PUNAKAIKI CAMP STUDY

Landscape Architecture Section
Horticulture Department
Lincoln College, New Zealand

Study No. 20

PUNAKAIKI CAMP GROUND LANDSCAPE STUDY

Landscape Architecture Section, Department of Horticulture, Lincoln College, Canterbury, New Zealand.

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Prepared for
PUNAKAIKI SCENIC BOARD and the
DEPARTMENT OF LANDS AND SURVEY, HOKITIKA.

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A student project undertaken by first year students, Landscape Architecture Section, Department of Horticulture, Lincoln College, Canterbury, New Zealand.

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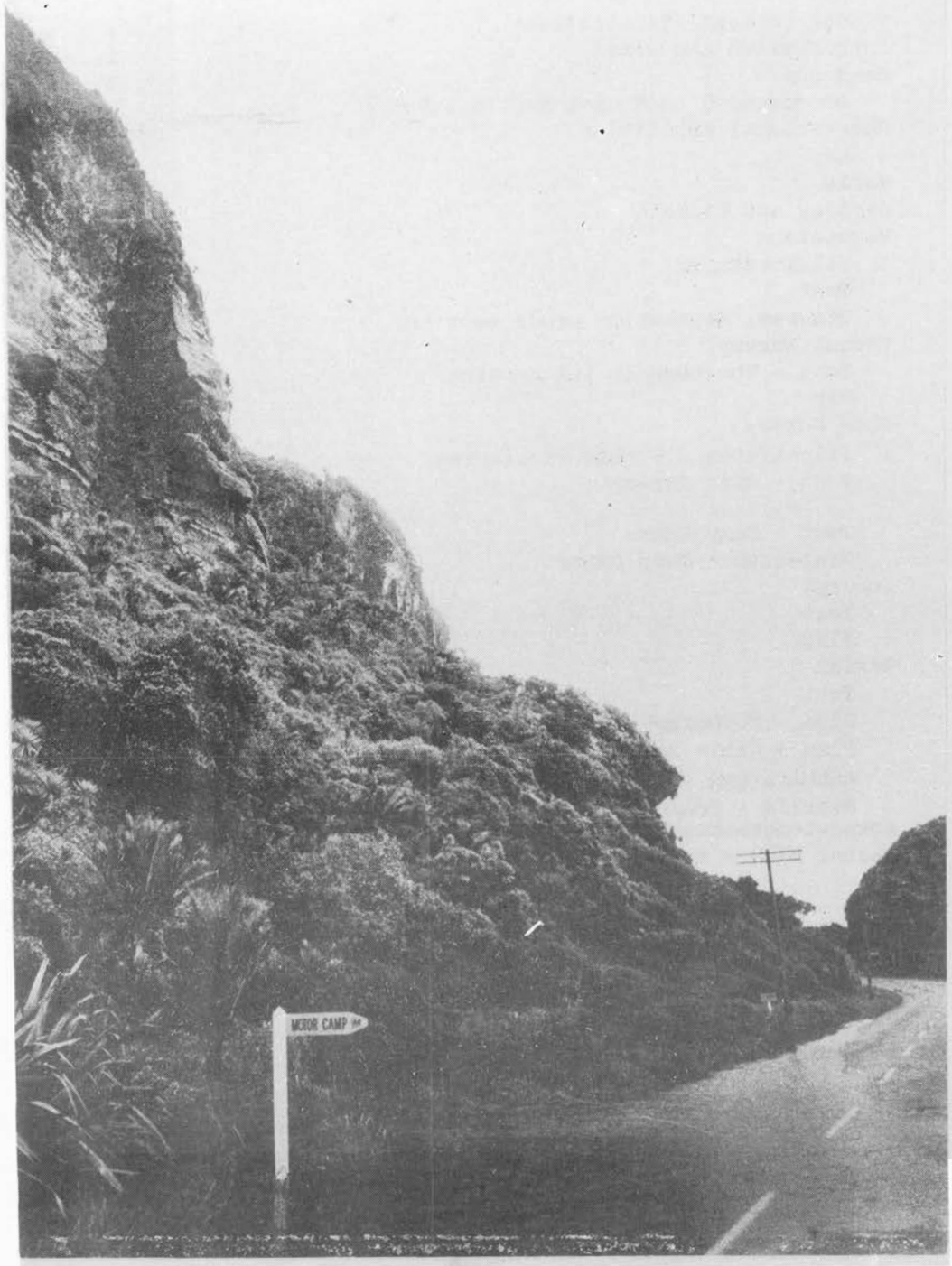
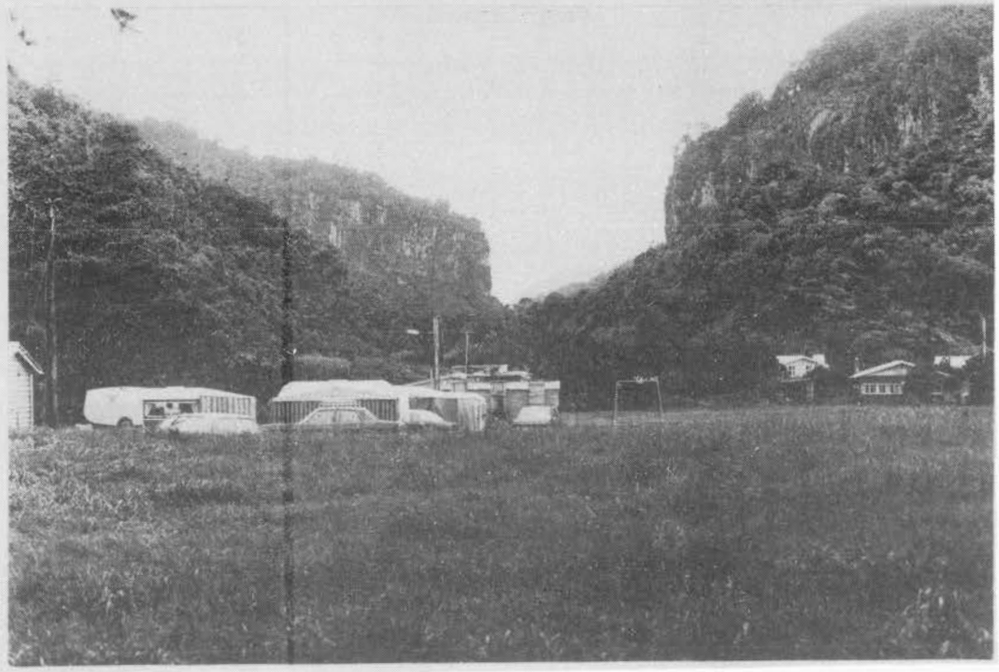
Cover illustration: Coastal cliffs, vicinity of Punakaiki Camp Ground.

