PREFACE

Open space is one of Sydney’s greatest assets. Our national parks, harbour, beaches, coastal walks, waterfront promenades, rivers, playgrounds and reserves are integral to the character and life of the city.

In this report the hydrological, recreational and ecological fragments of the city are mapped and then pulled together into a proposition for a cohesive green infrastructure network for greater Sydney.

This report builds on investigations undertaken by the Office of the Government Architect for the Department of Planning and Environment in the development of District Plans. It interrogates the vision and objectives of the Sydney Green Grid and uses a combination of GIS data mapping and consultation to develop an overview of the green infrastructure needs and character of each district.

Each district is analysed for its spatial qualities, open space, waterways, its context and key natural features. This data informs a series of strategic opportunities for building the Sydney Green Grid within each district. Green Grid project opportunities have been identified and preliminary prioritisation has been informed by a comprehensive consultation process with stakeholders, including landowners and state and local government agencies.

This report is one step in an ongoing process. It provides preliminary prioritisation of Green Grid opportunities in terms of their strategic potential as catalysts for the establishment of a new interconnected high performance green infrastructure network which will support healthy urban growth. Future reports should be undertaken to assess the future delivery and implementation strategies of Green Grid projects.
SOUTH WEST SPATIAL FRAMEWORK

2 MAJOR CATCHMENTS

373,000 ADDITIONAL PEOPLE BY 2036

174,142 HECTARES OPEN SPACE

50% OF THE DISTRICT IS OPEN SPACE
The District is characterised by two distinct landscape types, the fertile clay soils of the low-lying Cumberland Plain to the east and the river gorges and escarpments of Hawkesbury Sandstone to the west. These landscapes contain diverse natural and cultural heritage including agriculture, early colonial history, rural villages and natural bushland.

Agriculture has been an important land use in the District since European settlement and gives the district a distinct cultural heritage and identity.

Vegetation clearing has created fragmented native vegetation communities and habitats though large portions of bushland remain in the Hawkesbury Sandstone areas of national parks and protected river catchment areas.

Historically, the Cumberland Plain it’s natural vegetation has been cleared since European settlement, making the most of its fertile soil for agriculture. Today there remains only small amounts of remnant bushland within the Cumberland Plain, leaving it’s biodiversity as one of the most threatened in NSW.

The primary catchments for the district are the Hawkesbury-Nepean River Catchment and the Georges River Catchment with their floodplains and extensive network of tributaries that traverse the District. A number of tributaries have been either channelised or piped resulting in limited natural open water bodies throughout the district. Whilst somewhat constricted these remnant natural features and drainage corridors often provide open space linkage or environmental rehabilitation opportunities.

Underlying the district are some of the deepest sections of the Sydney Basin sedimentary strata and consequentially highly valuable natural resources. There are significant high quality coal resources such as the Southern Coalfields which sit largely within the district. There are also extractive industries that provide industrial minerals and construction materials. The potential of the district’s coal seam gas resources are also currently under investigation.

THE HISTORY OF DEVELOPMENT AND THE CHARACTER OF SYDNEY HAS BEEN INFLUENCED BY TOPOGRAPHY AND THE UNDERLYING NATURAL FEATURES. THE SYDNEY GREEN GRID BUILDS UPON THE GEOMORPHOLOGY OF PLACE TO CREATE LOCALLY RESPONSIVE OPEN SPACE STRATEGIES. THESE LANDSCAPE FEATURES HAVE BEEN USED TO ESTABLISH A FRAMEWORK FOR FUTURE PROJECT AND DEVELOPMENT OPPORTUNITIES.
The District includes five Local Government Areas of Campbelltown, Camden, Fairfield, Liverpool and Wollondilly. More than half of the district is covered by bushland, predominantly located to the west and south in national parks and protected water catchment areas. This includes key water infrastructure for metropolitan Sydney in the Warragamba and Cataract Dams. A key priority for the district will be to accommodate future growth while protecting bushland and natural resources.

A number of open spaces have a regional focus and provide recreation opportunities for a population beyond the district boundary. These include national parks, regional parks and conservation areas, Mount Annan Botanic Gardens and recreation spaces within the southern portion of Western Sydney Parklands.

Liverpool, Campbelltown, Macarthur and the South West Growth Centre

There is a diversity of land uses within the district. The urban land uses are focused around the regional cities of Liverpool and Campbelltown-Macarthur and the strategic centre of Leppington.

The South West Growth Centre is one of the few greenfield areas in metropolitan Sydney that will undergo a change in land use for significant new urban development. The South West Growth Centre will accommodate a large portion of the new dwellings in the district and allow other land use values to be balanced with urban development.

Infrastructure

The district is traversed by key transport and freight links to the Illawarra and cross-regional links to Penrith, Parramatta and Sydney Airport. Existing transport networks will be extended to connect the South West Growth Centre with existing centres such as Liverpool and Campbelltown-Macarthur.

One of the most significant infrastructure projects that will transform the district is the proposed Western Sydney Airport and the associated rail infrastructure of the South West Rail Link and potential extension to St Marys and Campbelltown-Macarthur.

Urban Renewal

Increased population densities associated with proposed urban renewal areas will place pressure on existing open space. Greater open space quality, quantity and connections within these areas has the potential to improve the quality of life for communities and residents beyond the boundaries of any proposed development.

