and maintains the energy production facility, and BUDC / a host landowner sites the system and purchases the system's electric output for a contracted period. Key issues to consider in negotiating a PPA include price terms, the length of the agreement, the commissioning process, the purchase and sale of energy, curtailment agreements, transmission issues, milestones and defaults, credit, insurance and environmental attributes or credits.

Buildings are major energy consumers in an urban environment, but they also represent many opportunities for energy efficiencies. Solar arrays will be integrated into buildings to contribute small amounts of additional energy. Just as importantly, buildings will be designed to high standards of energy efficiency that exceed code standards and strive to minimize the demand they put on the system. Building orientation, building systems, materials, and other decisions will all be weighed toward creating a sustainable and energy efficient district. RiverBend will also support reductions in transportation emissions through support for public transit, as well as distribution of stations for charging electric cars throughout the district.

Flexible Phasing Plan

At 260 acres and nearly 3.3 million square feet of development, RiverBend represents a grand vision that will unfold over thirty or more years and be successfully implemented through the collaboration of many committed local and regional partners. A three phased approach will carry the plan from grand vision to prosperous reality, beginning with strategic investments in the public realm and key infrastructure improvements that create value on the site and target development that leverages the site's proximity to a growing Canadian market. The strategy focuses on developing partnerships with public and private sector organizations in the United States and Canada that support the North American trade/goods movement in the region, the development of a life sciences hub in Buffalo through growth at the University at Buffalo and the BNMC, and capturing economic growth in the Toronto Metropolitan Area that can extend to Buffalo as a U.S. gateway city.

Potential Funding Sources

- Environmental Protection Agency – brownfield funding
- NY Economic Development Corporation – tax credits
- National Oceanic and Atmospheric Administration – habitat conservation
- National Fish and Wildlife Foundation – natural resource conservation
- NYS Dept of Taxation and Finance – tax credits and subsidized loans for business development
- NY Empire State Development Corporation – job creation tax credits
- NYS Banking Department – incentives program
- NYS Energy Research and Development Authority – wind energy incentives
- NYS Department of Environmental Conservation – species restoration, water quality and watershed protection
- NYS Environmental Facilities Corporation – water quality and “green” initiatives grants
- PILOT Revenue

Upfront public investments will happen in the first ten years and are focused in the Republic Park district as well as the rail accessible light industrial parcels of the RiverBend Commerce Park. Public realm improvements include South Park Avenue, Republic Park, and the northern portion of the Promenade, as well as connector streets. Progress will begin on the linked green infrastructure system with riverfront clean up and restoration, introduction of the mesic forest along the eastern side, and internal stormwater management. These early stage public investments are critical to create value and attract private investment. Development in the first phase should be focused around the high value areas of Republic Park, South Park and the northern zone of the promenade.

Nearly one million square feet are developed in phase one, the first ten years: 400,000 GSF in the north, and 500,000 GSF in RiverBend Commerce Park. These uses will generate approximately 797 jobs in research and development, 60 in retail, 30 at the sports arena, and 217 in light industry / logistics. Infrastructure costs, amounting to $39 million in Phase 1, will be paid through a combination of land sales, federal / state grants, and local investment by PILOT and brownfields programs.

In the second phase, assumed to be another ten years, public private investments will guide further development in RiverBend, when 1.2 million GSF are developed, bringing on additional jobs amounting to 413 in research and development, eleven in retail, 211 in light industry / logistics, 150 in hospitality, and 1,019 through mixed infill development programs . The strategy in the second phase, from 2022 to 2032, is to capture growth from anchor institutions and momentum developed in phase one. Previous public investments as well as new investments in the MeadowWorks Park grasslands area, the southern zone of the Promenade and Transit Square will be capitalized on to incent private development with a greater balance shared by both the private and public sectors. As additional demand in the light industrial market builds, the remaining three sites in RiverBend Commerce Park will be developed, completing the southern area of the site.

By the final phase of growth, twenty years into its development, RiverBend will have much of the roadway and green infrastructure framework in place. Private investments will drive the remaining development at RiverBend, characterized by mixed use infill development and supported by the framework set up in earlier phases. In this phase, potential opportunities exist for branded place-based incentives that are driven by market rate development, such as the marina and related housing and office development in RiverBend Commerce Park. Job creation will continue in this phase, leading to an additional 331 research and development / office jobs, ten related to the housing development, and 301 through the mixed use infill development. In the long term, it is expected that market demand may grow, creating a need for denser redevelopment of lower-

Phase 1

- 2,600 parking spaces
- 8,400 linear feet of roads
- 1,150,325 GSF of development
- 35 acres developed
- 40 acres open space

Phase 2

- 3,100 parking spaces
- 4,870 linear feet of roads
- 1,416,135 GSF of development
- 42 acres developed
- 21 acres open space

Phase 3

- 2,200 parking spaces
- 1,370 linear feet of roads
- 881,340 GSF of development
- 30 acres developed
- 0 acres open space

Flexible Plan

intensity parcels of the site. Through transition to a structured parking strategy and strategic infill of sites along the northeast stretch of the river and along the interior streets, RiverBend has potential to accommodate an additional one million square feet, bringing the full development potential to 4.1 million GSF.

