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**OPERATIONAL MANAGEMENT PLAN
RESOURCE CONSENT NO 940061(01)**

PARAPARAUMU BEACH RENOUISHMENT TRIAL

BEACH MONITORING

1. **Deposit Area**

This area is from cross section 14 and approximately 200 metres north to the Tahurangi Road stormwater outlet.

Establish cross section survey stations as follows :

Survey stations 14 and 20 plus 50, 110, 170, 230 metres north of cross section 14

Also two survey stations south of cross section 14 one 100 metres and one 300 metres south (copy of plan attached)

2. **Borrow Area**

Survey stations 16 and 18 also 460 metres and 800 metres north of station 16 and 100 metres and 400 metres south of station 16, copy of plan attached.

3. **Frequency**

Those stations would be monitored just before work commenced and as soon as practicable after the work is completed, also one month after, 3 months after and six months after or after significant storm events. Further monitoring at 3 monthly intervals may be required if there are anomalies in accretion rates.

4. **Reporting of Results**

Computerised cross sections showing the beach profiles at each survey station will be available. These can be plotted for each survey date so a direct comparison of beach levels can be shown.

The programme can also calculate the volume of build up or loss at each station.

The results will be prepared in report form after each monitoring period.

The results will be available for public inspection and copies will be distributed to the members of the Consultative Group.

DAILY MONITORING

The borrow and fill areas will be monitored daily. To determine quantities removed and deposited a grid pattern will be set up. Daily records will be kept of cut and fill areas. The volume will be confirmed by truck counts.

BIOLOGICAL MONITORING

This work will be done by NIWA. It is proposed to undertake this work in the same format as the initial report. This would mean three cross sections in the borrow area and two in the fill area, also a reference site north of the borrow area and south of the fill area. Five random samples would be taken along the wheel track area. We propose to sample just prior to work commencing, three months and six months after completion. Further monitoring may be required if recovery is slow.

EXCAVATION METHODS

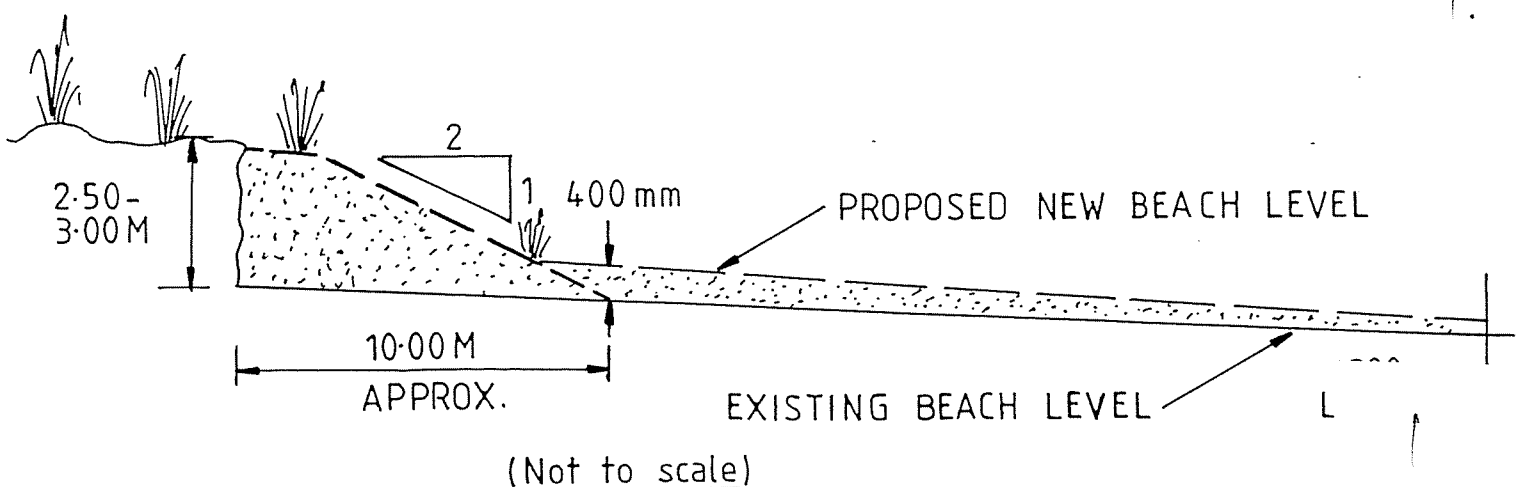
There are two possible methods of excavation which we propose to make available to tenderers.

