



MOORE POINT & LAKE MOORE

## Riparian Strategy

For Coronation Property & Leamac Property Group

## Riparian Strategy

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25/03/2020	A	For Review	M Brown	M Brown
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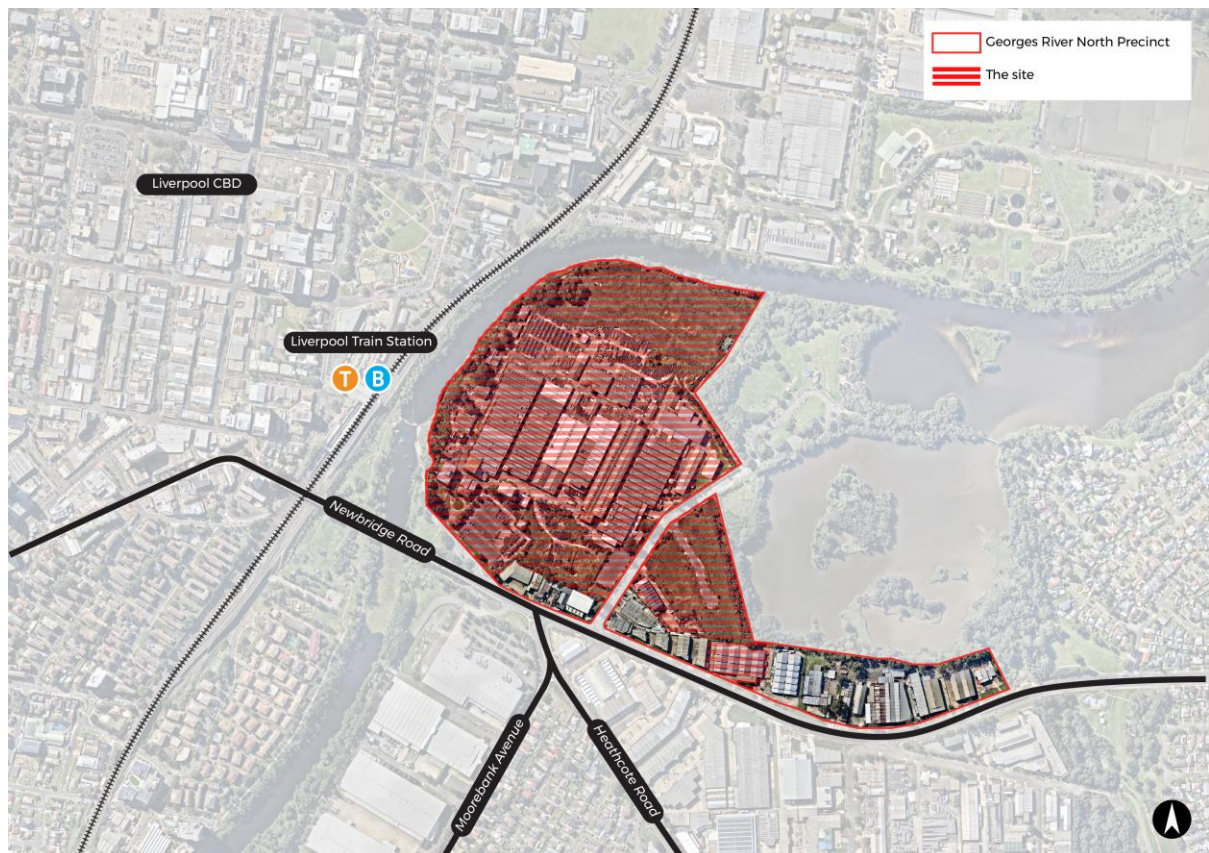


## Executive Summary

This report has been prepared by Northrop Consulting Engineers on behalf of Leamac and Coronation to outline a riparian management strategy in relation to a Planning Proposal at Moore Point, Liverpool (the site).

The site is located east of Liverpool CBD on the opposite side of the Georges River and north of Newbridge Road. It provides a site area of 38.5 hectares (approx.) and is currently developed with industrial uses.

The site is situated within Liverpool Collaboration Area's Georges River North precinct and is subject to the priorities and actions of the Liverpool Place Strategy (Strategy), which was released by the Greater Sydney Commission (GSC) in December 2018 (Figure 1).