CONTENTS





PUNAKAIKI CAMP STUDY

VISUAL CONTEXT

INTRODUCTION AND BRIEF

Recreation demand on the coastal fringe of South Island between Greymouth and Westport is increasing and there is need for a study of this impact, with particular reference to its probable effect on the camping ground at Punakaiki, and the need to restructure the facilities presently available there.

The team is to develop a basic design proposal for the camp itself. This should be capable of accommodating the uses and facilities which the preliminary study indicates are desirable. However, it is desirable that the organisation proposed should be sufficiently flexible to allow for changing recreation patterns which may emerge in the future.

In formulating proposals for development the team is to consider the concept of a public amenity area, plus provision for cabins, caravans, camping sites and picnicking in a relaxed and informal atmosphere.

The proposals are to indicate the siting and general designs of all buildings, servicing facilities, circulation systems, and plantings, allowing for a concept of staged development.

The proposals presented here are based upon proposals developed by landscape students. These proposals were amended in the light of discussions held with the Punakaiki Scenic Board, and were developed to their present form by Miss J.H. Woodhouse, Landscape Tutor, Lincoln College.

LAND-USE & RECREATION

The most important land-use factors for the region under study are forestry, recreation and tourism. Other land uses include farming, mineral development and proposed residential areas.

1. FORESTRY

The greater part of the region is covered in natural forest and lies within the area for the proposed beach forest management scheme. Because of these developments the N.Z. Forest Service has zoned the forest in the following way. The map on p.5 shows the general disposition of these zones.

(a) Protection Forest. These areas have been defined on the basis of higher altitudes, and sensitivity of forest, geological and soil types.

(b) Amenity Reserves. These areas have been set aside to preserve scenic and recreational values particularly along highways, rivers and around lakes.

(c) Biological Reserves. These are special areas for the preservation of flora and fauna.

(d) Beech or Podocarp Management. This includes all areas not previously designated under a, b, & c, but does not imply that all the area will be used.

(e) Conversion to Exotics. These are areas where it is considered that beech forest cannot be successfully managed and replanting in exotics will enable a sustained timber yield.

(f) Forest in other tenure and outside the control of the Forest Service.

2. TOURISM & RECREATION

Both these activities are largely restricted to the coastal strip and are causing increasingly heavy demands to be placed on the highway, on camping grounds, holiday baches and similar sites, and on areas of high scenic interest.

One survey cited the following reasons for tourists visiting the West Coast: they were considered to be primarily for sight-seeing and scenery observations, followed by history, mining, minerals, photography, walking, boating and fishing. More detailed discussion of tourist values is given overleaf.

