

LAKE RIVERDALE SUSTAINABLE MASTER PLAN

October 2010



PROJECT TEAM

Hitchcock Design Group
Weaver Boos Consultants
JFNew
SET Environmental, Inc.

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By 2025, the Lake Riverdale region will be the environmental model for industry, surrounded by unparalleled natural areas and recreational opportunities, accessible to the surrounding community and region.

Riverdale and other South Suburban leaders,

During the recent crippling recession, the most successful communities across the country have managed to not only sustain, but even enhance their competitive position. Not because they enjoy warmer climates or more scenic surroundings, but rather, because they offer the highest overall quality of life to their residents and businesses. Even though its leaders face many substantial challenges, the Lake Riverdale region can also become a multi-dimensional model of economic, environmental and cultural sustainability by enhancing and showcasing its extraordinary natural resources, improving regional connectivity, advocating responsible development, and coordinating the diverse interests of its public and private stakeholders.

The Village of Riverdale, the surrounding Southland suburbs and the south side of Chicago have all endured recent and substantial economic challenges. Yet, the region is poised for a significant revitalization because of several compelling assets, such as its superb location, exceptional infrastructure, industrial heritage and remarkable open spaces. To that end and in close collaboration with many regional stakeholders, the South Suburban Mayors and Managers Association (SSMMA) has crafted an ambitious vision:

By 2025, the Lake Riverdale region will be the environmental model for industry, surrounded by unparalleled natural areas and recreational opportunities, accessible to the surrounding community and region.

The vision, which is described in this Lake Riverdale Sustainable Master Plan was guided by, and centered on four major objectives:

Coordinate stakeholder interests

Numerous public and private sector land owners, businesses and regulators who have major investments in the Lake Riverdale area, and who, for decades, have functioned independently must coordinate their resources and initiatives so the area can be more competitive in the future.

Enhance the natural environment

The remarkable size and diversity of the region's forest preserves offer exceptional environmental quality that, if enhanced and promoted, can become powerful attractions for visitors, residents and businesses.

Advocate responsible redevelopment

The region has significant, largely industrial development potential that may be unlocked through the application of creative stormwater management techniques. Older industrial development does not include contemporary stormwater management facilities and most new development will require large, open, hard surfaces to facilitate the movement of finished goods between rail cars and trucks making economical compliance with contemporary Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) stormwater management standards challenging.

Improve regional connectivity

The region's transportation advantage can be increased through the enhancement of the extensive road, rail and water network and the addition of attractive new recreational and environmental corridors.

In order to accomplish its vision and objectives, the SSMMA concluded that:

- The open space surrounding the development parcels north and south of 138th Street, mostly owned by the Forest Preserve District of Cook County (FPDCC) and the MWRDGC must be enhanced to create a safer, more accessible, more active, and higher quality natural community.
- New and improved routes for motorists, cyclists, and pedestrians in Riverdale and surrounding communities are needed to effectively access the many existing and future destinations and amenities in the region.
- Current regulatory barriers must be amended to allow regional detention systems, which, in combination with individualized, on-site, green management practices, will serve the stormwater management needs of multiple property owners.

Given the history and scale of the study area, these capital and policy improvements may seem overwhelming. Yet, several key stakeholders are already advancing some important initiatives that support the master plan objectives and conclusions. The City of Blue Island and the Friends of the Calumet-Sag Trail are spearheading the development of the Calumet-Sag Trail, the FPDCC is restoring native landscapes in the Kickapoo Playfield area, the MWRDGC is reviewing its current stormwater ordinance, the Friends of the Chicago River is mobilizing volunteer clean up efforts, and developers have expressed interest in the industrial properties north and south of 138th Street. While significant, these initiatives represent the beginning of a long term implementation process.

Going forward, in order to realize the full potential of the Lake Riverdale Sustainable Master Plan vision, regional leaders will need to endorse the master plan and create a dedicated implementation team that simultaneously concentrates on organizational and policy development, funding, capital improvements, stakeholder engagement, and economic development. Through commitment, collaboration and systematic implementation, the Lake Riverdale region can dramatically improve its competitive position and become a model of economic, environmental and cultural sustainability.

The Lake Riverdale area is an important piece of the Green TIME Zone strategy, a core element of the Southland Vision 2020 for Sustainable Development. Each of the strategy's three components, Transit-Oriented Development (TOD), Cargo-Oriented Development, and Green Manufacturing, has a place around Lake Riverdale. Now is the time to take advantage of your established manufacturing capacity and high quality rail, water, and road infrastructure to create high paying jobs, environmental improvement, and a better quality of life.

Respectfully submitted,



Reggie Greenwood
Economic Development Director
South Suburban Mayors and Managers Association

The Lake Riverdale area has many advantages over its neighbors - it's proximity to water, available property and the close proximity of transit, rail, and pedestrian and bicycle connections. Sustainable techniques in a myriad of arenas will be crucial to the success of the area's revitalization.

It is an exciting time for the Riverdale community and surrounding areas. The significant investments that have been made in new facilities and compelling recreational improvements can provide the impetus for further image building efforts and reinvestment. This master plan describes the results of the planning process and later, presents a series of opportunities that can be utilized to provide for a balance of private and public development.

In order to fund the Lake Riverdale Sustainable Master Plan, the SSMMA received a grant from the National Fish and Wildlife Foundation and matched that grant with a Donnelley grant, in-kind services, and a McKnight Foundation grant through the Center for Neighborhood Technology. After being awarded the grant, the SSMMA engaged Hitchcock Design Group to lead a team including JFNew, SET Environmental, and Weaver Boos Consultants, recognized leaders in the fields of landscape architecture, land planning, wetland and natural areas, and stormwater engineering to undertake the master plan. Together, the team outlined a three phase strategy outlined below:

- Research and Analysis
- The Plan
- Implementation Strategy

The focus of the Research and Analysis phase is to identify the issues and most promising opportunities that meet the objectives outlined previously based on the characteristics of the existing marketplace, natural, physical, and cultural resources, and the interests of project stakeholders. Once the opportunities have been identified, the Plan shows how they can be applied and integrated into a strategy. Finally, the Implementation Strategy outlines a series of recommendations that direct the project stakeholders towards achieving the Plan.



