



A7

Whangamata Urban Area

A7 Whangamata Urban Area Stormwater Catchment

A7.1 General Description

Whangamata Township (population approximately 3,500¹) is situated on the foreshore of the Whangamata Estuary, the Otahu Estuary and the Pacific Ocean. The Pacific Ocean coast is characterised by white sandy beaches and vegetated sand dunes. The estuary shorelines are more influenced by tidal fluctuations which, at low tide, expose large areas of mud flats that support diverse tidal marine ecology. Large areas of the upper portion of the intertidal flats are vegetated with mangroves, and in some areas, salt marsh communities. Both the upper Whangamata Estuary and the Otahu Estuary are recognised in the Regional Coastal Plan as Areas of Significant Conservation Value (ASCVs) for a range of reasons, including (but not limited to) their significance to Hauraki iwi, the provision of habitat for rare and threatened wading and coastal birds, intertidal vegetation and habitat (salt marsh, mangroves, eel grass and shellfish beds) and native fisheries habitat.

Whangamata is dominated by residential land use (>90% by area), with a small area of commercial development in the centre of town and some industrial zoned land south of the Moana Anu Anu River and causeway.

The beaches and estuaries in the Whangamata area are highly valued by the local community and visitors for a wide range of contact and non-contact recreational activities, as well as for shellfish gathering, including popular shellfish beds in close proximity to the Wharf and Marina. The area also has considerable cultural, landscape and natural character values.

A7.2 The Stormwater Network

A comprehensive stormwater collection system exists for the township comprising of the following stormwater management devices:

- Catchpits
- Manhole inspection
- Stormwater pipes (reticulation)
- Open drains and swales
- Detention Ponds.

Large areas of the town are built on flat, free draining soils and in these areas stormwater is disposed of on-site. The council stormwater network is therefore designed predominantly to cater for stormwater generated within roadways. Roadways are often overland flow paths with grass swales and no reticulation. The grass swales provide significant soakage capacity within these sandy free draining soils.

The Thames-Coromandel District Council is responsible for the operation and maintenance of this stormwater collection and disposal system. It is typically managed through a Utilities Operations and Maintenance Agreement that is contracted to suitable third parties (contractor).

¹ NZ Census 2006



A7.3 Physical Description of the Receiving Environments in Whangamata

The receiving environments of the stormwater discharges within Whangamata urban area can be generally described as:

- Whangamata and Otahu Estuaries: Mudflats - sandy silty sediments, with or without vegetation.
- Streams: a mixture of boulder and pebble streambeds.
- Land: Pastoral farmland and grassed drains.
- Sandy Beaches.

It is likely that any discharges to the coastal environment will be relatively rapidly dispersed and flushed due to the extensive tidal and river flushing and sediment movement in the Whangamata and Otahu Estuaries and the ocean beach. Increased stormwater runoff during high rainfall events often coincides with wave action, storm surges and increased river flows, further increasing the flushing capacity of the receiving environment. Therefore, any visible environmental effect of discharges within the receiving waters in the estuary and on the beach is likely to be mitigated naturally within a short period of time². Accumulation of contaminants is possible in areas where the receiving environment has very fine sediments in streams or coastal environments sheltered from waves and currents.

A7.4 Whangamata Stormwater Catchments

The Whangamata stormwater system includes approximately 88 outlets discharging to; the Whangamata Harbour (20 outlets), the Pacific Ocean (7 outlets), Moana Anu Anu River (15 outlets), Moana Anu Anu Estuary (3 outlets), Te Weiti Stream and tributaries (4 outlets), Waikiekie Stream (3 outlets) and Otahu Estuary/River (3 outlets). There are also approximately 32 discharges onto or into land.

The Whangamata urban area is made up of a series of relatively small catchments which can be broadly separated into five areas:

- North of Moana Anu Anu River – residential area with gently rolling contour.
- Whangamata North - Industrial Area and CBD (and residential).
- Whangamata Central residential area.
- Whangamata South residential area.
- Beverly Hills - range of hills that look out over the central Whangamata area

The following aerial photos show the major devices within the network in the Whangamata stormwater catchments. The red arrows indicate the discharge outlets that are to be monitored as part of the Stormwater Monitoring Programme.

