

Kiliaen's Landing

Draft Generic Environmental Impact Statement

City of Rensselaer

Prepared for:

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*Date of DGEIS Acceptance: March 12, 2018
Date of Public Hearing: April 9, 2018*

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EXECUTIVE SUMMARY



Project Description

The City of Rensselaer recognizes that attractive, sustainable development of its Hudson River waterfront is critical to the future of the City as a desirable place to live and work. As early as the 1980's, Kiliaen's Landing and other waterfront sites within the City have been the subject of numerous land use studies and development proposals.

As a result of the Local Waterfront Revitalization Program (LWRP) update (July 2011), the City rezoned its waterfront areas to promote and encourage desirable development. The Kiliaen's Landing Generic Environmental Impact Statement (GEIS) will evaluate a preferred development alternative (Preferred Alternative) for the future development of Kiliaen's Landing, an approximately 75-acre area located adjacent to Hudson River. Development scenarios evaluated for the Study Area were based on information collected through the preparation of an Inventory and Analysis and a Market Study and vetted through public involvement, resulting in a Preferred Alternative. The environmental impacts of this alternative are being evaluated through the GEIS pursuant to the State Environmental Review Act (SEQR) regulations (6 NYCRR 617).

The following is a brief outline of the Preferred Alternative:

Residential Living:

- Approximately 356 apartment units in 5 residential structures of 5 and 6 stories.
- Emergency access via the multi-use path extension under Livingston Avenue Bridge.
- Multi-use path connecting south under the Livingston Avenue Bridge and north.
- Surface parking associated with each structure.

Boat Launch and Hilton Center Area:

- Expansion/improvements to existing waterfront park and boat ramp including parking.
- Continuation of multi-use path connecting the residential area to the recreational area.
- Approximately 60 apartment units in rehabilitated Hilton Center.
- Approximately 8,200 sf each of neighborhood retail and cultural arts in Hilton Center.

Recreation-Active and Passive:

- Continuation of multi-use path connecting waterfront park area with East Greenbush and future connections to future County trail system and Rensselaer Technology Park.
- Two-story, 31,200 SF recreation center in vicinity of Patroon Island Bridge
- Basketball and tennis courts, softball, little league, baseball, and multi-purpose fields.
- Surface parking

Potential Impacts and Mitigation

- **Land Use and Zoning**

The Study Area was rezoned as a result of the 2011 LWRP to accommodate higher density uses, encourage vibrant, walkable development and capitalize on its waterfront location. The Preferred Alternative will redefine the uses of the site; however potential uses are consistent with existing zoning.

- **Transportation**

The site is accessed via Tracy Street and Forbes Avenue via uncontrolled at-grade railroad crossings. Capacity information for Broadway and Washington Avenue indicate that there is excess capacity to accommodate the anticipated increase in traffic volumes. Pedestrian and non-motorized access and movement to and within the site will be evaluated and provided. A number of previous studies have identified potential roadway and access improvements, however a Traffic Impact Study will be necessary once actual site uses are proposed to identify specific improvements to the roadway and pedestrian network and improvements related to the CSX Railroad crossings.

- **Utilities**

Sewer and water are located adjacent to the site and will require extensions to serve the project. There is adequate capacity to serve the sewer and water demands for the Preferred Alternative. Stormwater design must meet all State Pollution Discharge Elimination System permit requirements; and will include green infrastructure techniques to the extent possible. The potential to move or bury the overhead electric utility lines related to specific projects must be coordinated with National Grid.

- **Topography and Soils**

The Study Area is generally flat to rolling; steep areas are associated with the CSX ROW near the Study Area boundary. Soils consist primarily of altered and floodplain soils and will require a geotechnical evaluation prior to the design of specific projects.

- **Surface Water Resources**

The entire site is within the mapped FEMA 100-year floodplain of the Hudson River. This combined with the potential impacts of sea level rise may require site grades to be raised significantly, especially in the areas planned for residential development.

- **Ecology**

A wetland delineation must be completed prior to development in the Study Area. Both federal and state listed protected species have been identified in the vicinity of the Study Area. The review of specific projects will require additional field assessments.

- **Cultural Resources**

Previous surveys within and adjacent to the Study Area indicate that the archeological potential is generally low. The Phase 1A Literature Review and Site Sensitivity Assessment completed for this project recommends the completion of a Phase 1B archeological survey prior to any construction activities in the area of Forbes Avenue and Central Avenue.

- **Aesthetics and Visual Resources**

The project will result in changes to the visual quality of the Study Area and will include an improved Hilton Center and boat launch, multi-story residential structures and recreational fields. Site design will emphasize maintaining existing river views from the surrounding neighborhood. Visual Assessments will be conducted during the evaluation of specific development proposals.

- **Air Quality and Noise**

Air quality and noise impacts would be temporary and related to construction activities. There is the potential for increased noise levels related large events or tournaments within the recreational areas if such events are held.

- **Hazardous Materials**

There are several recognized environmental conditions associated with the Study Area. Improper disposal of asbestos has been identified on the Hilton Center property. Additional investigations will be required prior to construction activities.

- **Community Services**

Increases in site density and potential for new residents may impact community services. Coordination with police, fire and the school district will be required as specific projects are reviewed by the City.

Alternatives

Four alternatives and a no-action alternative were evaluated during the GEIS process which varied by density, layout and type of use. Each alternative included comparable plans for improvements to the boat launch area and adaptive re-use of the Hilton Center to living units, neighborhood retail and cultural arts.

In addition alternatives 1 and 2 included residential and commercial uses. The primary differences are related to the layout and number of units within the residential component located near the Livingston Avenue Bridge.

Alternative 3 eliminated the residential component near the Livingston Avenue Bridge, replacing it with active and passive recreational amenities. The northern area of the site was envisioned for office development.

Alternative 4 reintroduced a residential units with increased density near the Livingston Avenue Bridge and included a reduced level of recreational amenities in the area south of the Patroon Island Bridge. Commercial office would occur north of the bridge.

The no-action alternative would result in the site remaining undeveloped with no plan or vision for future uses benefiting residents and the City. The Hilton Center would continue to deteriorate and public access to the Hudson River via the boat launch area would not be expanded or improved.

SECTION 1.0

INTRODUCTION

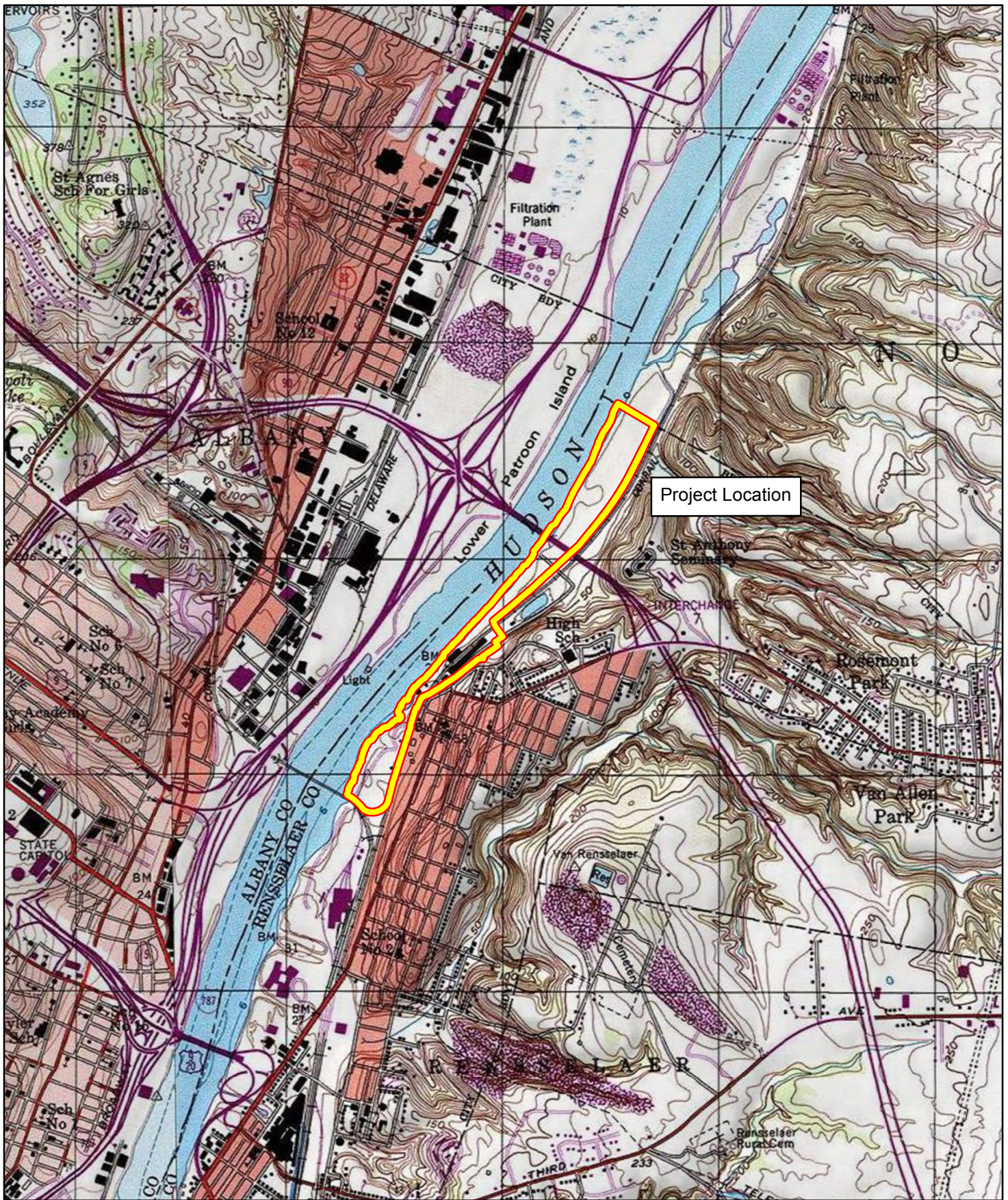
This document is a Generic Environmental Impact Statement (GEIS) prepared for the future development of Kiliaen's Landing, an approximately 75-acre area of land comprised of several parcels along the City of Rensselaer's Hudson River waterfront. Development scenarios were evaluated for the site and vetted through public involvement, resulting in a Preferred Alternative for development of Kiliaen's Landing. The environmental impacts of this alternative are being evaluated through the GEIS pursuant to the State Environmental Review Act (SEQR) regulations (6 NYCRR 617) and referred to throughout this document as the Kiliaen's Landing GEIS.

1.1 Project Location and Project Setting

Kiliaen's Landing is located in the northwest portion of the City of Rensselaer, Rensselaer County (Figure 1-1). It is easily accessible from Albany and points west via the Dunn Memorial Bridge and the Patroon Island Bridge. Access to major routes I-87 and I-90 provide swift connections in all directions. The City is compact: both the Rensselaer Train Station and Downtown are approximately one mile south of the site. It holds a key position along the Hudson River waterfront: the RPI Technology Park and Hudson Valley community College are located a short distance to the northeast in the City of Troy. Albany lies directly west on the opposite side of the Hudson River. See Figure 1-2, Community Context map.

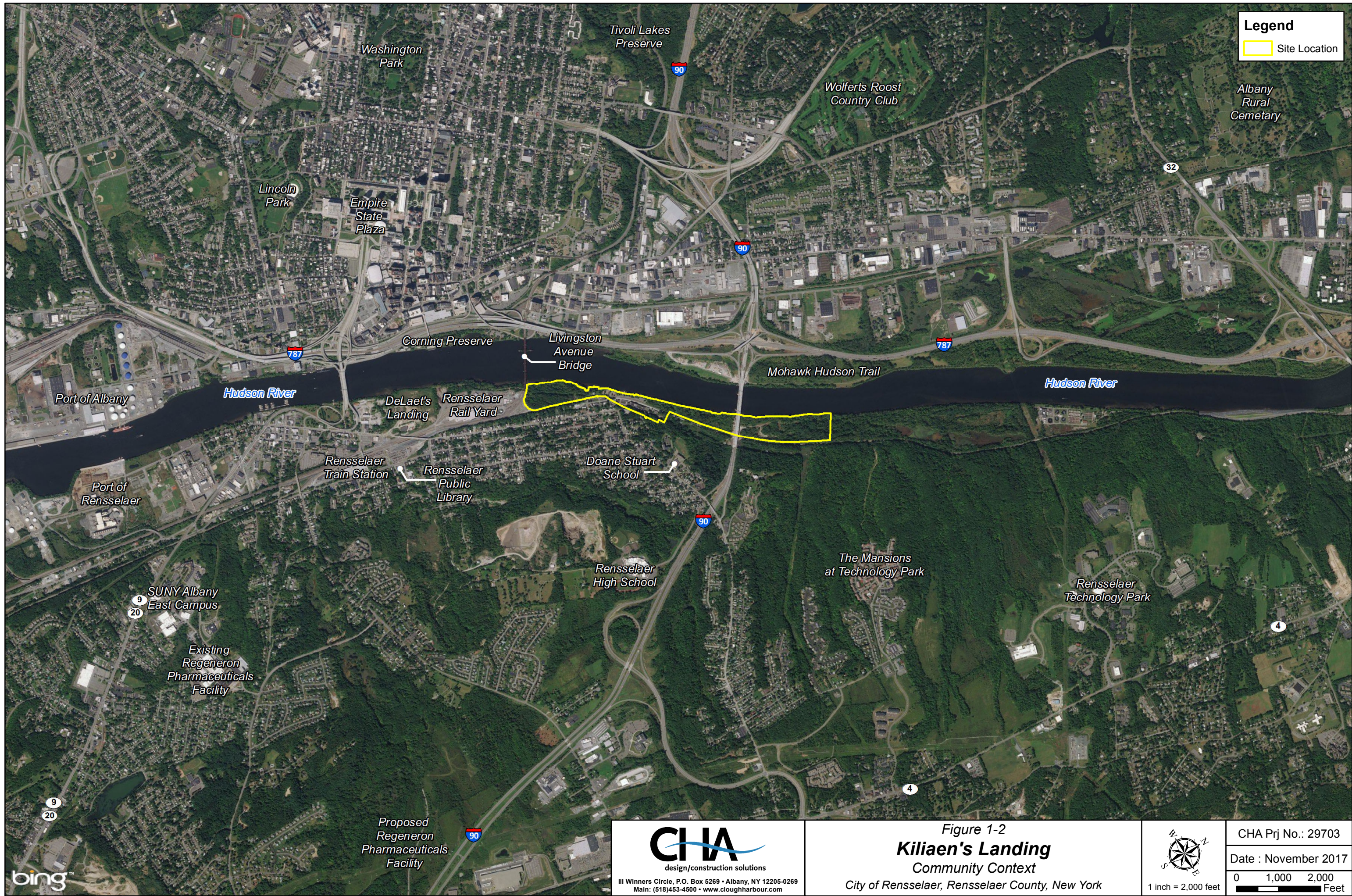
The approximately 75-acre project site is generally bounded by the Hudson River, Livingston Avenue Bridge, the Town of North Greenbush and the CSX Railroad right-of-way. The Study Area is undeveloped with the exception of the Forbes Avenue Boat Launch and the buildings associated with the underutilized Hilton Center.

Land uses immediately east and southeast of the site include the well-established residential neighborhood along Broadway and surrounding roadways. This neighborhood consists primarily of two to three-story single family, two-family and small scale multi-family buildings dating back to the late 19th and early 20th century. There are a number of larger historic homes on the slopes east of Broadway. Immediately south of the site are the Livingston Avenue Bridge and Amtrak's Rensselaer Maintenance Facility, and DeLaet's Landing. Undeveloped lands in the Town of North Greenbush border the northern portion of the Study Area.



Project Location

		<p align="center">Figure 1-1 USGS Project Location Map Kiliaen's Landing City of Rensselaer, Rensselaer County, New York Troy South USGS Quadrangle</p>
<p>Scale 1" = 2000'</p>	<p>CHA No. 29703</p>	<p align="right"><i>Service Layer Credits:</i> Copyright: © 2013 National Geographic Society, I-cubed USGS Quadrangle Date: 1980</p>



Legend
 Site Location

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 design/construction solutions
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Figure 1-2
Kiliaen's Landing
 Community Context
 City of Rensselaer, Rensselaer County, New York

1 inch = 2,000 feet

CHA Prj No.: 29703
 Date : November 2017
 0 1,000 2,000
 Feet

1.2 Project History and Need

The City of Rensselaer has long recognized that attractive, sustainable development of its Hudson River waterfront is critical to the future identity of the City as a desirable place to live and work. As early as the 1980's, Kiliaen's Landing (Figure 1.1) and other waterfront sites within the City have been the subject of numerous land use studies and development proposals. Previous plans and studies include the 1981 Riverfront Development Plan and 1986 Local Waterfront Revitalization Program (LWRP) Plan. Development proposals include the 1995 Chateau Rensselaer Plan, 1997 Patriot's Landing project, and 2002 Kiliaen's Landing at the Capital Harbor. This site has also been studied as parts of larger plans including the 2004 Rensselaer County Trail Report, and the Forbes Avenue Transportation Study.

More recently a 2011 LWRP update was completed which notes that the City's objective in preparing that planning document was to: Restore, revitalize and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, recreational and other compatible uses. As a result of the LWRP, the City has rezoned areas of the waterfront to promote and encourage desirable development along its waterfront. Zoning in the Study Area now includes Downtown Mixed Use, Waterfront Mixed Use, and OpenSpace and Conservation.

Although the Study Area and adjacent areas have been the subject of these many evaluations and studies, plans have remained shelved for any number of reasons including economic considerations and physical constraints.

This largely undeveloped 75-acre Study Area, including its Hudson River shoreline, may represent the most significant asset and opportunity for long-term revitalization within the City of Rensselaer. Typical of many cities, particularly geographically-compact cities, Rensselaer is generally built-out with very few large tracts of undeveloped land. The Study Area offers a unique opportunity for the City to champion and coordinate activities to preserve and enhance public recreation and access to its waterfront, preserve and celebrate its history through rehabilitation and adaptive reuse of the Hilton Center and provide for current and future residents opportunities to live and/or conduct business activities within the site.

With the recent groundbreaking of the DeLaet's Landing project, a significant waterfront project less than one mile south of the Study Area, the continued growth of the Capital District region as a high-tech hub and the renewed interest by the general population in the opportunities provided by urban living, the Study Area represents a unique development opportunity.

The City has consistently maintained its goal to successfully develop the Study Area to the benefit of the City and its residents. As such, the City applied for and was awarded a Cleaner, Greener Community (CGC) Program Phase II grant from the New York State Energy Research and Development Authority (NYSERDA) in 2014. Under the terms of the grant the City is to identify a concept master plan (Preferred Alternative) for the Study Area and evaluate it through the Generic Environmental Impact Statement (GEIS) process. The scope also includes a

Site Inventory and Analysis and Market Study. This information was further refined by input from stakeholders through Steering Committee meetings and public workshops; contact with landowners and permitting agencies; as well as a project website (www.kiliaen'slanding.com) and public engagement site (<https://mysidewalk.com/organizations/292295/kiliaens-landing>); all leading to the creation of the Preferred Alternative for the development of Kiliaen's Landing.

The completion of the GEIS process on the Preferred Alternative will allow the City to identify potential cumulative impacts of this development concept and the appropriate mitigation to ensure the project will not adversely impact the community, but rather provide the beneficial social, cultural, and economic impacts that will help to revitalize the City.

1.3 THE STATE ENVIRONMENTAL QUALITY REVIEW ACT PROCESS (SEQR)

Future implementation (development) of the Preferred Alternative for Kiliaen's Landing is considered a Type 1 action under SEQR Part 617.5. The City of Rensselaer as the project sponsor completed a Full Environmental Assessment Form (FEAF) and coordinated lead agency procedures as required under SEQR Part 617.6. Appendix 1 includes the Lead Agency Coordination package as well as all SEQR documentation. The City Planning Commission declared themselves lead agency by resolution on July 10, 2017. The list of involved agencies and the associated permits or approvals is indicated below.

The public scoping session on the Draft Scope for the preparation of the Kiliaen's Landing GEIS was held on August 7, 2017. Based on the results of public scoping, the Final Scope was prepared and filed on behalf of the Lead Agency on September 6, 2017 and represents the framework for the studies and other documentation provided in this Draft GEIS (Appendix 1). The Draft and Final Scope were posted on the project website and on mySidewalk.

To more effectively address and evaluate the cumulative impacts of the conceptual Preferred Alternative, this document is organized as and includes the required elements of a Draft GEIS in accordance with SEQR Part 617.10. As such, this GEIS identifies potential impacts and appropriate mitigation strategies, and outlines the process to obtain the necessary permits and approvals associated with the Preferred Alternative.

Future site-specific projects in the Study Area that fall within the thresholds and are consistent with the goals outlined in this GEIS and associated Statement of Findings will have no further responsibility under SEQR. Projects that exceed the thresholds evaluated or otherwise do not meet the requirements outlined in the GEIS and Statement of Findings will require further action under SEQR.

List of Potential Permitting/Approving Agencies

With the exception of the SEQR findings approvals and permits will be obtained during Planning Commission review of specific projects within the Study Area.

City of Rensselaer Planning Commission- Lead Agency

- Adoption of SEQR findings
- Site Plan Approval for future projects in Study Area
- LWRP consistency review

NYSERDA

- Project funding under the Cleaner Greener Communities Grant Program

City of Rensselaer Water Department

- Water line extension

New York State Department of Environmental Conservation (NYSDEC)

- State Pollutant Discharge Elimination System permit (SPDES)
- Article 15 Protection of Waters permit
- Section 401 Water Quality Certification

New York State Department of State (NYSDOS)

- Federal Coastal Zone consistency review

New York State Department of Transportation (NYSDOT)

- Improvements to state roads
- Coordination related to potential improvements to Livingston Avenue Bridge

Rensselaer County Sewer District

- Sewer line extension

New York State Office of General Services (NYSOGS)

- Lease or purchase agreements for the approximately 8 acres within the study area owed by NYS

US Army Corps of Engineers (USACE)

- Nationwide Permits or Individual Section 10/404 permit. It is assumed the project can move forward under one or more Nationwide permits.