3. FARMING

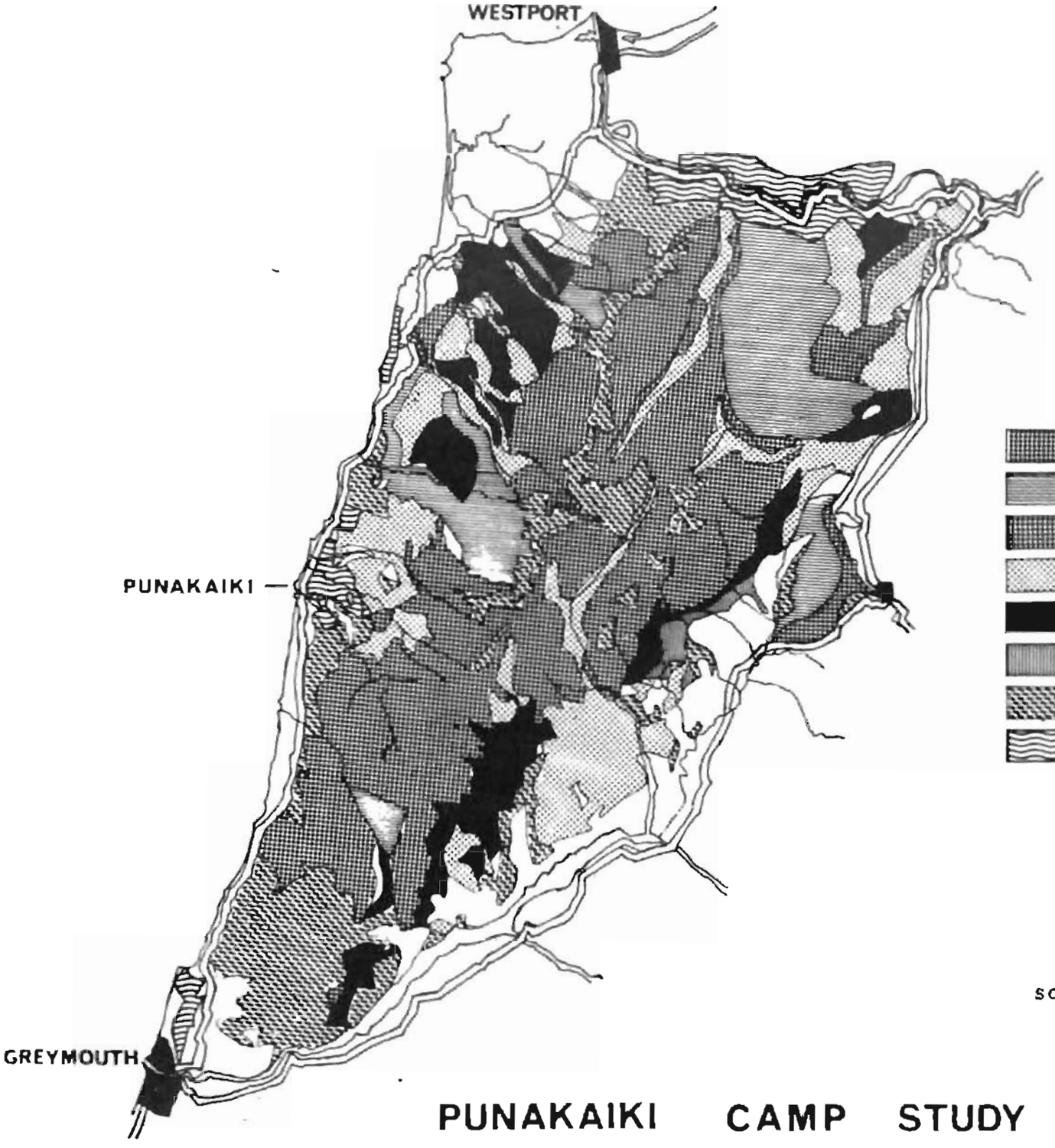
Takes place on flat and hilly cleared areas in isolated pockets along the coast, but is more intensive at Barrytown and on the more recently developed 'pakahi' soil of Cape Foulwind region.

4. MINERAL DEVELOPMENT.

Prospecting and pilot production of Ilmenite has taken place on the sands north of Barrytown. To date commercial production is not underway.

5. RESIDENTIAL AREAS.

Along the coastal road between Greymouth and Westport there are no large settlements; however south of Razorback Point and between the highway and the sea a large area of land has been zoned as residential. Farm houses and baches are scattered along the coast and there is a small concentration of holiday houses at Punakaiki.



LEGEND

- PROTECTION FOREST
- BIOLOGICAL RESERVES
- PROPOSED N.Z.F.S. AMENITY RESERVES
- BEECH OR PODOCARP MANAGEMENT
- CONVERSION TO EXOTICS
- FARMING
- FOREST IN OTHER TENURE
- L&S. SCENIC RESERVES