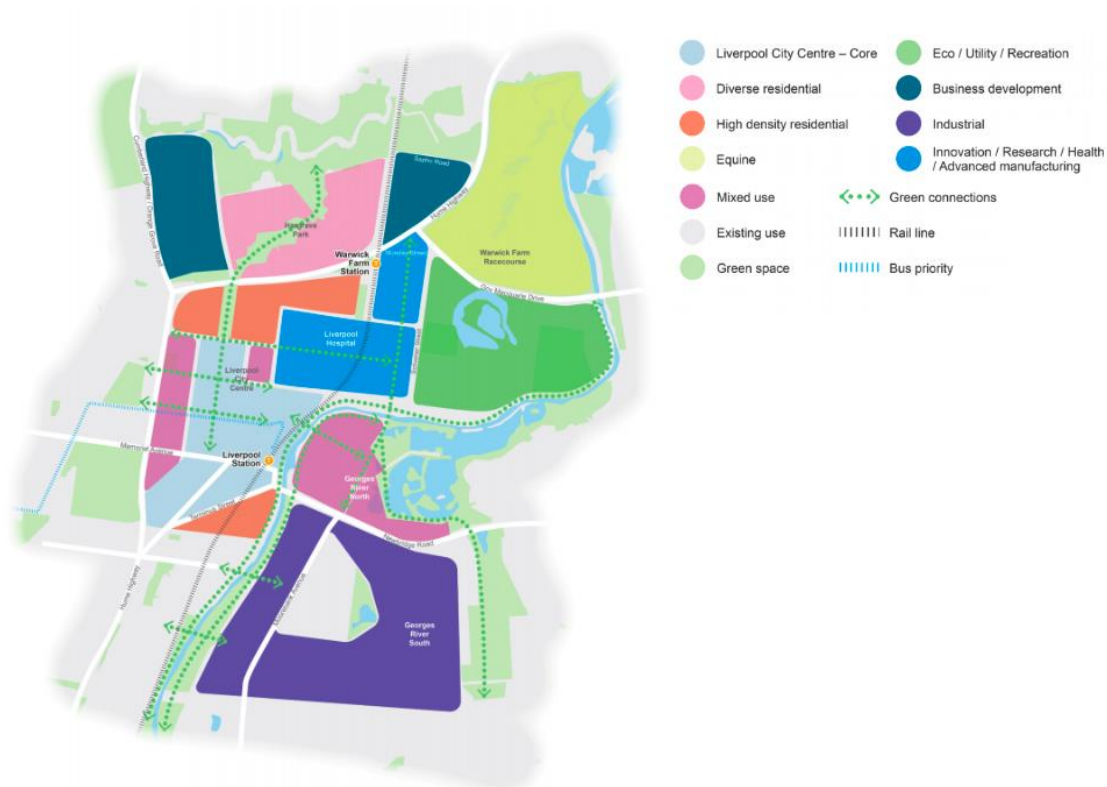


**Figure 1:** Site aerial (Source: Nearmap modified by Mecone)

The Strategy states that by 2036 Liverpool will be a rejuvenated river city, offering diverse and growing residential and employment opportunities. Major health, education and retail precincts, and a mixture of open spaces and parklands alongside the Georges River, will create a rich mix of jobs and workplaces, public spaces, shops and entertainment.

Under the Strategy the site is identified as 'mixed use', which comprises:

*'a mixture of commercial, retail, residential and community uses that provide sustainable employment, that is complementary to, and not in competition with, the commercial core' (Figure 2).*



**Figure 2:** A Place Strategy for Liverpool (Source: Liverpool Collaboration Area Place Strategy 2018)

The 2019 Annual report summary for Liverpool Collaboration Area highlighted key steps commenced and completed to address the imperatives acknowledged in the Strategy to accelerate the delivery of the Collaboration Area. These included:

- Engagement with TfNSW to prepare the Liverpool Place-based Integrated Transport Strategy and accelerated investment; and
- Flood studies and floodplain risk management plan completed by Liverpool City Council.

The land uses reflected in the Strategy are reinforced in Liverpool City Council's Local Strategic Planning Statement (LSPS), which identifies the site for investigation as residential/mixed use to support the CBD and Innovation Precinct in tandem with linking open space and green corridors.

The LSPS provides the following short to medium term action (12-24 months) specific to the Georges River North precinct:

*Action 11.2 – Investigate amendments to LEP to rezone River precinct north of Newbridge Road (Moore Point) as a mixed-use zone to support the Liverpool CBD and Innovation Precinct, with an extensive open space system and cross-river linkages (short to medium term)*

The Planning Proposal involves the creation of a mixed use precinct, providing new homes, jobs and open space adjoining the Georges River and connecting to Liverpool CBD. Key features of the proposal include:

- Adaptive re-use of existing heritage;
- Foreshore embellishments and new open spaces;
- Educational and cultural facilities;
- Connections to Liverpool CBD and Train Station; and
- Transport, intersection and collector road improvements.

The Planning Proposal aligns with the priorities of Government and the implementation phase of the Place Strategy by facilitating the transformation of the Collaboration Area with new jobs, infrastructure, green spaces and housing. The Planning Proposal responds to The Pulse of Greater Sydney's performance indicators, which sit under the following key themes:

### **Infrastructure and Collaboration**

The Planning Proposal will facilitate additional jobs, education and housing in close proximity to Liverpool CBD and Train Station. The proposal will support additional medium and long-term housing supply in Liverpool CBD through diverse and new housing products. The proposal supports the continual expansion and growth of Liverpool Innovation precinct and nearby health infrastructure, with potential to provide complementary uses near Liverpool Hospital and educational and cultural facilities on the site.

### **Productivity**

The Planning Proposal supports the growth of the thirty-minute city, ensuring Liverpool emerges as a premier CBD in the Western City. The proposal provides capacity for new transport infrastructure on the site, road and intersection upgrades and locating density near major transport infrastructure (Liverpool Train Station and Badgery's Creek Aerotropolis). The proposal encourages additional business activity and investment in Liverpool by providing new commercial uses that will complement Liverpool CBD.

### **Liveability**

The Planning Proposal significantly improves upon the existing use of the site by creating walkable places for people to live work and play. This includes foreshore embellishments to the Georges River, improved connections across the Georges River and adaptive re-use of existing heritage items. These measures will contribute to Sydney's Green Grid, improve access to services in Liverpool CBD and establish a community that celebrates identity and place.

### **Sustainability**

The Planning Proposal addresses the urban heat island effect by significantly increasing the quantum of green space on the site for active and passive recreational use. The proposal will provide new parks and green connections to surrounding open spaces including Haigh Park, which will contribute to the urban tree canopy of the area.

Overall, the Planning Proposal represents a clear and consistent strategic line of site with the priorities of government. It meets the performance indicators, priorities and objectives expressed in the District Plan, Place Strategy, LSPS and The Pulse of Greater Sydney.

Nothing contained in the body of this report/assessment would preclude the Planning Proposal from rezoning and gazettal for residential/mixed use purposes.

Specifically, the Joint Landowners Group for Moore Point are proposing to create a vibrant mixed-use development that embraces, embellishes and enhances the environmental and community benefits of the riparian corridor at Moore Point and Lake Moore.

In order to take advantage of placemaking opportunities for the precinct, the type of river front that is created will contain a mix of landscaped responses - some urban and some environmental. This mix of treatments will provide an immersive riverine experience for the community of Moore Point and Liverpool. Here, people-centric urban landscapes will blend with vegetated areas down to the river shore.

The riparian corridor in the precinct will contain three zones, i.e. River Bank, Inner VRZ and Outer VRZ which is consistent with the NRAR Riparian Guideline. Where no vegetation exists in riparian

zones now, it will be landscaped with a varying balance of native revegetation and urban landscape forms. These urban forms are to encourage activation of the river zones and they will protrude into the Inner VRZ in each zone. This approach does not conform to the Guideline. Therefore, a merit-based approach to assessment of this riparian strategy for the entire precinct is proposed which – in part - relies on offsetting to demonstrate an overall improved environmental outcome. These outcomes are summarized as follows:

- Development encroachment into the Inner and Outer VRZs is reduced by 8,158m<sup>2</sup> compared to the existing situation
- For the Inner VRZ, River Bank and Outer VRZ, the total amount of retained vegetation + proposed offset revegetation compared to that lost is 109,195m<sup>2</sup> vs 7,751m<sup>2</sup>

These outcomes show that the proposed offsetting strategy provides a significant improvement in the environmental, ecosystem and biodiversity outcomes at Moore Point and Lake Moore. The approach has a sound rationale which justifies a merit-based assessment on this basis. A merit-based assessment should also rely on compliance with policy and legislative framework relevant to the riparian corridor at Moore Point which this Strategy demonstrates.