Urban renewal and housing growth will be focused around established and new centres and along key public transport corridors including the Cumberland Line, South Line, Bankstown Line, South West Rail Link and Liverpool-Parramatta T-Way.

The South West Growth Centre, Western Sydney Employment Area and Badgerys Creek Precinct will afford the opportunity to ensure new developments provide new open space and integrated networks of pedestrian and cycle connections to accommodate the needs of existing and new residents. The South West Growth Centre also provides the opportunity to improve regional connections along river and creek corridors linking the south western suburbs to key regional open spaces such as Western Sydney Parklands and the Georges River.

Major projects such as Western Sydney Airport and the South West Rail Link and other proposed areas of urban renewal should consider the opportunities available to increase connections to existing open space or provide open space along with infrastructure delivery.
SW1.3 LIVERPOOL
Liverpool is identified in A Plan For Growing Sydney as a regional city and a focus for cultural, retail and business services. It is also a major transport hub for train and bus networks. Liverpool will undergo significant urban renewal in the form of office, retail and public space and residential development within the city centre. With this comes the opportunity to enhance the quality of the public domain, particularly surrounding the transport interchange. Improved connections to surrounding open space and parks will help reconnect the city with the Georges River. There is an opportunity to improve pedestrian and cycle access to regional destinations such as Western Sydney Parklands, Chipping Norton Lakes, Casula Powerhouse and Warwick Farm.

SW1.4 THE SOUTH WEST GROWTH CENTRE
The South West Growth Centre (SWGC) has potential to provide a good distribution of open space and a public domain linked with the underlying topography. Of particular importance is the provision of open space within areas not prone to flooding to ensure equity of access to open space. There is opportunity to develop a SWGC regional trail that connects with other key centres in the district such as Liverpool, Campbelltown-Macarthur and to regional destinations including Western Sydney Parklands, Chipping Norton Lakes and Mount Annan Botanic Gardens. There are also a number of important rural heritage properties and landscapes within the SWGC that should be preserved and interpreted where appropriate.

SW1.5 WESTERN SYDNEY AIRPORT AND WESTERN SYDNEY EMPLOYMENT AREA
This area will undergo major transformation into a gateway for transport. This provides the opportunity to integrate open space in a way that meets environmental and economic objectives and the needs of residents and workers. New regional open space connections and localised open space offer the opportunity to provide increased benefits associated with this precinct.

SW1.6 WESTERN SYDNEY PARKLANDS AND EASTERN CREEK
Western Sydney Parklands is one of the district’s most significant regional open space assets. Balancing recreation, biodiversity, infrastructure and business, the parklands will continue to develop and support future growth. As the number of new recreation opportunities increase such as Wet’n’Wild and Lizard Log Playground, improved access from surrounding suburbs and the key centres should also be developed. There is opportunity for further auxiliary facilities to the proposed Western Sydney Parklands regional trail.

SW1.7 SOUTH AND KEMPS CREEK
Western Sydney is defined by its network of creeks and river systems. Currently many of the creeks suffer from poor water quality due to surrounding land uses and reduced or fragmented vegetation cover. Ropes and South Creek corridors have the potential to be enhanced to provide a wider contribution to the development of healthy urban environments. With a balanced approach to access, biodiversity, development and recreation these networks can form valuable green infrastructure opportunities supporting future growth in the district. There is also opportunity to complete the regional trail connecting South Creek with the Great River Walk on the Hawkesbury-Nepean River.

SW1.8 THE GEORGES RIVER SOUTH
In contrast to the Georges River North, the southern portion flowing through the Campbelltown Council LGA is predominantly remnant bushland. There is the opportunity to further establish the Georges River as a key regional open space corridor with enhanced access from the Campbelltown-Leumeah corridor and rejuvenated facilities to key reserves and parks along the river. There is opportunity to greatly improve the water quality particularly in areas such as Chipping Norton Lakes. There is the opportunity to complete the missing gaps in the Campbelltown to Wollongong trail via the Georges River.

SW1.9 CAMPBELLTOWN-MACARTHUR TO LEUMEAH
Primarily characterised by a dominant linear rail line, road infrastructure and industrial land, the Campbelltown to Leumeah urban area sits within a valley that falls towards Bow Bowing Creek. Significant areas of open space occupy remnant portions of this floodplain and could provide an opportunity for increased amenity within the area. There is opportunity to improve connections between Campbelltown and Macarthur, with better cycle and pedestrian linkages and the public spaces between them. Any consideration for future development of industrial areas along the corridor should complement the two centres and include pedestrian/ cycle connections, public open space and integrated water sensitive urban design. Future development at Edmondson Park in the Campbelltown-Leumeah corridor could be developed. There is opportunity for improved access from surrounding open space projects are primarily related to continuous foreshore access and increased access to the waterfront at key destinations. Increased water quality management along the river and creeks should be sought at every available opportunity. As increases in density occur within the nearby South West Growth Centre, the importance of the river as a recreational destination will also increase. There is the opportunity to complete the missing links of the regional Great River Walk.