N

SCALE 1 TO 400000

PUNAKAIKI CAMP STUDY

RECOMMENDED LAND USE

RECREATIONAL OPPORTUNITIES

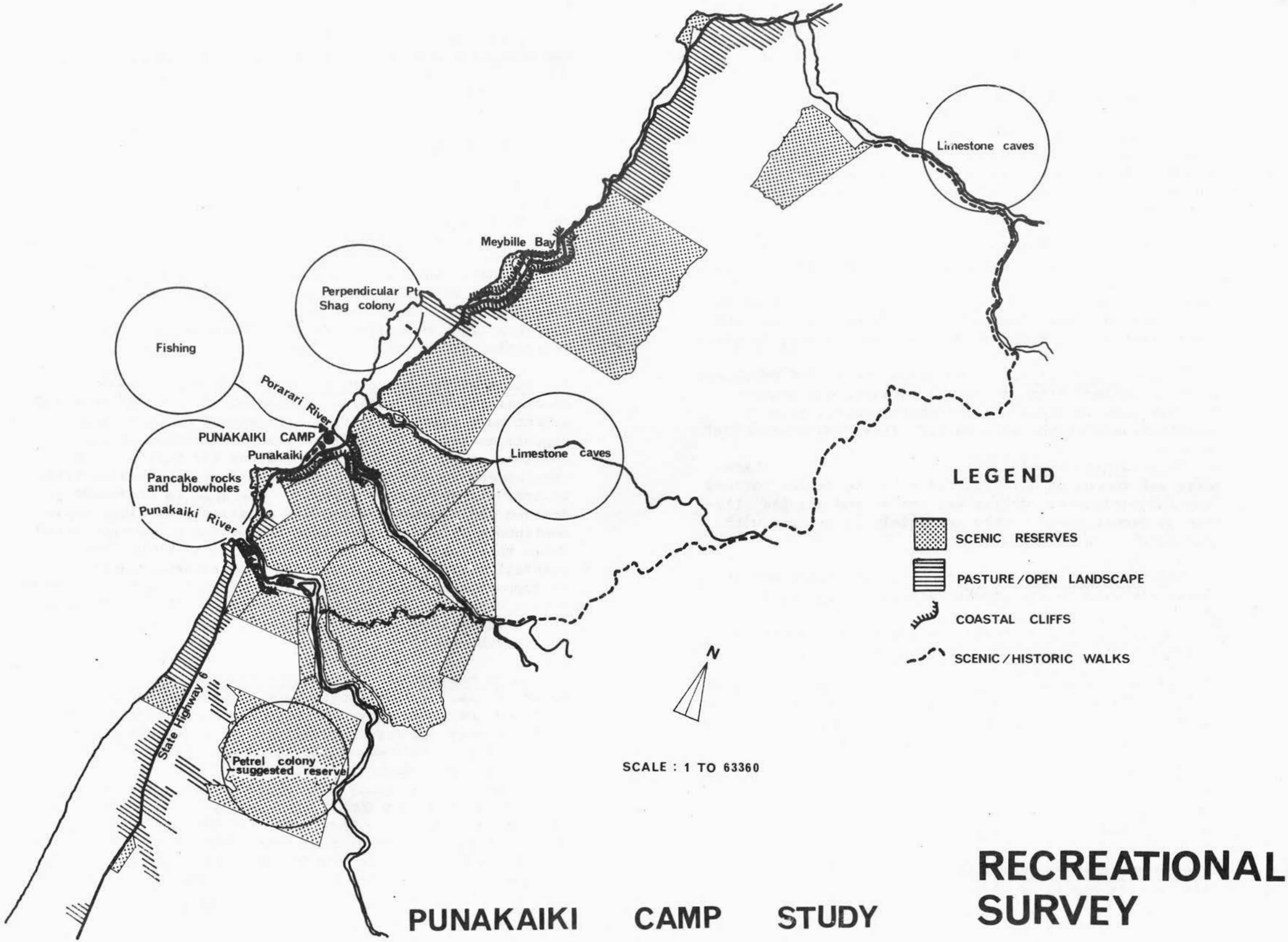
The recreational opportunities of the Coastal region overall are cited in Section 2, page 4. To a considerable extent these opportunities are interwoven with the geological characteristics (see page 9), which creates the fundamental features of the landscape, and, in turn, are the source of scenic appeal and the underlying vegetational and wildlife attractions.

The recreational opportunities of the Punakaiki area are shown in the map on page 7, and it can be appreciated that their dispersed character makes the car very necessary for their experience. The road itself thus becomes part of the West Coast recreational experience; roads are not merely a means of access - they are also part of the recreational opportunity. The recent upgrading of the coast road is true only in terms of highway engineering; it is not true in visual terms and it will take many years to restore the present highway landscape to its original character if, indeed, it can ever be done, due to changes in soil, drainage patterns, water tables etc.

The problems of differing objectives, which are evidenced in this comment, are even more accentuated where different land ownership reinforces the differences. The ideal circumstance, viewing this area as one recreational opportunity in total, would be to logicalise the present boundaries to ensure a unified approach to the management of that area which is visually significant to most visitors, and thus part of their recreational experience.

Provision of facilities for the car, whilst obviously vitally significant for the experience of the area, must not be allowed to become a destructive force. Provision for access and parking expecially can create visual effects which are quite antagonistic to the basic character of the area. But they do not need to. It depends upon the detailed design of width, surfacing and drainage method, as well as the proximity permitted between vehicle access and the feature of interest. The cumulative effect of the visual impact of e.g. large cleared areas for parking, or of curbing and channelling, or of surface material can be devastating in these basically natural areas and every consideration must be given to minimisation of this visual effect without necessarily avoiding provision of the service.

Particular attention must also be given to the impact of service installations of other types upon the visual value of the whole area. If incorrectly sited, or poorly designed from the landscape viewpoint, they can downgrade the visual quality of the area which, as we have seen, is a major part of the recreational opportunity of the area overall.


Limestone caves
Meybille Bay
Perpendicular Pt
Shag colony
Fishing
Porarari River
PUNAKAIKI CAMP
Punakaiki
Pancake rocks
and blowholes
Punakaiki River
Limestone caves
LEGEND
SCENIC RESERVES
PASTURE / OPEN LANDSCAPE
COASTAL CLIFFS
SCENIC / HISTORIC WALKS
N
State Highway 6
Petrel colony
-suggested reserve
SCALE : 1 TO 63360
PUNAKAIKI CAMP STUDY
RECREATIONAL SURVEY

SOILS

SOILS OF THE REGION

A knowledge of the soils of the regional area is important from the landscape point of view. Since there is a correlation between soils and the vegetation which grows (or could grow) on them it can be appreciated that soils influence both land use and visual appearance.

1. Recent Sands. These occur on a narrow discontinuous strip along the coast, the sands being derived from granite, greywacke and schist. Okari 70b soils derived from these parent materials include Utopia 63 and Waita 63a. They are well drained, often excessively so, and low in fertility. Plant growth is commonly very specific.