With this Riparian Strategy implemented, the result will be a riparian corridor that is stable, rehabilitated, revegetated, biodiverse, activated, cooled and popular. Through the Placemaking Working Group, the Joint Landowners commit to achieving each of the outcomes as they plan and further design the riparian corridor in the precinct. The environmental and community amenity at Moore Point and Lake Moore will be vastly improved and commensurate with the aspirations of the community that will inhabit it, pass through it, and visit it.

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# 1. Preamble

## **Associated reports**

This report should be read in conjunction with:

- Moore Point Masterplan – Urban Design Report. (SJB, 2020)
- Moore Point Precinct Flood Impact Assessment (J. Wyndham Prince, 2020)
- Moore Point Planning Proposal Biodiversity Assessment Report (Eco Logical Australia, 2020)
- Collaboration Area: Liverpool Place Strategy (Greater Sydney Commission, 2018)
- Moore Point Integrated Blue-Green Management Strategy (Realm Studios, 31/7/19)

Images in these documents have been reproduced in this Report.

## **About the author**

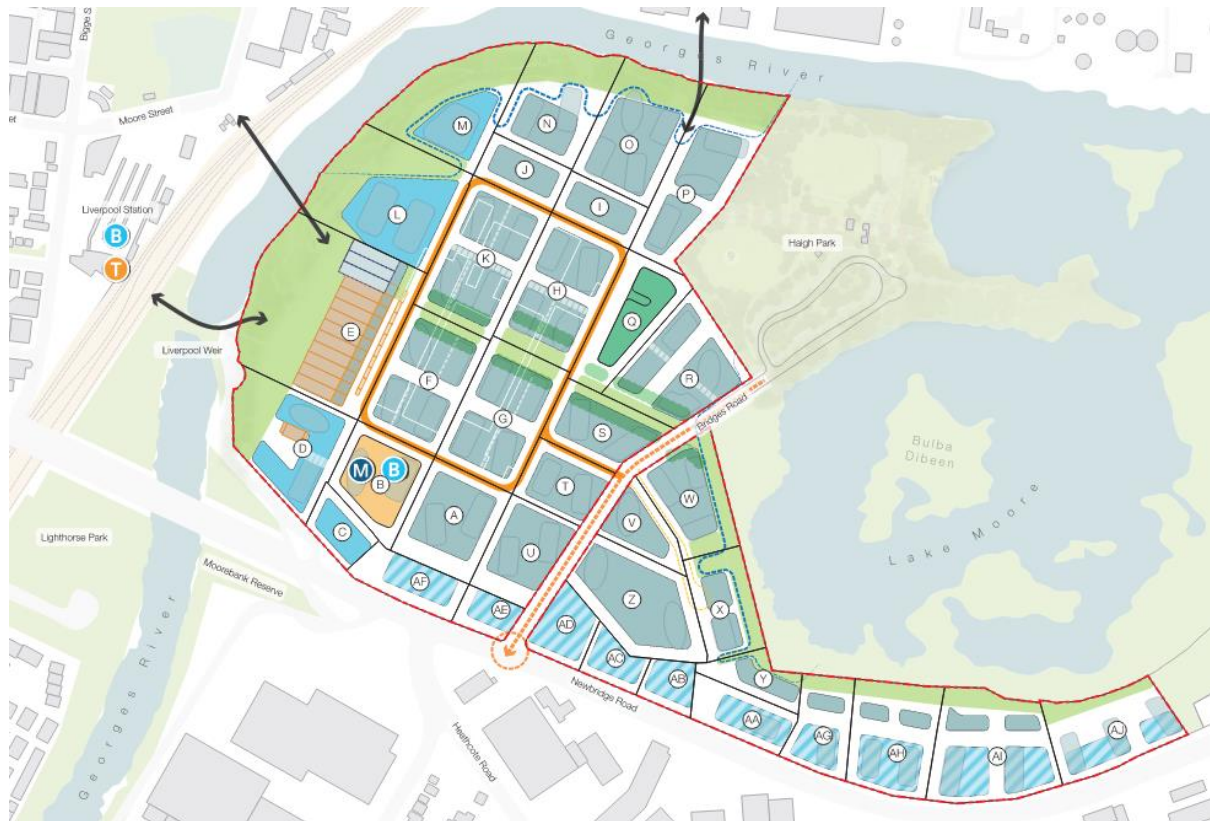
- Mal Brown, Master of Natural Resources, B. Env't'l Sci (Hons)
- Mal has 35 years' experience in the environment and engineering, with particular strength in water environments.



## 2. The Development

Coronation Property and Leamac Property Group own land that dominates Moore Point and parts of Lake Moore.

Together, they are proposing to rezone their landholdings to provide a master planned mixed use residential community. In doing so, they are also addressing land fronting Moore Point which they do not own, with a view to achieving a consistent and integrated approach to land use and development in this precinct. The layout of the development is shown in their site masterplan (Figure 1).



**Figure 1:** Site masterplan showing boundary and proposed uses (Source: SJB, 2020)

### 3. Site Context

#### 3.1 Riverine environment

Moore Point and Lake Moore are bounded by the main channel of the Georges River as it meanders eastward at the Liverpool CBD reach (Figure 2).

##### Site

Moore Point is located at the point where the Georges River transitions from freshwater to estuarine. In close proximity of the site there are both saline tidal and freshwater riparian ecosystems. The site is subject to coastal and river processes.

