

Appendix 17	Bay of Plenty Regional Coastal Environment Plan Planning Maps and Scheduled Sites (Extracts)
Appendix 18	Bay of Plenty Regional Coastal Plan – Schedule 15 (Whakatane Harbour Development Zone Outline Plan)
Appendix 19	Key Values and Constraints - Whakatane
Appendix 20	Concept Plan for Whakatane Port Developments
Appendix 21	Maps of Recreation Activities in Port Areas
Appendix 22	Whakatane Maintenance Dredging Locations

APPENDIX 17

BAY OF PLENTY REGIONAL COASTAL ENVIRONMENT PLAN PLANNING MAPS AND SCHEDULED SITES (EXTRACTS)



LEGEND

NOTE -- Coastal Management Zone - anywhere in the Bay of Plenty Coastal Marine Area that is not identified as any of the following three zones



Coastal Habitat Preservation Zone (in the Coastal Marine Area) (see Chapter 6)



Port Zone



Harbour Development Zone



Area of Significant Conservation or Cultural Value (in the Coastal Marine Area)(see Chapter 6 and 8)



Ship Wreck



Site of District or Local Significance (in the Coastal Marine Area) (see Chapter 6)



Site of Significance (on Land)(see Chapter 6)



Regionally Significant Feature and Landscape (see Chapter 5)



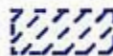
Outstanding Natural Feature and Landscape (see Chapter 5)



Area Occupied by the Port of Tauranga in Accordance with Section 384A RMA



Port Noise Contour



Indicative Ski Area

Note: The actual boundaries of ski lanes in the indicative ski areas may vary depending on weather and tidal conditions.



Indicative Personal Watercraft Area



Mooring



Specified Airport Slopes and Surfaces of Tauranga Airport



Area Sensitive to Coastal Hazards (ASCH)

Note: Once a hazard area has been identified in a proposed district plan this ASCH ceases to have effect in that area (refer to policy 11.2.3(c) of the plan).



Coastline



Harbour Coastline



Coastal Marine Area Boundary at River Mouth

Note: As agreed by the relevant District Council, Department of Conservation and Bay of Plenty Regional Council prior to public notification of this Plan.



River Mouth



Environment Bay of Plenty Regional Boundary



Bathymetry (depth in metres)

Note: Bathymetry information derived from 1:200 000 marine chart.

ACCURACY STATEMENT

The majority of data shown on these maps has been on-screen digitised with an accuracy of $\pm 5m$ relative to the Regional Digital Aerial Mosaic (RDAM) data. The RDAM has been registered to the DCDB with 90% of the data falling within $\pm 10m$, but with occasional displacements up to $\pm 25m$. The spatial accuracy of the DCDB is up to $\pm 20m$. The spatial accuracy of the data shown on these maps may therefore vary up to a maximum of $\pm 50m$.



ASCV-10

Thornton Beach

Rangitaiki River



Regional Coastal Environment Plan

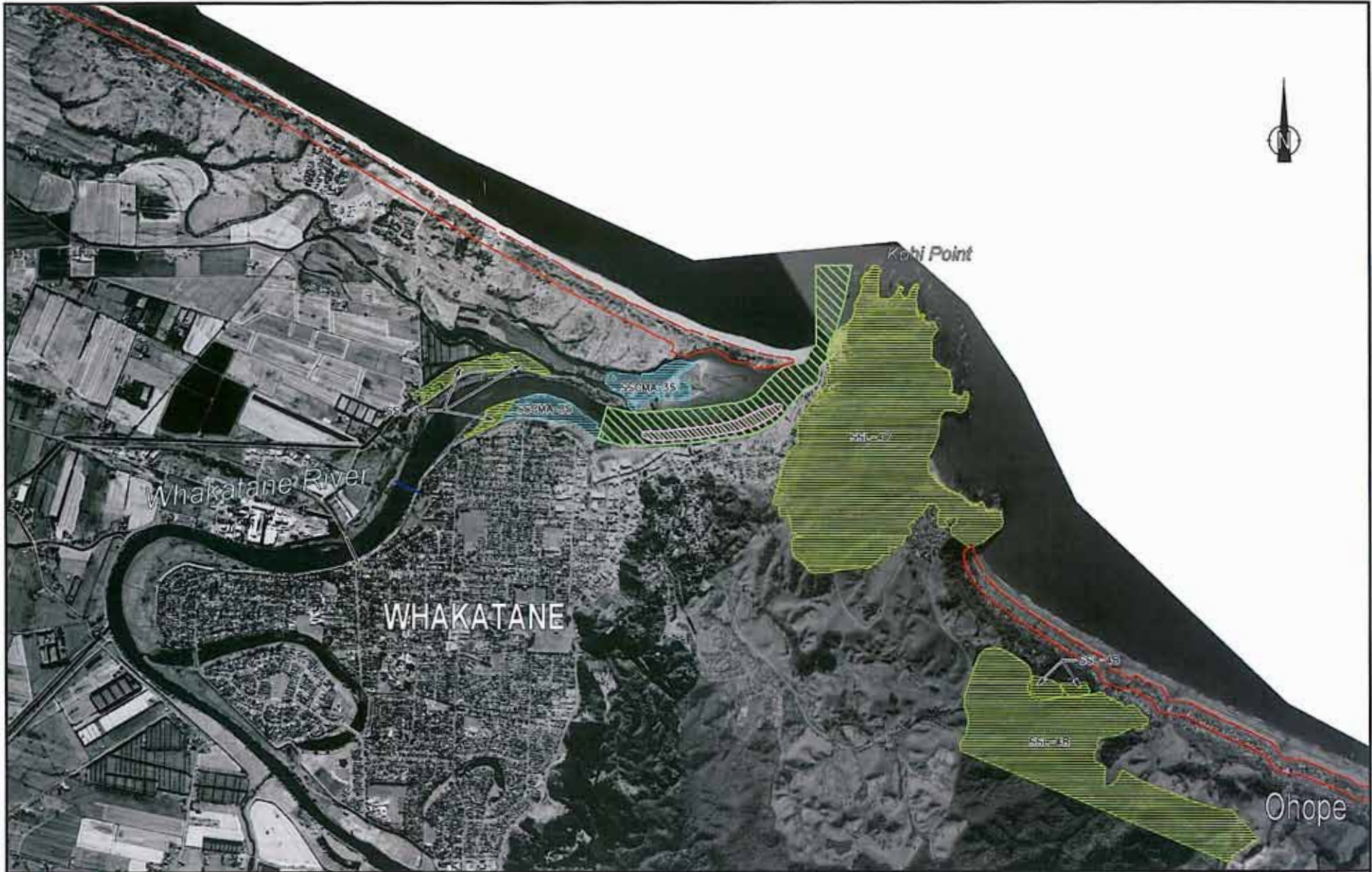
Rangitaiki River / Thornton



Aerial Photograph Numbers and Dates

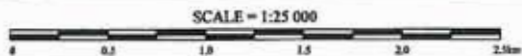
193147 - 28.06.97	165305 - 22.06.92
165345 - 22.06.92	193148 - 28.06.97
	193164 - 28.06.97

Sheet 22 of 49



Regional Coastal Environment Plan

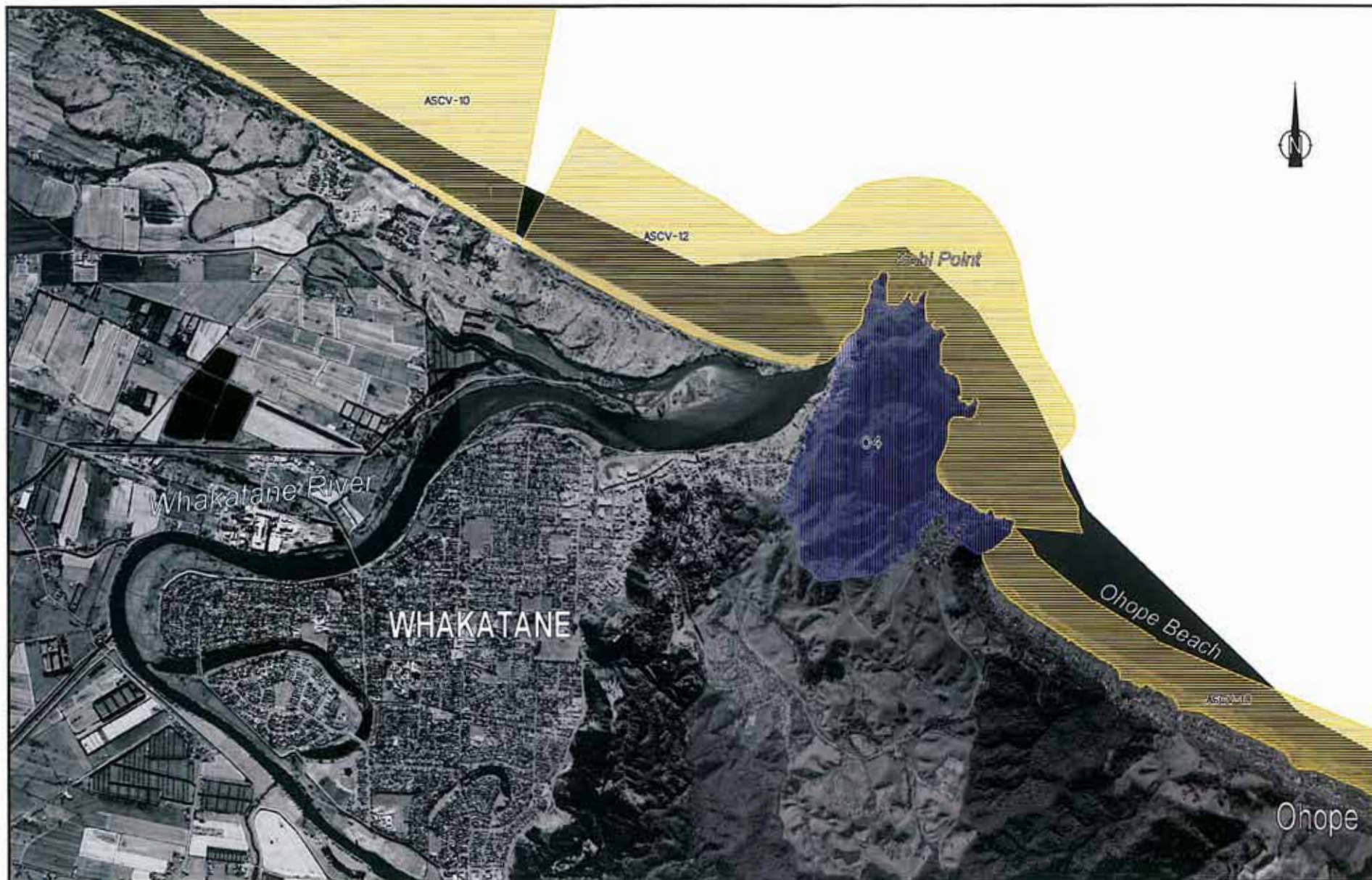
Whakatane / Ohope



Aerial Photograph Numbers and Dates

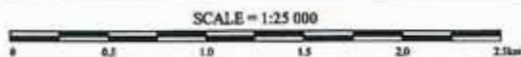
193164 - 28.06.97	193166 - 28.06.97	165321 - 22.06.92
193162 - 28.06.97	165281 - 22.06.92	165319 - 22.06.92

