

## Central Coast Council Southern Region Water Supply and Sewerage Development Servicing Plan 2024

Version 2.0 Water Assets & Planning October 2024



Southern Region Water Supply and Sewerage Development Servicing Plan 2024

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Version 2.0

Approved by: Director Water and Sewer

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#### 1.0 Introduction

The purpose of this Development Servicing Plan (DSP) is to determine the Developer Charges applicable for water supply and sewerage infrastructure servicing proposed development within the southern region of the Central Coast. Developer Charges and the requirement to carry out works will be implemented as part of relevant development in accordance with the Water Management Act 2000 and the Independent Pricing and Regulatory Tribunal's (IPART) Determination on Maximum prices for connecting, or upgrading a connection, to a water supply, sewerage, or drainage system (October 2018).

Developer Charges relate to the provision of those water and sewerage assets identified in this Plan. Typically these assets service a number of developments within this Plan which provides the basis for sharing of asset costs. All other water and sewerage infrastructure required to service the local development area shall be provided at full cost to the Developer.

For Water Developer Charges, Council continues to operate two regional based charges (Northern and Southern Regions) with a common Headworks DSP in consideration of shared bulk water assets including dams, weirs and treatment plants.

For the purpose of calculating Sewerage Developer Charges, the Southern Region has been developed by utilising the only ocean fall at Winnie Bay. This reflects the ocean outfall Council is currently operating and Environmental Protection Licence. This has been undertaken to reflect the amounts of existing infrastructures in the area. This approach also considers differing future predicted development patterns and associated new infrastructure requirements across the southern region.

This Plan has been prepared in accordance with the requirements of the Water Management Act 2000 using the methodology contained within IPART's 2018 Determination. All calculations have been carried out in the template provided by IPART.

The new Developer Charges, as detailed below, will be applicable for the period 1 December 2024 to 30 June 2025, after which they will be adjusted in accordance with the provisions detailed in Section 13.

### 2.0 Summary of Developer Charges

Following the adoption of this DSP the combined water and sewerage contribution for all development within the Southern Region will be \$8,890 per Equivalent Tenement (ET). For the purpose of determining Developer Charges payable, all development is assessed on an 'Equivalent Tenement' basis. This is described further in Section 8.2.

A comparison of the existing and proposed charges for both water supply and sewerage are provided below in Table 1.

**Table 1 Developer Charges Summary** 

Developer Charge	Previous Charge 2014 DSP (\$2024/25)	New Charge (\$2024-25/ET)
Southern Region Water Supply	\$3,111.78	\$2,267
Southern Region Sewerage	\$2,186.07	\$6,623
Combined Water & Sewerage	\$5,297.85	\$8,890

A summary of Water and Sewerage Developer Charges calculation across New South Wales is provided below in Chart 1. Note that the NSW Government is in the process of reversing the 'zero charge' that has previously applied to Sydney Water and Hunter Water's area of operations.

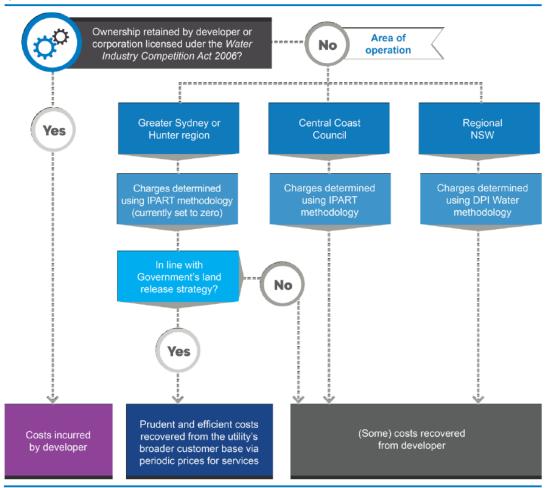


Chart 1 Differing methodologies for funding water and sewerage infrastructure for new development across NSW (supplied by IPART)

### 3.0 Applicability of the Plan

This DSP describes the requirements applicable to the assessment of Water Supply and Sewerage Developer Charges for any Development assessed under the Water Management Act from 1 December 2024 (subject to registration of the DSP by IPART). Developer Charges payable and any credits for works undertaken in accordance with the plan (in lieu of developer charges), for Development assessed under the Water Management Act within a previous Gosford City Council or Wyong Shire Council Development Servicing Plan will be assessed under the provisions contained within that DSP.

This DSP takes precedence over any of Council's Codes and Policies should there be any inconsistencies in relation to Water Supply and Sewerage Developer Charges.

#### 4.0 Area of the Plan

This DSP covers all lands contained within the former Gosford Council Local Government Area (LGA) as shown in Figure 1.

It is noted that an additional charge applies to land within the Somersby Industrial Estate, with the site being the subject of a separate Deed of Agreement which included charges applicable on a per Hectare basis. Any additional charges applicable within the area defined by the Deed will be determined in accordance with the Deed.

Mooney Mooney and Cheero Point areas are serviced via backlog sewerage schemes and will not be included as part this DSP. The servicing plan for these areas remains unchanged as per IPART Determination 2018 and potential customers should contact Council's Water Assessment Team for further information.

#### 4.1 Basis of determining service areas

The basis for determining the service areas applicable to this plan is outlined in the following sections.

#### Water Supply Headworks

Central Coast Council owns and manages a single water supply headworks scheme. These headworks provide bulk treated water to the entire Central Coast Water Supply Network via two separate Water Treatment Plant located at Mardi and Somersby. As a result, a common Headworks Developer Charge is applicable to both Water Supply DSPs and is incorporated into the calculation of the Water Supply Developer Charge for both DSPs. This charge is detailed in Appendix A.

#### **Water Distribution**

The water supply distribution system takes potable water supplied from headworks assets and delivers this to customers across the Southern Supply Zone. Any site supplied potable water within the former Gosford City Council LGA is part of this area.

#### Sewerage

Sewage collected from connected properties within the Kincumber Sewerage Scheme is conveyed to either the Kincumber or Woy Woy Sewage Treatment Plants for treatment prior to disposal at the Winnie Bay licenced outfall location. Any site provided with reticulated sewerage within the former Gosford City Council LGA is part of this area.

### 5.0 Population Predictions and Dwelling Unit Estimates

Council engaged consultants Informed Decisions (.id) to prepare Economic and Demographic profiles for the Central Coast, as well as population forecasts. The information is derived from the Australian Bureau of Statistics Census of Population and Housing and the National Institute of Economic and Industry Research.

In preparing the 2024 Water Supply and Sewerage DSPs, Council has assessed the current number of connected Equivalent Tenements (ETs) in accordance with IPART's 2022 Pricing Determination for the Central Coast, being 150kL annual potable water demand per Equivalent Tenement. This is based on the current system annual demand (corrected for climate factors) apportioned to the Northern and Southern Regions based on demand distribution. The projected number of ETs was then projected forwards in accordance with region based population forecasts provided by .id, allowing for forecast differences in dwelling densities across the two regions. This is outlined below in Table 2 and described further in Appendix A.

Table 2 Population LGA with proposed populations for water supply and sewer services

Year	Residential Population (.id)*	Population Water Supply**	population Sewerage***
2023	176,758	99,141	96,284
2026	180,267	101,109	101,640
2031	184,544	103,508	111,299
2036	188,854	105,925	120,552
2041	192,662	108,061	129,166
2046	196,546	110,239	138,395
2051	200,509	112,462	148,285
2055	203,736	114,272	156,704

<sup>\*</sup> Population forecast by forecast.id consulting limited to 2036.

Full details relating to the forecast tools are available via Council's website: <a href="https://www.centralcoast.nsw.gov.au/business/opportunities-and-investment/profile-centralcoast">https://www.centralcoast.nsw.gov.au/business/opportunities-and-investment/profile-centralcoast</a>.

<sup>\*\*</sup> Population water supply was extracted from Mater Plan study 2012 undertaken by GHD, based on forecast.id and extrapolated up to 2051. This included serviced and un-serviced properties (proposed to be serviced)

\*\*\* Population sewerage was extracted from Mater Plan study 2012 undertaken by GHD, based on forecast.id and extrapolated up to 2051. This included serviced and un-serviced properties (proposed to be serviced)

### **6.0** Reference to Other Development Servicing Plans

The Water Supply Headworks capital components are detailed in Appendix A of this DSP (Central Coast Water Supply Headworks Development Servicing Plan 2024). The cost of these components is included in the calculations for determining water supply developer charges payable under this Plan.

#### 7.0 Future Asset Profile

Greenfield infrastructure is typically designed and constructed by the lead developer under a Works in Kind Agreement (discussed later) with Council.

Council's capital works program is focused on the delivery of brownfield upgrades or major regional infrastructure projects including:

- Treatment plant augmentations
- Upgrades to existing pumping stations and associated pressure pipelines

#### 7.1 Water Supply

Water supply works relevant to this plan are shown in Figure 2 and associated costs and timing are outlined further in Appendix B.

Council has reviewed the known and approved Water and Sewer Servicing strategies prepared by developers and assessed the proposed assets which could qualify for credits under the Development Servicing Plan 2024 (see discussion on Works in Kind).

The Central Coast Council Water and Sewer Department reserves the right to alter the scope and timing of the proposed future assets as these are subject to ongoing review. Any changes to growth patterns, development profiles, land use zoning or any other conditions influence the required location, scale and timing of additional infrastructure. All potential land developers are advised to contact Council's Water Assessment Team for further advice.

### 7.2 Sewerage

Sewerage works relevant to this plan are shown in Figure 3. The associated costs, timing and methodology used in the sizing of proposed sewerage works is described in Appendix C. Council has reviewed the known and approved Water and Sewer Servicing strategies prepared by developers and assessed the proposed assets which could qualify for credits under the Development Servicing Plan 2024 (see discussion on Works in Kind).

The Central Coast Council Water and Sewer Department reserves the right to alter the scope and timing of the proposed future assets as these are subject to ongoing review. Any changes to growth patterns, development profiles, land use zoning or any other conditions influence the required location, scale and timing of additional infrastructure. All potential land developers are advised to contact Council's Water Assessment Team for further advice.

### 8.0 STANDARDS OF SERVICE AND DESIGN PARAMETERS

### 8.1 Water Supply

Design parameters relating to water supply headworks are detailed in Appendix A.

For the purposes of assessing additional loads on the water supply system, from a Developer Charges Perspective, 1 Equivalent Tenement (ET) is defined as the following:

- 150 kL/year annual demand (IPART Determination) or
- 0.92 kL/day peak day demand (whichever is greater)

### 8.2 Sewerage

IPART's 2022 Pricing Determination defines a 'deemed sewage discharge' per single residential properties of 125 kL/annum. This figure is adopted for the purpose of determining sewerage developer charges payable for a new development (1ET = 125kL sewage discharge per annum).

### 8.3 Calculation of Equivalent Tenements for Specific Development Types

The conversion of a proposed development into Equivalent Tenements (ET) for the purpose of levying water and sewer developer charges is completed as outlined below:

- 1 Reference to Central Coast Council's Equivalent Tenement Calculation Matrix (see Appendix D)
- 2 For wet industry calculate based on annual and daily water and sewage demand/generation rates and compare to the allowances described above.
- For non-standard development, the number and type of fixtures is used with calculation based parameters contained within AS3500.
- Where the above are not relevant then alternate industry specific documents including Public Works, NSW Water Directorate documentation and investigation of similar developments within other NSW Local Government Areas may be used.

Credits for existing development will be provided based on an approved existing/previous use of the site, for which developer charges have been previously paid. ETs which have been calculated and levied on a parcel of land are not transferrable to another parcel of land.

A minimum threshold of 0.25ET is applicable for triggering the payment of developer charges for new development. However, this does not allow the staging of development in increments less than 0.25ET for the purposes of avoiding the payment of developer charges.

All developer charges calculations will be rounded to two decimal places when assessing ET payable and credits applicable.

### 9.0 Works In Kind and Temporary Works

Developers may apply to provide water and sewer works in kind, in lieu of making monetary contributions (contributed assets) in line with Council's Policy on Works in Kind Agreements.

The above Policy and associated Guideline outline the approach for determining the value assigned to any works in kind. The typical approaches for common asset types is outlined below:

- For linear assets (pipe diameter less than 300mm), the rates paid for works in kind will be the rates used in the calculation of future asset costs for this DSP (summarised in Appendix E). Any additional costs or savings relating to particular site constraints encountered as part of the design and/or construction phases will be borne by the Developer.
- For facility assets (e.g. sewer pumping station or automated network control valves),
  pressure pipelines, water pumping stations and trenchless construction (due to
  environmental or infrastructure constraints) methods (for pipe diameter greater than
  or equal to 300mm), developer is eligible for costs to be based on an independent
  Quantity Surveyor assessment. Any additional costs or savings relating to particular
  site constraints encountered following determination of the works in kind value will
  be borne by the Developer.
- Credits will only be payable upon the acceptance of an asset by Council (no staged payment for investigation and design). for more detail, please refer to Council <u>Works</u> <u>in Kind Policy – Works Under the Water Management Act 2000</u>.

Prior to commencing the design of any contributed assets, the Developer shall contact Council and provide a 'Letter of Intent' (template available) which identifies the subject DSP assets that are intended to be constructed and seeks confirmation what credits may be available for the construction of those assets.

It may be feasible to provide temporary measures to service initial stages of a development in lieu of constructing major works up front. Such proposals will need to be assessed at the time of application. In these cases, the applicant is responsible to fully fund the design and construction of the assets and donate them to Council with a payment of expected operational costs and a further payment towards the future decommissioning of the temporary works. These costs are additional to any costs identified in this Plan. The merits of any proposals for temporary assets will need to consider alignment with the long term servicing strategy, impacts to operation and maintenance and overall risk exposure to Council.

This DSP does not include the provision of reticulation assets which are required to be donated to council by the developer. For the purpose of this DSP, reticulation assets are defined as water mains with a nominal diameter less than 200mm and gravity sewer mains with a nominal diameter less than 225mm.

### **10.0 Timing and Method of Payment**

Unless other arrangements have been approved by Council, the payments for Development Contributions are as follows:

- Involving subdivision, payment is required prior to the release of the Subdivision Certificate.
- Involving building work, payment is required prior to the release of the first Construction Certificate or Complying Development Certificate.

### 11.0 Developer Charge Calculation

#### 11.1 Calculation Formula

This Development Servicing Plan contains a net present value (NPV) calculation of the cost of total service capacity in the area less the expected net operating surplus (or losses) from providing services in the area. The resultant net cost is then expressed per Equivalent Tenement (ET). A development is charged a multiple of this per ET charge according to the number of ET applicable to that development calculated in accordance with section 8, minus any existing credits applicable to the site.

The developer charge (DC) is calculated in accordance with IPART's 2018 Determination as follows:

$$MP_{Sch1} = \frac{K_1}{L_1} + \frac{K_2}{L_2} - \frac{NPV(R_i - C_i)}{L_3} for \ i = financial \ years \ 1, \dots, n$$

Where:

- MPSch1 means the maximum price per Equivalent Tenement to be serviced by the connection:
- K1 means the Capital Charge for the Pre-1996 Assets that will serve the relevant DSP Area, calculated in accordance with clause 2.3(a) of Schedule 5 and set out in the relevant DSP;
- K2 means the Capital Charge for the Post-1996 Assets that will serve the relevant DSP Area, calculated in accordance with clause 2.3(b) and 2.3(c) of Schedule 5 and set out in the relevant DSP;
- L1 means the Agency's estimate of the number of Equivalent Tenements for Pre- 1996
  Assets, calculated in accordance with clause 3.2(a) of Schedule 5 and set out in the
  relevant DSP;
- L2 means the Agency's estimate of the number of Equivalent Tenements for Post-1996 Assets, calculated in accordance with clause 3.2(b) of Schedule 5 and set out in the relevant DSP;
- L3 means the Agency's estimate of the number of Equivalent Tenements for the Reduction Amount, calculated in accordance with clause 3.2(c) of Schedule 5 and set out in the relevant DSP;

- Ri means the Agency's estimate of the future periodic revenues to be received from new customers in the DSP Area in each financial year i, estimated in accordance with clause 4 of Schedule 5 and set out in the relevant DSP;
- Ci means the Agency's estimate of the future operating, maintenance and administration costs of servicing all new customers in the DSP Area in each financial year i (excluding, for the avoidance of doubt, any Capital Costs), estimated in accordance with clause 5 of Schedule 5 and set out in the relevant DSP; and
- n is the financial year which is 30 years from the financial year in which the relevant DSP was registered with IPART.

#### 11.2 Net Present Value Model Parameters

Council has used the following parameters as required in calculating the developer charge:

- A 0% real discount rate for Pre 1996 assets.
- A real discount rate for post 1996 assets of 4.9% which is equal to Wyong Shire Council's Pre-tax Weighted Average Cost of Capital (WACC)
- A real discount rate of 4.9% for the expected net revenues and costs equal to Wyong Shire Council's Pre-tax WACC
- Consumption per annum for an average residential customer of 150kL/year;
- A forecast horizon for expected net revenues and costs of 30 years; and
- Any assets constructed prior to 1970 are excluded from the calculation.

### **11.3 Asset Description**

Details relating to the size, length and date of commissioning of existing assets were taken from Council's financial asset register which was used to complete a recent revaluation of Council's Water and Sewerage Assets in 2022.

The value of existing assets was determined using a Modern Engineering Equivalent Replacement Asset (MEERA) approach as required by IPART. This same approach was required for the 2022 Water and Sewerage Asset revaluation which has satisfied Audit Office of NSW requirements.

### **11.4 Developer Charges**

A summary of the developer charges is provided below in Table 3, with the full calculation available in Appendix F.

It is noted that GST is not payable on Water and Sewerage Developer Charges amounts, nor is it payable for credits on works undertaken in lieu of Developer Charges payable.

**Table 3 Summary of Developer Charges Calculations** 

	Headworks Capital Charge (\$/ET)	Distribution Capital Charge (\$/ET)	Operating Surplus (\$/ET)	Total Charge (\$/ET)
Scheme	(a)	(b)	(c)	(d)=(a)+(b)-(c)
Southern Region Water Supply	\$5,975	\$1,779	\$5,487	\$2,267
Southern Region Sewerage	N/A	\$9,850	\$3227	\$6,623

# 12.0 Method of Updating Developer Charges Payable Under This Plan

The Development Servicing Plan will be reviewed:

- Once, and no more than once, in each five year period, with the first five year period starting on 1 November 2024: and
- When and to the extent required by a determination of the Independent Pricing and Regulatory Tribunal.

#### 12.1 CPI Adjustment

If there is no review of Developer Charges in any given year (Year n), the Developer Charges then prevailing must be multiplied to take effect from 1 July in each such year by the number derived from the application of the following formula:

Where:

*CPI* = the consumer price index, All Groups index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by IPART;

 $March_{year\,n}$  = the March quarter for Year n; and  $March_{year\,n-1}$  = the March quarter for the year before Year n.

### **12.2 Dispute Resolution**

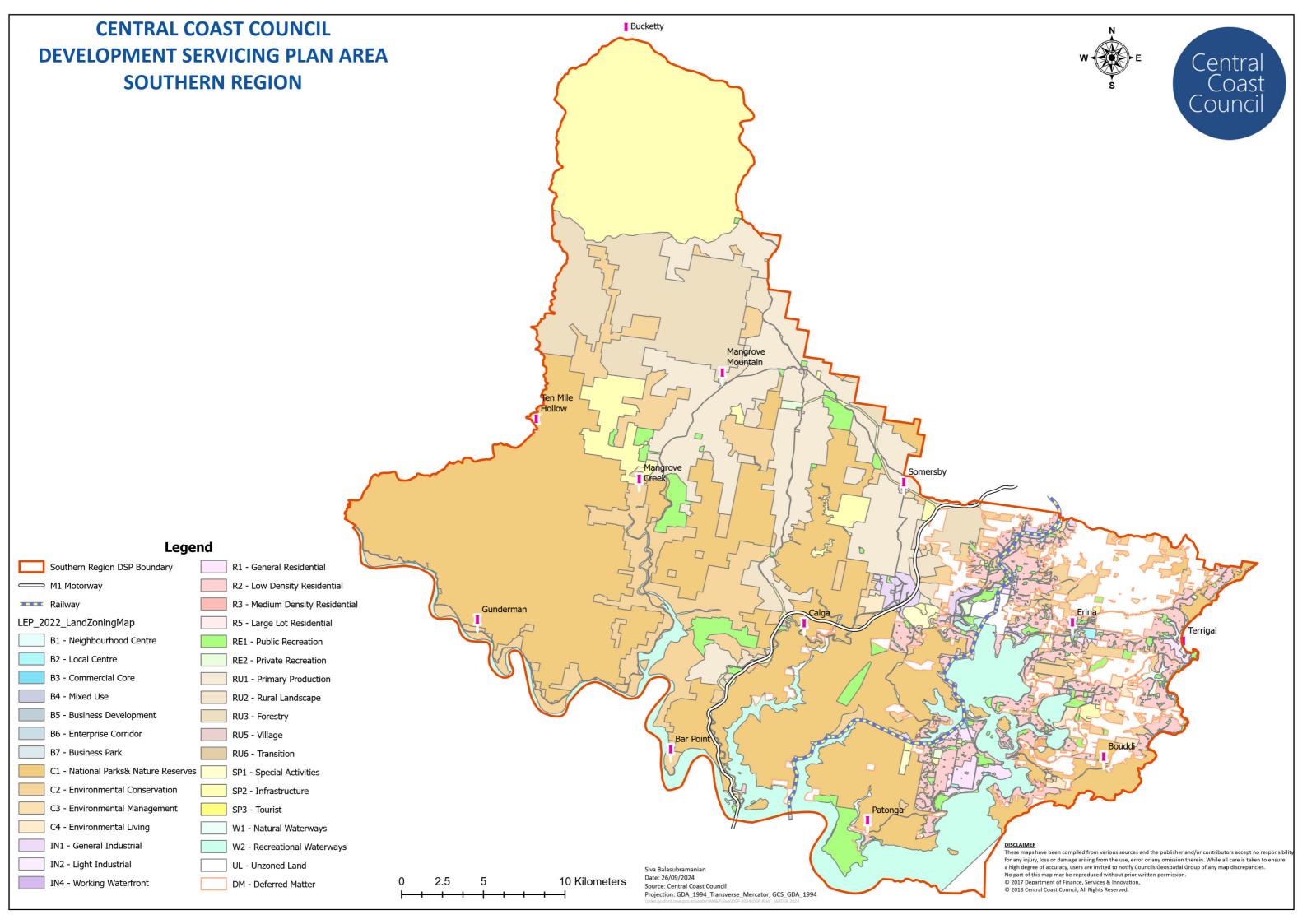
A developer who is dissatisfied with how Council has calculated a developer charge has a right to have the dispute arbitrated under the Independent Pricing & Regulatory Tribunal Act.

The first step of this arbitration process is to contact Central Coast Council.

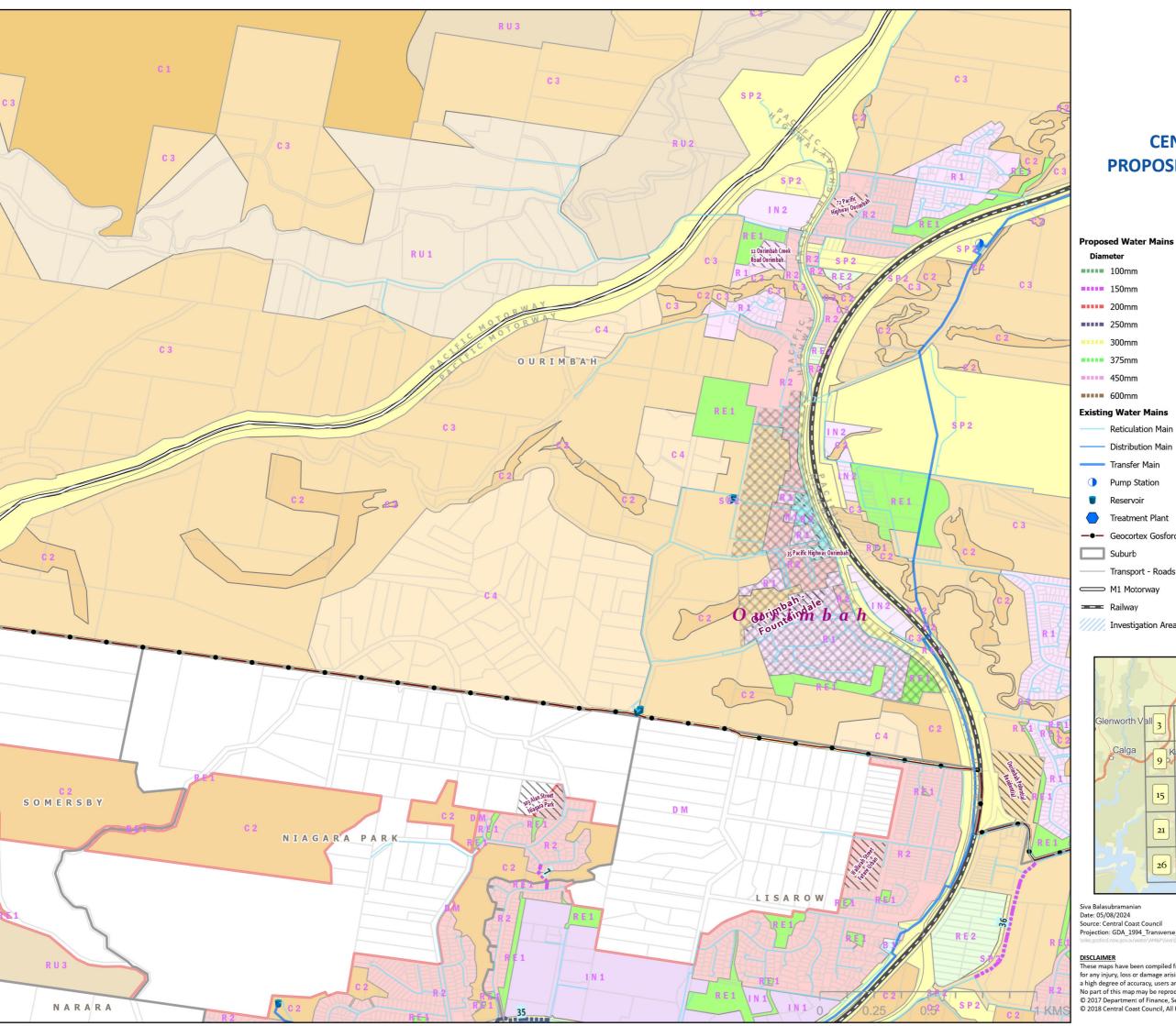
If the complaint has been reviewed by Council and the customer is still dissatisfied, the customer may request to have the dispute arbitrated under Section 31 of the IPART Act.

2024
Figure 1
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<b>Development Servicing Plan Area</b>
<b>Development Servicing Plan Area</b>
Development Servicing Plan Area

Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 October



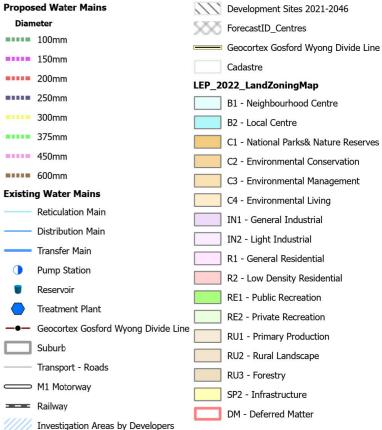
Southern Region Water Supply and S	sewerage Development Servicing Plan 2024 Version 2.0 October
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	Figure 2
	<b>Southern Water Supply Works Plan - 2024</b>
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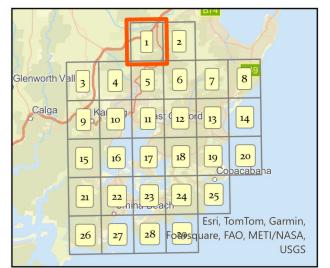






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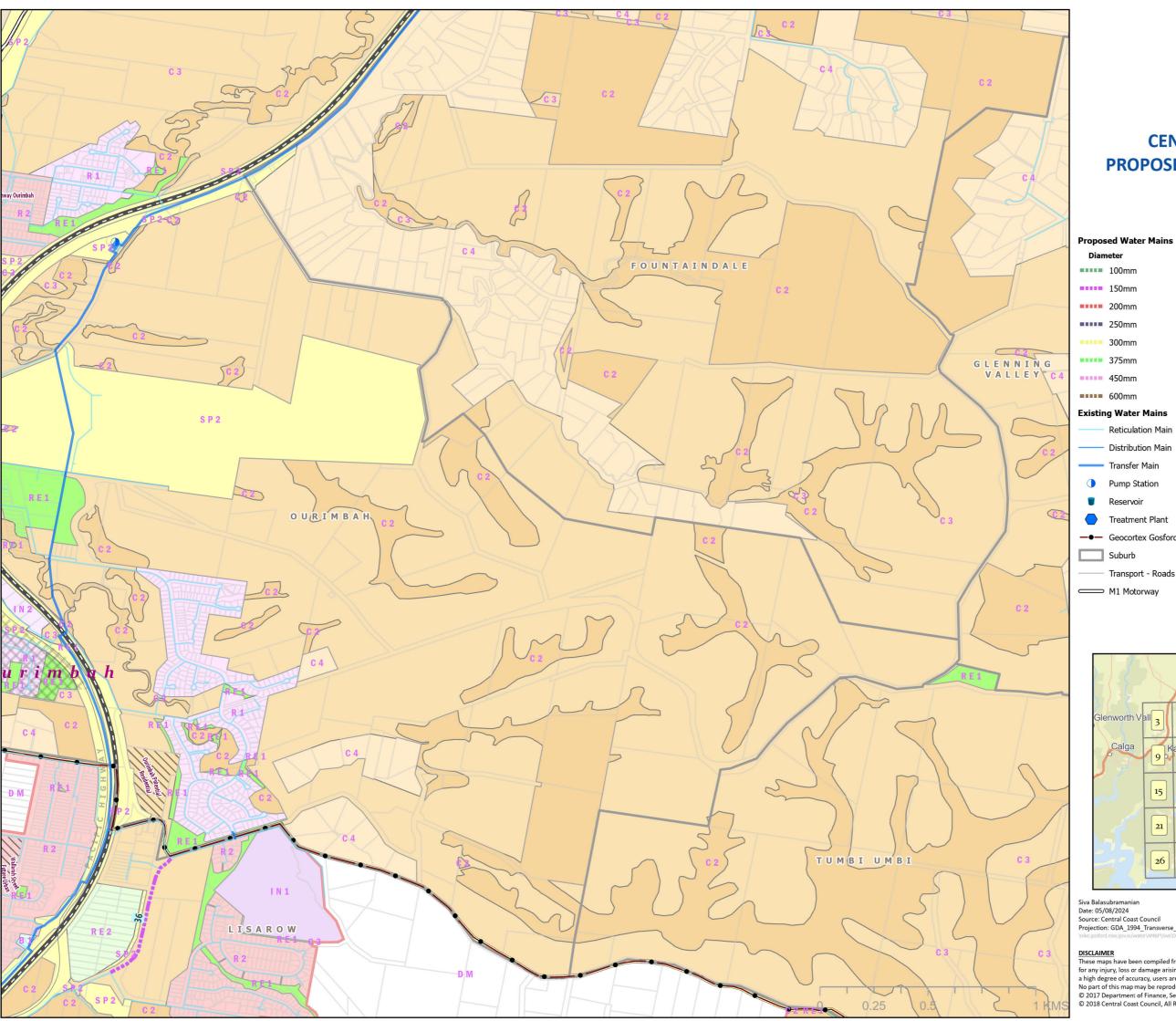
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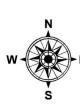
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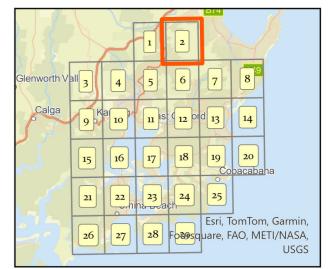






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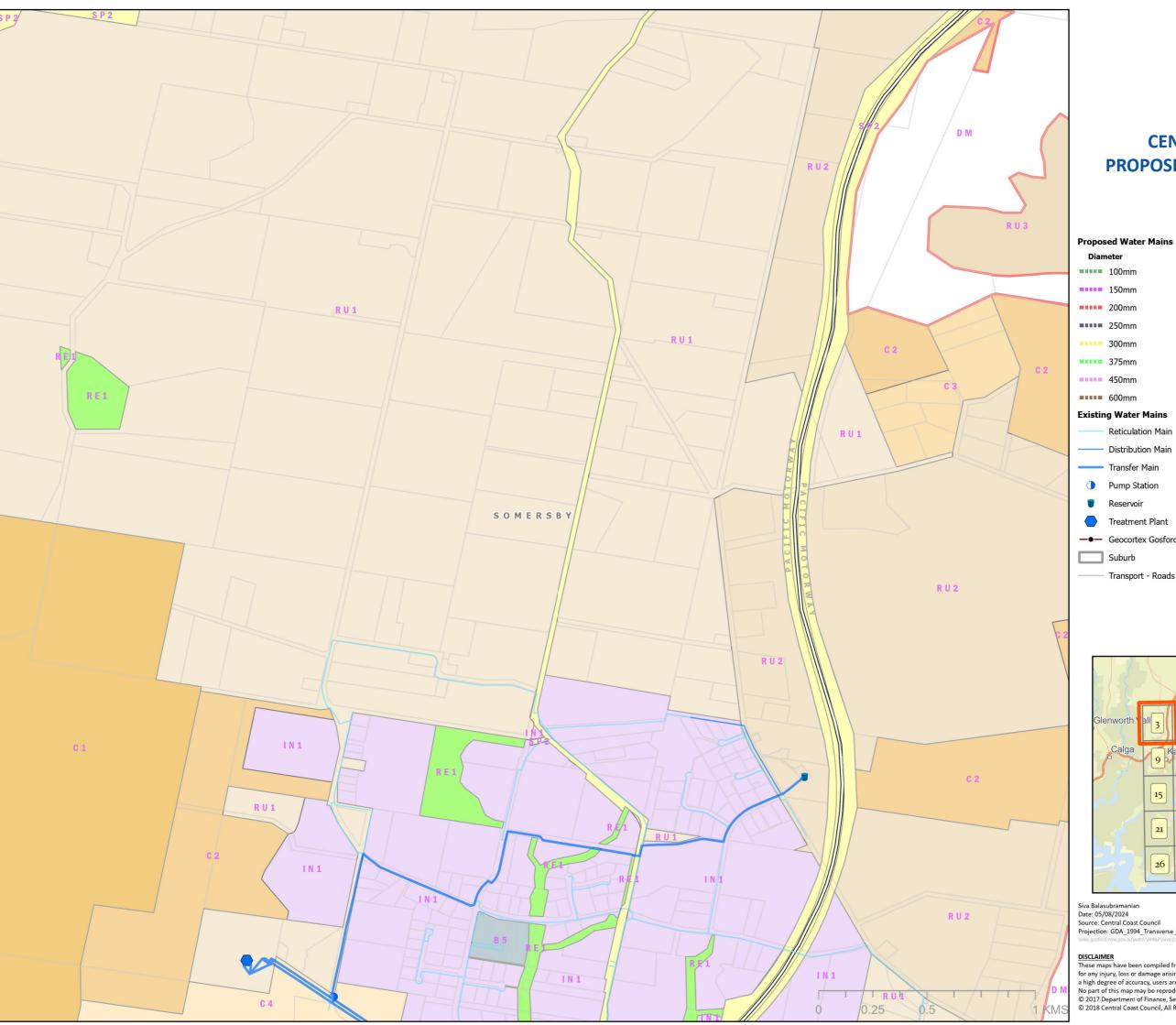
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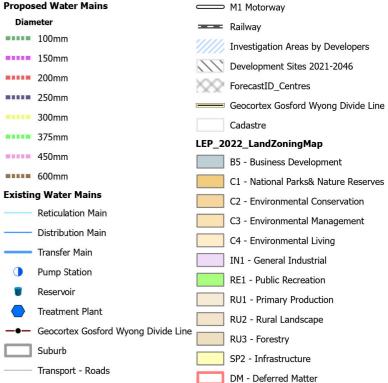
Map 2 of 29







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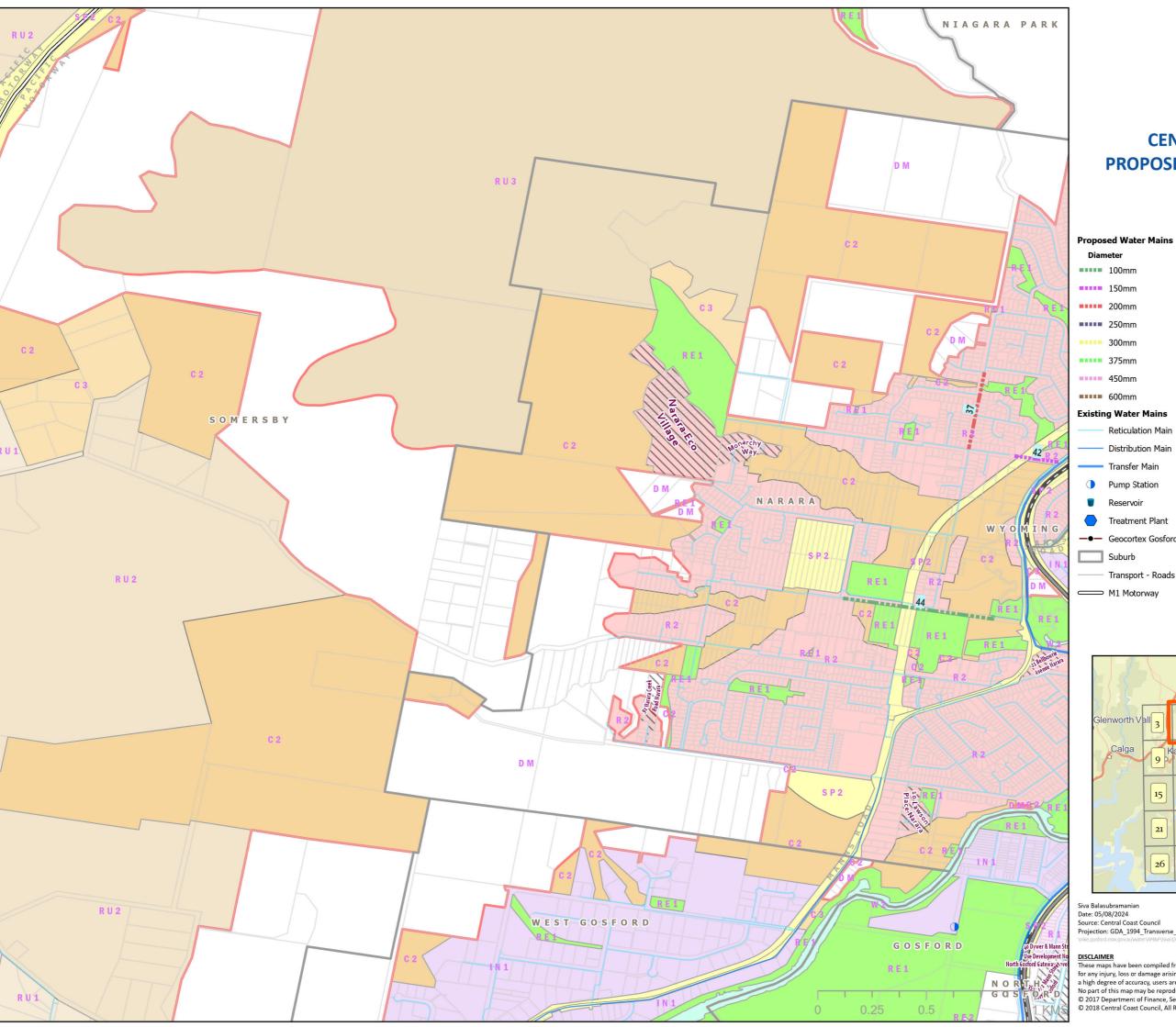