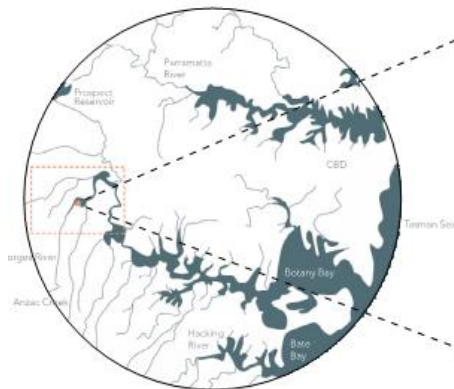


Figure 1: Sydney Basin Waterways

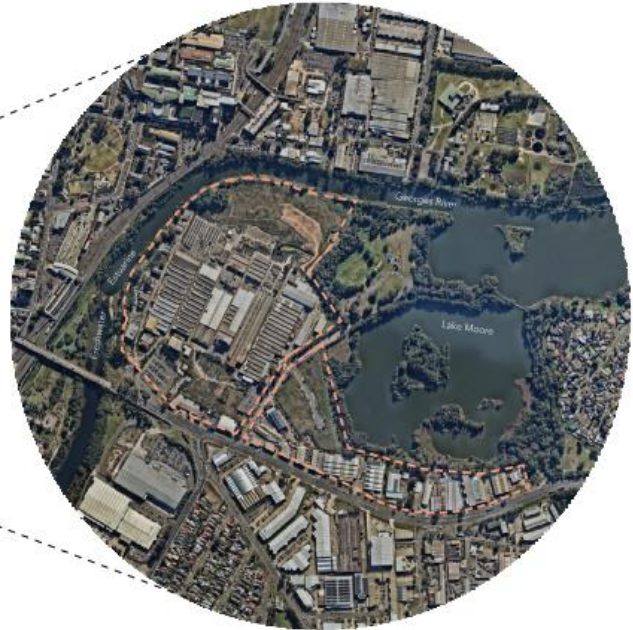


Figure 2: Moore Point Study Area

**Figure 2:** Moore Point and Lake Moore in the context of the Georges River (Source: Realm, 2020)

On the western side of Moore Point is a weir which forms a physical barrier between the tidal (brackish) water downstream, and non-tidal, fresh water upstream (Figure 3).



**Figure 3:** The weir on Georges River.



The fluvial (riverine) morphology of Moore Point was quite different in 1943 (Figure 4). Lake Moore was a remnant oxbow lake/billabong. The area (including riverbanks) was largely cleared and the alluvial floodplain supported horticulture. Lake Moore was subsequently formed by sand mining, connecting it to the Georges River.



**Figure 4:** Moore Point in 1943 (Source Six Maps 18/3/2020)

Today, Moore Point and Lake Moore supports somewhat more vegetation, largely from plantings around the Lake and Haigh Park, and limited natural regeneration around the river (Figure 5).



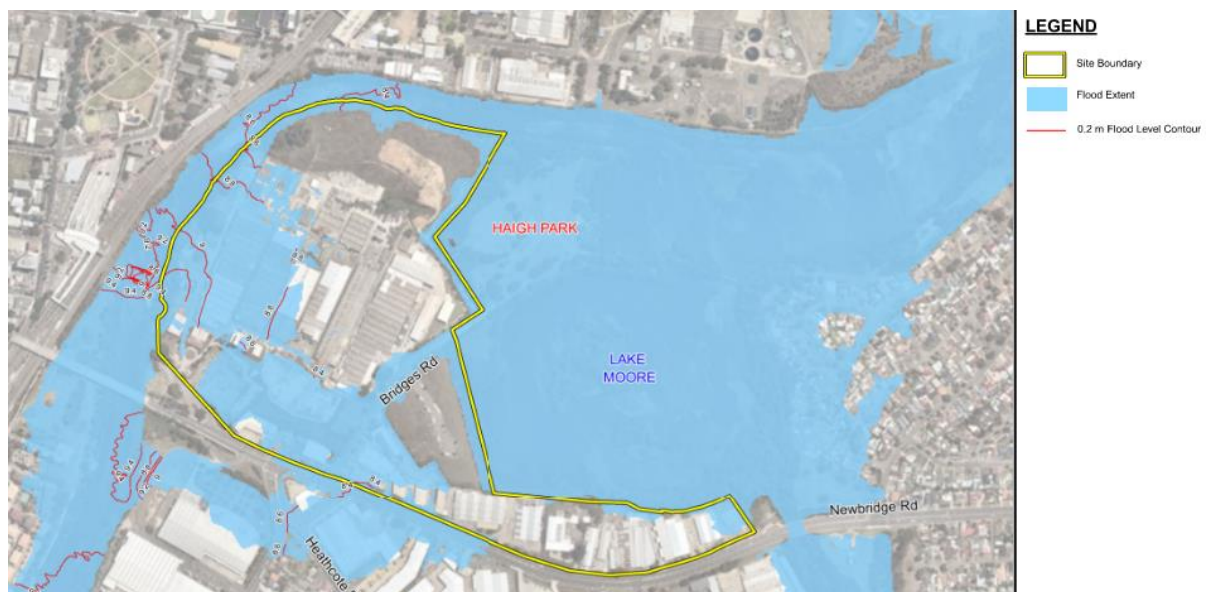
**Figure 5:** Moore Point and Lake Moore today (Source Six Maps 18/3/2020)

There are no known erosion features on the Moore Point peninsula. This is because “points” of rivers occur on the low energy side where deposition, rather than erosion, is a feature. The steep banks of the opposing river shore demonstrate an erosional history.

### 3.2 Flooding

The Georges River is particularly susceptible to flood due to its morphology. Upstream of Moore Point, the narrow river valley confines waters causing it to back up and breach the banks. Significant flooding (>7.0m AHD) has not occurred since 1986. The highest recorded flood level is 10.5m AHD in 1873.

Moore Point is situated where this confined river reach terminates, before opening out into Lake Moore. The 1% AEP (or 1 in 100 year) flood level varies between 8.4m-9.2m AHD, while the Probable Maximum Flood level is 12.4m AHD. The 1% AEP flood extent for the existing condition is shown in Figure 6.