Sheet 24a of 49



Regional Coastal Environment Plan

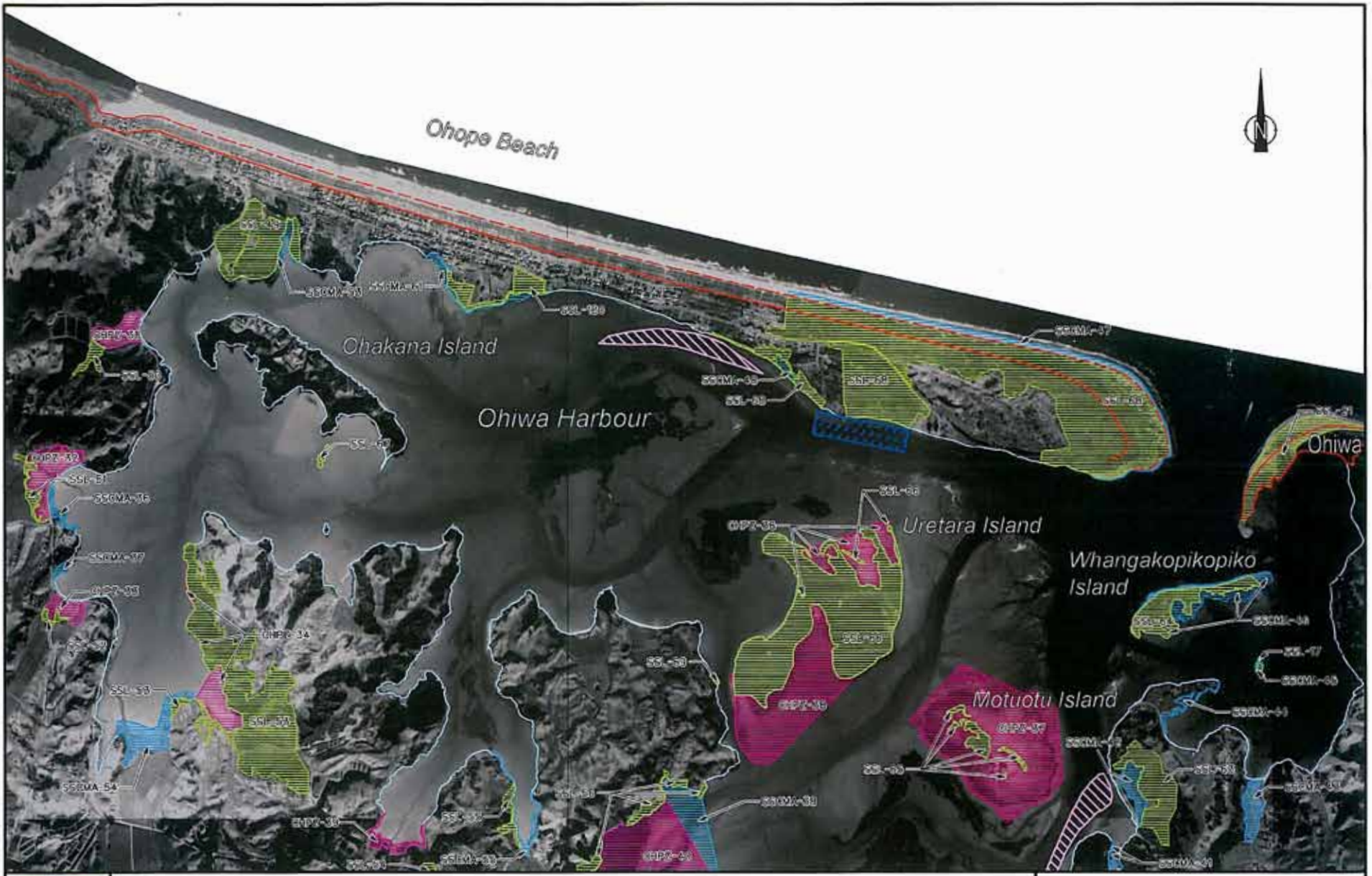
Whakatane / Ohope



Aerial Photograph Numbers and Dates

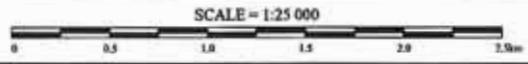
193164 - 28.06.97	193166 - 28.06.97	165321 - 22.06.92
193162 - 28.06.97	165281 - 22.06.92	165319 - 22.06.92

Sheet 24b of 49



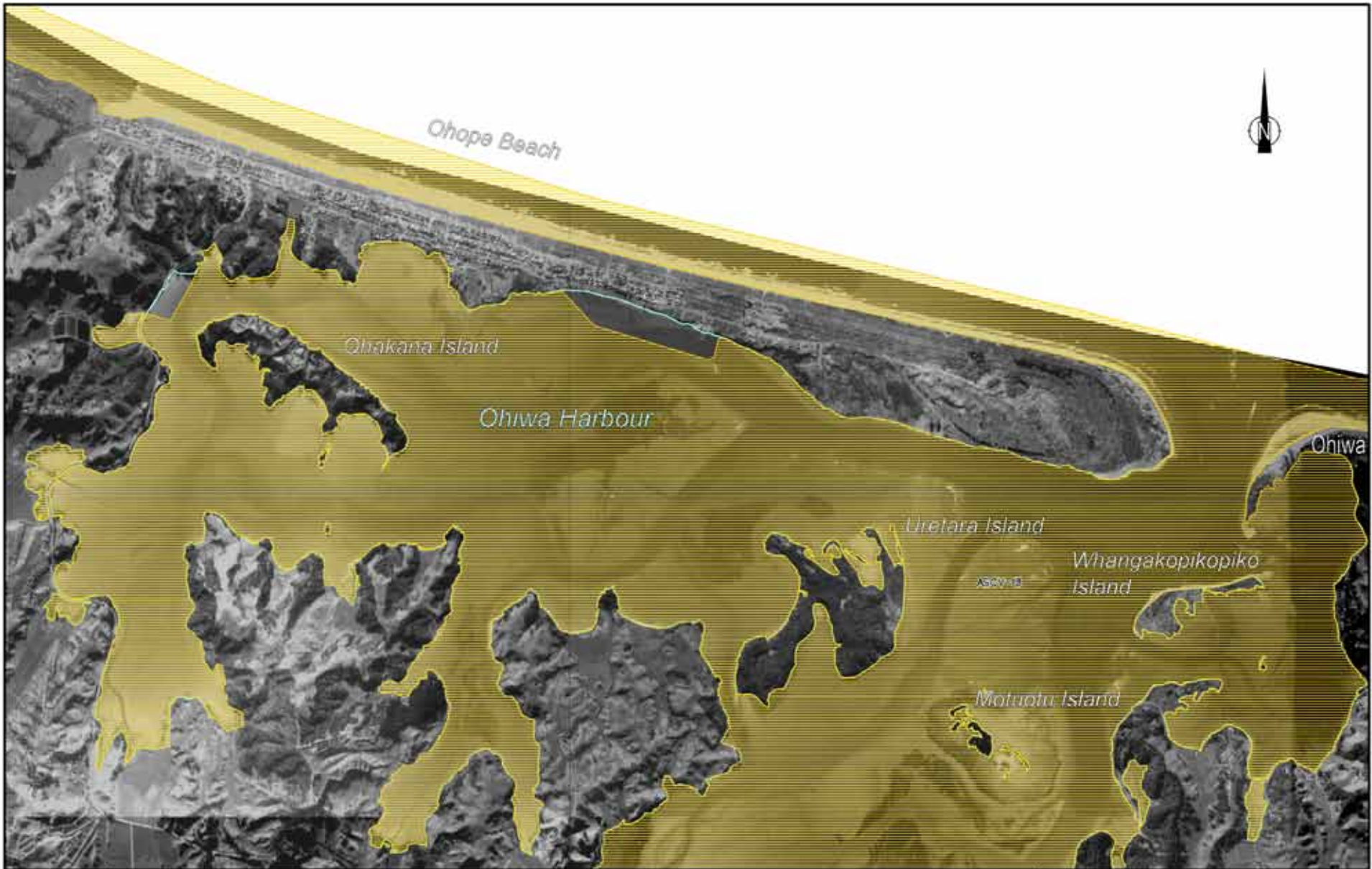
Regional Coastal Environment Plan

Ohope / Ohiwa Harbour /
Ohiwa
Sheet 25a of 49



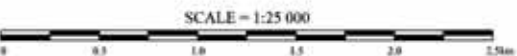
Aerial Photograph Numbers and Dates

165281 - 22.06.92	165317 - 22.06.92	165250 - 05.03.92	165351 - 22.06.92
165319 - 22.06.92	165315 - 22.06.92	165353 - 22.06.92	165265 - 07.04.92



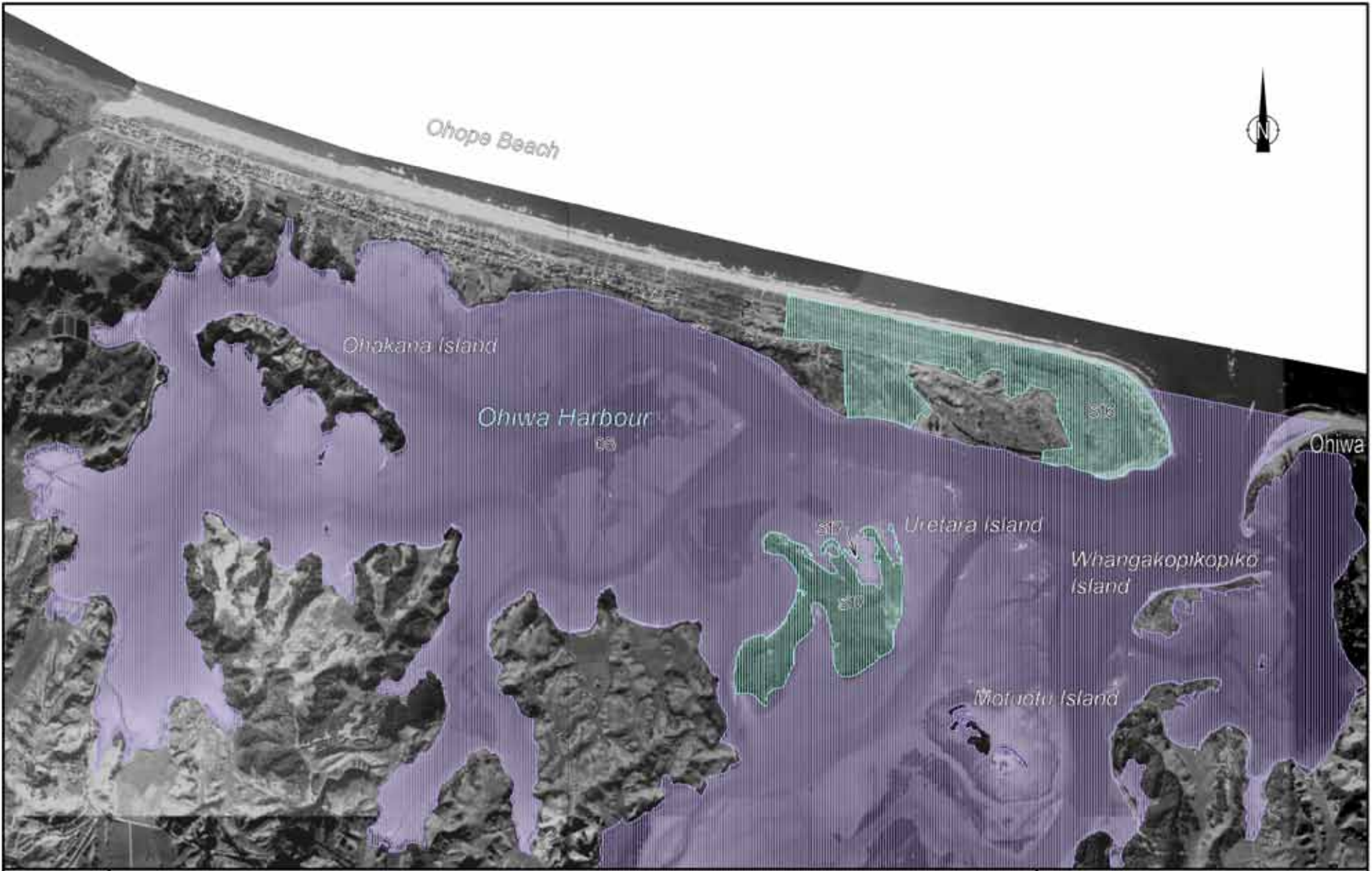
Proposed Regional Coastal Environment Plan