Rensselaer County Economic Development and Planning

- Section 239-m review

CSX Railroad

- Improvements to at grade crossings

NYS Office of Parks, Recreation and Historic Preservation (NYSOPRHP)-interested

- Consultation required under Section 106 of the National Historic Preservation Act and Section 14.09 of the NYS Historic Preservation Act

SECTION 2.0

COMMUNITY VISION & PREFERRED ALTERNATIVE

2.1 Community Vision

As noted in Section 1.0, the City has long recognized that attractive, sustainable development of its Hudson River waterfront is critical to the future identity of the City as a desirable place to live and work. The purpose of preparing the GEIS is to identify and evaluate a preferred development scenario for this site. Note, no developer has come forward with a specific plan for the site. The City has created an overall vision to guide development as an essential first step towards evaluating and identifying the alternatives for the Study Area. The following site vision was developed under the direction of the Steering Committee, City officials and the public.

Development within the Kiliaen's Landing Study Area will strengthen the fabric of the City of Rensselaer by enhancing opportunities to live, work and recreate along the Hudson River waterfront. This will be accomplished through improvements to the City boat launch, revitalization of the historic Barnett Mills complex, development of both residential and commercial space, and the addition of both passive and active recreational facilities. Redevelopment will focus on maintaining and improving public access to the waterfront, safe site circulation for both non-motorized and motorized uses, and site amenities that provide a physical connection to the surrounding community and encourages community interaction. Projects should incorporate sustainable development practices and techniques.

2.2 Preferred Alternative

Alternatives Considered and Dismissed

SEQR requires the evaluation of a range of potential alternatives including an evaluation of the no action alternative. The alternatives were guided by the Vision Statement and the Inventory and Analysis, Market Study, input from the Steering Committee, City Officials and the public. Both the Inventory and Analysis (Appendix 2) and the Market Study (Appendix 3) are Included in this document. Alternatives were developed sequentially at a series of Steering Committee and Public Meetings, each based on input from each previous alternative. For example,

although the residential layout in Alternative 1 was viewed as most favorable, the location of the residential structures proximate to the River led to flooding concerns. The layout in Alternative 2 was reminiscent of large scale commercial site, leading to the layout in Alternative 4 and finally the Preferred Alternative (Figure 2-1).

Finally, the chosen or Preferred Alternative was a result of combining “preferred” elements from Alternatives 1-4 as directed by input from the Steering Committee, City Officials and the public. These alternatives are discussed in detail in Chapter 4 but are briefly identified below:

- Alternative 1- Combination of residential, active and passive recreation, boat launch improvements, maritime center, cultural arts and neighborhood retail. The residential component included 3 and 4 story structures and included fewer units. The Hilton Center includes approximately 60 apartments, neighborhood retail and cultural arts under all the alternatives.
- Alternative 2- Combination of residential, active and passive recreation, boat launch improvements, cultural arts and neighborhood retail. The residential component near the Livingston Avenue Bridge included 383 units and additional commercial area.
- Alternative 3- Combination of active and passive recreation and office development, cultural arts and neighborhood retail. Recreation areas are located near the Livingston Avenue Bridge. Residential units include only those identified within the rehabilitated Hilton Center. Commercial/office space would include up to 245,600SF in the area north of the boat launch.
- Alternative 4 - Combination of residential, active and passive recreation, boat launch improvements, cultural arts, neighborhood retail and commercial/office space. This alternative includes a reduced area for active recreational space, the highest residential density near the Livingston Avenue Bridge, and 230,000 SF of office space.
- Alternative 5 – No Action alternative. The site would continue to operate as is.

Preferred Alternative

Residential Living

The area adjacent to the Livingston Avenue Bridge was identified as a preferred location for residential uses due to its location within the site, proximity to the waterfront park, and the potential layout and waterfront orientation opportunities it provided. Several residential layouts were evaluated of varying density and building and parking orientation. To protect river views from the adjacent neighborhood and to address concerns regarding overall density, the Preferred Alternative includes buildings no higher than 5 or 6 stories.

The conceptual layout of the residential area includes the following components:

- Approximately 356 apartment units
 - One, 6 story building with 96 units
 - Three, 5 story buildings of varying sizes (40, 80, and 100 units)
 - One, 5 story building with 40 units located adjacent to the waterfront park
- Parking closer to river versus Alternative 1
 - Reduction but not elimination of floodplain impacts
- Emergency access via the multi-use path extension under Livingston Avenue Bridge to south
- Multi-use path connecting south under the Livingston Avenue Bridge and north to future Rensselaer County trail system.
- Surface parking associated with each structure

Absent other constraints, the apartment units would have been located much closer to the shoreline as represented in Alternative 1 and is discussed in Section 4.0 Alternatives. Impacts related to the 100-year floodplain and the potential for sea level rise resulted in the development of additional alternatives.

The location of the residential structures within this area attempts to balance concerns regarding maintenance of the waterfront area, the visual appeal of the parking layout, and concerns regarding flood risks.

Boat Launch Area

The improvements identified for the waterfront park (existing boat launch) are considered a critical element to the overall success of the project and as such have generally been consistent through all the alternatives evaluated:

- Expansion and improvements to existing waterfront park and boat ramp
- Surface parking
- Continuation of the multi-use path extension connecting the residential living area to the recreational area

Hilton Center Mixed Use Development

Rehabilitation and redevelopment of the Hilton Center is consistent through all the alternatives presented and proposes to redevelop the Hilton Center with a combination of retail, residential, and cultural arts with space for adjacent parking. A rough estimate of the rehabilitated space includes approximately 60, 2 bedroom units, 8,200 square feet of neighborhood retail and 8,200 square feet of cultural arts.

Recreation: Active and Passive Uses

The City is compact and generally built out, therefore the Study Area represents a unique opportunity to develop high quality active and passive recreational opportunities. Recreational amenities were included in all the alternatives, although they were considered in several locations and configurations. The Preferred Alternative reflects recreational amenities located in the same location as Alternatives 1 and 2 northeast of the boat launch:

- Continuation of the multi-use path from the waterfront park area to property boundary with East Greenbush and future connections to trails to the northeast on the Rensselaer Technology Park.
- Two-story, 31,200 SF Recreation Center in vicinity of Patroon Island Bridge
- Recreational fields for basketball, tennis, youth softball, little league, baseball, and multi-purpose use
- Surface parking

Development of the Study Area will require improvements to both existing access and the development of additional points. Existing access at both Forbes Avenue and Tracy Street may require potential improvements to the CSX at-grade railroad crossings. Access to the residential area of the site near the Livingston Avenue Bridge is planned from Tracy Street. Optimal use of the residential area of the site is premised on the relocation of overhead utilities either underground or immediately adjacent to the CSX Rail line. An internal roadway will be constructed to serve the surface parking associated with each structure.

Access to the remaining areas of the site including the waterfront park, Hilton Center and other recreational amenities will be from Forbes Avenue. Improvements will be made to the parking area associated with the boat launch to address existing deficiencies and accommodate increased use. Access will be extended from the boat launch area north into the recreational area with surface parking in several locations including at the location of the recreation center. As noted above improvements to the CSX at-grade railroad crossing may be required.

Non-motorized and pedestrian traffic will be served throughout the site via a multi-use pathway traversing the site from south to north and generally situated adjacent to the Hudson River. The City has negotiated an easement with the CSX Railroad to allow construction of the multi-use pathway immediately south of the study area in order to connect to the existing multi-use pathway. The pathway will extend to the northern boundary of the site to allow for future connections to both the planned Rensselaer County Trail system and the RPI tech Park Trail system.

SECTION 3.0

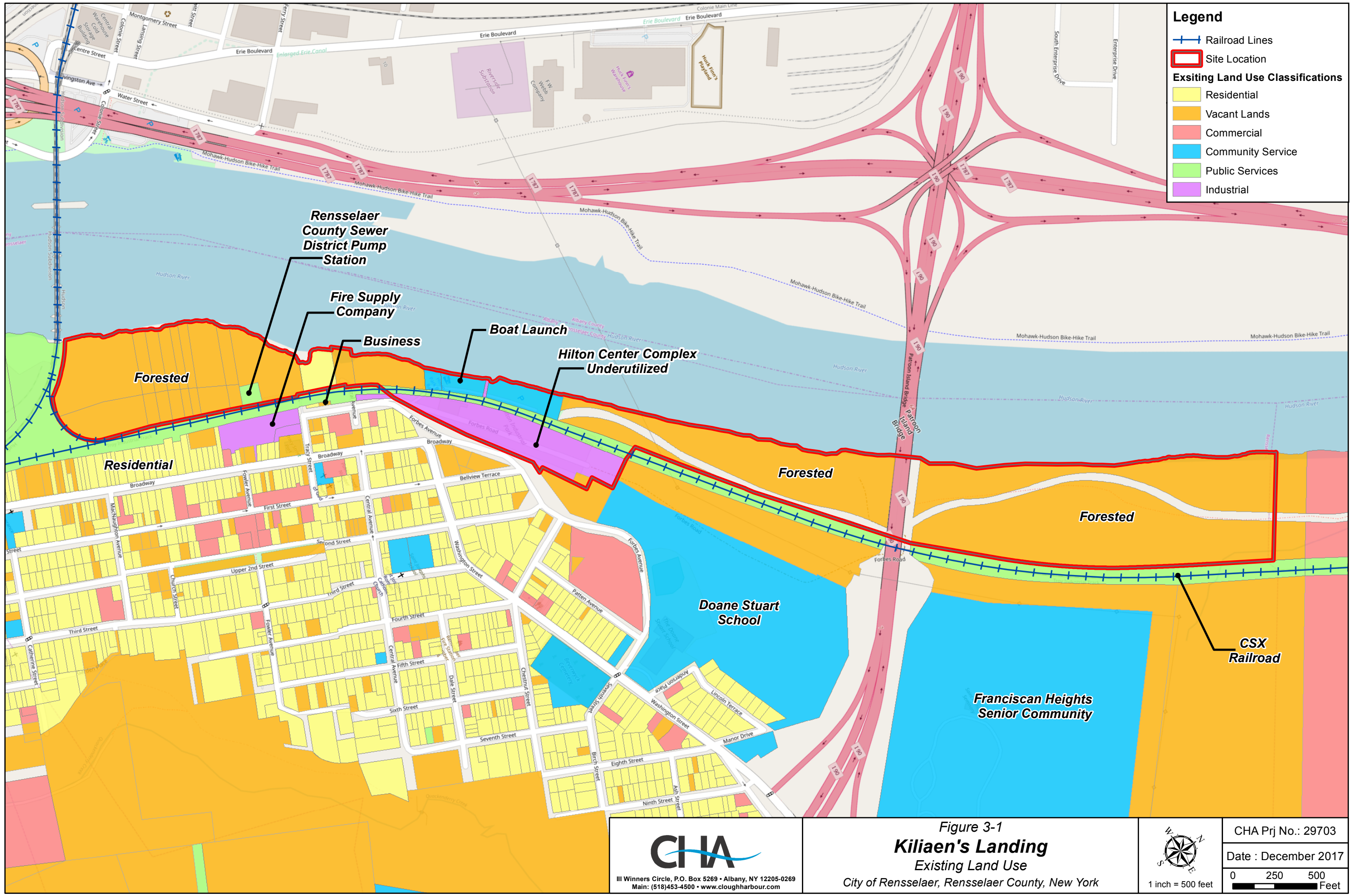
ENVIRONMENTAL SETTING, POTENTIAL IMPACTS & MITIGATION

3.1 Land Use and Zoning

Land Use

The approximately 75-acre project site is generally bounded by the Hudson River, Livingston Avenue Bridge, the Town of North Greenbush and the CSX Railroad right-of-way. Existing land use can be characterized as undeveloped and/or underdeveloped. The undeveloped area between the Forbes Avenue Bridge and Tracy Street is generally wooded. The small area located between Tracy Street and the Forbes Avenue Boat Launch contains a residential property and a cleared vacant area. The boat Launch is the only designated stop in the City on the Hudson River Greenway Water Trail and provides excellent views of the City of Albany. Immediately southeast of the boat Launch is the CSX railroad tracks and the abandoned Hilton Center. Remaining lands are wooded and undeveloped (Figure 3-1).

Land uses immediately east and southeast of the site include the well-established residential neighborhood along Broadway and surrounding roadways. This neighborhood consists primarily of two- to three-story single family, two family and small scale multi-family buildings dating back to the late 19th and early 20th century. There are a number of larger, older homes on the slopes east of Broadway. The Doane Stuart School is also situated on the slopes above the Study Area, housed in the former Van Rensselaer High School, which was listed on the National Register of Historic Places in 2012. Immediately south of the site are the Livingston Avenue Bridge, Amtrak's Rensselaer Maintenance Facility, and De Laet's Landing. Undeveloped lands border the northeastern portions of the project site. The potential multi-use pathway connection between the property and the Rensselaer Technology Park traverses undeveloped lands.



Legend

- Railroad Lines
- Site Location
- Existing Land Use Classifications**
- Residential
- Vacant Lands
- Commercial
- Community Service
- Public Services
- Industrial

**Rensselaer
County Sewer
District Pump
Station**

**Fire Supply
Company**

Business

Boat Launch

**Hilton Center Complex
Underutilized**

Forested

Residential

Forested

Forested

**Doane Stuart
School**

**CSX
Railroad**

**Franciscan Heights
Senior Community**

CHA

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**Figure 3-1
Kiliaen's Landing
Existing Land Use**

City of Rensselaer, Rensselaer County, New York

CHA Prj No.: 29703
Date : December 2017

0 250 500 Feet
1 inch = 500 feet

Zoning

Zoning within the project boundary include Downtown Mixed Use (MU-1), Waterfront Mixed Use (MU-2) and Open Space and Conservation (O-S). Portions of the project area are part of the Bath Neighborhood which is designated as a Historic Overlay District. The Bath Neighborhood is bounded by the Hudson River, Washington Avenue, Broadway and Tracy Street. This overlay district is underlain by both the MU-1 and MU-2 zones (Figure 3-2, Zoning & Parcel Ownership). These zoning changes were adopted in 2012 as a result of the recommendations in the City's Local Waterfront Revitalization Program (LWRP) Update (2011).

The MU-1 zone is intended to accommodate a mix of higher-density residential and commercial uses to encourage a vibrant, walkable central core consistent with the historic character for the City of Rensselaer. The MU-1 zone is intended in part to promote the horizontal and vertical mixing of residential and commercial uses to create an active street life, enhance the vitality of businesses, preserve the integrity of historically significant buildings, encourage infill development and reduce vehicle traffic. Design standards have been adopted to further define the form and impact of development that occurs in this district. One key element of the design standards is to strengthen the connections between key elements in the City including the waterfront.

Similar to the M-1 District, the purpose of the MU-2 zone is to capitalize on the City of Rensselaer's waterfront and to provide convenient access to water and rail transportation by encouraging a mix of residential, commercial, and public uses. All private development, where applicable, in the Waterfront Mixed-Use District shall include public access directly adjacent to the water. The intent of the MU-2 District is to promote the horizontal and vertical mixing of residential and commercial uses to create an active waterfront, enhance the business community, and reduce vehicle traffic while encouraging pedestrian traffic and encourage building design and signage that enhances the proximity to the Hudson River without diminishing views.

All permitted and special permitted uses identified in the MU-1 and MU-2 zones are allowed in the Bath Neighborhood overlay district. The overlay district requires that any new construction, demolition, addition, or modification to the exterior of an existing structure be reviewed and approved by the Planning Commission and be issued a Certificate of Appropriateness.

The entire northern portion of the project site is zoned OS; its purpose is to preserve the historic, scenic, recreational and environmental value of officially designated parkland, environmentally sensitive areas, heavily wooded areas, and other open spaces, which may or may not be accessible by the public. Further, the intent of the OS District is to provide areas for the development of new passive and active parks, multi-use trails, and small-scale environmental interpretive sites.

Map Number	Parcel Owner
1,10,16,19,21,23	Polsinello Terminals Inc.
2,3,4	City of Rensselaer
5,27	Hilton Management LLC
6	Rensselaer County Sewer Dist. 1
7,9,14,15,22,25	State of New York
8	Marine Management of the Hudson Inc.
9	Vesta Developers Corp
11	Eugenio Gigliotti
12,13,17,18,20,24	First Rensselaer Corp
26,28,29,30,31	Rensselaer Polytechnic Institute (RPI)
32	William Barnet & Sons Inc

Legend

Site Location

City of Rensselaer Zoning

- Residential District #1 (R-1)
- Residential District #1 (R-2)
- Industrial (I-2)
- Downtown Mixed-Use (MU-1)
- Waterfront Mixed-Use (MU-2)
- Open Space and Conservation (OS)



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Figure 3-2
Kiliaen's Landing
Zoning and Parcel Ownership
City of Rensselaer, Rensselaer County, New York



1 inch = 500 feet

CHA Prj No.: 29703

Date : December 2017

0 250 500 Feet



Parcel Ownership

This approximately 75-acre project site encompasses 32 tax parcels and 7 property owners¹ as outlined in the Table 3-1 below and Figure 3-2. Ownership ranges from the City, the State of New York, Rensselaer Polytechnic Institute and private landowners. Rensselaer Polytechnic Institute owns over half of the property, approximately 41 acres in the northern reaches of the site. The City and RPI have had preliminary discussions regarding development of RPI owned lands. Lands listed under Polsinello Terminals Inc., Vesta Developers Corp, and First Rensselaer Corporation are under one ownership and consists of 8.42 acres in the southern portion of the site. This owner has consistently expressed interest in developing this site. The City will be responsible for negotiating with property owners in regards to site access and development.

Table 3-1 PARCEL OWNERSHIP AND ACREAGE		
Map Number	Owner	Acres
1,10,16,19,21,23*	Polsinello Terminals Inc.	3.23
9*	Vesta Developers Corp	0.58
12,13,17,18,20,24*	First Rensselaer Corp	4.61
2,3,4	City of Rensselaer	1.64
5,27	Hilton Management Company	6.32
6	Rensselaer County Sewer District #1	0.34
7,9,14,15,22,25	State of New York	8.47
8	Marine Management of the Hudson Inc.	2.75
11	Eugenio Gigliotti	0.92
26,28,29,30,31	Rensselaer Polytechnic Institute (RPI)	41.0

*Parcels under one ownership

POTENTIAL IMPACTS & MITIGATION

The site is primarily undeveloped; implementation of the Preferred Alternative therefore represents a more intensive use of the site. Visually, the proposed five- and six-story apartment buildings will contrast with surrounding housing stock that is generally older and consists of one and two-story structures on city lots. The redevelopment of the Hilton Center will maintain the historic character of the structure while addressing its deteriorating condition thus improving the overall visual quality of this area of the site. The removal of vegetation necessary to develop the recreational fields may create additional views to the River from adjacent land uses.

The residential area near Livingston Avenue Bridge is at a lower elevation than the surrounding neighborhood mitigating the potential impacts to river views from the surrounding neighborhood. However these new elements will become part of the viewshed, thus exterior building materials and landscaping elements designed to complement and enhance the site and

¹ Parcels owned by Polsinello Terminals Inc., Vesta Developers Corp., & First Rensselaer Corp. are under one ownership

neighborhood are essential. As shown in the Preferred Alternative (Figure 2-1), the number of proposed units and the acreage available in this portion of the site will allow a design that provides flexibility to provide both an adequate buffer between this area and the existing neighborhood and limit impacts to the River views from the surrounding neighborhood. This area is located within the MU-2 District. The combination of residential units, density, greenspace and public access to the waterfront trail extension meets the intent of the MU-2 zone.

It is anticipated that the rehabilitation and adaptive reuse of the Hilton Center, rather than its continued deterioration, will result in a positive impact to surrounding land use, the visual quality of the area and community character. The structure known as the Hilton Center includes in part the vacant Barnet-Shoddy Mill Complex, a 19th century complex operating as a shodding mill for the reclamation of woolen products. According to the NYS Cultural Resource Information System (CRIS), this complex is eligible for listing on the listing as a National Historic Landmark. The adaptive reuse of this parcel meets the intent of the MU-1 zone.

The reminder of the site including the boat launch area is zoned O-S. Improvements to the existing boat launch area will have a beneficial impact to existing and surrounding land use by improving access to the waterfront and creating a more visually pleasing setting. The addition of active and passive recreational amenities will provide much needed additional recreational and waterfront opportunities to the City and its residents. The recreational amenities proposed will not result in any land-use impacts. This area is bounded on two sides by vacant land, one side by the Hudson River and the one side by the Hilton Center and boat launch area limiting visual impacts to surrounding land uses.

The Preferred Alternative will redefine the uses of the site; however all of the potential uses are allowable under the City's MU-1, MU-2 and the OS zone. Additionally any projects or portions of projects that fall within the Bath Neighborhood Overlay District must receive a certificate of appropriateness from the Planning Commission.

As previously stated, the Preferred Alternative presents land uses that are consistent with zoning as well as those outlined in the LWRP. The Downtown Redevelopment Plan (2004-2010) identifies preferred uses in this area as also identifies the study area to be developed for a combination of mixed use in the vicinity of the Livingston Avenue Bridge (residential and retail), redevelopment of the Hilton Center for retail or small offices and the boat launch area and points north for active recreation and water dependent uses. The only departure from the preferred alternative is that the preferred alternative envisions residential uses along with the retail and cultural arts in a redeveloped Hilton Center.

Successful implementation of the Preferred Alternative will require the City to actively encourage participation by the various land owners in the Study Area. The evaluation of this plan and completion of the SEQR process does not obligate either the City or the individual landowners to sell land or develop it as outlined.

3.2 Transportation

Regional and Local Context

Kiliaen's Landing is located in the northwest portion of the City of Rensselaer, Rensselaer County, New York. It is easily accessible to Albany and points west via I-90 and the Dunn Memorial Bridge and the Patroon Island Bridge. The Albany-Rensselaer Train Station and Downtown are approximately one mile south of the site. The RPI Technology Park and Hudson Valley Community College are located a short distance to the northeast in the City of Troy.