A7.4.1 Moana Anu Anu River North

The area north of Te Moana Anu Anu River is characterised by gently rolling contour, which slopes towards the River and the Whangamata Estuary. Stormwater in this area is serviced through reticulated underground pipes which discharge to the two estuaries as shown in Figure A7.1.

This is a small residential catchment with no high risk activities operating in the area. This catchment is considered to be of low risk for potential contaminants entering the environment.

² TCDC Assessment of Environmental Effects (June 2001)



The following aerial photo shows the major devices (green) within the network in this catchment area.



Figure A7.1: Northern Whangamata Township –this catchment is in residential development. The topography in this area sloping and soils are predominantly clay.

A7.4.2 Whangamata Industrial Area and CBD

This catchment includes the main industrial and commercial zones within the Whangamata urban area. There is also a large catchment of low-medium density residential development.

The retail centre is on Port Road, while the industrial area is located to the west of Martyn Road, adjacent to the Moana Anu Anu estuary (Figure A7.2). Stormwater from these catchments flows through into Te Moana Anu Anu estuary at a number of locations adjacent to the Moana Anu Anu causeway.

In terms of potential stormwater contamination, there are a number of high risk facilities in the industrial area, including a concrete plant, vehicle workshops, a hire centre, building merchants (including timber storage), storage and heavy vehicle depots. Within the CBD, most businesses are low risk, but do include a petrol station.

The Whangamata Marina is also located in this area, downstream of the causeway, where Te Moana Anu Anu estuary flows into the Whangamata Harbour (Figure A7.2). The marina is subject to its own stormwater discharge consents.

In terms of the Comprehensive Stormwater Discharge Consent, this catchment is not exposed to high concentrations of routine contaminants, however, given that there are numerous commercial activities and high risk facilities, there is a relatively high risk of a non-routine contaminant discharge incident.

The receiving environment for this commercial and industrial area is relatively sheltered from wave and current action due to the causeway, which reduces its natural flushing and dispersal. Due to the sheltered estuarine environment, the sediments in the area are very fine coastal muds and silts. Discharges from industrial land use could be accumulating contaminants within these sediments and this is likely to be a priority area for future sediment monitoring.

The following aerial photo shows the major devices (green) within the network in this catchment area. The red arrows indicate the network outlet locations that should receive most attention in the Monitoring Programme.



Figure A7.2: Whangamata Industrial Area (shaded white) and CBD (shaded yellow).

A7.4.3 Whangamata Central

This area includes a large proportion of the urban area of Whangamata. Land use is entirely residential or reserve. Stormwater in this area drains to a number of locations on the ocean beach, the Whangamata estuary and to Te Moana Anu Anu estuary.

A principal pipe system runs along Ocean Road and Williamson Road in Whangamata and this is the main contributor of flow to a retention pond at Williamson Park (Figure A7.3). This stormwater discharge is from a residential area and small retail activities on Beach road. The retention pond provides a degree of treatment, peak flow attenuation and soakage which significantly reduces the frequency of discharge across the beach and any associated scouring. The pond contains gabion baskets at the outlet to the main beach which are occasionally subject to erosion during large wave and storm events. Williamson Reserve is a popular public reserve area and therefore, there is a high degree of public (informal) surveillance of the stormwater retention pond. For this reason, and the fact that this is not a high risk catchment, this location has not been identified for monitoring.

The following aerial photo shows the major devices (green) within the network in this catchment area.