Ohope / Ohiwa Harbour / Ohiwa



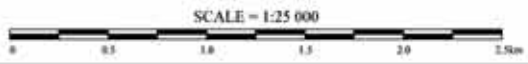
Aerial Photograph Numbers and Dates			
165281 - 22.06.92	165317 - 22.06.92	165250 - 05.03.92	165351 - 22.06.92
165319 - 22.06.92	165315 - 22.06.92	165333 - 22.06.92	165265 - 07.04.92

Sheet 25b of 49



Proposed Regional Coastal Environment Plan

Ohope / Ohiwa Harbour /
Ohiwa
Sheet 25c of 49



Aerial Photograph Numbers and Dates

165281 - 22.06.92	165317 - 22.06.92	165250 - 05.03.92	165351 - 22.06.92
165319 - 22.06.92	165315 - 22.06.92	165353 - 22.06.92	165265 - 07.04.92

Areas of Ecological Significance – Regional Coastal Environment Plan

Reference	Name	Description
SSL-46 SSCMA-35	Whakatane Estuary	The only remaining example of saline wetlands in the Whakatane Estuary
ASCV-13	Ohiwa Harbour	Internationally important wetland and habitat for breeding colony of nationally threatened species. Nationally important for its fisheries
SSL-116	Thornton 1 (east)	Best remaining example of spinefex-pingao tussockland in the ecological region

APPENDIX 18

BAY OF PLENTY REGIONAL COASTAL PLAN – SCHEDULE 15 (WHAKATANE HARBOUR DEVELOPMENT ZONE OUTLINE PLAN)



1.0 FIFTEENTH SCHEDULE WHAKATANE HARBOUR DEVELOPMENT ZONE OUTLINE PLAN 1994-2004

S15.1 Introduction

This plan has been prepared by Whakatane District council to be incorporated in the Environment Bay of Plenty, Bay of Plenty Regional Coastal Environment Plan (BOPRCEP). The Whakatane Harbour Development Zone Outline Plan 1994-2004 is intended to scope all currently anticipated future port developments.

S15.1.1 Future Development Considered

This harbour development zone outline plan considers possible new developments during the 10-year term of the Bay of Plenty Regional Coastal Environment Plan.

S15.1.1.1 Included in This Plan are the Following:

- Western Seawall
- Eastern Seawall
- New Boat Ramps
- Slipway
- Main Wharf Upgrade
- Jetties
- Capital Dredging
- Maintenance Dredging
- Spoil Disposal

Dimensions, areas and volumes are approximate.

Inclusion in the plan does not mean that works will be in the ten-year period. Any works proposed in this harbour development plan are subject to the coastal permit process under the Resource Management Act.

S15.2 Structures and Associated

Reclamation

S15.2.1 Western Seawall

Providing an all-tide entrance to the Whakatane Harbour has for the past decade been a well researched and debated project.

S15.2.1.1 Location

From the Whakatane spit seaward in a northerly direction for up to 500 metres. The location is subject to engineering design, public consultation by Whakatane District council prior to lodging an application for a coastal permit, and measures to avoid, remedy or mitigate adverse effects on the environment. Refer Maps 6, 7 and 8 of this schedule.

S15.2.1.2 Dimensions

A maximum width of three metres at the top of the structure and up to 30 metres in width on the ocean floor. The dimensions of a structure are dependent on the same factors itemised in section (S15.2.1.1) above. The height of the wall is subject to final design but will not be higher than 1 metre above mean high water springs.

S15.2.1.3 Materials of Construction

Reinforced concrete, caissons, rock, timber or combinations of these. The construction materials are determined by the strength requirements of the river and ocean environment, and the desired visual appearance. It should be noted that there would be localised "disturbance and deposition" of material as part of the bedding in of a seawall structure. The locations and quantities of such activities can be determined when the design is finalised. Disturbance and deposition will be minimised to protect the environment as much as is practical.

S15.2.1.4 Resultant Activities

An all-tide entrance to the Whakatane Harbour

S15.2.1.5 Physical and Ecological Characteristics Affected

The location is at the harbour entrance which features a spit landform thought to have been formed prior to the Tarawera eruption (1886) but after the Kaharoa eruption of 1020 AD (Healy

1983). The spit is approximately 800 metres long and consists of a western end of two ridges (5-6 m high) and swales which are remnant transgressive parabolic dunes. Healy states that the tip and central ridge dune seem to be accreting and getting higher. Reclamation and more recently small river freshes, major floods and storms have had a major effect on the shape of the sandspit and channel. Modifications to the Whakatane Harbour have been undertaken since the early 1900's. Over the intervening years 72 acres of land has been reclaimed and harbour works have been reclaimed and harbour works have been completed including the eastern training wall and the closure of Orini channel from the Rangitaiki River in 1903. Harbour works in the early years also included the partial removal of a reef, river training devices, blasting rocks and flood protection works in conjunction with the then Bay of Plenty Catchment Commission.

Flow records are available for the lower Whakatane River from 1957 to the present. These show that the mean river flow is approximately 55 cubic metres per second. River flows drop to 4 m³/s during severe "low low" periods and reach 2,300 m³/s during 1 in 50 year floods (maximum recorded flood, 1970, 2,380 m³/s). The vegetation, geological, geomorphological and climatic characteristics of the catchment can create high flows and large loads of sediment. A key factor in the river's hydrology is the relatively high specific discharge (run-off expressed as litres/s per km²) and extreme flows that occur during periods of intensive and prolonged rainfall in the upper catchment.

Tidal gauging for Whakatane Harbour show that the peak tidal outflow occurs between 2½-3 hours after full tide and reaches a maximum flow of 155 m³/s (under moderate river flow conditions of 18 m³/s). For this flow, a maximum velocity of approximately 3.6 km/hour (1 metre per second) is produced over a period of two hours and velocities of 2.4 km/hour are produced over a 4 hour period. Accordingly, the tidal compartment of the Whakatane River is an important factor in maintaining the navigability of the harbour entrance during low and moderate river flow periods. Healy (1983) calculated that there had been a 35% reduction in the tidal prism since the 1940's due to reclamation and sedimentation. This loss of

tidal prism has had a direct impact on the volumes and velocities of tidal flows and has affected the harbour entrance.

The level and contour of sand at the river mouth varies considerably under the influence of the river flows, tidal flows and sea action. Under normal river flows, a bar system forms at the entrance to the harbour. This bar increases under flow river flows, reducing the watch depth at the harbour entrance. During floods, the river breaks out between the sandspit and Turuturu Roimata. It substantially erodes the end of the sandspit and the bar system which generally reform within a few weeks of the flood. At times, particularly when river flow is low, the bar system prevents safe passage of boats to and from the harbour. Under these conditions the entrance is considered "unworkable". The average number of workable days (i.e. when the harbour was open) in the calendar months for 1980-1985 ranged from 20-25.

The marine habitat that would be covered by the training wall is largely sand which is very mobile and with the result of the vigorous wave climate and strong currents generated in the river entrance area. Bed levels vary from low intertidal to shallow sublittoral. Considerable sediment movements occurs and major changes in bed level occur in the proposed wall area and in the surrounding areas as a result of storm conditions or river floods. There are also small areas of bedrock exposed in the proposed wall area. More extensive rock is exposed in several places immediately west of the proposed training wall and at Turuturu Roimata and Central Rock. The extreme mobility of the sandy sediment in the vicinity of the proposed wall results in there being little possibility of long-term populations of benthic fauna becoming established. Although it is possible that populations of mobile crustacean fauna such as amphipods and isopods could become established during time periods, such populations would not be permanent.

The biota on intertidal rock surface in the vicinity of the proposed training wall is dominated by barnacles, small black mussels and algae. The lower intertidal and shallow subtidal rock surfaces are subject to considerable sand scour and burial and populations of organisms in such areas are usually transient. It is possible that small numbers of green lipped mussels appear on the rocks near the

proposed training wall at times.

In areas unaffected by sand scour or sand burial, the rocky habitats in the vicinity of the proposed wall support high densities of common attached organisms. The habitat of the rock on the western side of the harbour entrance are of lower biological value than the rocky habitats to the east of the harbour entrance towards Kohi Point.

The open sandy area at the end of the sandspit is used as a high tide bird roosting area. Species which regularly roost in the area include black-backed gulls, red-billed gulls, pied stilt, variable oyster catcher, South Island pied oyster catcher and white-fronted tern. The tidal flats are used by bulls, oyster catchers, shags and ducks.

Source

Whakatane Harbour Western Training Wall Environmental Impact Assessment, May 1986.

Whakatane Harbour Management Development plan, 1988.

S15.2.1.6 Physical and Ecological Effects

- If birds are disturbed during construction phase they will roost further to the west.
- A seawall structure will interrupt the littoral drift along the coastline and result in a build up of sand on the ocean western side of a structure. This will reduce the visual impact of a structure as seen from Piripai Beach.
- In the short-term the localised marine organisms on rock outcrops may be covered.
- Rock surfaces of a wall increase the area of rocky intertidal and shallow sublittoral habitat available for colonisation. The rock wall organisms will probably be food resources and shelter for a variety of fish species.
- Increase in commercial and recreational boating, activity across the bar. The structure may be used as a roosting area.
- Possible erosion of intertidal sands immediately south to the end of the spit but it is noted that existing habitats in this area are highly mobile sand with no permanent biota.
- A change to the visual character of the harbour entrance

is anticipated. The significance of this change can only be determined following the analysis of the final decision of the structure.

S15.2.1.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- To limit the construction period to avoid the nesting time of protected birds. If construction access is via the spit then during construction the provision of warning signs for heavy traffic on Bunyan Road.
- Establishment and maintenance of a flood relief channel over the spit to accommodate extreme flood flows.
- If the wreck "Welcome" is uncovered during construction then the NZ Historical Place Trust would be notified to allow a survey and photographs to be taken.
- Whakatane District Council will undertake consultation with parties who have an interest in the proposal.
- As an off-site mitigation measure Whakatane District Council may if appropriate improve the appearance of the existing eastern training wall.
- Conditions can be placed in the construction contract documents to ensure that environmental damage is minimised.

S15.2.2 Eastern Seawall

S15.2.2.1 Location

On the town side of the Whakatane River from the existing eastern training wall in a seaward direction to Koakaroa rock. Refer Map 7 of this schedule. The location is subject to engineering design, public consultation by Whakatane District Council prior to lodging an application for a coastal permit, and measures to avoid, remedy or mitigate adverse effects on the environment.

S15.2.2.2 Dimensions

The eastern seawall could occupy the full length of the shorelines as described above or be part or parts of the area. The structure could be a maximum of three metres wide at the top of the structure and up to 30 metres in width on the ocean floor.

S15.2.2.3 Materials of construction

Reinforced concrete, caissons, rock, timber or combinations of these. The construction materials are determined by the strength requirements of the river and ocean environment and the desired visual appearance.

It should be noted that the construction materials are determined by the design strength desired relative to the river and ocean flows, and the desired visual appearance. There would be localised "disturbance and deposition" of material as part of the bedding in of a seawall structure. The locations and quantities of such activities can be determined when the design is finalised. Disturbance and deposition will be minimised to protect the environment as much as is practical.

S15.2.2.4 Resultant Activities

All tide entrance to the Whakatane Harbour.

S15.2.2.5 Physical and Ecological Characteristics Affected

The habitat is thought to be typical rocky shore intertidal area which in its most northern points is affected by the ocean currents and eastward littoral drift of sand. Rock habitats towards Kohi Point extend to greater depth and there is more habitat that is not subject to sand scour and sand burial to the same degree as it is on the western side of the entrance. Near the harbour entrance barnacles, small black mussels and algae can be found. A number of species of fish inhabit the harbour at various stages of the area including snapper, kahawai, eel, whitebait, spottys and flounder. The site is influenced by the river freshes, major floods and storms that have been described in section S15.2.1.5.