Transportation and Site Access

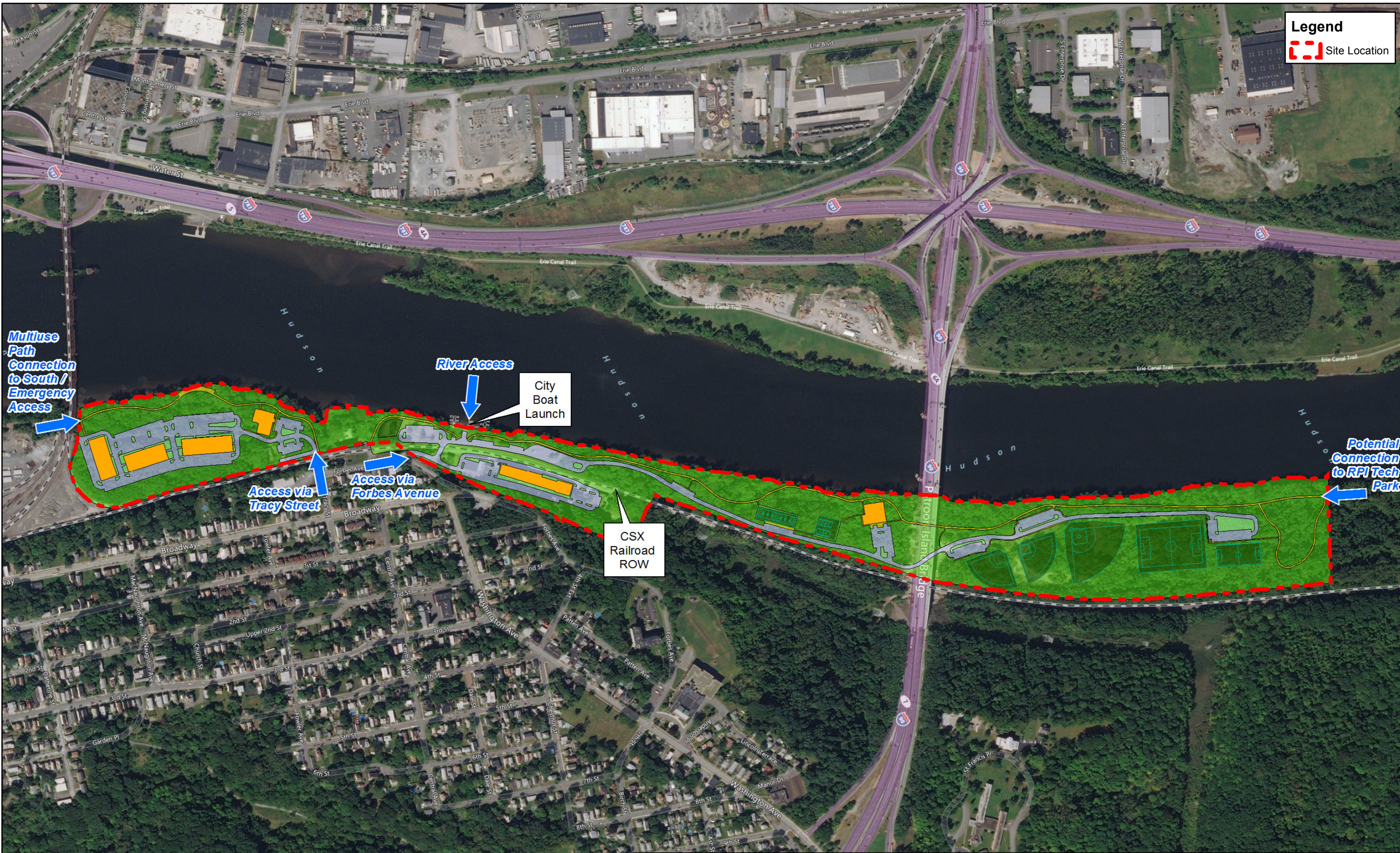
Kiliaen's Landing is generally bounded by the Livingston Avenue Bridge to the south, the Patroon Island Bridge, which carries Interstate 90 (I-90) over the Hudson River to the north, Broadway and Washington Avenue to the east and the Hudson River to the west. Public vehicle and pedestrian site access is currently available via Tracy Street and Forbes Avenue. The existing access at Tracy Street traverses an at-grade railroad crossing and provides vehicle access to the sewage pump station. Forbes Avenue provides access to the city boat launch and the Hilton Center complex, also via an at-grade railroad crossing. There is no other developed access from the adjacent street network to lands north of the City Boat Launch (See Figure 3-3 Existing and Potential Site Access). Both Tracy Street and Forbes Avenue intersect with Broadway, a two-lane north-south road that traverses the City. Broadway connects with Washington Avenue and then to I-90 and the Patroon Island Bridge to the north. To the south it provides a connection to Route 9 and the Dunn Memorial Bridge. Washington Avenue functions as a collector road; Tracy Street, Forbes Avenue and Broadway function as local roads.

- **Roadway Network**

Washington Avenue is a two-lane east-west urban roadway classified as a minor arterial from Broadway to NYS Route 43. From I-90, Washington Avenue to Broadway consists of on street parking and 4 foot to 5 foot concrete wide sidewalks along both sides of the road. The sidewalk is separated from the roadway via a grassed utility strip, which increases in width as it approaches Broadway. The Doane Stuart School is located on Washington Avenue at the northeast corner of its intersection with Forbes Avenue. The posted speed limit is 30 miles per hour (mph).

Broadway is a two lane north-south urban roadway classified as a minor arterial that extends from Washington Avenue at its northern end to Aiken Avenue at its southern end. Broadway, with an approximate curb-to-curb width of 36 feet, consists of on-street parking and 4 foot to 6

Legend
Site Location



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Figure 3-4
Kiliaen's Landing
Existing & Potential Site Access
City of Rensselaer, Rensselaer County, New York



1 inch = 520 feet

CHA Prj No.: 29703
Date : December 2017
0 260 520 Feet

foot wide concrete sidewalks along both sides of the road. The sidewalk is separated from the roadway by a 2 foot to 4 foot wide utility strip between the curb and sidewalk. The posted speed limit is 30 mph.

Forbes Avenue is a two lane local roadway that extends from Washington Avenue at its easterly end intersecting with Broadway and finally Tracy Street. It generally runs parallel to the Hudson River for the southern portion of the roadway and veers eastward for the northern section. Forbes Avenue is a narrow, approximate 22 foot wide roadway with several horizontal curves with no pavement markings. There are no sidewalks or pedestrian facilities, and minimal traffic control devices along this road.

Tracy Street is a two-lane east-west local roadway that exists between the CSX rail line, south of Forbes Avenue, at its westerly end and 1st street at its easterly end. There are no pavement markings on Tracy Street. On street parking and concrete sidewalks exist along both sides of the road. Tracy Street has a significant downhill grade. Tracy Street Park exists at the southwest corner of the intersection of Broadway & Tracy Street which is considered a pedestrian generators.

- **Intersections**

Broadway and Tracy Street intersect at a 4-way unsignalized intersection. Each approach consists of a single shared left/through/right turn lane. Tracy Street is the STOP- controlled approach.

Forbes Avenue and Tracy Street intersect at a 4-way unsignalized intersection. Each approach consists of a single shared left/through/right turn lane. There are no pavement markings or traffic control on either of these roadways.

- **Pedestrian and Bicycle Accommodations**

Existing pedestrian access to the site is accomplished via the sidewalks on the adjacent street network. Existing bicycle access can be accomplished via the existing roadway network. With the exception of the Forbes Avenue Boat launch area, there is no formalized internal pedestrian or non-motorized circulation developed on the site. Tax maps in this area delineate a paper street (River Road) traversing the site from south to north on RPI lands beginning in the vicinity of the boat launch. Field reconnaissance identified the existence of a non-maintained gravel trail that roughly aligns with the location of River Road. In addition to the gravel trail associated with River Road, a dirt roadway extends through the entire site associated with the CSX railroad and sewer main.

Aerial photographs show a number of informal pathways throughout the site, particularly north of the boat launch, which were confirmed in subsequent site visits. At this time, there are no dedicated bike paths or trails that intersect or connect with the site.

- **Transit**

The eastern boundary of the site is a single-line rail track that is operated by CSX Transportation, Inc. and is known as the Troy Industrial Track. Freight traffic on the line is limited to approximately four (4) total round trips per week. The rail line to the south, which crosses the Livingston Avenue Railroad Bridge connecting Rensselaer to Albany, is used by both Amtrak passenger services and by CSX freight services.

The City of Rensselaer is served by the Capital District Transportation Authority (CDTA). Primary bus routes serve Washington Avenue, Broadway, Third Street, and the central business district. Three bus routes run through the City; Routes 14, 15 and 24. Route 15, the Rensselaer-East Street route serves the Study Area and its environs, running along Broadway between Downtown Albany and Rensselaer.

An intercity Megabus operates from the Albany-Rensselaer Train Station, providing regular service to New York City and Ridgewood, NJ. Rental cars and taxis are also available at the station. The train station is less than a mile from the site providing Amtrak passenger service to numerous destinations throughout the northeast and beyond, including the Empire Corridor. The Livingston Avenue Bridge crossing is a critical link in this Corridor connecting New York City to Schenectady and points as far west as Niagara Falls.

- **CSX Railroad**

Access to the Study Area at Tracy Street and Forbes Avenue traverse an at-grade railroad crossing. The CSX Railroad tracks run the entire length of the Study Area and are generally adjacent to the Study Area's southeastern boundary. In the vicinity of the Hilton Center and boat launch however, the tracks run between the Hilton Center and the boat launch parking area. Freight trains utilize the CSX line in this location at a rate of approximately one round trip approximately four (4) days per week.

The Amtrak Maintenance Facility located immediately south of the Study Area and the Livingston Avenue Bridge utilizes this section of the CSX tracks on a constant basis daily to turn trains. However, this activity does not extend north of Tracy Street.

Traffic Volumes

Traffic volume data was compiled from the New York State Department of Transportation (NYSDOT) Traffic Data Viewer, which showed 2013 and 2015 data for the study area roadways. A review of the historical traffic volume data indicates that the volumes on the Study Area roadways have decreased annually by approximately 0.1% (Washington Avenue) and 2.3% (Broadway). For the purposes of this study, a conservative annual growth rate of 0.5% per year was applied to adjust the available data volumes to Existing (2017) conditions. Table 3-2 below summarizes the frontage road traffic volume data as provided on NYSDOT's Traffic Volume Data Viewer and adjusted with the 0.5% annual growth.

Table 3-2 Estimated 2017 Traffic Volumes				
Route (Station)	Location (from/ to)	Estimated AADT ¹ (in vehicles per day) (year of counts)	Estimates Peak Hour Volume (vehicles)	
			AM	PM
Washington Ave (14_1228)	West Ramp off to Broadway	7,604 44% EB, 56% WB ²	824 49% EB, 51% WB ²	667 48% EB, 52% WB ²
Broadway (14_1221)	Harrison Avenue to Washington Avenue	2,265 45% NB, 55% SB ³	138 34% NB, 66% SB ³	232 49% NB, 51% SB ³

¹ AADT = Annual Average Daily Traffic

² Directional Distribution of 2013 Data

³ Directional Distribution of 2015 Data

There is no existing traffic volume data for Forbes Avenue or Tracy Street. These are local roadways and given the amount of development on each of these roadways, it is assumed that there is existing reserve capacity on each of them.

The Forbes Avenue, 2005 Study documented turning movement traffic counts (TMC) for the weekday AM and PM peak hour for several intersections along Washington Avenue from the I-90 ramps to Broadway, and at the Broadway & Tracy Street intersection. Reviewing the TMC data at the Washington Avenue & Forbes Avenue and the Washington Avenue & Broadway intersections reveals that significantly more traffic utilizes Washington Avenue than Forbes Avenue. While some of the traffic utilizing Forbes Avenue during the AM peak hour is due to the Doane Stuart School, no discount was applied to assess the magnitude of the traffic utilizing each roadway. Utilizing the TMC's in the study indicates that traffic volume on Washington Avenue is approximately 3 times the traffic volume on Forbes Avenue during the weekday AM peak hour and 7 times the traffic volume on Forbes Avenue during the weekday PM peak hour.

This is consistent with expectations of the primary travel routes given the character of the roadways. While the turning movement counts at these intersections, and therefore the order of magnitude, may be different for current conditions, the assumption that Washington Avenue and Broadway will be the primary route for the proposed development, rather than Forbes Avenue is still valid given the character and AADT of the roadways.

Capacity Analysis

The Capital District Transportation Committee (CDTC), the designated Metropolitan Planning Organization (MPO) in the Capital District has developed mainline capacities for different types of roadways. Capacity threshold analysis is designed to estimate reserve capacity of the adjacent street network. The “mainline” analysis looks at the ability of each road to carry build traffic volumes without any improvements to the road.

It should be noted that for regional and corridor planning efforts, level-of service “D” is identified as desirable for overall intersection performance but level-of service “E” is identified as acceptable for individual movements within an intersection.

Based upon the classification of Broadway and Washington Avenue as minor arterials, the operating capacity for a level of service (LOS) D operations is 1,000 vehicles per lane per hour (vplph) for two-lane roadway segments. Forbes Road and Tracy Street, which are local roadways, have an operating capacity of 625 vplph for LOS D operations. Table 3-3 summarizes the anticipated 2017 roadway capacities.

Table 3-3 Mainline Capacity Threshold Analysis – Existing (2017) Conditions				
Segment	AM	PM	CDTC Capacity¹ (LOS D Threshold) - AM	CDTC Capacity (LOS D Threshold) – PM¹
Washington Ave	404 (EB)	322 (EB)	40% - 42%	32% - 35%
	420 (WB)	345 (WB)		
Broadway	47 (NB)	115 (NB)	5% - 9%	12%
	91 (SB)	117 (SB)		

¹ Assuming uninterrupted flow with 100% green time.

As shown on Table 3-3 above, under current conditions, all of the roadways have significant available reserve capacity (i.e. ranging from 95% to 88% on Broadway) and operate above the LOS D capacity thresholds.

Potential Impacts & Mitigation

As identified in the Section 1.0, revitalization of the waterfront has been an ongoing effort since the early 2000's. Planning studies that have been reviewed during the preparation of the Transportation section of the GEIS include the following:

- City of Rensselaer Downtown Redevelopment Plan 2003-2010, June 2003.
- Forbes Avenue Transportation Study, October 2005
- Kiliaen's Landing, August 2006

This area has been identified as an area positioned to take advantage of the Hudson River waterfront by building upon the existing recreational opportunities provided by the City Boat Launch and extending the waterfront recreation while incorporating a mix of other uses, such as residential and recreation related retail that permit the area to function as a neighborhood center. The transportation related goals include:

- Providing convenient and attractive access to the Hudson River Shoreline
- Providing safe and convenient vehicular access
- Accommodating vehicular, pedestrian, and bicycle access

Trip Generation

Trip generation determines the quantity of traffic expected to travel to/from the project site. The Institute of Transportation Engineers (ITE) **Trip Generation Manual**, is the industry standard for determining trip generation for various land uses. The ITE provides trip generation information on the various uses proposed for this site. Therefore, the site generated trips were estimated for the weekday AM and PM and the Saturday midday peak hours based on the following ITE, 9th edition Land Use Codes (LUC's):

- LUC 220: Apartments (*All residential units including the Hilton Center*)
- LUC 412: County Park (*Walking paths and waterfront park area*)
- LUC 488: Soccer Complex (*Softball, baseball and soccer fields*)
- LUC 490: Tennis Courts (*Basketball and tennis courts*)
- LUC 493: Athletic Club (*Recreational building*)

Site trips generated by the proposed development can be divided into two categories; primary (new) trips and pass-by trips. New trips represent motorists whose primary destination is within the development. Pass-by trips are trips that are attracted from traffic passing the site

on an adjacent street that offers direct access to the generator. The ITE Trip Generation Handbook is the industry standard that provides average pass-by credit for various land uses.

The rate of trip generation is determined according to the site's specific land use and at least one other inherent feature such as the number of dwelling units, square footage, etc., depending on the type of land use. The number of dwelling units was used to calculate trip generation associated with the apartments, acreage was used to calculate trip generation for the waterfront activities, number of fields was used to calculate trip generation for the softball, baseball and soccer fields, number of courts was used to calculate trip generation for the basketball and tennis courts, and building square footage was used to calculate trip generation for the recreational center. Table 3-4 summarizes the trip generation estimated for each of the land uses as well as the total and primary trips.

Table 3-4 Trip Generation											
ADJACENT STREET TRAFFIC											
Land Use	LUC	Variable	AM Peak Hour			PM Peak Hour			Sat Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
TOTAL TRIPS											
Apartment	220	356 units	36	143	179	139	75	214	102	84	186
County Park	412	43 acres	1	0	1	2	2	4	53	40	93
Hilton Center	220 & 826	81,000 sf	7	26	33	51	41	92	38	33	71
Recreation Center	493	31,200 sf	57	36	93	115	71	186	102	107	209
Basketball/Tennis	490	4 courts	4	3	7	11	5	16	6	6	12
Softball/Baseball/ Soccer Fields	488	5 fields	6	4	10	84	41	125	53	57	110
Total Trips			111	212	323	402	235	637	354	327	681
Pass-by Trips (Retail-25%)			0	0	0	5	6	11	6	4	10
New (Primary Trips)			111	212	323	397	229	626	348	323	671

Retail uses typically generate pass-by trips. Using the ITE Trip Generation Handbook, 3rd Edition, an average pass-by credit for this type of retail use is 25%. The retail use would not be open during the AM peak period. Therefore, there would be no AM peak hour trips associated with this use. Table 3-4 below summarizes the pass-by trips.

Internal capture is another trip generation concept, which is related to travel within the Study Area. ITE has limited information pertaining to this effect but the information that does exist indicates that the interaction between the proposed uses would not be significant for the purposes of reducing vehicle trips and mainline analysis. Therefore, the trip generation estimates for the Build condition did not consider a trip reduction for these types of trips. As

such, this trip generation estimate for this project is conservative and therefore are on the high side.

It should be noted however that the intent of the multi-use pathway and sidewalks linking the distinct uses within the Study Area are intended to encourage pedestrian and bike traffic, rather than vehicle traffic once a user is in the Study Area (i.e. a resident would walk or ride to the recreational fields or boat launch, someone patronizing the cultural arts center would walk to the recreational fields).

Kiliaen's Landing has been analyzed in various studies including the Forbes Avenue Transportation Study, 2005 and again as part of the Kiliaen's Landing, August 2006 study. The 2005 Study proposed similar uses as the current project. The current Kiliaen's Landing study area covers the same land area as the 2005 Forbes Study. The primary difference between the two is the amount of commercial use proposed; with the current plan proposing significantly less commercial use. Table 4 below summarizes the trip generation for the current proposal and the trip generation from the 2005 Forbes Study. The 2005 Forbes Study indicated that the additional traffic from that development program could be accommodated on the local street network with some potential improvements described later in this section.

Table 3-5 shows that the current proposed development could generate less traffic than the development analyzed in the 2005 Forbes Avenue study. Saturday trip generation was not developed for the Forbes Avenue, 2005 study; therefore no comparison is provided for this condition.

Table 3-5 Trip Generation Comparison						
Study	Trip Generation Estimates Peak Hour Volume (vehicles)					
	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Current Proposed	111	212	323	402	235	637
Forbes Study, 2005 ¹	104	204	308	484	333	817
Difference	7	8	15	-82	-98	-180

Trip Distribution and Assignment

As noted in the discussion under Traffic Volumes, while some traffic could use Forbes Avenue, the primary route to the proposed development is anticipated to be via Washington Avenue and Broadway. Immediate access to the site is via Tracy Street to access the southern development area (4 buildings consisting of 316 residential units), and via Tracy Street to

Forbes Avenue to access the northern development area (40 residential, waterfront expansion, Hilton Center Redevelopment and the recreational uses).

Trip distribution is the process used for predicting where the new trips identified through trip generation originate and/or where they are destined. The existing weekday AM, weekday PM and Saturday peak hour traffic volumes obtained from the NYSDOT Traffic Data Viewer for Broadway and Washington Avenue was used as the basis for developing the project's arrival / departure percentages, which were used for assigning the trips to the network. Based upon the existing traffic volumes and the anticipated trip origins and destinations, the following assumed transportation patterns were used:

- 20% to 25% would travel to/from the south on Broadway
- 75%-to 80% would travel to/from the north on Broadway and Washington Avenue with traffic distributing to I-90 and east Rensselaer.

Capacity Analysis

The same mainline capacity analysis methodology used for Existing conditions (See Section I.C) was used for the Build condition to assess the ability of each road to carry the estimated trips associated with the proposed project without any improvements to the road. The volumes shown in Table 5 include a generalized annual background growth rate of 0.5% over a 10 year planning horizon.

For Broadway and Washington Avenue, the operating capacity for level of service (LOS) D operations is 1,000 vehicles per lane per hour (vplph) on two-lane roadway segments. Forbes Avenue and Tracy Street, which are local roadways, have an operating capacity of 625 vplph for LOS D operations. Table 3-6 summarizes the anticipated future roadway capacities.

Table 3-6 Mainline Capacity Analysis – Build Condition				
Segment	AM	PM	CDTC Capacity (LOS D Threshold) - AM¹	CDTC Capacity (LOS D Threshold) – PM¹
Washington Ave	587 (EB) 527 (WB)	513 (EB) 668 (WB)	53% - 59%	51% - 67%
Broadway	74 (NB) 146 (SB)	213 (NB) 177 (SB)	7% - 15%	18%-21%

¹ Assuming uninterrupted flow with 100% green time.

As shown in Table 3-6, the peak traffic volumes on Broadway with the project will operate above the LOS D capacity thresholds. There is significant reserve capacity along Broadway

(more than 80%) during each period. Likewise, there is reserve capacity on Washington Avenue of more than 30% during each peak period.

CDTC's 1,000 vehicle threshold for LOS D assumes uninterrupted flow; or 100% green time of a signal. To account for the traffic signals along Washington Avenue, it is assumed that approximately 60% of the cycle applies to the green time. Therefore, assuming a 40% threshold reduction to account for the signals, Washington Avenue would be at the upper LOS D / lower LOS E threshold. This suggests that there could be an increase in delay that results in a decrease in the LOS operations along Washington Avenue in the eastbound direction during the weekday AM peak hour and the westbound direction during the weekday PM peak hour.

Traffic flow and operations on Washington Avenue are also affected by the I-90 Exit 7 interchange. This section of Broadway in the vicinity of the project would not necessitate a reduction in threshold values as there are no traffic signals that would affect traffic flow in the immediate vicinity of the project.