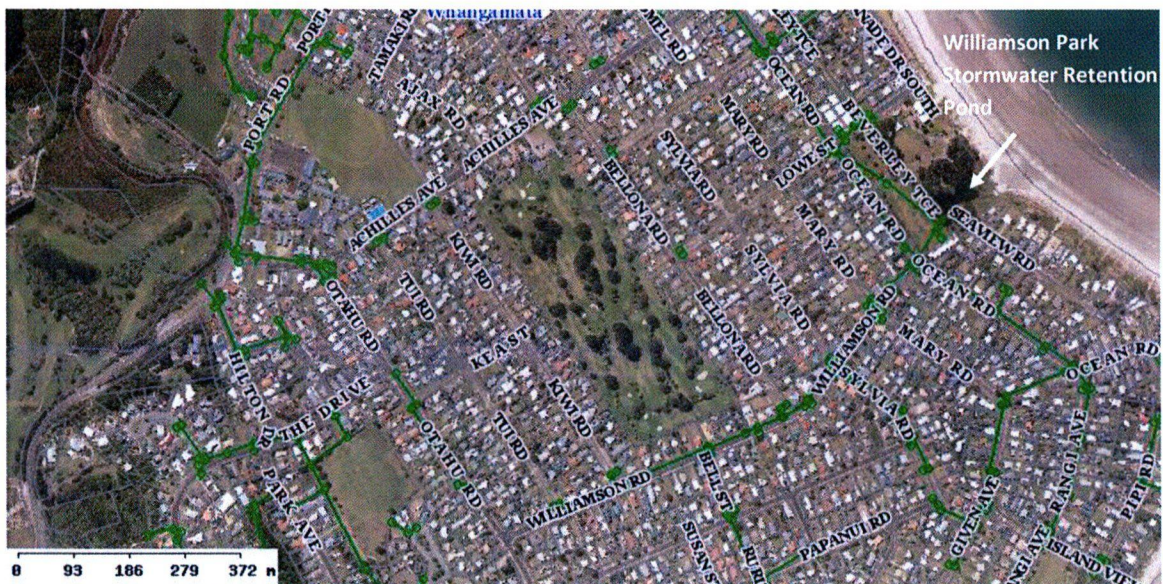


Figure A7.3: Whangamata Central – most of the catchment is in residential development (varying densities) and reserve. The topography in this area is flat and the soils are dominantly free draining (sand).



A7.4.4 Whangamata South

This is a relatively small residential area south of Williamson Road and (at the Beach) Hinemoa Street (Figure A7.4). This is approximately one quarter of the urban area in central Whangamata and developed areas are residential with minor retail activities. Stormwater in this area drains south to the ocean beach and to the Otahu estuary.

In terms of the Comprehensive Stormwater Discharge Consent, this catchment is not exposed to high concentrations of routine contaminants and contains no commercial or high risk facilities. There is therefore a very low risk of a non-routine contaminant discharge incident.

The following aerial photo shows the major devices (green) within the network in this catchment area. The red arrows indicate the network outlet locations that should receive most attention in the Monitoring Programme.