SW1.10 HAWKESBURY-NEPEAN RIVER
The Nepean River floodplains and the foothills of the Great Dividing Range are one of the most distinguishing features of this district. With a tradition of agriculture and generally rural-residential setting, open space projects are primarily related to continuous foreshore access and increased access to the waterfront at key destinations. Increased water quality management along the river and creeks should be sought at every available opportunity. As increases in density occur within the nearby South West Growth Centre, the importance of the river as a recreational destination will also increase. There is the opportunity to complete the missing links of the regional Great River Walk.

SW1.12 RAZORBACK, PICTON, THE OAKS AND SILVERDALE
The challenge for these communities is primarily at a local open space level. Clear guidelines should be provided to help establish the exact nature of open space requirements within these regions to ensure efficient management and high quality open space. Regional destinations such as National Parks and Reserves within these areas should be promoted and enhanced to ensure that these regions continue to support the recreation needs of greater Sydney.

There is opportunity to complete the gaps in the regional trail between Lake Burragorang-Picton and the Georges River.
Figure SW.3: South West District Project Clusters Plan
There are significant health and well-being benefits associated with readily accessible, high quality open space. Well-designed parks, plazas and streetscapes create highly liveable environments. With future growth in the district estimated at 373,000 additional people in areas such as the South West Growth Centre and Leppington, high quality open space and an interconnected network of open space will provide the opportunity to promote greater liveability.

The district has a wealth of regional open spaces, river and creek corridors and natural resources that provide significant recreational opportunities for regional cities and strategic centres within the district. The Georges River and the Hawkesbury Nepean River with their associated creeks and tributaries provide a coherent landscape-based spatial strategy to define the district. With open space within the river corridor set aside for flood management, the opportunity exists to create a series of destination parklands along these river and creek corridors. Regional centres such as Liverpool and Leppington can promote increased livability in relation to their proximity to these major river and open space corridors.

1.4 INCREASE ACCESS TO OPEN SPACE

CONNECT PEOPLE WITH KEY REGIONAL OPEN SPACE AND PROMOTE THE DISTRICTS OPEN SPACE ASSETS BY CREATING BETTER CONNECTIONS WITH MAJOR CENTRES, NEW TRANSPORT INFRASTRUCTURE AND AREAS OF URBAN RENEWAL.

A series of key strategic opportunities have been identified and include:

- Connect railway stations at Padstow, Revesby, Panania and East Hills with Picnic Point on the Georges River.
- Improve connections across barriers/major roads and around industrial areas (e.g. M7 Motorway, Leumeah and Glenfield industrial corridors) to facilitate access to major regional parks and creek corridors.
- Undertake local open space studies to increase access to open space at a local level and ensure equity of access across the district.

A series of key project opportunities have been identified and include:

1. Establish Kemps Creek and South Creek as major open space destinations and connectors to support development in the South West Growth Centre (SWGC).
2. Enhance open space corridors and active transport connections along creek lines including Cabramatta Creek, Prospect Creek, Clear Paddock Creek, Orphan School Creek.
3. Improve pedestrian and cycle connections to Liverpool train station from the eastern side of the rail line.
4. Reconnect Liverpool city centre with the Georges River, promoting access from Liverpool station and bus interchange to Lighthorse Park and the historic Liverpool Weir.
5. Connect future land releases and the SWGC (e.g., Edmondson Park) with key regional open spaces such as Western Sydney Parklands.
6. Connect the South West Growth Centre to key regional open spaces and parklands.

7. Reinforce linear open space along the Hawkesbury Nepean River to complete the missing links in the Great River Walk and create a series of destination parklands.

8. Investigate potential trail links between Appin, Bulli and Cataract Dam.

9. Investigate the active transport and recreational potential of the Sydney Water Prospect Canal as a major regional connection from Prospect Reservoir to the coast.

10. Enhance connections between Liverpool, And Western Sydney Parklands.

11. Enhance land and water recreation facilities and regional links along Chipping Norton Lakes to the Georges River.

12. Connect Leppington growth centre with Chipping Norton Lakes via Cabramatta Creek and to Western Sydney Parklands.

13. Establish the Georges River as a key regional open space corridor and create a range of unique recreational experiences at destination parks including Mirambeena Regional Park, Chipping Norton Lake, Lasock Regional Park and Lighthorse Park.

14. Create a linear open space network from Campbelltown-Macarthur to Glenfield, supporting development of the potential residential and employment corridor.

15. Improve pedestrian and cycle connections between Campbelltown and Macarthur train stations from the western side of the rail line.
Walking and cycling are becoming increasingly important recreation and transport choices. Increased opportunities for physical activity contribute significantly to greater health within the community, reducing health costs and increasing quality of life. Walking and cycling have some of the highest participation levels out of all recreation types. Opportunities for increasing Sydney’s network of active transport links should provide links between the places people live and work and the places that people want to visit.

Land use changes and development of the South West Growth Centre will afford the opportunity to improve cycleway and foopath networks along many of the creek corridors linking the south west suburbs to Western Sydney Parklands and the Georges and Hawkesbury Nepean Rivers.
CREATE NEW HIGH QUALITY PUBLIC REALM

SUSTAINABLE REGENERATION HAS THE PUBLIC REALM AT ITS HEART. ESTABLISH A VIBRANT, PEDESTRIAN FRIENDLY PUBLIC REALM AT KEY CENTRES, TRANSPORT INTERCHANGES AND URBAN RENEWAL AREAS, WITH PLACES FOR GATHERING AND GOOD CONNECTIONS TO OPEN SPACE.