S15.2.2.6 Physical and Ecological Effects

- Construction phase will destroy the local intertidal habitat and roosting birds may move to adjacent areas.
- The construction phase would increase heavy traffic in Muriwai Drive and impact on the public carpark turnaround area and foreshore recreation activities.
- Increase in commercial and recreational boating activity across the bar because of a deeper entrance.
- A change in the visual character of the harbour entrance would occur. The significance of this change can only be determined following the analysis of the final design of the structure.
- There may be a marginal increase in flood levels.

S15.2.2.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- Whakatane District Council will undertake consultation with parties who have an interest in the proposal.
- Take particular care with the visual appearance and maintenance of the seawall where it is adjacent to the public road and carpark areas.
- Conditions can be placed in construction contract documents that ensure that the damage to the intertidal habitat is minimised.

S15.2.3 New Boat Ramps

S15.2.3.1 Location

New boat ramps may be constructed and operated as required by public demand on the town side of the Whakatane River within the Harbour Development Zone.

S15.2.3.2 Dimensions

At this stage the width of boat ramps will allow as a maximum, dual launching of craft.

S15.2.3.3 Materials of Construction

Construction is most likely to be of reinforced concrete, rock, or combinations of these materials.

S15.2.3.4 Resultant Activities

Boat ramps will provide the public with additional locations to safely launch small craft into the harbour.

S15.2.3.5 Physical and Ecological Characteristics Affected

The physical and ecological characteristics of this area are considered to be similar to those described in S15.2.2.5.

S15.2.3.6 Physical and Ecological Effects

Localised loss of intertidal habitat which will recolonise around the structure on completion.

S15.2.3.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- Conditions can be placed in construction contract documents that ensure that the damage to the intertidal habitat is minimised.
- Whakatane District Council will undertake consultation with parties who have an interest, prior to lodging an application for a coastal permit.

S15.2.4 Slipway

S15.2.4.1 Location

The slipway would be built in association with a dry boat storage facility. Council's preferred site is to the west of the existing Sports Fishing Club rooms and wharf storage area. See Map 2 of this schedule.

S15.2.4.2 Dimensions

The dimensions of the structure will depend on the type of boat lifting devices selected. This is unlikely to exceed an area of 20metres by 6 metres for the boat lifter and a similar area for the slipway.

S15.2.4.3 Materials of Construction

These are yet to be determined but are likely to include concrete foundations and/or piles, steel work and rock.

As with the boat ramps there would be localised disturbance and deposition of material during construction and this will be minimised to ensure protection of the environment.

S15.2.4.4 Resultant Activities

The associated dry boat storage area is considered a long term plan given the limited availability of moorings in the river and the finite length of wharfage.

The advantages of dry boat storage include – charges are generally lower than wet berth charges, there is a reduction in the need for regular anti-fouling painting of the underwater section of hulls, and owners do not need boat trailers or cars capable of towing.

The type of dry boat storage system is generally governed by the type and size of boat and the type and capacity of the boat launching/recovery system e.g. ramps and straddle carriers, forklifts, jib cranes or boat lifts.

The slipway would be available for boat repair work and this would be a new service to the public.

S15.2.4.5 Physical and Ecological Characteristics Affected

The physical and ecological characteristics of this area are considered to be similar to those described in S15.2.2.5.

S15.2.4.6 Physical and Ecological Effects

- There may be adverse noise, smell and perhaps visual effects.
- Contaminants from repair work could seep into the harbour.

S15.2.4.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

The slipway would be constructed with measures to contain and treat waste materials prior to disposal, prior to lodging an application for a coastal permit.

- Whakatane District Council will undertake consultation with parties who have an interest in the proposal.
- Conditions can be placed in construction contract documents that ensure environmental damage is minimised.
- The operation of the facilities will be controlled so that washdown water is screened before discharge to the harbour waters.
- Noise will be controlled in accordance with the District Plan provisions.

S15.2.5 Main Wharf Upgrade (Commercial) (Map 2)

S15.2.5.1 Location

Main Whakatane Wharf.

S15.2.5.2 Dimensions

Maximum 200 metre x 10 metre reinforced concrete wharf platform, as replacement of existing timber piled jetty and landing structure.

S15.2.5.3 Materials of Construction

Reinforced concrete, steel sheet piling, rock fill and timber fendering.

S15.2.5.4 Resultant Activities

The proposal will consolidate commercial wharf activity and provide additional loading/off-loading facility. Vehicle access will be improved with additional parking and manoeuvring space. Hardstand will be created for related purposes.

S15.2.5.5 Physical and Ecological Characteristics Affected

The location is highly modified foreshore/seabed. The hydrological conditions in this area are considered to be similar to those described in section S15.2.2.5.

The modified foreshore and seabed has been recolonised by the intertidal and marine species described in the previous subsections.

S15.2.5.6 Physical and Ecological Effects

- Higher level of wharf activity – noise, vehicle numbers, and general industrial activity.
- Minor loss of access to seabed/foreshore.

S15.2.5.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- Fencing, planting buffer areas.
- Enhancement of adjacent waterfront by landscape development.
- Conditions can be placed on construction contract documents that ensure environmental damage is minimised.
- Whakatane District Council will undertake consultation with parties who have an interest in the proposal, prior to lodging an application for a coastal permit.

S15.2.6 Launching Ramp Jetty Extension

S15.2.6.1 Location

Immediately downstream of launching ramps at Big Game Wharf. Refer Map 1 of this schedule.

S15.2.6.2 Dimensions

40 metres x 10 metres (surface area) timber piled jetty with timber deck.

S15.2.6.3 Materials of Construction

Timber piles, decking and fendering.

S15.2.6.4 Resultant Activities

Additional berthage, improved waterfront access.

S15.2.6.5 Physical and Ecological Characteristics Affected

The location is modified (rock protection) foreshore/seabed. The hydrological conditions in this area are considered to be similar to those described in section S15.2.2.5. The proposal offers recreational opportunity and emergency berthage.

S15.2.6.6 Physical and Ecological Effects

- Reduced seascape vista – when vessels berthed at jetty.

S15.2.6.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- Used as emergency berthage only.
- Increased recreational opportunity.
- Conditions can be placed on construction contract documents that ensure environmental damage is minimised.
- Whakatane District Council will undertake consultation with parties who have an interest in the proposal, prior to lodging an application for a coastal permit.

S15.2.7 Landing Jetty

S15.2.7.1 Location

Approximately 200 metres upstream of the Wairere Stream on the town side of the river. Refer Map 3 of this schedule.

S15.2.7.2 Dimensions

It is anticipated that the jetty would be 30 metres long and 10 metres wide to enable two craft to berth at an one time.

S15.2.7.3 Materials of Construction

Reinforced concrete construction.

S15.2.7.4 Resultant Activities

The landing jetty would provide for the off-loading and loading of provisions and passengers in a location that is closer to the Whakatane commercial area.

S15.2.7.5 Physical and Ecological Characteristics Affected

The location is highly modified foreshore/seabed. The hydrological conditions in this area are considered to be similar to those described in S15.2.2.5.

S15.2.7.6 Physical and Ecological Effects

- Minor loss of access to seabed/foreshore.
- Alleviates congestion at main wharf.

S15.2.7.7 Means to be Used to Avoid, Remedy and/or Mitigate these Likely Effects

- Whakatane District Council will undertake consultation with parties who have an interest in the proposal, prior to lodging an application for a coastal permit.
- Conditions can be placed on construction contract documents that ensure environmental damage is minimised.

S15.3 Dredging

S15.3.1 Capital Works Dredging

Capital works dredging is proposed by the Whakatane District Council in the role as the Port Authority for Whakatane. This capital

works dredging will comprise deepening of the areas adjacent to the wharf and establishment of a deep water channel out to the Heads.

S15.3.1.1 Location and Quantities

The location of the areas to be dredged is shown on Maps 4 and 5 of this schedule, attached. The figure shows the approximate areas and quantities.

The total volume of the capital dredging is not expected to exceed 100,000 cubic metres.

S15.3.1.2 Characteristics of Material to be Dredged

Site investigation work would be carried out in preparation for any capital dredging campaign. Investigations would seek to determine:

- the grading and material identification of the materials to be dredged,
- the chemical characteristics of the materials,
- the biological characteristics of the materials,
- the disposition of the various materials within the areas to be dredged.

S15.3.1.3 Characteristics of the Areas to be Dredged

The investigation of the areas to be dredged would also seek to obtain information relating to the areas, namely:

- biological survey of the sites and immediate surroundings,
- tide and current systems in operation in the areas,
- proximity of the sites to other sensitive areas.

Refer to Section 2 Whakatane Harbour Management Development plan 1988.

S15.3.1.4 Identification of Likely Adverse Effects

Adverse effects which could arise from the dredging activities would be assessed. The likely effects that could be expected would be interference to benthic communities near the dredging areas, removal of the benthic communities at the dredging site, noise,

turbidity, sedimentation and possibly hydraulic changes within the harbour system.

S15.3.1.5 Mitigation of Adverse Effects

Mitigation of adverse effects could be considered such as:

- selection of dredging procedures that will minimise the disturbance to the environment,
- control of machinery noise,
- nourishment of local beach systems where the dredged material is suitable for this,
- use of silt retention structures to limit transport of sediment raised by the dredging activities,
- Whakatane District Council undertaking consultation with parties who have an interest in the proposal, prior to lodging an application for a coastal permit.

S15.3.1.6 Maintenance Dredging

Capital works dredging is proposed by the Whakatane District Council in the role as the Port Authority for Whakatane.

Maintenance works dredging will involve periodic removal of sediments from the area adjacent to the wharf and the deep water channel out to the Heads.

S15.3.1.7 Location and Quantities

The location of the areas to be dredged is shown on Map 4 of this schedule, attached. The figure shows the approximate areas and quantities.

The total volume of the capital dredging is expected to be in the range of 25,000 to 50,000 cubic metres per year once the capital dredging programme is complete.

S15.3.1.8 Characteristics of Material to be Dredged

Site investigation work would be carried out in preparation for the maintenance dredging campaigns. It is expected that the material to be dredged would be substantially river bed load material, deposited during the natural operation of the estuary. The material

is expected to be more consistently finely grained than the existing materials, which are a mixture of clean sand and silt sediments.

Investigations of the material would seek to determine:

- the grading and material identification of the materials to be dredged,
- the chemical characteristics of the materials,
- the biological characteristics of the materials,
- the disposition of the various materials within the areas to be dredged.

S15.3.1.9 Characteristics of the Areas to be Dredged

The characteristics of the areas to be maintained will have already been established during the capital dredging phase. Some monitoring of the areas will be carried out to ensure that any changes to these characteristics are occurring as expected. The investigation of the areas to be dredged could include re-evaluation of:

- biological survey of the sites and immediate surroundings,
- tide and current systems in operation in the areas.

Refer to Section 2 Whakatane Harbour Management Development plan 1988.

S15.3.1.10 Identification of Likely Adverse Effects

The sites, having been modified as part of the capital campaign, are not expected to be sensitive to maintenance dredging.

Adverse effects could arise from re-suspension of finer sediments and increase in general turbidity levels. Again, construction noise could become an issue.