Mitigation measures offset a project's traffic impacts by employing geometric, operational and other techniques to accommodate the traffic from a proposed project. Revitalization of the waterfront has been an ongoing effort since the early 2000's with many planning studies that have been completed and reviewed and mitigation measures identified in those studies (discussed below) as potential improvements that would warrant further study as the site specific development is proposed.

The City of Rensselaer Downtown Redevelopment Plan 2003-2010, June 2003 identified the confluence of Broadway and Washington Avenue as an area that could use traffic calming measures to increase pedestrian safety and warn motorists of the bend in the roadway. The Forbes Avenue Transportation Study, October 2005 study identified the following transportation improvements as part of that study:

- Construct roundabout at Washington Avenue & I-90 Off-Ramp
- Construct sidewalk on Forbes Avenue, preferably the north side from the Van Rensselaer School to Van Rensselaer Heights, and then cross to the south side and continue to Bellview Terrace
- Provide for one-way northbound travel on Forbes Avenue between Broadway /Washington Avenue & Forbes Avenue and parking be prohibited along the west side of Broadway for about 75 feet.

- Determining feasibility at the Tracy Street site access of an overpass over the railroad tracks with a connection to Broadway. In the case that the overpass is determined to be unfeasible, install a traffic signal at Tracy Street & Broadway.

The Kiliaen's Landing, August 2006 study identified the following transportation improvements:

- Traffic signal at the Tracy Street & Broadway intersection.
- Emergency access at the southerly side that would connect to the service road between the Amtrak Maintenance Facility and the river.

Given the proposed development and the amount of traffic that could be generated by the project, the above noted potential improvements remain as valid measures to be evaluated when actual uses are known and a site impact analysis is prepared.

As such, a Traffic Impact Study should be performed in accordance with standard engineering principles. The scope of the study, including the intersections and links and the peak periods to be evaluated should be developed with input from the City of Rensselaer, NYSDOT and Rensselaer County. Although the specific intersections to be evaluated should be identified based on the type and scale of any projects at the time they are proposed it is likely to include Broadway and Tracy Street; Washington Avenue, Forbes Avenue and Broadway; Forbes Avenue and Site Driveway, Tracey Street and Site Driveway. The study should include an assessment of existing and future vehicular, pedestrian and bicyclist traffic and a safety assessment. The study should document the number of trips associated with the proposed development in accordance with the ITE Trip Generation Manual and mitigation measures identified to accommodate the project's impacts.

Pedestrian and Bicycle Accommodations

The site will be accessed via two locations (Figure 3-3). One access point will be via Tracy Street which will serve the residential area of the site. This will require improvements to the existing site access road and the uncontrolled at-grade intersection with the CSX railroad tracks as noted below. Although not shown on the Preferred Alternative, consideration should be given to providing a sidewalk along the improved Tracy Street to connect to the existing neighborhood to the planned multi-use pathway within the site.

This site driveway at Tracy Street will provide access and parking for the four residential structures in this area. Access to the multi-use pathway extending the length of the site will be provided from the parking areas, as well as from the Tracy Street access point. The connection

to the Amtrak Maintenance Facility to the south will be designed to meet the requirements for a secondary point of access for emergency vehicles. The internal road system does not connect the residential area of the Study Area to either the boat launch area or the recreational fields. The second point of access will be via an improved Forbes Avenue connection that will include sidewalks connecting the adjacent neighborhood to the multi-use pathway in the site and improvements to the at-grade intersection with the CSX Railroad. This driveway will continue to serve the boat launch area as well as the Hilton Center and the proposed recreational fields. There will be dedicated parking serving the boat launch, the Hilton Center, the five (5) story, 40 unit residential structure, the recreational building and the recreational fields.

The multi-use path will provide connections to uses within the site as well as connections to the adjacent neighborhood and to parcels to the south and north.

CSX Railroad Line

Implementation of the Preferred Alternative will result in increased vehicle and pedestrian traffic at both the Tracy Street and Forbes Avenue uncontrolled at-grade railroad crossings. Early coordination between the CSX Railroad, the City and the Federal Railroad Administration officials is recommended to identify any required improvement or upgrade; a process which typically takes six (6) months. This Coordination should be initiated at the time that specific development plans are advanced.

The required improvements will vary depending on the projects being proposed and the increase in traffic at these crossings. Based on the Preferred Alternative it is anticipated that an active warning device would be required at these crossings such as flashing lights with gates. Additional fencing and upgrades to the existing fencing in the area of Hilton Center and boat launch may also be required. These costs would be the responsibility of the developer.

In addition, the NYS Department of Transportation (DOT) is currently evaluating two alternatives for improvements to the Livingston Avenue Bridge which would impact the layout of the residential area (Appendix 4). If this improvement moves forward, the alternative identified as Drawing No. SA-1 would have fewer impacts on the Preferred Alternative. It is likely there is adequate area for the residential layout to be shifted to accommodate improvements to the Livingston Avenue Bridge as shown on Drawing No. SA-1. It will be necessary to coordinate with the NYSDOT as project(s) are submitted to the City for review to ensure viability of both the NYSDOT and City plans for this area.

3.3 Utilities

Water

The City of Rensselaer and Town of East Greenbush operate a joint water system that serves each community. All City properties are served by municipal water purchased from the City of Troy Department of Public Utilities. According to the Watermain Diameter Map included in the *Asset Management Plan (2016)*, prepared by Creighton Manning, there is a 16" ductile iron pipe (DIP) which extends along Broadway from McNaughton Avenue to Central Avenue and into the site via Forbes Avenue ending in the boat launch area. The water pressure along Broadway in the area of Tracy Street is approximately 115 PSI. There is also a 6" pipe of unknown material that runs behind the Hilton Center and terminates at the buildings northerly end. A new 14" PVC line has been installed beginning at Pine Street serving areas south with an increased pressure of approximately 10-15 PSI. The water lines proximate to the site are mapped on Figure 3-4.

The site is served by a 750,000-gallon storage tank located on Partition Street. In addition there are two recently constructed, 5-million gallon tanks jointly owned by the City and Town of East Greenbush located at the end of Grandview Drive in East Greenbush. These tanks replaced a 4-million gallon tanks as recommended in the 2008 *Feasibility Report for Water System Improvements*, prepared by Barton & Loguidice, P.C.

Sewer

The City is served almost entirely by a public wastewater system; the project site is located in an area that includes both combined and separated sanitary and storm sewers. The combined sewer system discharges to the Rensselaer County Sewer District (RCSD) Trunk Sewer through a number of regulator structures. These structures regulate the amount of flow into the RCSD Trunk Sewer and bypass excessive wet weather flows to the Hudson River. The RCSD Trunk Sewer conveys the sewage to the RCSD wastewater treatment plant in North Greenbush. The Forbes Avenue Pump Station is one of two pumping facilities in the City.

The Forbes Avenue Pump Station was originally constructed in 1972 and upgraded in 2015. Its design capacity is 17.2 million gallons per day (MGD); 1 MGD is currently allocated for future growth in the City.

Figure 3-4 depicts sewer lines as well as combined storm overflow (CSO) lateral lines in the vicinity of the site.

Stormwater

A CSO lateral line traverses the site from the Amtrak Maintenance Yard running northeast and connecting to the Forbes Avenue Pump Station. There are a total of eight (8) CSO discharge



Legend

- Waterlines
- - - Site Location
- Storm Inlet
- ◻ Storm Manhole
- Storm Lateral Line
- CSO Discharge Point
- CSO Manhole
- CSO Lateral Line
- Sewer Manhole
- Sewer Lateral Line

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Figure 3-4
Kiliaen's Landing
 Water, Sanitary and Storm Utilities
 City of Rensselaer, Rensselaer County, New York

W
N
E
S

 1 inch = 200 feet

CHA Prj No.: 29703
 Date : November 2017
 0 100 200
 Feet

bing

points in the City; four (4) are located within the Study Area south of the boat launch (Figure 3-4). According to the City, a CSO separation project has been completed for outfalls for the two northerly outfalls (at the end of Central Avenue), which should serve to reduce both the number of overflow events and volume of overflow at these discharge points.

Electric Service

Overhead electric lines bisect the area from west to east from the Livingston Avenue Bridge to Tracy Street. From Tracy Street the overhead lines follow Forbes Avenue and then run behind the Hilton Center near the southern property line. Transmission lines cross the River from Albany and enter the site approximately halfway between the boat launch area and the Patroon Island Bridge generally following the CSX ROW.

POTENTIAL IMPACTS & MITIGATION

Water

Water and sewer demand at full build-out for the preferred alternative was calculated to be almost 80,000 gallons per day.² This includes demand from the proposed residential units, recreation center and rehabilitated Hilton Center. To provide water service the city water main located at would need to be extended on site to include approximately 7,000 linear feet of 8 inch Ductile Iron Pipe. The proposed building would each have individual metered water service connection. Along with the water main extension fire hydrants will be required on-site at approximately 500 feet apart for a total of 14 hydrants.

Sewer

As stated above sewer demand at full build-out for the preferred alternative was calculated to be almost 80,000 gallons per day. The proposed buildings will require installation of gravity sewer mains and force mains for connection to the City's existing Forbes Ave pump station. The majority of the preferred development can be accommodated with gravity sewer, approximately 3,500 linear feet of 8 inch PVC pipe. The proposed Recreation Center located at the far north of the site would require a small pump station capable of 3,500 gallons per day at a peak of 25 gallons per minute. Approximately 2,000 linear feet of 1-1/2 inch HDPE pipe would be needed to tie the pump station to the gravity system. The sewer generation for the preferred development would be 80,000 gallons per day; at this time this falls within the 1 MGD set aside for future growth in the City.

Stormwater

Projects within the Study Area cannot cause stormwater runoff to exceed predevelopment levels. The design of stormwater facilities for the proposed project shall meet the requirements

² New York State Design Standards for Intermediate Sized Wastewater Treatment Systems, March 5, 2014

of the New York State DEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) and guidelines listed in the New York State Stormwater Management Design Manual (January 2015) or the General Permit and Manual in effect at the time of a proposed project.

Development within the Study Area will be expected to employ green infrastructure to control stormwater runoff to the maximum extent practicable. Typically green infrastructure techniques is to avoid/minimize land disturbance by preserving natural resources and maintaining the existing drainage patterns as much.

The Study Area was evaluated for the potential use of green infrastructure techniques on the site as part of the Inventory and Analysis (Appendix 2). The information specific to green infrastructure can be found in Appendix B of that document. The evaluation included a review of both the soils and the proposed and descriptions of the recommended green infrastructure techniques for each area of the site.

Table 3-7 identifies the potential techniques for each area of the Study Area:

Table 3-7 Potential Green Infrastructure Techniques		
Livingston Avenue Bridge	Boat Launch and Hilton Center	Recreational area north of Boat Launch
Bioretention Basins	Bioretention Basins	
Rain Gardens	Rain Gardens	
Infiltration Basins		
Dry Swales	Dry Swales	Dry Swales
Vegetated Swales	Vegetated Swales	
Extensive & Intensive Green Roofs		
Permeable Pavers		
Porous Pavement		

In addition, recommendations for the recreational area to the north should include the conservation of natural areas such as existing wetlands and riparian buffers and the use of underground infiltration systems under the recreational sports fields and porous pavers on the trails.

Green roof technologies could be used at the site, including vegetated roofs with roof-mounted photovoltaic panels referred to as Green Roof with Integrated Photo Voltaics (GRIPV). Photovoltaic cells lose their efficiency if roof temperatures rise too high. However, the

transpiration from the vegetation on a green roof results in lower roof temperatures, allowing the cells to operate more efficiently.

The required green infrastructure techniques and practices will be determined by the City when it reviews specific development proposals. These techniques will be incorporated in the Stormwater Pollution Prevention Plan (SWPPP) and any final design site plans.

Electric

The layout in the Preferred Alternative will require that the existing overhead utilities on site be relocated preferably underground or adjacent to the CSX ROW. To accomplish this it will be necessary for the developer to coordinate with National Grid regarding location, design and cost to relocate the electric lines during at the time a specific project is under review. Typically the developer is responsible for the cost of relocating utility lines.

Electrical demand for the Preferred Alternative based on use and size of each structure was calculated at 3,145 kW (Table 3-8 below). This estimate does not include potential electrical demand related to field lighting. That demand will be evaluated in conjunction with specific projects. The planned uses for the various fields, will determine which fields if any would be designed with lights.

Costs related to installation of electrical service for the Preferred Alternative (buildings and site work) has been estimated at approximately \$22 million (2017 cost). As projects are proposed applicants will be responsible for coordinating with both the City and National Grid.

Building	Stories	Units or SF ¹	Electrical Demand
New Residential	5	80	500 kW
New Residential	6	96	580 kW
New Residential	5	100	650 kW
New Residential	5	40	300 kW
New Residential	5	40	300 kW
Hilton Center (mixed use)	3	60 Approx. 8200 SF retail/cultural arts	550 kW
Recreation Building	2	31,200 SF	265 kW
Site Electrical			
Total			3145 kW

¹Assumes residential breakdown per Market Analysis as follows: Studio 10%, 1 BR 50%, 2 BR 40%, Hilton Center 2 BR

The installation of rooftop solar arrays could be an effective method to reduce the energy demands of the Preferred Alternative. The HeliScope 2016 design software was used to generate a photovoltaic array for each of the potential new structures and estimate solar energy production. Approximately 17% of the estimated energy demand could be met by

incorporating solar energy into the project design. More information can be found in Section 6.0, Appendix 2 and Appendix 9.

3.4 Topography and Soils

Topography can be described as variable across the site. Slopes in the area of the Livingston Avenue Bridge and Tracy Street are undulating, generally ranging from 0-15% (Figure 3-5). In this area elevations are highest and slopes steepest at or adjacent to the CSX Railroad ROW sloping steeply downward into the site followed by a more gradual slope towards the Hudson River. With the exception of the Forbes Avenue Pump Station this area of the site remains undeveloped. Soils in this area are dominated by Udorthents, sandy (Ue).

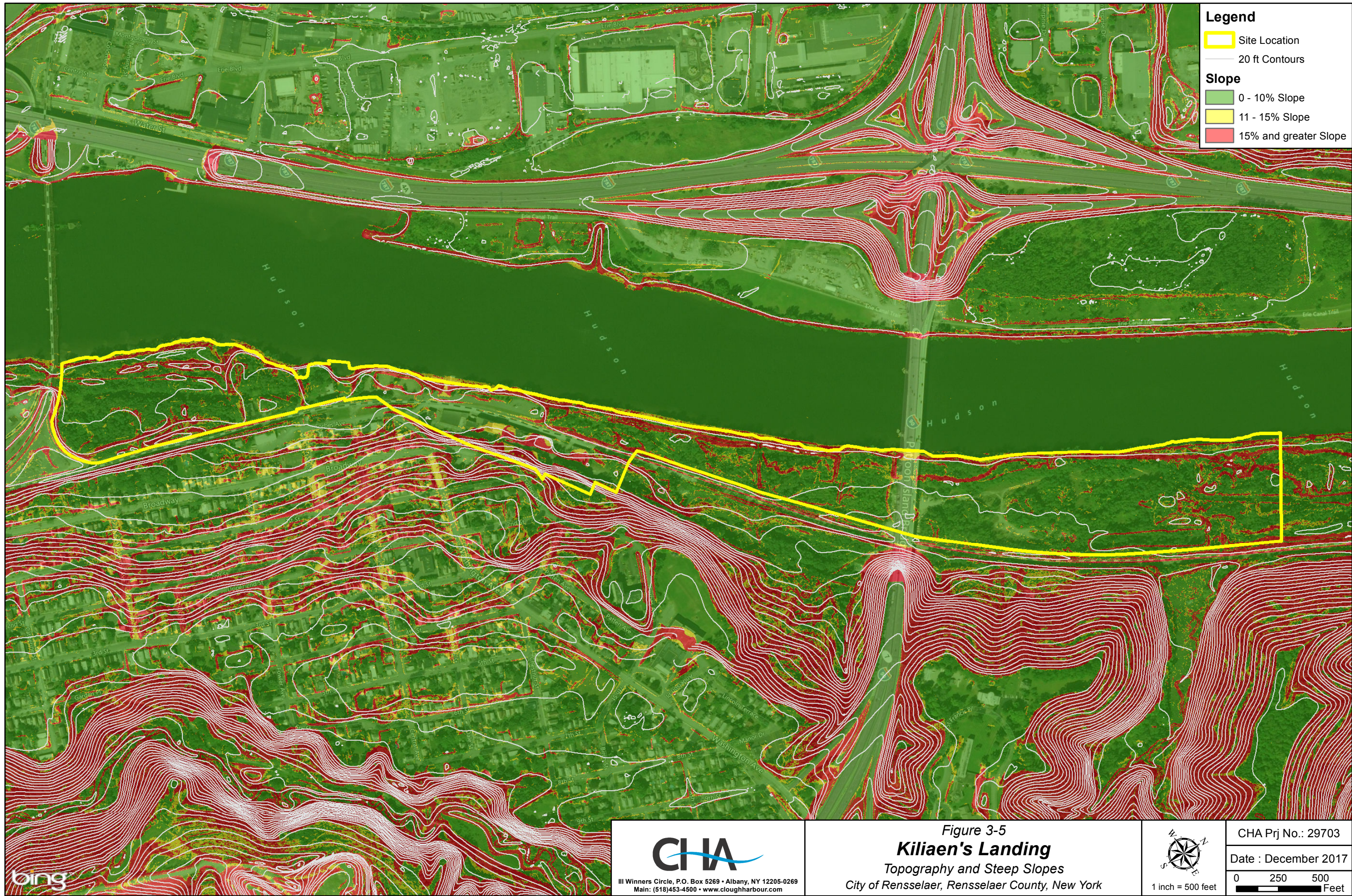
The boat launch and Hilton Center area including the section of the CSX railroad ROW fronting the Hilton Center, is fairly level sloping gently to the River. Steep slopes are associated with Hoosic soils characterized by the hill immediately southeast of the Hilton Center. Soils in this area are Udorthents, loamy (Ud).

The area north of the boat launch and Hilton Center consists primarily of fill material (Ue) characterized by undulating slopes ranging from 0-15%. Again the CSX Railroad embankment along the southeastern boundary generally represents the highest elevations sloping downward to the River.

Topographic maps indicate that site elevations range from 0 (shore of Hudson River) to a high of approximately 30' near the property line associated with specific areas of the CSX embankment. The majority of the site however is below FEMA's Base Flood Elevation (BFE) of 21' to 22' for the majority of the Study Area. Much of the area proposed for development near the Livingston Avenue Bridge ranges from elevation 10' feet to 16'. Higher elevations of 20' to 22' are located in a small area south of the Rensselaer County Sewer District Pump Station and private residence. Elevations in the developed boat launch and Hilton Center area generally vary from 16' to 22'.

North of the boat launch the study area slopes downward to approximately 8' gradually rising to approximately 18' to 20' in the vicinity of the Patroon Avenue Bridge. North of the Bridge elevations slope downward to between 8' and 12'.

According to the USDA Natural Resources Conservation Service (NRCS) web soil survey there are three soil types found on site dominated by Udorthents, sandy (Figure 3-6 and Table 3-9). Both Udorthents, sandy and Udorthents, loamy soil types are characterized as having been altered through either soil removal or soil removal and replacement.



Legend

- Site Location
- 20 ft Contours

Slope

- 0 - 10% Slope
- 11 - 15% Slope
- 15% and greater Slope

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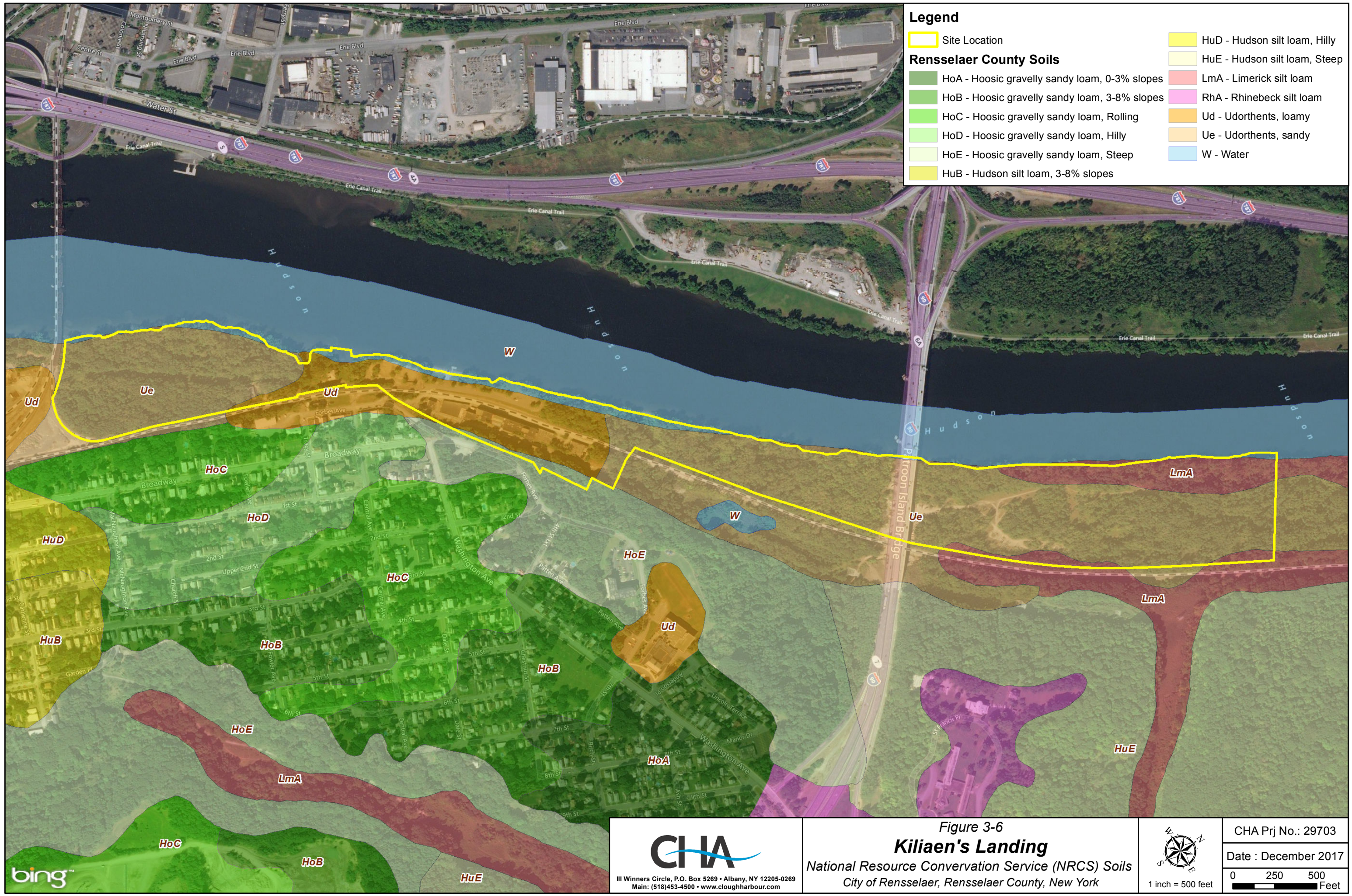
Figure 3-5
Kiliaen's Landing
 Topography and Steep Slopes
 City of Rensselaer, Rensselaer County, New York

1 inch = 500 feet

CHA Prj No.: 29703
 Date : December 2017

0 250 500
 Feet

bing



Legend

- Site Location
- HuD - Hudson silt loam, Hilly
- HuE - Hudson silt loam, Steep
- HoA - Hoosic gravelly sandy loam, 0-3% slopes
- HoB - Hoosic gravelly sandy loam, 3-8% slopes
- HoC - Hoosic gravelly sandy loam, Rolling
- HoD - Hoosic gravelly sandy loam, Hilly
- HoE - Hoosic gravelly sandy loam, Steep
- HuB - Hudson silt loam, 3-8% slopes
- LmA - Limerick silt loam
- RhA - Rhinebeck silt loam
- Ud - Udorthents, loamy
- Ue - Udorthents, sandy
- W - Water

Table 3-9 SOIL TYPES		
Soil type	Depth to water table	Slope
Limerick silt loam, (LmA)	9 inches	0-3%
Udorthents, loamy (Ud)	3 to 6 feet	0-8%
Udorthents, sandy (Ue)	6.5+ feet	0-15%

POTENTIAL IMPACTS & MITIGATION

Because Udorthents, are altered soils representing soils of variable or unknown quality, it will be necessary to conduct subsurface investigations to determine the suitability of the existing soils for development of structures, parking, and recreational facilities. The geotechnical investigation should include test borings in any areas identified for construction and the completion of laboratory tests based upon selected samples to determine soil classifications and complete laboratory tests to identify design and construction of requirements for the earthwork and any foundation/footing work including drainage.