Retention basin and amphitheatre Redfern Park, Minto

Narellan Library Forecourt

Build an open space network with high quality public realm at the centre. Squares, plazas and active streets offer important recreation and open space opportunities for social interaction. The public realm offers a starting point for the development of a well-used and connected open space network. Key civic spaces or destinations should be integrated with public transport opportunities and existing development.

A series of key project opportunities have been identified and include:

1. Create high quality civic spaces associated with new exemplar sustainable developments at Glenfield, Loppington, Prairiewood, Fairfield, as well as the station precincts associated with the South West Rail Link extension.

2. Upgrade and rejuvenate civic spaces in Liverpool, Campbelltown-Macarthur and Bankstown creating high quality, vibrant and active public spaces.

3. Enhance connectivity between Campbelltown and Macarthur with high quality pedestrian and cycle paths and active and vibrant public spaces.

Provide new integrated public space as a benefit of large scale infrastructure projects within the South West Growth Centre; proposed Western Sydney Airport, potential South West Rail Link extension corridors.
The South-West District contains significant waterways and water sources including Warragamba Dam, Lake Burragorang, the Georges River and Hawkesbury Nepean River catchments and Chipping Norton Lakes. The district also includes Cataract River and Cordeaux River and the upper reaches of the Lake Cataract and Lake Cordeaux catchments.

Identify and minimise disturbance to riparian areas and protect and improve the natural character, ecological integrity, visual amenity and public access to foreshores and rivers (such as those sites listed above and Hinchinbrook Creek, Cabramatta Creek, Eastern Creek, South Creek, Rileys Creek, Badgerys Creek and Kemps Creek).
Voyager Point Wetlands in the Liverpool LGA is listed on the Directory of Important Wetlands in Australia. The 50-hectare wetland is considered nationally important, as it is a good example of a freshwater wetland and supports native plants and animals considered endangered or vulnerable. It also provides habitat for migratory birds. Major impacts on the wetland include flooding of the Georges River that introduces weed species into the wetland, clearing of bushland for development, polluted stormwater, weeds and illegal dumping.
The South-West District contains significant environmental areas and natural assets, including the Blue Mountains and the Nattai National Parks, the Mount Annan Botanic Gardens, Western Sydney Parklands and Kemps Creek Nature Reserve. The district includes an extensive system of largely undeveloped World Heritage reserves and water catchments.

The South-West District supports a number of threatened ecological communities (TEC) including Cumberland Plain Woodland. Considerable threatened plant habitat for six species around Appin (includes Grevillea pavilliota, Persoonia bargoensis, Persoonia glaucescens). Threatened animals associated with heathland, grassy woodland and riparian forests, such as the Koala in Holsworthy.

Many areas of high biodiversity are protected in national parks and nature reserves, as well as on privately owned land managed for conservation purposes. The protection of biodiversity in the landscape provides a range of environmental, social and economic benefits. Detailed information on areas of high environmental is available from
the Office of Environment and Heritage and councils. Where necessary, data and mapping of areas of high environmental value will be ground-truthed to improve accuracy.

The Office of Environment and Heritage has also developed a Biodiversity Investment Opportunities Map (BIO Map) for part of Greater Sydney. The BIO Map identifies priority areas for investment in bushland protection and restoration, comprising core areas of bushland and corridors, that are important at a state and regional level for biodiversity.

Connect biodiverse areas and apply planning and zoning provisions to protect corridors. Corridors aim to provide ecological connectivity, to facilitate the movement and dispersal of native flora and fauna across the landscape. Connecting biodiverse areas is particularly important in the face of climate change. Investigate opportunities to enhance native biodiversity in Green Grid corridors to help expand the urban forest to achieve canopy cover targets.

Engage local communities about the biological assets of their 'local patch of bush' to encourage active involvement in the protection and enhancement of bushland and other biodiversity. This will require engagement of local communities about the multiple benefits of their local bush and riparian areas and waterways and action to improve the ecological literacy to deepen the community perception of green infrastructure.

Volunteer and community groups are an important sector in the rehabilitation of native vegetation in urban areas. In recognition of the effort and funding dedicated to these areas, a level of protection should be provided through the planning process by applying appropriate provisions and mechanisms.

NOTE: Ecological Grid values and text provided in consultation with the Office of Environment and Heritage [OEH].

NOTE: Ecological Grid values and text provided in consultation with the Office of Environment and Heritage [OEH].
RECREATION
Key features and findings regarding recreational open space planning for both passive and active sports are currently being analysed and will be described in collaboration with other consultancies.

HERITAGE
The South-West District includes world (Greater Blue Mountains Area), State and local heritage-listed places. The South-West District will see much growth through rezoning of rural land. The vision needs to ensure that the character of the area including these historic rural properties and cultural landscapes are protected. Protection is not limited to building, but rather the setting upon which it sits and its visual links with other historic sites. There is potential for the setting to be used as open space/recreation/BioBanking areas.

Figure SW.9: South West District Recreational Grid Plan
The protection of important heritage places and landscapes from the early planning stages is important as these places contribute to the district’s identity and provide a sense of place, history and visual character. They also contribute to the economy through the attraction of visitors. Heritage is a non-renewable resource and the significance of heritage to the community should be appreciated, valued, protected and conserved for the benefit of current and future generations.