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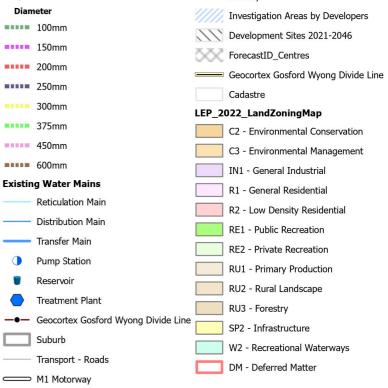
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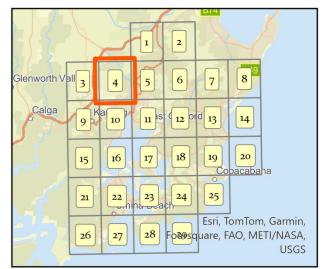






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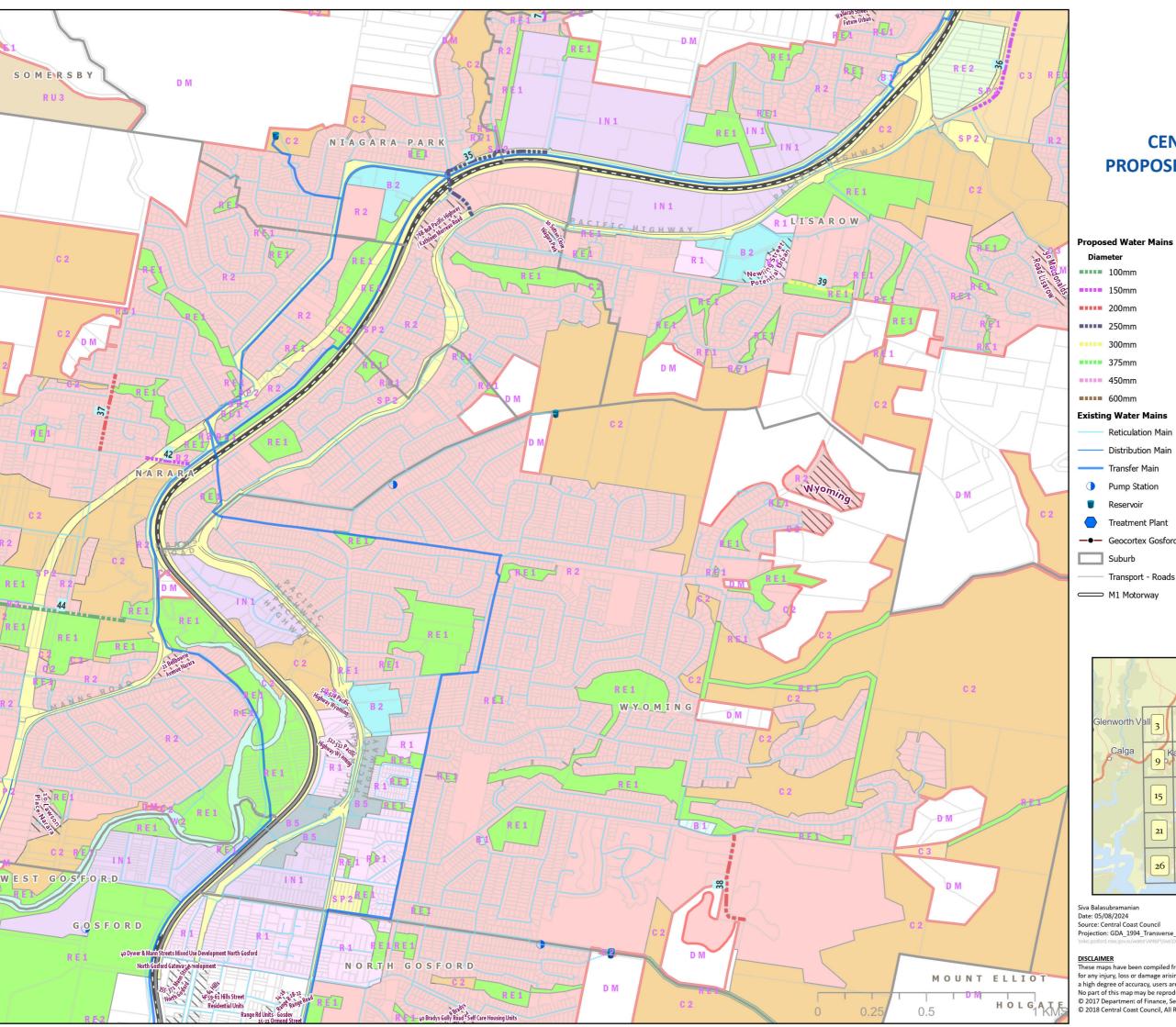
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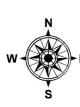
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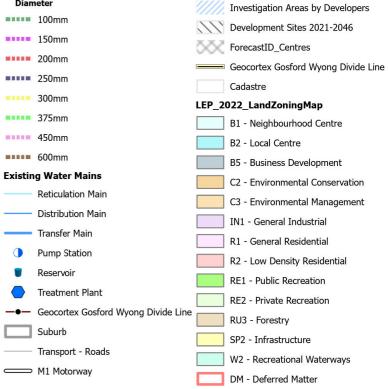
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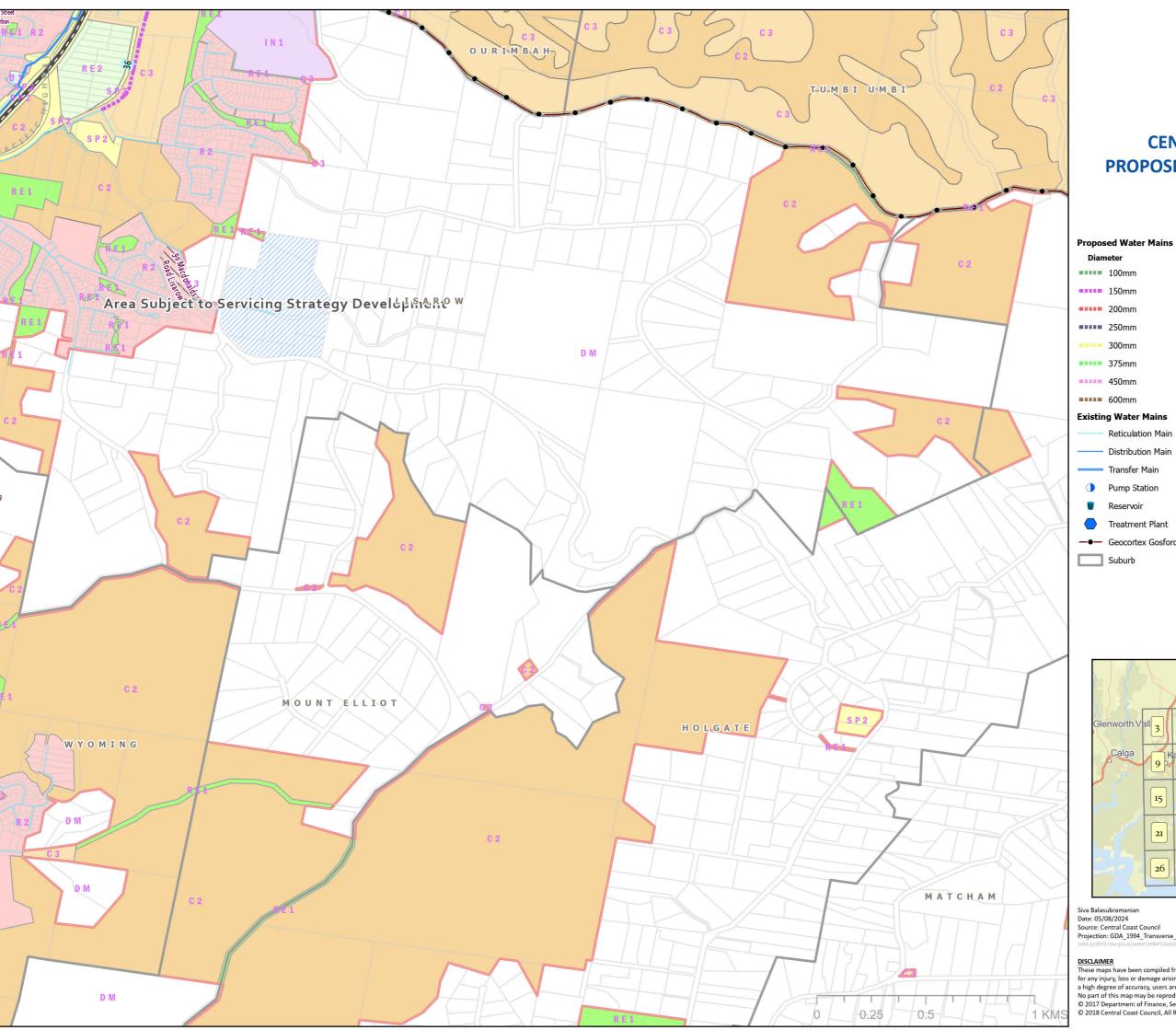
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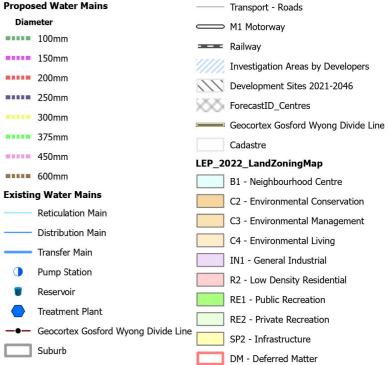
Map 5 of 29

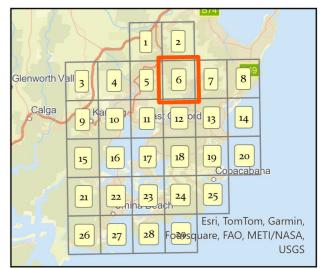






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Siva Balasubramanian Date: 05/08/2024

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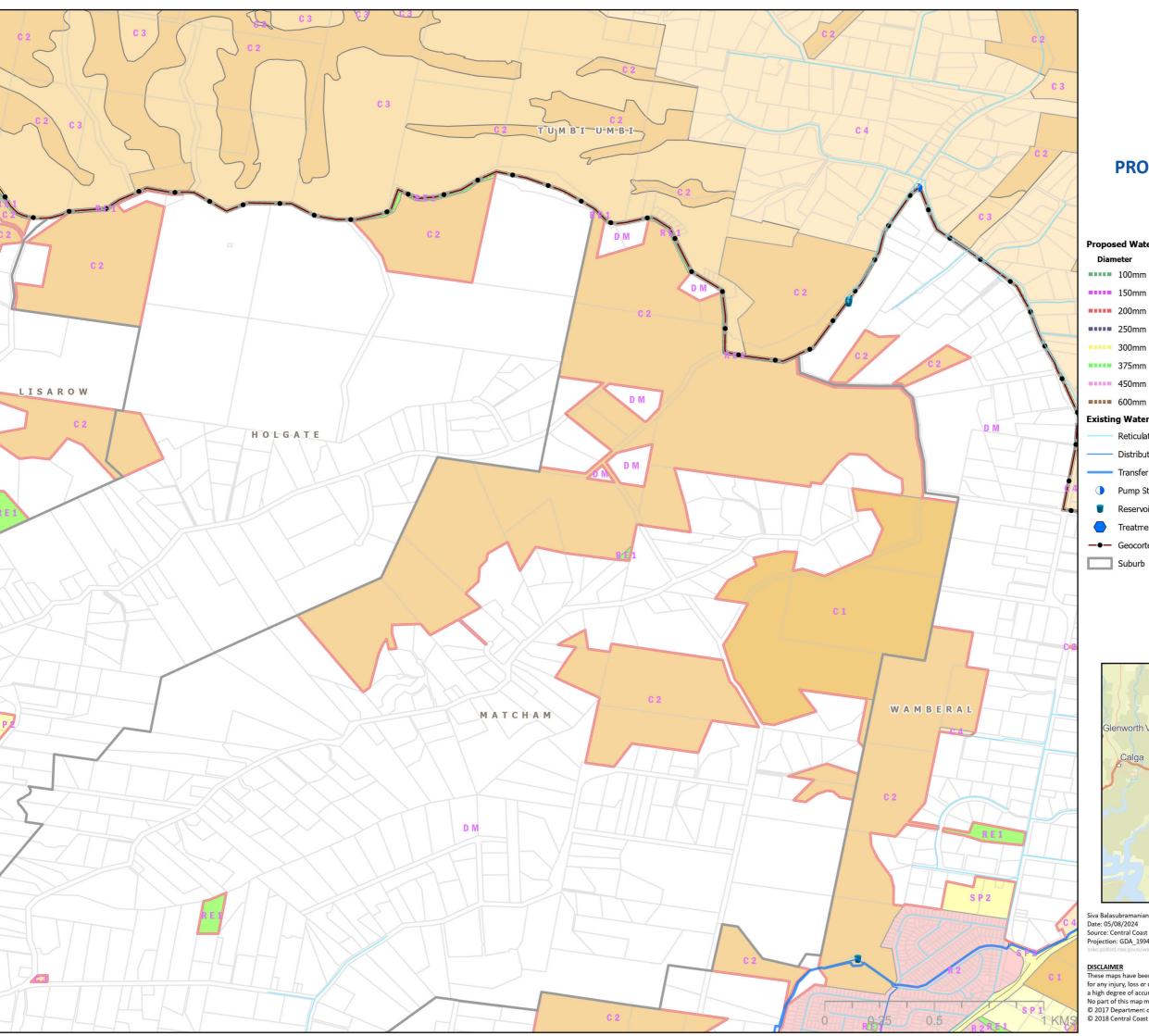
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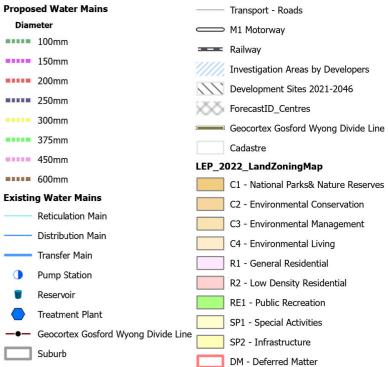
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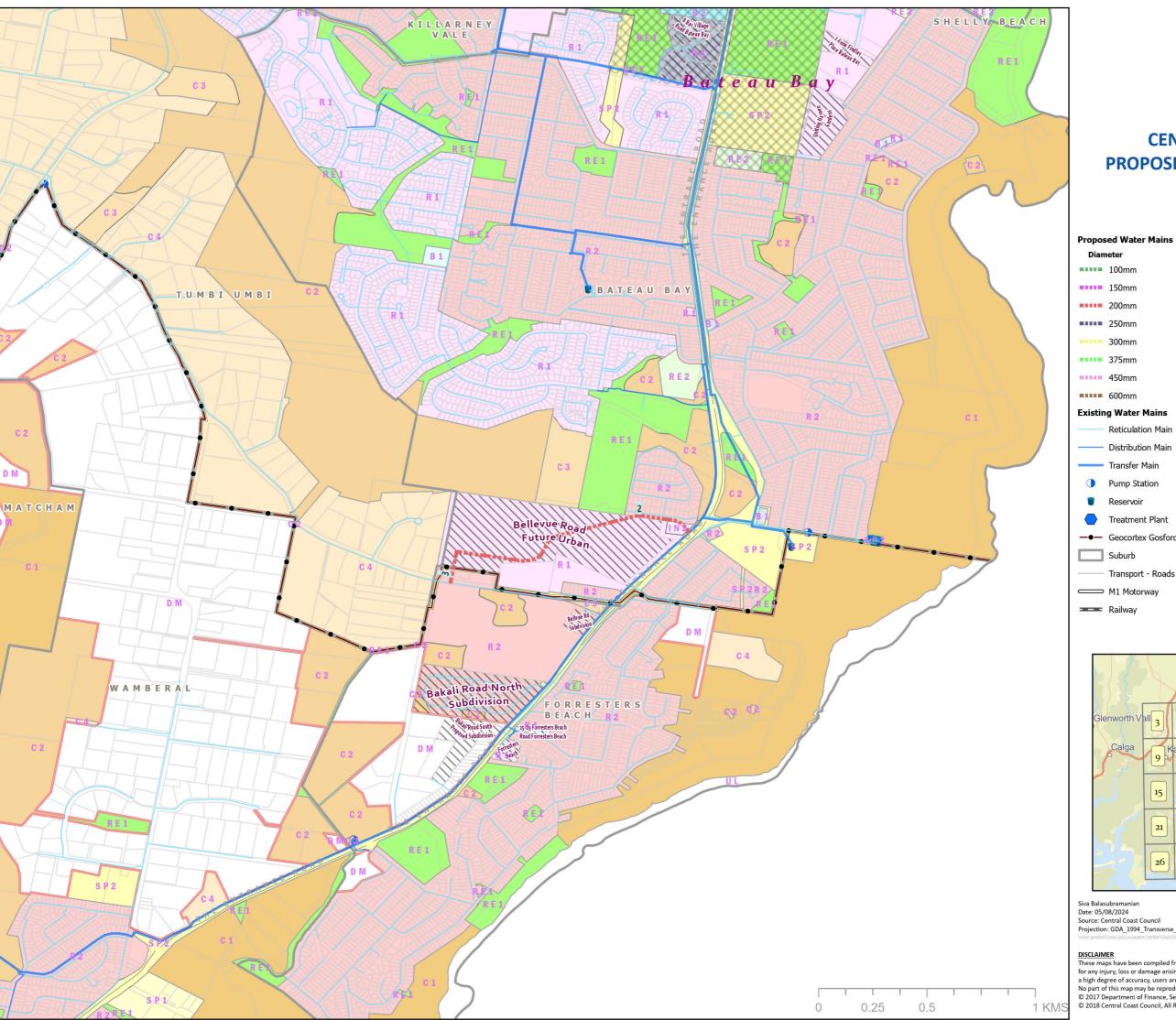
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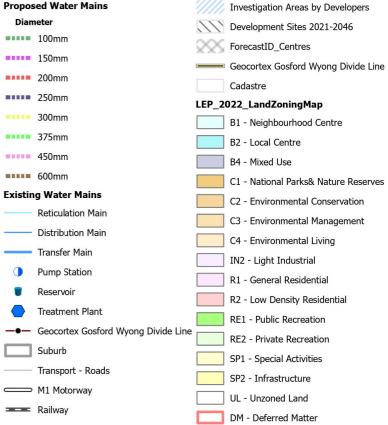
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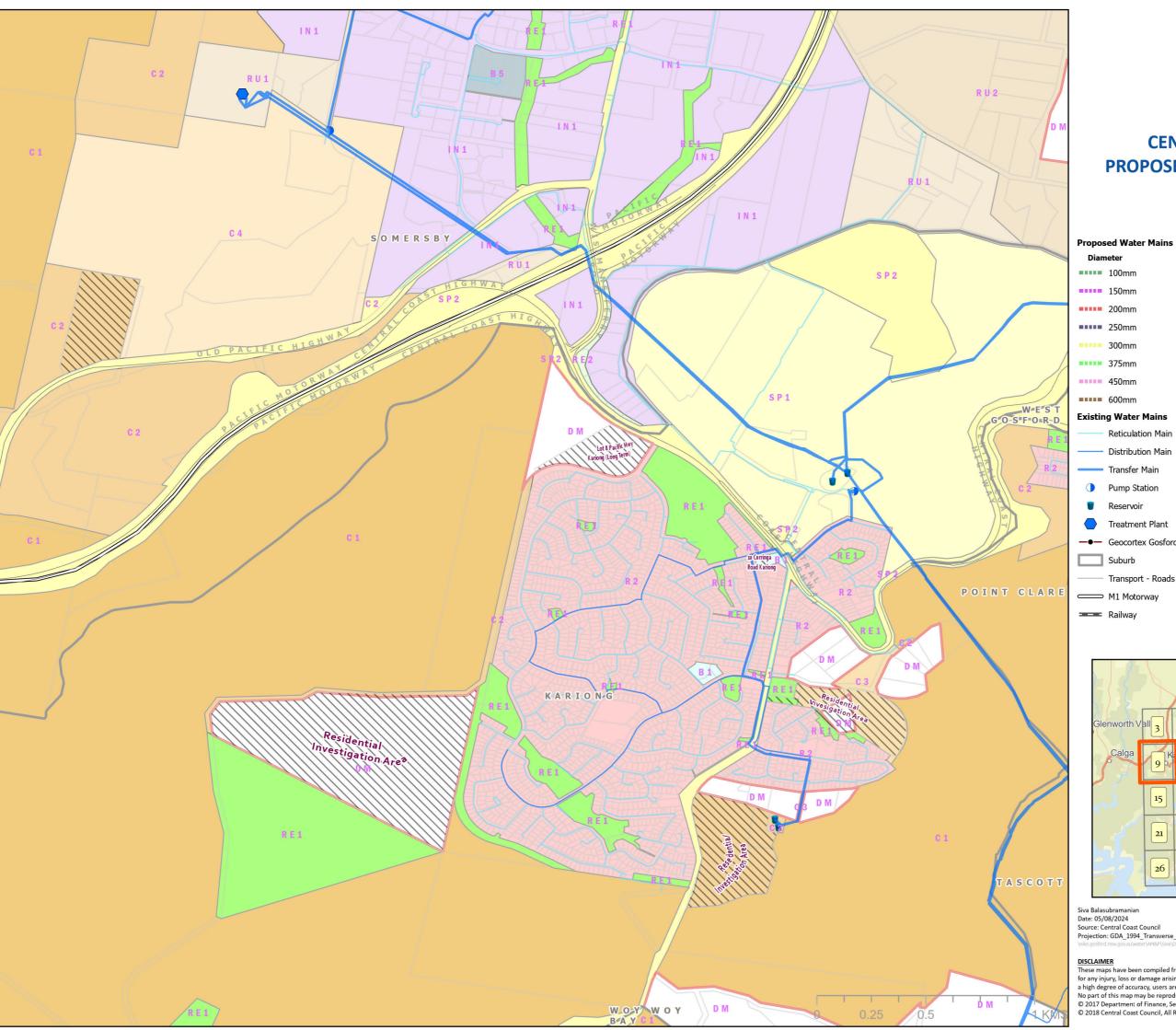


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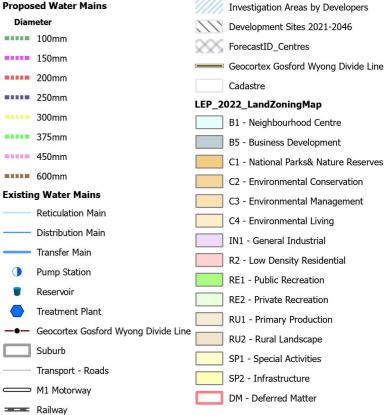
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#### Legend





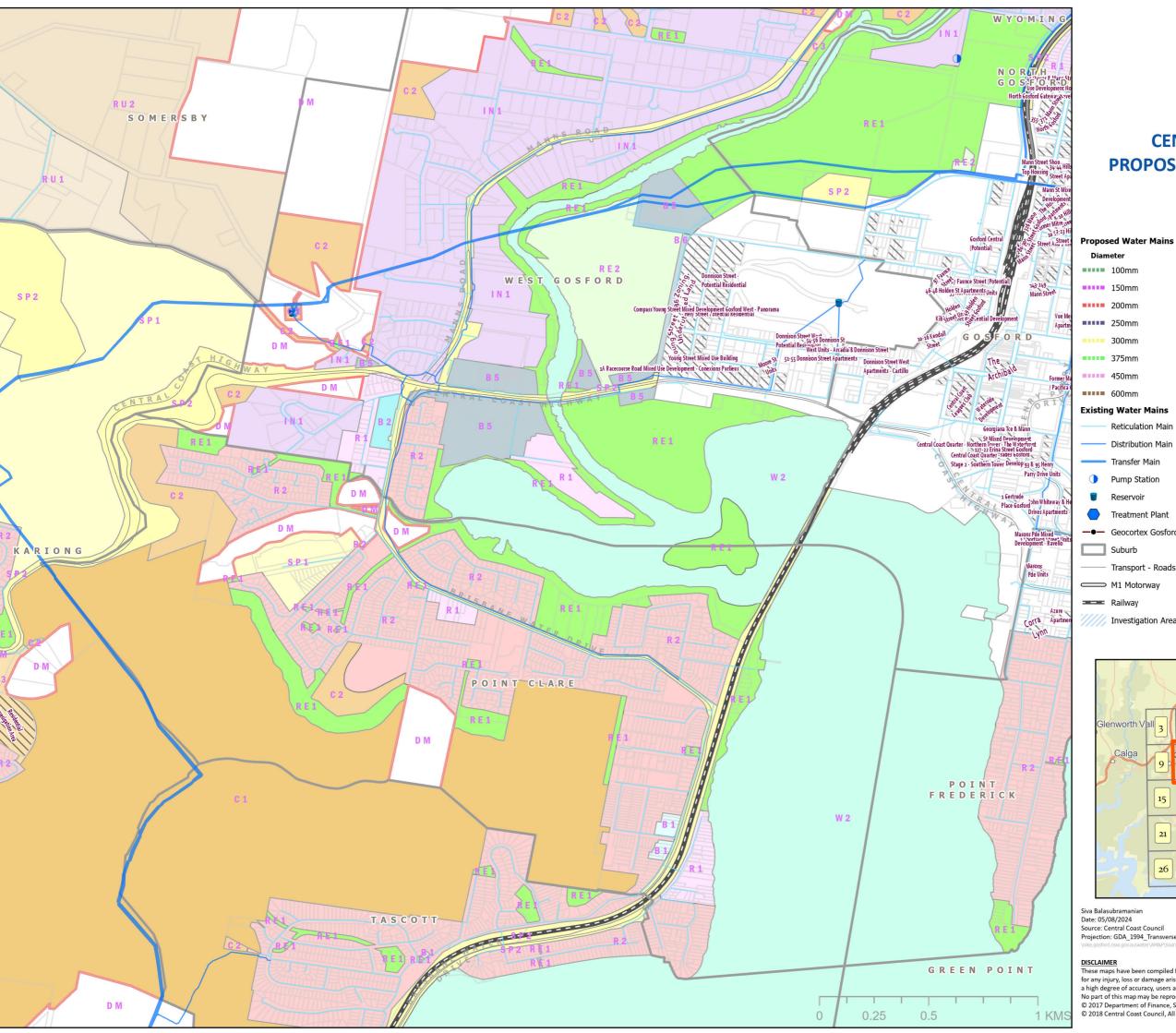
Siva Balasubramanian Date: 05/08/2024

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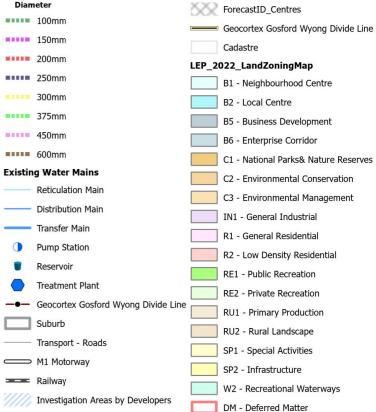


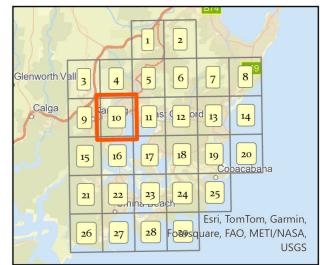




### Legend

Development Sites 2021-2046



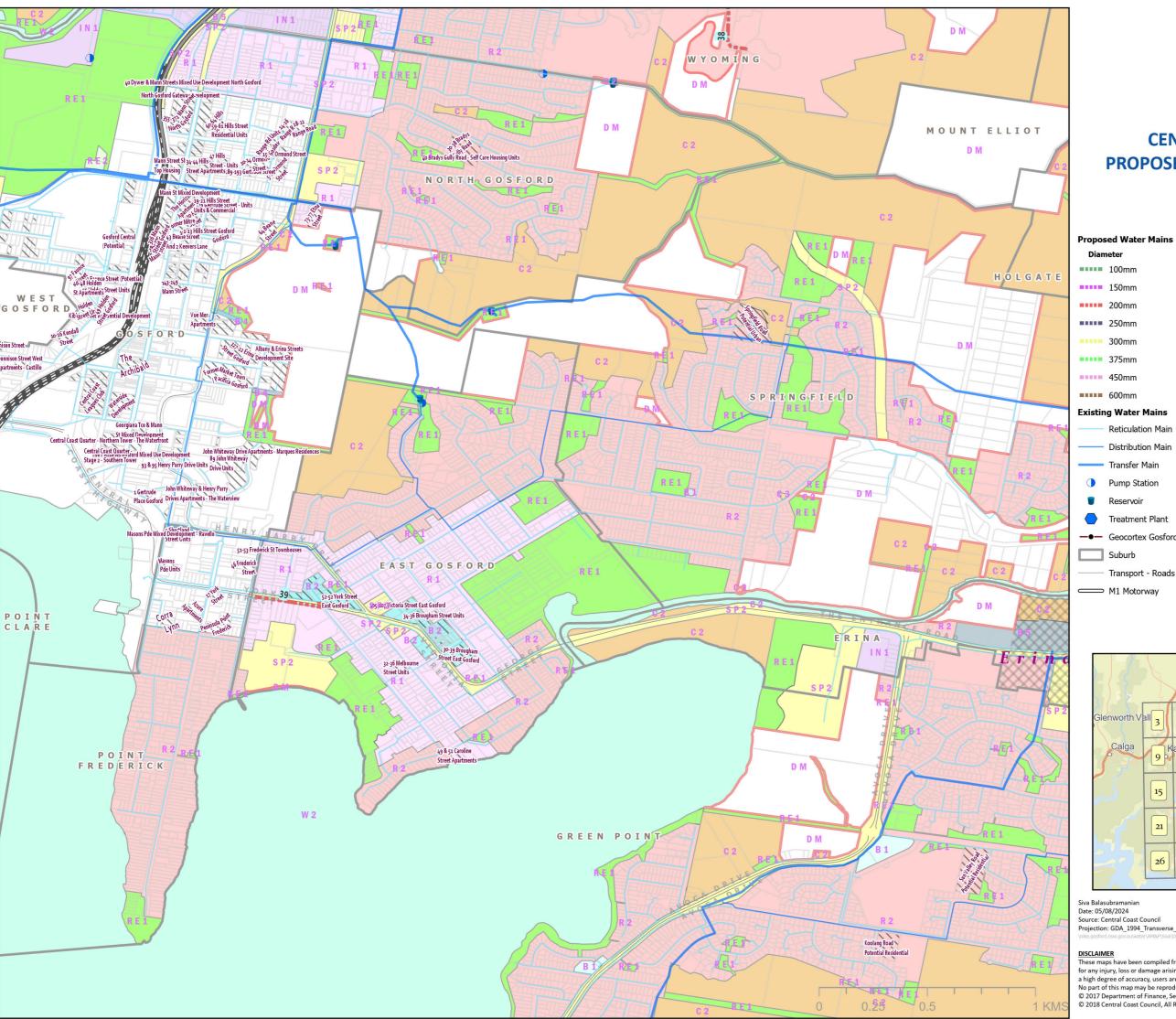


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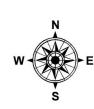
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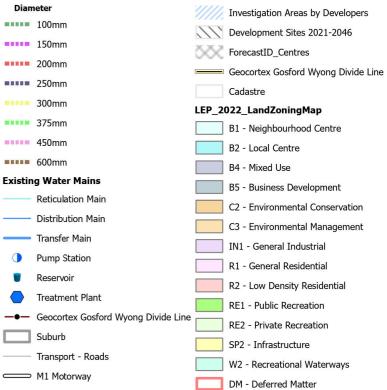
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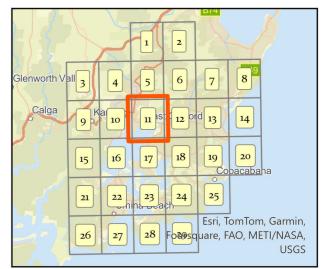






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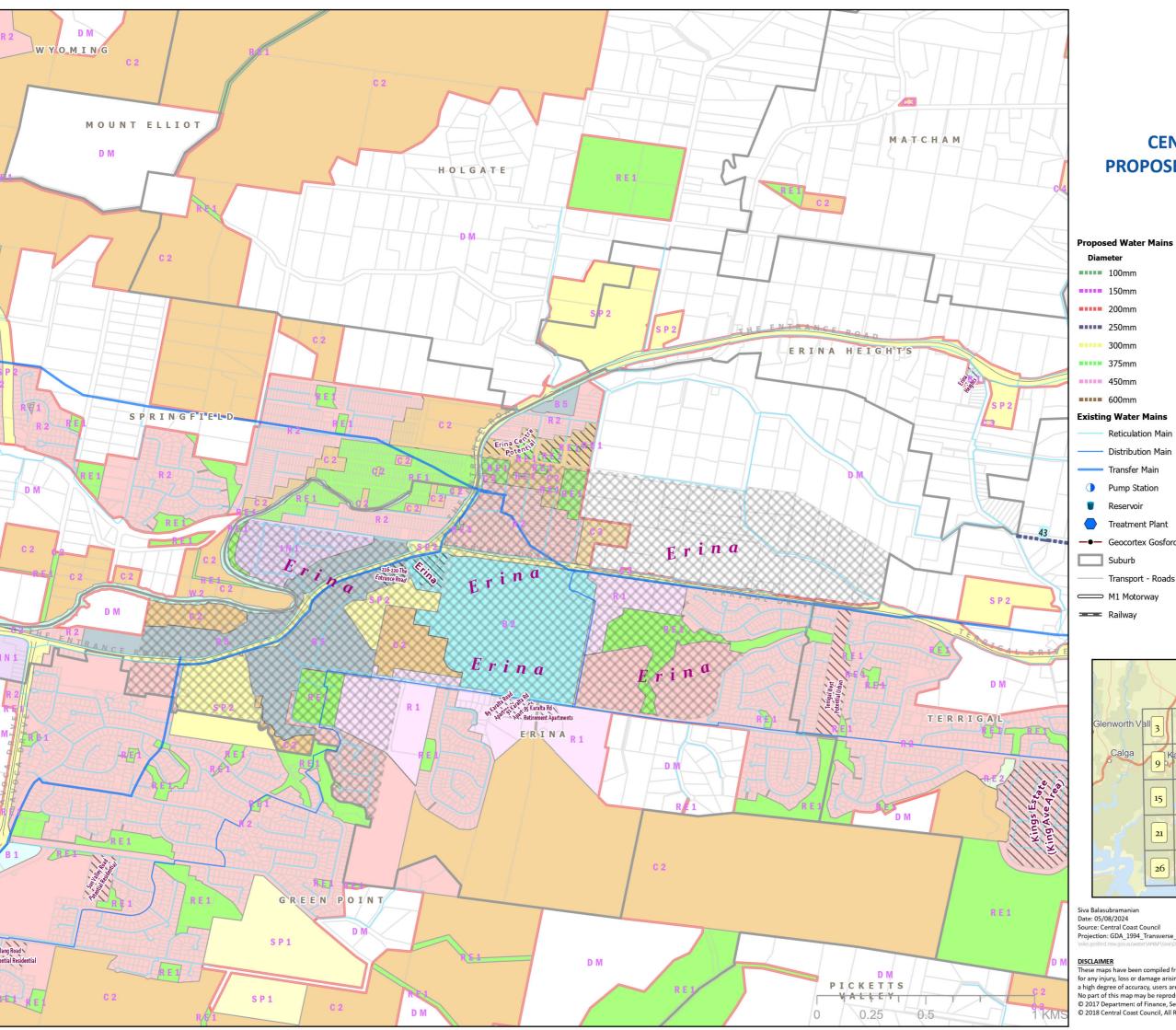


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Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

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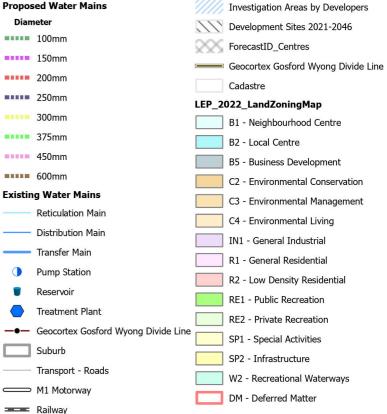
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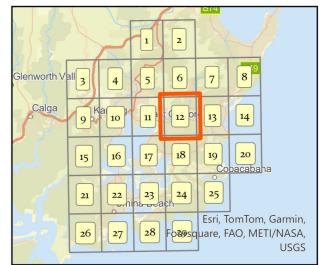






### Legend





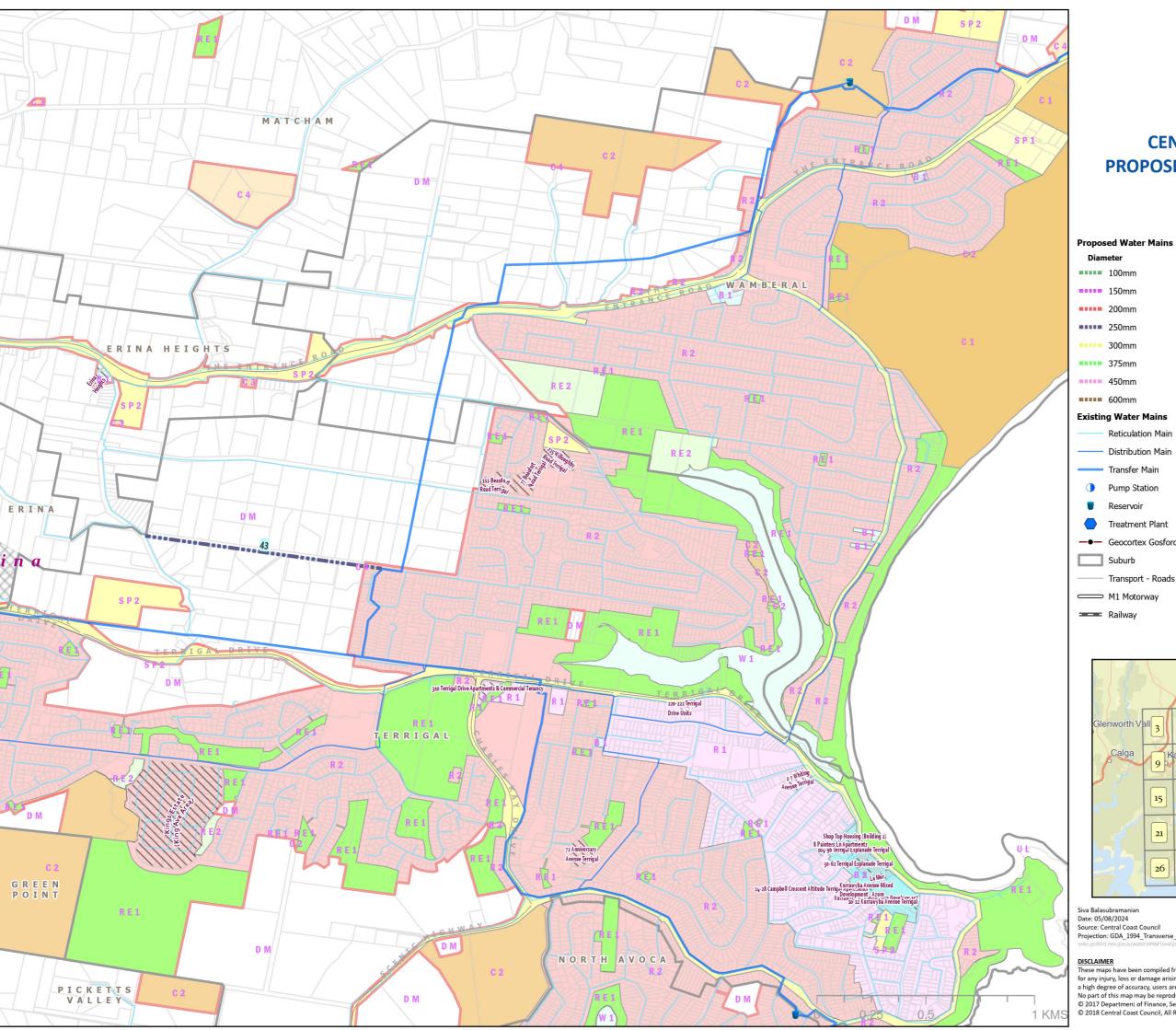
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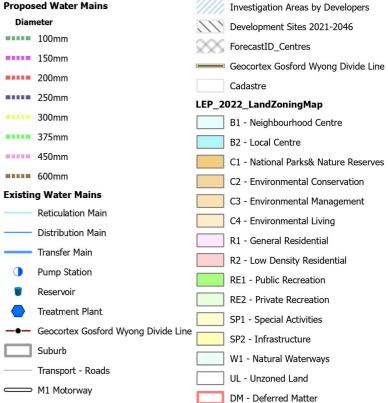
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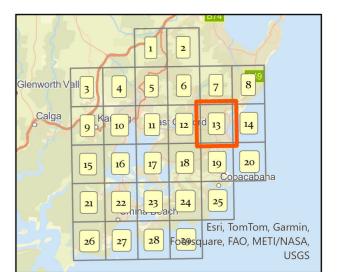