The results of the geotechnical evaluation combined with the type of construction will determine the type and amount of fill required to support construction and will inform design requirements of the foundations and footings.

All construction must meet the requirements of the National Flood Insurance Program, Zoning Chapter §179-56 Development within the Flood Fringe and Local Law Chapter 105 Flood Damage Prevention. Chapter §179-56 states that all new residential and non-residential construction shall have the lowest floor as defined in Chapter 105³, elevated a minimum of two (2) feet above the 100-year BFE. To address this requirement and mitigate the potential impacts of sea level rise, the lowest floor all structures should be constructed at or above elevation 25'. This will enhance the long-term viability and sustainability of the site. Both floodplains and sea level rise are discussed in more detail in Section 3.5.

To meet the criteria above, a significant amount of fill will be required across the site specifically in the areas planned for residential structures. Nine to fifteen feet of fill could be required in the area adjacent to the Livingston Avenue Bridge to ensure that the lowest floor is at or above 25'. To reduce fill requirements building designs with ground floor parking areas could be considered which could also reduce surface parking requirements and provide additional greenspace. Additional study prior to approval of proposed project to would be necessary to determine the appropriate course of action.

³ The lowest level, including basement or cellar, of the lowest enclosed area. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement is not considered a building's "lowest floor," provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this chapter

The areas slated for recreational uses (multi-use pathway, recreational fields, boat launch) will be subject to fill and grading requirements in order to provide appropriate soils to support their intended use including drainage and meet to performance objectives, but would not be required to be meet the elevations outlined above. The amount and type of fill will be would be determined at the time a project(s) is under review by the City.

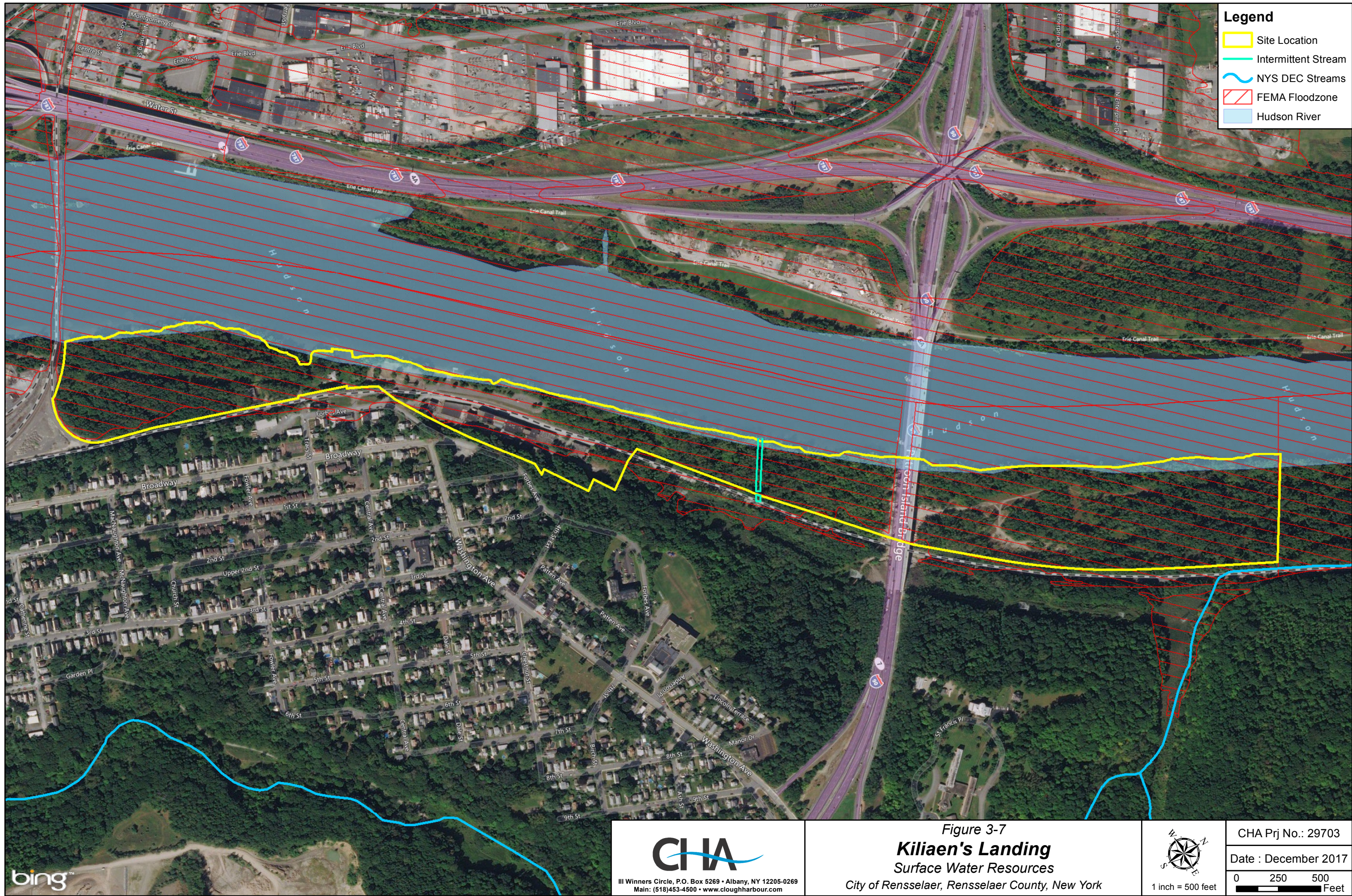
3.5 Surface Water Resources

The Hudson River forms the entire western boundary of the site and is designated a NYSDEC Class C, Standard C waterbody in this location. Class C waterbodies are capable of supporting fisheries and may be used for non-contact activities.

The NYSDEC regulates all streams that are designated with a classification standard of C(T) and higher (e.g., C(TS), B, A, AA) under the Protection of Waters Program (Article 15 of Environmental Conservation Law), as well as navigable waterways regardless of their water quality classification. As a navigable waterway the Hudson River is subject to the requirements of Article 15.

The Hudson River Estuary is tidal as far north as the Troy Dam and is designated as Coastal Waters the State. The NYSDEC identifies the Hudson River as one of the healthiest estuaries on the Atlantic Coast, a result of its significant environmental recovery since the 1960's. The U.S. Army Corps of Engineers (USACE) regulates all waters of the U.S. As a traditional navigable waterway it is regulated by the USACE. Two additional streams are also located on site including a mapped perennial stream in the northern portion of the site. This perennial steam flows into and along the northeast boundary of the site, flows off-site and finally flows a short distance into the Hudson River. This perennial stream is a NYSDEC Class C, Standard C stream and is therefore not regulated by the State. The second stream is unmapped, unclassified, and appears to have intermittent flow. This stream flows west into the site through a culvert approximately 900 feet south of the Patroon Island Bridge and continues west into the Hudson River. Both streams located on the project site meet the criteria of waters of the U.S. and are therefore regulated by USACE. Water Resources on or adjacent to the site are mapped on Figure 3-7.

According to FEMA, nearly the entire site is delineated within the 100-year floodplain. The BFE on site range from approximately 21 feet near the Livingston Avenue Bridge to 22 feet in the vicinity of the Patroon Island Bridge and the City's municipal boundary with the Town of East Greenbush. Development of this site may require extensive amounts of fill specifically in the area designated for residential uses.




Legend

- Site Location
- Intermittent Stream
- NYS DEC Streams
- FEMA Floodzone
- Hudson River

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Figure 3-7
Kiliaen's Landing
Surface Water Resources
City of Rensselaer, Rensselaer County, New York



1 inch = 500 feet

CHA Prj No.: 29703

Date : December 2017

0 250 500 Feet

The project site's position on the Hudson River below the Troy Dam makes it vulnerable to tides, storm surge and sea level rise. The 2014 Climate Change in New York State Report⁴ has utilized a global climate model to simulate climate projections for various regions in New York State as shown in Table 3-10 below. Region 5 includes the City of Rensselaer.

	2020	2080
Temperature Increase	Low +1.7 °F Middle +2.3-3.2 °F High +3.7°	Low +4.1°F Middle +5.6-9.7 °F High +11.4°F
Precipitation Increase	Low -1% Middle 2-7% High +10%	Low +3% Middle 5-15% High +17%
Sea Level Rise at Troy Dam	Low +1" Middle 3-7" High +9"	Low +10" Middle 14-36" High +54"

Based on this, one impact of sea level rise would be the that flood elevations currently associated with the 100 year flood could become four times more likely to occur. This report also indicates that associated rapid ice melt in the Greenland and West Antarctic ice sheets would result in more pronounced sea level rise and further increase in the flood frequencies than shown above.

POTENTIAL IMPACTS & MITIGATION

While the Study Area's Hudson River location represents a significant opportunity for the City to champion projects for the benefit of both residents of the City and the region, the long-term sustainability and resiliency of land uses within the Study Area requires that development projects and site plans protect against the potential impacts of flooding and sea level rise. As noted in the Table 3-10, the potential sea level rise ranges from a minimum 1" in 2020 to a maximum of 4.5 feet by 2080. Storm events in 2017 (i.e. Hurricanes Irma, Jose and Maria) provide ample motivation to take steps to avoid the potential for significant loss of property and/or life. This will require measures to protect buildings and infrastructure, the safety of people living, working, and recreating in this area.

To mitigate the potential impacts of flooding and sea level rise several actions should be considered. All development will adhere to the City of Rensselaer's Chapter 105 Flood Damage Prevention Regulations. In addition Floodplain Construction Requirements in NYS⁵, require that the lowest floor including any basement, be at or above the BFE (plus two feet beginning in 2007). To conform to these requirements and mitigate some of the potential impacts of sea level rise,

⁴ NYSERDA, "Climate Change in New York State, Updating the 2011 ClimAid Risk Information Supplement to NYSERDA Report 11-18 (Responding to Climate Change in New York State)", September 2014, p. 9.

⁵ NYSDEC Floodplain Construction Requirements in NYS, <http://www.dec.ny.gov/lands/40576.html>, accessed November 15, 2017.

it is recommended that the floor elevation of the lowest floor including any basement be at a minimum elevation 25 feet.

This will require the placement of significant amounts of suitable fill to raise the site to the required grade (see section 3.4 above). As garages are not habitable spaces, building designs with ground floor parking areas could also be considered.

The areas envisioned for open space and recreational would not require fill specifically to address the 100-year flood plain or sea level rise scenarios however fill and grading may be required to ensure the most appropriate soils for site drainage, site layout and site sustainability.

Additional measures should include:

- Site layouts that emphasize natural or recreational areas, undeveloped, and or parking proximate to the river with structures located as far from the river as practicable.
- Project layouts will minimize buildings, paved and hardcape (impervious) areas to the maximum extent possible.
- Minimize disturbance on the banks of the Hudson River.
- Maintain and protect wetland areas and green areas to more effectively absorb stormwater flows.
- Implement green infrastructure practices as described in Section 3.0 to manage stormwater on site.
- Manage stormwater runoff to a minimum maintain pre-development levels.

Prior to any construction within the Study Area a number of permits are anticipated:

- NYSDEC Protection of Waters Article 15 . Under Article 15 a permit may be required related to work to improve or expand the boat launch area including the ramp and the dock. In addition Article 15 require any activities resulting in the placement of fill or discharge to Waters of the United States will require Water Quality Certification from the to meet the requirements of Section 401 of the Clean Water Act.
- NYSDEC SPDES General Permit for Stormwater Discharges from construction Activity for any disturbances of more than one acre.
- USACE Section 404 Water Quality Certification will be required for any work that involves the placement of fill in waters of the United States.
- Certification that all requirements of Chapter 105 Flood Damage Prevention Regulations have been met.

3.6 Ecology

To identify potential site constraints related to ecology a desktop review was conducted followed by a site visits in December 2015. The desktop review searched the data bases of the following state and federal agencies:

- NYSOPRHP
- US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) on-line system
- USFWS National Wetland Inventory (NWI) Maps
- NYSDEC Environmental Resource Mapper (ERM)
- Correspondence with the NY Natural Heritage Program (NHP)
- FEMA maps

A CHA Biologist conducted site visits to confirm the information identified in the desktop screening. Photographs taken during site visits are included in the Inventory and Analysis (Appendix 2), more specifically Appendix A of that document.

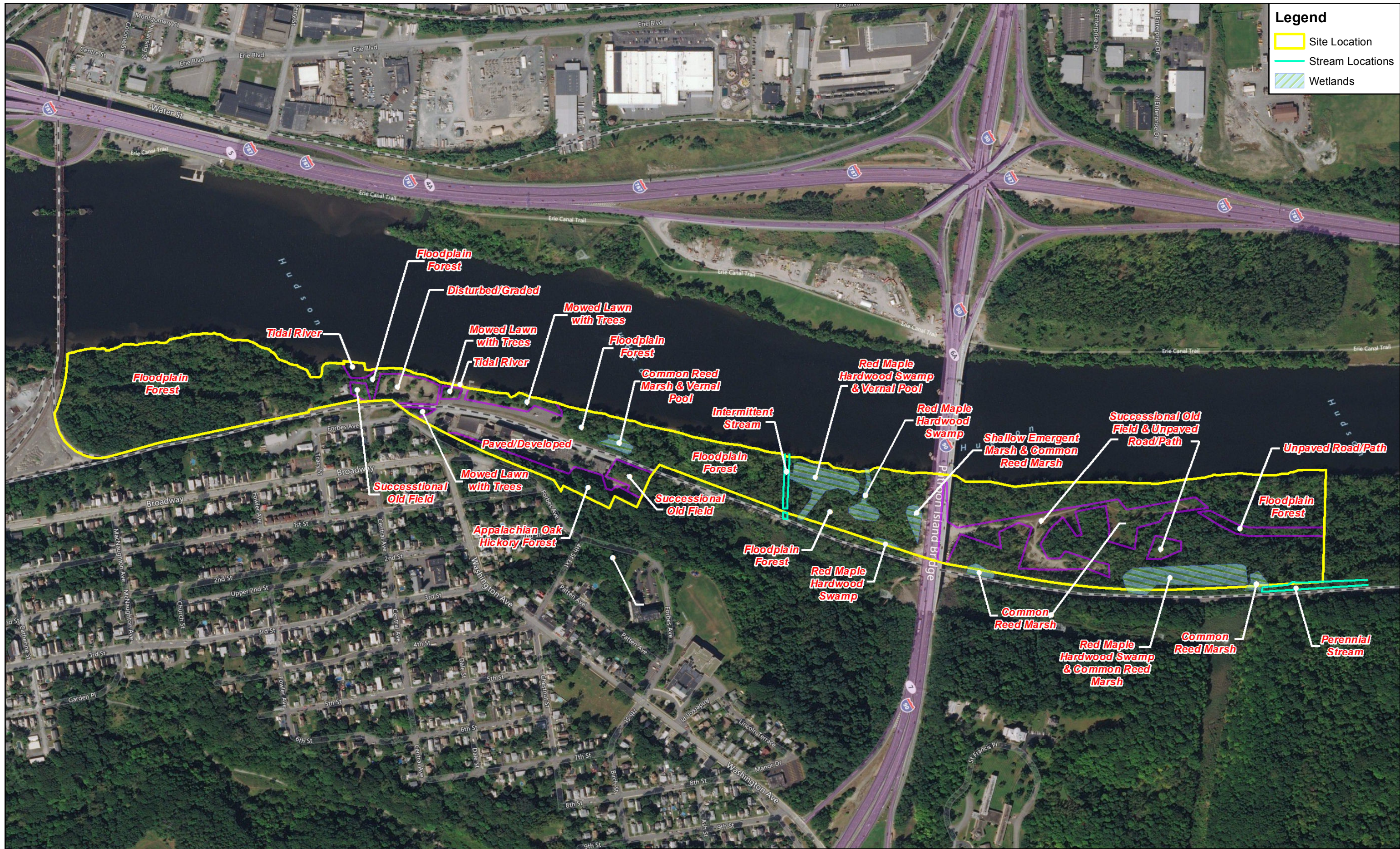
Vegetative Communities

Vegetative communities vary across the Study Area and are noted on Figure 3-8. Vegetative communities were described according to *Ecological Communities of New York State, Second Edition* (Edinger 2014)⁶ and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979)⁷. The upland ecological communities are predominantly deciduous floodplain forest of varying successional stages. The area between the Livingston Avenue Bridge and Central Avenue extended is characterized as floodplain forest. At the northern edge of the floodplain forest are small areas of tidal river and successional old field. The Boat Launch/Hilton Center area represents much of the disturbed portion of the Study Area and includes paved/developed land, disturbed/graded land, mowed lawn, and mowed lawn with trees. Small residential and commercial developments also occur.

Between the Boat Launch and the Patroon Island Bridge, the vegetation is dominated by floodplain forest and is interspersed by varying types of wetland areas. North of the bridge an unpaved road or path bisects the area perhaps representing an informal trail system. The remainder of this area consists of a variety of swamps, marshes and floodplain forest.

⁶ Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological Communities of New York State*. Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

⁷ Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.



Legend

- Site Location
- Stream Locations
- Wetlands

<p>111 Winners Circle, P.O. Box 5269 • Albany, NY 12205-0269 Main: (518)453-4500 • www.cloughharbour.com</p>	<p>Figure 3-8</p> <p>Kiliaen's Landing</p> <p>Wetlands and Vegetative Communities</p> <p>City of Rensselaer, Rensselaer County, New York</p>		<p>CHA Prj No.: 29703</p> <p>Date : December 2017</p>	
	<p>0 250 500</p> <p>Feet</p>			
	<p>1 inch = 500 feet</p>			
				<p>0 250 500</p> <p>Feet</p>

Two streams were also identified. The first is a perennial stream oriented parallel to the CSX ROW that flows into and along the northeast corner of the Study Area. It flows off-site a short distance to where it enters the Hudson River (a tidal river, R1UBV). The second is south of the Patron Island Bridge (a rocky headwater stream, R4SBC). It flows west into the Study Area through a culvert and into the Hudson River.

Wetlands

A formal wetland delineation was not completed for this project. Based on the desk top survey and field reconnaissance, the boundaries of eight wetlands were approximated within the Study Area and are noted on Figure 3-8. Most of the wetland areas are forested, red maple hardwood swamp (PFO1) with some areas resembling vernal pool habitat (PFO1). Vernal pools are ecologically important as they provide critical breeding habitat for some amphibian species that exclusively use vernal pool habitats for reproduction. During the breeding and nonbreeding seasons, these vernal pool-dependent species can be found in the upland habitats surrounding and extending away from the vernal pool habitats. In addition to the forested wetland, there are also areas of emergent wetlands, characterized as shallow emergent marsh (PEM2) and common reed marsh (PEM1). The common reed marsh is dominated by the invasive/exotic common reed (*Phragmites australis*).

Most of the onsite wetlands drain to the Hudson River and are therefore federally-jurisdictional wetlands due to a hydrologic connection to the Hudson River, a federally-regulated Traditional Navigable Water (TNW). However, some do not appear to have a surface hydrology connection to the Hudson River or other waters, so they may be considered isolated and federally non-jurisdictional. A formal wetland delineation and Jurisdictional Determination (JD) by the USACE will be required to determine the extent of federally-regulated wetland areas.

The NYSDEC ERM shows that there are no mapped NYS regulated freshwater wetlands (FWW) within the Study Area; however, there is one mapped FWW (Wetland TS-105, Class 2) located north of the Study Area, and its check zone extends southward and close to the northern Study Area boundary. Based on the wetland inventory that was conducted in December 2015, this wetland does not extend into the Study Area.