Aboriginal cultural heritage is legally protected in NSW. Protecting Aboriginal heritage means far more than looking after sites in parks or artefacts in museums. Aboriginal people need to be consulted on the conservation of the natural environment and the development of areas.

Acknowledge heritage resources as a ‘value addition’ in urban development. This will include identifying significant heritage values and incorporating them into developments, including the adaptive reuse of heritage resources.
The Green Grid Existing Values plans represent a combination of the current values from the Hydrological, Ecological and Recreational Grids. This shows the weighting of valued open space lands across the district and the balance of Hydrological, Ecological and Recreational values across the district.

Figure WC.11: West Central Green Grid Existing Values Plan
Figure WC.12: West Central Green Grid Existing Values Detail Plan
The list of projects is a compilation of projects derived from the original Green Grid Reports together with the outcome from Greater Sydney Commission’s District Plan Workshops and NSW Department of Planning and Environment Open Space Workshops.

This project list represents the projects identified by various interest groups and governments as potential priority projects. The projects are currently being assessed against the GIS data and work methodology as described previously.

The “Dominant Grid Layer” in the Project List refers to the infrastructure layer of the city that is most concerned with this project, and as a result may have funding allocated to it. This layer only represents the project as it currently exists and is not necessarily correlate to its future vision.

Figure SW.13: South West Green Grid Project Opportunities
<table>
<thead>
<tr>
<th>PROJECT OPPORTUNITY</th>
<th>DOMINANT GRID LAYER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Georges River and Chipping Norton Lakes</td>
<td>HYDROLOGICAL</td>
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<tr>
<td>2. Prospect Creek and Reservoir Parklands</td>
<td>HYDROLOGICAL</td>
</tr>
<tr>
<td>3. Five Fairfield Creeks</td>
<td>HYDROLOGICAL</td>
</tr>
<tr>
<td>4. Glenfield to Macarthur Rail Corridor</td>
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<tr>
<td>5. Liverpool CBD Green Street Links</td>
<td>RECREATIONAL</td>
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<tr>
<td>6. South West Priority Growth Area Streets</td>
<td>RECREATIONAL</td>
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<td>7. The Hawkesbury-Nepean River</td>
<td>RECREATIONAL</td>
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<td>8. Western Sydney Parklands and Eastern Ck</td>
<td>ECOLOGICAL</td>
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<tr>
<td>9. South Creek Corridor</td>
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<td>10. The Northern Road Green Boulevard</td>
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<td>11. Elizabeth Dr Green Boulevard</td>
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<td>12. South West Rail Link Extension</td>
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<td>13. Kemps Creek and Nature Reserve</td>
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<td>14. Transmission Easement Lines: Thirlmere</td>
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<td>15. The Scenic Hills</td>
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<td>16. Camden Park and Menangle Park</td>
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<td>17. Buntbury Curnar Ck and Bow Bowing Ck</td>
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<td>18. Smiths Creek and Nature Reserve</td>
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<td>20. Hume Highway Motorway Corridor</td>
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<td>21. Southern Dams</td>
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<td>22. Rural Dam Trails</td>
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<td>23. Bargo River and Nepean River Gorges</td>
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<tr>
<td>24. Lake Burragorang, Warragamba Dam</td>
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<td>25. Yerranderie Town and Regional Pk</td>
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<td>26. Rural Area Agricultural Landscape</td>
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<td>27. Razorback Ridge and Hilltop Vistas</td>
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<td>28. Rural Town Character Preservation</td>
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<td>29. Thirlmere Lakes and National Park</td>
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<td>30. Former Mine Site Transformations</td>
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<td>31. South Western Creeks: Badgerys Ck</td>
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<td>32. The Upper Canal</td>
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<td>33. Warragamba Pipeline</td>
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<td>34. Heritage Trail Network</td>
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<td>35. Burragorang and Nattai National Park</td>
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<td>36. Cobbitty Hills Rural Area</td>
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<td>37. Southern Highlands Rail Corridors</td>
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<td>38. Nepean Gorges Crossings</td>
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<td>39. Burragorang Road Corridor</td>
<td>TRANSPORT</td>
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<td>40. Rileys Creek, Leppington</td>
<td>HYDROLOGICAL</td>
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<td>41. Nepean Creeks: Surveyors Ck et-al.</td>
<td>HYDROLOGICAL</td>
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<td>42. Myrtle Creek and Open Space Corridor</td>
<td>ECOLOGICAL</td>
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<tr>
<td>43. Campbelltown CBD Green Links</td>
<td>RECREATIONAL</td>
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<td>44. East Edge Scenic Protection Lands</td>
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<td>45. Nepean River Hills and Cobbitty Hills</td>
<td>HYDROLOGICAL</td>
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<td>46. Theresa Park Creeks: Eagle Creek et-al.</td>
<td>ECOLOGICAL</td>
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<td>47. Gabun Gujapa Reserve Corridor</td>
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<td>48. Picton Botanic Gardens and Creeks</td>
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<td>49. Matthews Creek, Thirlmere</td>
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<td>50. Kayess Park Open Space Corridor</td>
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<td>51. Ropes Creek Corridor</td>
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<td>52. Remembrance Drive</td>
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<tr>
<td>53. M12 Motorway Green Boulevard</td>
<td>TRANSPORT</td>
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</tbody>
</table>