S15.3.1.11 Mitigation of Adverse Effects

Mitigation of adverse effects could be considered such as:

- selection of dredging procedures that will minimise the disturbance to the environment,
- control of machinery noise,

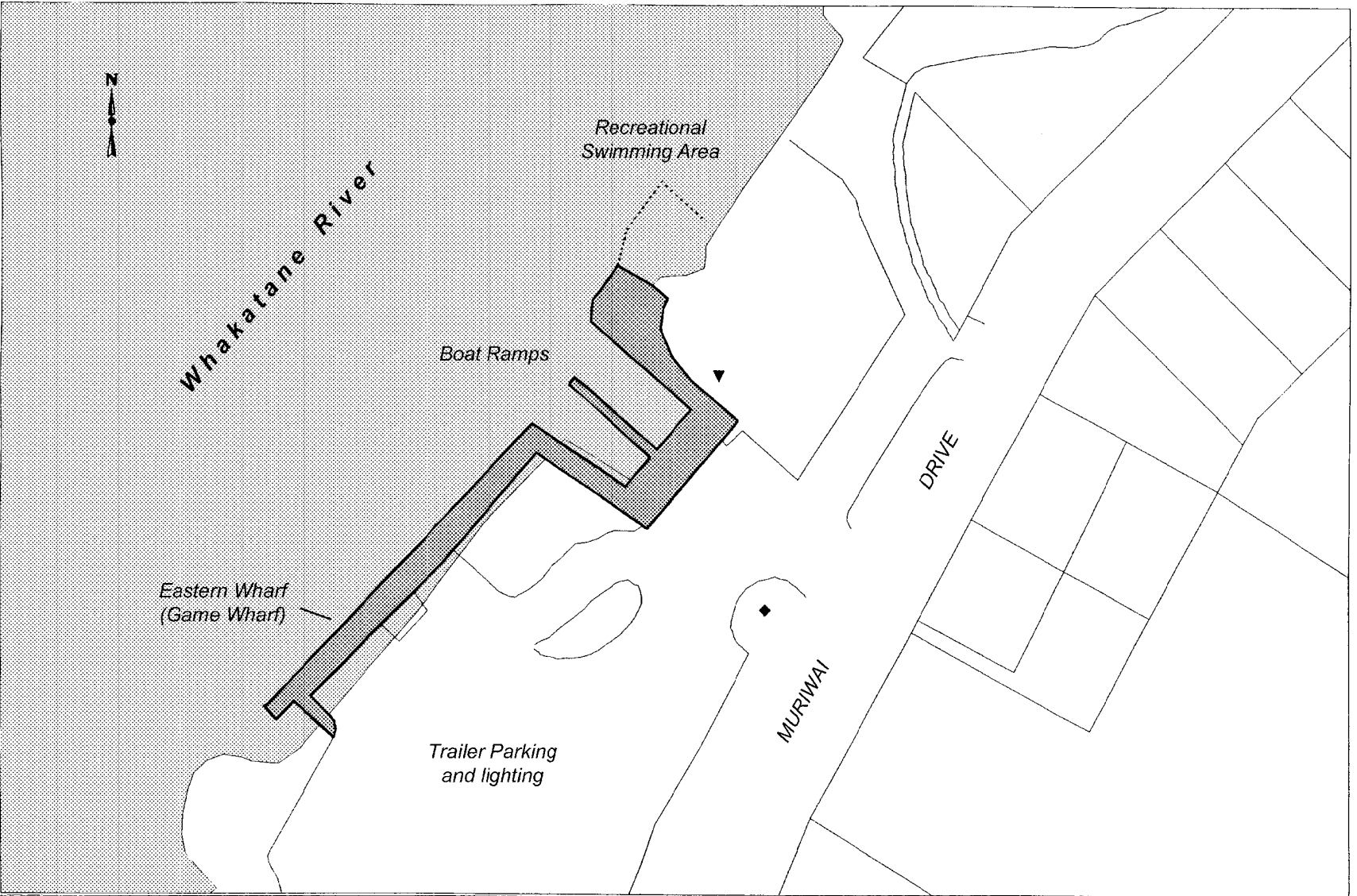
- use of silt retention structures to limit transport of sediment raised by the dredging activities..

S15.3.3 Disposal of Dredged Material

Sites for the disposal of the dredged material will be considered.

These will include onshore and offshore sites. As it is likely that a substantial volume of the material will be clean sand, beach replenishment should be considered to minimise effects on the overall littoral drift. Offshore disposal will only be considered where the material to be dredged is sand.

Onshore disposal will include consideration of upland and near shore or coastal fringe options. While studies of the disposal of dredged material have not been carried out, there is one site at the Bennett Rock, Bunyan Road, which has been identified, which can accept large quantities of material, is close to the harbour fringe and will benefit from the additional material.