140,000

PEOPLE WITHIN 10 MINUTES
OF STUDY AREA

2,700 ACRES

STUDY AREA

INDUSTRIAL ZONED
PROPERTY

1,000 ACRES

OTHER

700 ACRES

OPEN SPACE

1,000 ACRES

26,000

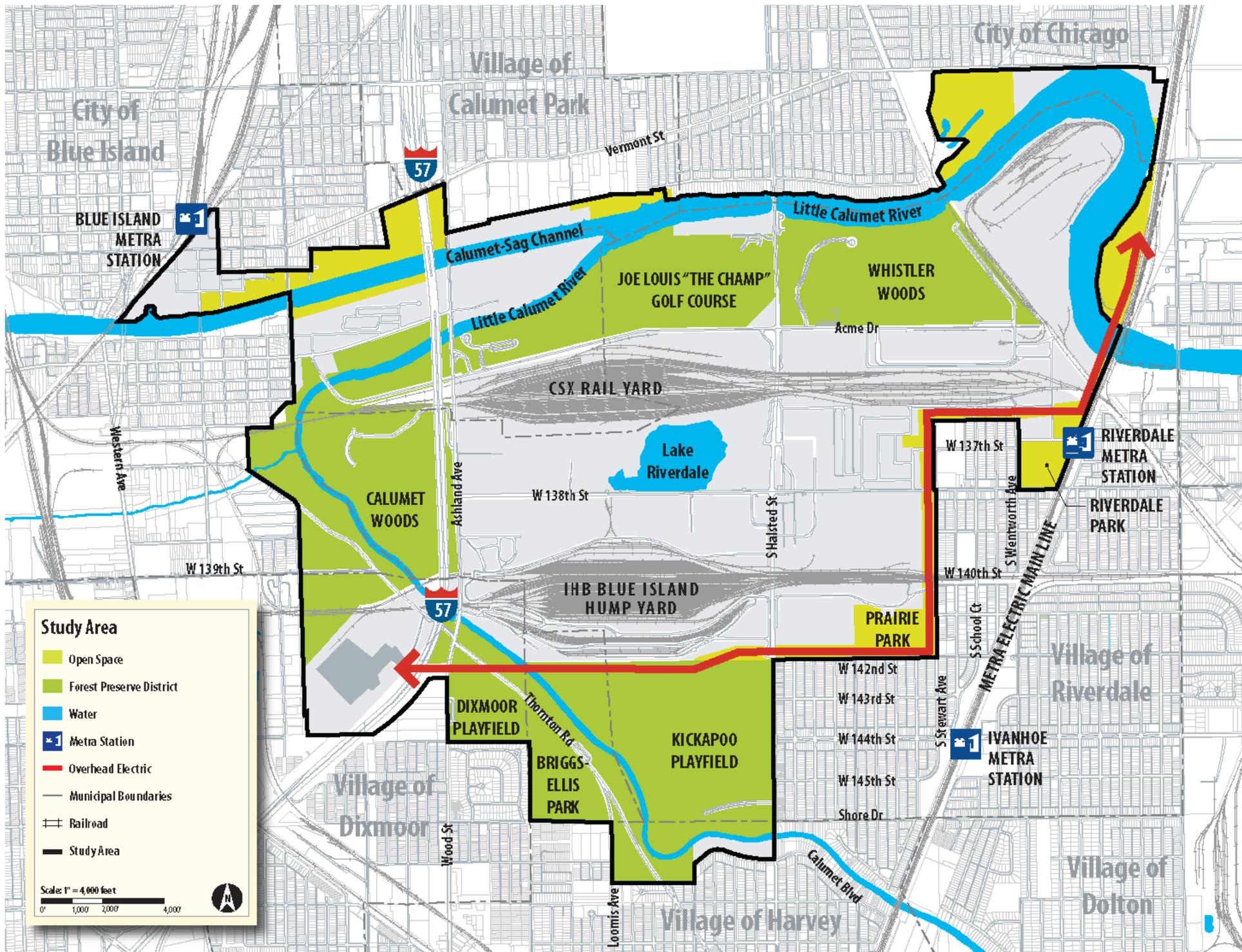
PEOPLE WITHIN 5 MINUTES
OF STUDY AREA

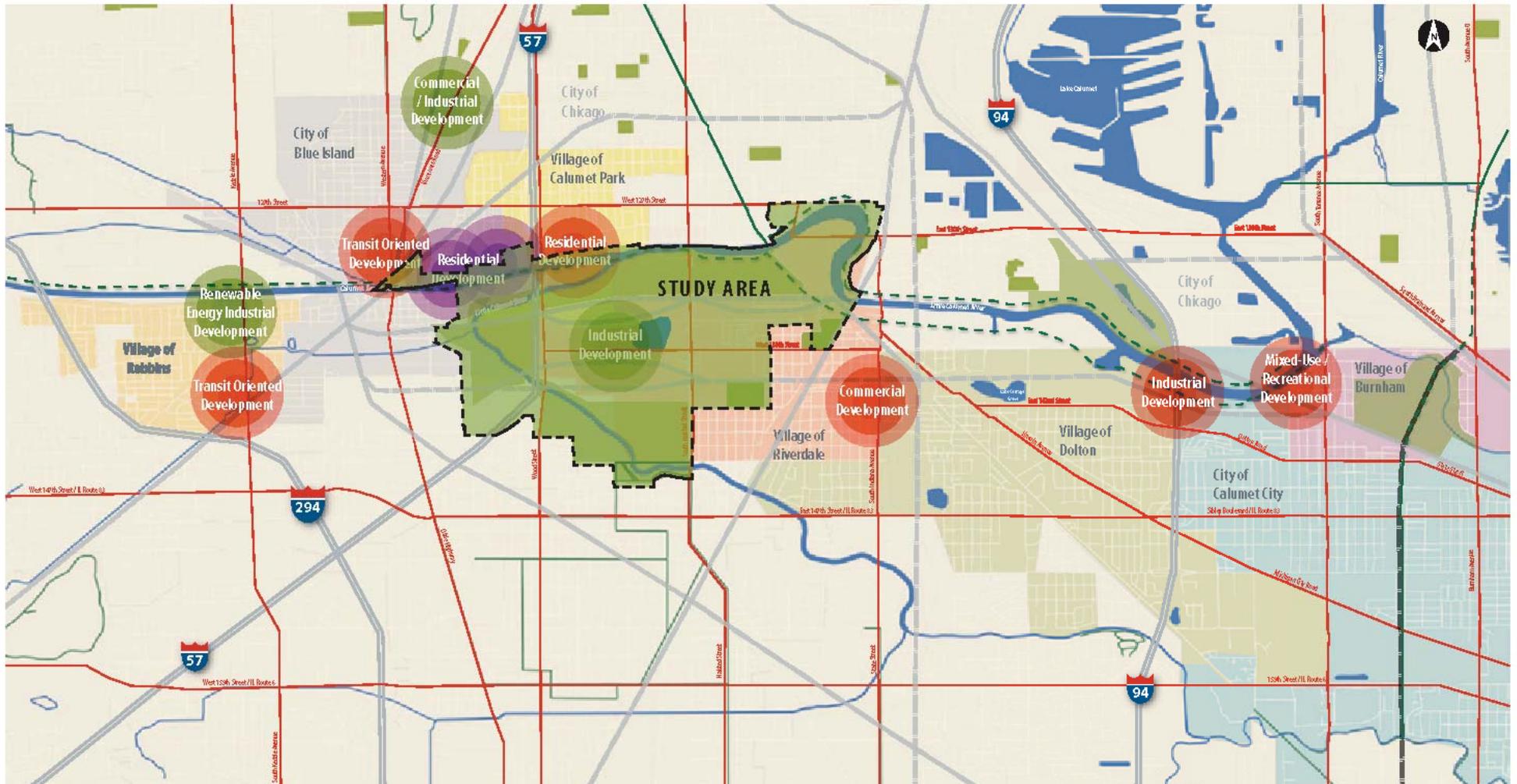
75,000 LF

SHORELINE

▲ Study Area

As illustrated by the map on the following page, the study area crosses many municipal borders and natural areas. In general, the properties along the Little Calumet River and Calumet-Sag Channel are included as well as properties north and south of the CSX and IHB rail yards. A significant area south and east of the intersection of Halsted Street and 138th Street has also been included because of the potential for redevelopment.





▲ Green River Pattern Book

The Green River Pattern Book, developed in 2008 for SSMMA and Chicago Southland Economic Development Corporation (CSEDC), identifies sustainable techniques that can be applied to industrial, commercial, and residential development. Several development sites, noted by the red, green, and purple circles above, were utilized to show how to integrate the recommendations. The study area for this master plan includes many of the development sites.

RESEARCH AND ANALYSIS





MARKETPLACE & STAKEHOLDERS

Marketplace

The Lake Riverdale area has a legacy of industrial business. Ever since the Tuthill Material Company, a clay brick manufacturer, opened around 1900, industry has played an important role in the local economy. Into the future, given the rail, water, and road access that already exists, it will continue to be an important part of the community's economic development engine.

This study did not focus on a specific market analysis, however, as a part of the process, and to become familiar with the regional economy, Riverdale's Economic Development Director, active developers in the area, and the existing industries such as ArcelorMittal and the Indiana Harbor Belt (IHB) Railroad were all consulted. It was clear, from past development proposals and current interest, that the available rail access is an important catalyst. In addition, the interest in Blue Island's Transit Oriented Development area and its relation to the Calumet-Sag Channel, offers residential development opportunities that are unique and in high demand. Lastly, both Ashland Avenue and Halsted Street carry a significant volume of traffic, have high numbers of surrounding employees and, as shown on the study area map previously, are proximate to 140,000 people. Those characteristics, plus high visibility and previous interest, highlight the potential commercial opportunities.

A full market study should be completed to verify some of the conclusions, however, with the amount of land, its current zoning, and potential environmental issues, industrial development will be a core solution to filling the currently vacant land in the study area.

Stakeholders

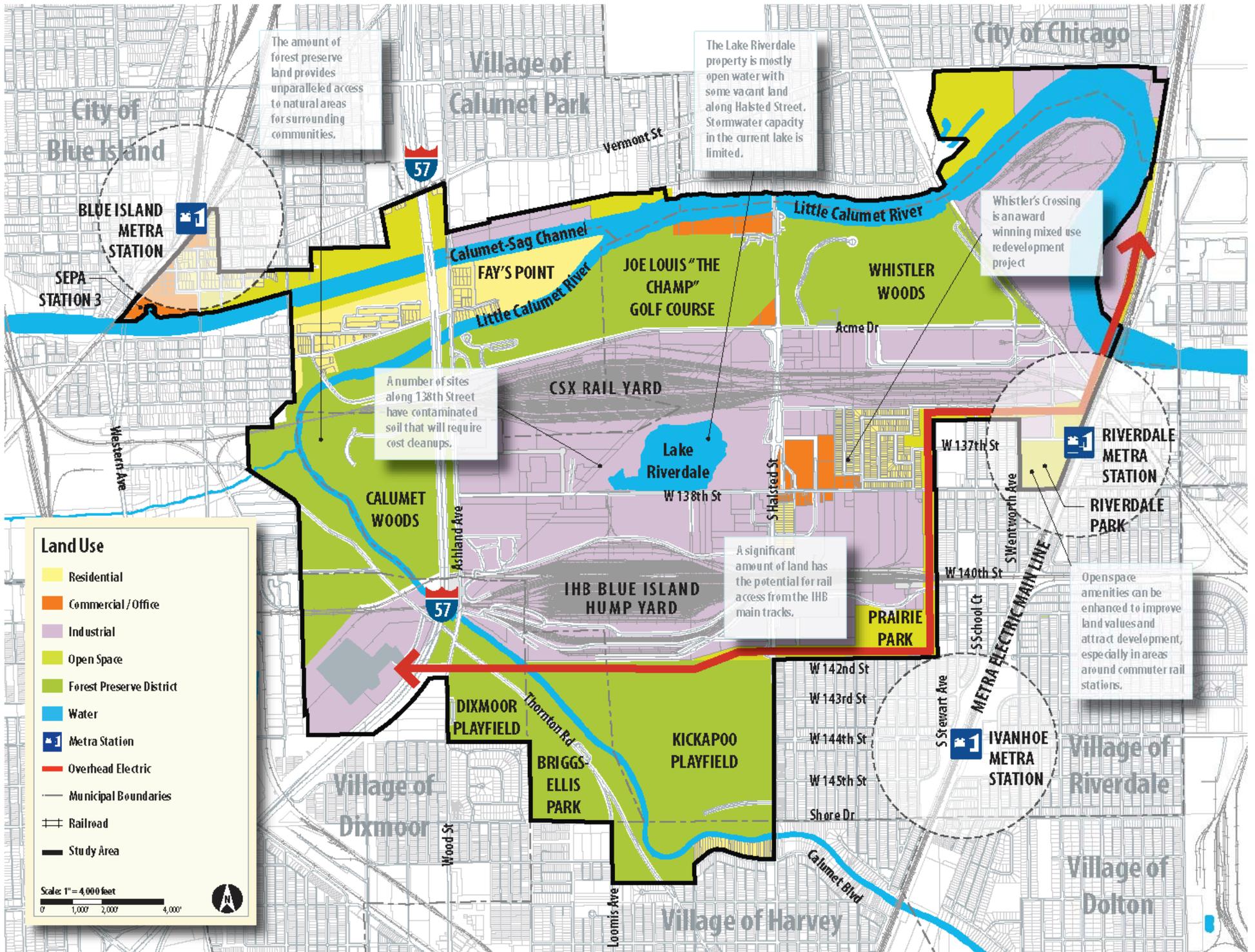
Stakeholders have played an important role in giving the consultant team an understanding of the existing conditions within the study area. The following list comprises the individual stakeholder meetings that were held for this project:

- ArcelorMittal
- CSX Railroad
- IHB Railroad
- FPDCC
- MWRDGC
- Village of Riverdale
- Bosca Realty

Beyond individual meetings, the plans were presented to a larger stakeholder group comprised of over 30 organizations.

Key themes that emerged were:

- Applying traditional stormwater requirements to the industrial properties is deterring development
- Public/private sector coordination will be crucial to making any improvements to public or private property
- The forest preserves are an amenity but there is concern over how they are used
- The area has resources that should be better marketed
- The large industrial landowners are committed to their Riverdale locations
- There is development potential and interest



The amount of forest preserve land provides unparalleled access to natural areas for surrounding communities.

The Lake Riverdale property is mostly open water with some vacant land along Halsted Street. Stormwater capacity in the current lake is limited.

Whistler's Crossing is an award winning mixed use redevelopment project

A number of sites along 138th Street have contaminated soil that will require cost cleanups.

A significant amount of land has the potential for rail access from the IHB main tracks.

Openspace amenities can be enhanced to improve land values and attract development, especially in areas around commuter rail stations.

Land Use

- Residential
- Commercial / Office
- Industrial
- Open Space
- Forest Preserve District
- Water
- Metra Station
- Overhead Electric
- Municipal Boundaries
- Railroad
- Study Area

Scale: 1" = 4,000 feet
 0 1,000' 2,000' 4,000'



The eastern and western portions of the study area are primarily residential in nature and are close to Riverdale's and Blue Island's downtowns. In the center of the study area, and by far the largest private land use, are the two rail yards owned by CSX and the IHB. Surrounding the study area on three sides is the FPDCC properties. Generally, they follow the Little Calumet River and the Calumet-Sag Channel. They include Kickapoo Playfield, Calumet Woods, Whistler Woods and Joe Louis "The Champ" Golf Course.

The land between the rail yards is predominately light industrial/manufacturing. Past history of the land includes clay borrow pits, municipal landfill, and dredge piles. Much of the land has always been industrial with some small pockets of residential that have since been removed and turned into light industrial land. Many of the industrial properties are currently vacant.

Lake Riverdale was a clay brick pit and was purchased by the MWRDGC after the clay business ended to hold fill when the Calumet-Sag Channel needed to be dredged. The property is currently mostly open water with some vacant land area to the east along Halsted Street. Stormwater capacity in the current lake is limited because of the current water level and the absence of a known outfall location.