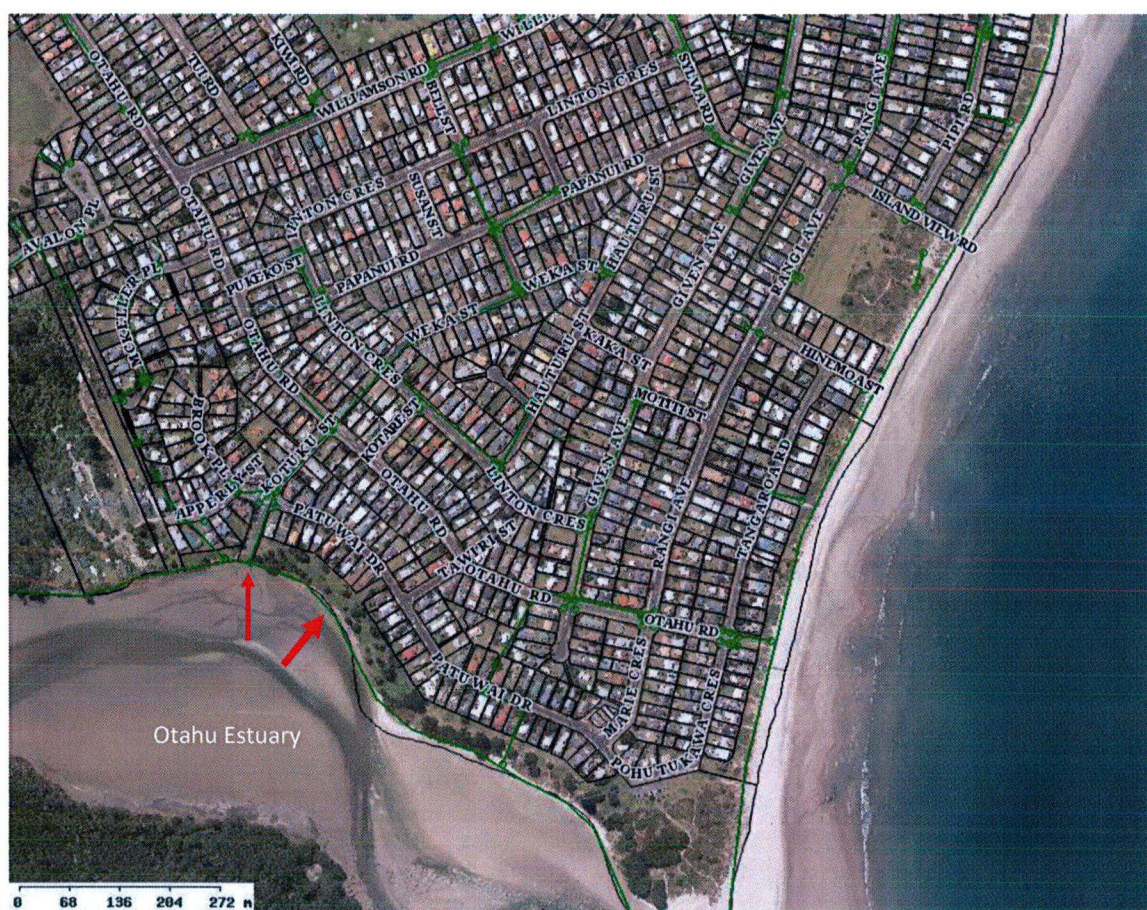