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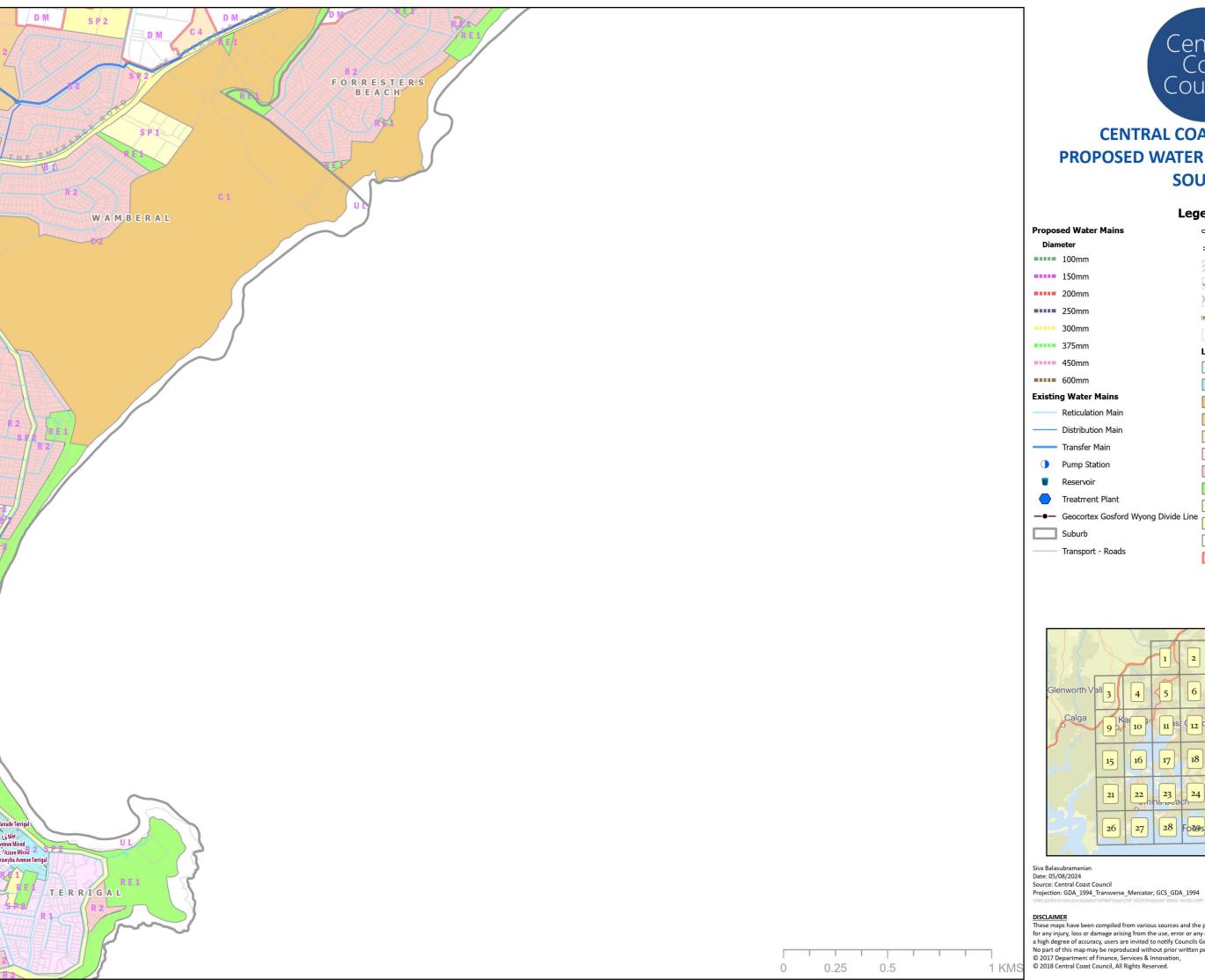




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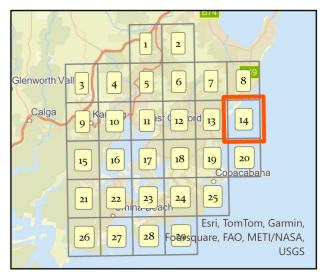






### Legend

Proposed Water Mains	M1 Motorway
Diameter	Railway
100mm	Investigation Areas by Developer
150mm	Development Sites 2021-2046
200mm	ForecastID Centres
250mm	Geocortex Gosford Wyong Divide
300mm	Cadastre
375mm	LEP 2022 LandZoningMap
450mm	B1 - Neighbourhood Centre
<b>600</b> mm	B2 - Local Centre
Existing Water Mains	C1 - National Parks& Nature Rese
Reticulation Main	
Distribution Main	C2 - Environmental Conservation
Transfer Main	C4 - Environmental Living
_	R1 - General Residential
_	R2 - Low Density Residential
Reservoir	RE1 - Public Recreation
Treatment Plant	SP1 - Special Activities
—●— Geocortex Gosford Wyong Divide Line	SP2 - Infrastructure
Suburb	
Transport - Roads	UL - Unzoned Land
	DM - Deferred Matter



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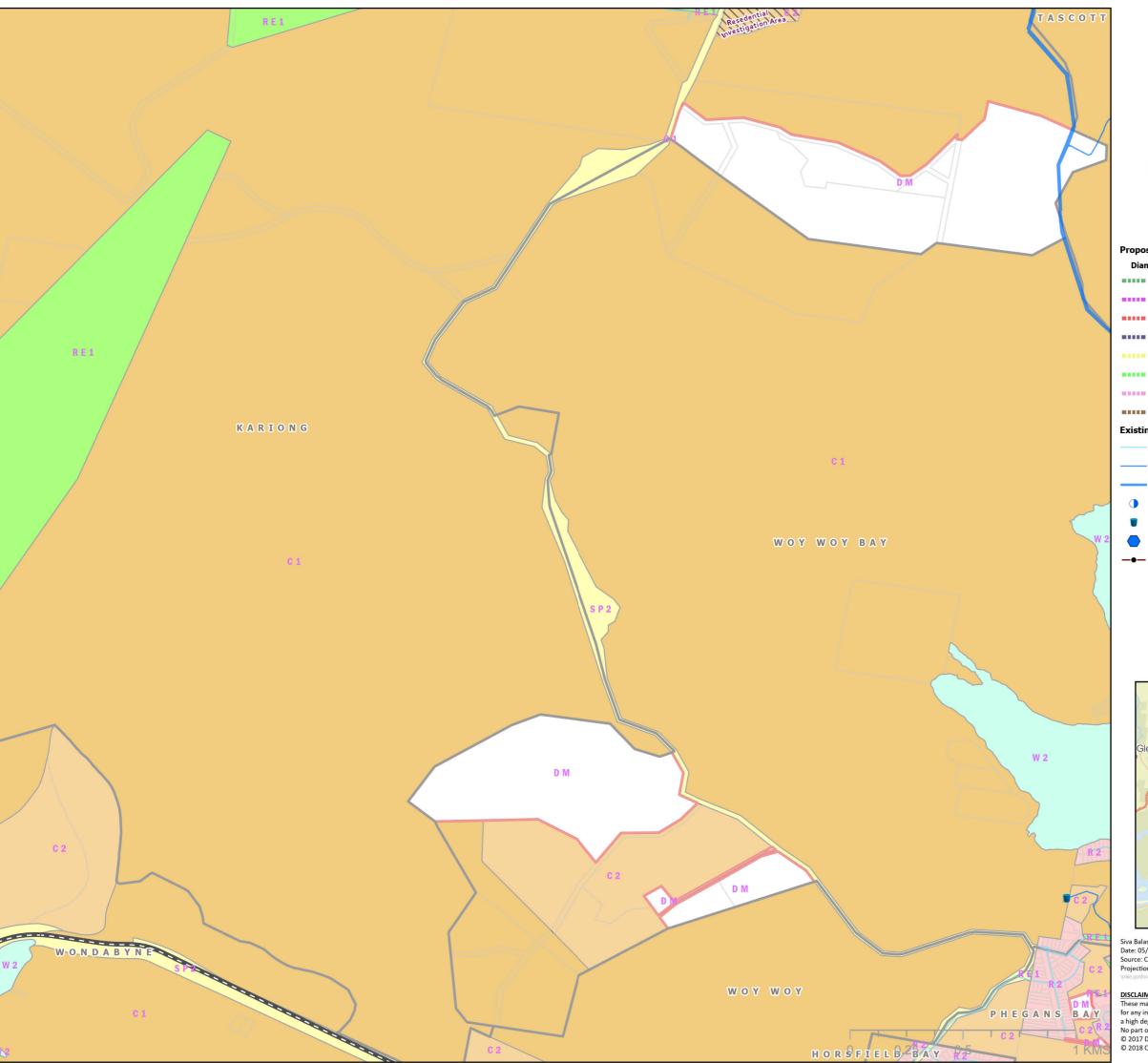
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### Legend

Proposed Water Mains	Suburb
Diameter	Transport - Roads
100mm	M1 Motorway
150mm	Railway
200mm	
250mm	Investigation Areas by Developers
	Development Sites 2021-2046
300mm	ForecastID_Centres
375mm	Geocortex Gosford Wyong Divide Line
450mm	
	Cadastre
•••• 600mm	
	LEP_2022_LandZoningMap
Existing Water Mains	LEP_2022_LandZoningMap  C1 - National Parks& Nature Reserves
	C1 - National Parks& Nature Reserves
Existing Water Mains	C1 - National Parks& Nature Reserves C2 - Environmental Conservation
Existing Water Mains  Reticulation Main	C1 - National Parks& Nature Reserves C2 - Environmental Conservation R2 - Low Density Residential
Existing Water Mains  Reticulation Main  Distribution Main  Transfer Main	C1 - National Parks& Nature Reserves C2 - Environmental Conservation
Existing Water Mains  Reticulation Main  Distribution Main  Transfer Main  Pump Station	C1 - National Parks& Nature Reserves C2 - Environmental Conservation R2 - Low Density Residential
Existing Water Mains  Reticulation Main  Distribution Main  Transfer Main	C1 - National Parks& Nature Reserves C2 - Environmental Conservation R2 - Low Density Residential RE1 - Public Recreation
Existing Water Mains  Reticulation Main  Distribution Main  Transfer Main  Pump Station	C1 - National Parks& Nature Reserves C2 - Environmental Conservation R2 - Low Density Residential RE1 - Public Recreation SP2 - Infrastructure



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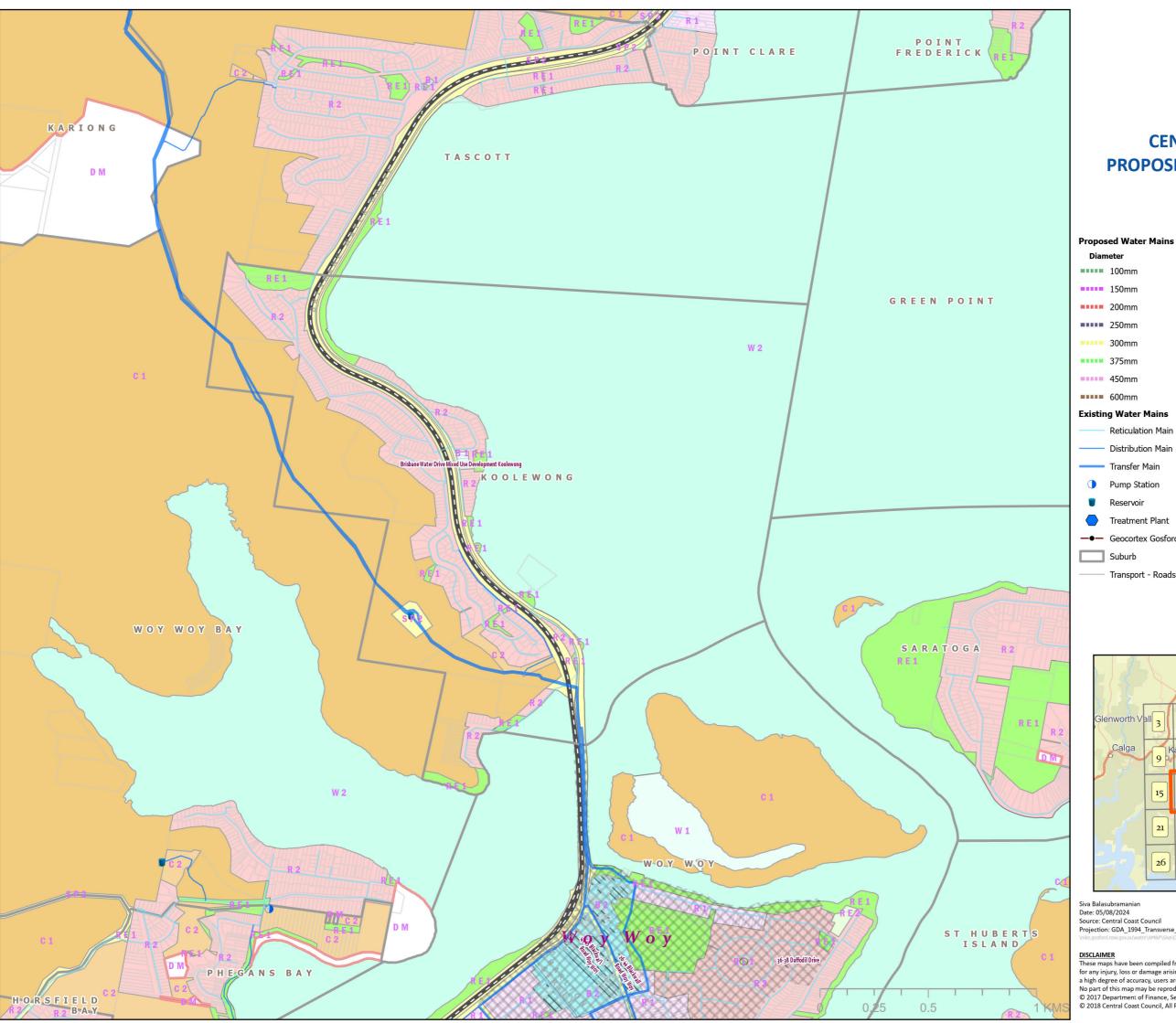
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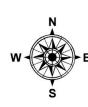
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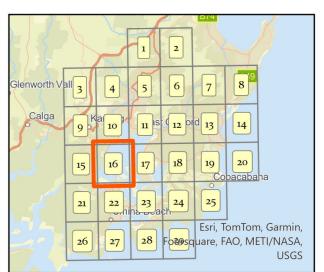






#### Legend

Propos	ed Water Mains		M1 Motorway
Diam	12321	-	Railway
	100mm	1////	Investigation Areas by Developers
	150mm	11	Development Sites 2021-2046
	200mm	XXX	ForecastID_Centres
•••••	250mm		Geocortex Gosford Wyong Divide Line
	300mm		Cadastre
•••••	375mm	LEP_20	022_LandZoningMap
	450mm		B1 - Neighbourhood Centre
	600mm		B2 - Local Centre
Existin	g Water Mains		C1 - National Parks& Nature Reserves
	Reticulation Main		C2 - Environmental Conservation
	Distribution Main		R1 - General Residential
_	Transfer Main		R2 - Low Density Residential
	Pump Station		RE1 - Public Recreation
	Reservoir		RE2 - Private Recreation
	Treatment Plant		SP2 - Infrastructure
-•-	Geocortex Gosford Wyong Divide Line		W1 - Natural Waterways
	Suburb		W2 - Recreational Waterways
	Transport - Roads	$\equiv$	DM - Deferred Matter
			2 22.31104 1 144401



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Date: 05/08/2024
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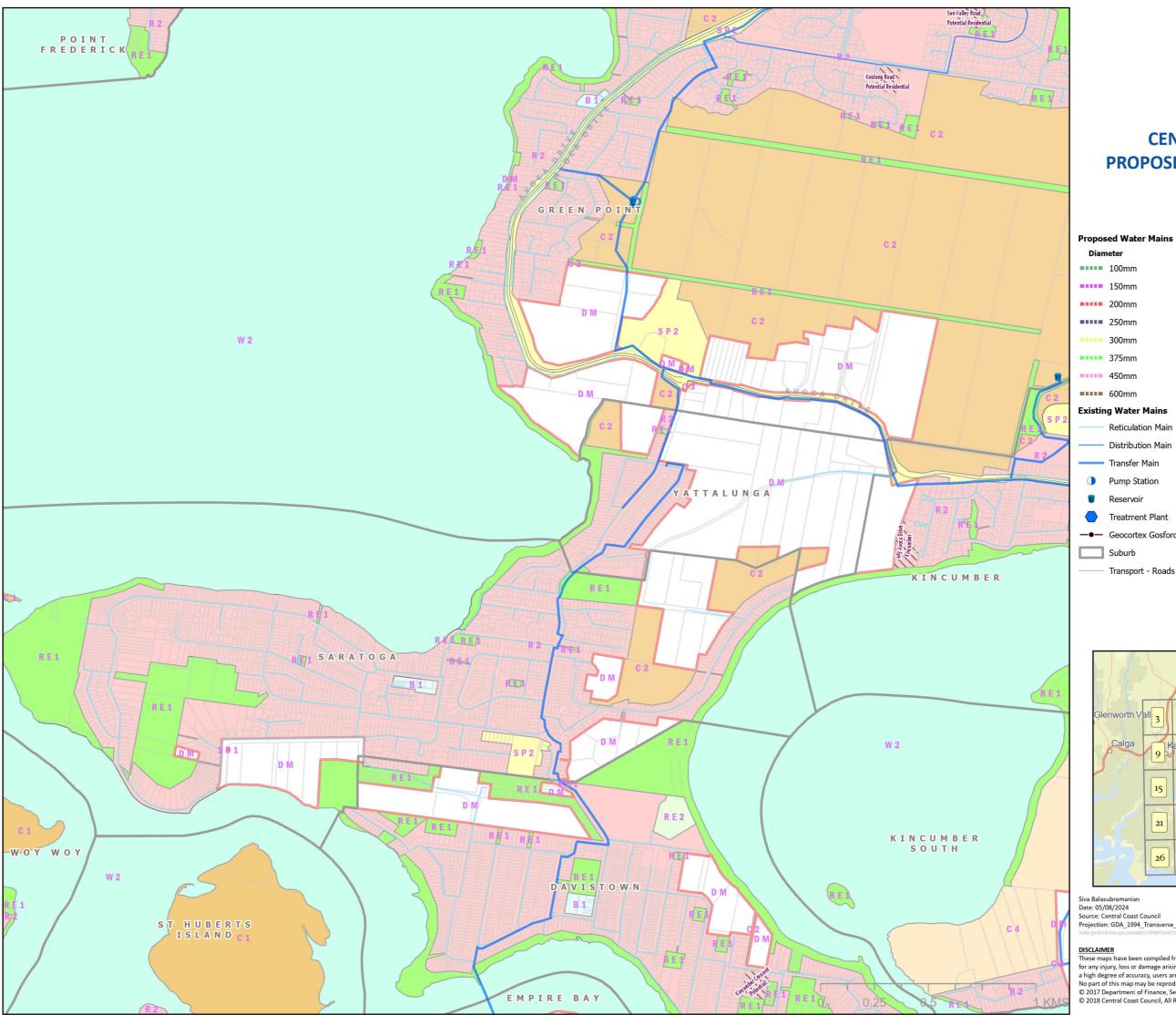
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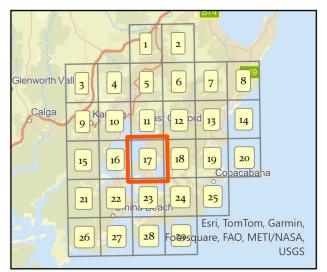






#### Legend

Proposed Water Mains	M1 Motorway
Diameter	Railway
100mm	Investigation Areas by Developers
150mm	Development Sites 2021-2046
200mm	ForecastID Centres
250mm	-
300mm	Geocortex Gosford Wyong Divide Line
375mm	Cadastre
450mm	LEP_2022_LandZoningMap
450mm	B1 - Neighbourhood Centre
600mm	C1 - National Parks& Nature Reserves
Existing Water Mains	C2 - Environmental Conservation
Reticulation Main	C3 - Environmental Management
Distribution Main	
Transfer Main	C4 - Environmental Living
Pump Station	R2 - Low Density Residential
_	RE1 - Public Recreation
Reservoir	RE2 - Private Recreation
Treatment Plant	SP1 - Special Activities
—●— Geocortex Gosford Wyong Divide Line	
Suburb	
Transport - Roads	W2 - Recreational Waterways
Halispoit - Roads	DM - Deferred Matter



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Source: Central Coast Council
Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

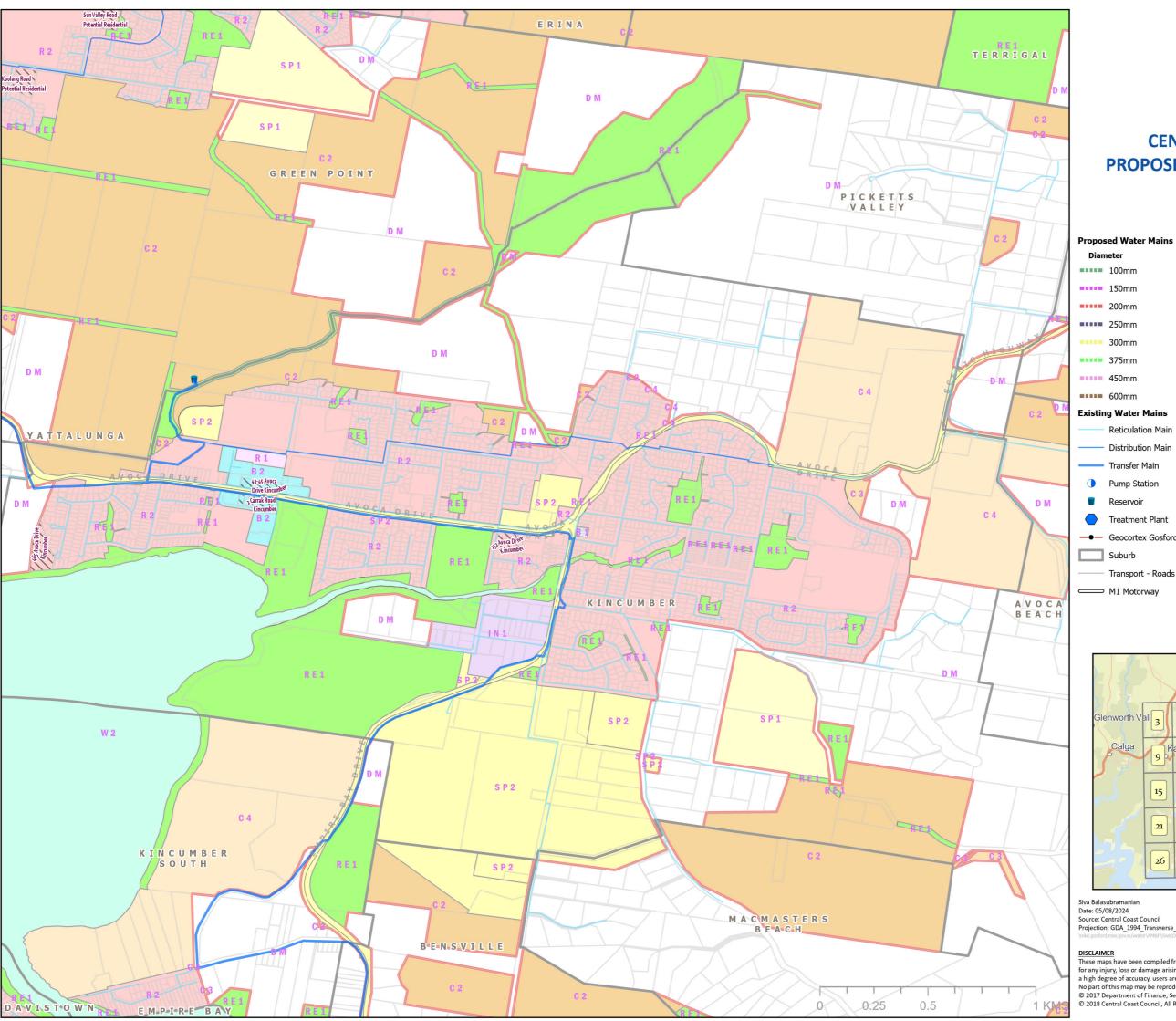
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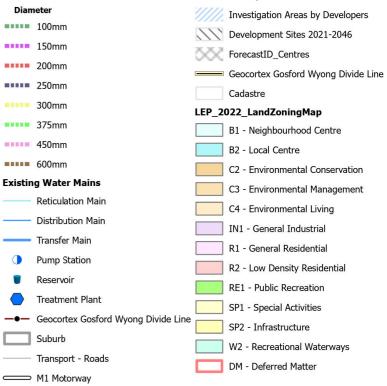
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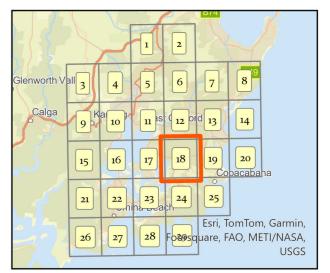






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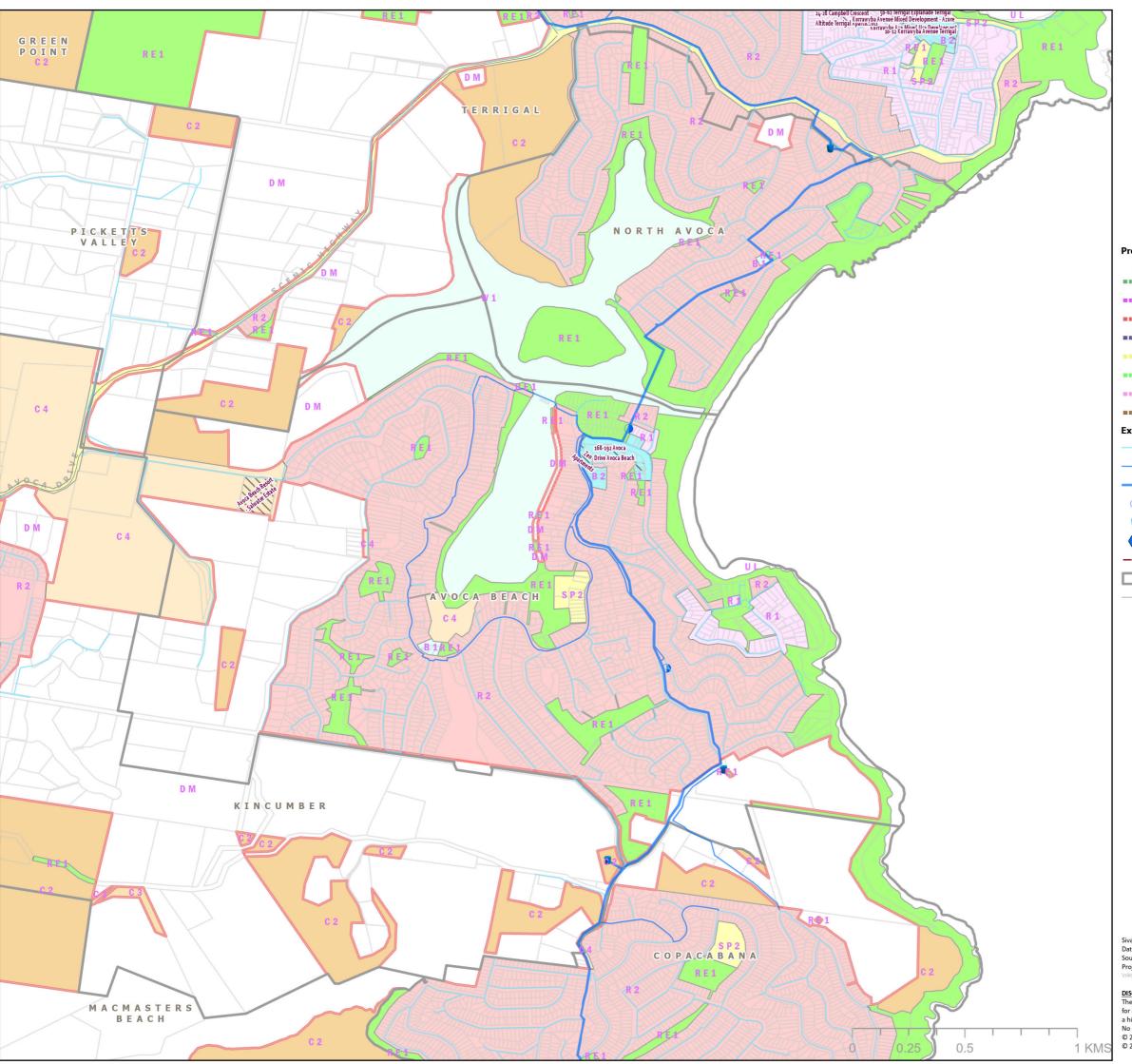
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#### Legend





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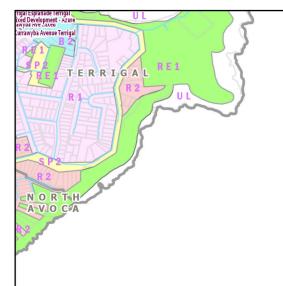
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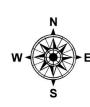
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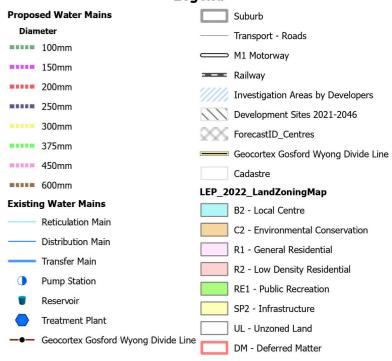
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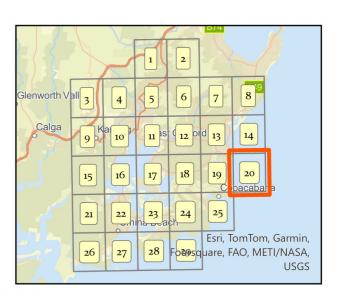






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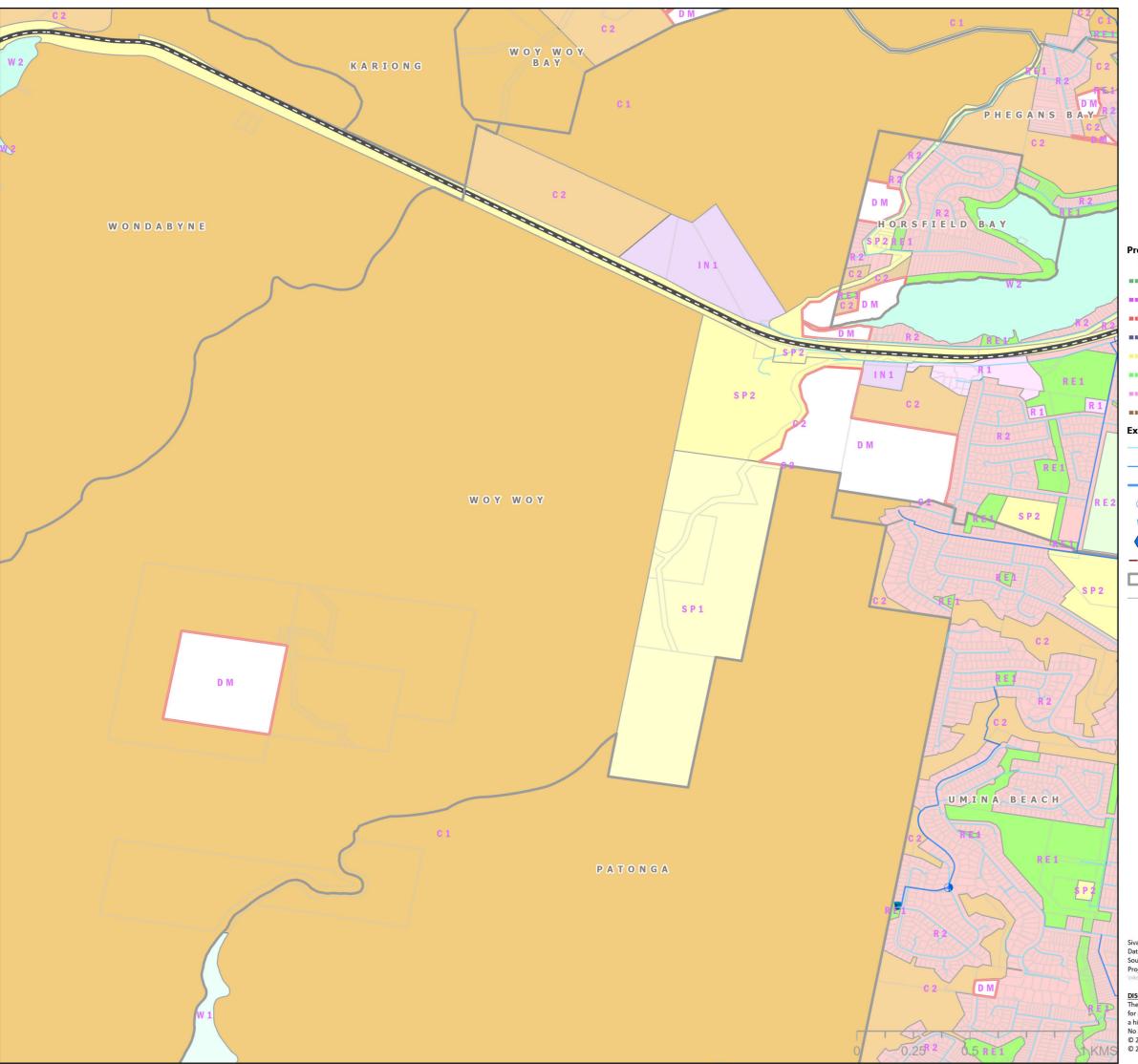
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COPACABANA

AVOCA BEACH

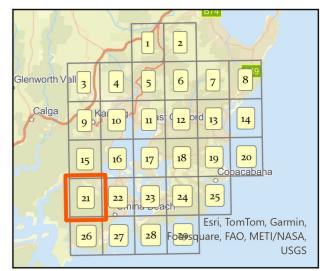






### Legend

Proposed Water Mains	M1 Motorway
Diameter	Railway
100mm	Investigation Areas by Developers
150mm	Development Sites 2021-2046
200mm	ForecastID Centres
250mm	Geocortex Gosford Wyong Divide Line
300mm	Cadastre
375mm	LEP_2022_LandZoningMap
450mm	C1 - National Parks& Nature Reserves
<b>600</b> mm	C2 - Environmental Conservation
Existing Water Mains	IN1 - General Industrial
Reticulation Main	R1 - General Residential
Distribution Main	R2 - Low Density Residential
Transfer Main	RE1 - Public Recreation
Pump Station	RE2 - Private Recreation
Reservoir	SP1 - Special Activities
Treatment Plant	SP2 - Infrastructure
—●— Geocortex Gosford Wyong Divide Line	
Suburb	W1 - Natural Waterways
Transport - Roads	W2 - Recreational Waterways
urispore riodus	DM - Deferred Matter



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Source: Central Coast Council
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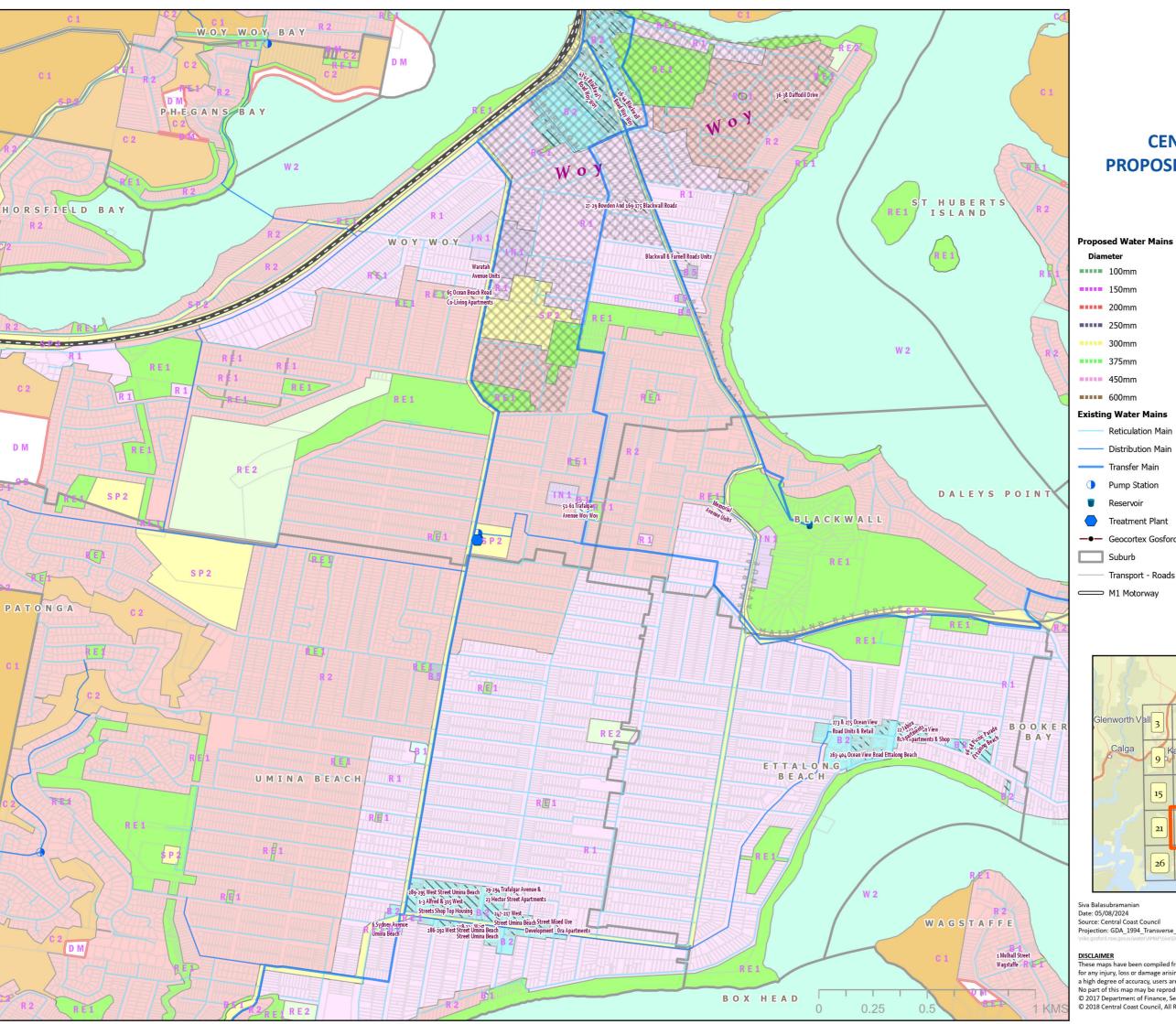
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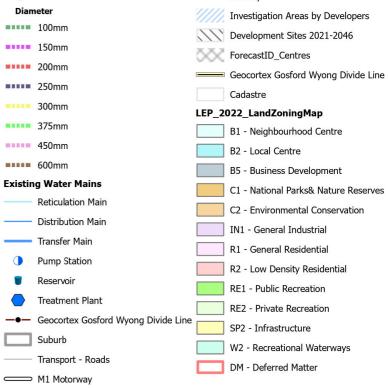
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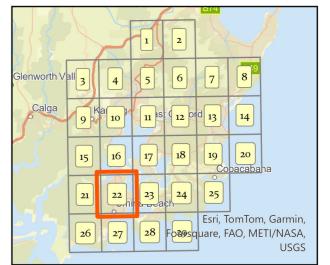