2. Gleyed Floodplains. These soils are formed on recent alluvium derived from greywacke, granite and schist. They are slow to drain and are characteristically in swamptype vegetation, such as N.Z. flax. (Karanganua 91a)

3. Freedraining Floodplains. These soils are formed on alluvial flats in the valley bottoms from unconsolidated greywacke, schist and granite alluvium of recent age. They are mainly in pasture with some scrub. (Hokitika 99b).

4. Low Fluvial Terraces. Narrow linear strips adjoining recent alluvium in the stream valleys. (Ikamatua 43c).

5. Lowhill Country. Soils are formed on calcareous siltstones and sandstones. (Anahura 46h).

6. Mid level Marine Terraces. These occur at isolated intervals along the coast. They are infertile, shallow, poorly drained and covered in 'pakahi' scrub in its natural state.

7. Rugged Hill and Taipo Country. Occur on banded sandstone which is cretaceous and tertiary in age. Relief is steep, taipos are common and these areas are mainly suited to protection forest.

8. Low Mountain Ranges. 4000' - 5000'. The underlying rocks are Paleozoic or older and slopes are steep or very steep. Vegetation varies from beech to podocarp except the Honouu series which supports tussock grassland and subalpine scrub. The soils are very infertile, are prone to slipping and are suited mainly for protection forest. (Wakamarama 65a, Kanieri 66, Honouu 67b.)

SOILS IN AND AROUND THE SITE.

Information on soils in and around the camp ground is important to assess soil drainage, soil fertility and soil structure, and its effects on plant growth and overall tolerance to the impact of people.

Because detailed soil survey information in documented form is not available for the site and its immediate surroundings, inferences have had to be made by examining soil profiles, observing drainage characteristics and vegetation responses.

1. Soils within the camp ground. Yellow brown sands. An examination of profiles to a depth of 12 - 15" revealed almost pure beach sand, free from stones and very low in organic matter. There is no real development of soil horizons on the higher standing areas and only a slight development showed in samples taken from lower lying areas towards the eastern boundary. The soil is excessively drained and no casual water was apparent even after heavy continuous rain - an important factor for a camping ground. While this soil is naturally infertile, an even, high rainfall together with high soil temperatures allows it to support a moderately wide range of exotic and indigenous plants - see the section on vegetation. The maintenance of a satisfactory surface sward will require constant attention, however.

2. Soils between the Camp ground and the Porarari River. Recent Soils. These soils have been deposited in times of flood and their composition reflects the complex nature of their original parent materials. An examination of the profiles show these soils to be very silty and containing a high concentration of plant roots. They are free draining, naturally fertile and support a vigorous plant association of Kowhai, N.Z. Flax, Nikau, Cabbage tree and Tree fern. They thus give rise to a natural, self-maintaining, buffer zone between the camp ground and the river, which is reinforced in its effectiveness by the regular fluctuations in moisture content.

GEOLOGY

The Punakaiki region owes much of its landscape character and strength to its geological formations. In total there is considerable variety and complexity of composition, due to the differing origins, and the varying influences which have acted upon them.

South of Punakaiki the geology is recent in formation, consisting of gravels and sands and giving a relatively flat coastal region. The precise layering of these gravels and sands depends upon their time of deposition and their specific origin - whether glacial, moraine, or river deposition. But considerable difference in detail exists.

As the camp site is approached from the south the landscape becomes more vertical in emphasis due in the cliffs of marine mudstone, siltstone and sandstone. The camp itself offers a strong visual contrast between sand, river and cliff, an impact which is its major visual appeal, rooted firmly in its geological origins.

From Porarari River north to the Fox the older mudstones, siltstones, sandstones and limestone formations predominate and, with the very old formations of granite and gneiss which are evident in the Maybille Bay area, produce a most striking coastal scenery. River influence is seen both in the strong visual interruptions to the cliff line, and in the outwash plains.

CLIMATE

1. Rainfall. The West Coast is open to the westerly weather systems coming in from the Tasman Sea and consequently has a higher rainfall than the eastern side of the Main Divide. Rainfall increases from north to south; e.g. it is 73" at Karamea, 77" at Westport, 101" at Greymouth, 114" at Hokitika, 134" at Ross and 196" at Jackson Bay. It also increases going inland from the coast, especially with increase in altitude so that in the mountains in the far south totals exceed 300" per year. The monthly variation is small over most of the region. Intensities are high, well illustrated by the fact that Hokitika has more than double the rainfall of Auckland yet only about the same number of rainy days.

The rainfall for Punakaiki can be assumed to be somewhere between that for Westport 77" and Greymouth 101". With the soil conditions and free drainage which exist at the camp ground this is not likely to be a problem situation.