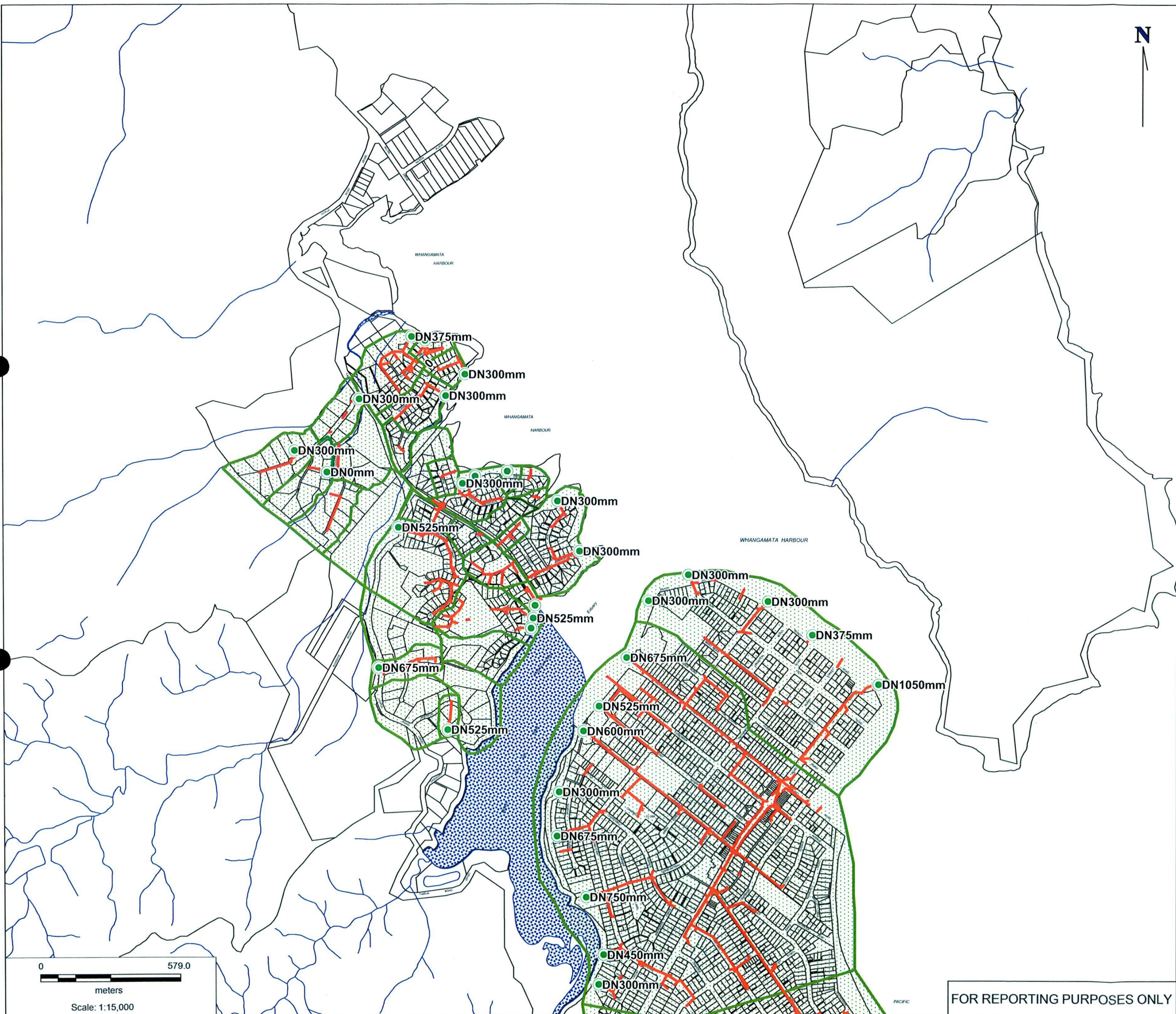