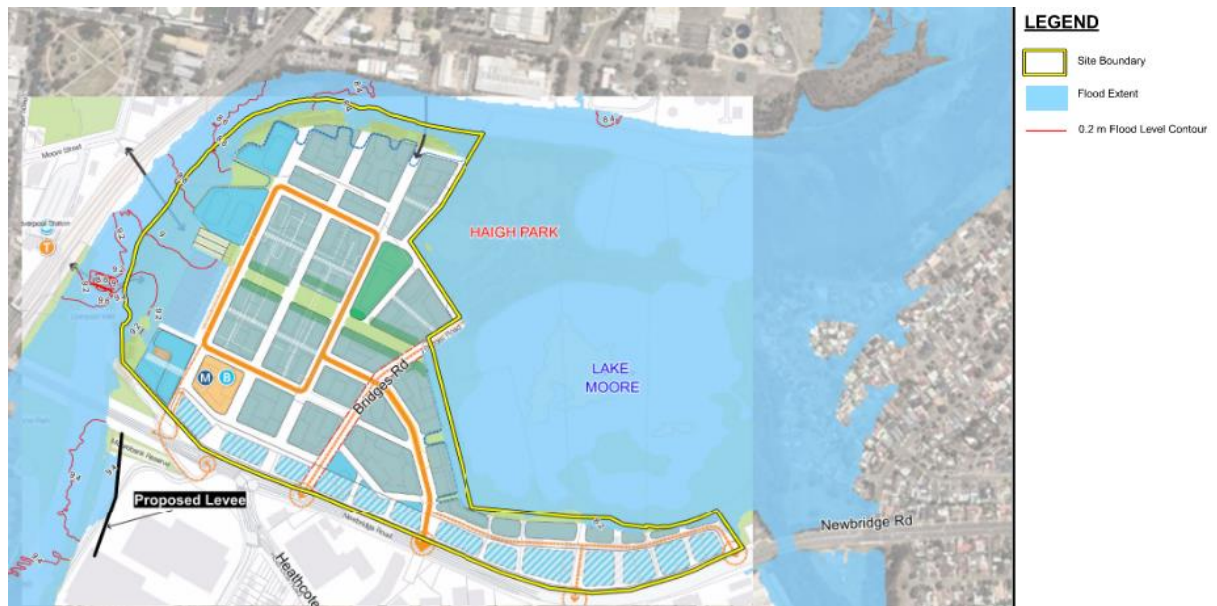
**Figure 6:** Moore Point 1% AEP Flood Impact - Existing Conditions (Source: J. Wyndham Prince, 2020)

JWP (2020) have undertaken flood modelling and they propose some local solutions to mitigate the effects of flooding in the precinct, including:

- Installation of a levee to prevent river over-topping around Newbridge Road, and
- Raising of the developable area of the site to raise it above the Flood Planning Level.

The developed condition flood extents are shown in Figure 7. The proposed development will not exacerbate flooding that will affect any property or risk to life. For most parts of the precinct and surrounding lands, flood conditions will be improved as a result of the solutions.





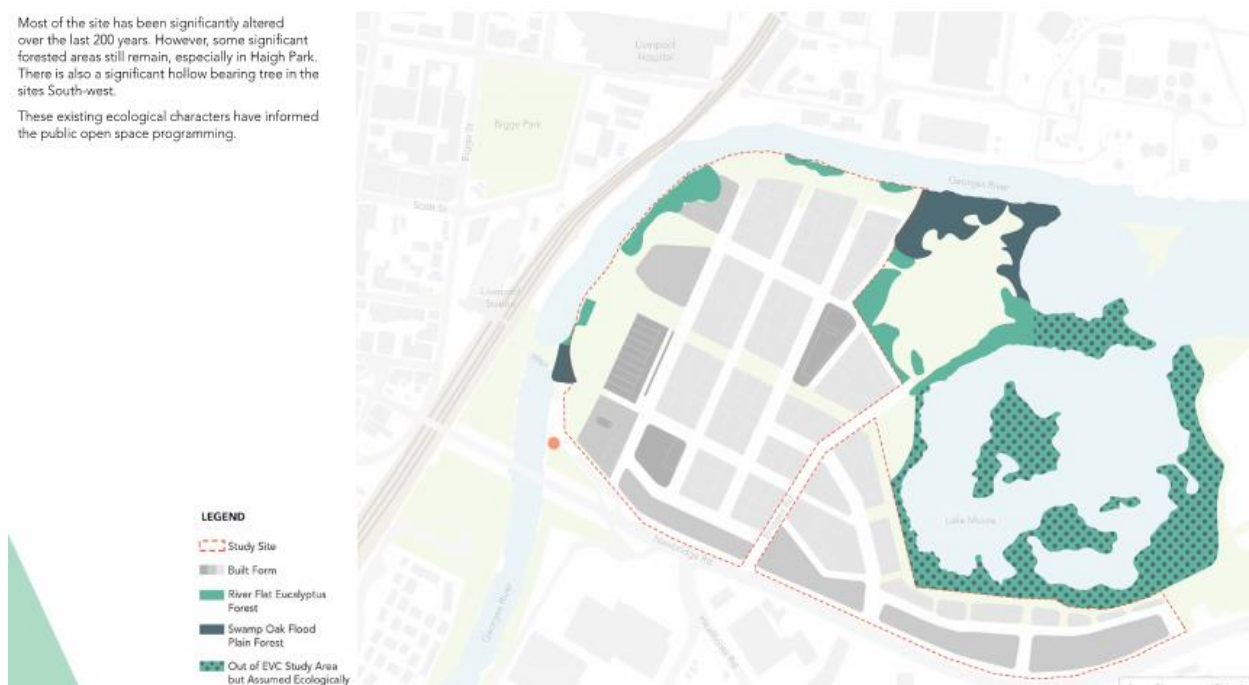
**Figure 7:** Moore Point 1% AEP Flood Impact - Developed Conditions (Source: J. Wyndham Prince 2020)

### 3.3 Remnant Ecology

There is little if any original vegetation in the precinct. None of what remains is undisturbed. Most of the vegetation that is present is as a result of previous plantings, and natural regeneration. Despite this, the vegetation that is established on site is representative of ecologically significant vegetation communities (Figure 8). Much of this is weed-infested to varying degrees.

Most of the site has been significantly altered over the last 200 years. However, some significant forested areas still remain, especially in Haigh Park. There is also a significant hollow bearing tree in the sites South-west.

These existing ecological characters have informed the public open space programming.