Threatened and Endangered Species

Coordination with the NY NHP (dated October 4, 2017, Appendix 8) identified several state-listed animals at or near the Study Area. These include:

- Shortnose sturgeon (*Acipenser brevirostrum*) – Endangered (NY and federal)
 - Documented within the Hudson River along the western boundary of the Study Area.
- Bald eagle (*Haliaeetus leucocephalus*) – Threatened (NY)
 - Documented nesting within 0.6 miles of the Study Area.
- Cobra clubtail (*Gomphus vastus*) – Unlisted but Critically Imperiled in NYS (NY)

- Documented on the Study Area along the Hudson River.
- Alewife floater (*Anodonta implicata*) – Unlisted but Critically Imperiled in NYS (NY)
 - Documented within the Hudson River along the western edge of the Study Area south of the Patroon Island Bridge.

The USFWS IPaC (Consultation Code: 05E1NY00-2016-SLI-0646, dated October 3, 2017, Appendix 8) identified the following:

- Northern long-eared bat (*Myotis septentrionalis*) – Threatened (NY and federal)
 - No critical habitat has been designated for this species.
 - There are no designated critical habitats within the Study Area.

Information from both sources was used to evaluate the habitat conditions to determine the potential for the Study Area to support these species. Results are provided in the next section.

Shortnose sturgeon

- According to the NY NHP⁸: in New York State, shortnose sturgeon inhabit the Hudson River estuary. These fishes reportedly prefer deep pools with soft substrates and vegetated bottoms, but individuals may vary in preference for various water depths and substrate types (Seibel 1991 cited in NatureServe 2003). Adults have separate summer and winter areas, moving upstream and downstream with the seasons. Spawning occurs upriver from summer foraging and nursery grounds. Spawning occurs over rubble substrate with some gravel and large rocks (Carlson 2003). Larvae may drift with the current near the river bottom. In the Hudson River, larvae are generally found between Albany and Poughkeepsie. Juveniles remain in the river near the salt front. Older individuals spend time in the lower estuary or possibly go out to sea (Carlson 1986).

Bald eagle

- According to the NY NHP⁹: bald eagles are typically found near large bodies of water, such as bays, rivers, and lakes that support a healthy population of fish and waterfowl, their primary food source. Generally, bald eagles tend to avoid areas with human activities. They will perch in either deciduous or coniferous trees. Large, heavy nests are usually built near water in tall pine, spruce, fir, cottonwood, oak, poplar, or beech trees. Non-breeding adults and wintering birds are known to have communal roost sites. During the winter, the roost sites may be farther away from food sources. This may be due to the need for a more sheltered, warmer area. Feeding areas during the winter months usually have a high concentration of fish and waterfowl and open water (NatureServe 2005).

⁸ New York Natural Heritage Program. 2017. Online Conservation Guide for *Acipenser brevirostrum*. Available from: <http://www.acris.nynhp.org/guide.php?id=7168%20&part=4>. Accessed October 24th, 2017.

⁹ New York Natural Heritage Program. 2017. Online Conservation Guide for *Haliaeetus leucocephalus*. Available from: <http://www.acris.nynhp.org/guide.php?id=6811>. Accessed October 24th, 2017.

Cobra clubtail

- This species inhabits medium to large, mud-bottomed rivers, sometimes large streams and lakes. Adults perch in vegetation or on the ground along the shoreline or on sand gravel bars. They can occasionally be found in meadows and openings away from water. Flight period is shown as early-June through late-August (Nikula et al. 2007)¹⁰. Brushes or thickets seem to be appreciated along the habitats listed¹¹.

Alewife floater

- According to the NY NHP¹²: the alewife floater lives in the strong currents in the tidal Hudson River and among cobbles in the Neversink and smaller tributaries (Strayer and Jirka 1997).

Northern long-eared bat

- According to the NY NHP¹³: northern myotis are typically associated with mature interior forest (Carroll et al. 2002) and tend to avoid woodlands with significant edge habitat (Yates and Muzika 2006). Northern myotis may most often be found in cluttered or densely forested areas including in uplands and at streams or vernal pools (Brooks and Ford 2005). Northern myotis may use small openings or canopy gaps as well. In one study in northwestern South Carolina, detection of northern myotis was best predicted in mature stands but also in areas with sparse vegetation (Loeb and O'Keefe 2006). Some research suggests that northern myotis forage on forested ridges and hillsides rather than in riparian or floodplain forests (Harvey et al. 1999). Captures from NY suggest that northern myotis may also be found using younger forest types (NYSDEC unpublished data).

Northern myotis select day roosts in dead or live trees under loose bark, or in cavities and crevices, and may sometimes use caves as night roosts (U.S. Fish and Wildlife Service 2013). They may also roost in buildings or behind shutters. A variety of tree species are used for roosting. The structural complexity of surrounding habitat and availability of roost trees may be important factors in roost selection (Carter and Feldhamer 2005). Roosts of female bats tend to be large diameter, tall trees, and in at least some areas, located within a less dense canopy (Sasse and Pekins 1996). Northern myotis hibernates in caves and mines where the air temperature is constant, preferring cooler areas with high humidity (U.S. Fish and Wildlife Service 2013).

¹⁰ Nikula, B., J.L. Ryan, and M.R. Burne. 2007. A Field Guide to the Dragonflies and Damselflies of Massachusetts, 2nd Edition. Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program, Westborough, MA. 197 pp.

¹¹ Wisconsin Odonata Survey. *Gomphurus vastus*. Available from: <http://wiatri.net/inventory/odonata/SpeciesAccounts/SpeciesDetail.cfm?TaxalD=85>. Accessed on October 24, 2017.

¹² New York Natural Heritage Program. 2017. Online Conservation Guide for *Anodonta implicata*. Available from: <http://www.acris.nynhp.org/guide.php?id=8381>. Accessed October 24th, 2017.

¹³ New York Natural Heritage Program. 2017. Online Conservation Guide for *Myotis septentrionalis*. Available from: <http://www.acris.nynhp.org/guide.php?id=7407>. Accessed October 24th, 2017.

POTENTIAL IMPACTS & MITIGATION

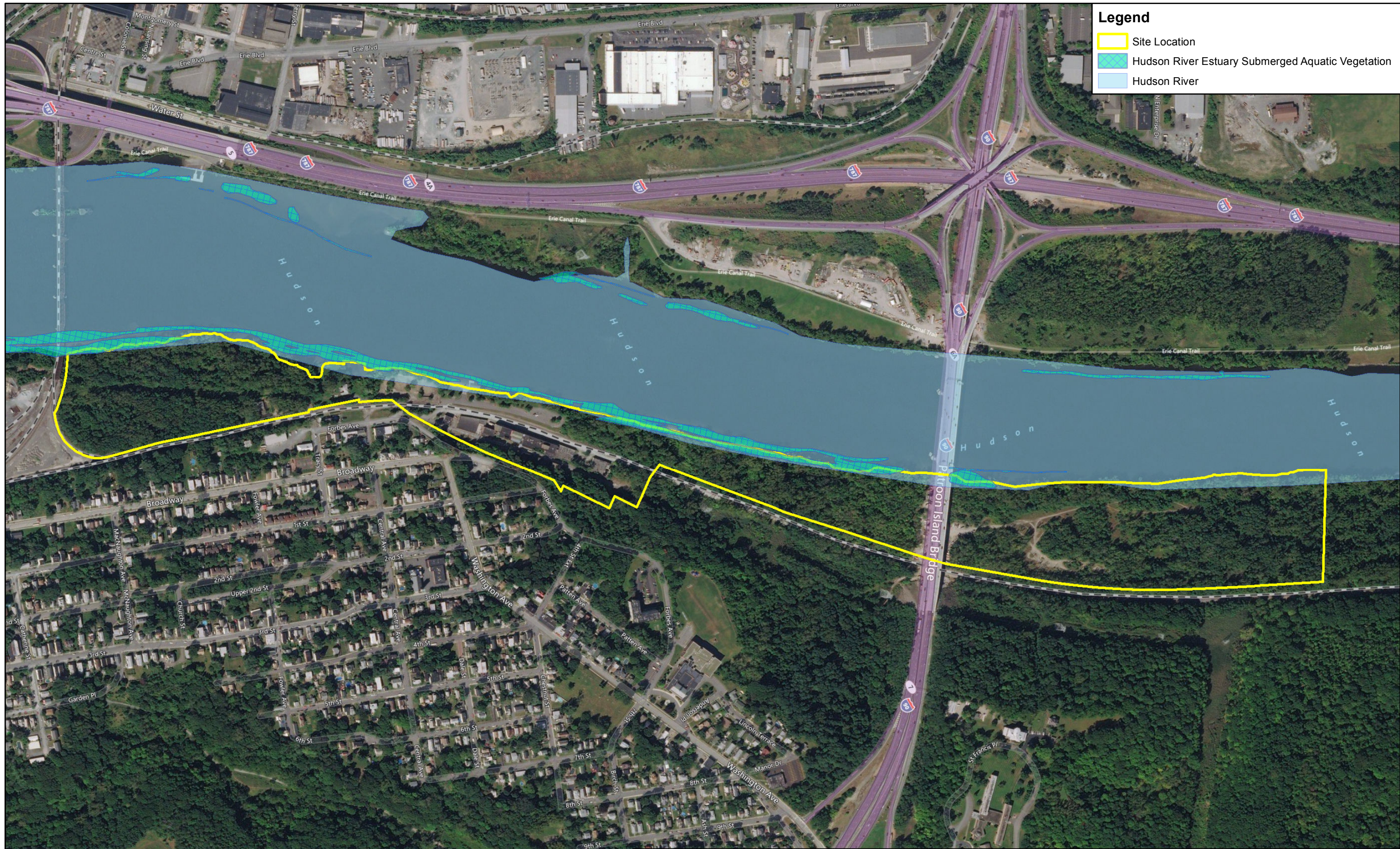
The Preferred Alternative will displace most of the natural communities of the Study Area and will replace them with development, impervious surfaces, and vegetated communities of low ecological value (i.e. mowed lawn and athletic fields). Floodplain forest, red maple hardwood swamp, vernal pool and emergent wetland habitats will be impacted. A significant portion of the Study Area is composed of these habitats.

Some small patches of forest will remain intermixed with the proposed development. The services performed by the existing vegetative communities and large trees, such as stormwater retention, flood attenuation, water filtering, and wildlife habitat (including some specialized habitat, i.e. vernal pool), will be lost. The remaining forest patches will be degraded and of lower ecological value.

The project will also result in habitat fragmentation in the areas located northeast of the Hilton Center where, currently, there is a relatively large, contiguous forest extending from the Hudson River south/eastward away from the Study Area. The project will eliminate the forested connection between the River and the inland forest. As a result, the project will reduce the forest's overall size, quality, wildlife value, ability to mitigate flooding of the Hudson River, and ability to filter water.

Some of these impacts will be addressed by other aspects of the project. Water quality can be mitigated through stormwater management methods (See Section 3.3). Loss of wildlife habitat within the project area is a permanent, unavoidable impact. This can be partially mitigated by incorporating forested corridors through the site and maintaining sections of undisturbed habitat immediately along the riverbank to establish the connections between the river and the interior forest.

Introducing landscaped areas that require maintenance (i.e. mowing/maintaining lawn and sports fields, ornamental landscaping, etc.) has the potential to introduce harmful runoff from fertilizers and pesticides. These are very likely to enter the Hudson River and could affect water quality and the extent, quality and/or species composition of the submerged aquatic vegetation beds that occur within the Hudson River's east bank along a significant portion of the Study Area, as depicted on the Submerged Aquatic Vegetation mapping (Figure 3-9). These potential impacts can be significantly reduced by the development and implementation of an Integrated Pest Management Plan that uses a variety of techniques designed to reduce the amount of herbicides and pesticides used. Additionally, expectations on the quality of the recreational fields should be considered during design. The development of fields with 100% grass or a specific species/variety of grass may not be necessary; thereby reducing maintenance costs. Given the potential for flooding within the recreational portion of the study area, a lower



Legend

- Site Location
- Hudson River Estuary Submerged Aquatic Vegetation
- Hudson River

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Figure 3-9
Kiliaen's Landing
 Submerged Aquatic Vegetation
 City of Rensselaer, Rensselaer County, New York

1 inch = 500 feet

CHA Prj No.: 29703
 Date : December 2017
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 Feet

maintenance, more resilient turf composed of native species, including what might be identified as weed species, could be considered.

The use of only native or non-invasive species for plantings should also be considered. Ideally, future projects could incorporate native species with wildlife value (nut and berry producers). Mitigation is typically required by the USACE for wetland impacts exceeding 1/10-acre. The Preferred Alternative shows some impacts to federally-jurisdictional wetland. Prior to final design a wetland delineation and survey will be required to evaluate design and impacts. Typically any impact to wetlands or special aquatic sites will require authorization from USACE. The habitats of the Study Area were evaluated for their potential to support the state and federally-listed species discussed above.

Shortnose sturgeon

- During the permitting stages of the project, potential impacts to shortnose sturgeon must be assessed. Coordination with the USACE, NYSDEC, National Marine Fisheries Service (NMFS), New York Department of State (DOS), and the City of Rensselaer Local Waterfront Revitalization Program will be required.
- This species is known to occur in the Hudson River along the Study Area. The Hudson River Estuary Submerged Aquatic Vegetation mapping shows that submerged aquatic vegetation occurs within and along the Hudson River shore from the southwest corner of the Study Area northward to just upstream of the Patroon Island Bridge. These habitats could support shortnose sturgeon in terms of feeding and larvae development.

The Preferred Alternative will include new sources of stormwater runoff and the potential to introduce poor water quality to the vegetated shallows along the riverfront. This could result in an indirect impact to the sturgeon if it uses the shallows along the study area. Future projects within the study area should include water quality improvements measures to ensure the runoff is treated sufficiently prior to discharge to the river. Additionally, the use of herbicides, pesticides and fertilizers should be limited or eliminated in order to prevent impacts from chemicals and nutrients.

Improvements to the existing boat ramp will likely impact the Hudson River but it is likely that the extent of impacts associated with the improvements will be minimal. All proposed activities in the River will need to be permitted, which will require an evaluation of alternatives and discussion of impact avoidance and minimization. If mitigation is required, it will be identified by the regulatory agencies.

Bald eagle

- During the permitting stages of the project, the proposed activities will need to be assessed according to the Bald and Golden Eagle Protection Act and NYSDEC guidelines.
- Removal of the forest along the Hudson River and substantially increasing the human presence in this area will significantly reduce the habitat suitability of the Study Area, and potentially areas beyond, for bald eagle nesting. Removal of the large trees that are present is a direct reduction in potential nesting habitat. Noise levels associated with sporting events at the proposed athletic fields have the potential to extend the project impacts beyond the Study Area by deterring bald eagle use of the forested areas extending away from the Study Area, and could potentially impact nesting success if bald eagles are nesting in proximity.
- According to NYSDEC¹⁴, as populations of bald eagles increase, competition among eagles in some areas has resulted in increasing numbers of bald eagles killed or injured by other eagles. This indicates that in some areas of the state the species may be at or near carrying capacity. Available nesting and wintering habitat may be a limiting factor for bald eagle populations in the future. Currently, habitat loss and alteration are considerations for bald eagle populations in New York State and especially in regions where human development is expanding rapidly (e.g. NYSDEC Region 3). Removal of mature forest along shorelines and increased human presence/development in these areas may result in loss of preferred nesting, foraging, and roosting sites for bald eagles. Some bald eagles are sensitive to human activity and disturbance year-round, especially at nest sites, and others are much more tolerant. Motor traffic, persons too close on foot, frequent visits or tree removal can result in nest failure, nest abandonment, or abandonment of the nesting territory altogether.
- Future projects should include a tree survey within the impact area in addition to the evaluation for the presence of eagles. Selective tree removal should be required to preserve large trees wherever possible.

Cobra clubtail

- Due to the limited extent of expected impacts to the Hudson River, impacts to cobra clubtail are anticipated to be negligible.

Alewife floater

- During the permitting stages of the project, potential impacts to alewife floater will need to be assessed.

¹⁴ New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources Bureau of Wildlife. March 2016. *Conservation Plan for Bald Eagles in New York State*. Available at: http://www.dec.ny.gov/docs/wildlife_pdf/nybaldeagleplan.pdf. Accessed on October 24, 2017.

- Due to the limited extent of expected impacts to the Hudson River, impacts to alewife floater are anticipated to be negligible.

Northern long-eared bat

- During the permitting stages of the project, potential impacts to northern long-eared bat will need to be assessed. This will include an inventory of the trees to be removed, including number of trees and snags by species ≥ 3 inches diameter at breast height (dbh), whether they have potential roosting structure, and acreage of tree removal. According to applicable NYSDEC and USFWS summer survey guidelines, the level of impact may warrant additional studies such as acoustic monitoring¹⁵ (note: the USFWS guidelines cited apply to both Indiana bat (*Myotis sodalis*) and northern long-eared bat).
- The habitats of the Study Area are suitable for northern long-eared bat roosting and foraging. There are numerous trees with exfoliating bark, loose peeling bark, and cavities, cracks and crevices that provide potential roosting structure. Open areas including fields, wetlands and trails provide potential travel and foraging habitat. No caves or mines were observed during the site visits, but further evaluation of potential hibernacula may be required through contact with NYSDEC as future projects are proposed.

3.7 Cultural Resources

According to the NYSOPRHP Cultural Resource Information System (CRIS) web page, nearly the entire site and surrounding area is considered sensitive for archeological resources. In addition the CRIS identified a complex known as the William Barnet & Son Shoddy Mill Complex located at 20 Forbes Avenue (Hilton Center). The following are buildings within that complex are eligible for listing on the National Register of Historic Places:

- Boiler House
- Rag Storage and Wool Drying Building
- Central Factory and Office Building
- Rag Storage Building
- Garnet House and Factory Building

Two structures on the south side of Forbes Avenue proximate to the project site are listed on the National Register. These have been identified as the Patroon Agent's House and Office (15 Forbes Avenue) and the Clark-Dearstyne-Miller Inn (11-13 Forbes Avenue). The Livingston Avenue Bridge

¹⁵ U.S. Fish and Wildlife Service. 2017 Range-Wide Indiana Bat Summer Survey Guidelines. May 9, 2017. Available at: <https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>. Accessed on October 24, 2017.

and viaduct which crosses the Hudson River immediately south of the site is also a National Register-eligible site (Figure 3-10 Cultural Resources). The Doane Stuart School located on Washington Avenue on the slopes above the Study Area was listed on the National Register of Historic Places in 2012.

To evaluate the potential for archeological resources for the entire site, a Phase IA Literature Review and Sensitivity Assessment was completed in March 2017 by Hartgen Archeological Associates and is included as Appendix 5. This results of this assessment are summarized in the paragraphs below.

The historic map review, soil survey, and previous archeological surveys in the vicinity were reviewed and showed extensive disturbance throughout much of the Study Area. The USDA soil survey has characterized most of the Study Area as udorthents, indicating large areas of soil disturbance. Shoreline areas along this section of the Hudson River were heavily modified during the late 19th and 20th centuries. Surveys south of Tracy Street, within the current Study Area, were noted to be disturbed by filling and some modern construction activities. It was noted that this area is comprised of made land that is not considered archeologically sensitive. However, the soil survey showed the possibility of intact soils in the north. Two precontact sites (sites existing prior to Europeans travelling to America) are located towards and within the northern section of this Study Area, and two National Register Eligible structures stand in the central section of the Project.

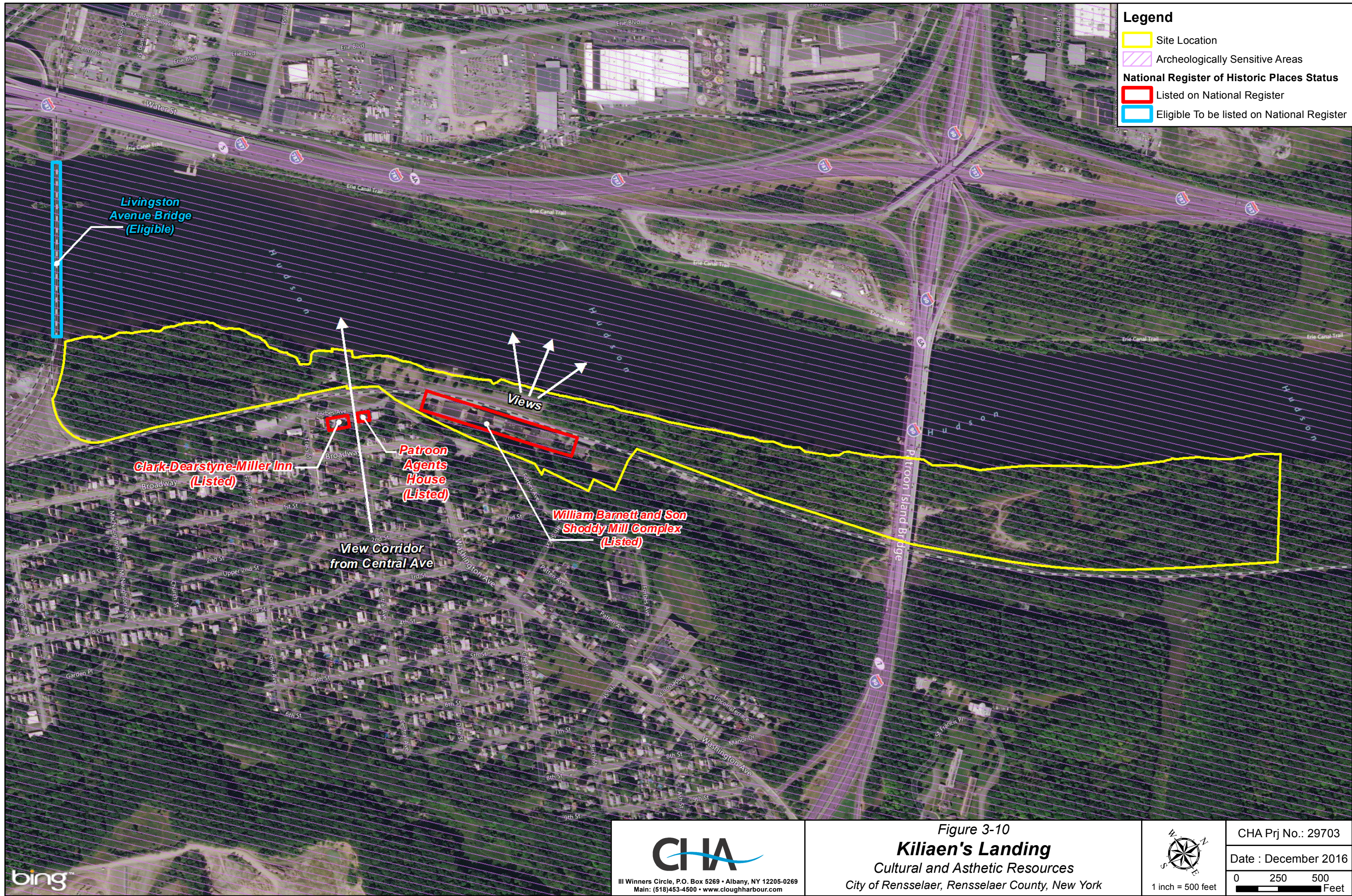
POTENTIAL IMPACTS & MITIGATION

Previous surveys completed within and adjacent to the current Study Area, the archeological potential for this area is generally low. The large wooded portion of the Project Area consists of made land and formerly low-lying flats that have been filled. The area around Hilton Center (formerly the Barnet & Sons Shoddy Mill) is largely cut and fill. These areas do not warrant further archeological investigation.