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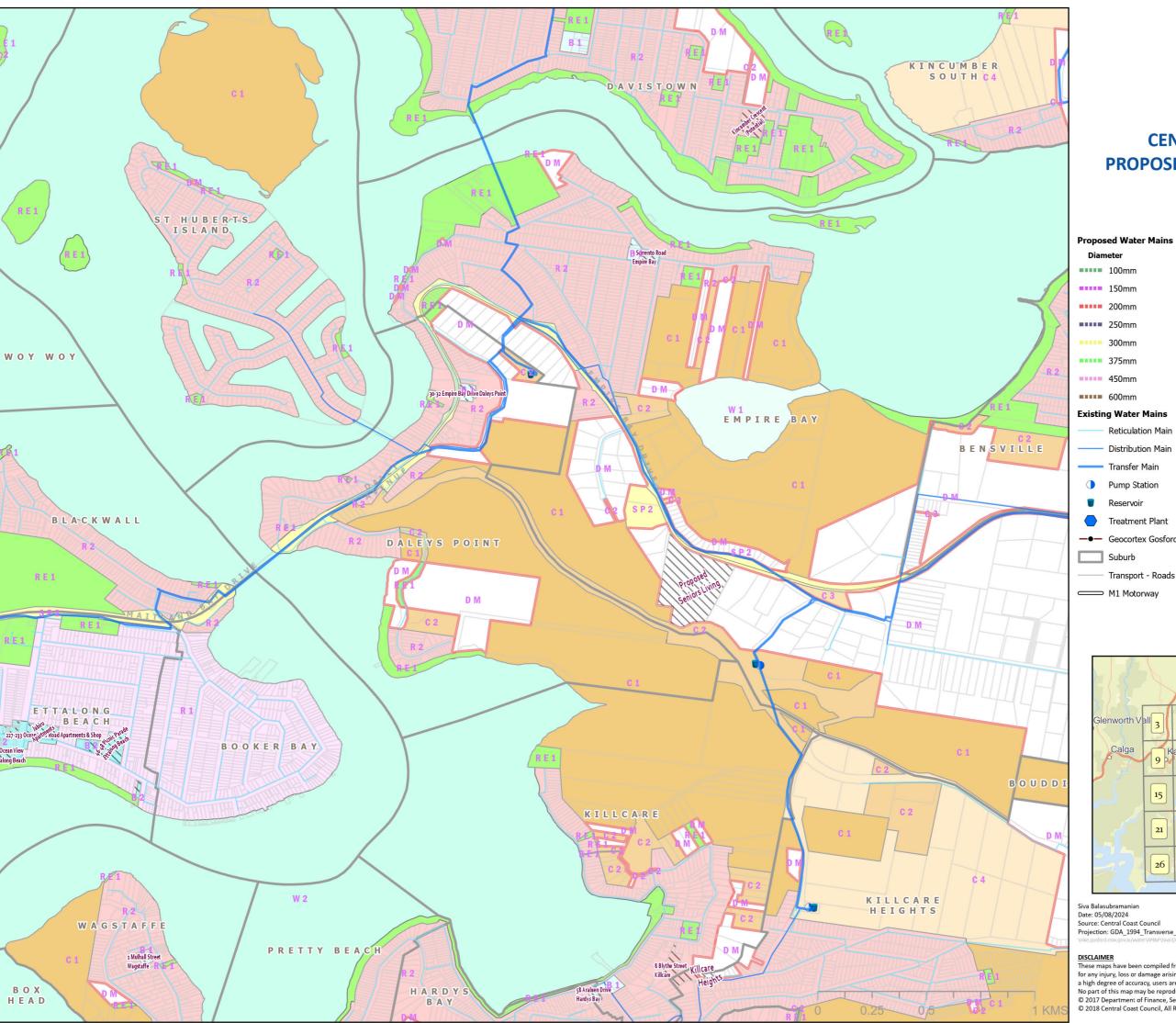


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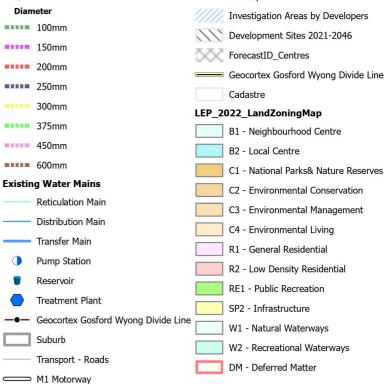
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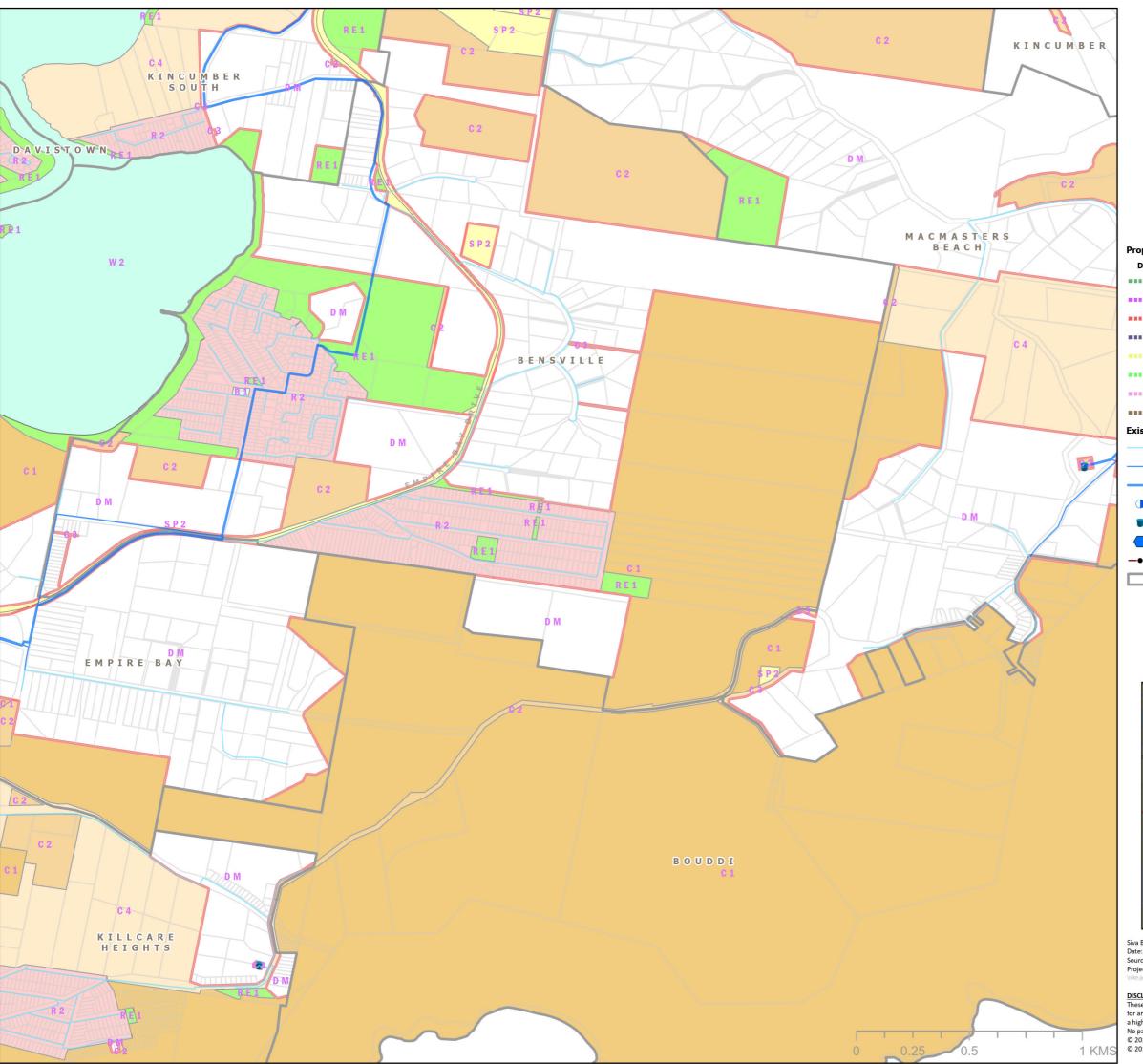
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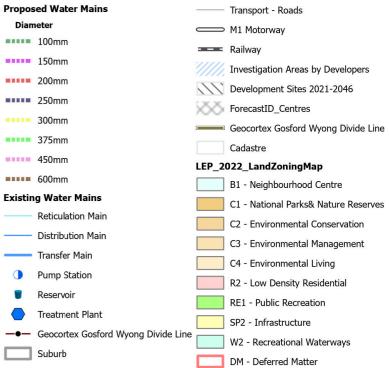
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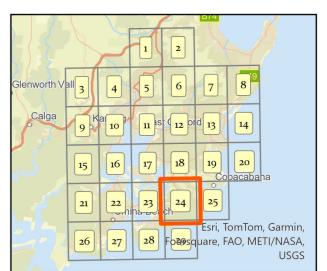






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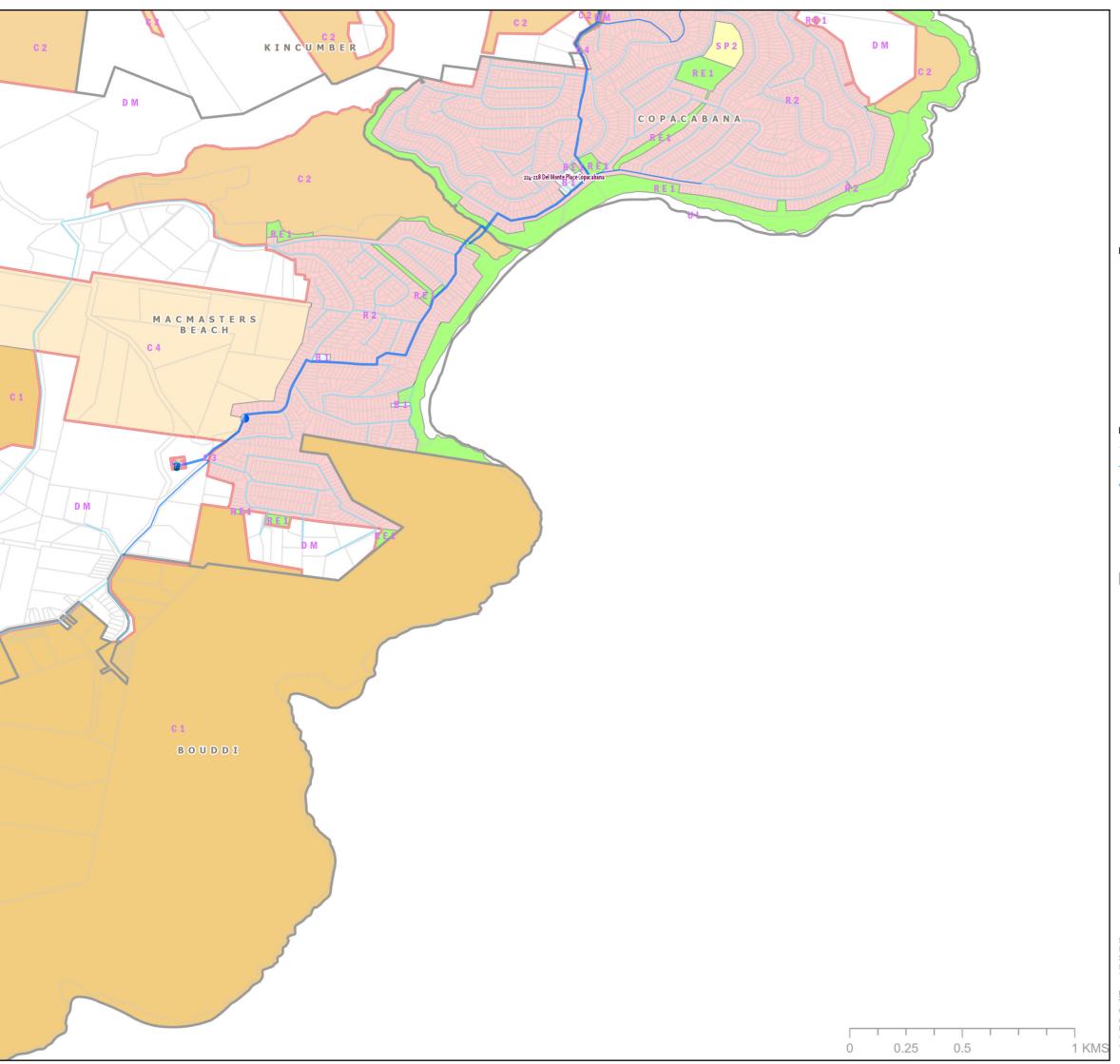
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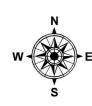
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### Legend

Proposed Water Mains	Transport - Roads
Diameter	M1 Motorway
100mm	Railway
150mm	Investigation Areas by Developers
200mm	Development Sites 2021-2046
250mm	ForecastID Centres
300mm	Geocortex Gosford Wyong Divide Li
375mm	Cadastre
450mm	LEP_2022_LandZoningMap
600mm	B1 - Neighbourhood Centre
Existing Water Mains	C1 - National Parks& Nature Reserv
Reticulation Main	C2 - Environmental Conservation
Distribution Main	C3 - Environmental Management
Transfer Main	C4 - Environmental Living
Pump Station	
Reservoir	R2 - Low Density Residential
Treatment Plant	RE1 - Public Recreation  SP2 - Infrastructure
—●— Geocortex Gosford Wyong Divide Line	
Suburb	UL - Unzoned Land
	DM - Deferred Matter

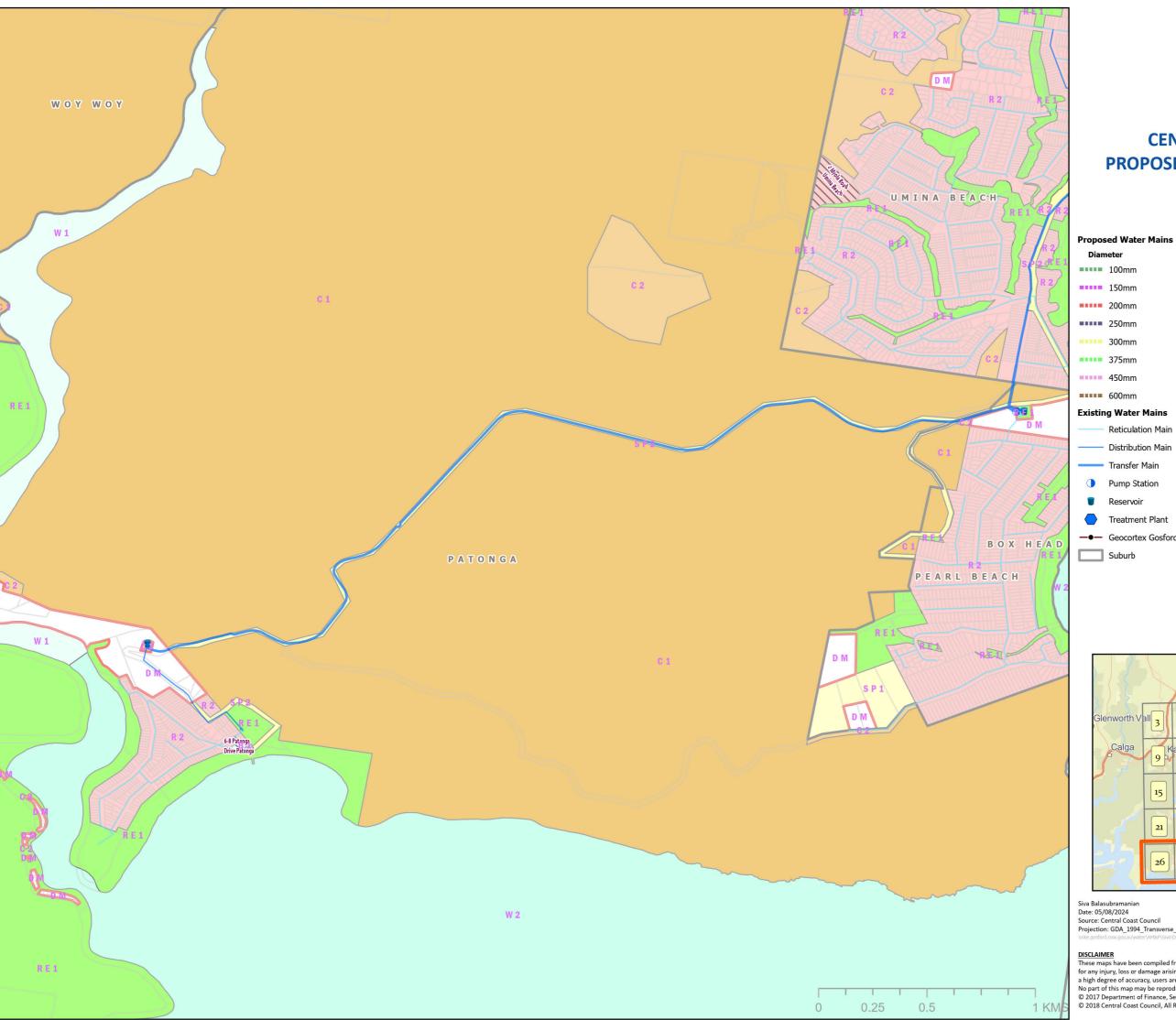


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Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

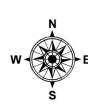
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### Legend





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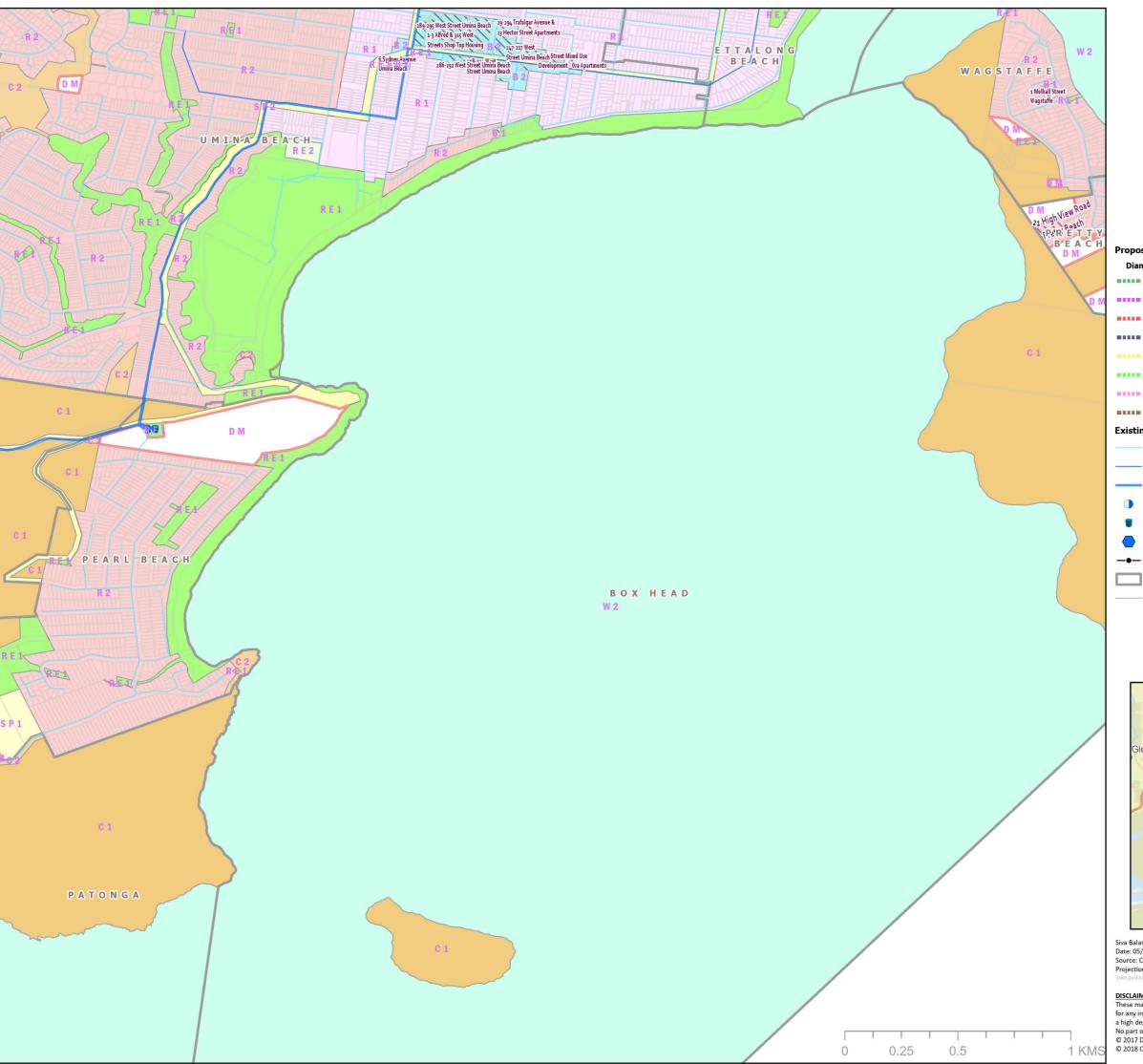
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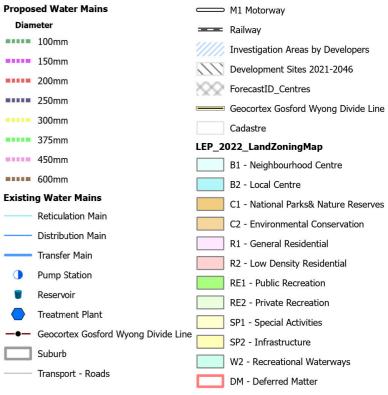
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### Legend





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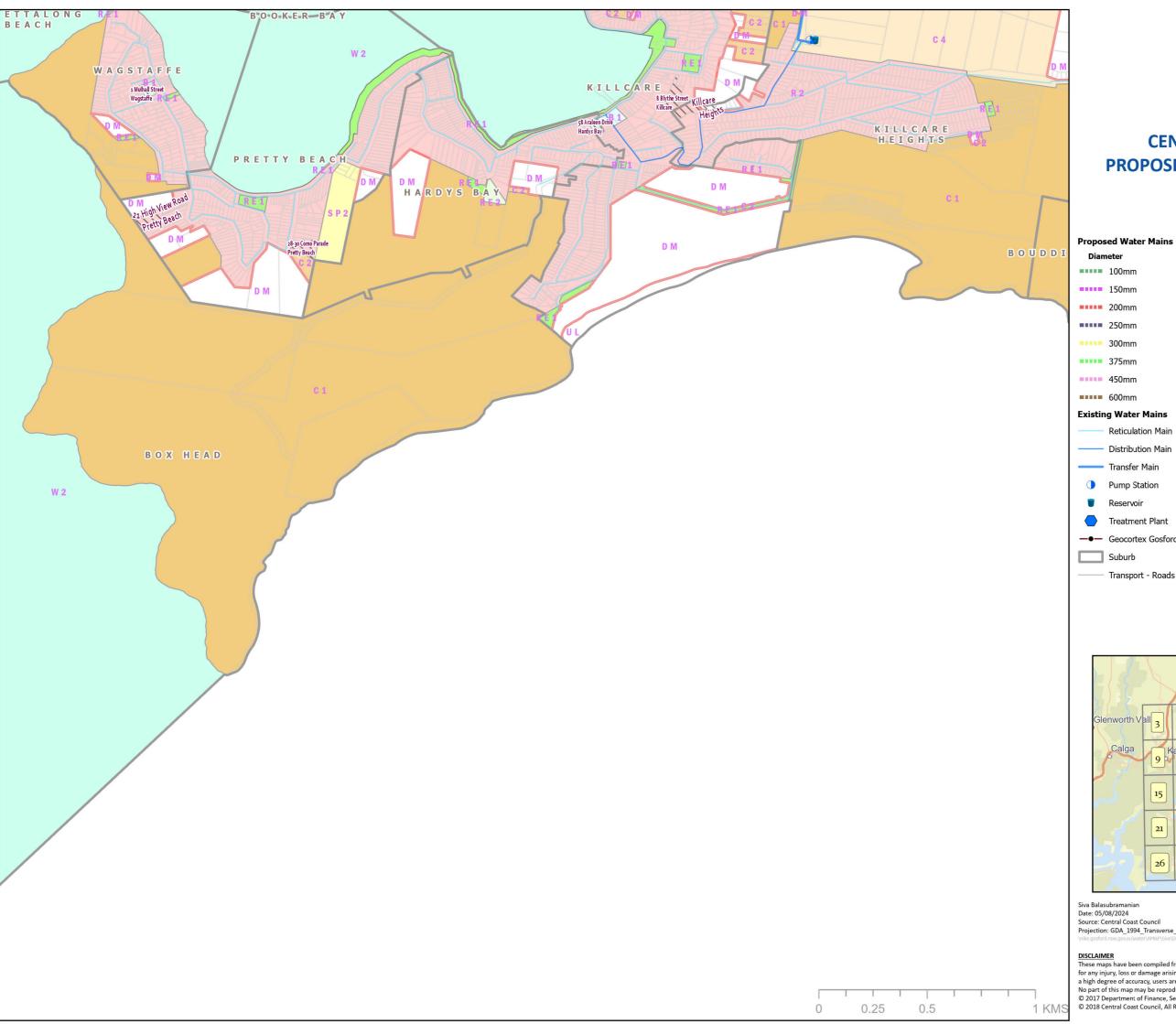
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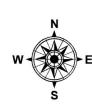
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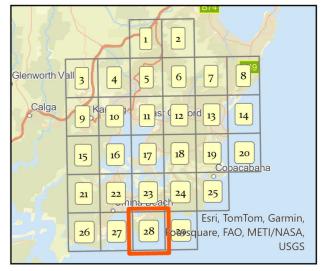






### Legend

Proposed Water Mains	M1 Motorway
Diameter	Railway
==== 100mm	Investigation Areas by Developers
150mm	Development Sites 2021-2046
200mm	100
250mm	ForecastID_Centres
300mm	Geocortex Gosford Wyong Divide Lin
375mm	Cadastre
3/3/////	LEP_2022_LandZoningMap
450mm	B1 - Neighbourhood Centre
<b>600</b> mm	C1 - National Parks& Nature Reserve
Existing Water Mains	C2 - Environmental Conservation
Reticulation Main	
Distribution Main	C4 - Environmental Living
	R2 - Low Density Residential
Transfer Main	RE1 - Public Recreation
Pump Station	RE2 - Private Recreation
Reservoir	SP2 - Infrastructure
Treatment Plant	W2 - Recreational Waterways
—●— Geocortex Gosford Wyong Divide Line	
Suburb	
Transport - Roads	DM - Deferred Matter



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Date: 05/08/2024
Source: Central Coast Council
Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

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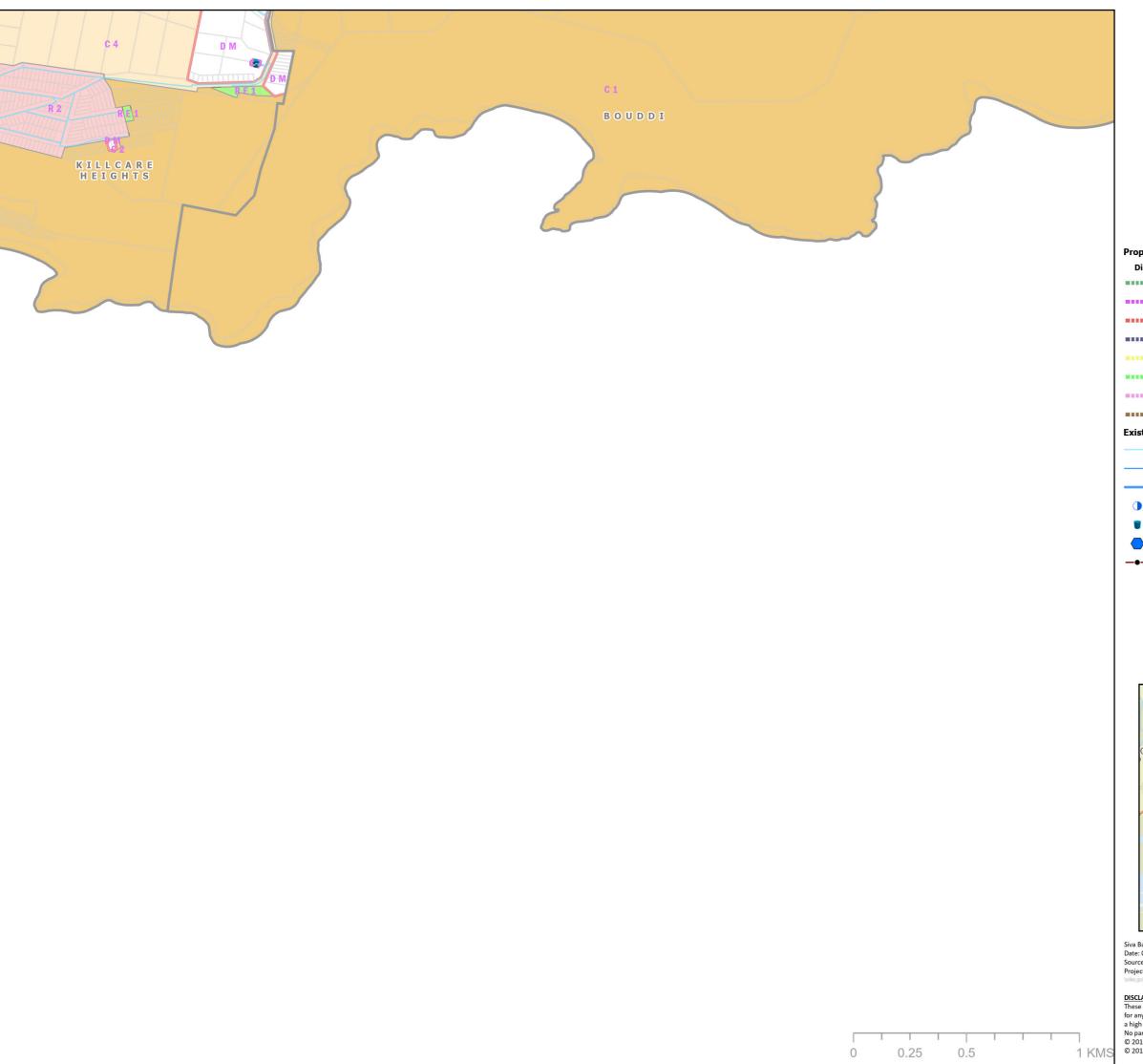
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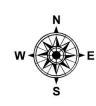
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Map 28 of 29

Map 28 of 29

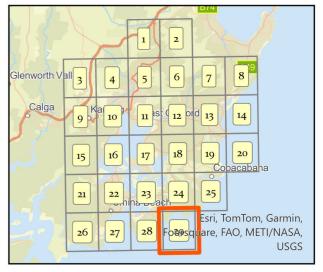






## Legend

Proposed Water Mains	Suburb
Diameter	Transport - Roads
100mm	M1 Motorway
150mm	Railway
<b>200</b> mm	Investigation Areas by Developers
250mm	
	Development Sites 2021-2046
300mm	ForecastID_Centres
375mm	Geocortex Gosford Wyong Divide Line
450mm	Cadastre
•••• 600mm	
	LEP_2022_LandZoningMap
Existing Water Mains	C1 - National Parks& Nature Reserves
Reticulation Main	C2 - Environmental Conservation
Distribution Main	C3 - Environmental Management
Transfer Main	- Co Zirin orini orina i ranagonione
Pump Station	C4 - Environmental Living
Pump station	R2 - Low Density Residential
Reservoir	RE1 - Public Recreation
Treatment Plant	
—●— Geocortex Gosford Wyong Divide Line	DM - Deferred Matter
Geocoitex Gosiola wyong Divide Line	



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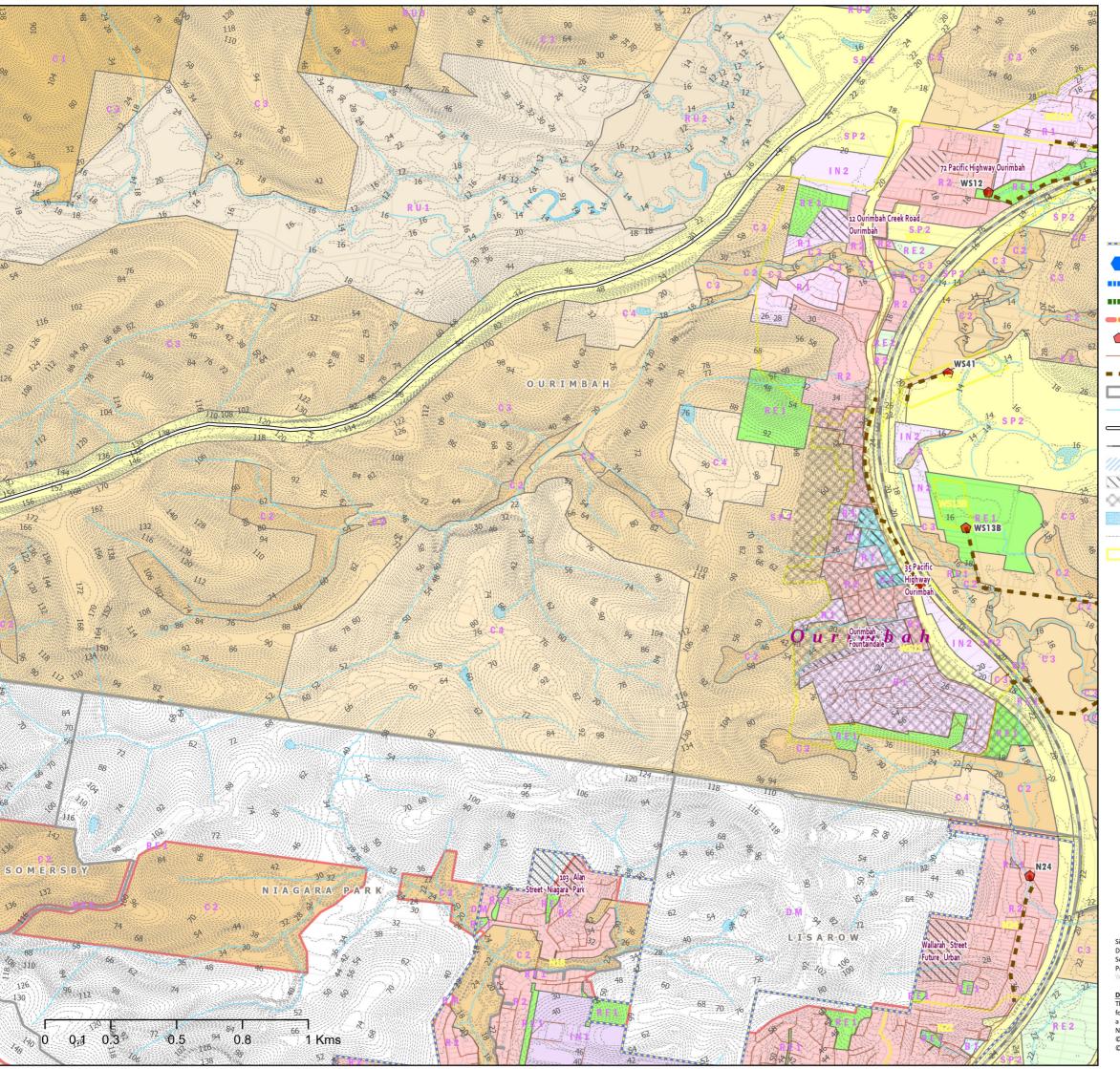
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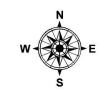
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Map 29 of 29

Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 Octobe	er
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Figure 3	3
Southern Sewerage Works Plan - 2024	1
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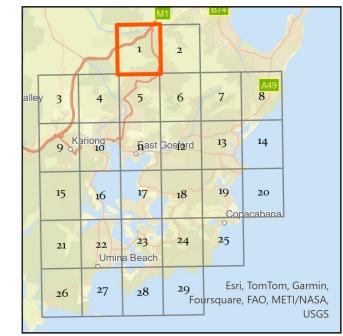