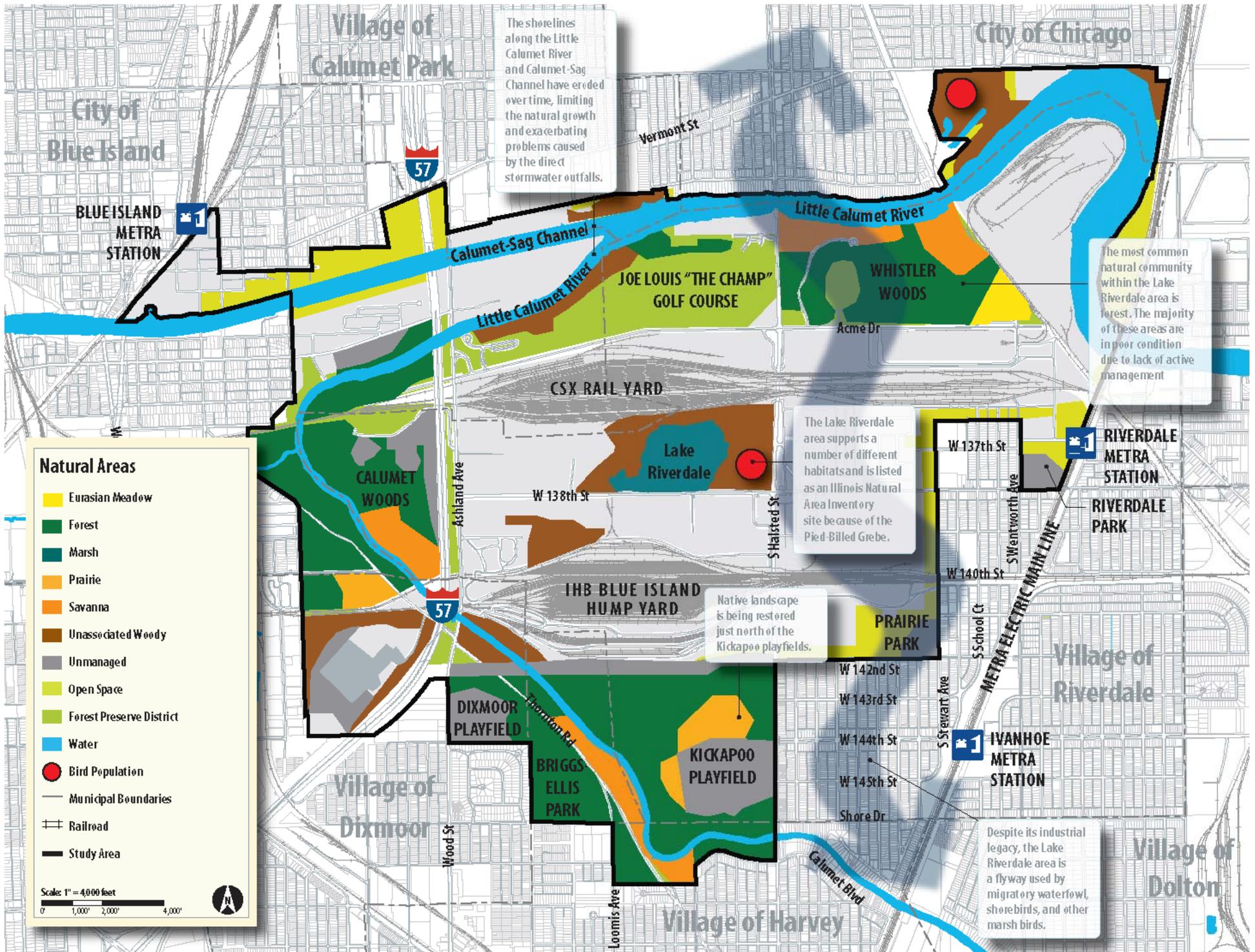
ArcelorMittal owns the peninsula that makes up the bend in the Calumet-Sag Channel. They recently constructed a new processing plant on an adjacent property to the west but still use a small portion of the older facility on the peninsula. The remainder of the older buildings have been removed.

Implications

The industrial history of the properties limits the potential uses that can occur. Past dumping and filling with slag from local steel plants makes up much of the contaminated soil in the area requiring costly cleanup for a number of sites along 138th Street. This limits development to those uses that can develop the space under legal conditions imposed during typical Environmental Protection Agency and Illinois Department of Natural Resources review processes. In addition, much of the land has physical remains from past uses, such as foundations, buildings, and silos, that will require additional cleanup to promote redevelopment.

Positively, there are excellent opportunities for rail oriented businesses that are able to utilize the rail yards for offloading and distribution of materials. The number of tracks and spurs available for development will be regulated by IHB or CSX.

Also, the large amount of forest preserve property that surrounds the project area offers significant access to numerous natural areas for the surrounding communities. This type of amenity can be enhanced to improve land values in surrounding communities and support additional development that builds on the redevelopment occurring in projects like Whistler's Crossing. Also, more market rate changes could occur in Blue Island along the Calumet-Sag Channel as a part of their TOD or in Riverdale around the Riverdale Metra Station at 138th Street.



The Lake Riverdale area is a community with an unusually large amount of open space and natural areas. Despite having been significantly altered by industry and associated activities, the open space is used by migratory waterfowl, shorebirds, and supports breeding populations of a variety of wetland dependent marsh birds. State-listed endangered species, including the Pied-Billed Grebe, have been observed using local wetlands and marsh areas. Lake Riverdale and its immediate surroundings have been identified as a Category 2 Illinois Natural Area Inventory (INAI) site because of the habitat created for the Black Crowned Night Heron. Bald Eagles are also found in the area northwest of the ArcelorMittal peninsula, and the Riverdale area is part of the spring and fall migratory flight path for raptors.

The most common natural community within the Lake Riverdale area is forested cover, containing forest, savanna, and unassociated woody growth. The majority of these areas are in poor condition primarily due to the lack of active management, although several smaller tracts within the area have indicators of higher quality. Several factors contributing to the poor vegetative quality and habitat include the lack of fire, fragmentation, overbrowsing, and invasive species, particularly buckthorn and honeysuckle.

Implications

The FPDCC has been working diligently in the Kickapoo Playfield area to re-establish some of the native landscape just north of the playfields. However, declining conditions along the shoreline and in the forests limit the use of these open spaces by residents and visitors.

The water quality of both the Calumet-Sag Channel and Little Calumet River is low and supports only pollution tolerant species, highlighting the amount of pollution that finds its way into the water from adjacent properties via existing stormwater outfalls. Lastly, the migratory and resident birds that utilize the area are an important resource. It will be important to understand what restoration techniques are most beneficial to supporting their habitat.



Existing identifiable wetlands exist throughout the project area, but the highest concentration occurs along the northern and eastern edges of Lake Riverdale. Another large area exists northeast of the 142nd / Halsted Street intersection. It appears, however, that there may have been some recent grade adjustments that would remove the wetland designation as it appears on the National Wetland Inventory (NWI) maps. In the forest preserves, there are wetlands in the Kickapoo Playfield where the District is currently doing restoration work as well as along the Little Calumet floodplain on the south side of the park, especially around the bend in Calumet Woods. A small section can be found along the southern edge of the Calumet-Sag Channel in Whistler Woods. There are other small pockets found south of 138th Street on private property.

Implications

Most of the developable land is outside of any of the wetland areas. It appears that development south of 138th Street and north of the IHB rail yard may impact the existing NWI listed wetlands and remediation may be necessary to develop the property. The shoreline within the floodplain along the Little Calumet River and Calumet-Sag Channel could be utilized to expand the flood capacity, especially along the Little Calumet River. Development of the area east of Lake Riverdale will require a sensitivity to both the existing natural areas and existing wetlands.

Flat topography enhances opportunities for rail oriented development but also exacerbates stormwater management challenges. Virtually the entire study area outside of the river and channel shoreline has an elevation between 599 and 602. Flooding has been common and sewage system backup is still occurring. The rail yards took drainage into their own hands and built a private storm sewer and pump station system to drain substantial areas of the rail yards. The City of Riverdale has a combined sewage overflow (CSO) system that relies on a pump station to discharge combined sewage overflows in times of sewer backups and flooding.

In general, the public and private storm sewer systems drain directly into the Calumet-Sag Channel and Little Calumet River. In contrast, the perimeter green spaces, mostly composed of forest preserve land, discharge to the Little Calumet River largely by sheet flow and subsurface flow. Also, the normal water surface elevation of Lake Riverdale is nearly level with 138th Street. During heavy rainfall events, however, stormwater from the lake floods into 138th Street where it is collected into the roadway storm system, closing the street until it is discharged into the Little Calumet River.

From a regulatory standpoint, stormwater management requirements will be governed by the forthcoming Cook County Watershed Management Ordinance. The draft ordinance allows for infiltration techniques such as bioswales or permeable technologies. to be utilized that capture and retain the first 1/2" of water on site. The other 1/2" is required to be retained in on-site open ponds.

Commonwealth Edison (ComEd), the electricity provider, currently controls a significant portion of the project area under its elevated transmission wires. This open area has the potential to provide significant stormwater quality and stormwater volume control.

Implications

Based on the data to date and an understanding of the stormwater discharge methods, there is little to no water quality treatment being done prior to water being discharged into the river and channel. The flat topography pushes existing stormwater pipes too deep to directly discharge into the river. Currently, a private stormwater pump station serving the CSX and IHB rail yards, located in the northeast corner of the planning area lifts water in storm pipes up to an elevation where it can be discharged. New methods that seek to treat the water much further "upstream" at the site level before ever entering the river or channel will be necessary to minimize the costly pump station and pipe methods. Environmentally, the CSO poses significant issues to the Little Calumet River.

The agreement between the MWRDGC and the Army Corps of Engineers requires another site to be identified by one of the agencies if the lake would be used for other purposes such as stormwater management, enhanced natural areas, or the capacity altered. Opportunities to make significant changes to the lake and natural areas around it are limited until that situation is resolved.

The two rail yards in the project area provides key infrastructure to attract industrial, rail-oriented development. These types of developments require a significant amount of hard surface to handle the intermodal transitions from rail to truck to distribution facility. Industrial development often results in almost 80% of the site being covered with impermeable surfaces such as roofs or pavement. Stormwater detention requirements impacts industrial developments especially hard. In situations where the development utilizes 80% of the site for hard surface, additional acreage must be purchased to meet the MWRDGC stormwater management standards.

OPEN SPACE AND RECREATION

The FPDCC is, by far, the largest landowner in the project area. Surrounding the project area to the north, south, and west, the Forest Preserve's properties provide a significant amount of open space, however the recreational aspects of the properties are less developed. The preserves are mostly left open for passive uses with few trails and amenities. The few active amenities that are available include the open fields at Kickapoo, the golf course, and the Major Taylor trail. Significant open spaces include:

Kickapoo Playfield is a 165 acre preserve offering parking and open lawns for field sports. It also includes naturalized areas surrounding the playfields. There are plans to create a loop trail within the preserve that will provide users access to the newly restored areas highlighted in the Natural Areas section of the report.

Dixmoor Playfield is located on the west side of the Little Calumet river, this 40 acre preserve is simply a natural area that provides a buffer between the river and adjacent development to the west.

Calumet Woods is the only preserve that has been identified as having potential archaeological significance. Access to this preserve is limited and difficult, however there is parking available and soccer fields present active uses for adjacent residents. The Riverdale Public Works building and adjacent CSX and IHB rails to the north and south have cut off access to Kickapoo on the south and additional open space in Blue Island to the north. It is likely that pedestrian connections into and out of this space will be difficult.

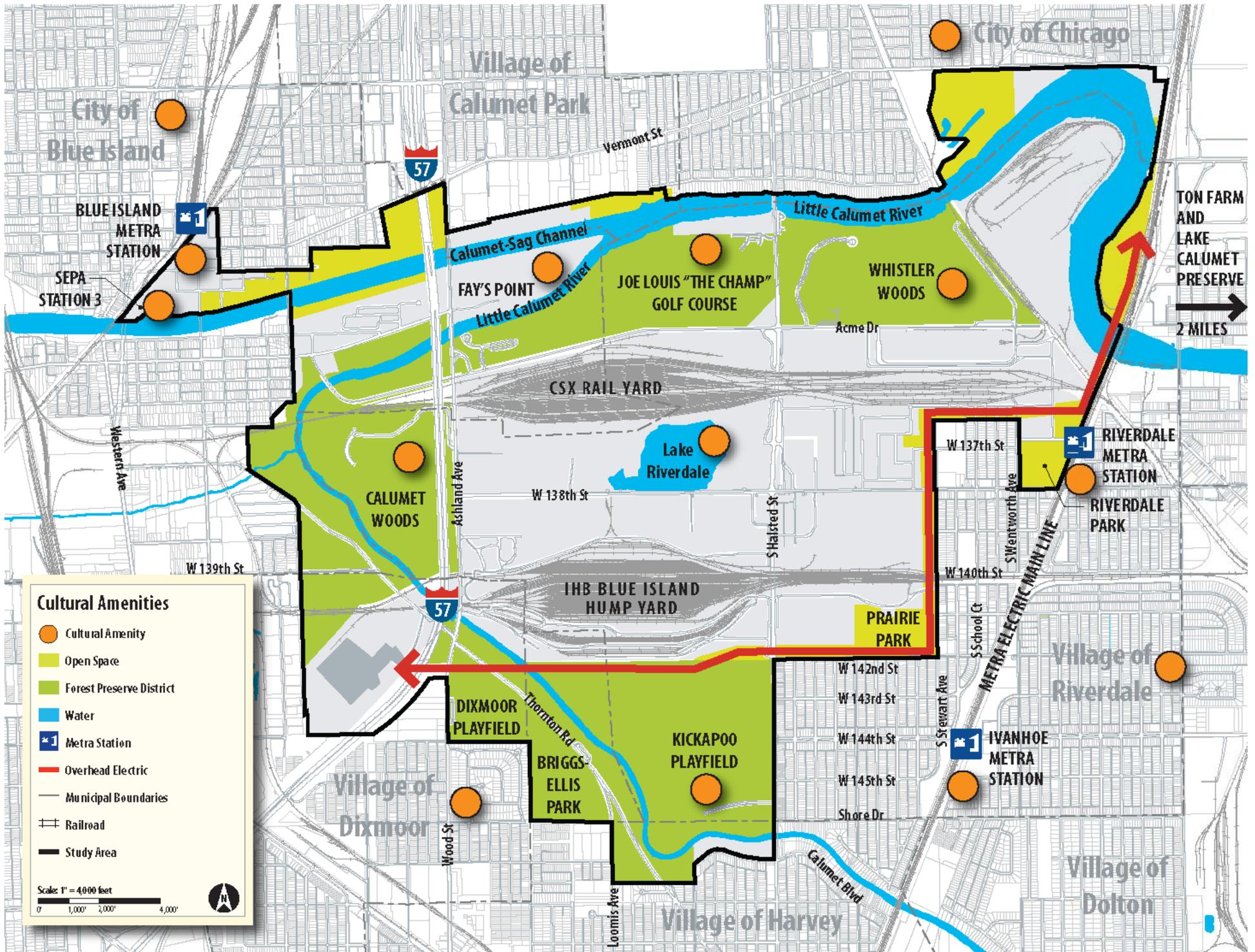
Calumet Boating Center offers boat launching and parking along with natural areas that are similar to those found in the other preserves. Access is provided from either Halsted Street or Ashland Avenue along Jackson Street. The boat launch serves the needs of smaller craft and is not intended for deeper hull boats. Its location along the Little Calumet provides the opportunity to