1. The use of motor scrapers. These are likely to be elevated type and 17.00 m³ capacity and weigh approximately 46 tonnes. These would transport the sand along the beach in the upper area of the intertidal zone and average a speed of 10 to 15 km per hour. Three scrapers would be working at once and a round trip is expected to take about 27 minutes. On this basis the scrapers could shift about 104 m³ per hour, a total of about 53 hours the scrapers will empty on the beach or near the face of the dune and final placement would be done by a large loader.
2. The second method would be to use a 20 to 30 tonne excavator which would scrape the sand off the beach to the required depth and load it into the trucks. The trucks could then cart it down the beach, deposit it against the dunes and spread it on the beach, final shaping would be done by a large loader. The truck would be from 8 m³ to about 15 m³ truck and trailer units. The round trip of a truck unit is expected to be 20 to 30 minutes. It is expected that a large excavator and three to four trucks would shift a similar amount of sand in one hour as the motor scrapers.

All vehicle movements on the beach will be limited to 30 km/h.

BEACH PROFILES

It is proposed to extend the toe of the dune by approx 10 metres over the 200 metre stretch. This will require about 3,000 m³ of sand. The balance of the sand, 3,000 m³ will be used to build up the beach 400 mm at the toe of the dune to 200 mm at the low tide mark.



SAFETY

It is proposed to close the beach area to the public south of 149 Manly Street to a point adjacent to 55 Wharemauku Road. This is approximately a 3 kilometre stretch of beach.

The Kapiti Boating Club access for launching can be used by commercial operators and the rescue craft but must give way to the earthmoving equipment.

Warning signs will be erected on all public beach access points. A series of public notices will be run in local papers, and some radio broadcasts to warn people that the beach is closed due to heavy machinery working on the beach.

Also erect plastic warning strip on the waratahs on the edge of the high tide line, this will act as a visual barrier to warn people of the dangers of the heavy machinery and will act as a guide for vehicle movement for the trucks or scrapers to keep them up near the high tide mark when travelling along the beach.

CONTRACT OBLIGATIONS

The contract is a lump sum contract written in terms of NZS 3910 (Conditions of Contract for Building and Civil Engineering Construction).

One of the Conditions of Contract is to comply with the Operation Management Plan and the Resource Consent, both of these documents are part of the Contract Document.

If conditions are not complied with, the Engineer can remove the contractor from the site.

MACHINERY STORAGE

It is proposed to park heavy machinery on the Council owned grass area just north of the Kapiti Boating Club. This area is off the beach and fronts Manly Street. Machines can get to this location without going on the road.

TIMING

It is proposed to carry out the works in the month of November. This is the only time we have available to do the work in terms of the consent as we consider the matter urgent.

Tidal movements will restrict work to about 20 hours per week working all five days. The total job is expected to take three weeks.

COMMUNITY CONSULTATION

The Community Consultation Group is in the process of being established. The group will include a representative from iwi, Conservation Department, Wellington Regional Council, two representatives from the Manly Street/Marine Parade area and the Kapiti Coast District Council.