Figure A7.4: Whangamata South –the catchment is in residential development (medium to low density). The topography in this area is flat and the soils are dominantly free draining (sand).



Legend

-  Water Courses
-  SW Catchment
-  Pipe Reticulation (Council)
-  Outlet from Reticulated Pipe network over DN300mm
-  SW Retention Basin
-  SW Pump Station

Note: All SW outlets under 300mm are not labelled.

Project:

**STORMWATER
CATCHMENT PLAN**

Drawing Title:

**WHANGAMATA WEST AREA,
STORMWATER CATCHMENTS,
NETWORKS AND OUTLETS**

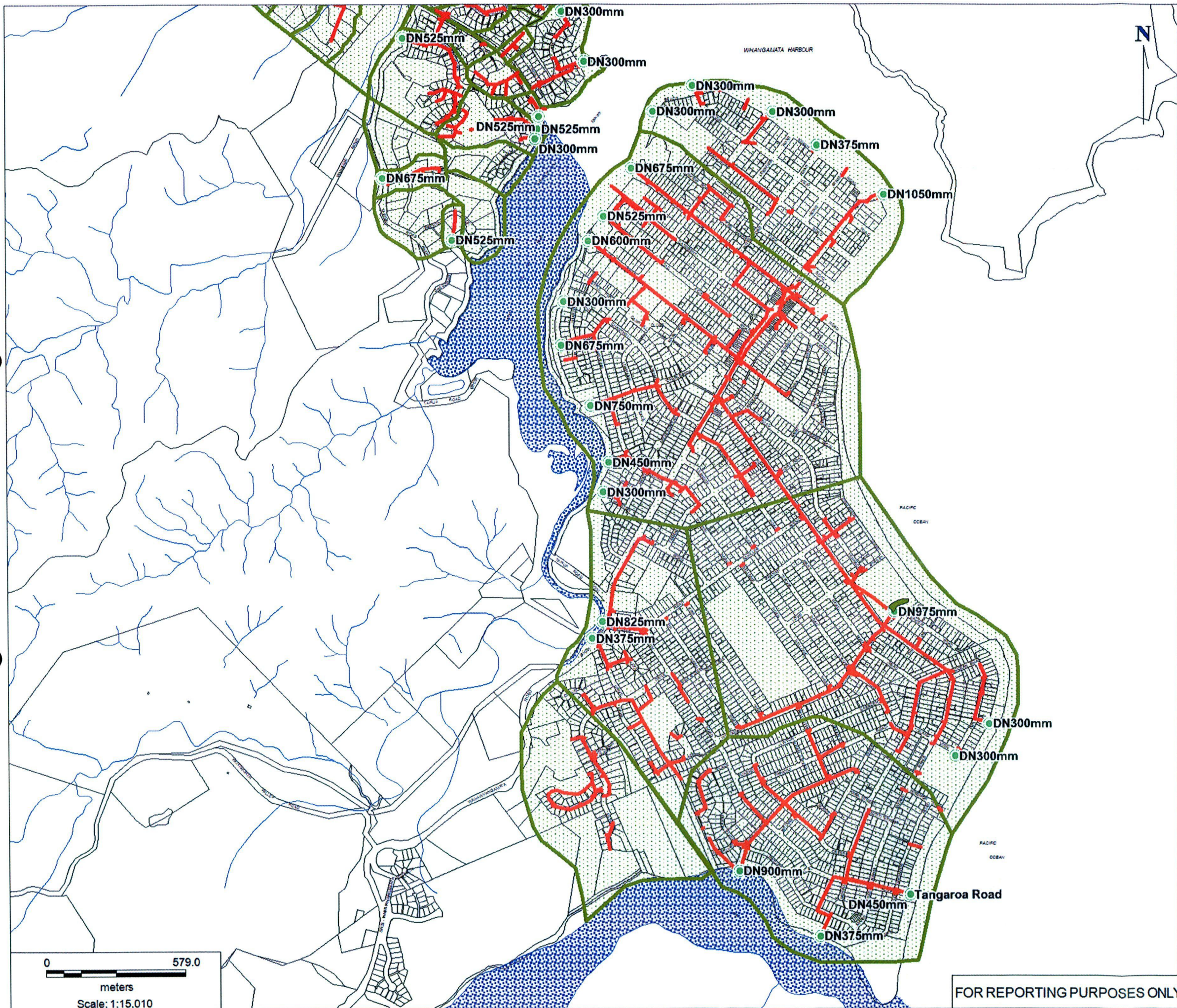
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FOR REPORTING PURPOSES ONLY



Legend

- Water Courses
- SW Catchment
- Pipe Reticulation (Council)
- Outlet from Reticulated Pipe network over DN300mm
- SW Retention Basin
- ★ SW Pump Station

Note: All SW outlets under 300mm are not labelled

Project:

STORMWATER CATCHMENT PLAN

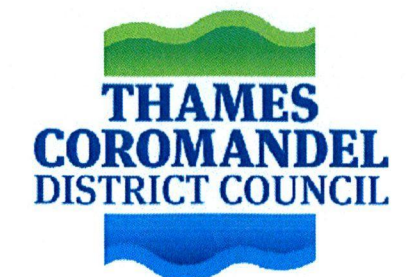
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WHANGAMATA EAST AREA, STORMWATER CATCHMENTS, NETWORKS AND OUTLETS