launch boats without getting in the way of industrial and other recreational boating occurring on the Calumet-Sag Channel.

Whistler Woods is located east of Halsted Street. This 140 acre preserve offers a large amount of parking and a bicycle trail connection to the Major Taylor Trail that goes from Whistler Woods north across a bicycle bridge over the Calumet-Sag Channel. There is an open lawn that previously housed the driving range for Joe Louis "The Champ" Golf Course. It has since been left vacant because the golf course no longer has a use for the property. The range sits on top of a large hill created from dredging spoils from the Calumet-Sag Channel. This property also abuts the new ArcelorMittal processing plant.

Implications

The significant amount of open space and recreational opportunities in the project area provide significant value to residents, visitors, and workers. Improvements to the quality and safety within the open spaces will increase that value significantly. Some stakeholders identified that there is too much open space, creating a number of inaccessible locations that builds on already prevalent safety concerns. That stigma, real or perceived, hinders the usage of some preserves. In the same way, significant natural restoration in a number of areas is necessary but the resources need to be focused to maximize their impact. The large land area makes it feel like even larger restoration projects do not have a significant impact because of the large amount of unmaintained property remaining.



CULTURAL AMENITIES

The powerful history, surrounding established communities, the legacy of Joe Louis “The Champ” Golf Course, and the underground railroad connection, Ton Farm, just east of the project area makes the Lake Riverdale area attractive to residents and visitors. The following are important amenities located in the area:

The *forest preserve properties* offer a variety of amenities that are accessible to the community. As noted in the Open Space and Recreation section, there are numerous active and passive uses in the preserves as well as unique natural and archaeological features.

The *Ivanhoe, Riverdale, and Blue Island Metra Stations and the potential extension of the CTA Red Line to 130th Street* connect residents to Chicago, but more importantly, allows workers to come into the Lake Riverdale area, important considerations when employers look for places to locate. The Blue Island Station at Vermont Street is located in the center of a neighborhood planned for medium to high density housing. The Riverdale Station is located in a residential area, easily connected to the industrial area via 138th Street. The Ivanhoe Station is further south in the heart of the commercial center of Riverdale. This station location has direct access to Prairie Park and the Kickapoo Playfield.

Joe Louis “The Champ” Golf Course, although a forest preserve property, has a significant history as a popular destination in the Chicagoland area. It is currently publicly owned but privately managed and, because of its condition, recognition, and popularity, is an amenity utilized by many local and regional residents. It also creates a marketing advantage for the Riverdale area, providing a recreational amenity commonly

used as a business development tool.

On the far west side of the project area, the *Sidestream Elevated Pool Aeration (SEPA) Station 3* in Blue Island is a regional landmark and clearly visible from a variety of vantage points. Built in the mid 1990s, the station offers a passive park setting with an exceptional water feature directly adjacent to the canal. The station is used to increase oxygen levels in the Calumet-Sag Channel and pushes 310 million gallons of water per day through the waterfalls.

Programmatically, the *Big Ten’s rowing championships* are held annually in the Calumet-Sag Channel and feature some of the Midwest’s top crew teams. This event draws thousands of people and supports many of the communities surrounding the event.

Out of the study area, but still important resources, are the *Lake Calumet Preserve* and the *Ton Farm*. Each offers unique experiences focused on revitalized plant and animal habitat and the underground railroad story in the Chicago Southland.

Implications

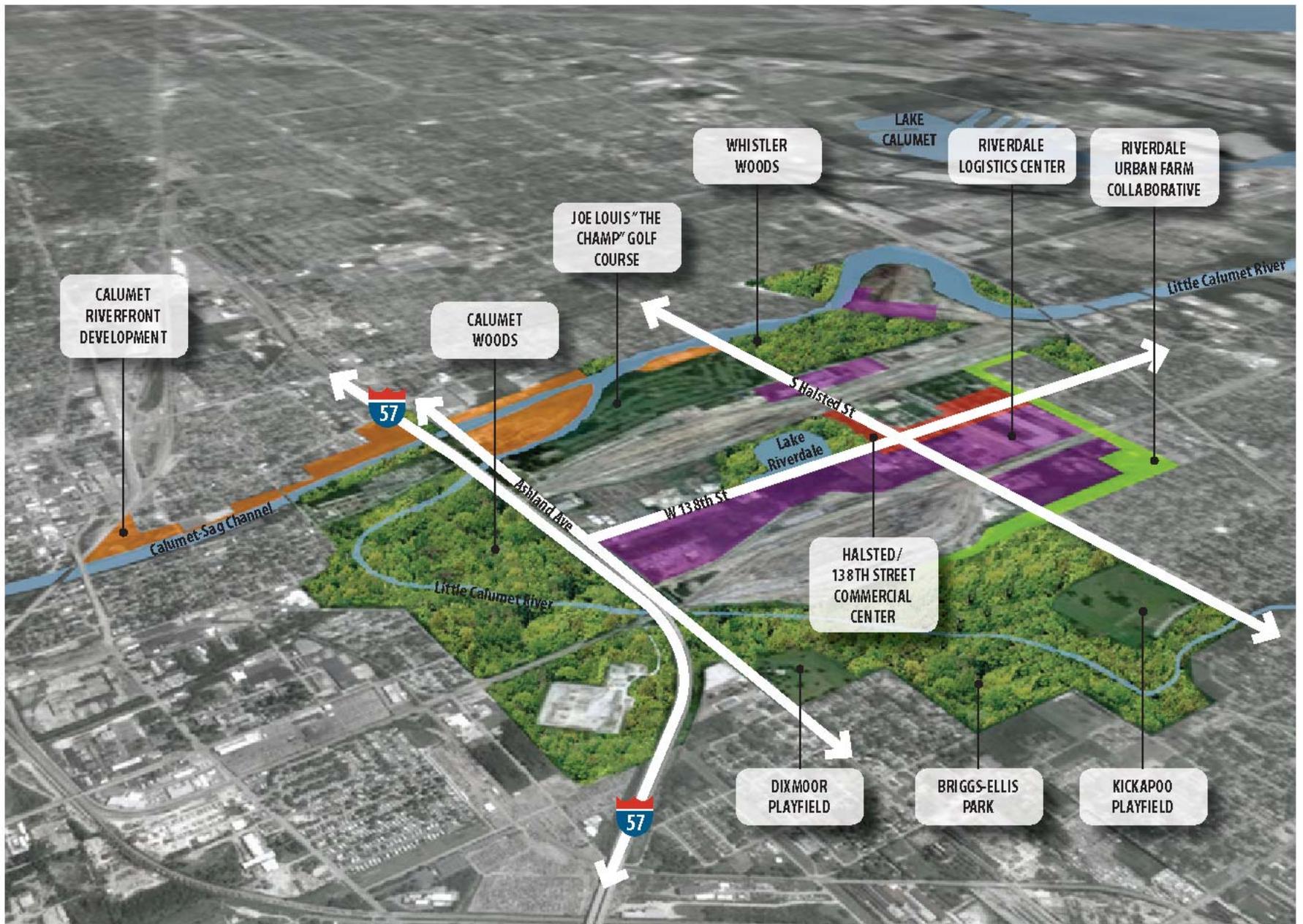
As opposed to other places, the Lake Riverdale area has a critical mass of amenities that can be leveraged to gain a market share of development and passive and active recreation activities. Focusing financial resources and development in key locations that take advantage of other improvements will be important. The Calumet-Sag Trail, when constructed, will provide a critical regional link that connects a number of the sites together and allows for other trails to link into it, expanding the reach north and south.

THE PLAN



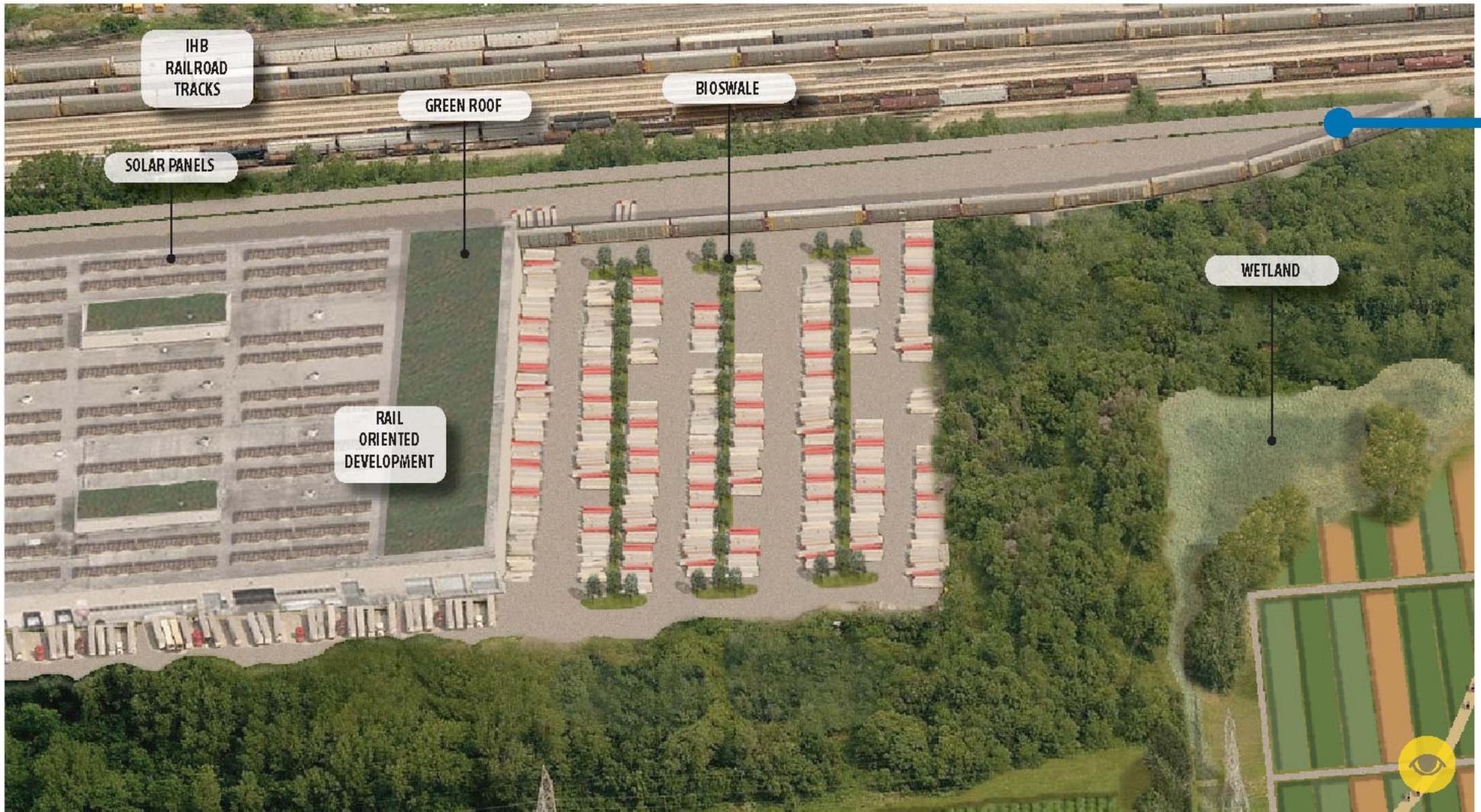
VISION

By 2025, the Lake Riverdale region will be the environmental model for industry, surrounded by unparalleled natural areas and recreational opportunities, accessible to the surrounding community and region.