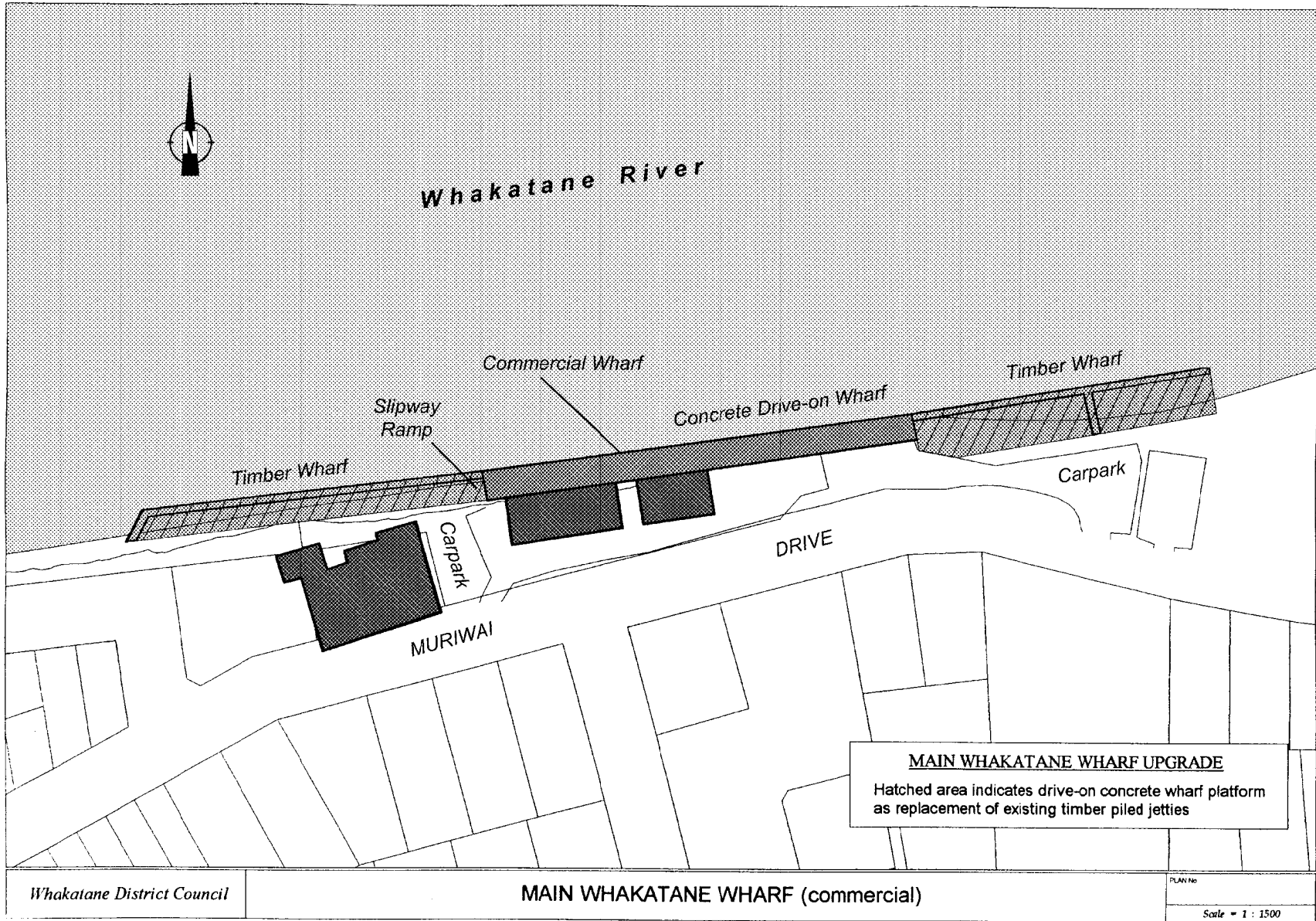
Map 1

Whakatane District Council

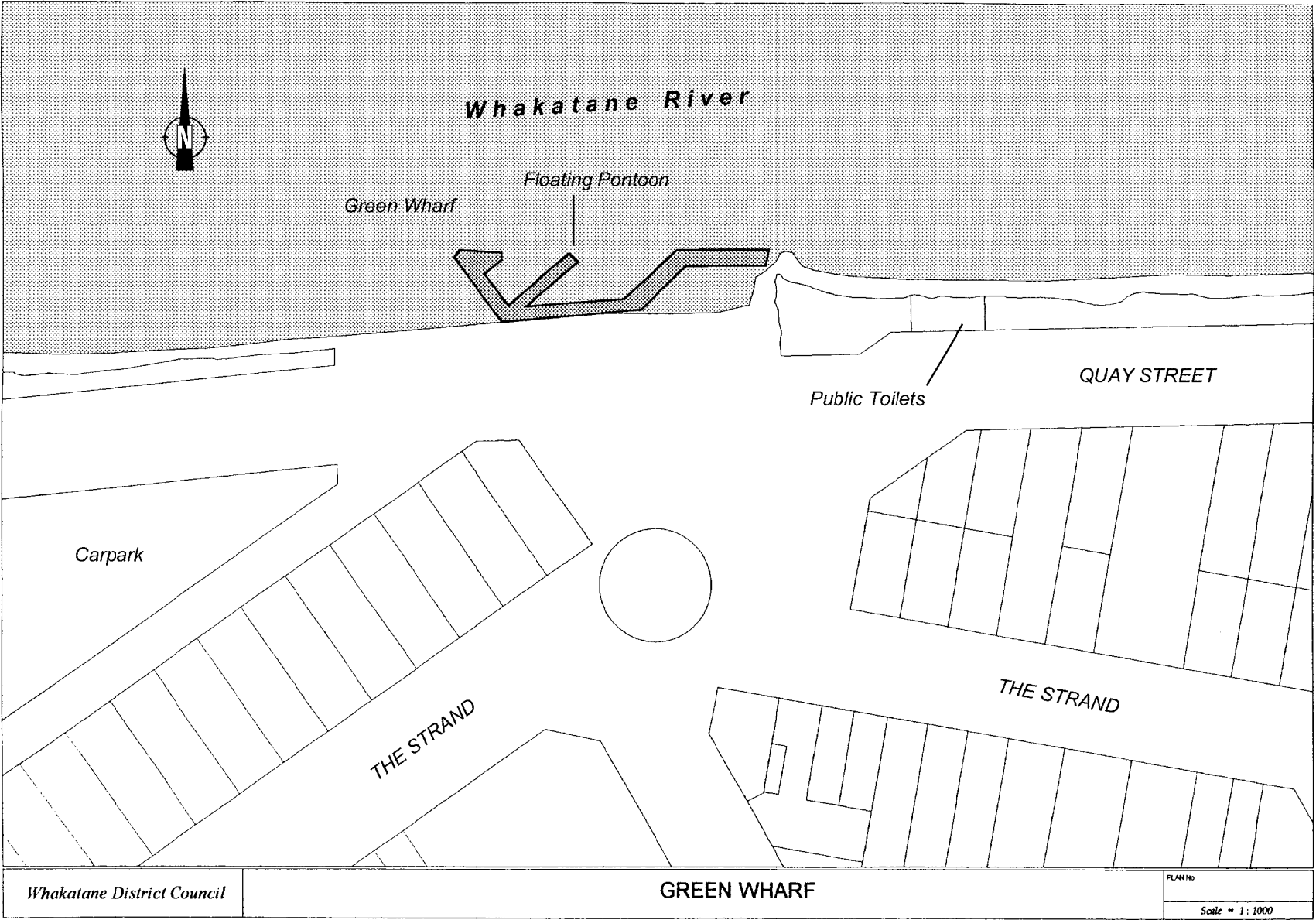
GAME WHARF & LAUNCHING RAMP

PLAN 10

Scale = 1 : 1000

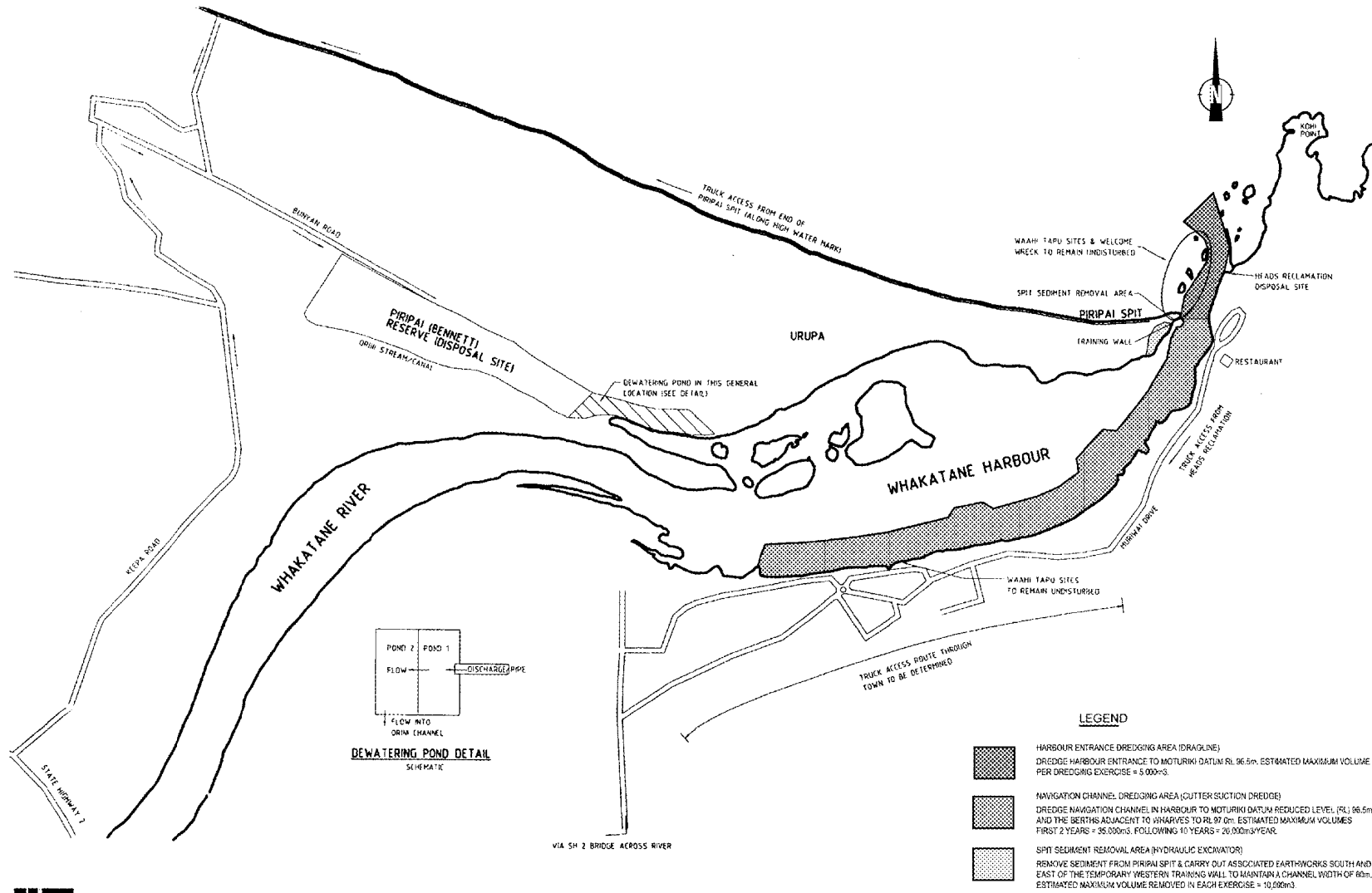


Map 2



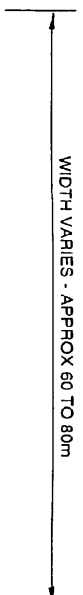
Map 3

Map 4

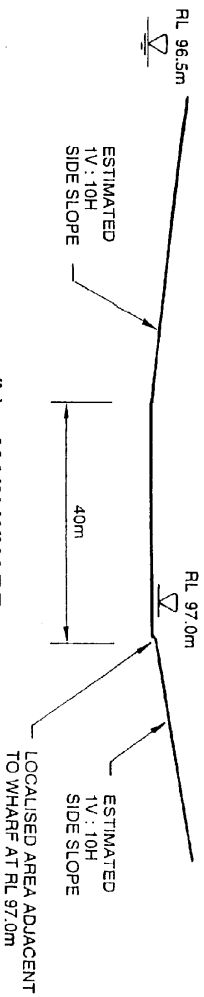
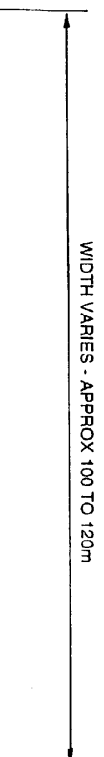