**Figure 8:** Remnant ecological communities at Moore Point and Lake Moore (Source: SJB 2020)

## 4. Policy & legislative framework

### 4.1 Local context

The *Liverpool City Council Development Control Plan (2008)* identifies the following objectives for consideration in regard to development near a watercourse:

- Prevent bank and bed erosion and instability of waterways
- Protect, restore and maintain ecological processes...
- Ensure conservation and long-term maintenance of existing native vegetation in waterfront areas

### 4.2 Precinct context

The Joint Landowners Group (Leamac and Coronation Property) have proposed a Placemaking Working Group to ensure that the delivery of Moore Point over the next 40 years creates a happy, healthy and resilient community. The aim of the Working Group is to collaboratively explore and assess place-led opportunities to ensure the precinct vision is delivered based on world's best practice. The interim vision below is expected to be refined by the Working Group:

*A riverfront place for people which is well served by public transport, connected to its surrounding landscape and complements Liverpool City Centre. It will be mixed use with cultural and educational opportunities for residents and visitors. Connected with green gridded streets, bridges and landscaped waterfront it will be a focal point for the growing Western Sydney metropolis and place for everyone.*

#### Placemaking

Ensure the structure plan will deliver the desired amenity, activation and walkability in river-orientated setting to create a place that is welcoming, comfortable, safe and family friendly. Key elements include: Identity; Public Life; Urban Form; Sustainability and Realisation. The Movement and Place Framework will be used to explore opportunities for conscious mobility giving priority to people walking, cycling, using public transport and driving – in that order. These strategies and projects will aim to improve people's health, and reduce unnecessary vehicle trips.

#### River interface

Agree to foreshore embellishments to the Georges River in line with the precinct vision, including improved connections across the Georges River. These measures will contribute to Sydney's Green Grid, improve access to Liverpool CBD and establish a community that celebrates identity and place. Enabling a transect of foreshore experiences from most-urban to most-natural will be a key focus to ensure the realization of the opportunity provided by this city-shaping precinct to increase public foreshore access and activation.

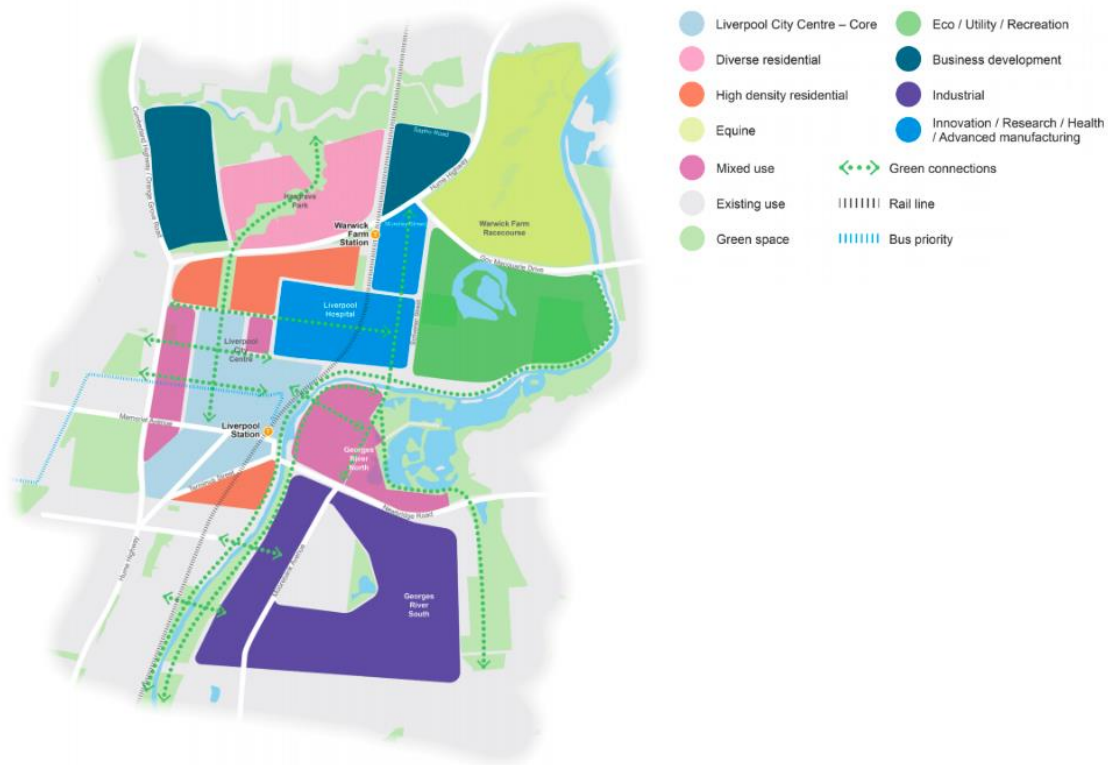
#### Sustainability

Explore opportunities for precinct-wide sustainability initiatives in line with Western City District Plan, and to address the urban heat island effect by increasing the quantum of green space and tree canopy currently found on the site for active and passive recreational use.

The key issue for this Riparian Strategy is *Enabling a transect of foreshore experiences from most-urban to most-natural will be a key focus*. This challenges the NRAR Guideline approach and is discussed in subsequent sections.

### 4.3 Regional context

The Liverpool Collaboration Area Place Strategy considers multiple stakeholders and is organized by the Greater Sydney Commission. The purpose of this collaboration is to solve complex urban issues as Liverpool LGA grows. The area is shown in Figure 9.



**Figure 9: Liverpool Urban Collaboration Area**

The *Liverpool Place Strategy* identifies priorities for the Liverpool Collaboration Area including:

- Connectivity
- Liveability
- Sustainability.

Priority 8 is to “Develop a network of high quality open space ...(with) improvements to the Georges River and its foreshores”. Priority 9 is to “create a resilient place which includes various environmental initiatives such as vegetation to reduce urban heat”. The Collaboration envisions the Georges River banks as providing a range of urban and ecosystem functions.

### 4.4 State Policy context

#### 4.4.1 Riparian lands

The Natural Resources Access Regulator (NRAR) is an independent regulator established under the *Natural Resources Access regulator Act 2017*. It’s primary function is regulation of water activities. NRAR administers the *Water Management Act 2000* and is required to assess the impact of any activity proposed for waterfront land (called a controlled activity) to minimise the harm done to

waterfront land as a result of the work. This means that applicants must obtain a controlled activity approval from NRAR before starting any work on waterfront land.

To assist with approvals of development on waterfront land, NRAR has prepared the *Guideline for controlled activities on waterfront land: Riparian Corridors*. The Guidelines define riparian corridors and zones within them, and they propose an averaging rule whereby encroachments into the riparian zone by development can be offset. They have prepared a riparian corridor matrix governing allowed allowable infrastructure.