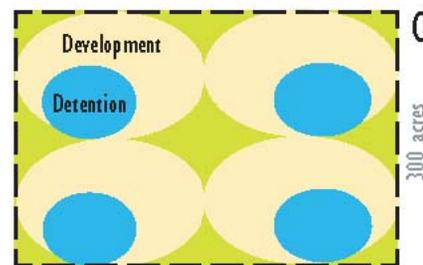
▲ Lake Riverdale Proposed Development Areas

Proposed development areas within the Lake Riverdale study area include the Riverdale Logistics Center, Calumet Riverfront Development, Riverdale Urban Farm Collaborative, and Halsted/138th Street Commercial Center. The following pages provide more detail on the specific development areas.



▲ Riverdale Logistics Center

This proposed concept near the corner of 142nd Street and South Stewart Avenue shows how industrial development can take advantage of environmental techniques to address stormwater and utilize infiltration mechanisms such as bioswales and wetlands to reduce runoff.



On-Site Detention

VS



Regional Detention

8% reduction in pond size
10% more developable land

Figure 1

Utilize rail, water, and road access as an incentive for industrial development

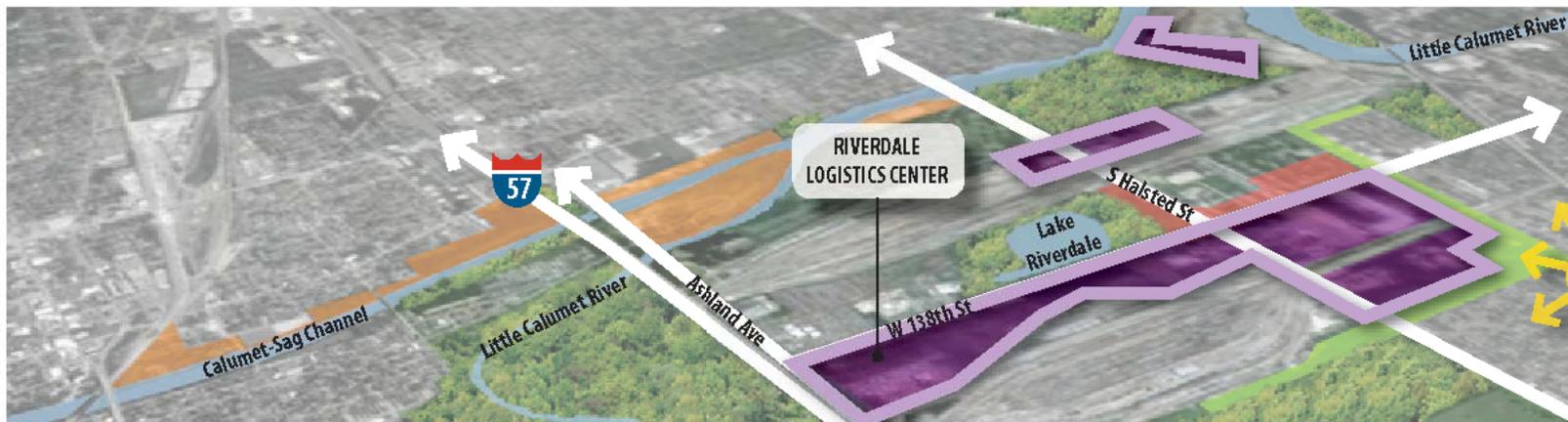
The Lake Riverdale area is at the nexus of multiple modes of transportation for goods and people. Trucks, ships, and trains all have direct and easy access to rail, water, and roads that connect goods regionally and nationally. The Metra stations that are in close proximity to the area and the strong residential base in Riverdale offers employers access to a skilled workforce that can commute easily from Riverdale neighborhoods and also from the other locations served by the Metra Electric Line. The Green TimeZone initiative, being led by the SSMMA, is marketing what the Lake Riverdale area already delivers, access. The connectivity makes it the right place for business.

As shown in Figure 1, stormwater detention provided on a regional basis as opposed to a site by site basis produces 10% more developable land that can be achieved while reducing the pond size by 8%. In addition to the developable land, a business can be more efficient with the site layout, creating opportunities to integrate other best practices that can aid in meeting the stormwater requirements.



Develop the channel-side docking facility

Work with ArcelorMittal to find a developer for the existing Calumet-Sag Channel-Side docking facility. Taking advantage of this direct connection to the water will increase the overall tax base of the property and may also allow for the creation of a regional stormwater facility on an adjacent section of the peninsula.



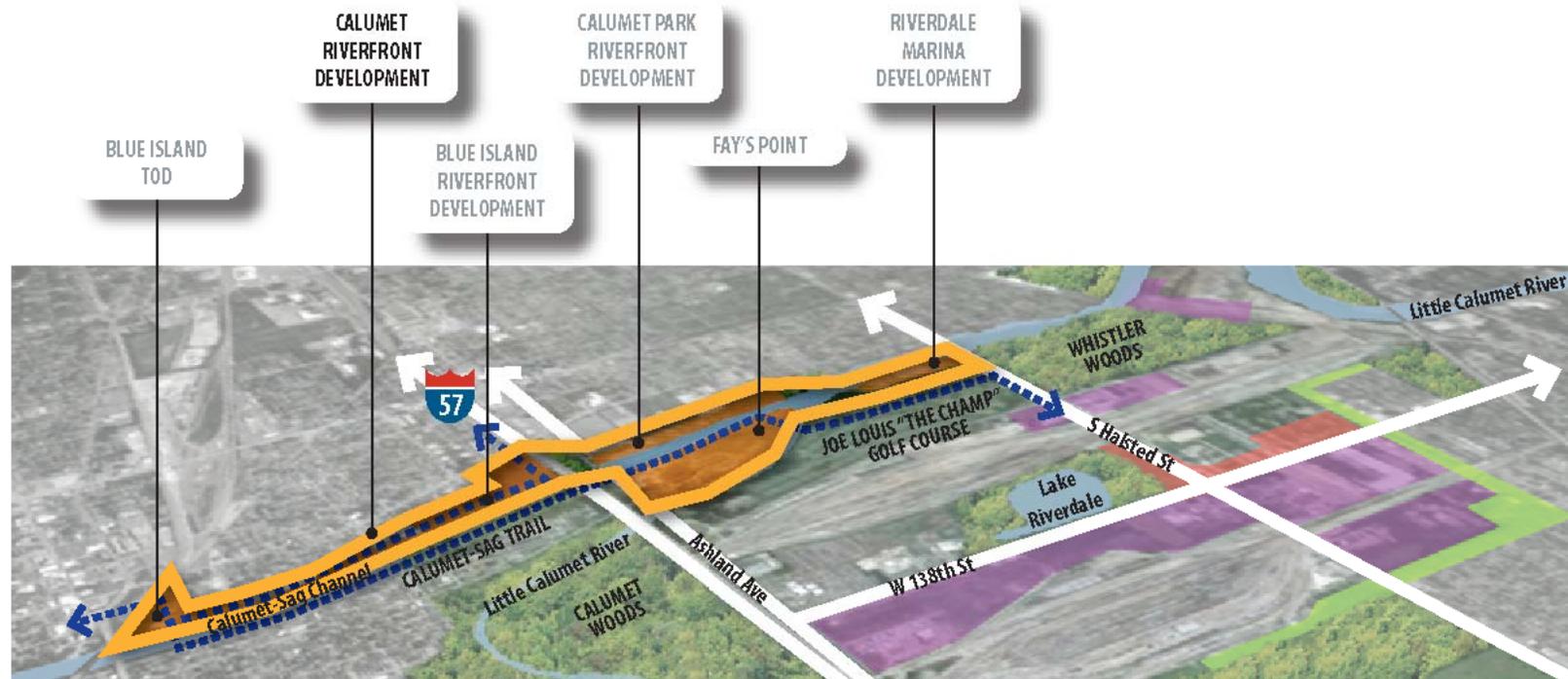


▲ Fay's Point

Fay's Point is an example of a residential development that has been implemented utilizing various sustainable techniques.

Create the Calumet Riverfront Development

Fay's Point is a model development for the Chicago Southland that has spurred interest in similar locations along the Calumet-Sag Channel. Integrating sustainable technologies in a mixed product, market rate waterfront residential development has proven to be a successful combination. While the national economy has slowed the progress somewhat, construction is continuing to move forward and buyer interest in the south suburbs is still strong. Unparalleled settings for lifestyle development opportunities are available east of Halsted, in Blue Island, and at the marina just north of the Joe Louis "The Champ" Golf Course. The setting provides unique opportunities for public/private partnerships to integrate sustainable stormwater technologies, the Calumet-Sag Trail, and the golf course through high quality design.





▲ Riverdale Urban Farm Cooperative

This concept shows how the existing Prairie Park and ComEd right-of-way could offer an opportunity to integrate trails, agriculture, and wetlands in close proximity to Riverdale residents. In addition, it acts as a buffer between the residential and industrial uses closer to the railroad tracks.

Create a public / private urban farm partnership

The Village of Riverdale should work with ComEd to develop a long term lease arrangement that allows the use of the right-of-way under the power lines to be used as an urban farm. Once the lease is in place, develop a relationship with an existing urban farm company that can manage and operate the farm, utilizing the land around and within Prairie Park for food production that is sold locally and to metropolitan area suppliers or restaurants. Develop a local workforce program that requires a high percentage of local employment during the partnership negotiations with the operator. Provide irrigation in coordination with a greywater system supplied by the regional stormwater facilities, existing storm sewer pipes, and constructed wetlands.