Dredging and Deposition Areas - Whakatane Harbour

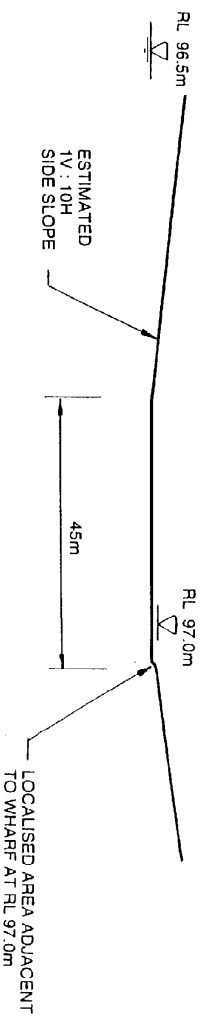
Figure 5.1



(a) HARBOUR CHANNEL



(b) MAIN WHARF



(c) GAME WHARF

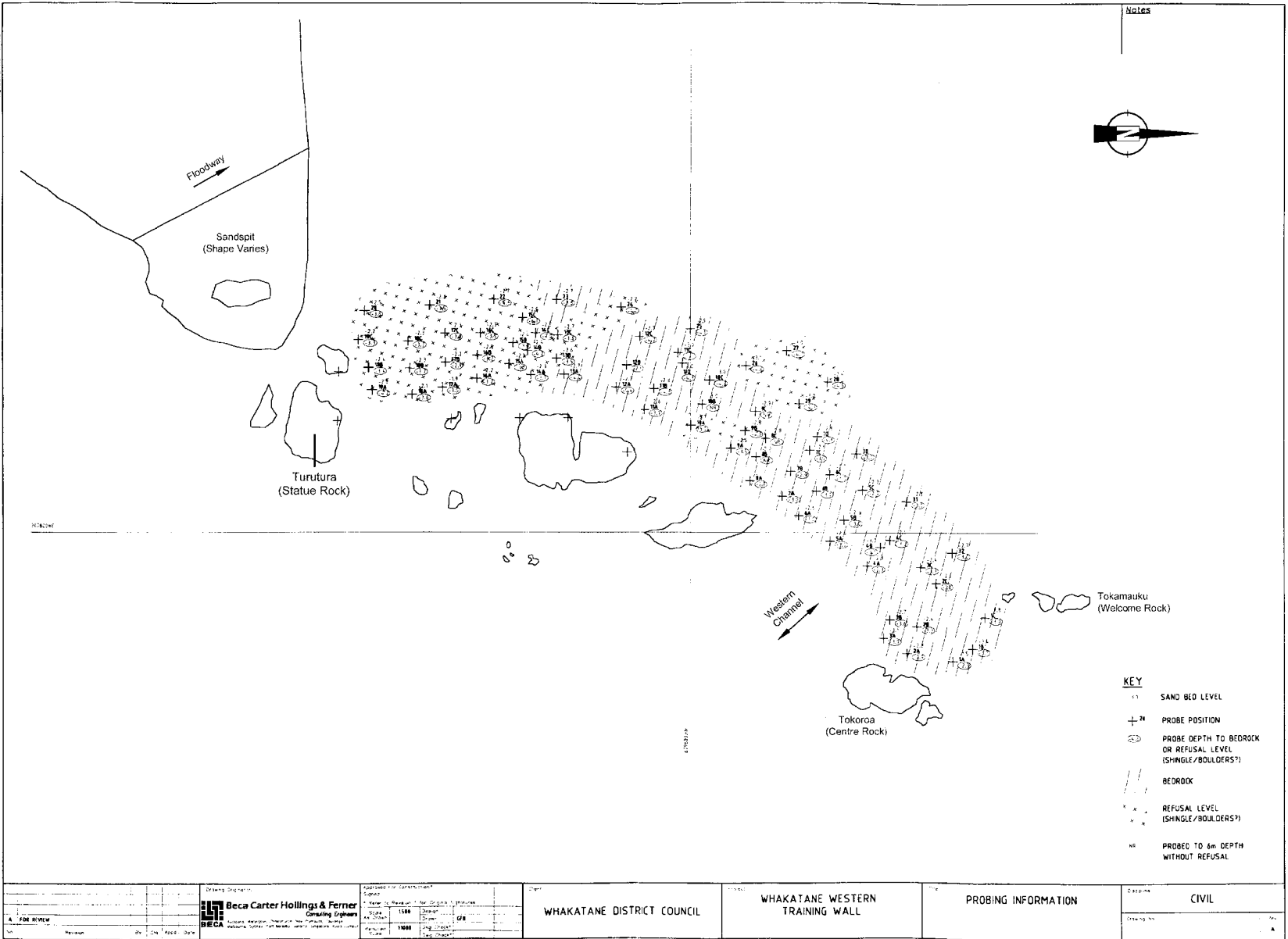
Not to Scale



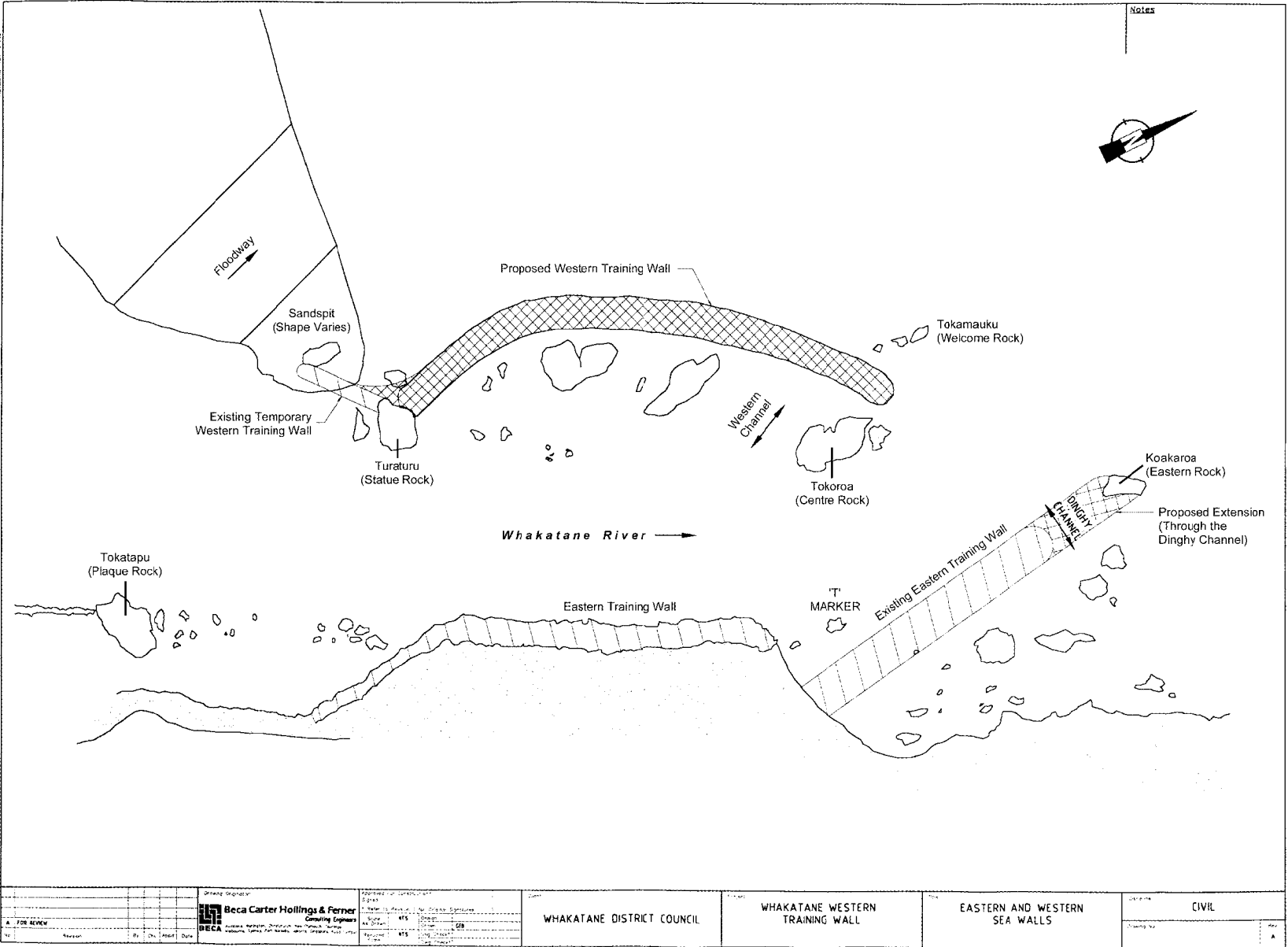
BECA
120712/140

Navigation Channel Cross Sections

Map 5

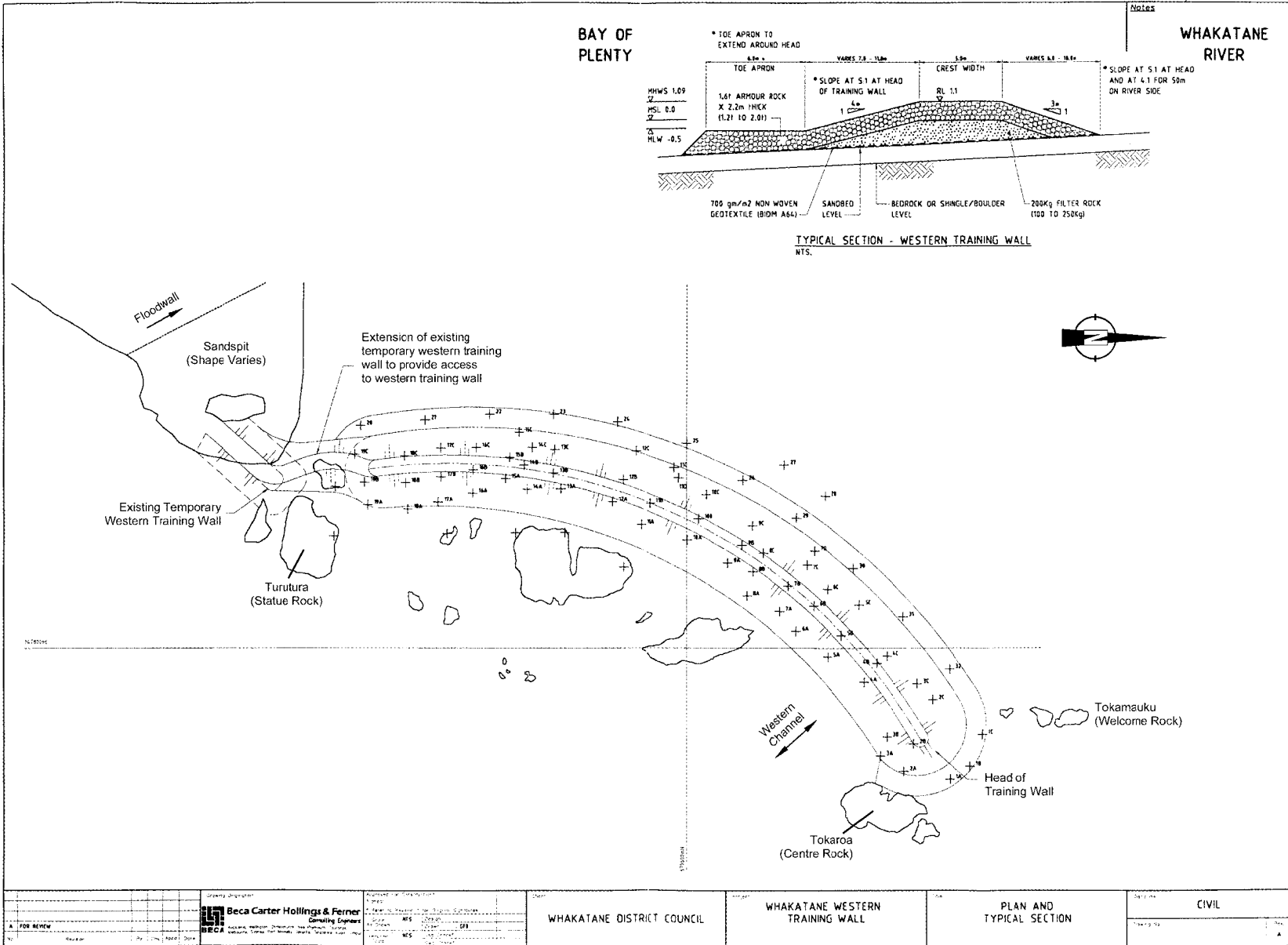


Map 6



Map 7

Drawing Designer: Beca Carter Hollings & Ferner Consulting Engineers Beca Carter Hollings & Ferner 100-102 Victoria Street, Auckland Phone: 09 308 9000 Fax: 09 308 9001 Email: info@bca.co.nz		Approved for Construction: Name: [] No. Drawn: [] Date: [] No. Checked: [] Approved: [] No. Revisions: [] Date: []		WHAKATANE DISTRICT COUNCIL	WHAKATANE WESTERN TRAINING WALL	EASTERN AND WESTERN SEA WALLS	Discipline: CIVIL Drawing No: [] Rev: A
--	--	---	--	----------------------------	---------------------------------	-------------------------------	--



APPENDIX 19








KEY VALUES CONSTRAINTS - WHAKATANE



Key Values and Constraints - Whakatane



Key

- | | | | |
|---|---|---|--|
|  | Coastal Protection Zone (WDC) |  | D 122 District Plan Designation |
|  | Piripai Wildlife Management Reserve (DOC) |  | Ngati Awa Statutory Acknowledgement (Statutory Area) |
|  | Identified Cultural Heritage Sites (WDC) |  | Sites of Ecological Significance (EBOP) |
|  | Outstanding Natural Feature / Landscape | | |

Note: Areas are shown as indicated on District and Regional Planning Maps and may not represent the actual extent of the feature.

APPENDIX 20

CONCEPT PLAN FOR WHAKATANE PORT DEVELOPMENTS



WHAKATANE RIVER DEVELOPMENT CONCEPT PLAN



Whakatane District Council
Ports Operational Plan

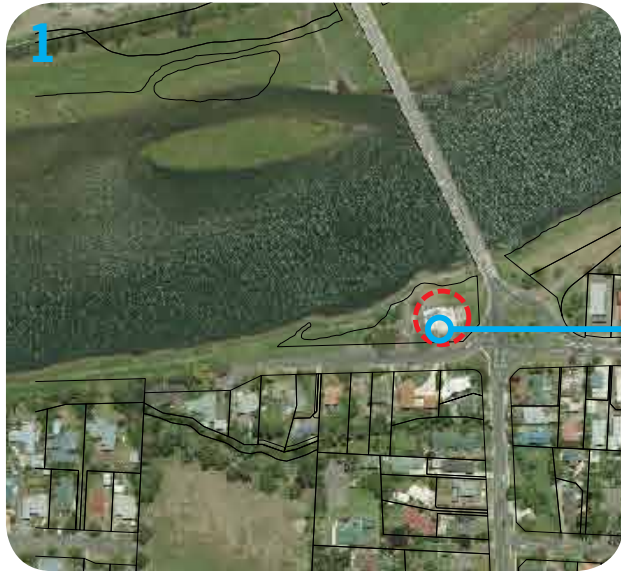
1720-128826-01
30 April 2010



128826-WDC River Development Concept Plans Panels v1

This document and design remains the property of Harrison Grierson Consultants Limited. No liability shall be accepted for unauthorised use. This concept is subject to further investigations into Planning, Surveying and Engineering feasibility. This document may be derived from inaccurate source information.





Landing Road Steps

Enhanced access to the river for launching and retrieving rowing skiffs and support vessels. Includes concrete steps, paths, and a small boat launching ramp

Project commencing 2010





Waka Ama & Kayak Facilities

Creation of a storage area for waka ama and kayaks on the Eivers Road Reserve and improved river access for launching

Project commencing 2010





Whakatane Marina

Private sector development including marina basin, travel lift and dry stack boat storage, boat launching facilities, & associated marine services

Whakatane District Council
Ports Operational Plan
 1720-128826-01
 30 April 2010



128826-WDC River Development Concept Plans Panels v1

The document and design remains the property of Harrison Grierson Consultants Limited. No liability shall be accepted for unauthorised use. This concept is subject to further investigations into Planning, Surveying and Engineering feasibility. This document may be derived from inaccurate source information.





Key

- Existing Wharf
- Proposed New wharf
- - - Developments associated with Town Vision Plan
- - - Wharf to be being removed



Yacht Club Marina

Proposal by Whakatane Yacht Club to expand the existing marina. A town pier development adjacent to the yacht club is proposed as part of the Whakatane Town Vision Plan.

Town pier development scheduled for 2015-2017

Quay St Wharf Extension





Upgrade of the Game Wharf Area



Swimming area

Development of a dedicated swimming area incorporating slides, swings, and a floating raft





Heads Carpark

Redevelopment of the Heads carpark area to provide enhanced access to the river entrance and sea



Whakatane Port Vision

Artist impression

North



Not to scale

A New Tourist Facilities / Activities
 - Commercial / charter
 - Harbour amenities

D Hotel
 - Limited commercial (ground floor)
 - 2/3 floors with ground floor
 - Reception / lobby
 - Car parking at ground at back

H Promenade
 - 5-10m wide
 - Hard surfaced and level
 - Cycling / walkway
 - Connects to Heads and up-river walk ways

I Residential
 - Stepped down form to mask apartments
 - Residential above commercial / food / beverage at ground level

J Town Edge Pier
 - Extended out from current
 - Additional tie up for short term boat use opportunity
 - Potential ferry pick up

L Regional council site
 - Short - medium term existing use

M1 Swimming Area

M2 Heads Carparking

P Ngati Awa Marae Development

Q Pedestrian Bridge
 - Two potential locations

R Waka Ama Ramp

S Proposed Marina

T Future Residential Development

U Rowing Club Steps

The Whakatane Port Vision is an artist impression only and is a representation of current concepts within the town centre and along the Whakatane River. It incorporates the Whakatane Town Vision Plan and other proposals by Whakatane District Council and private sector groups. This drawing is to be used by Whakatane District Council for consultation and discussion purposes only.