**Figure SW.14: South West Green Grid Project Opportunities Detail**

**Scale:** 1:100,000 @ A1

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**Map Credits:**

Tyrrell Studio

Office of the Environment

NSW Government

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SOUTH WEST
PROJECT OPPORTUNITIES
The Green Grid projects have been analysed against ten priority criteria. Each project has been given a total score which represents its level of priority in the Green Grid network. The ten criteria are:

- Existing ecological, hydrological and recreational value
- Regional potential to connect to other Green Grid projects
- Super District Scale potential to connect across Local Government Area and District Boundaries
- Projects proximity to development
- Projects with lands currently controlled by the Office of Strategic Lands (OSL)
- Projects identified by Local Council’s as priorities during the Greater Sydney Commission’s Technical Working Group process.
- Projects in regions with open space deficiency as identified in the Government Architect’s Office Open Space Audit.
- Projects that overlap or provide important connections to NSW Department of Planning Priority Precincts.

Each project is given a total score based on the sum of the above values. Of the projects that score 10 or higher (of a possible 12), Priority projects were selected based on relevance to future development requirements and other Greater Sydney Commission and NSW Planning priorities. For each district two or three projects are selected and are highlighted dark green in the project prioritisation matrix. High scoring projects that are not deemed as Priority Projects combined with projects that score 8 or higher are defined as other important projects and are highlighted light green in the project prioritisation matrix. From the “other important projects” list a shortlist were selected for inclusion into the District Plans based on their immediate relevance to other Greater Sydney Commission and NSW Planning priorities.

NOTES:
- Ropes Creek passes through the South West District and along the District Boundary between West Central and West District. Please refer to the West Central District for further information about the Ropes Creek Priority Project.
- South Creek passes the South West, West and West Central Districts. Please refer to the South West and West Districts for further information about the South Creek Priority Project.
- The Northern Road Green Boulevard connects Badgerys Creek from Camden to Penrith. It passes through the South West and West Districts. Please refer to the West District for further information on The Northern Road Green Boulevard Green Grid Project.
## SOUTH WEST
### PRELIMINARY PROJECT PRIORITISATION MATRIX

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<tr>
<th>PROJECT NAME</th>
<th>COUNT</th>
<th>ECOLOGICAL VALUE</th>
<th>HYDROLOGICAL VALUE</th>
<th>RECREATIONAL VALUE</th>
<th>CONNECTIVITY DISTRICT SCALE VALUE</th>
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<th>OSL LANDS OVERLAP</th>
<th>GSC TWO FOCUS</th>
<th>OPEN SPACE DEFICIENCY</th>
<th>PRIORITY PRECINCT OVERLAP</th>
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**Tyrrell Studio**

Office of the Government Architect

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SOUTH WEST DISTRICT

PRIORITY PROJECTS FOR FURTHER SCOPING

A selection of important Green Grid project opportunities have been selected for further scoping. The selected projects represent a mix of Priority and Key Green Grid projects. The selected projects also represent a mix of project types including projects with hydrological, ecological, recreational, transport and utility infrastructure values. The projects selected for further scoping may not represent the highest priority projects but aim to further understand the potential issues around different project types.

1. SOUTH CREEK AND KEMPS CREEK CORRIDORS

South Creek is a major tributary of the Hawkesbury-Nepean River, starting from Narellan in the South West District, it flows north all the way to Windsor where it connects to the Hawkesbury River. It runs over 50km and passes through more than 20 suburbs. The water quality of South Creek has a major impact on the Hawkesbury River and it also has important ecological communities along its banks. The project aims to create a continuous open space corridor along the entirety of South Creek that provide ecological protection and enhancement, improved stormwater treatment and a nationally significant recreation and active transport corridor for Western Sydney. The project passes through the South West Growth Area and will act as a major open space corridor for the future development of the region. There is an opportunity to set riparian zones along the creeks that provide open space, habitat and to improve water quality.

2. GEORGES RIVER & CHIPPING NORTON LAKES

The northern portion of the Georges River occupies some of the most urbanised land within the South West District. The project includes all parkland and bushland along the Georges River, Chipping Norton Lakes and surrounding parklands and golf courses. The project aims to enhance the Georges River as a regional open space and active transport corridor as well as protecting and enhancing the wetlands, ecological communities and stormwater management of the surrounding development. There are opportunities to improve access to the river foreshores and to centres including Casula, Liverpool, Cabramatta, Moorebank, Chipping Norton, Milperra and WSU Bankstown. This project overlaps with a large amount of OSL lands along the banks of the Georges River that are important regional assets for the hydrological and ecological benefit of the South and South West Districts.

3. THE UPPER CANAL

The Upper Canal is a State Heritage listed canal that transfers Sydney’s drinking water 64km from the Upper Nepean dams from Pheasants Nest Weir to Prospect Reservoir. The canal has many engineering wonders including viaducts, tunnels and sandstone lined canals. This project aims to protect Sydney’s drinking water infrastructure while making use of the under-easement lands along the canal as open space, urban greening and active transport. There is a significant amount of land along the canal in public ownership.