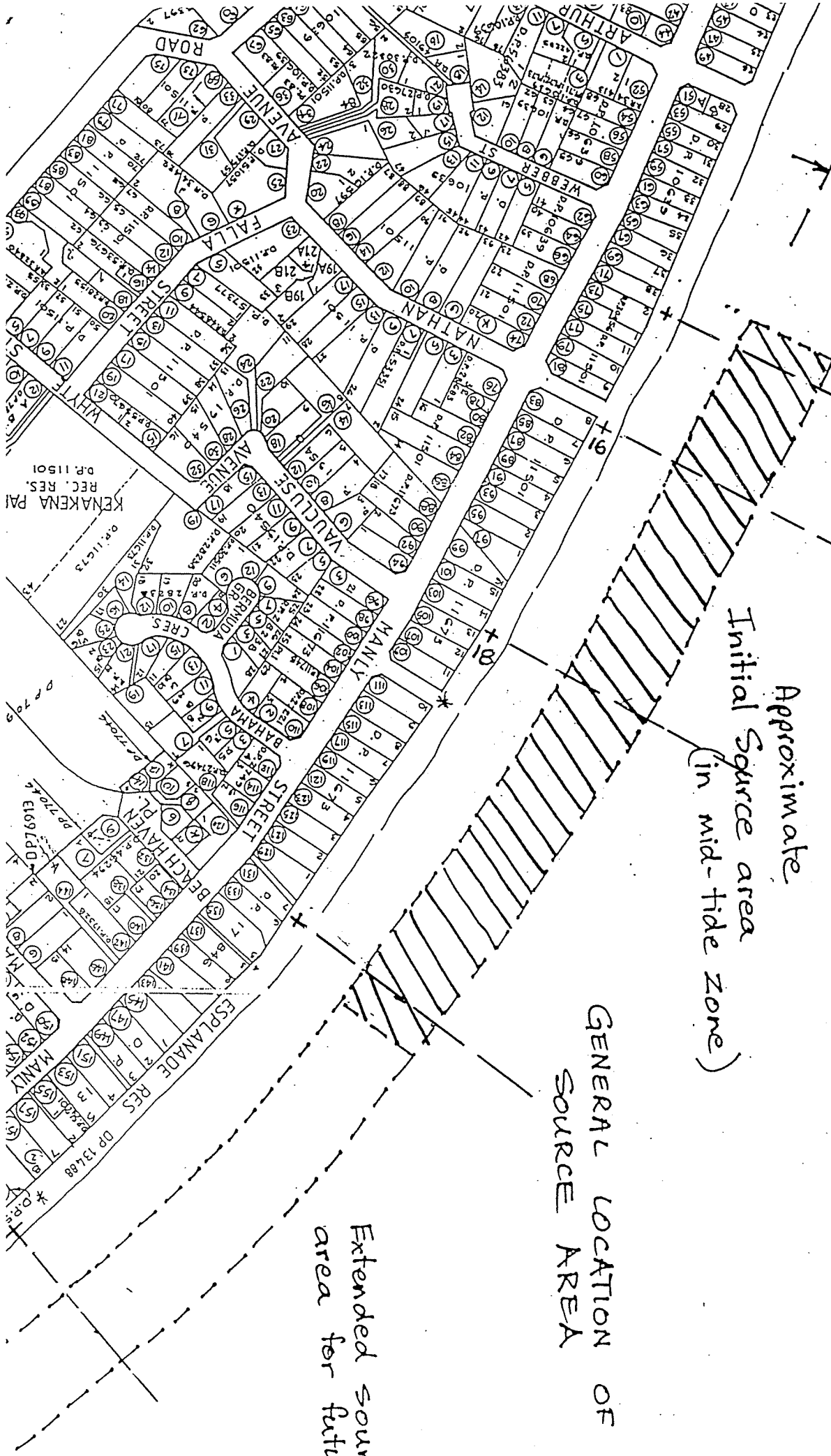
Invitations have been sent to all submitters and residents on Manly Street and Marine Parade to elect representatives from each area. The meeting is scheduled for Tuesday 11 October 1994.