Early Private Investment

In addition to the long-term vision for build-out of the RiverBend site, a number of near term and short-lived uses are possible to activate the site and generate needed revenue. The uses that have been explored to date include industrial lay-down activity, wind turbines, solar arrays, and sports fields. These uses have the benefit of more immediate private investment and do not adversely impact the goals and implementation strategies of the master plan. The locations for these near term uses must be carefully selected according to the envisioned phasing of the development and market demand, availability and location of large, contiguous land areas, and infrastructure phasing. Ideal sites for temporary uses should be part of later phases of implementation, offer large parcels of land, and be accessible by roads that are part of earlier phases of work already completed. The marina district and southern area of South Park Village as well as non-rail accessible sites in the southern precinct arise as ideal sites for any of the near term uses.

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. For example, the RiverBend Promenade South district is envisioned as a marina and housing district; however, alternatively, it may be developed as a marine industrial zone if the market demands. 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 nine lots, as illustrated in plan at left. This illustration shows the critical relationships of key building sites and buildings to the site's primary streets and open spaces.

2042 development potential

engage

The RiverBend master plan process engaged a broad spectrum of partners and voices, whose continuing support is critical to a successful implementation.

ENGAGE

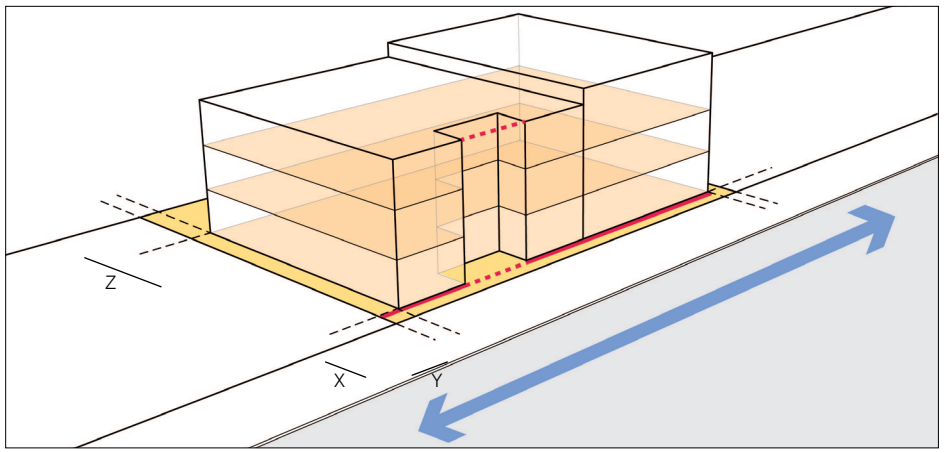
The RiverBend master plan process engaged a broad spectrum of partners whose continuing support is critical to successful implementation. As clients for this study, the City of Buffalo and Buffalo Urban Development Corporation acted as leaders for its advisors: Buffalo Niagara Enterprise, Buffalo Niagara Riverkeeper, Buffalo Niagara Medical Campus; Empire State Development Corporation, Erie County, National Grid, neighborhood representatives, private developers and the State of New York. Throughout the planning process, a series of community meetings and individual consultations solicited feedback from nearby neighborhoods and the broader city audience.

With such a strategic location, many plans and development proposals exist for surrounding areas or citywide that should be considered together with this master planning effort. These range from the historic plans that shaped original city growth, to recent proposals for downtown revitalization, waterfront development, transportation improvements, institutional growth, and open space restoration. As this plan moves through implementation, ongoing communication and coordination with city and regional initiatives is critical to realization of many key features, such as transit, road connections, and development that capitalizes on local and regional synergies. By working in concert with ongoing public and private investments, such as redevelopment of the nearby Larkin district or University at Buffalo expansion goals, RiverBend can best complement overall city goals and be integrated with the ongoing downtown revitalization efforts.