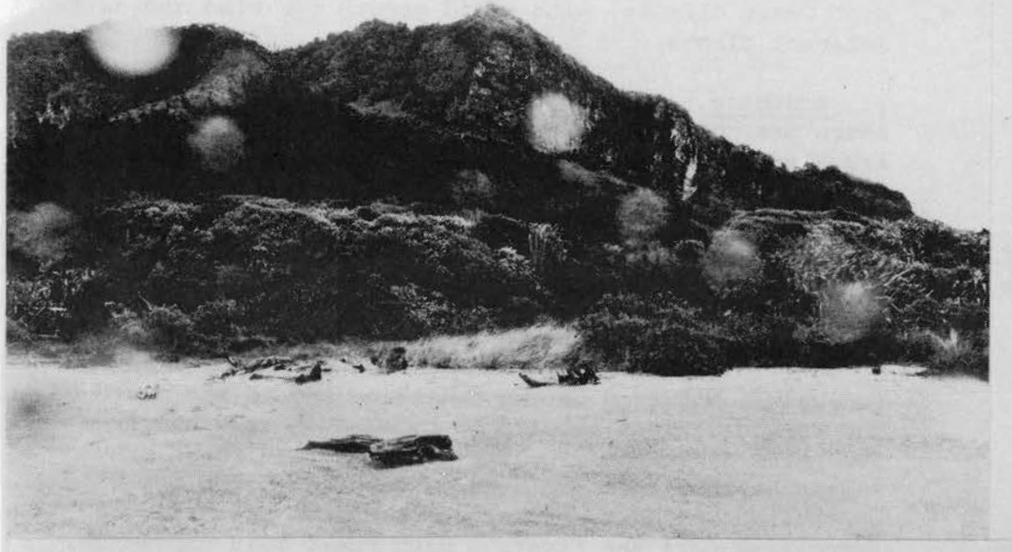
2. Temperature. Average temperatures generally decrease from north to south and from west to east (i.e. going inland). The weather is milder than on the east coast with winter temperatures not so low, and summer temperatures not so high. For example frosts are seldom recorded at Westport during the winter and near the coast temperatures rarely rise above 70°F.

Although no accurate records exist for Punakaiki, the presence of half hardy and frost-tender plants (Norfolk Pine, Telopea, Pohutukawa, Monstera) suggest a typically mild West Coast climate, with rapid growth for wind and salt-tolerant plants.

3. Sunshine. In spite of the high rainfall, sunshine hours are not low. Figures for Westport (1961 hours) are almost identical to those for Christchurch.

4. Winds. Meteorological records show that there is not really a prevailing wind on the coast, and although velocities have not been recorded, experience shows that they are not normally excessive. A wind rose for Westport is included in the location map.

Punakaiki, situated on the coastline and at the mouth of the Porarari River appears to be exposed to winds from two main directions. The modified tree forms around Punakaiki show that the area is exposed to the prevailing westerlies and also open to a more local easterly wind funnelling down the river. With these twin exposures, shelter from wind must be a major factor when evolving a design philosophy for the camping ground.



PLANT COMMUNITIES

PUNAKAIKI CAMP STUDY

PLANT COMMUNITIES

KEY TO PHOTOGRAPHS

Left, top	Strongly stratified cliff bluffs adjacent to camp entry, clothed in coastal forest.
Left, centre	Riverbank scrub, showing the "build-up" towards the bridge (left), and the growth of Pinus radiata, with minimal shelter.
Left, bottom	Modified coastal forest in the area of Pancake Rocks dominated by Nikau and N.Z. Flax.
Far left, top	Gorge of the Porarari River, clothed with coastal forest above, and river-bank vegetation below.
Far left, centre	Coastal scrub, undergoing transition to coastal forest.
Far left, bottom	Camp ground, showing the importance of Pinus radiata in providing shelter. Note the wind "shear".

VEGETATION

REGIONAL PATTERNS OF VEGETATION.

These can be conveniently subdivided into the following categories.

1. The beech/podocarp forests clothe the Paparoa Ranges which lie between the coast and the Grey River Valley. Above the bushline these forests give way to alpine scrub, alpine grassland and alpine herbfield.

2. The Coastal Forest is predominantly Rata, Nikau, Keikei and associated broad-leaf species.

Plants observed growing in the coastal forest include:

Freycinetia banksii	-	Kei Kei
Macropiper excelsum	-	Kawakawa
Melicytus ramiflorus	-	Mahoe
Hedycarya arborea	-	Pigeonwood
Metrosideros perforata	-	Climbing rata
Metrosideros diffusa	-	Climbing rata
Rhopalostylis sapida	-	Nikau
Griselinia lucida	-	Puka
Coprosma repens	-	Taupata
Coprosma lucida	-	Karamu
Weinmannia racemosa	-	Kamahi
Phormium tenax	-	N.Z. Flax
Phormium cookianum	-	Mountain Flax
Hebe sp.		
Myrsine australis	-	Red Matipo
Myrsine salicina	-	Toro
Myoporum laetum	-	Ngaio
Tree ferns and ground ferns		
Cordyline australis	-	cabbage tree
Cortaderia richardii	-	toe toe
Pseudopanax simplex	-	Three finger
Carpodetus serratus	-	putaputaweta
Aristotelia serrata	-	wineberry
Psuedopanax crassifolium	-	lancewood
Fuchsia excorticata	-	tree fuchsia
Fuchsia perscandens		
Metrosideros umbellata	-	Southern rata

These forests are of high scenic value and are typical of the vegetation in the reserve areas at the Pancake Rocks, Punakaiki Bluffs and Truman Track.

3. The Valley Floors are typically mixed Podocarp, including Kahikatea, with associated broadleaf species.

4. Scrub areas appear along the coast either where bush has been burnt or cut over. They are typically covered in mixed small tree and shrub associations and often invaded with bracken and gorse.