▲ **Halsted/138th Street Commercial Center**

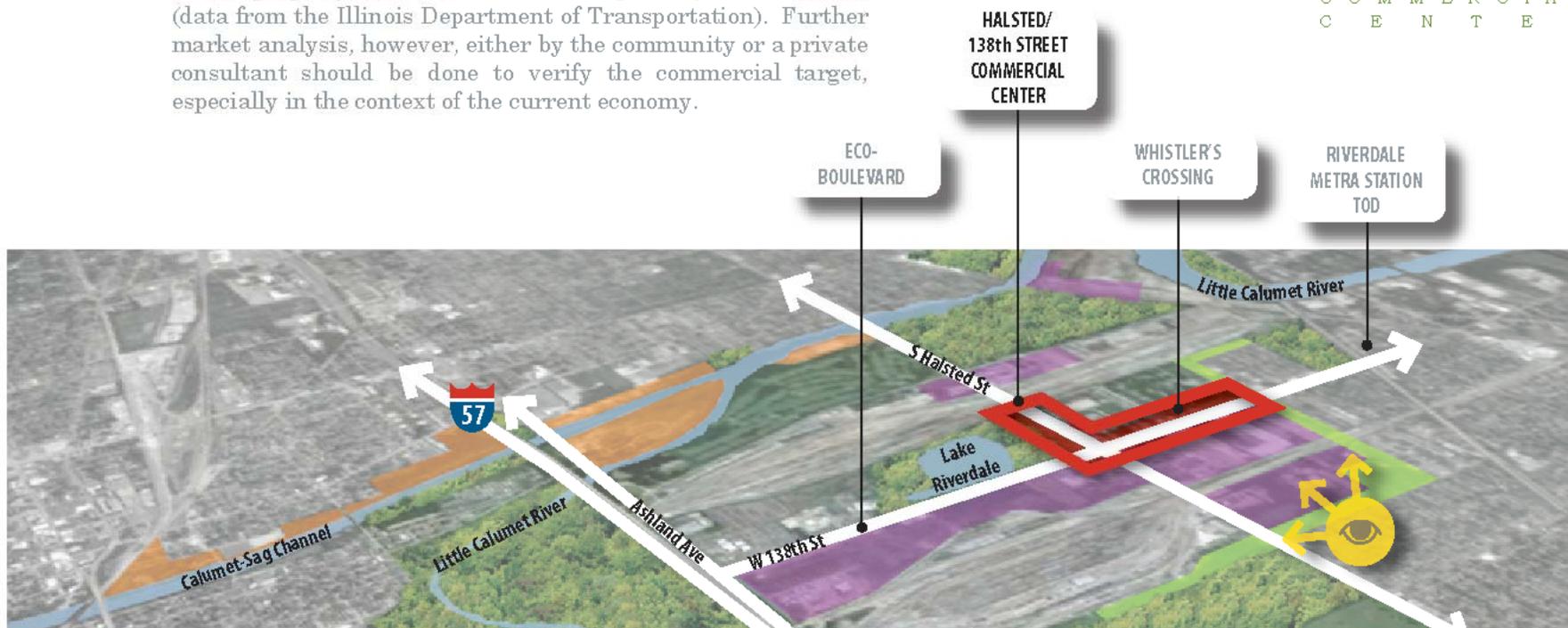
This concept shows how a potential commercial development at the intersection of Halsted Street and 138th Street could utilize Lake Riverdale, the Eco-Boulevard, and the connection to the Riverdale TOD east on 138th Street as amenities.

Develop the Halsted/138th Street Commercial Center

On both sides of Halsted Street and 138th Street, the Village should build on the success of the Riverdale municipal facility and Halsted Street's high traffic counts to develop a drive-to retail commercial establishment. On the west side, the MWRDGC will need to sell the eastern portion of the Lake Riverdale property that fronts Halsted Street. In coordination with other water quality and quantity improvements on the development site, a developer and the MWRDGC should work together to integrate the additional stormwater needs of the commercial property into the lake area. From a market standpoint, a destination retail development on both sides of Halsted Street and 138th seems reasonable based on access, visibility, previous interest in the property, and the 17,900 average daily traffic counts (data from the Illinois Department of Transportation). Further market analysis, however, either by the community or a private consultant should be done to verify the commercial target, especially in the context of the current economy.



**HALSTED/138th
STREET**
COMMERCIAL
CENTER





350 HOMES

RESIDENTIAL DEVELOPMENT

50 ACRES

URBAN FARM

1400 JOBS

INDUSTRIAL DEVELOPMENT





Development Sites

- Riverdale Logistics Center
- Calumet Riverfront Development
- Halsted / 138th Street Commercial Center
- Riverdale Urban Farm Cooperative

Scale: 1" = 4,000 feet
 0 1,000 2,000 4,000





▲ Regional Detention Pond 2

Build a regional stormwater management system

There is an opportunity to build a regional detention system that would improve water quality and increase water capacity. Regional Pond 1, on the ArcelorMittal peninsula would be built when the channel-side docking facility is developed. The pond would allow stormwater from the CSX drainage pipes and the peninsula to be improved prior to entering the Calumet-Sag Channel. Regional Pond 2, at the southeast corner of Ashland and 138th Street, would take stormwater from the western half of the Riverdale Logistics Center where it would be held and released into enhanced natural areas in the forest preserve. Regional Pond 3, southeast of Whistler's Crossing, would take stormwater from the eastern half of the Riverdale Logistics Center. This water could be used in the greywater system and for the Urban Farm Cooperative. Lastly, there is an opportunity to expand the capacity of Lake Riverdale through wetlands to resolve the flooding on 138th Street and accommodate stormwater from the Halsted Commercial Center.

Convert 138th Street into an *Eco-Boulevard*

The 138th Street corridor has a significant opportunity to provide the central link between the Riverdale Metra Station, downtown Riverdale, Ashland Avenue, and the forest preserves. Central to the Eco-Boulevard is its ability to convey stormwater from the roadway and adjacent areas towards the regional detention basins, providing not only a water resource but habitat for a number of different plants and wildlife. Showcasing sustainable technologies in such an obvious location creates an image that is marketable, recognizable, and substantial. Implementing the Eco-Boulevard will require additional right-of-way and the cooperation of adjacent property owners, including the MWRDGC around Lake Riverdale.

Require sustainable stormwater practices for private development

Most of the residential, commercial and industrial development

in the study area was constructed prior to the implementation of any stormwater management controls. Minimal stormwater detention and virtually no stormwater quality enhancement facilities exist in the study area. The communities should look to provide systems that address new construction, as well as systems that address the previous lack of standards. One such method would be to provide stormwater management on a regional basis as opposed to just a site by site basis. Regional detention provides numerous flood control and water quality benefits and could provide a substantial volume of storage that compensates for previously undetained land.

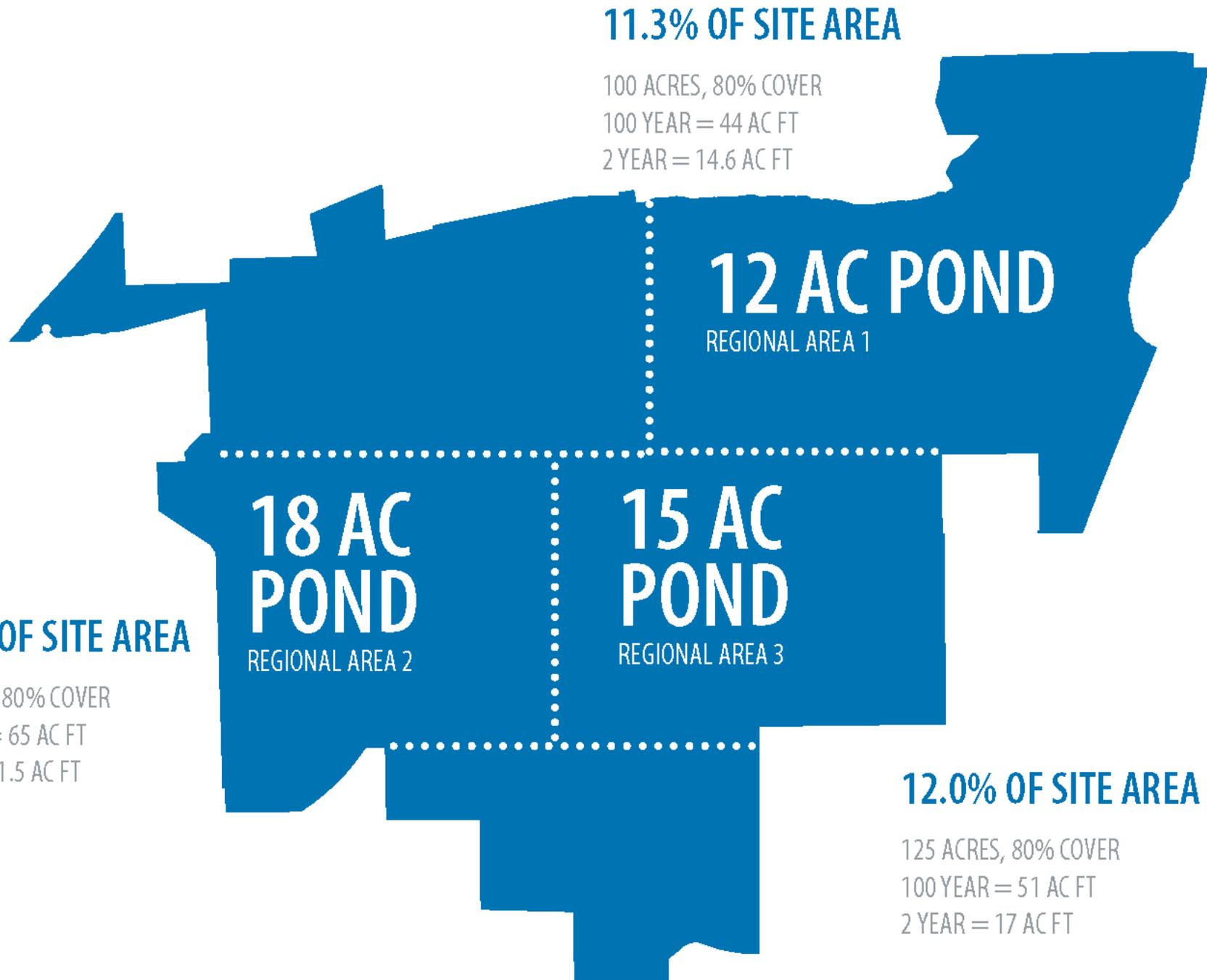
Overall, in addition to a regional detention plan, the communities in the study area should focus on a stormwater management strategy that allows for maximum green infrastructure credit for on-site stormwater management that follows the examples illustrated in the *Green River Pattern Book*. The Pattern Book examples address both runoff volume control as well as runoff water quality enhancement.

Create a greywater system

The existing network of storm sewers can be utilized to move stormwater to other areas where it can be used before ending up in the Little Calumet River or Calumet-Sag Channel. As mentioned before, the Riverdale Urban Farm Cooperative could utilize a significant amount of the water. On a smaller scale, there are opportunities for residential properties to use surplus water for their own homes, replacing current uses of potable water.

Use alternative energy

Utilize the most degraded sites in the study area to install alternative power sources such as small scale turbines, vertical turbines, or solar energy. This will provide electricity to power pump stations which will push much higher quality water onto restored open spaces or additional electricity for private use.