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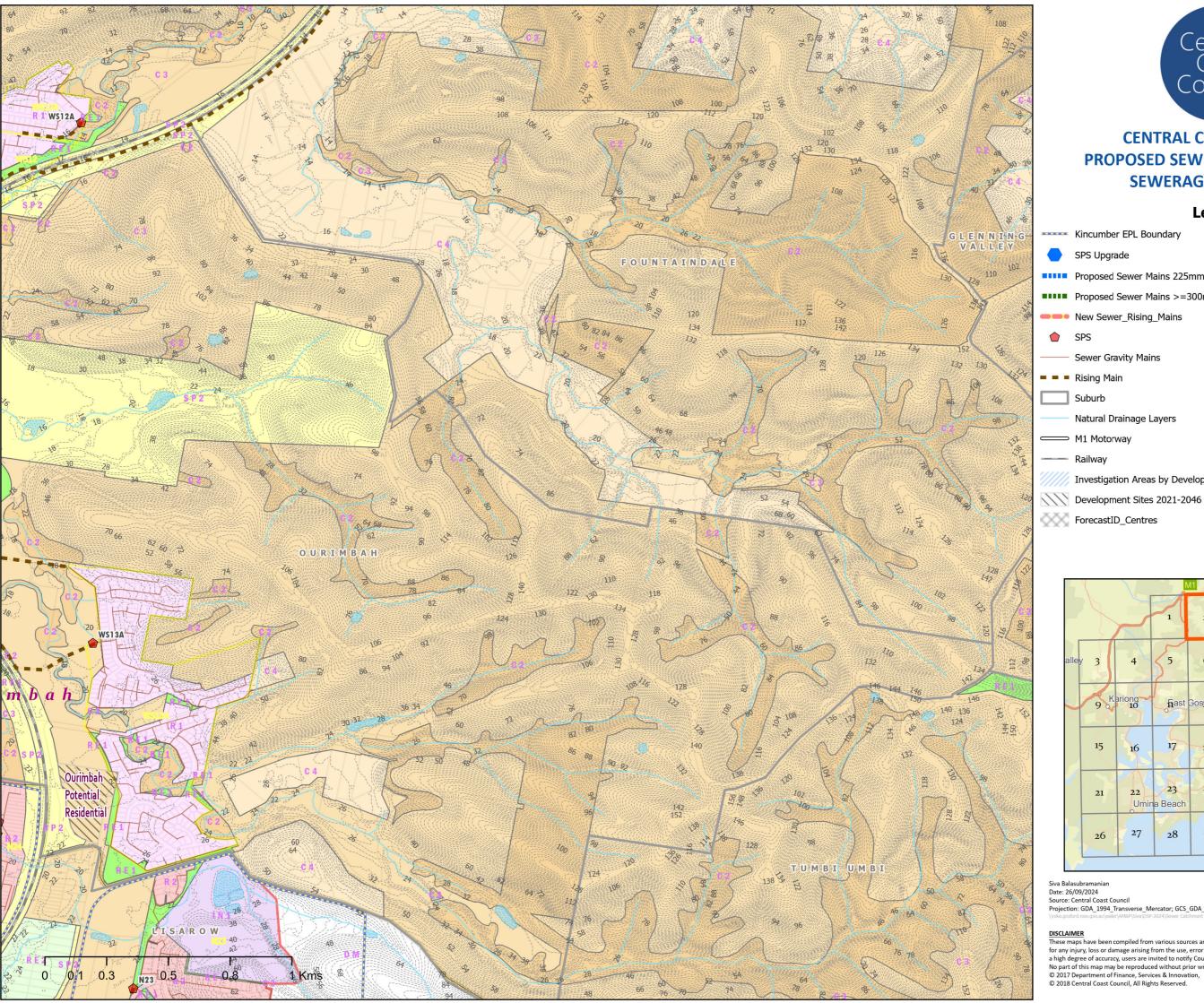
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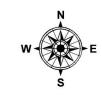
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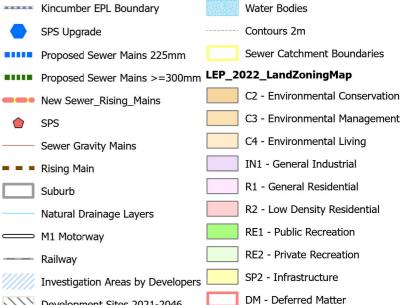
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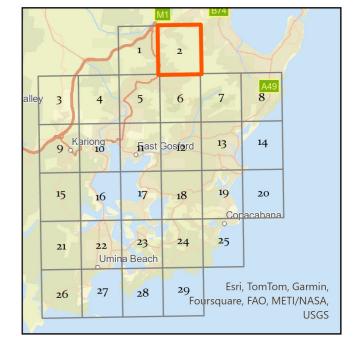






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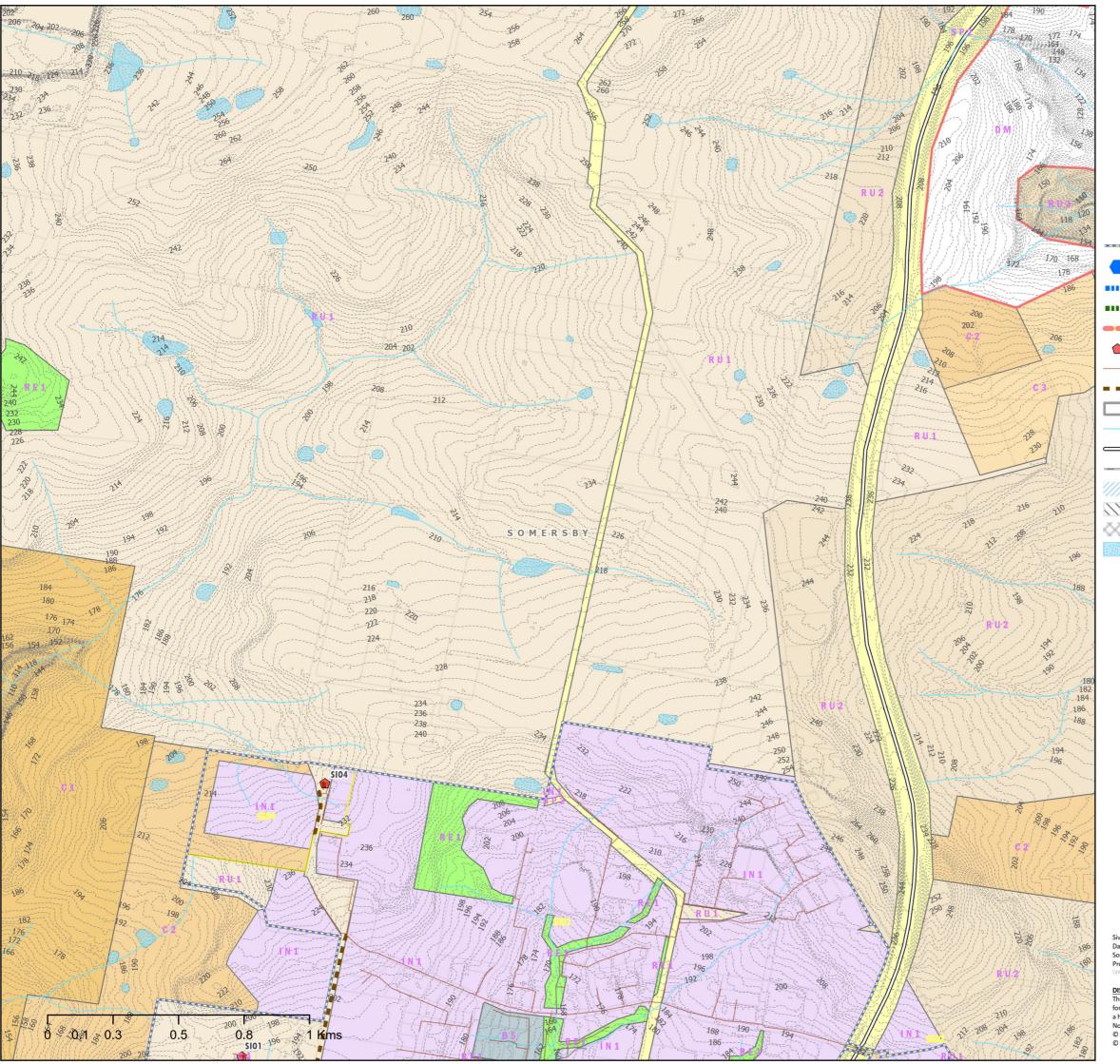
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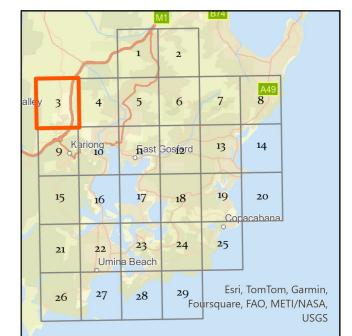






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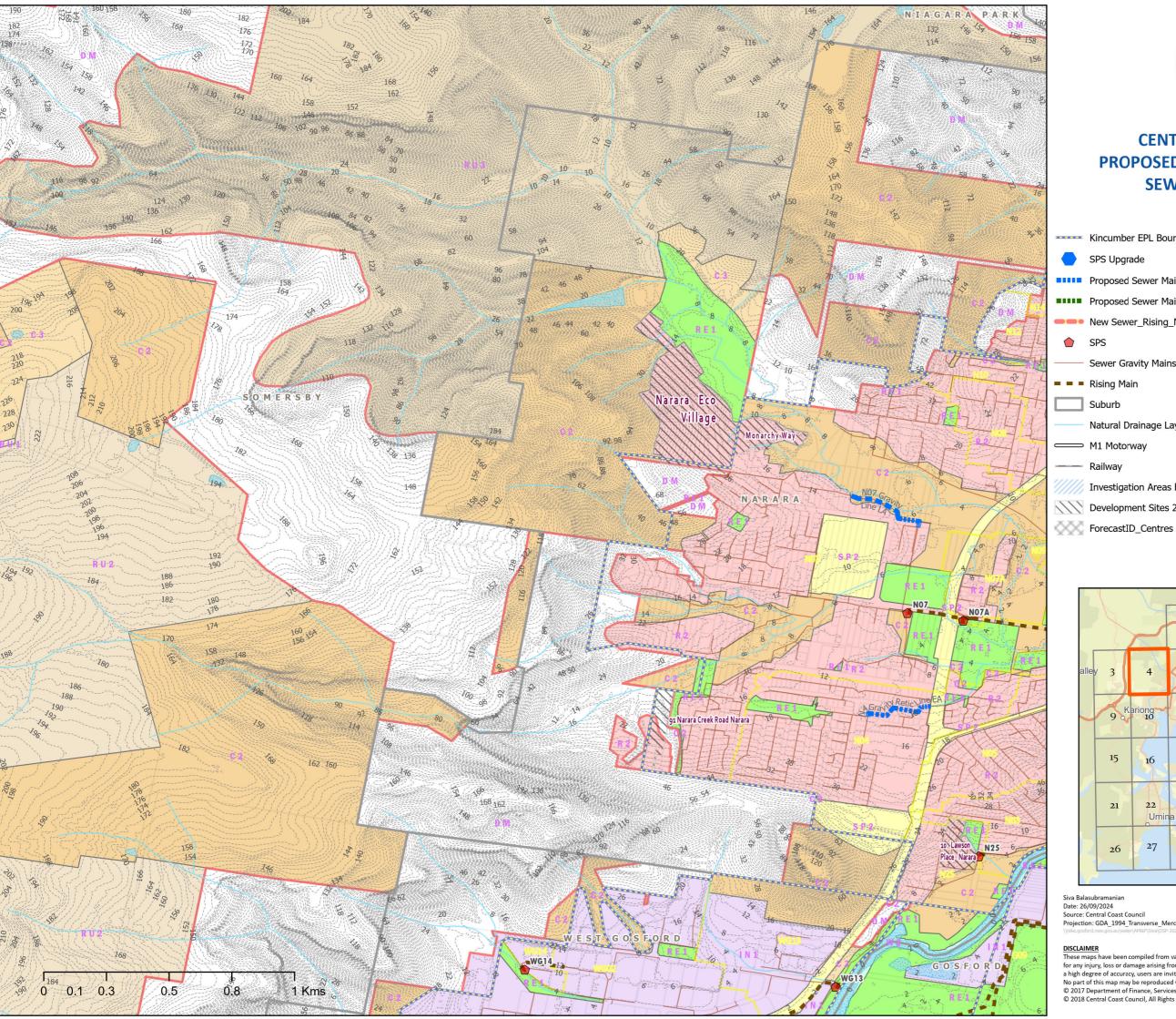


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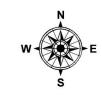
Water Bodies

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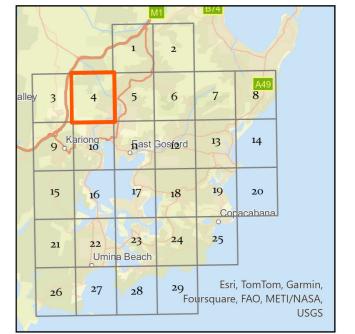






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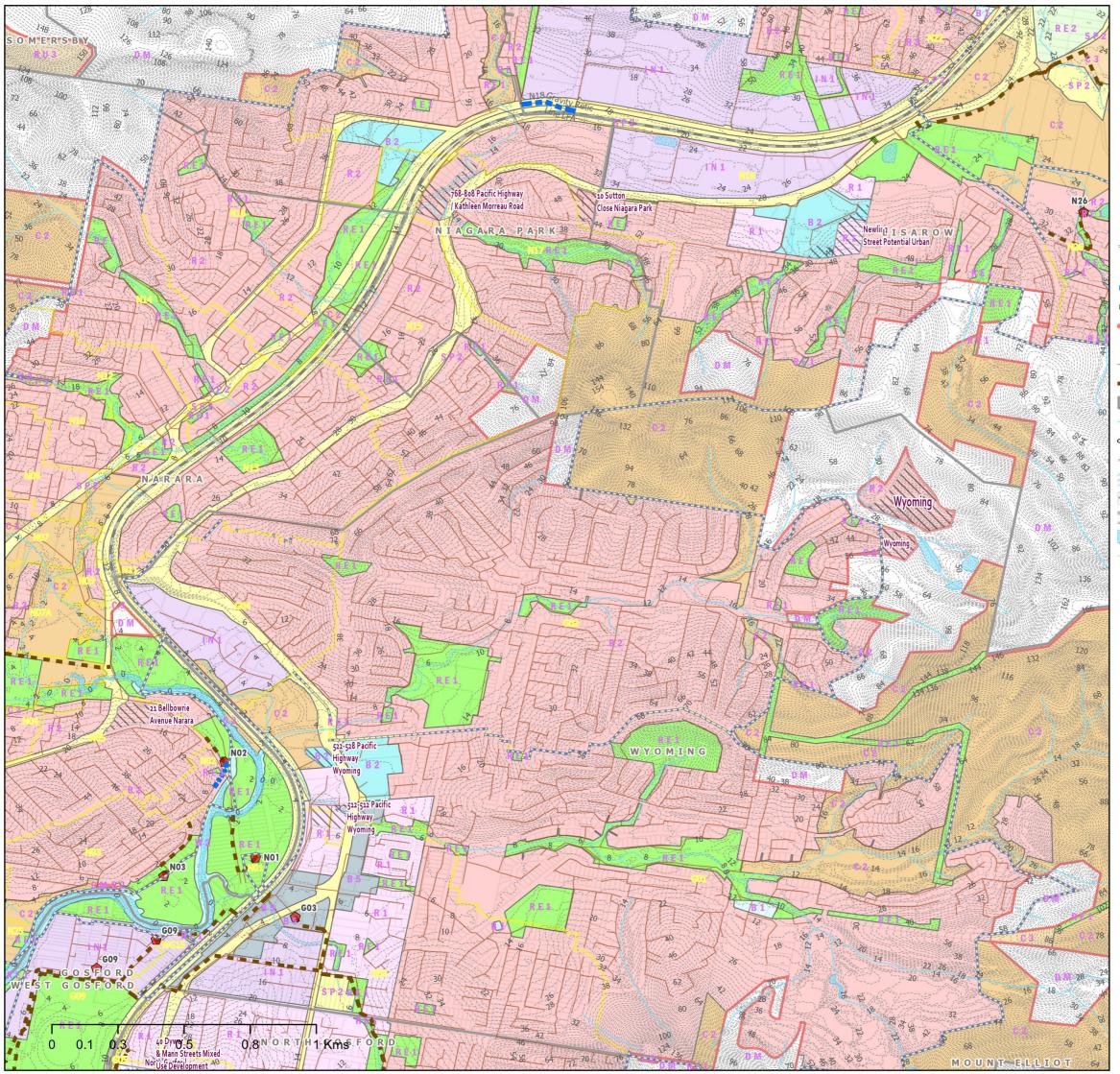




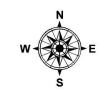
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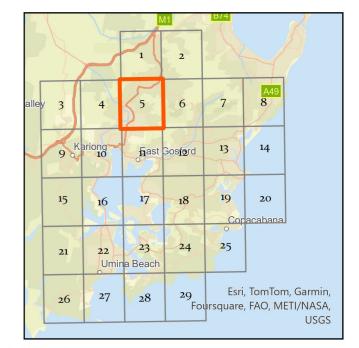






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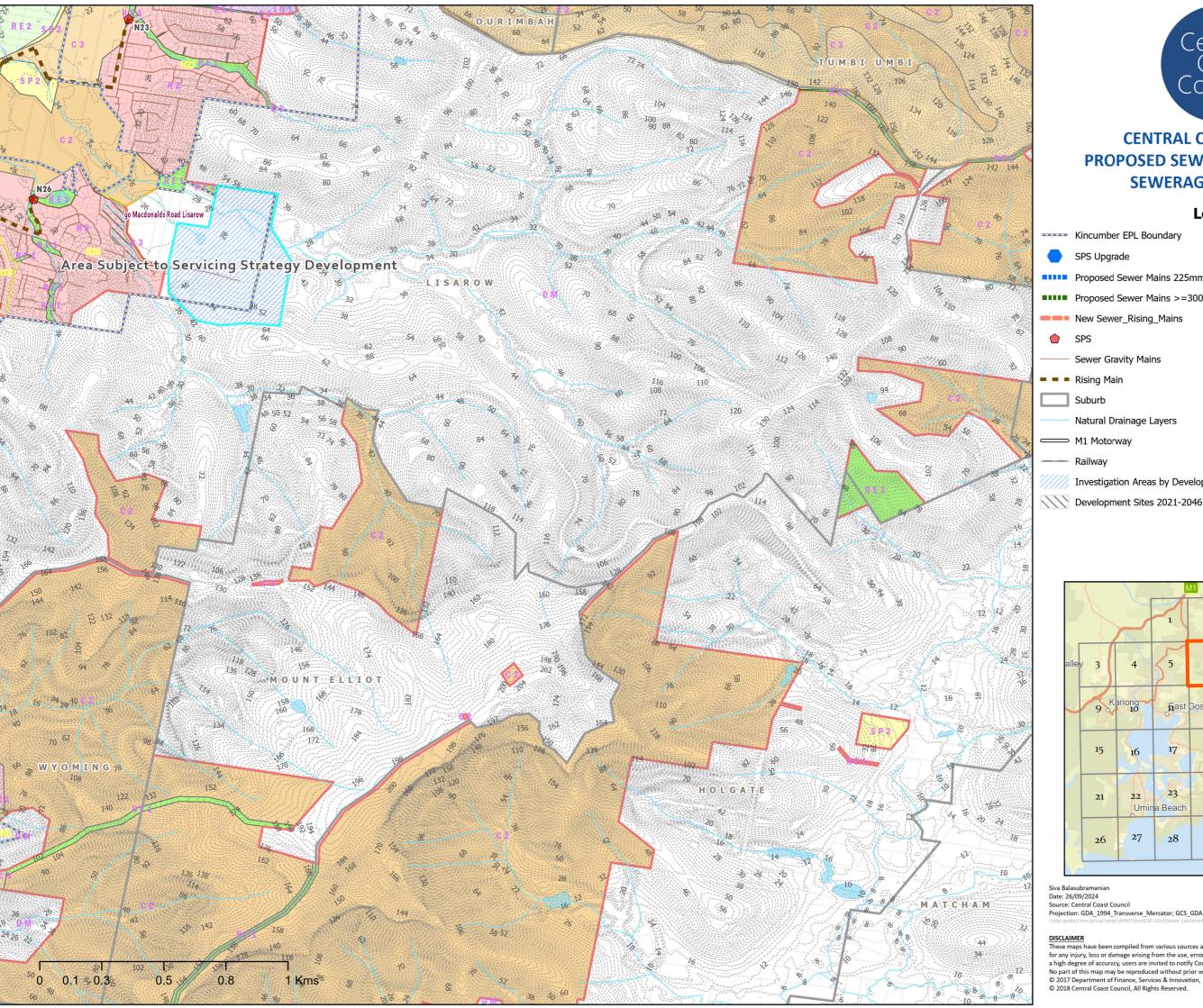
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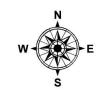
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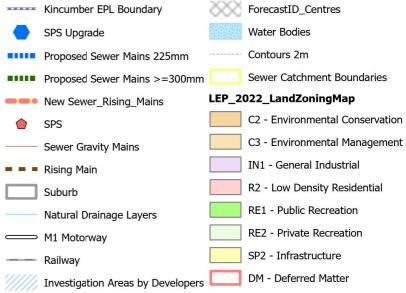
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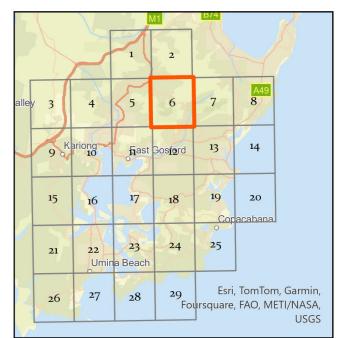






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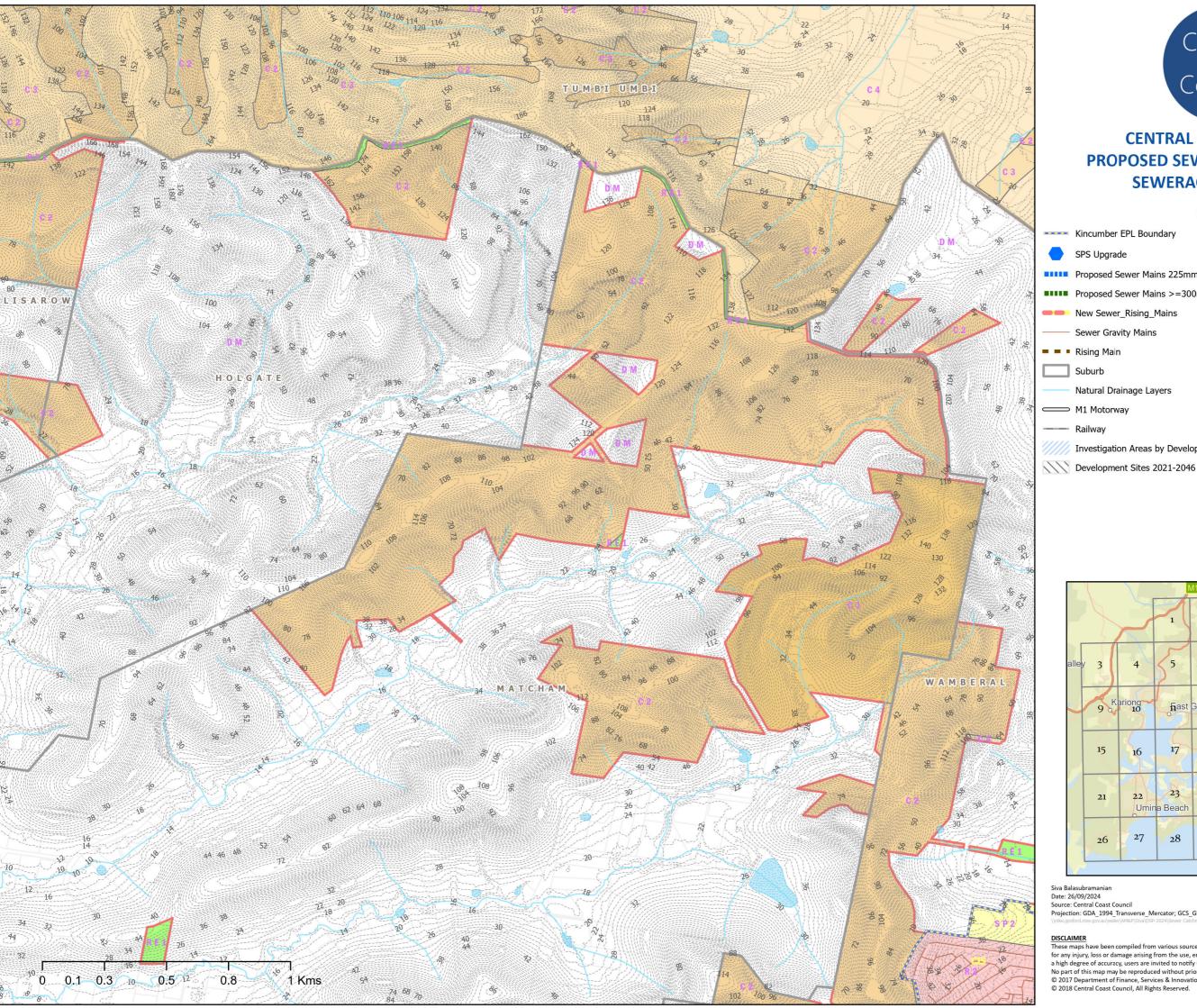
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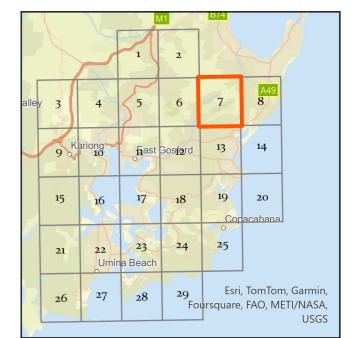






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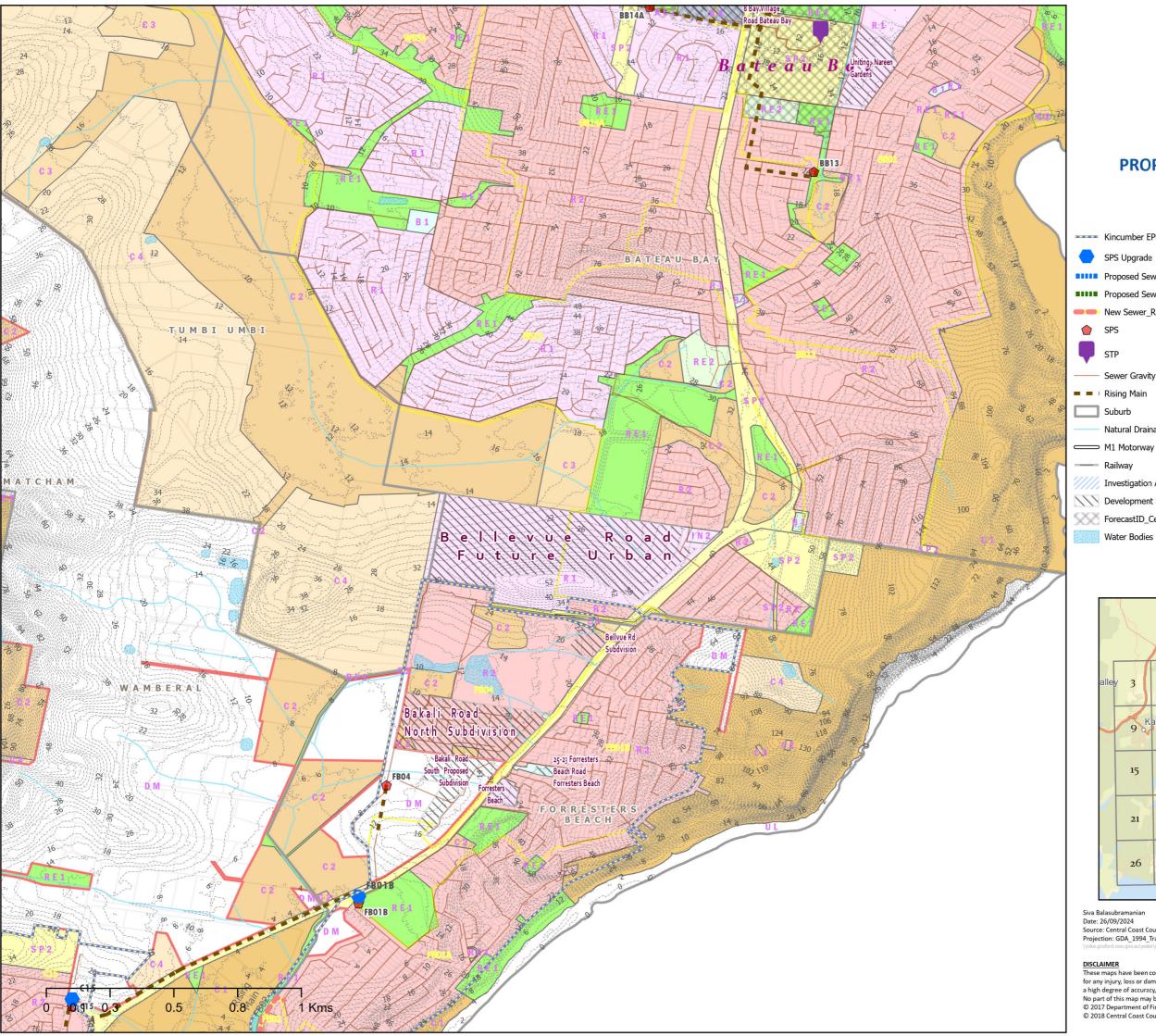
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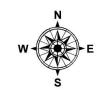
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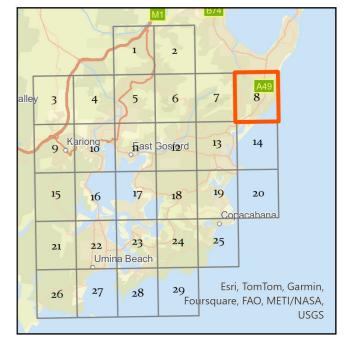






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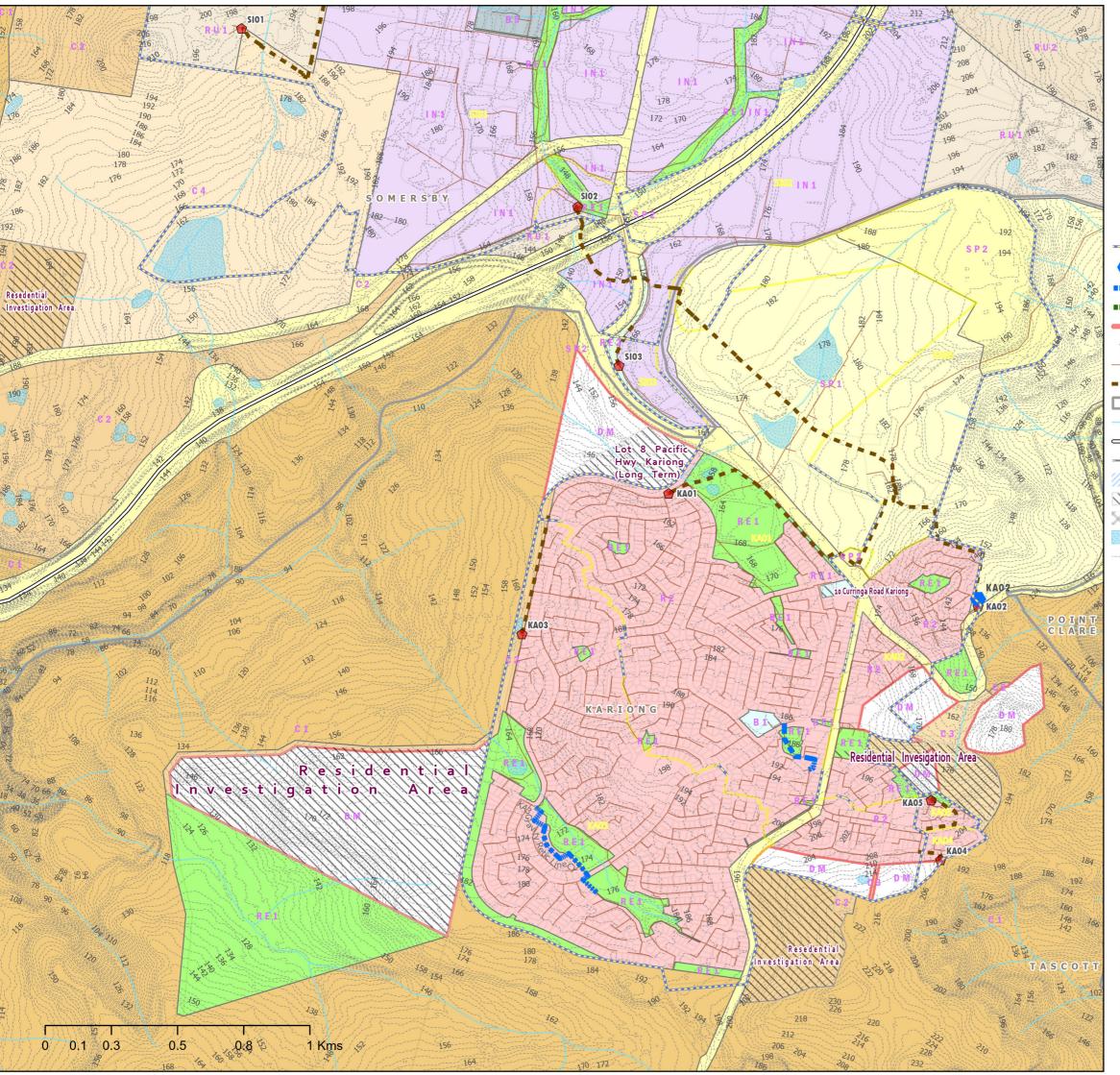
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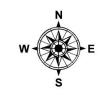
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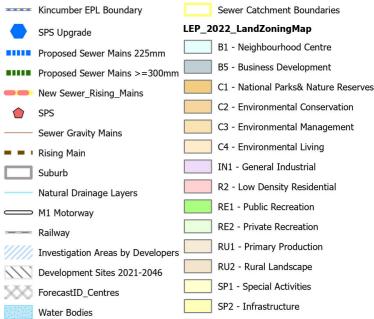
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## Legend



DM - Deferred Matter



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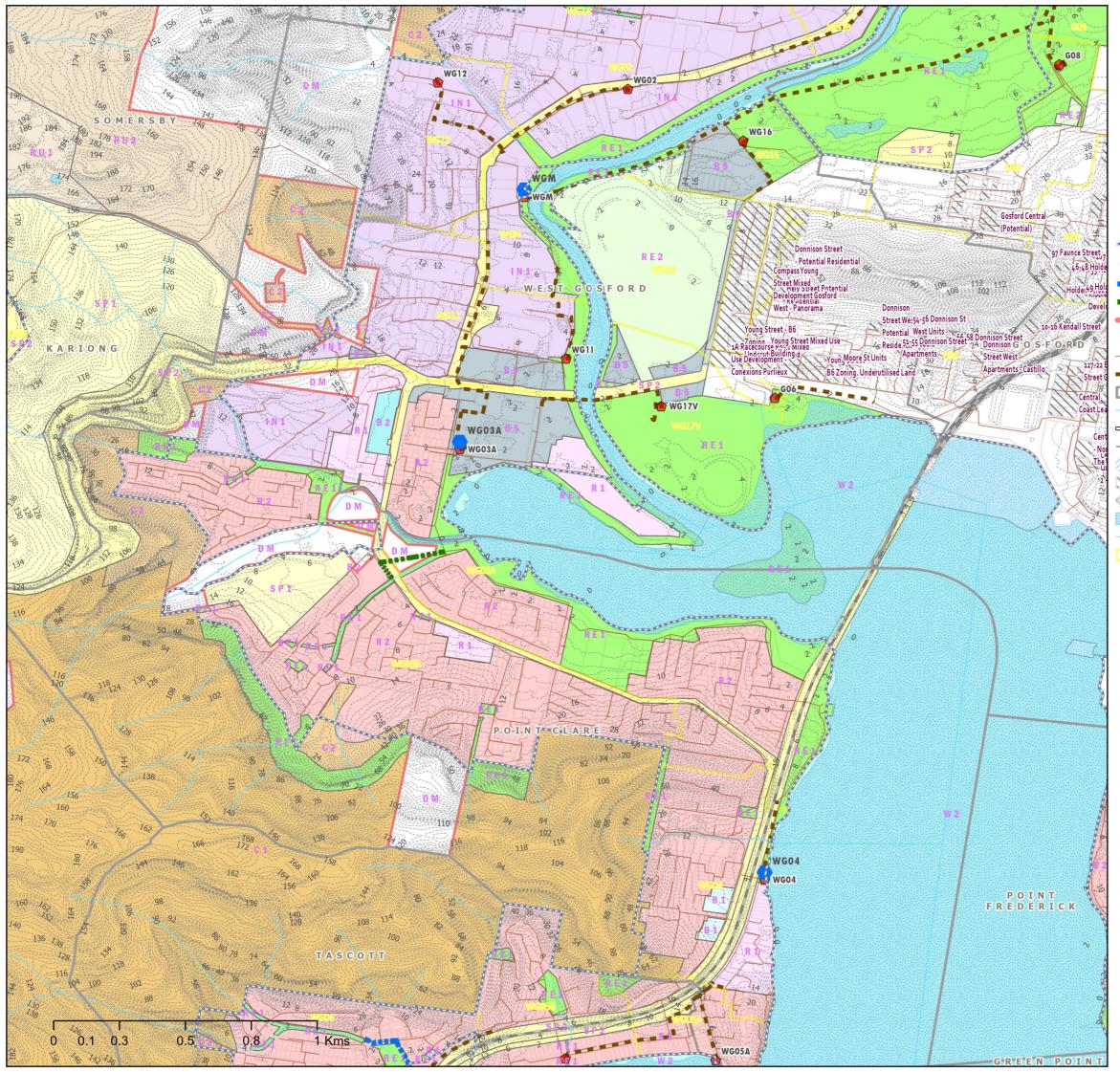
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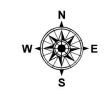
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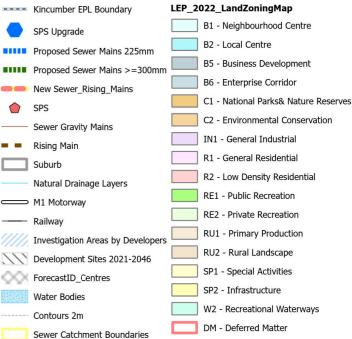
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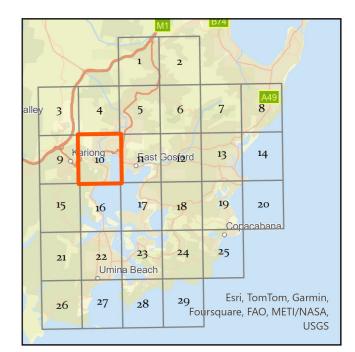






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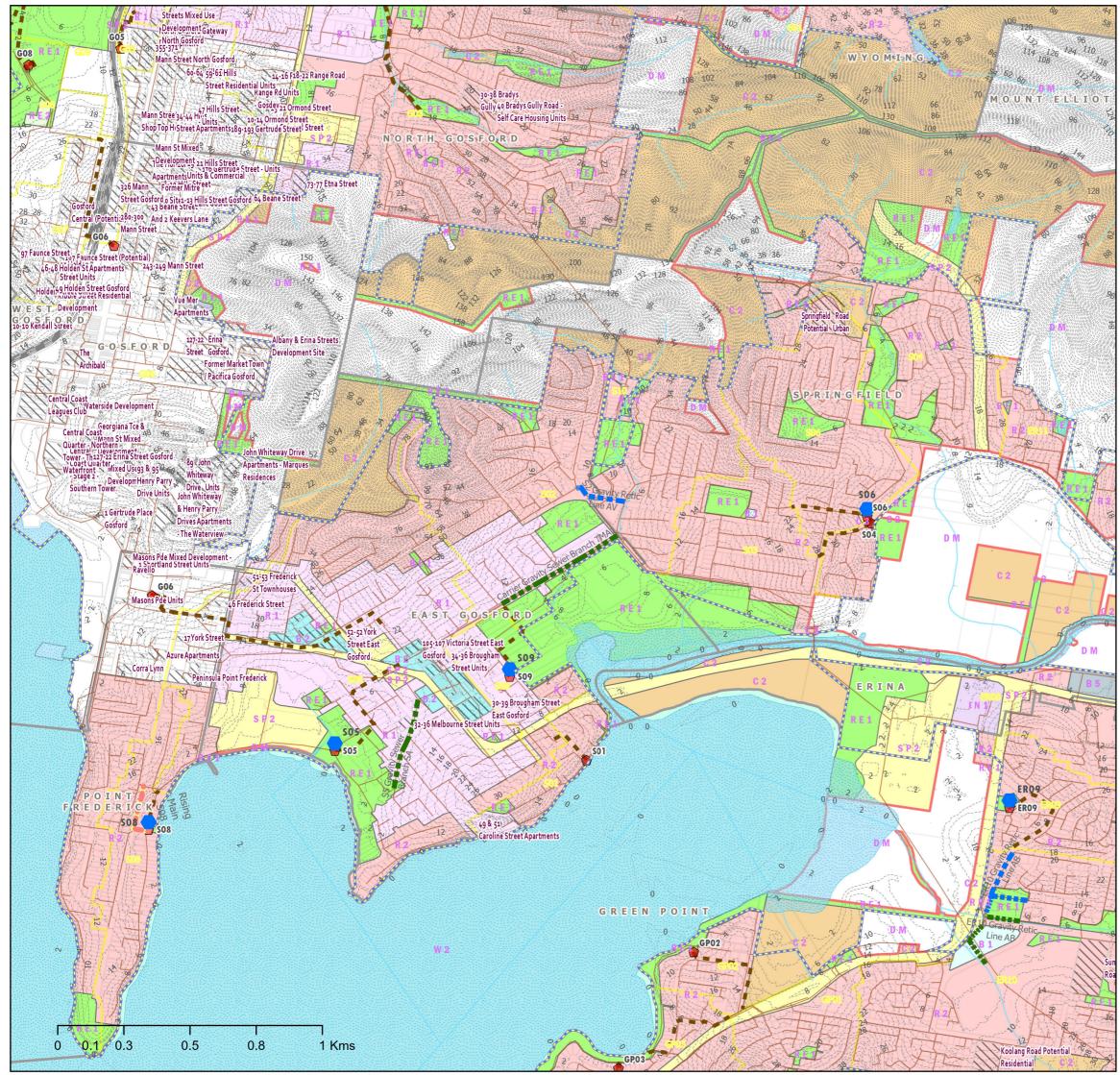