5. Pasture - The largest areas of pasture in the study area are around Barrytown; in discontinuous pockets along the coast and on the more recently developed 'pakahi' soils south of Westport.

VEGETATION IN AND AROUND THE PUNAKAIKI CAMP

1. The Camping ground is basically an open grassed area with Radiata pine trees growing at intervals around the northern, western and southern boundaries. The pines vary in height from about 15' - 20' where exposures are high to about 40' - 50' in positions further away from sea. Forty Pohutukawa trees have recently been planted under these trees.

Volunteer species are regenerating under and around the pines particularly on the western and northern boundaries.

Species noted were:-

Pinus radiata
Metrosideros excelsa - pohutukawa
Cordyline australis - cabbage tree
Coprosma sp. - divaricating forms
Coprosma lucida
Myoporum laetum - ngaio
Phormium tenax - N.Z. Flax
Ground ferns
Astelia solandri
Macropiper excelsum
Rhopalostylis sapida - Nikau
Pittosporum sp.
Cortaderia richardii - Toe Toe
Bamboo, Gingerplant , lupin, gorse

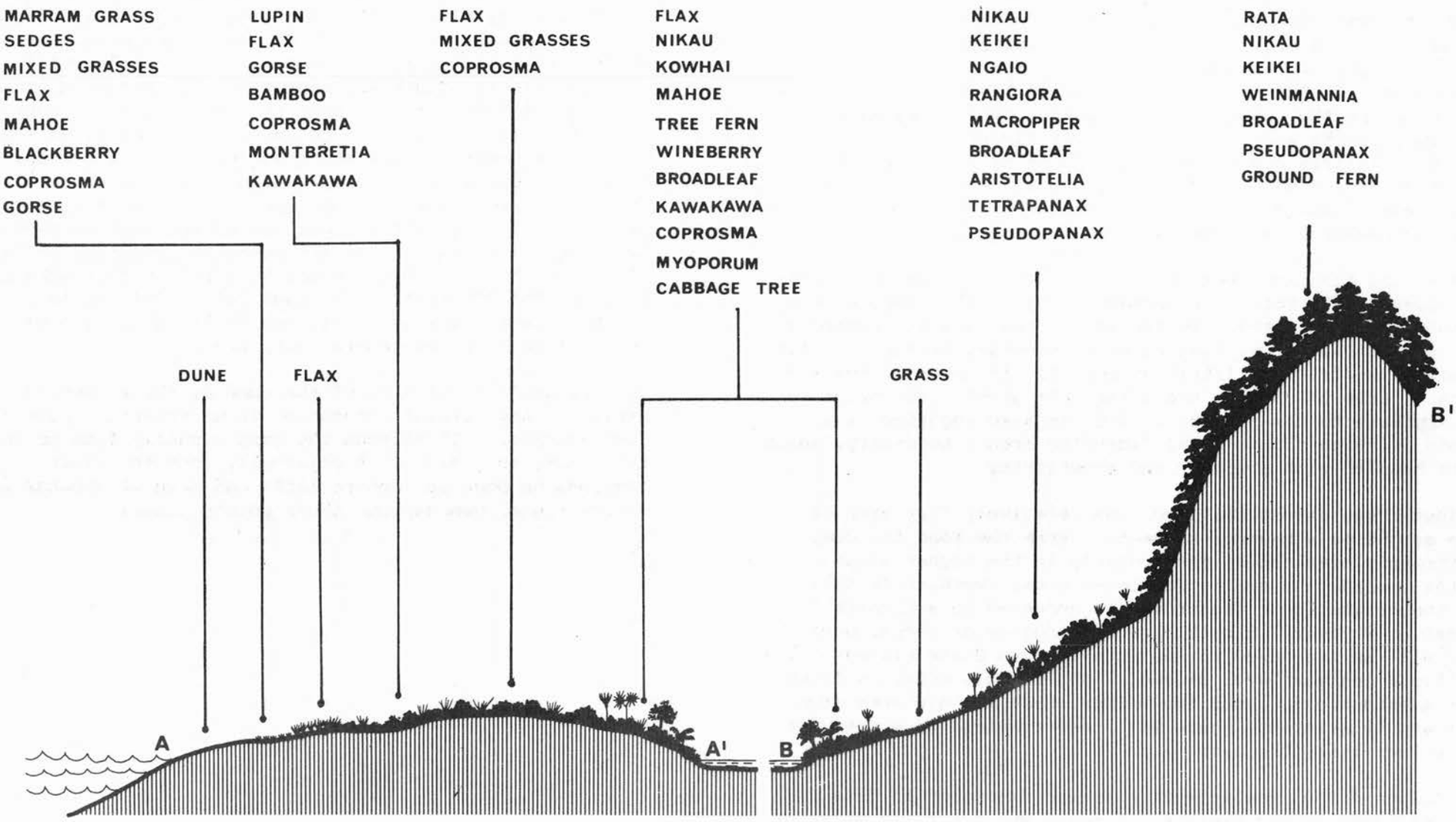
The planting is an essential part of the camp, and it is clear that future planting must take into account wind and salt spray exposure. Fortunately the very light soil conditions are largely compensated by the high even rainfall.