11.3% OF SITE AREA

100 ACRES, 80% COVER
100 YEAR = 44 AC FT
2 YEAR = 14.6 AC FT

12 AC POND

REGIONAL AREA 1

18 AC POND

REGIONAL AREA 2

15 AC POND

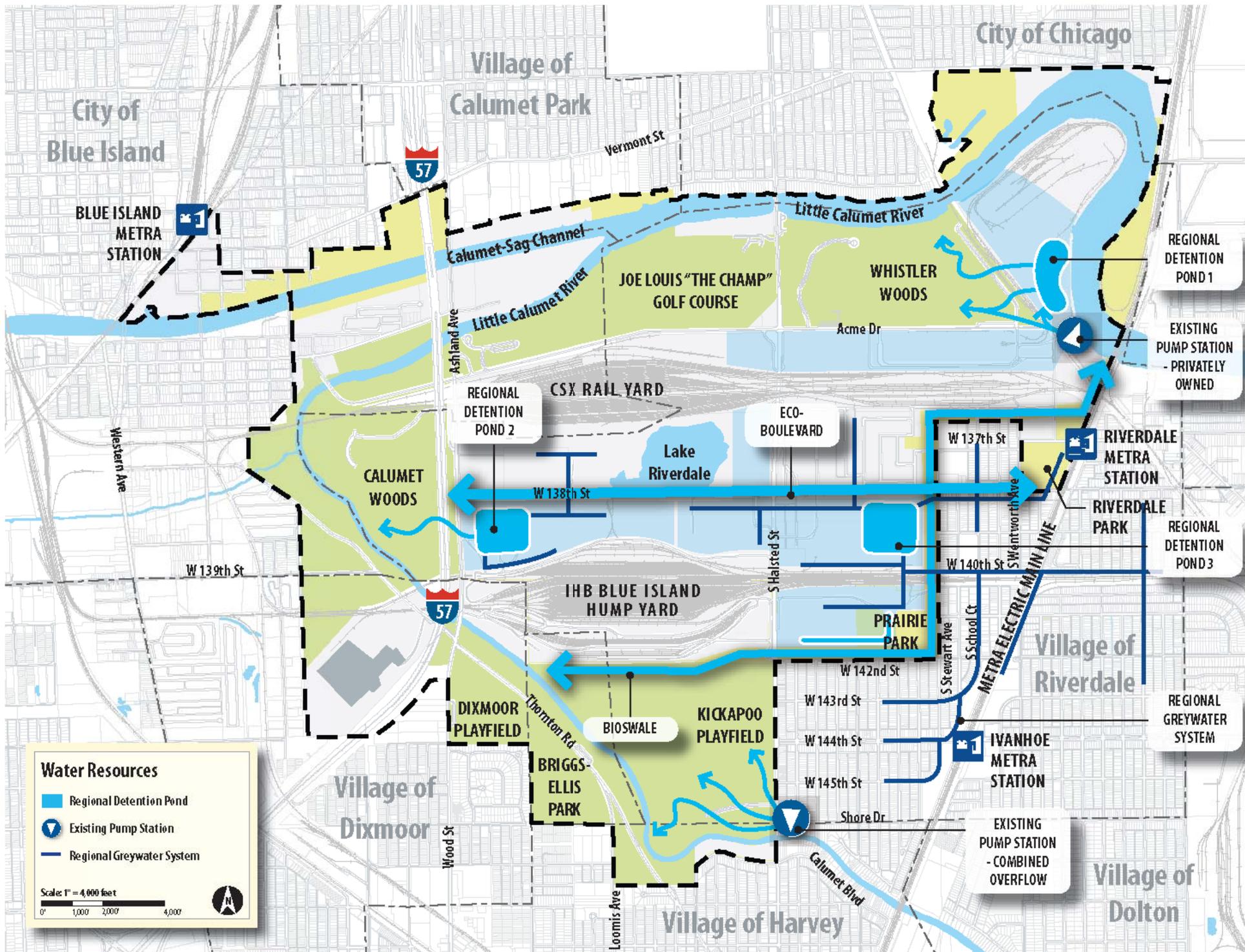
REGIONAL AREA 3

11.5% OF SITE AREA

150 ACRES, 80% COVER
100 YEAR = 65 AC FT
2 YEAR = 21.5 AC FT

12.0% OF SITE AREA

125 ACRES, 80% COVER
100 YEAR = 51 AC FT
2 YEAR = 17 AC FT



Water Resources

- Regional Detention Pond
- Existing Pump Station
- Regional Greywater System

Scale: 1" = 4,000 feet

0 1,000 2,000 4,000



▲ Lake Riverdale Enhancements

NATURAL AREA ENHANCEMENT

Focus improvements on water quality enhancement, flood control, and restoration

Stormwater from the forest preserves themselves should be routed through the wetlands before discharging to the river. There are floodplain areas along the Little Calumet River, specifically in Calumet Woods and the Kickapoo Playfield that should be restored to incorporate shoreline best management practices and wetlands restoration. This will provide critical stormwater quality enhancement for any stormwater that can be routed through the wetlands. The restoration completed in the Kickapoo Playfield area is an excellent example of how to enhance water already existing on the site prior to entering the rivers and streams. There is also significant potential to route stormwater from adjacent land through the forest preserve wetlands prior to discharging into the river. In order to improve the water quality, wetland restoration systems can be designed to receive this additional stormwater. In addition, any reshaping of the river shorelines could be designed to increase the compensatory storage volume provided within the flood plain. In particular, the steep embankments along the channel in Whistler Woods could be excavated to create a gentler slope and to create additional floodwater storage.

Make Lake Riverdale a spectacular attraction

The Research and Analysis phase identified the sensitive nature of the habitats surrounding Lake Riverdale as well as the bird habitat that currently exists. It also identified the flooding that occurs on 138th Street. Any improvements to Lake Riverdale should enhance the lake's ability to attract additional waterfowl and improve the flood capacity. Pedestrian attractions, in order to maximize the habitat area, will need to be limited. However, trails and other passive improvements should provide access to the highest quality restoration projects in the study area. The commercial development directly east of the lake has the opportunity to take advantage of the setting and provide access and views to the site. From a flood capacity standpoint, there

are numerous existing wetlands that surround the lake, and increasing the capacity of those wetlands and expanding their footprint will not only allow the lake to hold more water, but will also increase and enhance the habitat area around the lake.

Create a Comprehensive Management Plan

The goal of the management plan would be to create a variety of forested communities such as mesic upland forest, wet-mesic floodplain forest, flatwoods, and savanna. The management plan should include restoring the dominant woodland complexes to pre-settlement assemblages through invasive species control, native planting, and active stewardship. Managing the invasive woody species, such as buckthorn and honeysuckle, throughout the woodland is a good place to begin since it would allow historic plant populations to begin to recover. The woodlands historically had a ground cover comprised of spring ephemeral wildflowers, sedges, and native grasses.

Utilize the regional stormwater management system as productive open space

The east and west detention facilities will have clear and easy access from the community areas, especially when the Eco-Boulevard is used. When the facilities are constructed, they should not only convey the stormwater, but also provide an environment that is pedestrian friendly and offers unique elements that make each space a public destination. Pathways, trails, overlooks, bridges, and structures are all elements that should be designed into the spaces.

Utilize the *Eco-Boulevard* as a habitat corridor

As mentioned earlier, building on the water resources that the Eco-Boulevard conveys utilizes the center of the boulevard and bioswales in the parkway to create a significant habitat corridor.



5 SITES
FPDCC

10 SPECIES
STATE-LISTED THREATENED SPECIES



384 ACRES
FORESTED COVER



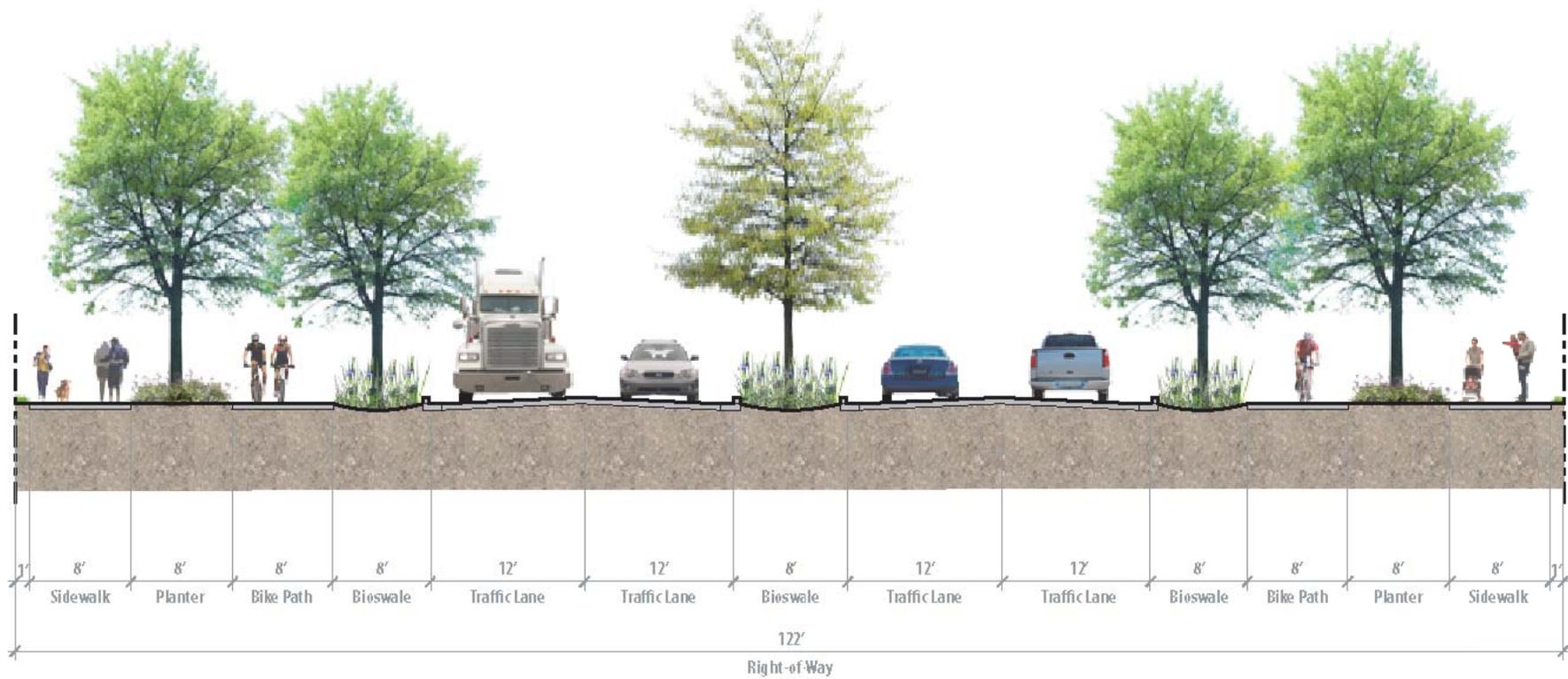


Natural Area Enhancements

- Forest Preserve District Enhancements
- Enhanced Natural Area / Constructed Wetland
- Naturalized Detention
- Shoreline Stabilization

Scale: 1" = 4,000 feet

0 1,000 2,000 4,000



▲ 138th Street Eco-Boulevard Section

Create a network of pedestrian and bicycle facilities

Connect the Calumet-Sag Trail through the project area to maximize connectivity. The current alignment for the trail routes it through Fay's Point and over a bicycle bridge at the mouth of the Little Calumet River. There are significant opportunities to combine the golf course and trail amenities to provide for an experience unlike any other in the region. The connection into Whistler Woods and ultimately the Major Taylor Trail links the region to the north and the alignment down Halsted Street and 138th Street offers the opportunity to connect to the Riverdale Metra Station and future TOD.

There are currently plans to create a small loop trail in the Kickapoo Playfield area to take advantage of the recent restoration project that the FPDCC has completed. There is also an opportunity to link that improvement south and north into Blue Island and ultimately the Calumet-Sag Trail. By utilizing a bicycle bridge over the Little Calumet River, a portion of Thornton Road right-of-way, other FPDCC property north and west of the Little Calumet River, and a second bicycle bridge over the Little Calumet River, the linkages could exist and provide significant benefits to the safety and perception of the open spaces and connect people throughout the area to the region.

Utilize the *Eco-Boulevard* as the main east/west local connection handling multiple modes of transportation

Beyond habitat and water resources, the essence of the Boulevard is a transportation corridor. The significant amount of truck traffic that will utilize the roadway once the industrial developments are completed will require a road that meets their needs and connects them to the regional and national road network. At a smaller scale, pedestrians and bicycles will utilize the corridor in a divided trail system to access the regional detention parks, Lake Riverdale, the forest preserves, the Calumet-Sag Trail,

the Riverdale Metra Station and downtown Riverdale. More residents will have direct access to the significant resources the area boasts as the TOD takes shape around the Metra station, directly adjacent to the Eco-Boulevard.

Create a trail along the ComEd right-of-way

Many communities throughout the region have taken advantage of the open space under elevated transmission wires and installed bike paths that connect regional destinations. The ComEd lines in Riverdale offer a particularly exciting opportunity to connect the regional Calumet-Sag Trail and Riverdale neighborhoods south of the IHB Hump Yard to the Riverdale Urban Farm Cooperative and forest preserves, specifically the Kickapoo Playfield, one of the few active recreation destinations in Riverdale's forest preserves. The trail should be integrated into the Riverdale Urban Farm Cooperative, providing a stylish focal point that serves multiple purposes.

Create streetscapes along Ashland Avenue and Halsted Streets

These regional road connections are the clear, direct, and most visible north/south entry points into the project area. The parkways should continue the improvements that have occurred north on Halsted just south of 127th Street. In addition, the design of the streetscape should integrate sustainable technologies that support the environmental techniques that the community, through this master plan, requires of private development.