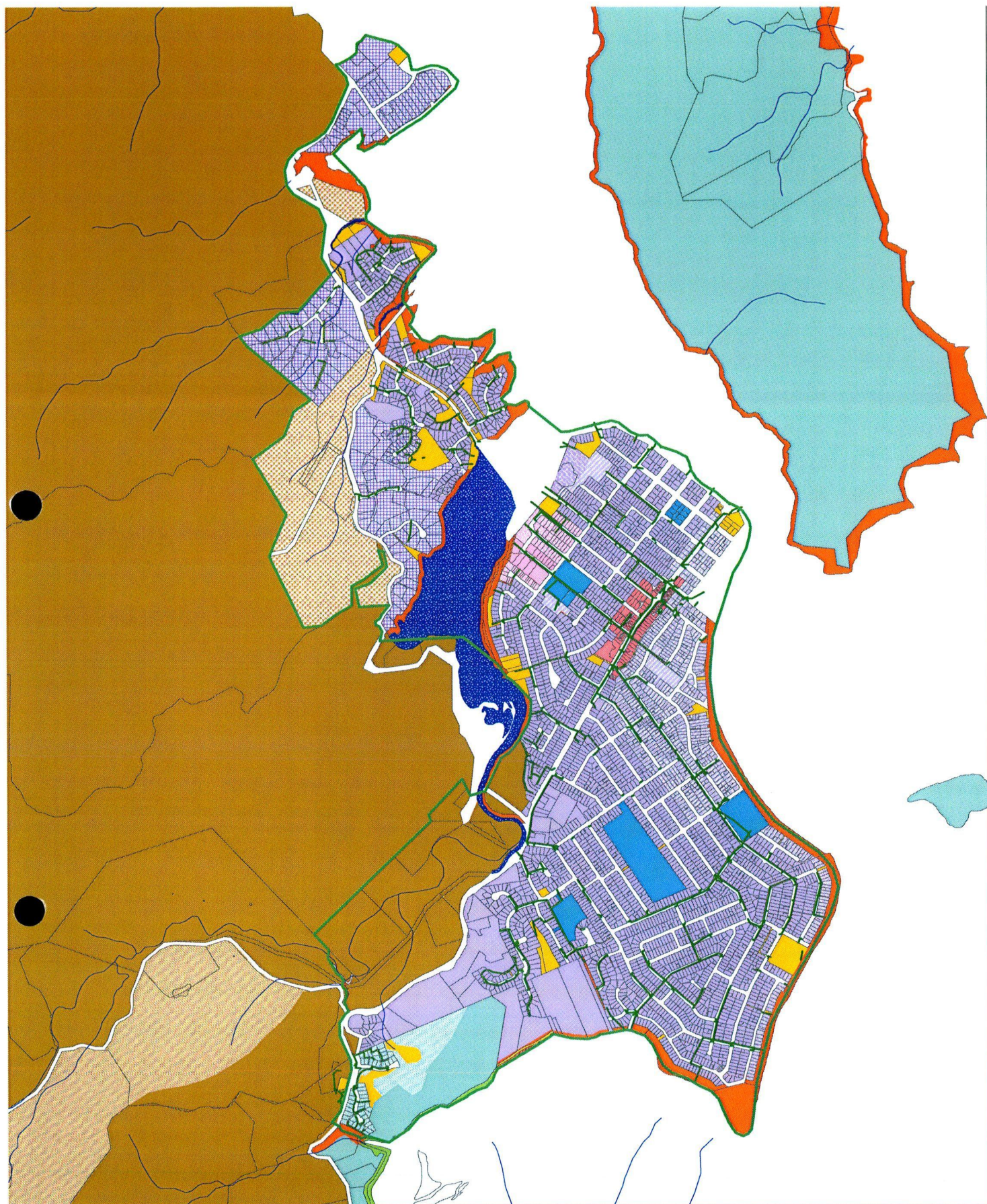
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|--------------------|---|-----------------------------------|
| Zones | Policy Areas | Stormwater Area of Service |
| Coastal | Coastal Zone Airfield | Stormwater Pipes |
| Rural | Coastal Zone Future Dev | Rivers & Streams |
| Housing | Coastal Zone Masi | |
| Town Centre | Coastal Zone Marine Activity | |
| Industrial | Coastal Zone Residential | |
| Conservation | Coastal Zone Village | |
| Open Space | | |
| Recreation Passive | | |
| Recreation Active | Housing Zone Airfield | |
| Iwi Kainga | Housing Zone Beach Amenity | |
| Industrial A | Housing Zone Extra Density | |
| Gateway | Housing Zone Heritage | |
| General Activities | Housing Zone Low Density | |
| Pedestrian Core | Housing Zone Marine Activities | |
| Waterfront | Housing Low Density Airfield | |
| UnZoned Land | Industrial Zone Heritage | |
| | Industrial Zone Marine Activities | |
| | Industrial Zone Service Ind | |
| | Rural Zone Airfield | |
| | Rural Zone Future Dev | |
| | Rural Zone Masi | |
| | Rural Zone Residential | |
| | Rural Zone Village | |
| | Town Centre Zone Airfield | |
| | Town Centre Zone Heritage | |
| | Town Centre Zone Marine Activities | |
| | Town Centre Zone Pedestrian Frontage Area | |