The RiverBend project is required to develop an environmental impact assessment as prescribed in 6 NYCRR Part 617 State Environmental Quality Review (SEQR). The purpose of this assessment is to ensure that the project is planned and constructed so as to mitigate or avoid significant environmental impacts. This assessment will be done by comparing the cultural and environmental impacts of the proposed site development plan to at least three alternatives. As with the process of developing the RiverBend Site Development Plan, the SEQR process will be rich in public engagement. The submission must be sponsored by a government agency and this may likely be a department of the City of Buffalo. The submission will address the following:

Transportation, Parking & Pedestrian Circulation Existing studies and new analysis will establish the project's likely impact on the existing road system, the most efficient and safest way to address parking and pedestrian circulation needs in the project and pedestrian access to and through the site.

Cultural Resources Located in a state-designated "Archeologically Sensitive Area", the site's archeology and industrial heritage will be studied in order to best advance the development with little or no impact on these resources.



Design Guidelines in Appendix guide massing, as well as other characteristcs, of future development

x FRONT SETBACK
y SIDE SETBACK
z BACK SETBACK
LOT
MAIN STREET
GROSS FLOOR AREA (SUM OF ALL FLOORS)
BUILT-TO LINE (DETERMINED PERCENTAGE OF BUILDING FACADE MUST SIT ON THIS LINE)

Hazardous Waste Remediation. The submission will establish the project's consistency with relevant remediation standards and restrictions and how these will be perpetuated through continued design and development.

Utilities This study will present preliminary design for connections and quantify any impact that the project will have on the city's existing utility infrastructure.

Community Services The project's design will be reviewed with the City of Buffalo Police and Fire Departments and refined, if necessary, to ensure that the development will not impact their ability to maintain public safety in the city.

Aesthetic and Visual Resources State standards will be applied to describe and address any adverse visual impacts that might be associated with the project.

Air and Noise Quality State protocol will be followed to quantify and form plans to mitigate any air or noise quality impacts that might be associated with construction or operation of the site as it has been planned.

Ecology Coordination undertaken during the plan development will continue to confirm support from state and regional ecological experts that the plan does not threaten rare, threatened, and endangered species or habitat on or near the site and works to advance the quality of habitat on-site and in the region.

RiverBend Advisory Committee

Honorable Byron W. Brown, Mayor of Buffalo

Brian Anderson, National Grid; Lead Economic Development Manager-WNY Region

Michael Ball, Buffalo Niagara Medical Center; Planner

Peter Cammarata, ECIDA; Director of Urban Development, and BUDC; President

John Cappellino, ECIDA; Vice President, Business Development

John Fell, City of Buffalo Office of Strategic Planning; Senior Planner

Martin Doster, NYS Dept. of Environmental Conservation; Regional Brownfield Program Manager

Rachael Homewood, Office of Senator Tim Kennedy

Jill Jedlicka, Buffalo Niagara RiverKeeper; Director of Ecological Programs, Buffalo River Manager

Michael Kearns, South District Common Council Member

Darren Kempner, Erie County Dept. of Environment & Planning; Deputy Commissioner, BUDC Board

Anthony Kurdziel, Buffalo Niagara Enterprise; Business Development Manager

Bonnie Kane Lockwood, Congressman Brian Higgins; Senior Field Representative

Brendan Mehaffy, City of Buffalo Office of Strategic Planning; Executive Director, BUDC Board

Elaine Miller, NYS Dept. of State; BOA Manager

Carl Montante, Jr., Uniland Development Company; Vice President, Private Real Estate Developer

Christina Orsi, Empire State Development Corp. (ESDC); Regional Director and BUDC Board Member

David Stebbins, BUDC; Vice President

RiverBend Stakeholders

Jaison Abel, Federal Reserve Bank

Steve Blake, CB Richard Ellis

David Chiazza, Iskalo Development

Paul Ciminelli, Ciminelli Development

David Comerford, Buffalo Sewer Authority

Dennis Elsenbeck, National Grid and BUDC Board

Lida Eberz, CB Richard Ellis

Anne Enger, Greater South Buffalo Chamber of Commerce

Chris Fahey, Congressman Higgins' Office

Richard Fontana, City of Buffalo Common Council

Karl Frizlen, Partners for Livable WNY

Bill Gentlemen, B&P Railroad

David Griggs, BNE

Rich Guarino, GBNRTC

Ken Hapke, Buffalo City Water Department

Peter Harvey, Buffalo Niagara Sport Commission

Ron Hayes , NYSDOT

Thomas Herrera-Mishler, Buffalo Olmsted Parks Conservancy

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Gary Keith, M&T Bank

NYS Senator Timothy Kennedy

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Erik Solomon, National Fuel

David Spiering, Tifft Nature Preserve

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