Figure SW.15: South West Preliminary Priority Projects Plan
South Creek is a major tributary that connects north-south across the Cumberland Basin. It has the potential to provide a continuous open space corridor from Camden to Windsor. South Creek (and its tributary, Kemps Creek) has the potential to act as a major structuring device for all future development in the South West Growth Centre.

The majority of South and Kemps Creeks are in private rural residential holdings. Consistent riparian zones are required to protect the creek corridor. Riparian zones along these creeks will provide ecological and water quality protection, and also provide opportunity for recreational provision along their length.

Kemps Creek is a major tributary of South Creek, flowing north from Leppington to St Clair and St Marys. It is over 20km long and has important High Environment Lands along its banks, including the 19.7ha Kemps Creek Nature Reserve. The project is located through the South West Priority Growth Area and provides an opportunity to create a major linear open space corridor for the future development. The project aims to create a regionally significant open space corridor along its entirety that provides ecological protection and enhancement, improved water quality and recreational opportunities.
POTENTIAL FOCUS AREAS

A. South Creek and Kemps Creek convergence
B. Elizabeth Road, South and Kemps Creek
C. Kemps Creek Nature Reserve
D. Thompsons Creek
E. Bringelly Road and South West Rail Line, Leppington
F. Rileys Creek, Catherine Field
G. Oran Park and Cobbitty Hills to the Nepean River
H. Camden Valley Way, Gledswood Hills
J. Camden Valley Way, Gregory Hills
K. The Upper Canal, Gledswood Hills
L. South West Rail Line extension to Campbelltown

LEGEND

- Existing Roads
- Existing Rail Lines
- Local Streets
- Waterways
- Green Grid Projects
- Existing Open Space
- High Environmental Lands
- Key Opportunity Sites
- Potential Open Space

Figure SW.16: South and Kemps Creek Potential Focus Areas
The Upper Canal is an unsung hero of Sydney's history. A precise piece of engineering still serving the needs of Sydney 125 years later. Built in the 1880s, now listed on the State Heritage Register, the Upper Canal is still the only way of transferring water to Sydney from the four Upper Nepean dams (Cataract, Cordeaux, Avon and Nepean).

These dams supply on average 20 percent of Sydney's water, but at times can supply up to 40 percent of Sydney's daily demand. 'Green' before its time, it uses no energy other than the earth's gravity to transport water 64 kilometres to Prospect Reservoir in Sydney's west.

The canal drops just 50 metres in elevation over 54 kilometres after the Nepean and Cataract tunnels - just 0.1 percent grade - a marvellous feat of engineering following the earth's contours.

The Upper Canal presents a unique opportunity for a recreational open space link from the Nepean Dam to Prospect Reservoir. The land along the Upper Canal could become an ideal cycling link due to the canal following a near level path along its full length.

The Upper Canal has the opportunity to link many suburbs of the South West and acts as an important structuring device in open space provision for the South West Growth Centre.

Due to its scale it connects to many other important Green Grid projects, including the Nepean River, South Creek, Mt Annan Botanic Gardens, Riley's Creek, The Scenic Hills, the South West Rail Line, Bringelly Road, Kemps Creek and the Western Sydney Parklands.
POTENTIAL FOCUS AREAS

A. Western Sydney Parklands, Cecil Hills
B. Bringelly Road and the South West Rail Line, Leppington
C. The Scenic Hills
D. Raby Road and Rileys Creek, Gledswood
E. Gledswood Hills Residential Area
F. South West Rail Line Extension, Narellan
G. The Northern Road and Narellan Road

Figure SW.17: The Upper Canal Potential Focus Areas
The Georges River and Chipping Norton Lakes are a unique open space asset in the South and South West Districts. They provide a significant amount of open space along their banks, and yet much of this open space is not well connected. The open space is fractured into many separate pieces that do not allow for consistent walking and cycling opportunities.

The Georges River and Chipping Norton Lakes have the potential to be a major open space corridor that connect many centres near Liverpool, Bankstown and Hurstville.

Improving connection from Liverpool CBD to the rivers edge is a major aim of this Green Grid project, as well as providing continuous access along the river, and reducing the barriers of major roads along the periphery of the open space corridor.
POTENTIAL FOCUS AREAS
A. Kelso Park and Deepwater Reserve
B. Voyager Point Wetlands
C. Wurrungwuri Reserve
D. M5 Motorway
E. Vale of Ah Reserve and Bankstown Golf Clubs
F. Newbridge Road
G. Riverside Park, Moorebank
H. Garrison Point and Liverpool Golf Club, Lansvale
J. Mirambeena Regional Park and Lake Gillawarna
K. Chipping Norton Lakes
L. Tharawal Bay Foreshore
M. Chipping Norton Parks
N. Cabramatta Creek Link
O. Warwick Farm Racecourse
P. Water Treatment Plant and Horseshoe Ponds, Liverpool
Q. Lake Moore and Anzac Creek, Moorebank
R. Liverpool CBD and Rail Line Crossing
S. Liverpool CBD to Casula Foreshore Link

Figure SW.18: Georges River and Chipping Norton Lakes Potential Focus Areas
SOUTH WEST DISTRICT
OTHER IMPORTANT GREEN GRID OPPORTUNITIES

Prospect Creek and Prospect Reservoir Parklands
Prospect Creek connects the Prospect Reservoir and surrounding parklands to Smithfield, Yennora, Guildford and Fairfield to the Georges River and Chipping Norton Lakes. It is an important creek and parkland system for the region. The project aims to create a continuous open space and active transport corridor from the Western Sydney Parklands and Prospect Reservoir to the Georges River. It aims to improve access to the creek foreshores, improve wetland and stormwater treatment quality and improve access from urban centres to the parkland corridor.