Blair Murray
STORMWATER ENGINEER

MdG

3 October 1994



Inter-Tidal area

PAPA PARAIUMU BEACH
RENOUWISHMENT

Approximate
Initial Source area
(in mid-tide zone)

Proposed x sections For SURVEY
BEACH MONITORING

SCALE Approx 1:4000

GENERAL LOCATION OF
SOURCE AREA

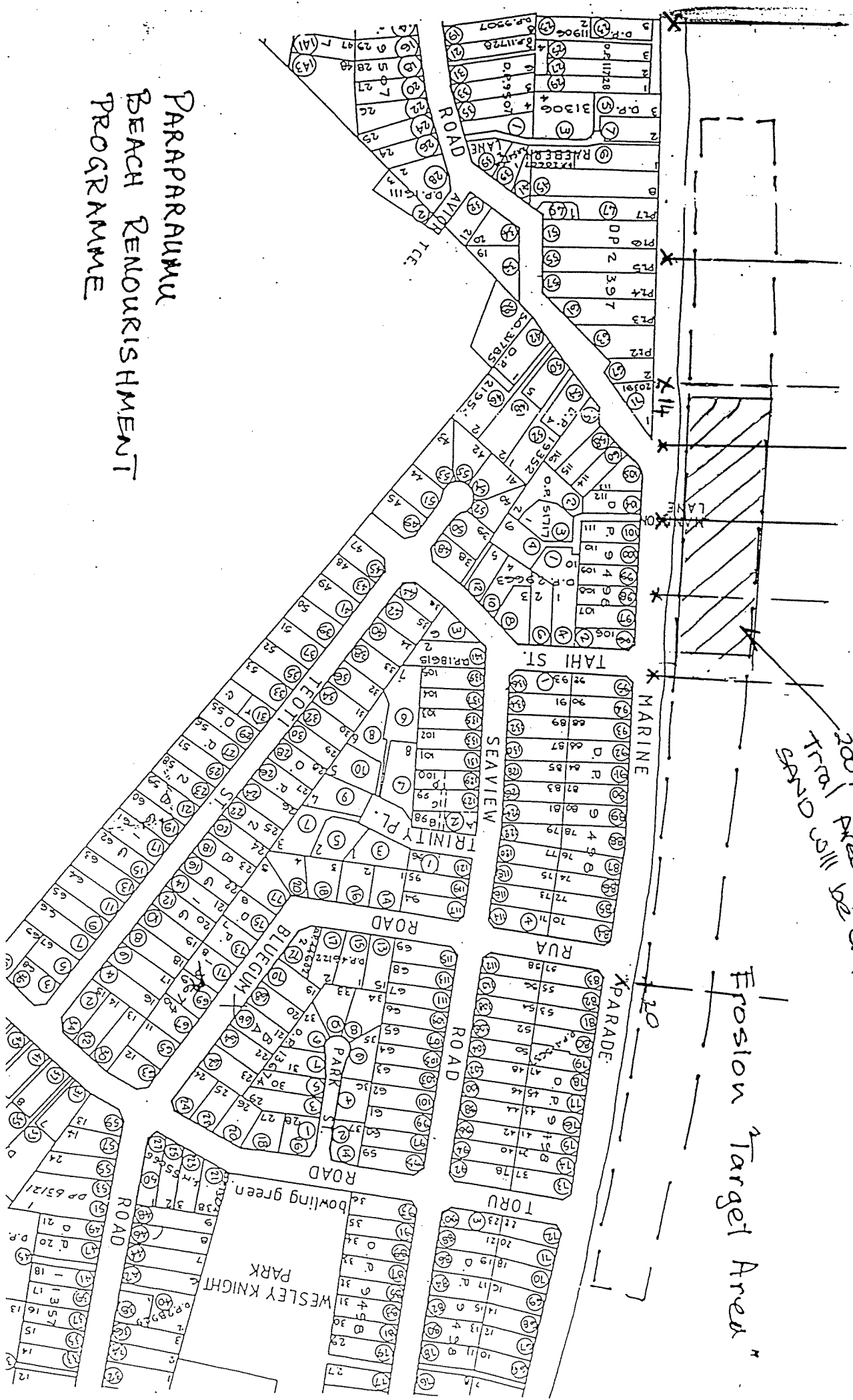
Extended source
area for future

PROPOSED X SECTIONS FOR SURVEY
 MONITORING RENOURISHMENT TRIAL

SCALE 1 : 4000

200 meter trial area for beach nourishment trial

Erosion Target Area



PARAPARANGU
 BEACH RENOURISHMENT
 PROGRAMME