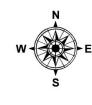
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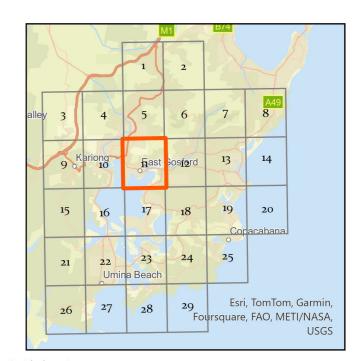






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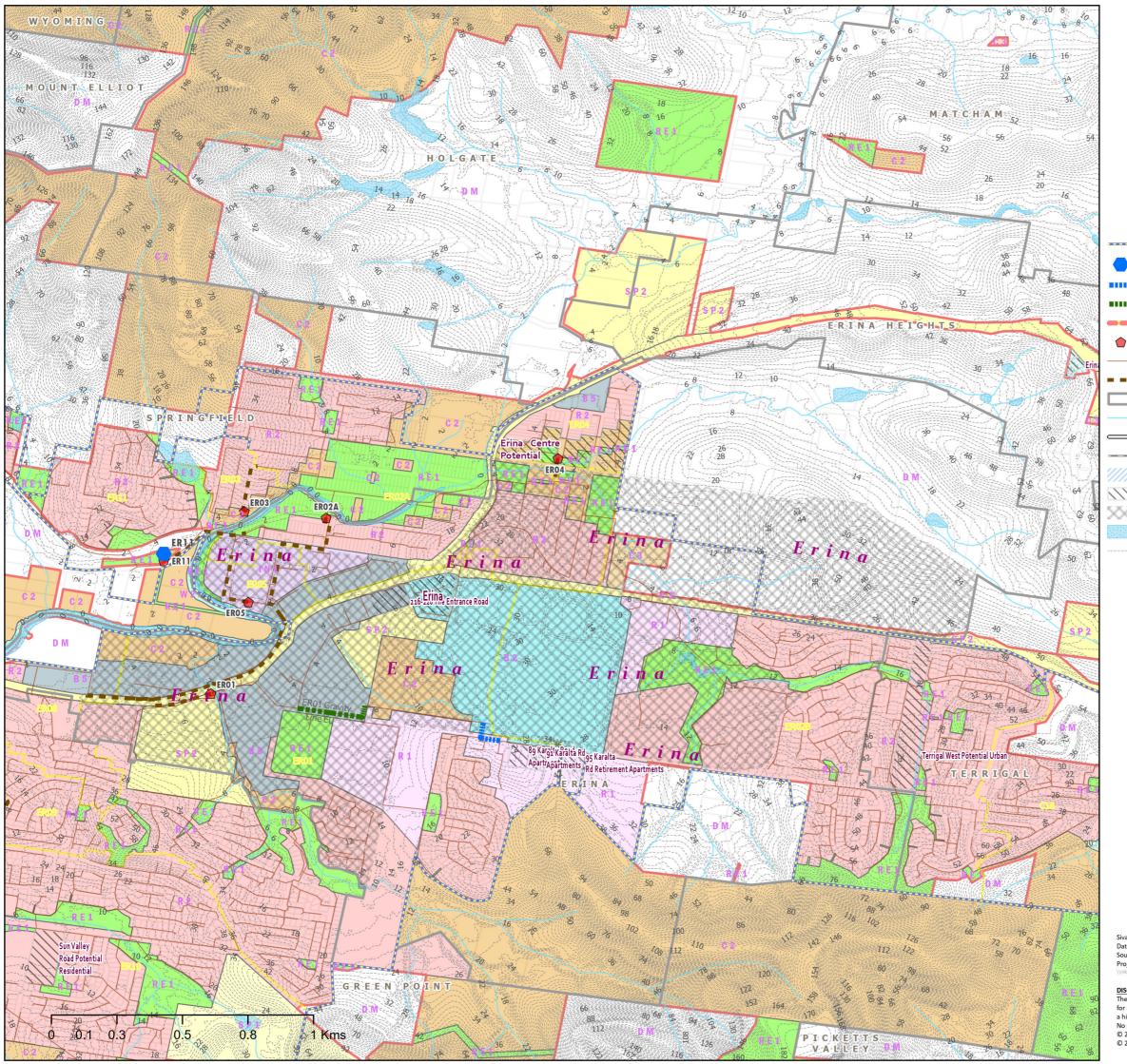


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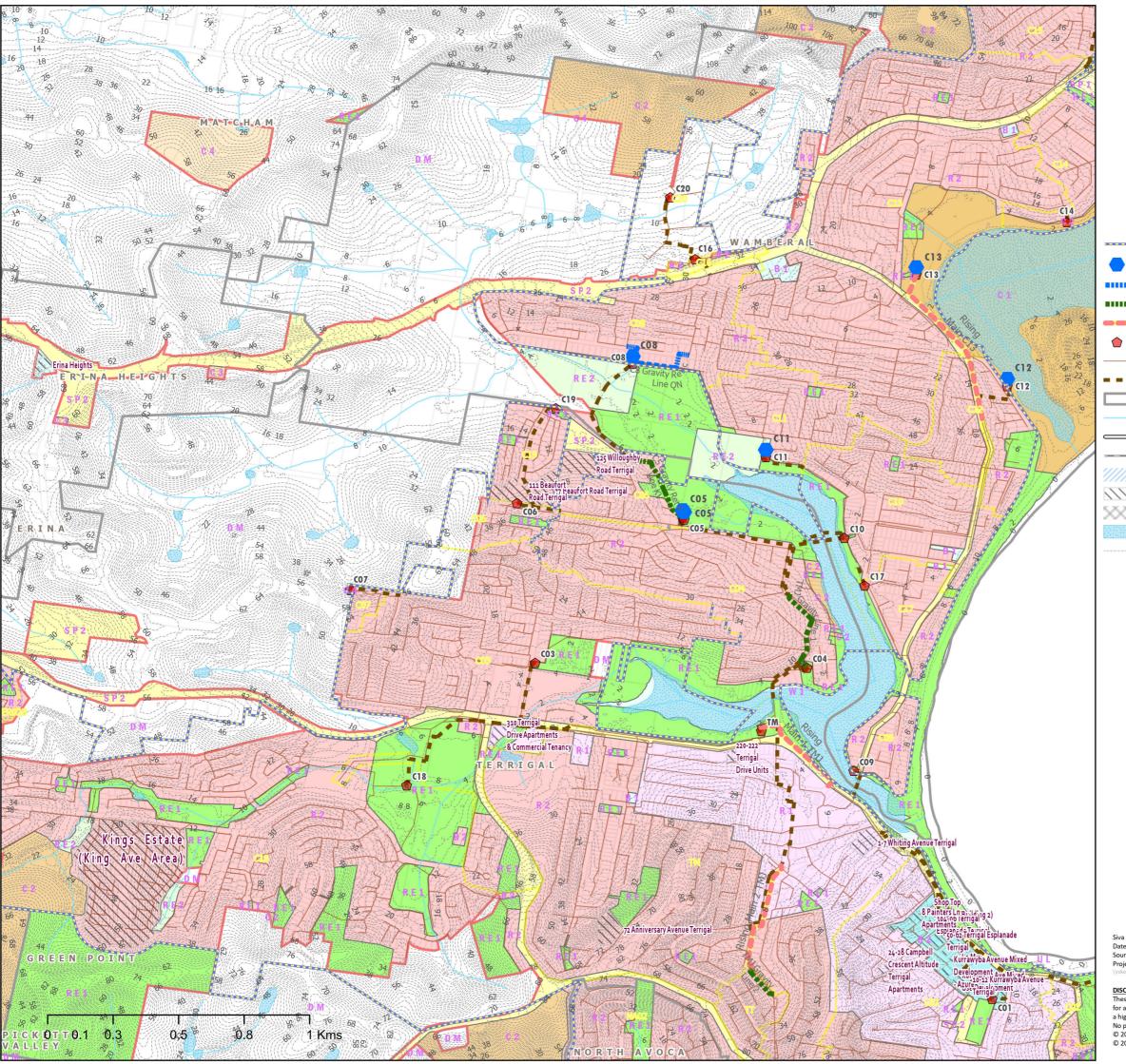
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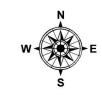
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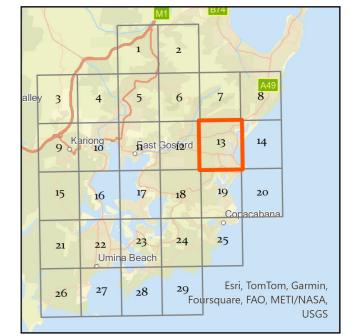




## Legend



DM - Deferred Matter



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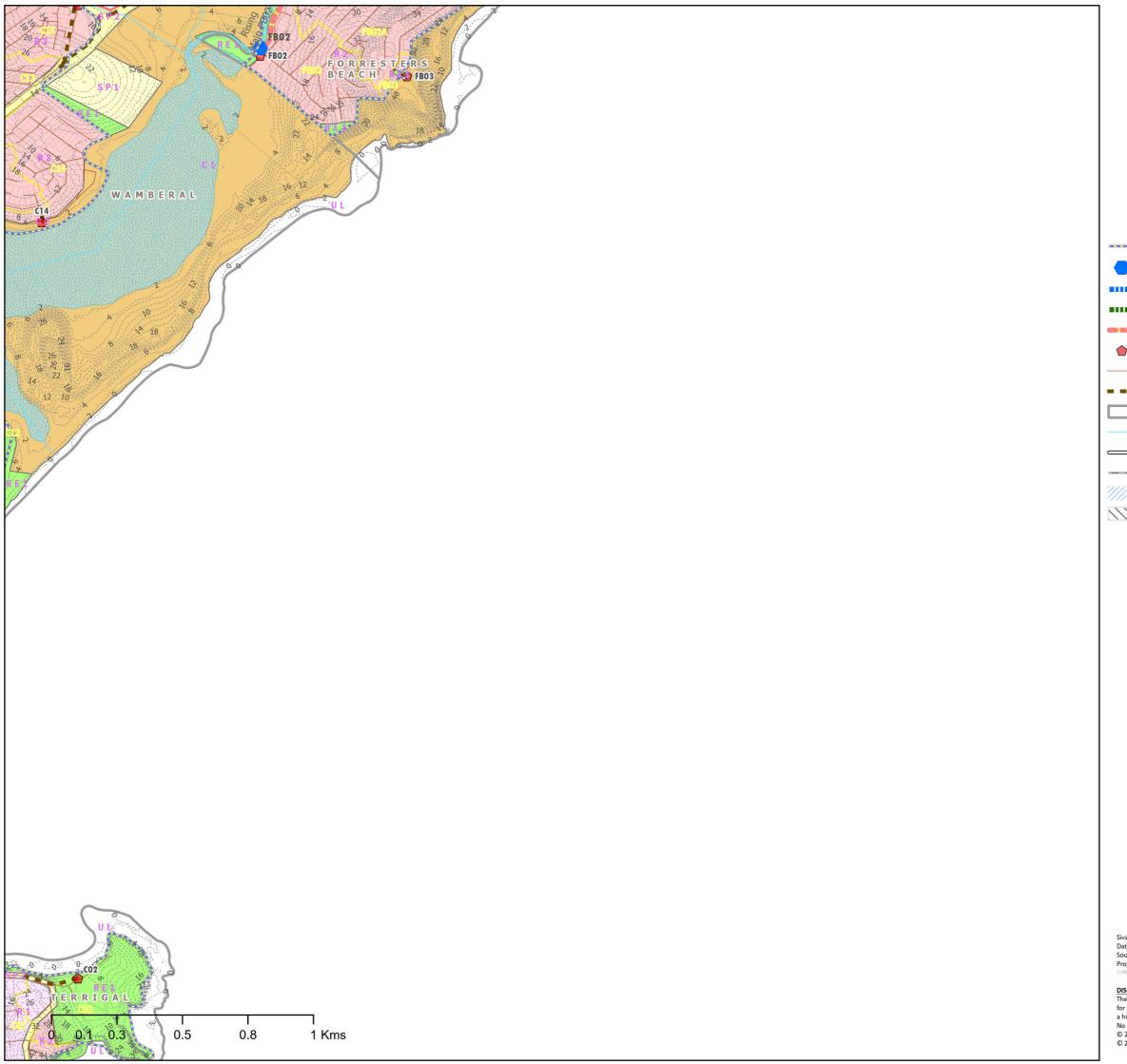
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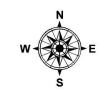
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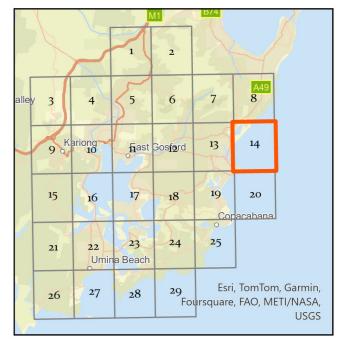






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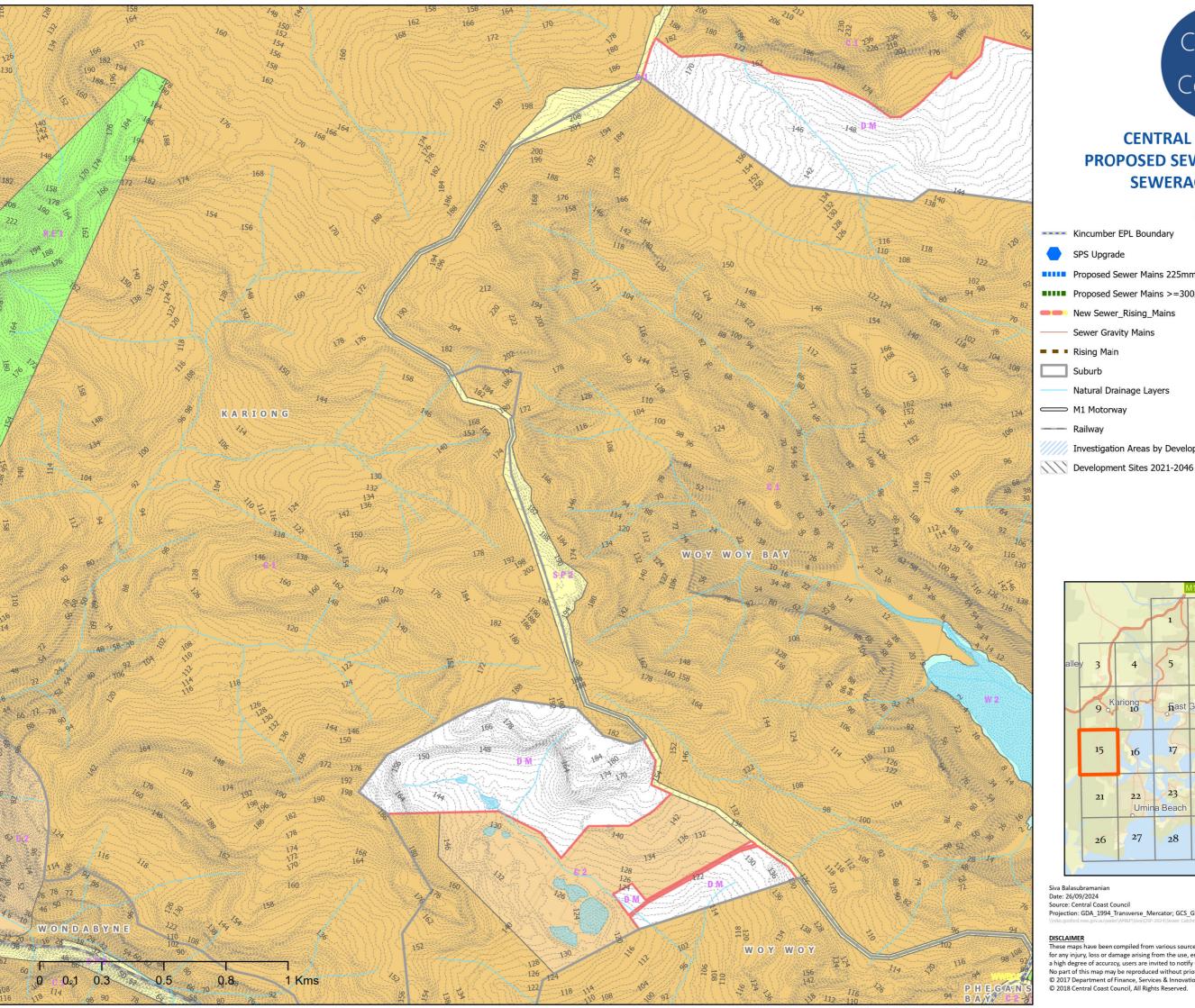
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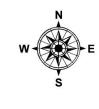
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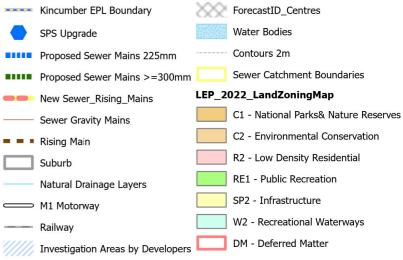
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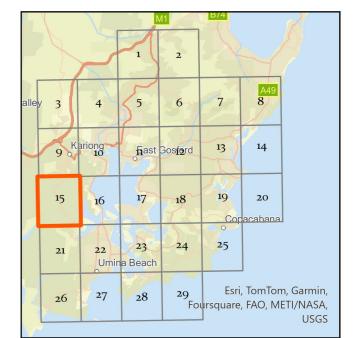






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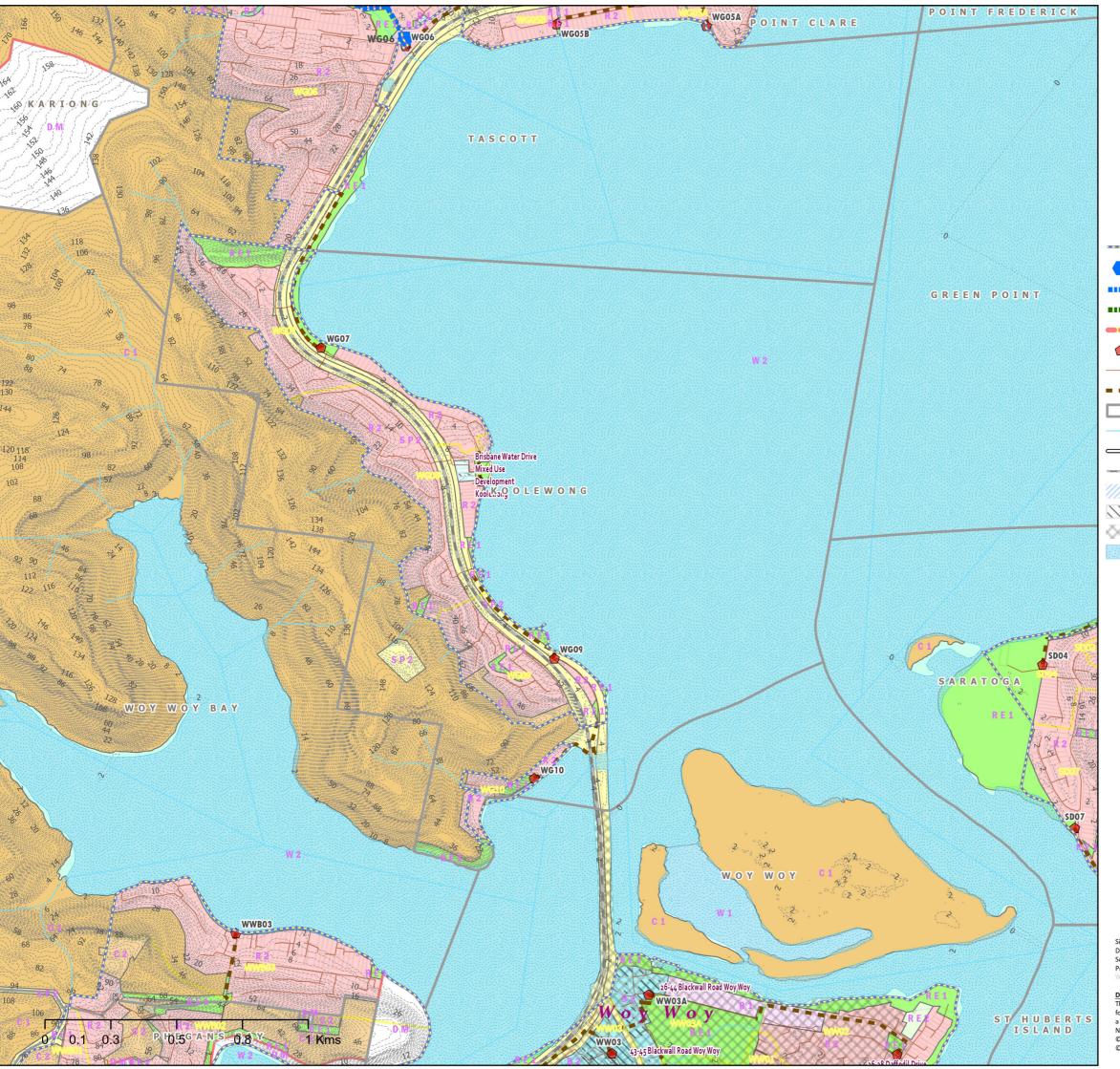
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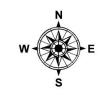
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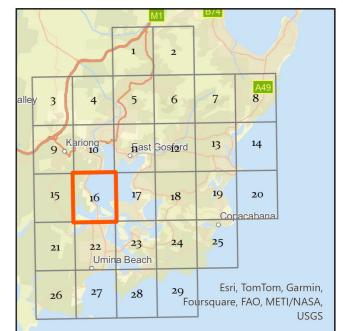






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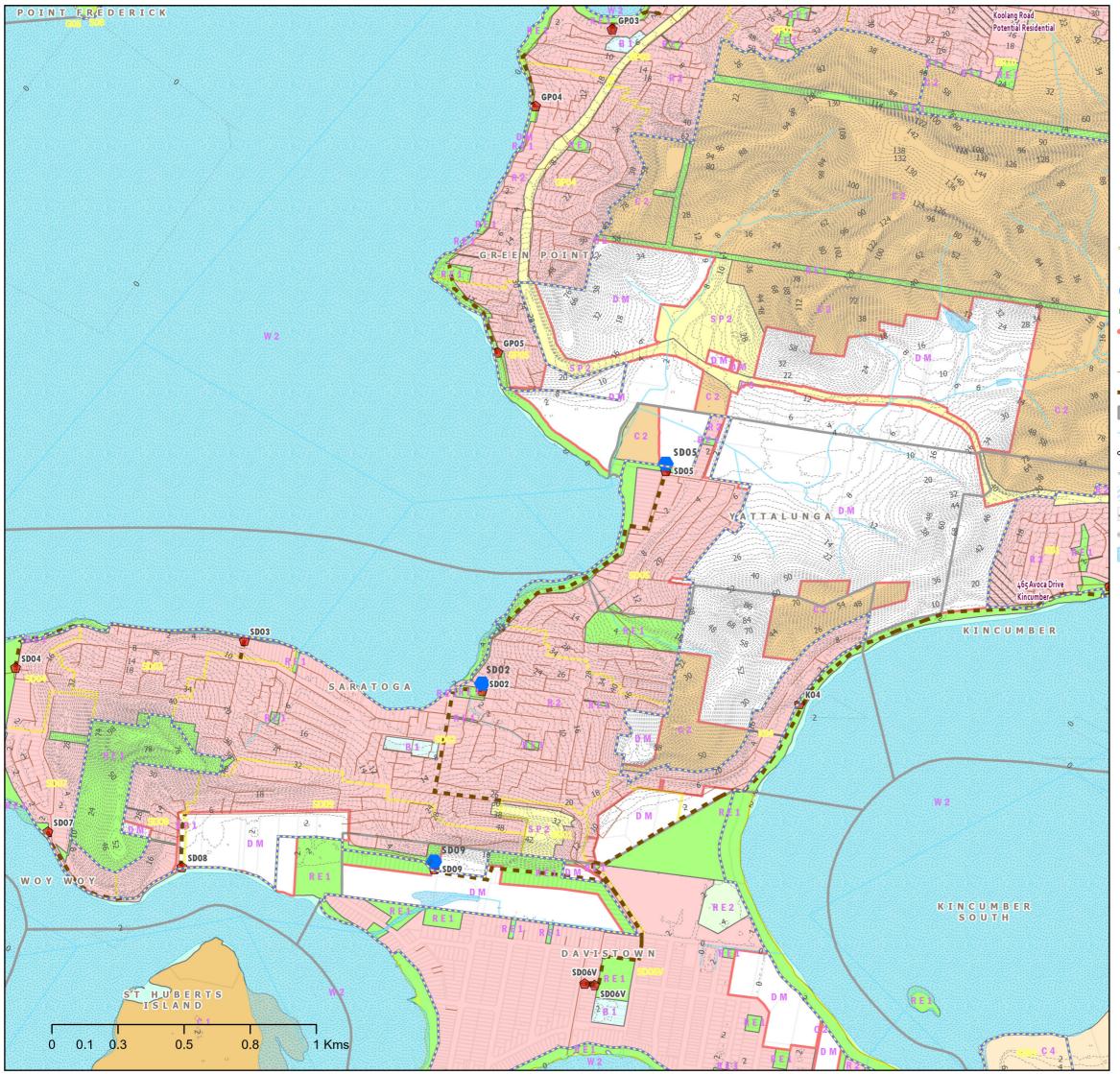
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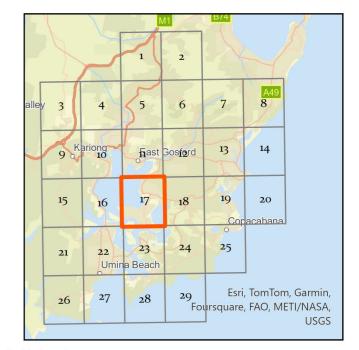






## Legend





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Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

Water Bodies

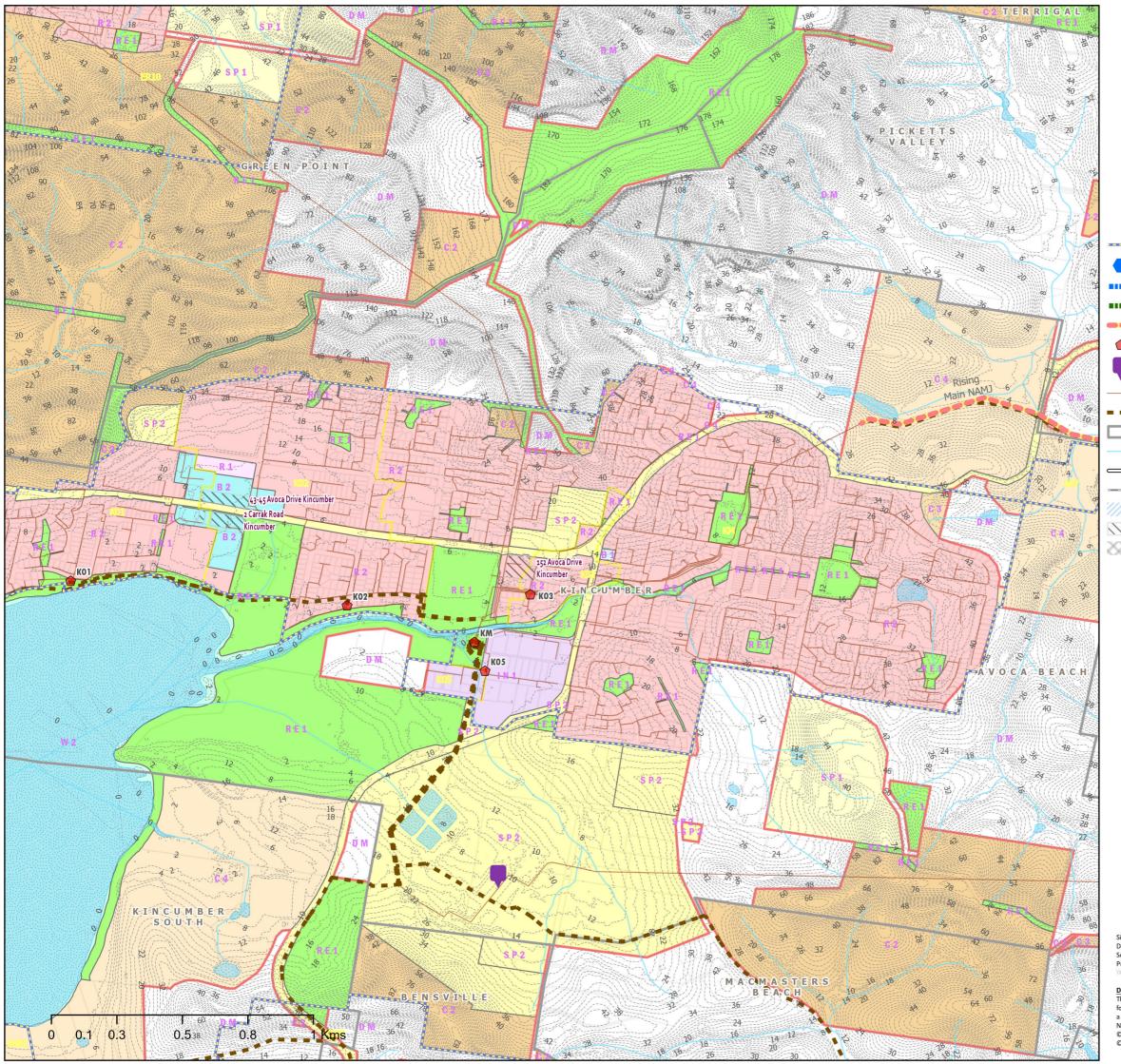
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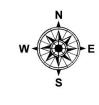
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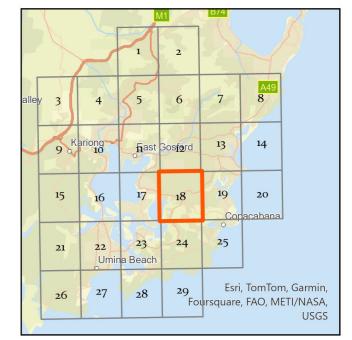




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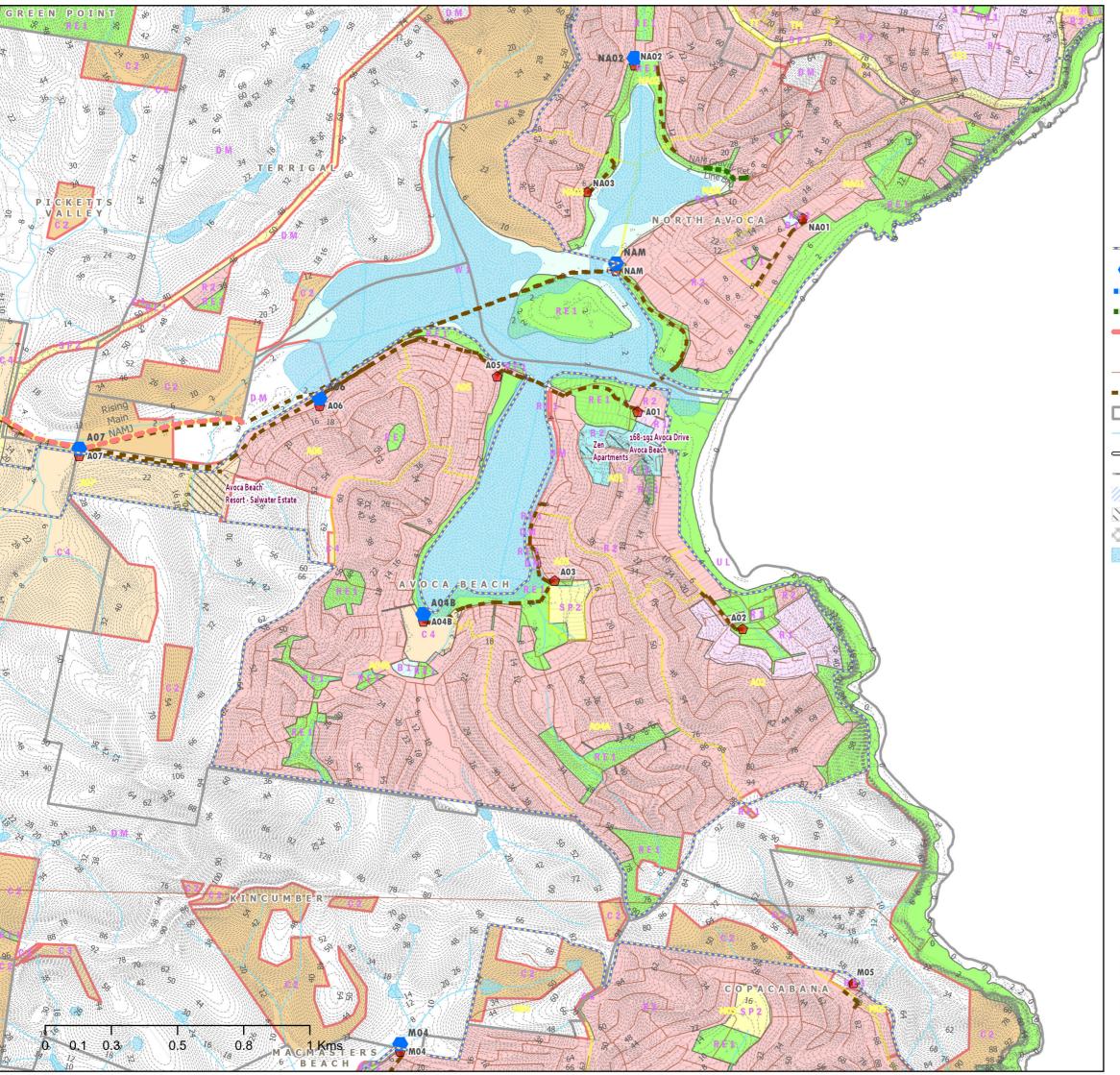
DM - Deferred Matter



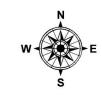
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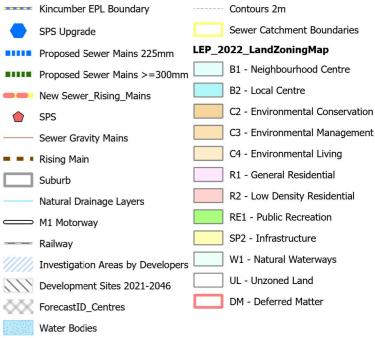
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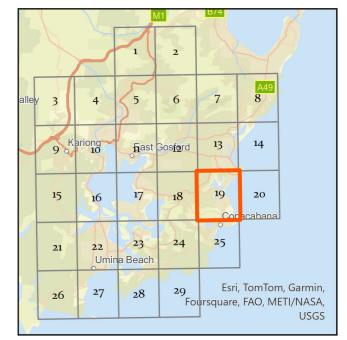






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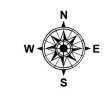
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Central Coast Council

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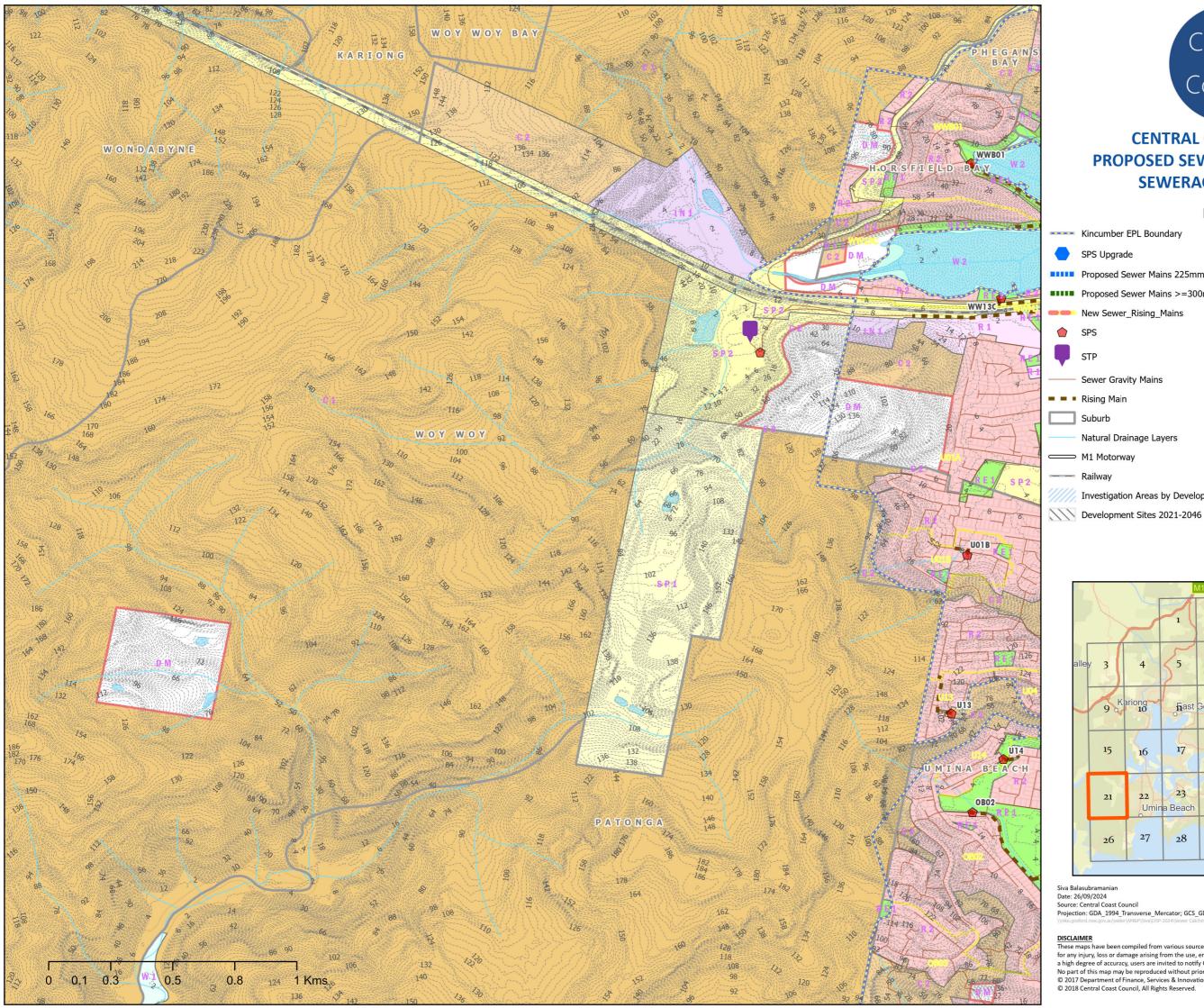
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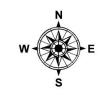
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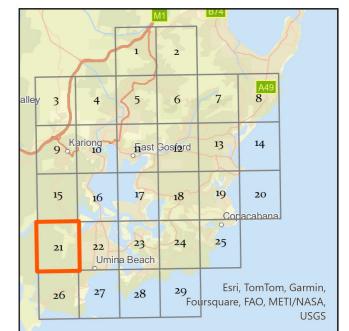