In the case of Moore Point, the proposed development does not fully conform to the matrix/Guideline. A range of foreshore transects will be created ranging from most-urban to most-natural. In the case of Moore Point, it is proposed to develop merit based site specific guidelines through the Placemaking Working Group to deliver on Liverpool Council's vision to become a true river city. The merit-based approval process proposed is consistent with the local, precinct and regional contexts described above, and the Objects and Principles of the *Water Management Act 2000*.

#### **4.4.2 Water Management Act 2000**

The *Water Management Act 2000* contains the following objectives that the proposed development will adopt:

- Ecologically Sustainable Development
- Protect, enhance and restore:
  - Water sources,
  - Ecosystems and their processes
  - Biological diversity
  - Water quality
- Foster social and economic benefits:
  - Environment
  - Communities and recreation

The *Water Management Act 2000* also lists the following principles for waterways:

- Social and economic benefits to the community maximized
- Floodplain management
  - Land must be rehabilitated
  - Impacts of flood works minimized
  - Existing and future risk to life and property minimized
- Controlled activities
  - No decline in native vegetation
  - No increase in land degradation, land must be rehabilitated

The Joint Landowners commit to achieving each of the objectives incorporating these principles into the riparian corridor of the precinct.



## 5. Urban design and the riparian corridor

SJB have developed an urban design for the proposed development in consideration of a broad range of factors. Key elements of the urban design are the character areas, which define land uses within the Moore Point precinct (Figure 10) and a Landscape Structure Plan (Figure 11).



**Figure 10: Moore Point Character areas overview (Source: SJB 2020)**



**Figure 11: Landscape structure plan for Moore Point and Lake Moore (Source: SJB 2020)**

Key features of these two plans for the precinct include:

- A development that integrates, embraces and embellishes the waterfront
- Recognition of different levels of use and activation of the waterfront: i.e. active, passive, lakefront and existing open space (Haigh Park).
- Retention and embellishment of existing environmental and social/recreational values in and beyond the waterfront
- Provision of an urban landscaped Georges Riverfront that faces and connects to Liverpool CBD

This represents a considered and balanced approach to creating a mixed use community in the precinct, and allows for significant environmental improvements in the riparian corridor.

Realm Studios prepared the *Moore Point Integrated Blue-Green Management Strategy* (2019) for the Precinct. Their approach is consistent with SJB's plans, varying only in the increased emphasis placed on the river and waterfront land. This acknowledges the flood constraints of the site and maximises the interaction of the community in the waterfront. Figure 12 shows their design philosophy of urban liveability.



**Figure 12:** Design philosophy behind the Integrated Blue-green Management Strategy (Courtesy: Realm Studios)

Realm Studios depicted their Blue-Green Strategy showing how the Georges River will interact with the development in normal and flood conditions (Figure 13)



**Figure 12:** Blue-green Management Strategy (Courtesy: Realm Studios)

## 6. Riparian corridor responses

As intimated throughout this document, a merit-based approach to the management and assessment of the precinct riparian strategy is proposed. This section develops and provides a rationale for the riparian strategy.

### 6.1 Delineation of Vegetated Riparian Zones (VRZ)

A top-of-bank method was adopted to define the riparian zones as opposed to using the highest bank. The reason for this is the amount of existing development within the precinct that encroaches into the VRZs (Appendix A – Drawing SK01.01). Three zones are created, viz.:

- River Bank (part of the river channel as per the NRAR Riparian Guideline) (53,263m<sup>2</sup>)
- Inner VRZ – 20m width (45,295m<sup>2</sup>)
- Outer VRZ – 20m width (44,923m<sup>2</sup>)

For area analysis purposes, the River Bank and Inner VRZ are grouped.

The total riparian corridor area for Moore Point and Lake Moore is 14.4Ha.

### 6.2 Comparative riparian corridor encroachments

When the proposed development outline is superimposed on the riparian corridor, there is much less development within the riparian corridor than at present (Table 1 and Appendix A – Drawing SK01.02). This is a significant improvement.

**Table 1:** Existing and Proposed development encroachments into the riparian corridor

Encroachment	Existing (m <sup>2</sup> )	Proposed (m <sup>2</sup> )
Outer VRZ	10,029	3,264
Inner VRZ and River Bank	1,417	24
Totals	11,446	3,288

### 6.3 Impacts of development on VRZs

Much of the existing riparian vegetation in the precinct will be retained (Appendix A - Drawing SK01.03). These areas of vegetation will also be weeded to improve and embellish their condition and appearance.

Some vegetation in the riparian corridor will be removed. It will be necessary to remove this vegetation in order to create urban riverine places. A range of people-centric landscaped treatments will be provided to entice the community to the banks so they can enjoy an immersive riverine experience. This may include hard landscaped elements.



## 6.4 Vegetation offsetting in the Precinct

Where there is no native vegetation present in the riparian corridor, the typical response will be to provide this, in balance with other more urban landscape treatments (Appendix A – Drawing SK01.04).

The creation of newly vegetated riparian corridor areas plus those areas directly adjoining them counts as offsetting in the Riparian Guideline. Revegetation will take the form of the three ecologically significant communities at Moore Point and Lake Moore (as shown in Drawing SK01.03).

The amount of offsetting that is being claimed has been adjusted based on the relative balance of native vegetation versus the urban landscape treatments. There are five river zones that are being created and their relative amount of offsetting is as follows:

- Georges Riverfront – 20% native revegetation counting as offsetting
- Riverfront Neighbourhood – 60% native revegetation counting as offsetting
- Haigh Park and surrounds (Council-owned land) – existing vegetation retained and areas adjoining outer VRZ count as 100% offsetting
- Lakefront - 60% native revegetation counting as offsetting
- Lake Moore Foreshore - 80% native revegetation counting as offsetting

So, for instance the Lakefront zone will have foreshore areas in which 60% of the existing unvegetated zone will be revegetated, and the remaining 40% would be landscaped with a more urban form, and this may project into the Inner VRZ.

As a result, the total amount of riparian corridor vegetation lost, compared to those retained and that provided by offsetting is shown in Table 2. The amount of retained and offset vegetation is an order of magnitude greater than the areas of vegetated riparian corridor that will be lost. This provides a significantly improved environmental and community outcome.