4 MODES OF TRANSPORTATION

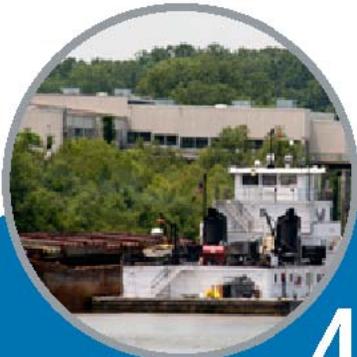
WATER, VEHICULAR, RAIL, BICYCLE

17 MILES

TRAILS

1 3/4 MILES

ECO-BOULEVARD





Connections

- Existing Regional Trail
- Proposed Regional Trail
- Proposed Local Trail Connectors
- Proposed Local Trail
- Proposed Trail Connections

Scale: 1" = 4,000 feet

0 1,000 2,000 4,000

IMPLEMENTATION STRATEGY





▲ Rancho Verde

Ranch Verde in Chicago is an example of a light industrial and commercial development that has embraced a series of on-site sustainable infrastructure improvements to offset their total stormwater needs.

The implementation strategy for a large region like Lake Riverdale is complicated and multi-dimensional, but can be successful. Each of the recommendations in this section is focused on the Development, Water Resources, Natural Area Enhancements, and Connections sections of the Plan.

The first step of any strategy that involves this many stakeholders is for each of them to endorse the document as a policy guide for future development. The level of cooperation among stakeholders will be significant, requiring the next step to be creating an implementation team made up of local political, corporate and regulatory leaders that can make decisions which facilitate the development of a regional detention system, continual evaluation of funding strategies, and public outreach. Once a team is created, their work will revolve around five categories:

- Organizational and policy development
- Funding
- Capital improvements
- Stakeholder engagement
- Economic development

Organizational and policy development

- Establish an Implementation Team to coordinate with the Village of Riverdale.
- Create a Riverdale Bonding Authority (RBA), established by Illinois statute, to lead property acquisitions
- Establish a regional stormwater policy regarding sustainable infrastructure that aligns with MWRDGC's 1/2" allowance.
- Coordinate with the FPDCC to establish a natural area management plan to locate first phase improvement areas that would benefit from additional water sources.
- Coordinate with ComEd to obtain a land lease to establish the Riverdale Urban Farm Cooperative.
- Establish a relationship with a regional urban farming operation to help with farm startup and organization.

Funding

- Work with the property owners and Village of Riverdale to establish a Special Service Area (SSA) for the industrial properties in the area and utilize the funds to provide for maintenance of the stormwater system and other public improvements.
- Establish a Tax Increment Financing (TIF) District for the industrial properties to provide funds for the construction of the detention facilities and other public improvements to roads, underground utilities, streetscapes, and other public capital improvements.
- Set a fee-in-lieu of rate for new development that satisfies the replacement of their MWRDGC on-site stormwater requirements by the regional system.
- Advocate for corporate philanthropy to construct non-stormwater, pedestrian, bicycle or natural area improvements on public properties, including the forest preserves.
- Identify key properties for the RBA to purchase for the regional stormwater system.
- Complete the SSMMA brownfield study (ongoing) and identify key parcels that would be appropriate targets for grant funding.
- Through the Village of Riverdale, evaluate and apply for grant funding for additional studies, evaluation / monitoring, and construction. A spreadsheet outlining a series of applicable grant opportunities has been provided to the SSMMA.

Capital improvements

Construction of improvements that facilitate redevelopment will be important to continue to leverage the already significant number of resources in the area. Many improvements, such as the Calumet-Sag Trail and forest preserve enhancements, are coordinated by other agencies and will occur when funding is available. However, in order to facilitate the redevelopment of the area, the following short and long term capital improvements have been identified as implementation team priorities:

Short term capital improvements (0-5 years)

- Plan for greywater system and identify necessary infrastructure improvements.
- Purchase property for Regional Detention Pond 2 and 3.
- Design and construct Pond 3, south of 138th Street.
- Work with the MWRDGC to fund, design, and construct improvements around Lake Riverdale.

Long term improvements (5+ years)

- Design and construct Regional Detention Pond 2.
- Construct the Eco-Boulevard.
- Implement short term elements of greywater system.
- Design and construct streetscape improvements to Ashland Avenue and Halsted Street.

Once the brownfield study is completed, the Village of Riverdale should have an understanding of various properties that are in need of remediation and a prioritization of necessary improvements. It will be important to focus remediation efforts on those properties that have the highest potential for redevelopment.

Stakeholder engagement

The redevelopment of the Lake Riverdale area will depend on the coordinated efforts of the stakeholders who have influence. There are numerous levels of engagement, from volunteer cleanups and natural area enhancements, to participating

on the implementation team. The implementation team will need to continue to educate and inform the community and region through a staff person or other organizations. Each member of the team, however, will be responsible for their representative constituents. Large landowners, such as the FPDCC, ArcelorMittal, or CSX can also focus internal volunteer or funding efforts in the area outside of the authority of the implementation team.

Economic Development

- Prepare a market analysis to confirm the development opportunities.
- If necessary, create an incentive package based on a strong business evaluation process that can be used to attract development to the area.
- Create a database of available properties with a description, contact information, demographics, potential land uses, and available incentives.
- Work with MWRDGC to coordinate the sale or lease of the property on the east side of Lake Riverdale.
- When appropriate, facilitate negotiations to redevelop the Riverdale Marina.
- In collaboration with the property owners, identify and proactively recruit developers for the areas served by the Regional Detention Pond 2.
- Work with interested developers to continue the development on Fay's Point and in the Blue Island TOD area.

Developer recruitment should be coordinated between the Village of Riverdale, RBA, implementation team, and the CSEDC. The CSEDC should take the leadership role, given their regional understanding and existing network of developers, of directing the recruitment process.

APPENDICES



Letter sent by SSMMA to MWRDGC and US Army Corps of Engineers (USACE) requesting a review of the Lake Riverdale Sustainable Master Plan, enhancements to the lake area and current flooding impacts

Ms. Debra Shore
Commissioner
Metropolitan Water Reclamation District of Greater Chicago
100 East Erie Street
Chicago Illinois 60611-3154

Colonel Shawn McGinley
District Commander
US Army Engineer District, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island IL, 61204-2004

RE: Lake Riverdale, Riverdale, Illinois

Dear Ms. Shore and Colonel McGinley,

In 2008, the South Suburban Mayors and Managers Association (SSMMA) received grants from the US Fish and Wildlife Service, the Gaylord and Dorothy Donnelley Foundation and the McKnight Foundation to study sustainable industrial redevelopment in the Riverdale, Illinois industrial corridor. The result of the grants is the Lake Riverdale Sustainable Master Plan project, which is now complete. This 2,700 acre master plan identifies areas for industrial redevelopment and espouses a series of open space, natural areas, and recreational improvements that offer opportunities to increase wildlife habitat and public access. There are three things that we are seeking with this letter:

First, we respectfully request that the MWRDGC review the enclosed copy of the plan and offer your endorsement for the recommendations.

Second, as you know, Lake Riverdale is located in the heart of this area and, as identified in our plan, has many potential benefits, uses, and other opportunities to assist in the economic redevelopment and quality of life of the region. We understand the existing intergovernmental agreement between MWRD and USACE poses some issues to the potential use of Lake Riverdale for the benefit of the community. Although we are aware of these issues, we want to discuss how this area might be navigated toward other

possible reuses and the potential for local control.

Third, we are also aware of Lake Riverdale's flooding issues and the problems that it causes on 138th Street and in other areas. In order to market the area for redevelopment, those issues need to be resolved. We would like to review current grant opportunities that could offset the costs for improvements to the area and the MWRDGC's interest in pursuing funding to correct these problems.

We would like to facilitate a meeting to begin discussions regarding Lake Riverdale and how it could be put to a more active and constructive use that integrates community needs and economic development opportunities. To begin, we would like to suggest a meeting in Chicago, hosted by the SSMMA. In advance of that meeting, we will work with the USACE and MWRDGC to develop an agenda to identify needs and options for all involved. Our goal is to identify a path forward towards local use and control of Lake Riverdale.

Please feel free to call me at your convenience to discuss this concept in greater detail. I look forward to creating a positive future.

Sincerely,



Reggie Greenwood
Director of Economic Development
South Suburban Mayors and Managers Association

cc: Mr. William S. Sheriff, PE
Director of Engineering
MWRDGC

Mr. John Murray
MWRDGC

Mr. Steve Russell
US Army Engineer District, Rock Island

Letter sent by SSMMA to MWRDGC requesting a policy review of the regional stormwater system

Ms. Debra Shore
Commissioner
Metropolitan Water Reclamation District of Greater Chicago
100 East Erie Street
Chicago Illinois 60611-3154

RE: Lake Riverdale, Riverdale, Illinois

Dear Ms. Shore,

The South Suburban Mayors and Managers Association is pleased to present the Lake Riverdale Sustainable Master Plan for your review. The Plan crafts an ambitious vision for the Riverdale area; *By 2025, the Lake Riverdale region will be the environmental model for industry, surrounded by unparalleled natural areas and recreational opportunities, accessible to the surrounding community and region.* The presence of key area water bodies, including the Little Calumet River, the Calumet-Sag Channel, and Lake Riverdale, makes water resource planning a critical concept for the success of this vision. Because the MWRDGC is such an integral partner on any water-related project in the region, and because your organization has been involved in past discussions on this Plan, we would like to present an overview of the Plan's concepts regarding stormwater management..

The Plan seeks to maximize the land available for industrial development and open space while at the same time, recognizing the need to control stormwater runoff and to advance improvements in stormwater quality. We realize these are all issues the MWRDGC will be addressing in its forthcoming Cook County Stormwater Ordinance. However, during the course of developing this report, the project team reviewed the proposed ordinance and noted that over 20% of any new commercial/industrial development would be consumed by stormwater controls. The Plan's response to this suggests there may be more creative and equally effective methodologies that meet the goals of MWRDGC, as well as the broader regional goals to reduce flooding of the local combined sewers and area waterways, while also providing water quality benefits.

With this in mind, the project team developed a concept of regional detention ponds and performed a general stormwater analysis based on typical industrial land development patterns. By focusing site level activities on runoff water quality improvements and providing runoff volume control in larger, more efficient regional ponds that serve multiple properties, we can increase the overall industrially developable land by 8% while still providing the necessary capacity. In addition, the regional pond areas can be developed to provide numerous benefits:

- Create public open space;
- Create substantial additional habitat area;
- Provide an incentive to development by transferring the location, but not the need for stormwater detention;
- Create reservoirs with sufficient water volume potential to be utilized as a regional gray water system. This system could be used for local irrigation and other uses; and,
- Provide enhanced regional flood protection via extended offset of runoff hydrographs.

While we looked at water quantity and quality options generally, we also explored areas of localized flooding, including the 138th St. area that frequently overtops adjacent to Lake Riverdale. Based on our past meetings with MWRDGC's engineering staff, we understand resolutions to this have been explored in the past. Because this continues to impact area commuters, as well as future development potential, we see this as part of the Plan that may provide an additional layer of support to past proposed mitigation efforts by the MWRDGC.

We are confident that the efforts presented, herein, will provide some compelling alternatives to stormwater management in this area. We look forward to meeting and working with the MWRDGC to formalize these concepts and to develop creative ways to implement our regional detention plan. Please feel free to call me to arrange a mutually agreeable time for our agencies and engineers to meet.

Sincerely,



Reggie Greenwood
Director of Economic Development
South Suburban Mayors and Managers Association

cc: Mr. William S. Sheriff, PE
Director of Engineering
MWRDGC

Mr. John Murray
MWRDGC



Hitchcock Design Group

Creating Better Places®

Planning and Landscape Architecture

180 North Wacker Drive, Suite 003
Chicago, Illinois 60606

T 312.634.2100

F 312.634.2101

www.hitchcockdesigngroup.com