APPENDIX 21

MAPS OF RECREATION ACTIVITIES IN PORT AREAS



Recreational Activities at Whakatane

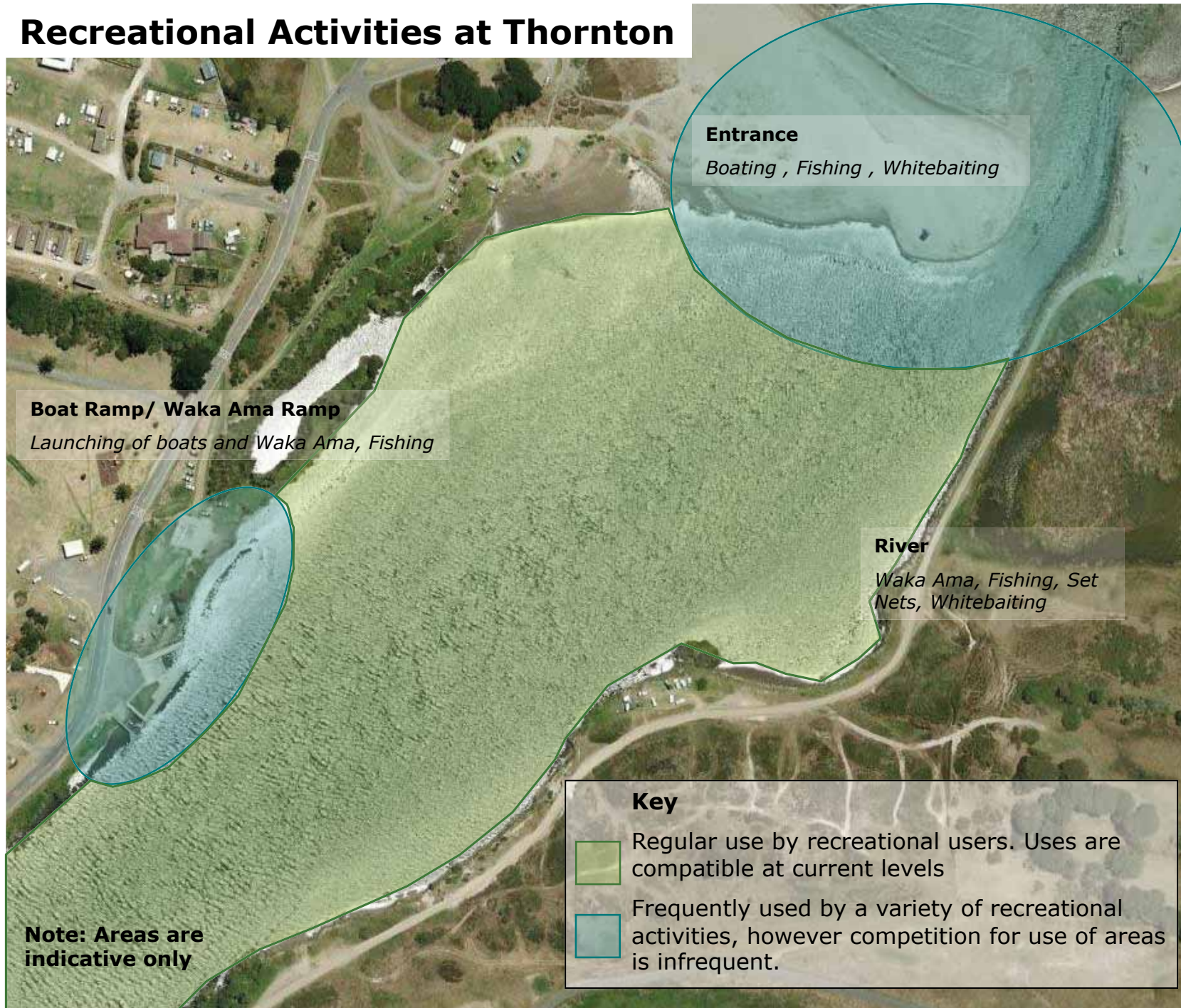


Key

- Regular use by recreational users. Uses are compatible at current levels
- Frequently used by a variety of recreational activities, however competition for use of areas is infrequent.
- Area of high use. Used daily for a variety of uses. Congestion occurs during peak periods and/or uses may not be compatible.

Note: Areas are indicative only

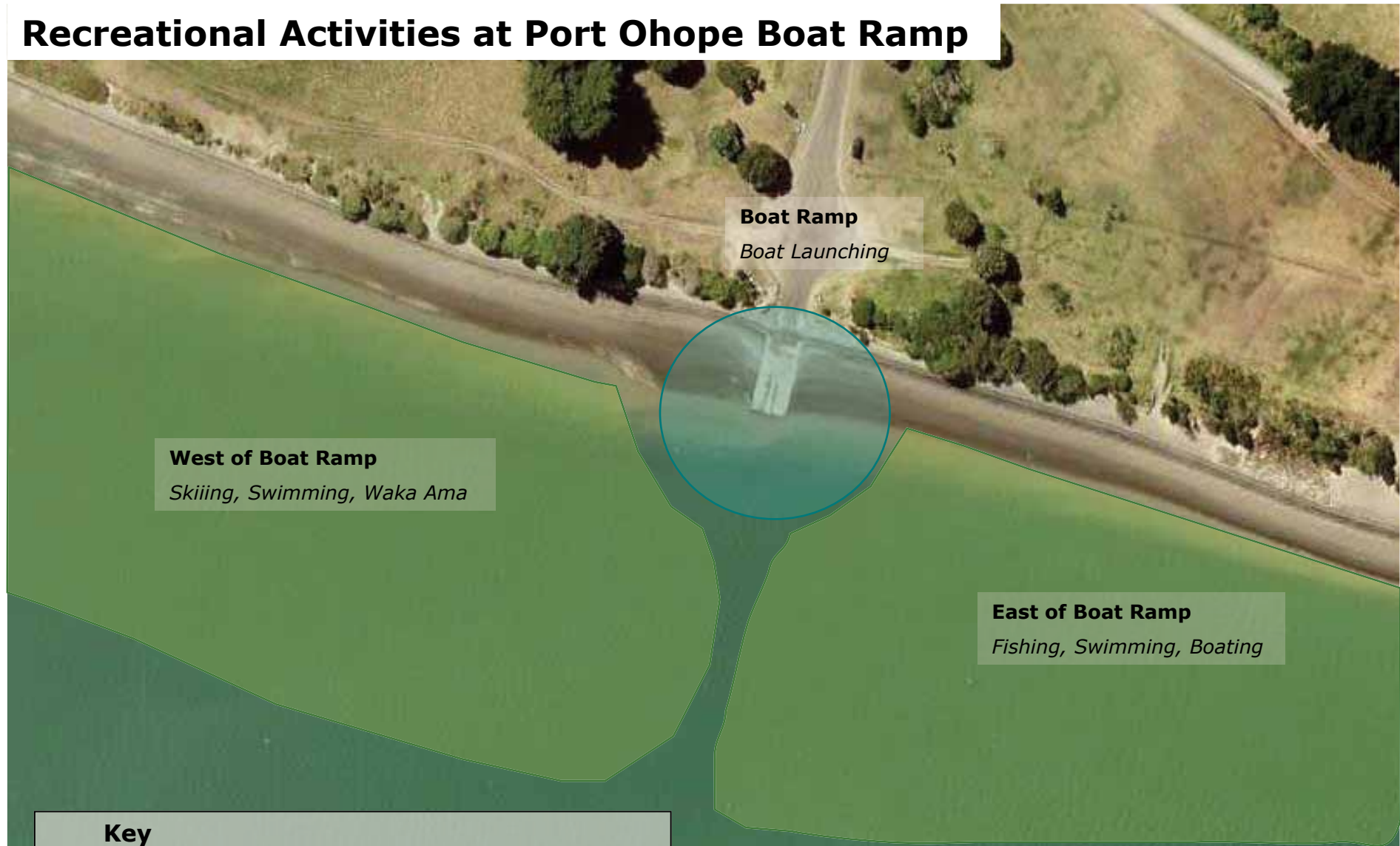
Recreational Activities at Thornton



Recreational Activities at Port Ohope



Recreational Activities at Port Ohope Boat Ramp





Boat Ramp
Boat Launching

West of Boat Ramp
Skiing, Swimming, Waka Ama

East of Boat Ramp
Fishing, Swimming, Boating

Key

-  Regular use by recreational users. Uses are compatible at current levels
-  Frequently used by a variety of recreational activities, however competition for use of areas is infrequent.

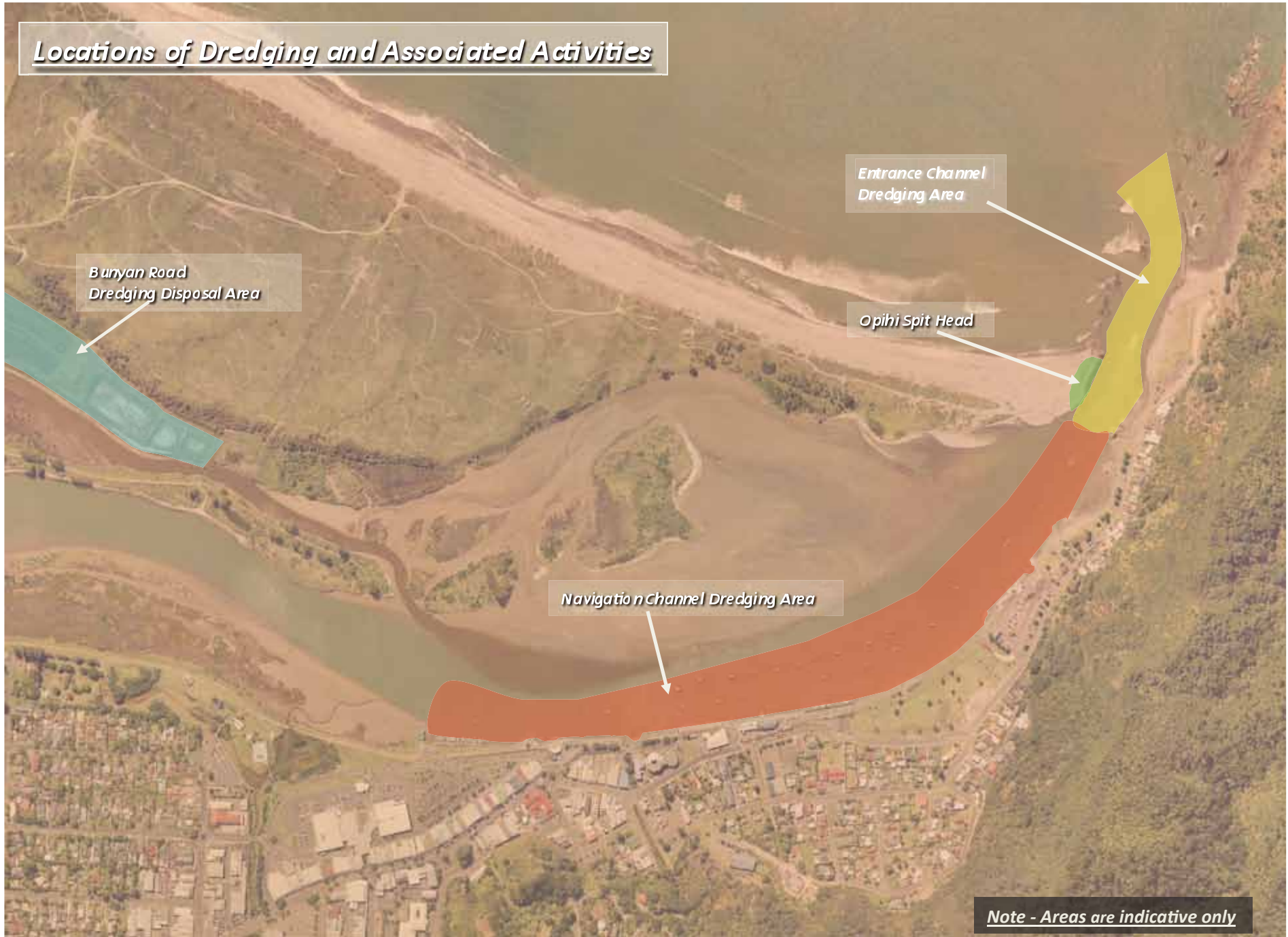
Note: Areas are indicative only

APPENDIX 22

WHAKATANE MAINTENANCE DREDGING LOCATIONS



Locations of Dredging and Associated Activities



Bunyan Road
Dredging Disposal Area

Entrance Channel
Dredging Area

Opihi Spit Head

Navigation Channel
Dredging Area

Note - Areas are indicative only