Five Fairfield Creeks: Clear Paddock and Cabramatta Creeks
The Five Fairfield Creeks are a network of creeks that feed into the Georges River and Chipping Norton Lakes. They include Cabramatta Creek, Hinchinbrook Creek, Clear Paddock Creek, Orphan School Creek, Green Valley Creek and their tributaries. Many of the creeks are concrete channels, and some have been restored to a “naturalised” channel, significantly improving water quality and landscape character. The project aims to create a continuous network of high quality parklands and active transport corridors for the region, from the Western Sydney Parklands to the Georges River. They will provide the major open space amenity for the region and connect to centres from Hoxton Park, Hinchinbrook and Cecil Hills in the west, to Liverpool, Cabramatta and Fairfield in the east.

Bunbury Curran Creek and Bow Bowing Creek
Bunbury Curran Creek and Bow Bowing Creek are important creek lines that run from Campbelltown to Glenfield and are tributaries of the Georges River. The project aims to use the open space corridors along the creeks to provide open space, urban greening, active transport and stormwater treatment along the corridor. This project aims to connect to centres including Campbelltown, Leumeah, Minto, Ingleburn and Glenfield, and will connect to other Green Grid projects including the Georges River Parklands project, the Kaymak Park Open Space Corridor project, the Upper Canal project and the Camden Park and Menangle to Georges River Open Space Corridor project.

Camden Park and Menangle Park
Western Sydney Parklands and Eastern Creek
Western Sydney Parklands is one of the Western Sydney’s most significant regional open space assets. Balancing recreation, biodiversity, infrastructure and business, the parklands will continue to develop and support future growth. Improving connectivity from adjacent Green Grid projects into the Western Sydney Parklands will be an important aspect of this ongoing project. There are already exemplary recreational destinations within the parklands. Lizard Log, Plough and Harrow and the impending Bunganbee Parklands.

South Western Creeks: Badgerys and Cosgrove Creeks
The South West creeks are tributaries of South Creek and will play an important role in the open space provision for the South West Growth Centre. These creeks are important to retain as they provide a unique landscape character and identity for the future development of the South West Growth Centre.

This project is a band of open spaces that connect from Camden Park, east to the Georges River. The project includes; Belgenny Farm, Elizabeth Macarthur Agricultural Institute, the Nepean River banks, Menangle Park, Mount Pleasant, Menangle Creek, Gabun Gujaga Reserve, the Campbelltown Project & Noorumba Reserve. Together these sites represent a green edge to the development occurring in the South West District. The project aims to protect and enhance the important hydrological and ecological lands and provide open space and active transport trails along the corridor. The project is also in a unique geographic position for the Sydney Basin, where the Nepean and Georges River converge to within 4km.
Kayess Park and Open Space Corridor, Ingleburn

Kayess Park Open Space Corridor is an east-west open space corridor that connects the Georges River, Ingleburn, Minto, Bow Bowing and Raby.

Elizabeth Drive Green Boulevarde

Elizabeth Drive is a key east-west corridor that will become a major corridor as the South West Growth Centre is delivered. It will become a major corridor connecting Liverpool to Western Sydney Airport, connecting the M7 Motorway to The Northern Road and the future Sydney Outer Orbital.

Due to its location between major future housing and the Western Sydney Employment Zone around the future Western Sydney Airport, Elizabeth Drive is important as a green link connecting cycling and recreation opportunities to the existing network along the M7 Motorway, Western Sydney Parklands and the nearby major Green Grid Projects including South and Kemps Creek, Badgerys Creek and Ropes Creek.
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FUNDING PROGRAMS / PROJECTS
DPI Regional Recreation Tracks and Trails Framework (Metropolitan Greenspace Programme)
P&I, Environmental Protection Agency (EPA), Sydney Coastal Councils Group, Western Sydney Regional Organisation of Councils (WSRO/C) Towards a Resilient Sydney
OEH, National Parks Establishment Plan (Green Corridors Program) http://www.environment.nsw.gov.au/protectedareas/npestoplan.htm

IMAGE PAGE
SW1 70 Astrid Lebihan/Astrid Lebihan
Photo: Fairfield City Council
SW2 71 Lake Burragorang
Source: https://www.flickr.com/photos/tony_markham/8092037543
Photo: Flickr User “Tony Markham”
SW3 73 Mount Annan
Source: NSW Office of the Government Architect’s Collection
SW4 73 Chipping Norton
Photo: Liverpool City Council
SW5 73 Lake Burragorang
Source: https://www.flickr.com/photos/Tony Markham
Photo: Flickr User “Tony Markham”
SW6 74 Salt Lake Padstow and Riverwood
Source: http://www.walksydneystreets.net/locs/p178a.htm
Photo: Tatey Branigan
SW7 78 Moorebank High School
SW8 78 Chipping Norton, Haigh Park
Photo: Liverpool City Council

IMAGE CREDITS
Source: http://www.walksydneystreets.net/locs/p178a.htm
Photo: Tatey Branigan

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