**Table 2: Offsetting of lost vegetation areas**

Vegetated areas	Area of existing vegetation lost within the riparian corridor (m <sup>2</sup> )	Areas of vegetation retained within riparian corridor (m <sup>2</sup> )	Areas of vegetation offset, i.e. new plantings in riparian corridor + existing vegetated areas outside and adjacent to (m <sup>2</sup> )
Inner VRZ and River Bank	6,975	65,931	10,554*
Outer VRZ	776	4,920	27,790*
Totals	7,751	109,195	

\*this number sums the percentage area of offset in each river zone of the precinct

## 7. Conclusions

The Joint Landowners Group for Moore Point are proposing to create a vibrant mixed-use development that embraces, embellishes and enhances the environmental and community benefits of the 14.4Ha riparian corridor at Moore Point and Lake Moore.

In order to take advantage of placemaking opportunities for the precinct, the type of river front that is created will contain a mix of landscaped responses - some urban and some environmental. This mix of treatments will provide an immersive riverine experience for the community of Moore Point and Liverpool. Here, people-centric urban landscapes will blend with vegetated areas down to the river shore.

The riparian corridor in the precinct will contain three zones, i.e. River Bank, Inner VRZ and Outer VRZ which is consistent with the NRAR Riparian Guideline. Where no vegetation exists in riparian zones now, it will be landscaped with a varying balance of native revegetation and urban landscape forms. These urban forms are to encourage activation of the river zones and they will protrude into the Inner VRZ in each zone. This approach does not conform to the Guideline. Therefore, a merit-based approach to assessment of this riparian strategy for the entire precinct is proposed which – in part - relies on offsetting to demonstrate an overall improved environmental outcome. These outcomes are summarized as follows:

- Development encroachment into the Inner and Outer VRZs is reduced by 8,158m<sup>2</sup> compared to the existing situation
- For the Inner VRZ, River Bank and Outer VRZ, the total amount of retained vegetation + proposed offset revegetation compared to that lost is 109,195m<sup>2</sup> vs 7,751m<sup>2</sup>.

These outcomes show that the proposed offsetting strategy provides a significant improvement in the environmental, ecosystem and biodiversity outcomes at Moore Point and Lake Moore. The approach has a sound rationale which justifies a merit-based assessment on this basis.

A merit-based assessment should also rely on compliance with policy and legislative framework relevant to the riparian corridor at Moore Point. In Section 4 of this Riparian Strategy, the framework was identified as Local, Precinct, Regional and State-level policies and legislation. Table 3 (over page) summarises the outcome for each level of the framework. It demonstrates that there is broad compliance at each framework level.

With this Riparian Strategy implemented, the result will be a riparian corridor that is stable, rehabilitated, revegetated, biodiverse, activated, cooled and popular. Through the Placemaking Working Group, the Joint Landowners commit to achieving each of the outcomes as they plan and further design the riparian corridor in the precinct.

The environmental and community amenity at Moore Point and Lake Moore will be vastly improved and commensurate with the aspirations of the community that will inhabit it, pass through it, and visit it.

To that end, nothing contained in the body of this report would preclude the Planning Proposal from rezoning and gazettal for residential/mixed use purposes.

**Table 3: Compliance with policy and legislative framework relevant to riparian corridor at Moore Point**

Compliance framework	Compliance criteria	Outcome provided
<i>Liverpool City Council Development Control Plan (2008)</i>	<ul style="list-style-type: none"> <li>• Prevent bank and bed erosion and instability of waterways</li> <li>• Protect, restore and maintain ecological processes...</li> <li>• Ensure conservation and long-term maintenance of existing native vegetation in waterfront areas</li> </ul>	<p>No erosion is currently present or expected to be created</p> <p>Most existing ecosystems retained, new ones created in riparian corridor</p>
Precinct Context	<ul style="list-style-type: none"> <li>• Placemaking – activation and walkability</li> <li>• River Interface - a transect of foreshore experiences from most-urban to most-natural</li> <li>• Sustainability – reducing urban heat island effect</li> </ul>	Achieved to varying degrees by this Riparian Strategy.
Regional context - Liverpool Collaboration Area Place Strategy	<ul style="list-style-type: none"> <li>• Connectivity</li> <li>• Liveability</li> <li>• Sustainability.</li> <li>• "...a network of high quality open space</li> <li>• ...improvements to the Georges River and its foreshores".</li> <li>• "create a resilient place which includes various environmental initiatives such as vegetation to reduce urban heat".</li> <li>• The Collaboration envisions the Georges River banks as providing a range of urban and ecosystem functions.</li> </ul>	<p>To be further developed by the Placemaking Working Group (including NRAR)</p> <p>Landscape Design responses to develop and support the agreed outcomes of the Placemaking Working Group</p>
<i>Water Management Act 2000 Principles</i>	<ul style="list-style-type: none"> <li>• Ecologically Sustainable Development</li> <li>• Protect, enhance and restore: <ul style="list-style-type: none"> <li>○ Water sources</li> <li>○ Ecosystems and their processes</li> <li>○ Biological diversity</li> <li>○ Water quality</li> </ul> </li> <li>• Foster social and economic benefits: <ul style="list-style-type: none"> <li>○ Environment</li> <li>○ Communities and recreation</li> </ul> </li> </ul>	<p>The Riparian Strategy proposes rehabilitated lands and ecosystems that will improve biological diversity and water quality. Flooding impact to life and property will not be exacerbated by riparian works.</p>
<i>Water Management Act 2000 Objects</i>	<ul style="list-style-type: none"> <li>• Social and economic benefits to the community maximized</li> <li>• Floodplain management <ul style="list-style-type: none"> <li>○ Land must be rehabilitated</li> <li>○ Impacts of flood works minimized</li> <li>○ Existing and future risk to life and property minimized</li> </ul> </li> <li>• Controlled activities <ul style="list-style-type: none"> <li>○ No decline in native vegetation</li> <li>○ No increase in land degradation, land must be rehabilitated</li> </ul> </li> </ul>	<p>With revegetation, native vegetation cover will increase and be improved.</p> <p>Communities will enjoy a riparian zone that has placemaking elements to encourage activation and healthy lifestyles.</p>

## Appendix A

Drawing SK01.01 – Existing Development Encroachment

Drawing SK01.02 – Proposed Development Encroachment

Drawing SK01.03 – Impacts on VRZs

Drawing SK01.04 – VRZ Offsets