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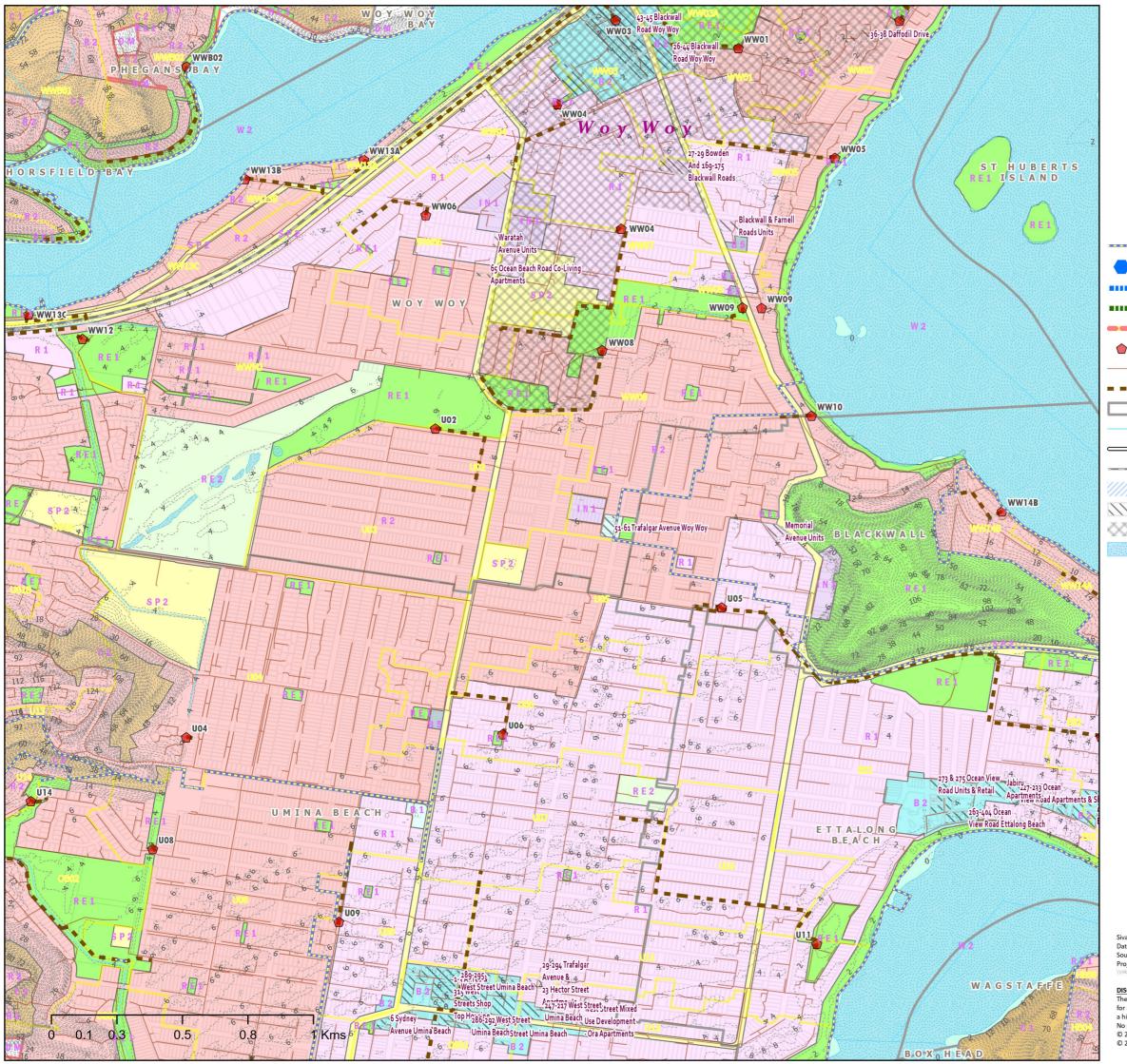
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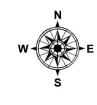
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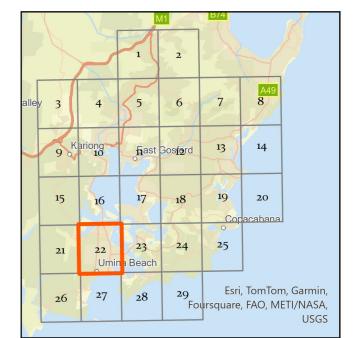






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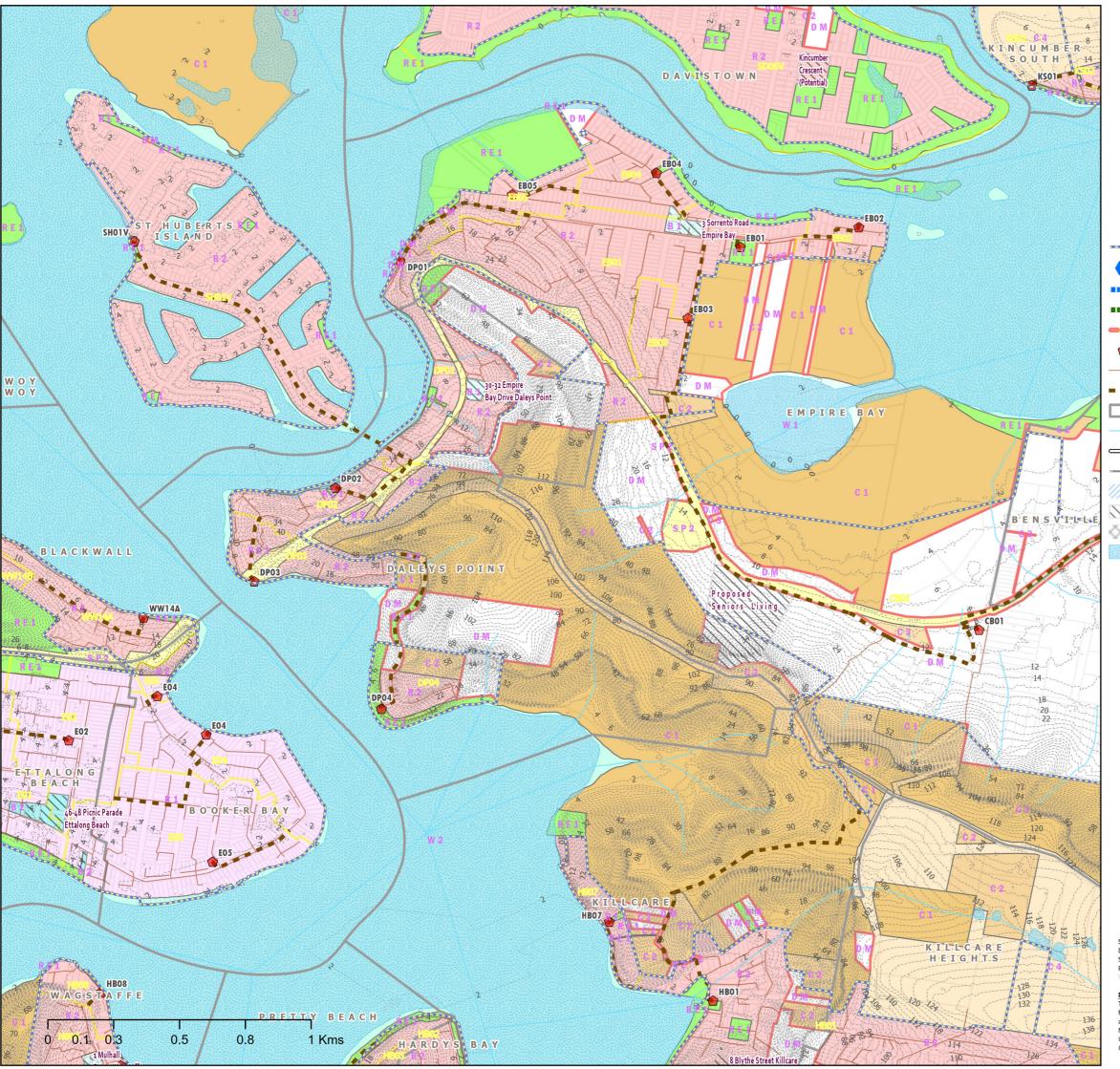




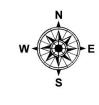
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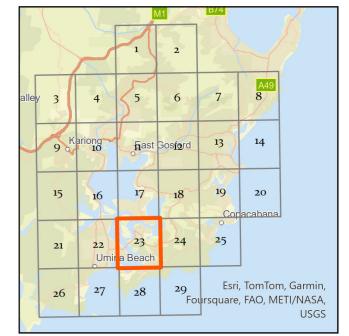






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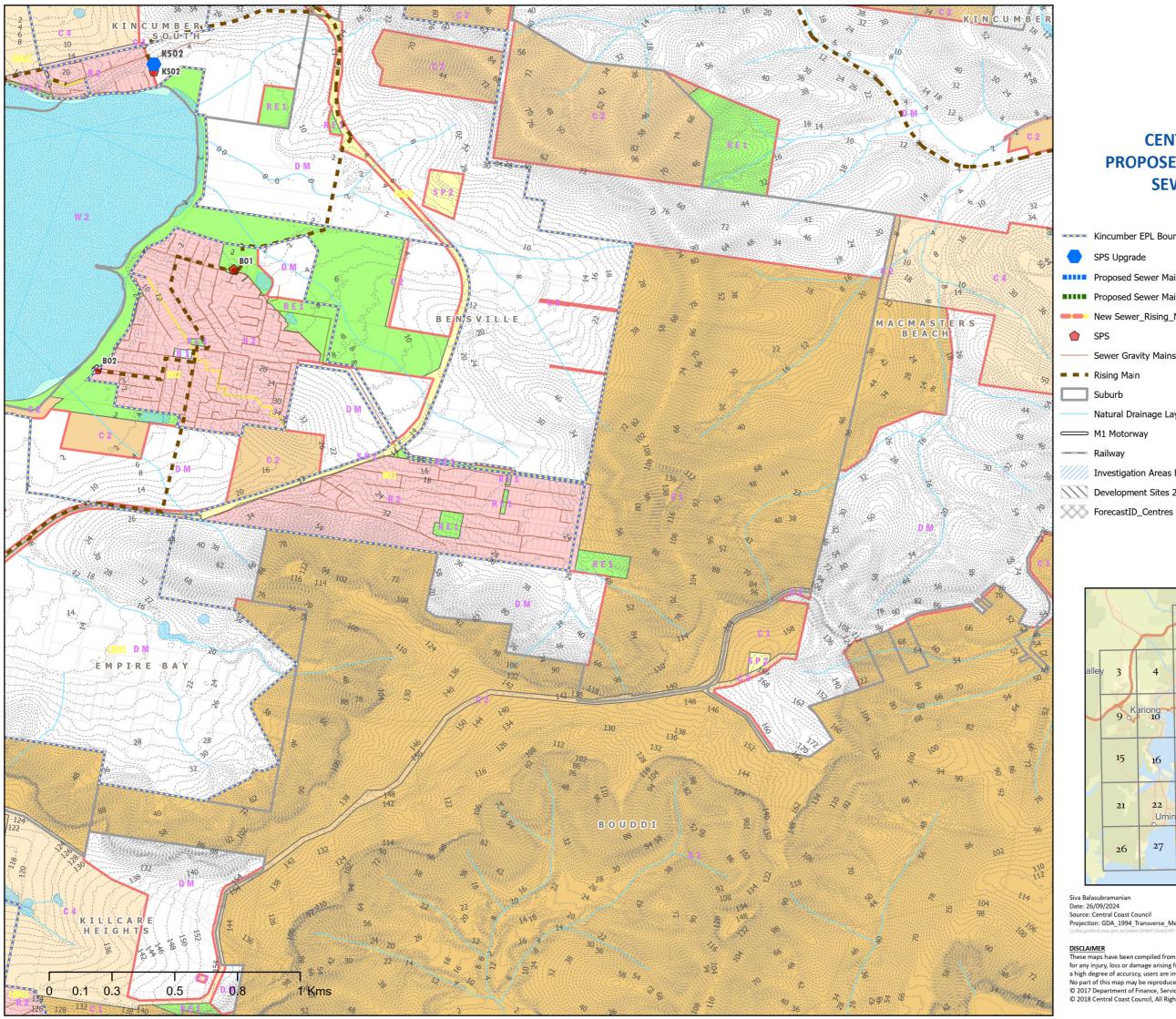


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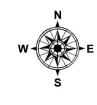
Water Bodies

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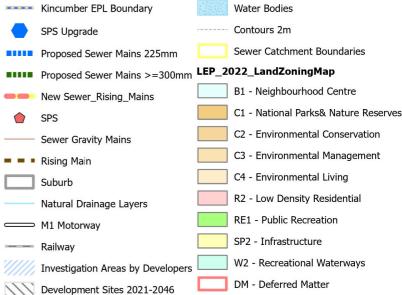
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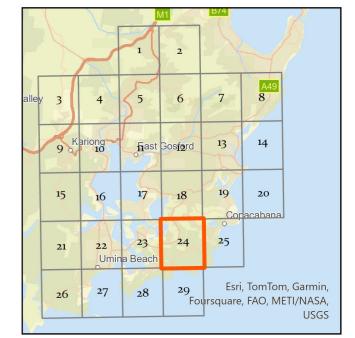






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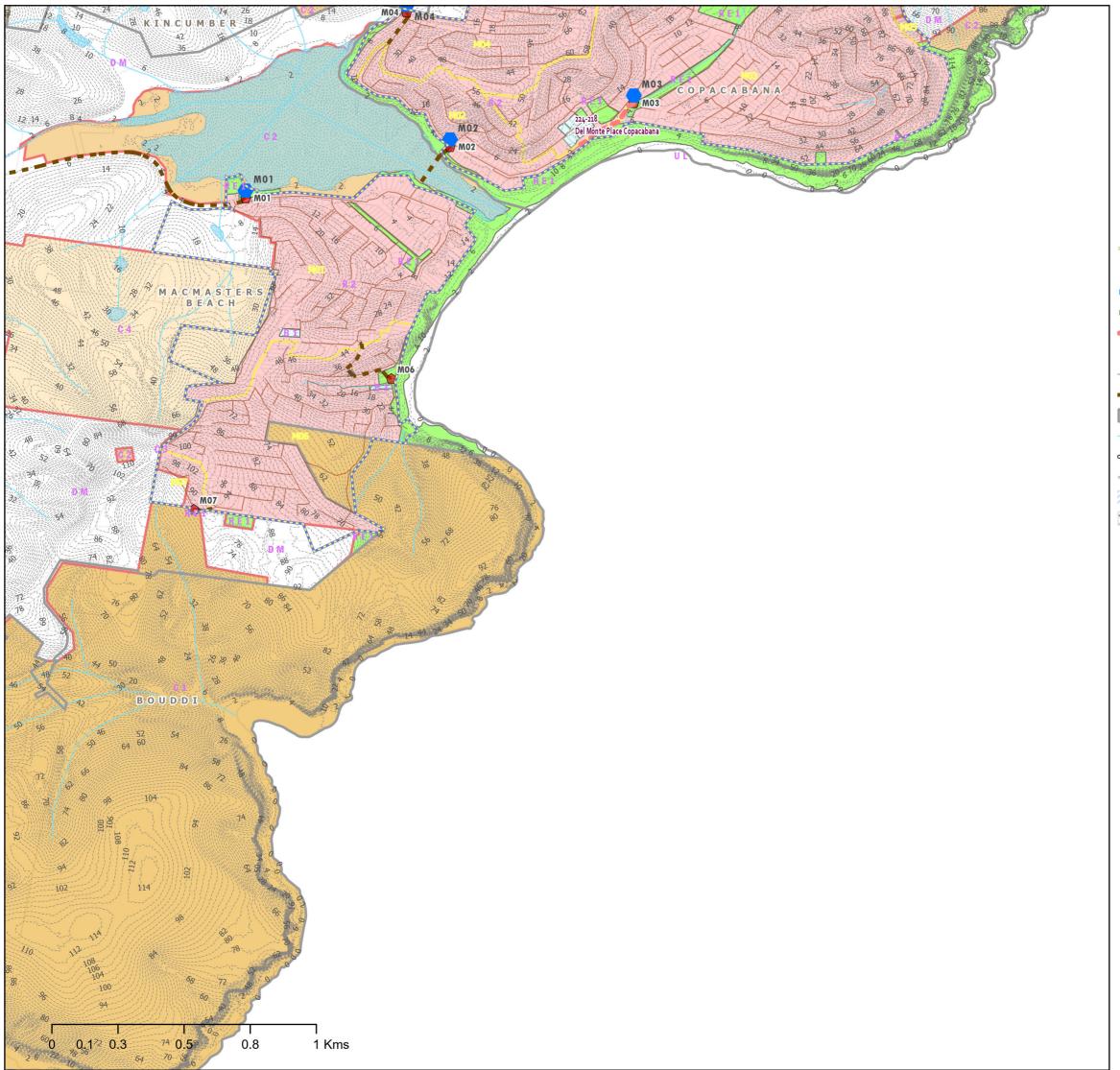
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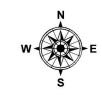
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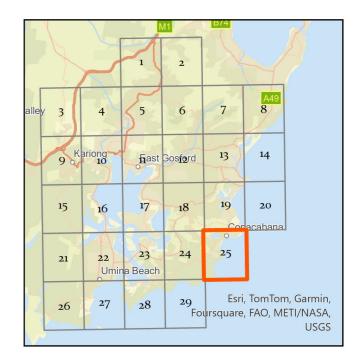






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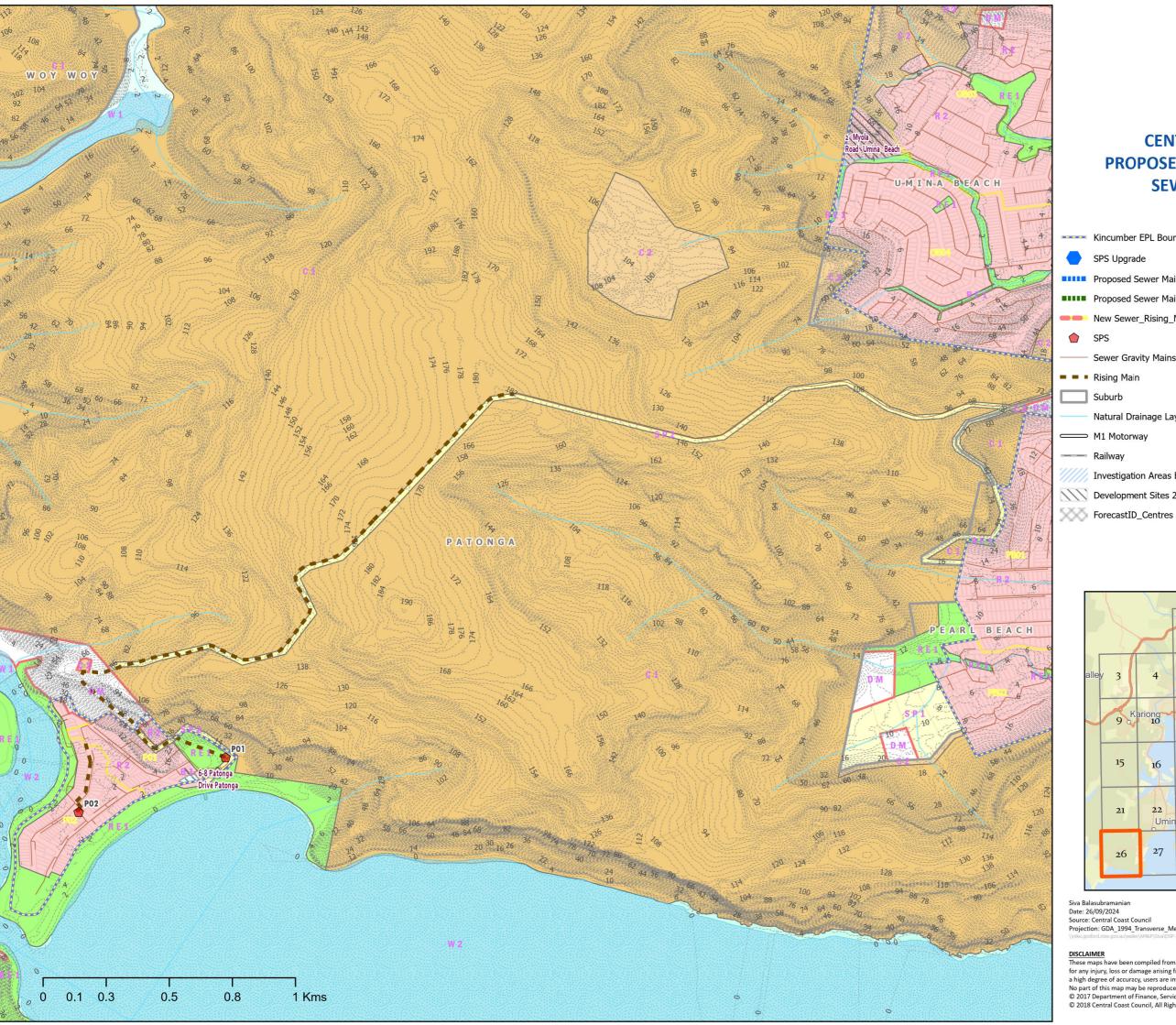
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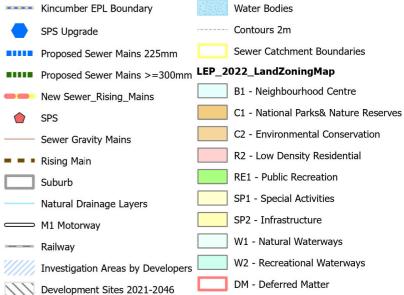
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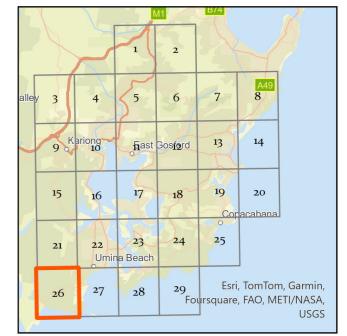






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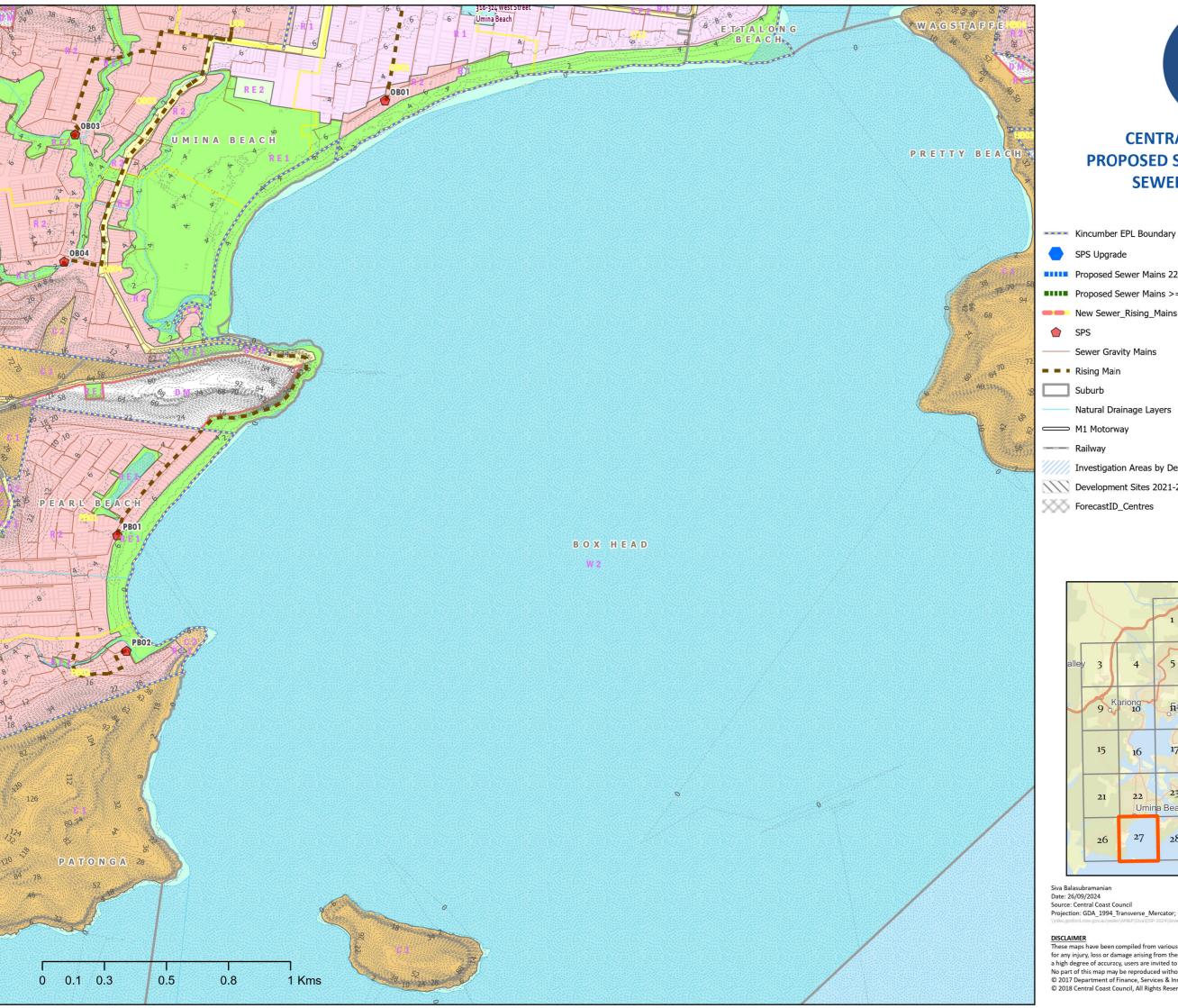
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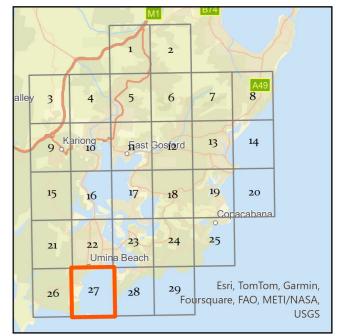




# **CENTRAL COAST COUNCIL PROPOSED SEWER ASSETS DSP 2024 SEWERAGE WINNIE BAY**

# Legend





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Source: Central Coast Council
Projection: GDA\_1994\_Transverse\_Mercator; GCS\_GDA\_1994

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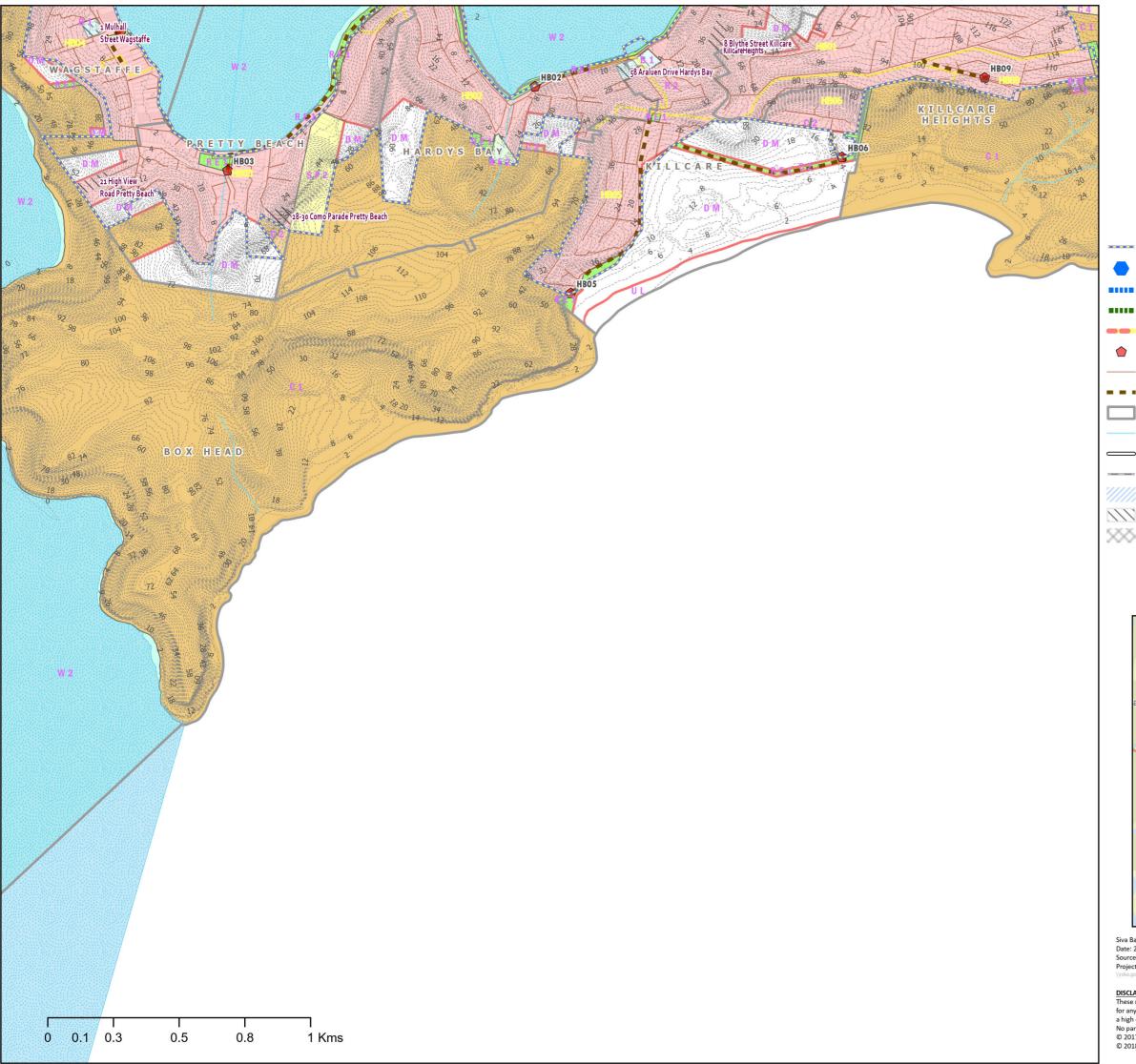
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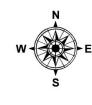
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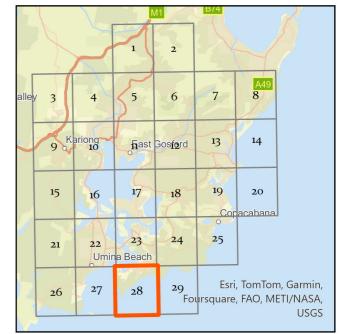




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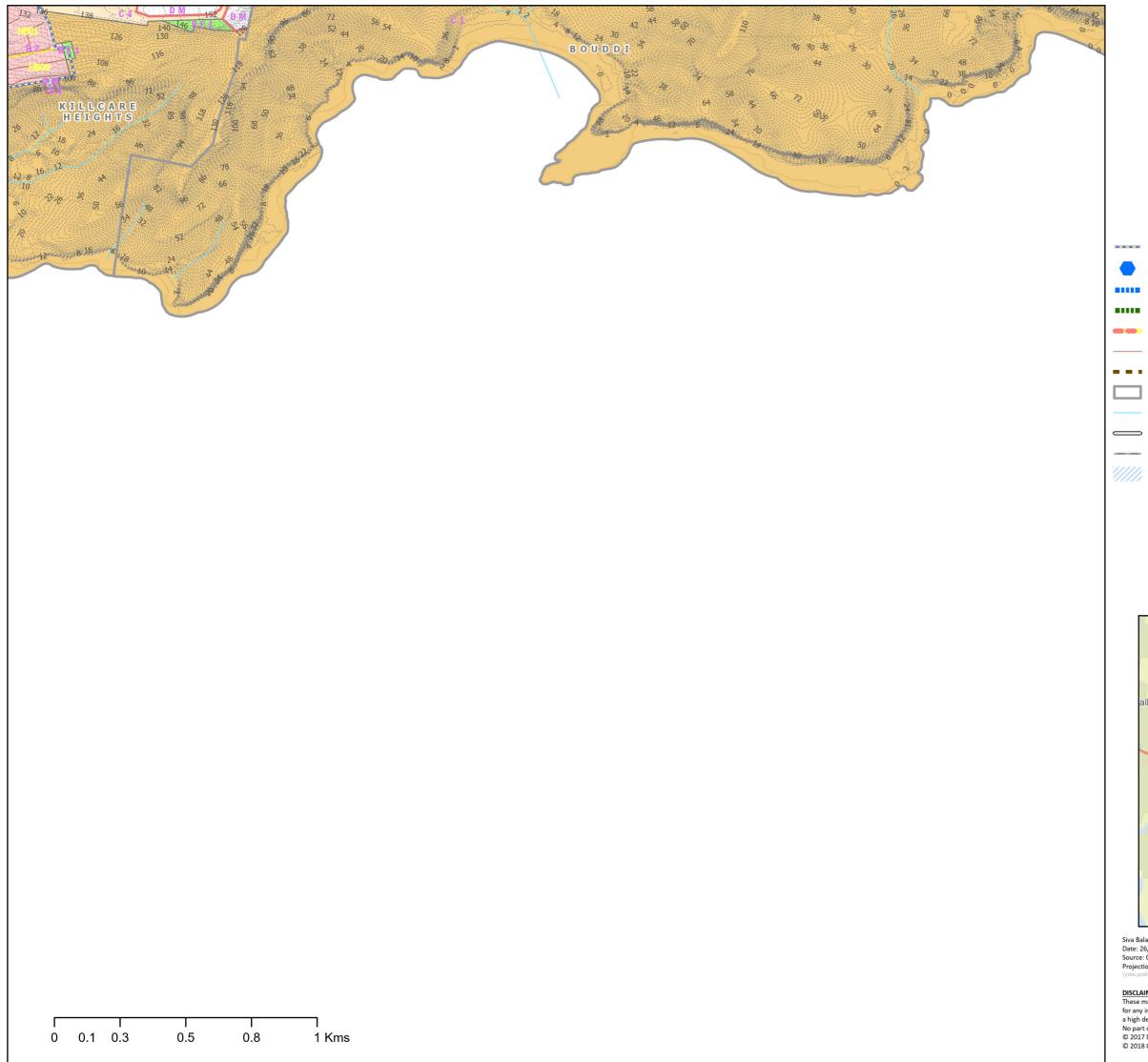
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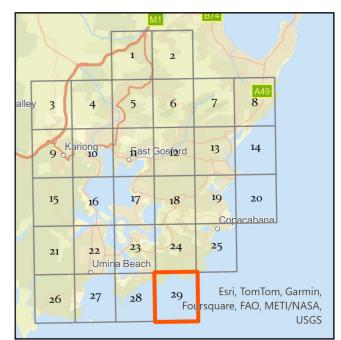




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Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 October 2024
2024
Appendix A
<b>Central Coast Water Supply Headworks Development Servicing Plan</b>
2024



Central Coast Council Water Supply Headworks Development Servicing Plan 2024

Version 2.
Water Assets & Planning
October 2024

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## 1. Introduction

The purpose of this Development Servicing Plan (DSP) is to determine the water headworks component of Developer Charges applicable to proposed new developments within the Northern and Southern regions of the Central Coast Council (Council) Local Government Area (LGA).

This plan has been prepared in accordance with the requirements of the Water Management Act 2000, using the methodology and parameters determined by the Independent Pricing and Regulatory Tribunal's (IPART) Determination in October 2018 for Maximum prices for connecting, or upgrading a connection, to a water supply, sewerage, or drainage system (October 2018).

## 2. Applicability of this Plan

This DSP describes the water headworks component of developer charges applicable to the Northern and Southern Region 2024 Development Servicing Plans.

## 3. Area of the Plan

All lands contained within the Council LGA, connected (or proposed for connection) to Council's water supply scheme may be subject to this DSP. Local area DSPs where applicable will refer to this DSP for headworks component of developer charges. The map of existing Central Coast Water Systems is shown in Appendix A

## 4. Population and Equivalent Water Tenement Projection

Council has engaged .id consulting for its demographics analysis based on latest Australian Bureau of Statistics (ABS) Census data. .id consulting provides population forecast figures at the level of various geographic areas. Council's North (former Wyong Shire Council LGA) and South (former Gosford City Council LGA) regions forecast is used for headworks DSP. The latest set of forecast population figures up to 2036, available at the time of development of this DSP are used.

Further population projection from 2036 to 2054 is based on previous studies done for sewerage master plan of both North and South regions. The 2036 population has been linearly extrapolated at 1.39% and 0.4% annual growth rates respectively for the Northern and Southern Regions. The portion of the of population not connected to council's water services was deducted while calculating the serviced population. Table 1 below summarises serviced population projection for the North and South regions.

Tenement projection has been done based on average annual water demand of 150KL/tenement as per directions from IPART. The water demand patterns of both North and South regions are slightly different to each other which may further depart in future 1 because of higher scope of growth of BASIX (more water efficient) housing in the northern region than the south. Therefore, the individually climate corrected demand of both regions, North and South has been used to forecast water demand for both regions which is further used for calculating total equivalent water tenements as shown in Table 1.

Table 1 Population and tenement Projection

Year	North Total Population	North Serviced Population	South Total Population	South Serviced Population	North Tenements	South Tenements	Total Tenements
30/6/2023	173,917	168,873	178,724	176,758	98,417	99,141	197,558
30/6/2026	183,592	178,268	182,272	180,267	103,892	101,109	205,001
30/6/2031	201,039	195,209	186,597	184,544	113,764	103,508	217,272
30/6/2036	217,751	211,436	190,955	188,854	123,222	105,925	229,147
30/6/2041	233,311	226,545	194,805	192,662	132,027	108,061	240,088
30/6/2046	249,984	242,734	198,732	196,546	141,461	110,239	251,700
30/6/2051	267,847	260,080	202,739	200,509	151,570	112,462	264,032
30/6/2055	283,053	274,844	206,002	203,736	160,175	114,272	274,447

# 5. Reference to Other Development Servicing Plans

The development charge for the headworks component determined by this DSP will be included in all applicable North and South region DSP charges.

## 6. System Demand

Council has used iSDP (Integrated Supply Demand Model) for demand forecast. The forecast demand is provided in the table below.

Table 2 Projected Water Demand for Central Coast Council

Year	Annual Average Demand ML/year	Average Day Demand ML/day	Peak Day Demand * ML/day
30/6/2021	29,964	82.1	131
30/6/2026	31,028	85.0	136
30/6/2031	32,317	88.5	142
30/6/2036	33,725	92.4	148
30/6/2041	35,299	96.7	155
30/6/2046	37,001	101.4	162
30/6/2051	38,819	106.4	170
30/6/2055	40,400	110.7	177

<sup>\*</sup> Determined using Peak Demand Factor of 1.6

## 7. System Yield and Water Treatment Capacity

## 7.1. System Yield

Council has recently developed its long-term water strategy, Central Coast Water Security Plan June 2023 (CCWSP). The plan was developed collaboratively with Hunter Water Corporation and DCCEEW (then DPE). The hydrological model (Rainfall Runoff Model) was also updated on eSource platform which is considered Australia's National Hydrological Modelling Platform. The yield calculation methodology was synchronised with Hunter Water's risk-based method and newly developed joint WATHNET model was used for system analysis. This aligned the two systems in terms of yield determination, which helped consider joint water options on an equitable basis incorporating the synergies of both systems in the

analysis. The 32,500 ML/year was determined as the current yield of the existing system. While the current agreement with Hunter Water for inter-regional water sharing expires in 2026, it assumed for the purpose of this DSP that the provision for inter-regional water transfers will continue beyond 2026. The system forecast demand exceeds the above-described system yield in 2035.