The Phase 1A Literature Review and Sensitivity Assessment completed for the GEIS indicated that the area around Forbes Avenue and Central Avenue, has moderate archeological potential. Although the Larner Terminal Corporation and extant house within the Study Area may have disturbed earlier deposits, there is some potential for intact historic archeological remains associated with the ice houses, the ferry, and other early activities associated with the Bath-on-Hudson settlement. The Assessment recommends that an archeological survey be completed for any proposed development within this area.

This Assessment was submitted to NYSOPRHP for their review which noted the following (Appendix 5):

- Made-land that was formally within the Hudson River channel does not need to be tested for archaeological resources



Legend

- Site Location
- Archeologically Sensitive Areas

National Register of Historic Places Status

- Listed on National Register
- Eligible To be listed on National Register

Livingston Avenue Bridge (Eligible)

Clark-Deerstyne-Miller Inn (Listed)

Patroon Agents House (Listed)

William Barnett and Son Shoddy Mill Complex (Listed)

View Corridor from Central Ave

Views

Figure 3-10
Kiliaen's Landing
 Cultural and Aesthetic Resources
 City of Rensselaer, Rensselaer County, New York

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 Date : December 2016
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 1 inch = 500 feet

- Areas that have been previously disturbed (and can be documented) do not need to be tested for archeological resources
- Remaining areas should be assessed for the potential to contain deeply buried original ground surfaces. These locations would be identified once specific design plans are established.

Upon establishment of design plans mapping identifying former shoreline areas, disturbed areas and areas where deep testing may be needed should be provided to NYSOPRHP to determine locations where Phase 1B field testing may be required.

This combination of the recommended completion of an archeological survey in the area of Forbes and Central Avenue and the continued involvement of NYSOPRHP will mitigate potential impacts to cultural resource in and adjacent to the Study Area.

3.8 Aesthetics and Visual Resources

To gain an understanding of the visual character of the Study Area and surrounding neighborhood, site visits were conducted to note existing visual conditions. As described in Section 3.1, the Study Area is generally undeveloped and forested with the exception of the Hilton Center, the boat launch area and an area stripped of vegetation located immediately south of the boat launch. Existing visual conditions of the Study Area excluding the River itself, can be described generously as marginal (Appendix 6, General Site photographs).

Land uses immediately east and southeast of the site include the well-established residential and mixed use neighborhood along Broadway and surrounding roadways. The Doane Stuart School is situated on the slopes above the Study Area. Immediately south of the site are the Livingston Avenue Bridge, and the Amtrak Rensselaer Maintenance Facility. Undeveloped lands border the northeastern portions of the project site. Land use is described in more detail in Section 3.1.

Forbes Avenue rises gently from the Study area; then rises sharply to the east as it traverses the slopes to the Doane Stuart School. Two structures at 11-13 Forbes Avenue and 15 Forbes Avenue listed on the National Register of Historic Places are situated on either side of the Central Avenue/Forbes Avenue intersection across from the site driveway that accesses the private residence at that location. The existing view into the site from this location includes the CSX railroad crossing, a gravel driveway, vegetation, and limited view of the River and the access road to the Hilton Center and the boat launch area.

As Forbes Avenue rises above the site, views from various locations are filtered due to existing vegetation and include the wooded area adjacent to the Livingston Avenue Bridge, the unvegetated area adjacent to the boat Launch, as well as the boat Launch area and the Hilton Center roof.

The streets to the east and southeast of the site includes a well-established residential neighborhood consisting primarily of two to three story single family, two family and small scale multi-family buildings dating back to the late 19th and early 20th century. Although elevated above the Study Area, views to the river from the slopes along Broadway were often limited due to both existing structures and vegetation on residential lots. The River is visible from First and Central Avenue which overlooks in part the residential parcel not included in the development alternatives. There are no Hudson River views from MacNaughton Avenue, Fowler Avenue or Tracy Street.

Although located on the plateau above the Study Area, views from the Doane Stuart School buildings and the fields are screened by the existing trees and vegetation that surround the fields behind the school or immediately adjacent to Forbes Avenue. Photographs of the site and adjacent neighborhood are included in Appendix 6.

Views from the Hudson River into the site are limited by the existing vegetation both at the shoreline and the interior of the site. This vegetation also limits views of structures on the streets above the site. The exception is the boat launch area where portions of Hilton Center, portions of the site driveway and parking area are visible. There is also a small opening slightly north of the boat launch providing a view of the Hilton Center. Much of the site vegetation is deciduous, therefore the interior of the site and the streets that rise above the site will be more visible during leaf off conditions.

Mirroring the river views, the Corning Preserve and the Mohawk Hudson Bike Trail in the City of Albany also provide views into the site.

POTENTIAL IMPACTS & MITIGATION

Development on this site will be visible from the surrounding neighborhood as well as the Albany side of the river including the Corning Preserve. Site composition will transition from generally undeveloped to developed state with structures ranging from two to six stories. Development will require the removal of vegetation and introduction of landscaped areas in various areas of the site.

The area in the vicinity of the Livingston Avenue Bridge will be converted from a forested area to a developed area including five and six-story apartment buildings. These new structures will contrast with surrounding housing stock that is generally older, consisting of one and two-story structures. The mature vegetation and existing structures on the properties rising above the Study Area limit existing into the Study Area and the River, however these new elements will become part of the viewshed. Exterior building materials and landscaping will be designed to complement and enhance the both the site and residential neighborhood. It should be noted that the unvegetated, fenced parcel adjacent to the City Boat Launch will be improved to include a 5 story structure, landscaping and paved areas.

The redevelopment of the Hilton Center will maintain the historic character of the structure while addressing its deteriorating condition. There will be no height increase associated with the Hilton Center. The appearance of the boat launch area will be improved to include upgraded facilities, signage and landscaping. Although views of this structure and Boat Launch are currently limited from the surrounding neighborhood, the overall visual quality will improve.

The removal of vegetation necessary to develop the recreational fields may create additional views to the River from adjacent land uses. These views will be defined by the greenspace associated with the recreational fields, the multi-use path.

Potential site views

During the development of both the Preferred Alternative and preparation of this GEIS, City officials and the public expressed concern that future development could impact River views from the surrounding neighborhood. Several site visits were conducted and views both into and from the site were photographed. In addition to the review of the general neighborhood several specific locations were identified for field review:

- Clark-Deerstyne-Miller Inn (11-13 Forbes Avenue)
- Patroon Agent's House and Office (15 Forbes Avenue)
- Hilton Center
- Boat Launch
- Doane Stuart School
- Hudson River
- Corning Preserve and Mohawk Hudson Bike Path

The views from both of the Clark-Deerstyne-Miller Inn and Patroon Agent's House and Office both listed on the National Register of Historic Places into the site will change. The existing view into the site from this location includes the CSX railroad crossing, a gravel driveway, vegetation, and limited views of the River and the access road to the Hilton Center and the boat launch area. It should be noted that both structures are privately owned and that portions of the Clark-Deerstyne-Miller Inn appear to be in need of rehabilitation.

It is likely that development of the Study Area will improve its overall visual quality and thus the views into the site from both of these historic structures. In a developed state the view would include a landscaped site driveway, several of the apartment structures, parking areas and associated landscaping.

Redevelopment and rehabilitation of both the Hilton Center and the Boat Launch will result in functional and aesthetic changes that would enhance the visual experience for neighborhood residents, site users and passersby over existing dilapidated conditions.

Views from the Doane Stuart School buildings and the fields are screened by the existing trees and vegetation surrounding the fields behind the school and immediately adjacent to Forbes Avenue. Development of the Preferred Alternative will not be visible from the school property. The presence of existing mature vegetation on the property of the Franciscan Friars and the Franciscan Heights Senior Community on St. Anthony Lane blocks any potential views towards the Hudson River and the Study Area from the site. It was noted that that areas of the property closest to the River, occupied by the Franciscan Friars was posted as Private Property.

As noted above, generally views from the slopes of the residential areas above the site are limited, screened by both existing structures and existing vegetation on the individual lots. This also limits views of the Hudson River. As a result the screening will be similar to existing conditions, however what the viewer sees may be different as described below.

Views from Forbes Avenue between Tracy Street and Central Avenue are more open as described above. The line of sight is directly into the site with future views of the residential units. It is likely that views of the River will be expanded. As Forbes Avenue climbs to the northeast towards Washington Avenue, vegetation is denser providing additional screening. As Site views from various locations along Forbes Avenue are filtered due to vegetation and include the wooded area adjacent to the Livingston Avenue Bridge, the unvegetated area, and the Boat Launch area and the Hilton Center roof. The Preferred Alternative would replace this with filtered views of an improved boat launch area, rehabilitated Hilton Center, a 5 story residential unit and associated landscaping and parking.

Substantial changes are not anticipated to views into the site from Broadway and surrounding street network due to existing vegetation and built environment. Clear views to the River were noted from the McNaughton Avenue and Central Avenue ROW's.

The removal of vegetation to accommodate construction may result in additional views into the site and to the River, while the construction of multi-story structures could reduce or interrupt this view. It is possible that there could be increased opportunity for views of the River after development occurs. Based on overall site conditions it is anticipated that the rehabilitation and adaptive reuse of the Hilton Center, improvements to the existing boat launch area and the addition of active and passive recreational amenities and the residential elements will result in improvements to the visual character of the site.

The removal of vegetation to accommodate both buildings and recreational amenities will also alter the existing view from the River, the Corning Preserve and the Hudson Mohawk Bike Trail into the site. From these locations the site views will change from forested to developed. To more fully understand any changes in this viewshed as a result of development, the City should require developers to prepare a Visual Assessment in accordance with the NYSDEC Program Policy, *Assessing and Mitigating Visual Impacts* during site plan review of specific projects. This will assist in the identification of specific impacts and appropriate mitigation measures to protect the viewshed, the visual character of the neighborhood and ensure the visual quality of proposed project.

Techniques that could be considered during project review may include:

- Site design should maximize and protect public access to river views as well as maintain the existing views to the River from private property and the surrounding public ROW.
- Site structures and elements will be sensitive to the surrounding neighborhood relative to height, bulk and scale, building style and landscaping materials. The Site will transition to less intense development and building styles towards the site boundaries.
- Vegetative buffers and selective tree clearing will be employed as practicable. This will be predicated on site layout and quality of the existing vegetation. Landscaped areas will be reintroduced as necessary.
- Site design will visually connect the Study Area to the surrounding neighborhood and complement existing structures through the use of landscape and hardscape (paths, walkways, wayfinding) materials.
- Use of high quality construction materials and colors that complement and integrate into the surrounding neighborhood.
- Incorporation of public gathering space(s) into the overall site design through the use of landscaping and hardscape elements, walkways and wayfinding techniques that invites visitors into the site.
- All site plans will include Dark Sky lighting fixtures to minimize glare and light spillage to surrounding properties.

As noted in the City's Zoning Code, the purpose of the MU-1 is to accommodate a mix of higher-density residential and commercial uses that will encourage a vibrant, walkable central core consistent with the historic character for the City of Rensselaer. The purpose of the MU-2 is to capitalize on the waterfront by encouraging a mix of residential, commercial, and public uses. The requirements listed for both the MU-1 and MU-2 zoning districts address in large part visual quality and compatibility.

Finally, the City's Local Waterfront Revitalization Plan (LWRP), states "...views north and south along the Hudson River are stunning, as are views across the River to the City of Albany skyline." The LWRP also identifies several impressive scenic views within the City, including the view from the Forbes Avenue Boat Launch. The development of this site especially the public amenities will provide more opportunity for the public to witness the views of the Albany skyline.

3.9 Air Quality

The United States Environmental Protection Agency (EPA) sets National Ambient Air Quality Standards (NAAQS) for pollutants considered to be harmful to public health and the environment. The NAAQS were established by the EPA for air contaminants that specify permissible levels of a given pollutant in the air. Six principal pollutants are regulated by the NAAQS, including carbon monoxide, nitrogen dioxide, ozone, lead, particulates, and sulfur dioxide.

Ambient air quality is monitored by the NYSDEC via a series of monitoring stations located throughout New York State. The monitoring stations monitor and record air quality throughout the year for the six principal pollutants and publish results annually (<http://www.dec.ny.gov/chemical/8536.html>). The closest monitoring station to the Study Area is located in Loudonville, New York.

As listed in the *NYS Ambient Air Quality Report for 2016*, air quality as measured at the Loudonville Station (Region 4) for sulfur dioxide, particulates, carbon monoxide and ozone all fall well below the NAAQS thresholds. There were no measurements reported for lead and nitrogen dioxide in Region 4 in 2016. Air quality information for lead was last collected in 1997 at a monitoring on Washington Avenue.

POTENTIAL IMPACTS & MITIGATION

Air quality impacts during construction would be limited to short-term increases in fugitive dust, particulates, and localized pollutant emissions from construction equipment. The project would generate mobile emissions from the following construction activities:

- Construction workers' vehicles as they travel to and from the Study Area
- Delivering and hauling construction supplies and debris to and from the Study Area
- Vehicles whose speeds are slowed because of increased congestion caused by construction activity

In addition, stationary emissions from onsite construction equipment would be generated. As these potential air quality impacts would be localized and short-term in duration, impacts to individual air quality receptors would also be short-term. To address potential air quality impacts includes related to construction specific project proposals will include a fugitive dust control plan as part of the SWPPP as required by NYSDEC. Strategies to be considered to control fugitive dust include wetting excavation areas, unpaved parking and staging areas, and onsite stockpiles of debris, dirt, or dusty material; and washing haul trucks and covering loads before leaving the Site. Generally, the potential for fugitive dust would be significantly reduced after the first months of construction, once the amount of exposed soils are very limited.

In addition contractors should be required to use street-sweeping equipment at paved site-access points and shut off construction equipment when it is not in direct use to reduce emissions from idling.

As projects are completed and additional people visit and utilize the site there may be increases in carbon monoxide emissions related to increased vehicle traffic as well as increases in emissions related to heating and cooling structures.

Increased sales of electric cars, higher gas mileage capabilities for gas powered vehicles and decreased reliance on single occupancy vehicles can all serve to limit this potential impact. The inclusion of vehicle electric charging stations in site design will encourage the use of electric powered vehicles. The use of energy efficient building materials and strict adherence to the NYS Building and Energy Code will also limit the additional CO₂ into the atmosphere. Site design will also encourage non-motorized transportation within the site.

As the Study Area is not under one ownership and will likely develop in phases, it is assumed that each structure will be developed with its own boiler. Under this scenario, none of the boilers would be large enough to require a NYS Air Facility Permit or Air Registration. This should be confirmed as the City reviews specific development proposals.

3.10 Noise

With the exception of the boat launch area and the trains utilizing the CSX tracks, the site is undeveloped thereby generating little noise. The surrounding roadways and neighborhood which includes the Amtrak Maintenance Facility southwest of the Study Area likely generate higher noise levels than the site currently.

POTENTIAL IMPACTS & MITIGATION

Potential changes in noise levels related to the Preferred Alternative may be temporary or long term. Construction activities at Kiliaen's Landing will temporarily generate noise. Noise levels and potential adverse effects due to construction activities will vary depending on the type of equipment, the location of the equipment, the duration of operations, and the time of operations.

Noise during construction could be an inconvenience to nearby residents along Broadway and Forbes Avenue and on the slopes overlooking the Study Area. Other sensitive receptors could include the Doane Stuart School, and possibly the Franciscan Heights Senior Community. The most common noise sources during construction would be from engine-powered machinery such as earth-moving equipment (excavators), material-handling equipment (cranes), and stationary equipment (generators). Mobile equipment (trucks) operate in a sporadic manner, while stationary equipment (generators and compressors) generate noise at a fairly constant level. The loudest construction activity is pile driving.

Typical noise levels from construction equipment range from 75 dBA to 85 dBA range measured 50 feet from the source. Noise levels typically associated from pile driving, which are sporadic, are about 100 dBA at 50 feet.

Assessing and Mitigating Noise Impacts (NYSDEC, 2000; updated 2001) indicates that most humans find a sound level of 60 - 70 dBA as beginning to create a condition of significant noise effect. At 80 dBA people must shout to be heard. Noise levels between 110 dBA and 120 dBA are typical of a rock concert. As the distance from the noise source increases, noise levels decrease. Construction noise beyond 50 feet would decrease by 6 dBA to 8 dBA for each doubling of the distance from the source. For example, if the noise level is 80 dBA at 50 feet from the source, it would decrease to about 73 dBA at 100 feet and 66 dBA at 200 feet.

To limit noise impacts during construction the following requirements should be considered:

- Construction delivery and demolition equipment would typically operate during the hours of 7:00 am to 6:00 PM, Monday through Friday.
- Construction and demolition equipment would not be operated on Saturdays, Sundays, State and Federal Holidays or from 6:00 pm to 7:00 AM without specific permission from the City.

Prior to construction activities for specific projects, subsurface investigations will be necessary to identify the appropriate construction methods and foundation type. Based on existing conditions, there is the potential that construction of the residential structures in the area near the Livingston Avenue Bridge will require the use of pile driving equipment. If a driven pile system is determined to be the most appropriate foundation system, additional measures to mitigate vibration could include:

- Conduct a pre-construction inspection of all properties within a 1,000 feet radius of the site to identify and document preconstruction conditions of each property within this radius.
- Provide regular updates to inform and update property owners within a 1,000 foot radius of the project regarding project status and upcoming activities.
- Conduct post construction inspection of and meetings with all properties within a 1,000 foot radius to identify and document post-construction conditions of each property within this radius.

Construction activities in the more northerly portions of the site will result in fewer construction related noise as the development of recreational fields would not likely require pile driving equipment, can be accomplished in shorter time frames and the surrounding parcels are generally undeveloped and forested.

At full build-out day to day operations of the site will likely have limited impact on noise levels within the surrounding area.

There is a potential for increased noise levels in recreation area of the site related to sports activities if large events or tournaments are held. Once the site is developed the City may consider guidelines for the type and timing of any events. The less developed nature of the adjacent parcels may mitigate any potential increase in noise levels associated these recreational activities.

3.11 Hazardous Materials

In April 2017, the entire site was subject to a “desktop screening” to ascertain the areas within or immediately adjacent that may have records of hazardous materials. A preliminary assessment of the Hilton Center related to both environmental and building code issues was completed in May of 2013. Environmental regulatory agency records were searched through State and Federal databases accessed and summarized by Environmental Data Resources, Inc. (EDR). In addition, historical resources consisting of Sanborn Fire Insurance Maps and aerial photographs were reviewed to assess historical usage and condition of the properties within and adjacent to the project corridor. No visual inspections or surveys were conducted on any properties or buildings located within or adjacent to the project corridor.

This review indicated that there are several recognized environmental conditions (RECs) associated with the project corridor such as spill sites, historic auto repair facilities, underground storage tank locations, bulk aboveground storage tank locations, and/or hazardous waste generators. The Hudson River is identified by the National Priority List as a PCB-contaminated waterway, which presents a potential off-site source of PCBs deposited within the project corridor from past flooding events. Several of the incidents/listings pertain to the Hilton Industrial Center property. Based on these sources and the potential to encounter asbestos-containing materials (ACMs) pertaining to underground utilities, the City of Rensselaer was contacted to determine the type of piping associated with the sewer and water lines running through the project corridor. City personnel indicated that the water mains are constructed of ductile iron and the sewer lines are constructed of PVC piping. As a result, ACMs are not considered an issue of concern relative to water or sewer lines.

The preliminary assessment of the Hilton Center prepared in 2013 also included an EDR report specifically for that property. The EDR report indicated the property is listed on the NY Spills database related to the improper disposal of asbestos. An on-site survey of Buildings 4, 5, and 6 and portions of buildings 7, 8, and 10 as well as the northern portion of the Hilton Site and identified the following concerns (See sketch in Appendix 7):

- Underground storage tanks (UST) and heating oil tanks observed in Building 4.
- An underground concrete vessel adjacent to the west side of Building 4 containing an unknown liquid.
- Numerous drums and containers in poor condition, containing unknown liquids, within the ground level of Building 5. City of Rensselaer Code Enforcement representatives

observed that several drums and containers had been removed and their disposition unknown.

- A dumping area for construction and demolition debris was present at the northern end of the Hilton property. The dumping of potential hazardous waste materials is suspected.
- Three 275-gallon heating oil tanks were observed within a storage space in Building 10.
- Asbestos containing materials (ACM) are suspected on the upper floors of several tenant spaces.

POTENTIAL IMPACTS AND MITIGATION

Site development will require the completion of additional investigations to determine the extent of impact the identified RECs have within the Study Area. Remediation activities related to specific projects or site locations, such as the removal of asbestos within the Hilton Center, identified during these investigations must be completed prior to any construction activities. Removal of these materials and their proper disposal will be a condition of any development permits issued by the City Planning Commission.