The CCWSP was developed to plan for future water augmentations when demand will exceed the current system yield. CCWSP is an adaptive plan and is best described as three pillars as below:

- Pillar 1 Conserve and use water efficiently
- Pillar 2 Maximise existing water supplies to delay new water supplies
- Pillar 3 Develop new rainfall independent supplies for an adaptive future

The plan has adopted the portfolio with the following options as shown in the Figure 1.

- Increased groundwater supply in 2035
- Increased recycled water supply in 2037
- New PRW supply 2038
- New Desalination supply 2043

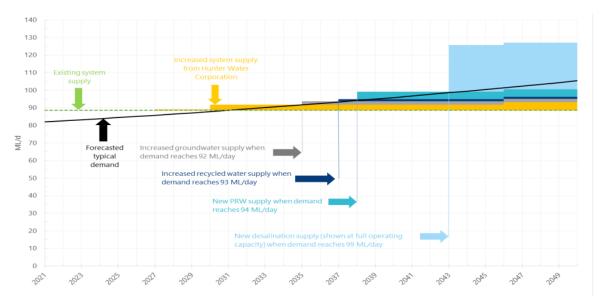


Figure 1 Indicative timings of new supplies after demand exceeds the system yield

## 7.2. Water Treatment Capacity

Total existing water treatment and distribution capacity provided for in the DSP is 300 ML/day which is sufficient to meet the peak day demand up to 2055. It is noted that Council's existing water treatment plants are subject to de-rating under certain raw water quality conditions and the below production capacity cannot be met under a range of different conditions. Figure 2 shows peak day demand versus theoretical treatment capacity over time.

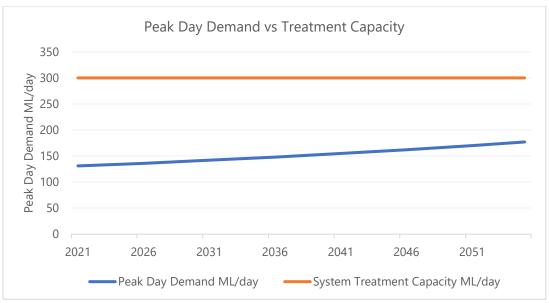


Figure 2 Peak Day Demand vs Water Treatment Capacity

## 8. Estimates of Asset Values

The asset values are taken as total gross replacement costs from Council's financial asset register which was used to complete a recent revaluation of Council's Water and Sewerage Assets in 2022. The value of existing assets was determined using a Modern Engineering Equivalent Replacement Asset (MEERA) approach as required by IPART. This same approach was required for the 2022 Water and Sewerage Asset revaluation which has satisfied Audit Office of NSW requirements. The values determined are in 2023-24 dollars.

The asset values for un-commissioned future assets are price indexed values as determined during development of CCWSP in 2020-21.

The annual value charges are calculated using 0% discount rate for pre-1996 assets and 2.8% discount rate (real pre-tax WACC as in the prevailing IPART price determination) for post-1996 assets as per IPART's final report on "Maximum prices to connect, extend or upgrade a service for metropolitan water agencies October 2018."

Operating costs are not relevant to this DSP and are detailed in each Local Area DSP.

## 9. Method of Reviewing/Updating Developer Charges

The Developer Charges determined in this DSP are incorporated into the Northern and Southern Region Water DSPs developed by Central Coast Council. The value of charges payable under the Development Servicing Plan will be held constant in real terms for the life of the Plan by the adjustments specified within Local Area DSPs.

## **10. Calculation of Development Service Charges**

The 2018 Calculation Template provided by IPART has been used to calculate maximum charges that can be levied for the headworks component of developer charges on new developments.

Headworks development service charges assessed per equivalent tenement (ET) are determined as \$5,975 per Equivalent Tenement (ET).

## 11. References

The following Reports provide the basis upon which the need and capacity of capital works have been assessed:

i. Central Coast Water Security Plan (CCWSP) June 2023

# **Appendix A**

# Our water systems on the Central Coast

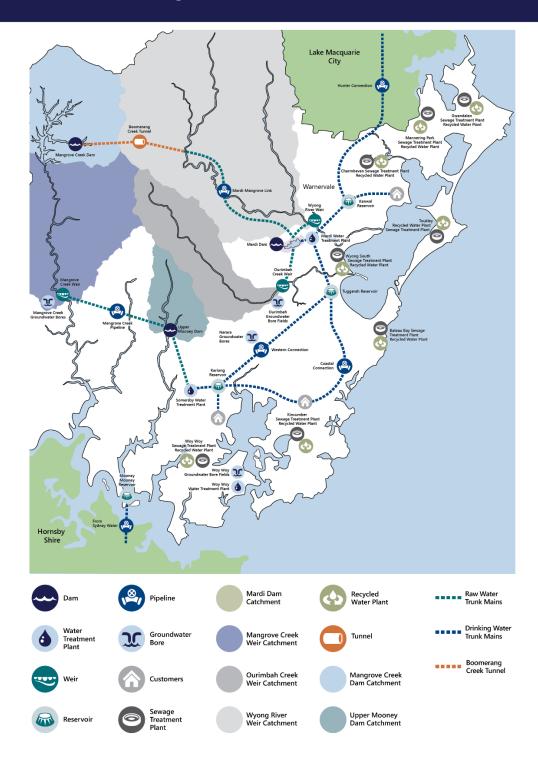


Figure A-1 Existing Central Coast Water Supply System

# Preferred Portfolio Groundwater 2035 Recycled water 2037 Purified Recycled Water 2038 Purified Recycled Water 2038 Purified Recycled Water 2038 Pinch Mangrove Creek welf2038 Pinch Mangrove Creek welf2038 \*Timings are indicative of medium demand forecast Name of the Central Coast Mangrove Creek dam Mangrove Creek dam Mangrove Creek welf Courinhah Mooney Mooney dam Work Nover Mangrove Creek welf Courinhah Mooney Mooney dam Work Nover Reservoir Mangrove Creek welf Courinhah Mooney Mooney dam Work Nover Mangrove Creek welf Courinhah Mooney Mooney dam Work Nover Nover Wyong Reservoir Mangrove Creek welf Courinhah Mooney Mooney dam Work Nover Nover Wyong Reservoir Nover Wyo

Figure A-2 Un-commissioned Future Assets

Table A-1 Maximum Price Calculations Spreadsheet Snips

# Central Coast Council Water Supply Headworks Development Servicing Plan CALCULATION OF MAXIMUM PRICE

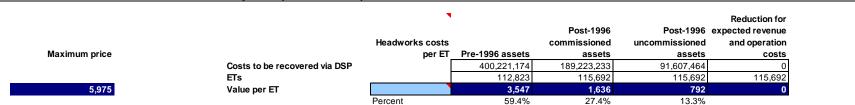
## Index

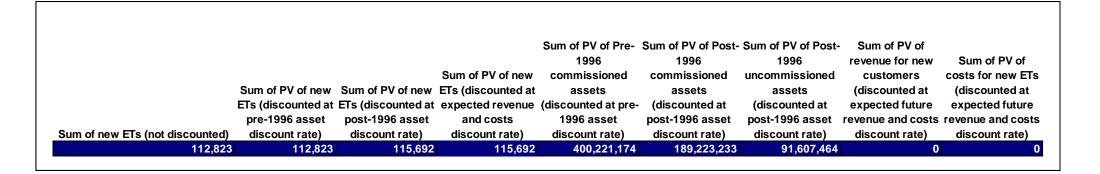
Row
Table 1: Calculation of maximum price (\$, \$2024-25)
Table 2: Key variables used in maximum price calculation (\$, \$2024-25)
Table 3: Annual calculation over analysis horizon (\$, \$2024-25)

34

Note: an input is required in \$F\$21 to incorporate the Headwork costs per ET into the maximum price.

Table 1: Calculation of maximum price (\$, \$2024-25)





## PRE-1996 ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presented on the 'Asset exclusions' worksheet before they are entered into the register.

Hyperlink to the 'Asset exclusions' worksheet:

Asset exclusions' Asset exclusions'

Date range for assets

Start date End date 01 Jan 1970 31 Dec 1995

## Register of pre-1996 assets

General inputs					Asset value inp	uts			
			Expected system-	Proportion of			MEERA value per		MEERA value to
			wide ETs to be	asset cost to be			unit/measure of	Total MEERA	be recovered via
	_	Date	serviced by this	recovered via this	Number of units or	Unit of measure in	length (B)	value (A x B)	DSP(\$,\$2024-
Identifier	Description	commissioned	asset	DSP	length of asset (A)	(A)	(\$ as at 1 July 2024)	(\$,\$2024-25)	25)
Raw Water Yield				-					-
	Mangrove Creek Dam	30 Jun 1982	271,796	41.5%	1		256,044,083	256,044,083	106,284,020
	Mangrove Creek Weir	30 Jun 1975	271,796	41.5%	1		8,413,568	8,413,568	3,492,476
	Ourimbah Creek Upper Weir	30 June 1979	271,796	41.5%	1		2,268,758	2,268,758	941,763
	Ourimbah Creek to Mardi Dam WMR	30 June 1980	271,796	41.5%	1		5,000,579	5,000,579	2,075,743
	Boomerang Creek Tunnel	30 June 1989	271,796	41.5%	1		238,447,805	238,447,805	98,979,797
	Ourimbah Ck Tunnel	30 June 1979	271,796	41.5%	1		10,665,035	10,665,035	4,427,061
	Mangrove Creek Weir WPS to Somersby WTP WMR (Surge								
	Tanks Included)	30 June 1974	271,796	41.5%	1		67,946,739	67,946,739	28,204,724
	Balance Tank B2	30 June 1971	271,796	41.5%	1		7,507,222	7,507,222	3,116,251
	Balance tanks to Somersby WMR	30 June 1974	271,796	41.5%	1		19,781,630	19,781,630	8,211,364
	Mangrove Creek Pumping Station	30 June 1975	271,796	41.5%	1		18,430,258	18,430,258	7,650,409
	Ourimbah Creek Pumping Station (WPS11)	30 June 1979	271,796	41.5%	1		2,776,459	2,776,459	1,152,510
Treatment and			271,796	41.5%				-	-
	Somersby WTP Stage 1	30 June 1970	271,796	41.5%	1		34,300,808	34,300,808	14,238,282
	Somersby Balance Tank 2	30 June 1971	271,796	41.5%	1		7,085,524	7,085,524	2,941,204
	Kariong Reservoir No 1(K1)	30 June 1973	271,796	41.5%	1		7,333,798	7,333,798	3,044,263
	Coastal Connection	30 June 1985	271,796	41.5%	1		14,441,050	14,441,050	5,994,487
	Western Transfer WMT SWTP to K2 Res (WMT-WSTK2)	30 June 1978	271,796	41.5%	1		16,037,663	16,037,663	6,657,242
	Western Transfer WMT K2 Res to North Gosfrod (WMT-								
	KTNG)	30 June 1979	271,796	41.5%	1		6,972,822	6,972,822	2,894,422
	Western Transfer WMT Gosford to T2 Res (WMT-GTT2)								
	Stage 1	30 June 1980	271,796	41.5%	1		32,637,123	32,637,123	13,547,685
	Western Transfer WMT Gosford to T2 Res (WMT-								
	GTT2)Stage 2	30 June 1995	271,796	41.5%	1		38,684,949	38,684,949	16,058,141
	Western Transfer WMT MWTP to T2 Res (WMT-MTT2)	30 June 1980	271,796	41.5%	1		5,048,147	5,048,147	2,095,488
	Mardi WTP Stage I: 80 ML/d	30 June 1982	271,796	41.5%	1		49,731,856	49,731,856	20,643,717
	Somersby WTP Stage 2	30 June 1986	271,796	41.5%	1		50,161,941	50,161,941	20,822,245
	Kariong Reservoir No 2 (K2)	30 June 1986	271,796	41.5%	1		21,942,939	21,942,939	9,108,524
	Tuggerah 2 Reservoir	30 June 1987	271,796	41.5%	1		16,244,709	16,244,709	6,743,186
	Forresters Beach Pumping Station	30 June 1987	271,796	41.5%	1		2,063,275	2,063,275	856,466
	Ourimbah Pumping Station (WPS17)	30 June 1987	271,796	41.5%	1		6,402,701	6,402,701	2,657,764
	Mardi WTP Stage II: 80 ML/d	30 June 1994	271,796	41.5%	1		17,783,500	17,783,500	7,381,939
	-			I _ I				-	

## POST-1996 COMMISSIONED ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presented on the 'Asset exclusions' worksheet before they are entered into the register.

Hyperlink to the 'Asset exclusions' worksheet:

Asset exclusions' Worksheet before they are entered into the register.

Date range for assets

 Start date
 01 Jan 1996

 End date
 30 Jun 2024

## Register of post-1996 commissioned assets

Add new assets Commissioned

General inputs	Add new assets Commissioned			Service potential	inputs		Asset value inputs	3			
Identifier Raw Water Yield	Description	Date commissioned	Financial year of commissioning		Expected system- wide ETs to be serviced by this asset	Proportion of asset cost to be recovered via this DSP	Number of units or length of asset (A)	Unit of measure in (A)	MEERA value per unit/measure of length (B) (\$ as at 1 July 2024)	Total MEERA value (A x B) (\$, \$2024-25)	MEERA value to be recovered via DSP (\$, \$2024- 25)
NAW VIACE LICIA	Mardi Dam Upgrades Lower Wyong River Weir -Fishway and other Upgrade Lower Wyong PS to Mardi Dam WMR Mardi Dam to Mangrove Dam WMR Mooney Pumpstation upgrade Wyong River Pump Station (WPS 1A) Mardi Dam to Mardi WTP Pump Station (WPS23) Mardi Dam to Mangrove Creek Dam Pump Station (WPS24) Spur main WMR Groundwater Bores WPS Narara	30 Jun 2010 30 Jun 2010 30 Jun 2011 01 Jan 2011 30 Jun 2017 30 Jun 2011 30 Jun 2011 30 Jun 2012 30 Jun 2007 30 Jun 2007 30 Jun 2007	2009-10 2009-10 2010-11 2010-11 2016-17 2010-11 2010-11 2011-12 2006-07 2006-07 2006-07		271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796	41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5% 41.5%	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		22,736,457 12,600,215 25,571,628 97,049,989 4,679,986 9,926,222 3,508,250 7,564,732 318,109 28,525,263 1,287,723	12,600,215 25,571,628 97,049,989 4,679,886 9,926,222 3,508,250 7,564,732 318,109 28,525,263	5,230,355 10,614,795 40,285,496 1,942,623 4,120,379 1,456,276 3,140,124 132,047 11,840,850
Treatment and Transfe		30 Juli 2007	2000-07		271,796	41.5%			1,201,123	1,201,123	554,554
	Western Transfer WMT MWTP to T2 Res (WMT-MTT2) Upgrade Woy Woy WTP for Groundwater Bores Hunter Connection High Lift Pump Station (WPS25) Mard to Warmervale Pipeline (M2WPL) Ourimbah Pump Station (WPS17) Forresters Beach Pump Station (WPS FORBCH)	30 Jun 1997 30 Jun 2007 30 Jun 2007 30 Jun 2011 01 Dec 2021 30 Jun 2013 30 Jun 2022	1996-97 2006-07 2006-07 2010-11 2021-22 2012-13 2021-22		271,796 271,796 271,796 271,796 271,796 271,796 271,796 271,796	41.5% 41.5% 41.5% 41.5% 41.5% 41.5%	1 1 1 1 1 1		4,010,352 9,202,024 43,629,707 11,375,609 11,469,039 6,402,701 2,063,275	9,202,024 43,629,707 11,375,609	3,819,764 18,110,712 4,722,021 4,760,803 2,657,764

# POST-1996 UNCOMMISSIONED ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presen	ted on the 'Asset exclusions' worksheet before they are entered into the register.
Hyperlink to the 'Asset exclusions' worksheet:	Asset exclusions !A1
Date range for assets	
Start date	01.Jul 2024

## Register of uncommissioned assets

nputs			Service potential in	iputs		Asset value inputs				
	Date	Financial year of	DSP areas	Expected system-	Proportion of asset	Number of units or	Unit of measure in	MEERA value per	Total MEERA value	MEERA value to be
tifier Description	commissioned	commissioning	serviced by asset	wide ETs to be	cost to be	length of asset (A)	(A)	unit/measure of	(A x B)	recovered via DSP
e Yield										
ntation		-			-				-	-
Increased utilisation of GW	30 Jun 2034	2033-34		271,796	41.5%	1		568,575	568,575	236,016
Expand existing STP based recycling schemes	30 Jun 2037	2036-37		271,796	41.5%	1		7,936,110	7,936,110	3,294,283
Purified Recycled Water (PRW)	30 Jun 2038	2037-38		271,796	41.5%	1		56,977,200	56,977,200	23,651,263
Drought Desalination Plant	30 Jun 2043	2042-43		271,796	41.5%	1		287,280,000	287,280,000	119,250,064
	e Yield entation  Increased utilisation of GW Expand existing STP based recycling schemes Purified Recycled Water (PRW)	Increased utilisation of GW Expand existing STP based recycling schemes Purified Recycled Water (PRW)  Date commissioned commissioned 30 Jun 2034 30 Jun 2034 30 Jun 2037 20 Jun 2038	Date   Financial year of	Date commissioned DSP areas serviced by asset e Yield entation  Increased utilisation of GW Expand existing STP based recycling schemes 30 Jun 2034 2033-34 Expand existing STP based recycling schemes 30 Jun 2037 2036-37 Purified Recycled Water (PRW) 30 Jun 2038 2037-38	Date commissioned commissioning serviced by asset wide ETs to be commission of commiss	Date commissioned commissioning Serviced by asset wide ETs to be cost to be c	Date commissioned commissioning DSP areas serviced by asset Wide ETs to be cost to be length of asset (A) e Yield entation Increased utilisation of GW Sepand existing STP based recycling schemes 30 Jun 2037 2036-37 271,796 41.5% 1 Purified Recycled Water (PRW) 30 Jun 2038 2037-38 271,796 41.5% 1	Date commissioned commissioning Serviced by asset wide ETs to be cost to be length of asset (A) (A) expected extension of GW Expand existing STP based recycling schemes 30 Jun 2034 2037-38 2037-38 Expected system-Proportion of asset wide ETs to be cost to be length of asset (A) (A) (A) (A) (A) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B	Date commissioned commissioned commissioned serviced by asset by a	Date   Financial year of commissioned   DSP areas   Expected system-Proportion of asset wide ETs to be   Cost to be   Increased utilisation of GW   Expand existing STP based recycling schemes   30 Jun 2034   2033-34   271,796   41.5%   1   568,575   568,575   568,575   Expand existing STP based recycling schemes   30 Jun 2038   2037-38   271,796   41.5%   1   56,977,200   56,97

Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 October
2024
Appendix B
Southern Water Supply Works Summary

	Diameter	Length	Rate	)		Forecast
Water Mains - Southern DSP	(mm)	(m)	(\$/m)	Co	ost (\$2024/25)	<b>Completion Year</b>
Water Main - Railway Crescent-Niagara Park (1)	250	615 \$	571	\$	350,793	2030
Water Main - Tuggerah St-Lisarow (2)	150	623	419	\$	260,904	2030
Water Main - Hanlan St / Narara (4)	200	381	\$ 477	\$	181,487	2026
Water Main - Kalawarra Rd-Wyoming (5)	200	475	\$ 477	\$	226,380	2026
Water Main - Central Coast Hway, East Gosford (7)	200	284	\$ 477	\$	135,563	2030
Water Main - Newling Rd to Bannerman Rd, Lisarow(8)	300	270	667	\$	180,213	2030
Water Main - Sylvan Valley Close -Perratt Close (10)	150	140	419	\$	58,637	2030
Water Main - Deane St from Narara Valley Rd to existing 150 (13)	150	160	419	\$	67,013	2030
Water Main - Hastings Rd to Serpentine Rd (17)	250	930	571	\$	530,718	2036
	Total			\$	1,991,707	

Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 October 2024
Appendix C
Appendix C
Southern Sewerage Works Summary - 2024

		New or	Current	Required			Estimated				Odou	ır Dosing	
Pump Station	STP	Upgrade SPS	Capacity	Capacity	M&E	Civil	<b>Completion Date</b>	!	M&E Cost		Civil Cost	Unit	Cost \$2024/25
ER11	KTP	Upgrade	18	25	1	1	2031	. \$	275,011	\$	510,735	\$	785,746
ER9	KTP	Upgrade	19	22	1		2036		256,869		-	\$	256,869
KS2	KTP	Upgrade	7	13	1		2029	\$	200,794	\$	-	\$	200,794
M1	KTP	Upgrade	154	201	1		2026	\$	893,485	\$	-	\$	893,485
M2	KTP	Upgrade	130	153	1		2029	\$	761,544		-	\$	761,544
M3	KTP	Upgrade	100	115	1		2031		649,532		-	\$	649,532
SD2	KTP	Upgrade	80	110	1		2029	\$	633,726		-	\$	633,726
SD5	KTP	Upgrade	25	34	1		2029	\$	321,740	\$	-	\$	321,740
SD9	KTP	Upgrade	35	44	1		2029	\$	375,066	\$	-	\$	375,066
M4	KTP	Upgrade	25	34	1		2029	\$	321,740	\$	-	\$	321,740
S5	KTP	Upgrade	80	103	1	1	2029	\$	611,598	\$	1,135,826	\$	1,747,424
S6	KTP	Upgrade	32	40	1	1	2029	\$	360,223	\$	668,986	\$	1,029,208
S8	KTP	Upgrade	15	31	1		2029	\$	305,247	\$	-	\$	305,247
S9	KTP	Upgrade	15	27	1		2029	\$	287,106	\$	-	\$	287,106
NA2	KTP	Upgrade	37	46	1		2029	\$	389,910	\$	-	\$	389,910
A4	KTP	Upgrade	82	99	1		2031	. \$	598,817	\$	-	\$	598,817
A6	KTP	Upgrade	11	15	1		2029	\$	217,287	\$	-	\$	217,287
FB2	KTP	Upgrade	15	21	1		2029	\$	250,822	\$	-	\$	250,822
FB1	KTP	Upgrade	144	182	1		2029	\$	844,007	\$	-	\$	844,007
C15	KTP	Upgrade	32	38	1		2031	\$	343,730	\$	-	\$	343,730
C13	KTP	Upgrade	165	241	1	1	2029	\$	1,003,436	\$	1,863,525	\$	2,866,961
C12	KTP	Upgrade	20	26	1		2029	\$	275,011	\$	-	\$	275,011
C11	KTP	Upgrade	15	19	1		2036	\$	233,779	\$	-	\$	233,779
C8	KTP	Upgrade	30	39	1		2031	. \$	354,725	\$	-	\$	354,725
C5A	KTP	Upgrade	34	39	1		2036	; \$	354,725	\$	-	\$	354,725
KA2	KTP	Upgrade	50	63	1	1	2031	. \$	466,051	\$	865,523	\$	1,331,574
WG3	KTP	Upgrade	160	201	1		2031	. \$	893,485	\$	-	\$	893,485
WG4	KTP	Upgrade	100	116	1		2031	. \$	649,532	\$	-	\$	649,532
WG6	KTP	Upgrade	60	72	1		2031	. \$	499,036	\$	-	\$	499,036
WYMJ	KTP	Upgrade	870	1150	1	1	2031	\$	2,435,899		4,523,813	\$	6,959,712
NAMJ	KTP	Upgrade	340	440	1		2031	. \$	1,694,714		-	\$	1,694,714
A7	KTP	Upgrade	7	34	1	1			327,238	•	607,727	\$	934,965

Souther	rn Sewer Rising Mains								
		Diameter	Length		Velocity	Estimated			
STP	SPS	(mm)	(m)	Flow (L/s)	(m/s)	<b>Completion Year</b>		Rate	Cost \$2024/25
KSTP	M3	300	240	115	1.63	2031	\$	673.31	\$ 169,893
KSTP	S8	150	161	31	1.74	2029	\$	486.03	\$ 82,268
KSTP	FB2	150	285	21	1.19	2029	\$	486.03	\$ 145,630
KSTP	C13	375	639	241	2.18	2029	\$	820.39	\$ 551,145
KSTP	TMOJ (Proposed additiona	600	900	447	1.58	2029	\$	1,692.48	\$ 1,601,446
KSTP	NAMJ Rising main	600	1400	590	2.09	2031	\$	1,692.48	\$ 2,491,138
1							Total	:	\$ 5,041,520

Southern	Sewer Gravity Mains														
		Diameter	Length			Ground F	Required					Estima	ited		
STP	SPS	(mm)	(m)	Top(m)	Bottom(m)	Grade	Grade	Comment I	Depth(m)	) Depth(m)	Precinct/Suburb	Completion D	ate	Rate (\$/m)	Cost \$2024/25
KSTP	S06	450	350	9	7	0.0057	0.0025		1.80	1.5-3	East Gosford	2029	\$	1,230	\$ 430,632
KSTP	S03	525	455	9	3	0.0132	0.0021		1.88	1.5-3	East Gosford	2029	\$	1,318	\$ 600,184
KSTP	NAM	300	171	6	4	0.0117	0.0042		1.65	1.5-3	North Avoca	2029	\$	779	\$ 133,003
KSTP	N04	225	258	12	8	0.0155	0.0062		1.58	1.5-3	Narara	2029	\$	617	\$ 159,137
KSTP	N18	225	181	17	16	0.0055	0.0062		1.70	1.5-3	Lisarow	2029	\$	617	\$ 111,544
KSTP	S02	225	177	8	6	0.0113	0.0062		1.58	1.5-3	East Gosford	2029	\$	617	\$ 108,951
KSTP	TMJ	600	125				ı	D/S of TMJ rising main (TT line)	1.95	1.5-3	Terrigal	2029	\$	1,659	\$ 207,323
								D/S of rising mains of C5A/ C10 Upto							
KSTP	TMJ	525	400					C4(HG Line)	1.88	1.5-3	Terrigal	2029	\$	1,318	\$ 527,171
KSTP	ER1	300	215	105.7	104.7	0.0047	0.0042		1.65	1.5-3	Erina	2029	\$	779	\$ 167,519
KSTP	ER1	225	65	119.7	117.7	0.0308	0.0062		1.58	1.5-3	Erina	2029	\$	617	\$ 40,124
KSTP	N7	225	296	108.3	106.7	0.0054	0.0062		1.81	1.5-3	Narara	2029	\$	617	\$ 182,717
KSTP	C05	300	305	8	4	0.0131	0.0042		1.65	1.5-3	Terrigal	2031	\$	779	\$ 237,800
KSTP	ER11	225	365	15	5	0.0274	0.0062		1.58	1.5-3	Green Point	2031	\$	617	\$ 225,187
KSTP	ER10	300	214	5	3	0.0094	0.0042		1.65	1.5-3	Green Point	2031	\$	779	\$ 166,577
KSTP	ER10	450	106	4	5	-0.0094	0.0025		3.07	3-4.5	Green Point	2031	\$	1,416	\$ 150,639
KSTP	N02	225	106	2	1	0.0094	0.0062		1.58	1.5-3	Narara	2031	\$	617	\$ 65,618
KSTP	WG06	225	245	1	1	0.0000	0.0062		3.09	3-4.5	Tascott	2031	\$	782	\$ 191,564
KSTP	WG03B	300	286	2	1	0.0035	0.0042		1.85	1.5-3	Point Clare	2031	\$	779	\$ 222,840
KSTP	KA03	225	478	176	170	0.0126	0.0062		1.58	1.5-3	Kariong	2031	\$	617	\$ 295,064
KSTP	C08	225	307	3	2	0.0033	0.0062		2.48	1.5-3	Wamberal	2031	\$	617	\$ 189,384
KSTP	N18	375	26	25	24	0.0378	0.0031		1.73	1.5-3	Lisarow	2031	\$	1,012	\$ 26,755
														Total:	\$ 4,439,732

Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 Oct	ober 2024
Appendix Central Coast Council Equivalent Tenement Calculation Mat	

# Water and Sewer Loading Calculation - ET Assessment for Developer Charges - Central Coast Council - 2024 DSP

Category	ET Per Unit	Description Description	Examples
Land Subdivision			·
Subdivision (all land use excluding large lot residential)	1 per lot 1.2 ET/lot for Water	Land serviced with water supply and/or sewerage  Large lot residential subdivision where increased water	Includes residential, commercial, industrial etc.
Large lot Residential Subdivision (where lot size is greater 2,000m2)	1 ET/lot for Sewerage	consumption is common.	Rural residential development
Residential Accommodation			
Residential habitable multi-dwelling properties & tourist development			
1 Bedroom	0.5	Multi dwelling residential development subject to assessment of	Secondary dwellings, dual occupancies, unit development etc.
2 Bedroom	0.75	proposed number of bedrooms.	Any dwelling meeting definition of a habitable dwelling. <b>Studio</b>
3 or more Bedrooms	1		in line with Council DCP will not trigger any charge.
Commercial Accommodation Caravan Park-Short Term Site	0.5	Caravan/camp site with shared laundry and camp kitchen	
Caravan Park-Long Term Site	0.75	Permanent occupation site with shared laundry and camp kitchen	
Hostel Bed	0.15/bed	Hostel style accommodation with communal bathrooms, kitchens etc.	Backpackers, some boarding houses (dependant on fixtures arrangements), Youth Hostels
Hotel style accommodation	0.3/room	Hotel/Motel/Inn - Short term occupation	Hotels, motels, some boarding houses (dependant on fixtures arrangements)
Hospital Bed	1/bed	Health care facilities where patients are treated on a short- medium term basis with various support services provided.	Public/private hospitals
Nursing Home	0.4/bed	Residential care facilities where occupants receive aged care or disability support but share kitchen/dining facilities	Nursing homes (various levels of care), Aged care facilities,  Disability Group Home
Seniors living development	as per residential multi dwelling	Self contained sites in a multi dwelling setting	, .
Commercial	unching		
Shops/offices	0.005/sq m	General commercial/business development (excludes home	Hairdresser, Beauty Salon, Offices, Retail shops
Shopping Centre Complex	0.001/sq m	offices within existing residential dwellings)  Large scale commercial/business development	Westfield, Erina Fair, Woolworths
Bulky Goods	0.001/sq.m	Commercial premises utilised for the storage and sale of bulky	Bunnings, Good Guys, Domayne
Café	0.005/sq.m	goods, typically large floor areas.  A premise used for the preparation or service of light food and	Coffee Shops, Cafes
Food Premises	0.01/sq.m	coffee to the public A premise used for the preparation or service of food product to	Take away food, Restaurant
High Volume Food Premises	0.03/sq.m	the public.  A high volume premise used for the preparation or service of	McDonalds, KFC , Hungry Jacks
Nursery	based on forecast water	food products to the public	Commercial nurseries
·	demand or meter size office rate for office area +		
Showroom/Car yard	bulky goods for showroom area		Car Dealership
Car wash	based on water consumption	Car wash sites with varying levels of onsite water recycling	Car Lovers Car Wash
Licenced Club, Tavern	0.04/Per occupant	Licenced premises with number of occupants based on liquor licence. Floor area associated with internal restaurants/cafes to be assessed in line with food premises provisions.	Licenced Club Pub
Medical Centre/Practice/Vet	0.4/practice room	Includes consulting rooms, imaging rooms etc.	
Service Station	0.75/no. of lanes		
Laundromat	0.6/machine		
Stables	140	Per built up hectare when serviced with water and/or sewerage	
Industrial		Industrial development utilised for bulk storage and warehousing	
Warehousing	0.0005/sq.m	in which manufacturing is not undertaken. Water shall not be utilised for operational purposes except for provision of staff amenities. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Bulk storage Warehousing
Dry Manufacturing / Medium Industrial	0.001/sq.m	Industrial development in which minimal water consumption may be intermittently utilised within the manufacturing or operational process. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Dry Manufacturing Dry assembly Metal work Mechanical workshops Carpentry and joinery
Heavy Industrial	Water requirements and sewage generation	Industrial development in which water consumption forms an integral function within the manufacturing or operational process. Details on water demand and sewage loads must be provided on application. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Concrete plants Food processing Breweries Depots for dirty industry, eg Ausgrid depots with bath house
Public Services/ Amenities			
School	0.04/per pupil-staff	Both headworks and distribution components apply	Child Care, Pre School, Day Care Centre
Marina	0.16/berth 0.75/berth	per berth only for permanent residence	Assumes water supply and sewage pump out facilities are made available.
Swimming Pools	20/2,500m3 Olympic pool	Proposed pool scaled against an Olympic pool.	Swimming Pool
Halls/Auditoriums/Theatres/Recreation	0.5/per w.c, urinal	Amenities calculated separately.  Public/private recreation and entertainment areas	Bowling alleys, cinemas, gyms, dance halls, squash courts, public
Amenities	0.5/per w.c, urinal	Public amenities. Charges will not be levied for amenities provided by not-for-profit community groups (non-government),	halls, places of worship.  Sports amenities
		at public assets.	Public amenities

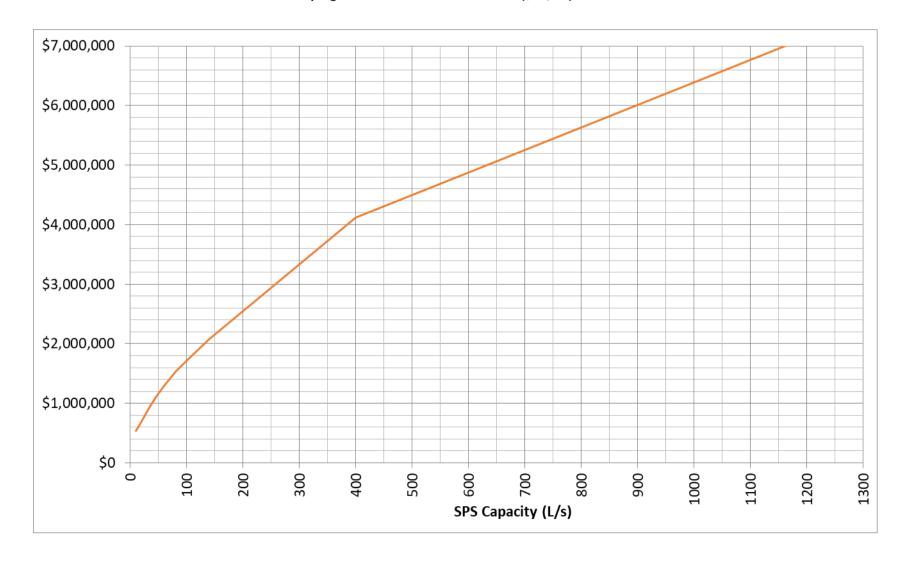
Southern Region Water Supply and Sewerage Development Servicing Plan 2024 Version 2.0 Octo	ober 2024
Appendi	
Valuation of Existing and Proposed Assets - 20	24

2024 DSP Unit Rates Water Mains						
Diameter (mm)  Unit Rate (\$/m)  2024 Capital Cost Factor						
150	\$	419				
200	\$	477				
250	\$	571				
300	\$	667				
375	\$	783				
450	\$	965				
500	\$	1,097				
525	\$	1,163				
600	\$	1,345				
650	\$	1,424				
750	\$	1,741				
825	\$	1,865				
1050	\$	2,297				

2024 DSP Unit Rates	Diameter (mm)	Minimum Depth (\$/m)	Depth 1.5-3m (\$/m)	Depth 3-4.5m (\$/m)	Depth > 4.5m (\$/m)
	225	\$499	\$617	\$782	\$954
	300	\$676	\$779	\$983	\$1,138
	375	\$865	\$1,012	\$1,181	\$1,349
Trunk Mains	450	\$1,093	\$1,230	\$1,416	\$1,570
	525	\$1,318	\$1,318	\$1,647	\$1,819
	600	\$1,526	\$1,659	\$1,878	\$2,039
	750	\$1,335	\$2,191	\$2,341	\$2,502

2024 DSP	Diameter			
<b>Unit Rates</b>	(mm)	Rate per \$/m		
	100	\$445		
	150	\$511		
	200	\$554		
	225	\$579		
<b>Rising Mains</b>	250	\$620		
	300	\$708		
	375	\$863		
	450	\$1,017		
	600	\$1,779		

# Pumping Station Cost Curve- 2024 DSP (\$24/25)



	2024
	Appendix F
Southern Region Developer Charges C	Calculation Sheet

## **SOUTHERN REGION WATER SUPPLY**

## **CALCULATION OF MAXIMUM PRICE**

## Index

## Table 1: Calculation of maximum price (\$, \$2024-25)

		Headworks costs	Scheme cost		Post-1996 commissioned		Reduction for expected revenue and operation
Maximum price		per ET	allocation per ET	Pre-1996 assets	assets	assets	costs
	Costs to be recovered via DSP			48,856,170	8,196,687	456,891	53,686,173
	ETs			31,465	38,311	38,311	9,784
2,267	Value per ET	5,975	0.00	1,553	214	12	5,487

## Table 2: Key variables used in maximum price calculation (\$, \$2024-25)

Sum of PV of new Sum of PV of new Sum of PV of new ETs (discounted at ETs (discounted at ETs (discounted at expected revenue pre-1996 asset post-1996 asset and costs Sum of new ETs (not discounted) discount rate) discount rate) discount rate) 31,465,179 31.465 38.311

Sum of PV of Precommissioned assets (discounted at pre-1996 asset discount rate) 48.856.170 Sum of PV of Post-Sum of PV of Postcommissioned uncommissioned assets (discounted at (discounted at post-1996 asset post-1996 asset discount rate) discount rate) 8.196.687

assets

456.891

Sum of PV of revenue for new customers (discounted at expected future revenue and costs discount rate) 97.380.132

Sum of PV of costs for new ETs (discounted at expected future revenue and costs discount rate) 43,693,959

## SOUTHERN REGION SEWERAGE SUPPLY

## **CALCULATION OF MAXIMUM PRICE**

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## Table 1: Calculation of maximum price (\$, \$2024-25)

					Post-1996		Reduction for expected revenue
		Headworks costs	Scheme cost		commissioned	uncommissioned	and operation
Maximum price		per ET	allocation per ET	Pre-1996 assets	assets	assets	costs
	Costs to be recovered via DSP			278,219,374	20,469,919	8,847,909	30,710,595
	ETs			30,685	37,435	37,435	9,517
6,623	Value per ET			9,067	547	236	3,227

## Table 2: Key variables used in maximum price calculation (\$, \$2024-25)

				Sum of PV of Pre-	Sum of PV of Post-	Sum of PV of Post-	Sum of PV of	
				1996	1996	1996	revenue for new	Sum of PV or
			Sum of PV of new	commissioned	commissioned	uncommissioned	customers	costs for new
	Sum of PV of new	Sum of PV of new I	Ts (discounted at	assets	assets	assets	(discounted at	(discounted
	ETs (discounted at	ETs (discounted at	expected revenue	(discounted at pre-	(discounted at	(discounted at	expected future	expected fut
	pre-1996 asset	post-1996 asset	and costs	1996 asset	post-1996 asset	post-1996 asset	revenue and costs	revenue and c
Sum of new ETs (not discounted)	discount rate)	discount rate)	discount rate)	discount rate)	discount rate)	discount rate)	discount rate)	discount rat
31,130.450	30,685	37,435	9,517	278,219,374	20,469,919	8,847,909	67,802,176	37,091
							·	