3.12 Community Services

The preferred alternative could result in more than 400 apartment units and just over 8,000 SF each of neighborhood retail and cultural arts space to go along with of recreational fields and other recreational amenities. The full build-out of the residential units could translate to approximately 660 people living in the Study Area.

The City operates its own police and fire departments. The Study Area falls within the Rensselaer City School District; the School district are concurrent with City boundaries.

The Rensselaer Police Department is located at 201 Broadway between Ferry Street and 2nd Avenue south of the Study Area.

The Rensselaer Fire Department provides fire, rescue hazardous materials and emergency medical services within the City. The Department has both paid and volunteer members that operate out of two fire stations in the City: the North End Station located at 2 Francis Place and the G.S. Mink T. Claxton Hose Company also known as Broadway Station located at 959 Broadway.

There are approximately 16 career and 20 active volunteer firefighters. All of the career firefighters are NYS Emergency Medical Technicians (EMT's). Advance life support is provided by Mohawk Ambulance Service, a private contractor. The City is also a part of the Rensselaer County mutual aid system, which provides both manpower and equipment as needed.

School district facilities include the Rensselaer Junior-Senior High School and Van Rensselaer Elementary School. The campus is located on Van Rensselaer Drive.

POTENTIAL IMPACTS AND MITIGATION

The fire department, police department and school district were all contacted regarding the Preferred Alternative to determine the potential for impacts to these services (Appendix 8).

The primary concern of the fire department related to any type of development is adequate access for fire apparatus and equipment and adequate water supply in the event of a fire. These are elements that will be addressed during site plan review of specific projects. The fire department did not anticipate impacts related to the potential for additional residents in the Study Area.

The Police Department did not provide input at this time; however as specific projects are submitted and reviewed by the City, input from the department should be solicited to identify potential public safety issues.

The Preferred Alternative, could result in approximately 68 school age children, including 43 attending public schools residing in the Study Area at full build-out of the residential component.¹⁶ Some of these students could enter the Rensselaer School District as early as the fall of 2019. It is likely that full residential buildout within the Study Area could last three or more years. No comment was received from the District however, coordination should occur as specific projects are submitted to the City for review and approval.

3.13 Unavoidable Impacts

SEQR requires that an EIS identify unavoidable environmental impacts or impacts that cannot be avoided or adequately mitigated. The Preferred Alternative will result in a number of benefits for the Study Area, the surrounding area and the City as it relates to increased recreational opportunities for the general public and youth, improved public access to the waterfront including fishing and boating opportunities, opportunities for riverfront living in both new units and rehabilitated units and additional cultural and retail opportunities. If the Study Area develops in accordance with the Preferred Alternative there will be several impacts that cannot be completely mitigated. These include an increase in density and traffic, construction in the floodplain, removal of natural communities, and changes in visual character.

Site development will result increase site density, however the City of Rensselaer Downtown Redevelopment Plan 2003-2010, 2006 Comprehensive Plan support the overall objective identified in the 2011 LWRP to “Restore, revitalize and redevelop deteriorated and

¹⁶ Rutgers University, Center for Urban Policy Research, *Residential Demographic Multipliers* for New York State (as provided by the CDRPC)

underutilized waterfront areas for commercial, industrial, recreational and other compatible uses.” Since the adoption of the 2011 LWRP, the City has rezoned this area to allow the mix-use waterfront oriented uses promoted in these Plans (Section 3.1 Land Use and Zoning). While, increased density is necessary to achieve the land use objectives of the City, the use of context sensitive design techniques will protect and enhance the visual context of the surrounding neighborhood.

Development on the site will result in increases in traffic. The discussion under Transportation (Section 3.2) provides an overview of existing conditions, traffic projections and a general discussion of potential improvements. Prior to the approval of specific projects, traffic study(s) will be completed to identify the specific mitigation measures necessary to maintain the adequacy of the surrounding roadway network.

Topography and FEMA BFE’s indicate that any construction within the Study Area will fall within the 100-year floodplain. To mitigate this all development must meet the applicable regulations identified in Section 3.5. Structures within the 100-year flood plain however, even those developed according to regulation is not completely free of flood risk. The area identified for recreational fields would not require to be raised above the BFE. While the absence of structures in this area would reduce the financial impacts of flooding, the aftermath of a flood event would still require resources for clean-up and repair of these facilities.

The Study Area represents the one of the few remaining, contiguous undeveloped areas within the City. With the exception of the Hilton Center parcel and the City Boat Launch, the remaining 67 acres is undeveloped and generally forested. As noted in Section 3.6 development of this site will displace most of the natural communities of the Study Area and will replace them with development, impervious surfaces, and vegetated communities of low ecological value (i.e. mowed lawn and athletic fields). The project will also result in habitat fragmentation he areas located northeast of the Hilton Center where, currently, there is a relatively large, contiguous forest extending from the Hudson River south/eastward away from the Study Area. While the loss of habitat can be reduced by incorporating forested corridors through the site and maintaining sections of undisturbed habitat immediately along the riverbank to establish the connections between the river and the interior forest, it cannot be completely mitigated.

As most of the Study Area is undeveloped, implementation of the Preferred Alternative or any development project represents a change to its visual character. It is anticipated that the rehabilitation and adaptive reuse of the Hilton Center rather than its continued deterioration will result in a positive impact to the visual character of the site itself and for those viewing this structure. The use of techniques identified in Section 3.8 should result in an overall improvement of the visual character of site.

SECTION 4.0

ALTERNATIVES

SEQR requires the evaluation of a range of potential alternatives including an evaluation of the no action alternative. The alternatives were guided by the Vision Statement and the Inventory and Analysis, Market Study, input from the Steering Committee, City Officials and the public. Both the Inventory and Analysis (Appendix 2) and the Market Study (Appendix 3) are Included in this document. Alternatives were developed sequentially at a series of Steering Committee and Public Meetings, each based on the above referenced input on each previous alternative. Finally, the chosen or preferred alternative was a result of combining “preferred” elements from Alternatives 1-4 as directed by input from the Steering Committee, City Officials and the public.

Recognizing the potential of their impact to the stated site vision and successful implementation of this project the adaptive reuse of the Hilton Center, improvements to the City’s boat launch and extension of the multi-use path to both the south and north are elements of each alternative.

4.1 Alternative 1

Alternative 1 (Figure 4-1) consists of multi-story residential, commercial mixed use, redevelopment of the Hilton Center and both active and passive recreation as follows:

Residential (adjacent to the Livingston Avenue Bridge)

- Waterfront orientation
- 184 units in 5 structures, 3 and 4 stories
- Emergency access, multi-use path extension under Livingston Avenue Bridge to southwest
- Surface parking associated with each structure
- Greenspace

Commercial Mixed Use and Waterfront Park:

- One, 3 story building to include 14,040 SF commercial first floor and 16 units on remaining 2 stories

- One, 2 story structure to include a Maritime Center and marina and Café- 14,900 SF total
- Expansion and improvements to existing waterfront park and boat ramp
- Surface parking
- Multi-use path extension

Hilton Center Mixed Use Development

- Hilton Center Redevelopment – mixed use retail, residential and cultural arts

Recreation- active and passive

- Multi-use pathway connection between existing waterfront park to property boundary with East Greenbush with future connections to trails to the northeast
- Two-story, 31,200 SF recreation Center in vicinity of Patroon Island Bridge
- Recreational fields to include basketball, tennis, youth softball, little league, baseball, and multi-purpose
- Surface parking

The Steering Committee's review of Alternative 1 noted, that while the location and waterfront focused orientation of the residential units was attractive; the building layout raised concerns related to the 100-year floodplain. Specifically they identified that additional construction costs necessary to mitigate floodplain impacts may make project too expensive for the expected return on investment.

Discussion also focused on the use of this area for active recreation as a way to mitigate the potential impacts of flooding. There was also conversations regarding building height as the Market Study (Appendix 3) supported buildings of 7 to 8 stories. Increased density could result in higher profit margins for a developer, however the Steering Committee recognized the importance of protecting existing views to the River from the surrounding residential neighborhood and maintaining the appropriate scale so as not to significantly impact community character.

As a result the Steering Committee requested consideration of a two additional alternatives: one showing the residential layout in the same vicinity but located closer to the southeast property boundary and one delineating the active recreational area adjacent to the Livingston Avenue Bridge.

The maritime center and café was intriguing, but combined with improvement and expansion of the City boat ramp area and the desire to provide additional residential opportunities, it was eliminated from consideration.

As noted the adaptive reuse of the Hilton Center (historically known as the Barnett Mills complex) is an element of each alternative. The historic significance of the structure and unique architectural features combined with its waterfront orientation, view of the River and Albany skyline and the access to the City boat launch, result in a structure conducive for redevelopment that could include a unique combination of retail, living units, and community space such as a cultural arts center. For the purposes of this study, it is estimated that this space would include almost 65,000 SF (60) of apartment space, 8,200 SF of cultural arts or similar space, and 8,200 SF of neighborhood retail under all the alternatives.

The approximately 40 acres owned by RPI to the northeast of the City boat launch represents one of the largest undeveloped parcels remaining in the City. This parcel was identified as a potential location for active recreational area uses including a variety of multi-use fields including baseball, softball, soccer, tennis courts and basketball courts and a recreational 2-story center. The City has expanded its recreational programs over the years but is limited by available facilities.

A multi-use path traverses the entire site connecting south to DeLaet's landing and north to the Rensselaer Technology Park linking the City's Riverfront Trail System to the Rensselaer County Trail System noted in the October 2004 *Rensselaer County Trail from the Livingston Avenue Bridge to the Troy-Menands Bridge*.

There was varying interest favoring the development of this space for active recreation versus the development of this space as a business park that would tie into the Rensselaer Technology Park located to the north and east and connecting to Route 4 from both Steering Committee members and the public. As discussed above, this resulted in the development of Alternatives 4.2 and 4.3.

4.2 Alternative 2

Alternative 2 (Figure 4-2) consists of the same major elements as Alternative 1. The key changes are the layout of the residential area to reduce floodplain impacts and the increase in the residential building heights. The inclusion of two, six story buildings and one, seven story building represented a compromise between the desire for increased density and protection of the viewshed.

Residential and Commercial Mixed use (adjacent to the Livingston Avenue Bridge)

- Approximately 383 units
- Two, 6 story buildings with 96 units
- One, 7 story building with 140 units
- 3-story building – with 14,040 SF commercial and 16 residential units
- One, 5-story building with 35 units
- Parking closer to river to reduce floodplain impacts

- Emergency access, multi-use path extension under Livingston Avenue Bridge to southwest
- Surface parking associated with each structure

Hilton Center Mixed Use Development and Waterfront Park (See Alternative 1)

- Hilton Center Redevelopment – mixed use retail, residential and cultural arts
- Expansion and improvements to existing waterfront park and boat ramp
- Surface parking
- Multi-use path extension

Recreation – active and passive (See Alternative 1)

- Multi use pedestrian connection between existing waterfront park to property boundary with East Greenbush– future connections to trails to the northeast
- Two-story, 31,200 SF recreation center in vicinity of Patroon Island Bridge
- Recreational fields- basketball, tennis, youth softball, little league, baseball, multi-purpose
- Surface parking

The reaction to the residential area near the Livingston Avenue Bridge was that, while it may reduce flooding risk it was not visually appealing. The Steering Committee requested a layout that would not include all of the parking in one large lot facing the Hudson River.

4.3 Alternative 3

As described in the discussion under Alternative 1, the Steering Committee wished to evaluate a layout which provided the recreational amenities proximate to the Livingston Avenue Bridge and included a layout for an office park in the vicinity of the Patroon Island Bridge. The area in the vicinity of the Livingston Avenue Bridge is approximately 18 acres necessitating a reduced number of recreational fields and facilities. Traffic generated by the office park would require the development of additional site access from either Lincoln Terrace/Manor Road or Jordan Road. Alternative 3 including two potential road connections is illustrated in Figure 4-3 and 4-4.

Recreation area- active (adjacent to the Livingston Avenue Bridge)

- Baseball and soccer field, tennis and basketball court
- Two-story, 28,000 SF recreation center
- Surface parking
- Emergency access, multi-use path extension under Livingston Avenue Bridge to southwest
-

Hilton Center Mixed Use Development and Waterfront Park

- Hilton Center Redevelopment – mixed use retail, residential and cultural arts
- Expansion and improvements to existing waterfront park and boat ramp
- One, 5-story building with 35 residential units – adjacent to boat launch area
- Surface parking
- Multi-use path extension

Office Development

- Approximately 245,600 SF of commercial
- 1 story office-15,600 SF southwest of Patroon Island Bridge
- 3, two story office buildings between Patroon Island Bridge and Property Boundary
 - Structure 1- 100,000 SF
 - Structure 2- 70,000 SF
 - Structure 2- 60,000 SF
- Surface parking
- Multi use pedestrian connection between existing waterfront park to property boundary with East Greenbush– future connections to trails to the northeast
- Potential Future Access
 - Future road connection to Jordan Road
 - Future Road connection to Lincoln Terrace/Manor Drive to Washington Avenue

Discussion regarding the large office development versus the reduced recreational area and limited residential component focused on following issues:

- Value of commercial development versus the cost to construct the required access
- Lack of available property in the City to develop a recreational complex
- Reduced recreational area in this alternative
- Demand for office space in this location
- Reduced emphasis on residential units
- Reduced emphasis on community space and access

4.4 Alternative 4

A fourth alternative (Figure 4-5) was requested that reintroduced residential units near the Livingston Avenue Bridge. A small recreational component would be included just south of the Patroon Island Bridge and commercial office would remain north of the patroon Island Bridge. As identified in Alternative 3, the office development would require consideration of additional site access in the northern area of the site (Figure 4-4).

Residential and Commercial Mixed Use (adjacent to the Livingston Avenue Bridge)

- Approximately 408 units total
- Two, 6-story buildings with 96 units and 120 units
- One, 7-story building with 112 units
- Parking closer to river to reduce floodplain impacts
- Two, 5-story buildings with 40 units each
- Emergency access, multi-use path extension under Livingston Avenue Bridge to southwest
- Surface parking associated with each structure

Hilton Center Mixed Use Development

- Hilton Center Redevelopment – mixed use retail, residential and cultural arts

Recreation – active and passive

- Expansion and improvements to existing waterfront park and boat ramp
- Multi use pedestrian connection between existing waterfront park to property boundary with East Greenbush– future connections to trails to the northeast
- Two-story, 31,200 SF recreation center in vicinity of Patroon Island Bridge
- Outdoor basketball and tennis courts
- Surface parking

Office Development

- Approximately 230,000 SF
- Three, 2-story office buildings between Patroon Island Bridge and Property Boundary
 - Structure 1- 100,000 SF
 - Structure 2- 70,000 SF
 - Structure 3- 60,000 SF
- Surface parking
- Multi-use pedestrian connection between existing waterfront park to property boundary with East Greenbush with future connections to trails to the northeast
- Potential Future Access
 - Future road connection to Jordan Road
 - Future Road connection to Lincoln Terrace/Manor Drive to Washington Avenue

Again the discussion regarding this alternative centered on the availability of recreational amenities within the City, the viability of a commercial office park on the RPI lands and the cost of developing the additional roadway connections.

After a review of Alternative 4, the Steering Committee, City officials and the public determined that the combination of residential uses, waterfront improvements, redevelopment of the Hilton Center, and recreational facilities were the most desirable. This combination would maintain and improve public access to the River, provide much needed active and passive recreational facilities to City residents, and offer opportunities for waterfront living. The redevelopment of the Hilton Center as a mixed use residential, retail, and cultural arts center would draw people to the site helping to create a community gathering spot.

To ensure that views to the River were maintained and to address density concerns, structure height shown in Alternatives 2 and 4, would be reduced.

4.5 No-Action Alternative

As noted in Section 1.1, this largely undeveloped Study Area offers a unique opportunity for the City to preserve and enhance public recreation and access to its waterfront, preserve and celebrate its history through rehabilitation and adaptive reuse of the Hilton Center and provide for current and future residents opportunities to live and/or conduct business activities within the site. Under the No-Action alternative, the site would remain as is and no development alternatives would be evaluated and progressed. As a result, the historic Hilton Center structure would continue to deteriorate and improvements to the boat launch would not be completed.

The loss of opportunity to enhance this unique asset for the benefit of the City and its residents rendered the No-Action alternative undesirable.

SECTION 5.0

IRREVERSIBLE & IRRETRIEVABLE COMMITMENT OF RESOURCES

Construction of the Preferred Alternative envisioned in the Kiliaen's Landing Master Plan would result in the irreversible and irretrievable commitment of a variety of resources. The greatest commitment of natural resources is the conversion of vacant or underutilized land to a developed state.

If the Study Area is developed as outlined, nearly 70 acres of currently undeveloped woodlands, brush and brush and related habitat would be converted to residential and recreational uses, in addition to the approximately five (5) acres of the redeveloped Hilton Center and boat launch area. It is unlikely that the residential portion of the site would revert to an undeveloped site, therefore the removal of trees and vegetation would eliminate some natural habitat for small mammals, birds and reptiles. The active recreational area in the northern half of the site could potentially revert to an undeveloped state however based on the vision of the City for this area, that outcome is unlikely.

Construction of structures, related site improvements and infrastructure would require the consumption of building materials, equipment, energy, and human resources. During and after construction, this new development would require utilities such as sewer, water, electricity, and natural gas. Municipal services such as solid waste disposal, police, and fire would also be required. Once committed, these resources would not be available for other uses.

SECTION 6.0

USE AND CONSERVATION OF ENERGY

Any construction related to Kiliaen's Landing will be required to conform to the New York State (NYS) Building Construction Code which will minimize energy usage. In addition, construction will be required to comply with the applicable sections of the NYS Energy Conservation Construction Code. As specific projects move forward, specific methods to reduce and conserve energy consumption will be evaluated in more detail. Green building design, construction, operations, and maintenance plans will be considered and implemented as practicable in each component of the overall plan.

During construction and installation activities, Best Management Practices will be employed such as:

- Limiting the idling of equipment and vehicles to 5 minutes.
- Use of more energy-efficient equipment during construction and maintenance
- Continued regular inspection and maintenance of construction equipment.
- Construction scheduling to allow for efficient installation of project components and reduced down time between tasks or phases.

Internal circulation including roadways, multi-use trail and sidewalks will be designed to provide efficient connections between the various site elements including the boat launch, recreation area, residential area and the Hilton Center mixed use area. Attractive and safely designed non-motorized pathways within the site will encourage residents of Kiliaen's Landing to minimize vehicle use between the various elements of the site. In addition, the planned multi-use pathway that will traverse the Study Area will connect to future multi-use pathways to the south under the Livingston Avenue Bridge and to the north to future trails in the Rensselaer Tech Park and the Rensselaer County Trail System.

The installation of car charging stations will encourage the use of energy efficient electric cars. The number and location will be based on the specific projects proposed including site demand, parking demand as well as any available information regarding numbers of electric vehicles in use in the Capital District. Nearby public transportation including CDTA bus stops, the Albany-Rensselaer Train Station and the proposed Gondola connecting the Albany-Rensselaer Train Station to the City of Albany all work together to reduce the use of fossil fuels.

The use of rooftop solar arrays would reduce the consumption of energy for heating, cooling and electricity. The Inventory and Analysis (Appendix 2) used the PV Watts Calculator to estimate the energy output.

The original estimate was updated using the HeliScope 2016 design software tool to create a photovoltaic array layout for each roof structure to estimate potential solar energy production. This program allows the user to layout a potential array on a structure to calculate energy production (kW). For these calculations it was assumed the solar array will cover almost all of the roof area. The calculated energy output was reduced by 40% to accommodate rooftop utilities and other roof obstructions. Based on the projected energy demand for the preferred alternative, the HeliScope model projects that just over 17% of overall the estimated energy demand (550 kW) could be met (Appendix _). The HeliScope 2016 model can continue to be utilized as specific buildings and projects are reviewed to refine these estimates.

Several buildings within the Hilton Center complex are listed on the National Register of Historic Places; therefore those structures and their immediate surroundings are likely not a suitable location for solar installations. The Hilton Center, therefore was not included in this analysis. Ground mount installations are generally not recommended in the 100-year flood plain; opportunities within the Study Area would be limited.

The use of landscaping to shade parking areas and sidewalks will reduce the “heat island effect” that results from large paved areas. The use of light colored pervious or permeable pavers can help reduce the heat island effect while also minimizing stormwater run-off. Building orientation to take advantage of natural heating and cooling processes can also be considered.

The NYS Energy Conservation code addresses elements such as heating and cooling systems, hot water systems, electrical systems, construction material, equipment specifications and building sealing and insulation. NYSERDA promotes compliance with the Energy Star and New York Energy Smart programs. These programs encourage the use of energy conserving appliances, materials, technologies and building techniques and would reduce the overall long-term energy consumption of projects within the Study Area.

SECTION 7.0

FUTURE SEQR ACTIONS

As noted in Section 1.3 the development of Kiliaen's Landing Preferred Alternative is considered a Type 1 action under SEQR Part 617.5. The City of Rensselaer as the project sponsor is responsible for lead agency procedures and preparation of this GEIS. The City Planning Commission declared themselves lead agency by resolution on July 10, 2017, conducted public scoping and filed the Final Scope on September 6, 2017. This included a Public Scoping meeting held on August 7, 2017.

Projects that fall within the thresholds and are consistent with the goals outlined in this GEIS will be considered to be consistent with the findings of this SEQR process and therefore will have no further responsibility under SEQR. Each project proposed for the Study Area will be evaluated against the thresholds and recommendations for the Preferred Alternative in this GEIS to determine if further SEQR action is required.

Projects that exceed the thresholds evaluated, don't meet the requirements outlined in this GEIS or the associated Statement of Findings, or are not consistent with goals outlined in this document will require further action under SEQR. For example, this GEIS evaluated the impacts of approximately 356 residential apartments near the Livingston Avenue Bridge. A project that proposes 400 units for example would be required to provide information to evaluate the potential impact of the additional units. This could include the evaluation of additional traffic, the potential for increased height of the structures or larger building footprints. The Planning Commission would determine the significance of any deviation from the Preferred Alternative and any associated environmental impacts. Depending on the level of impact resulting from a specific project the Commission could adopt a Negative Declaration (determination of no significant impact) or a Positive Declaration followed by the preparation of an environmental impact statement.