2. Beach Zone - Between the beach and the western camp boundary is an area covered with association of marram grass, carex and other mixed grasses. Above the high water mark this gives way to a thick band of N.Z. Flax. Behind this flax is a mixed association of lupin, flax, bamboo, gorse, macopiper, cabbage tree, and mahoe which slowly grades into coastal forest species.

3. The riverbank area between the northern boundary of the camp and the Porarari River shows a succession, moving from the beach front towards the bridge.

4. The Coastal Forest on the surrounding hills and bluffs are as described under the regional heading.

These zones are illustrated in the cross-section (p.13) which pass, left to right, from beach zone (A) to the camp zone and bank zone (A, - B), and then upwards through the thickening coastal forest.



VEGETATION CROSS-SECTION

PUNAKAIKI CAMP STUDY

VISUAL SURVEY - THE CAMP IN ITS SETTING

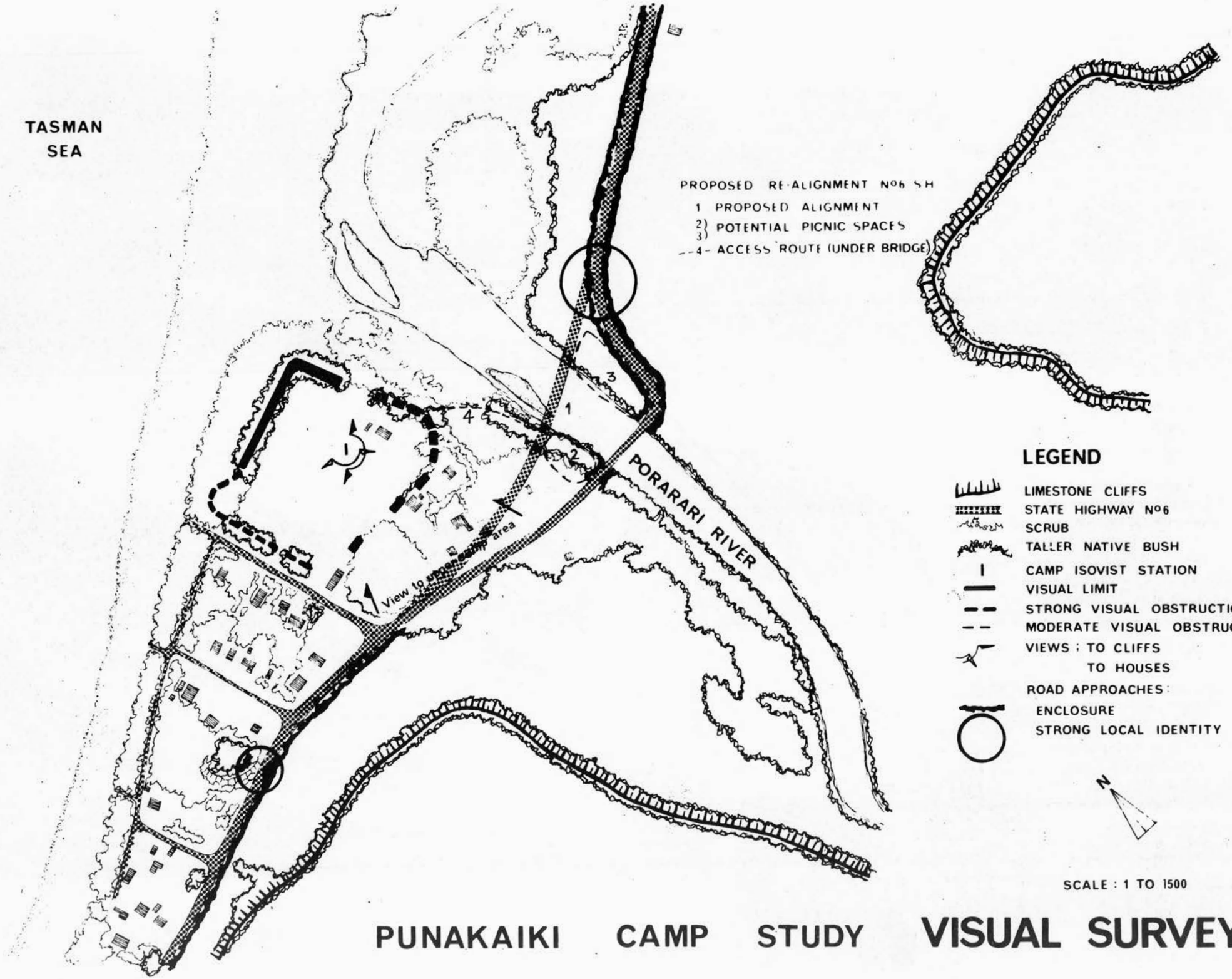
Punakaiki Camp has a marked, distinctive character, created primarily by its setting. The introductory page of illustrations - page 2, Visual Context - demonstrates this fact very clearly. The cliffs which form such a strong geological feature along the coast road are broken, closely adjacent to the camp, by the gorge of the Pororari River. These two elements - cliffs and gorge - are the major visual features from the camp, and looking landward - which the on-shore winds tend to encourage the camp visitor to do - the cliffs form the backdrop, and the gorge as the contrast.

Approaching the camp from the South the cliff remnants which lie close to the road, just before entry to the camp, give a further strong character to the local area, and are regarded by the landscape study team as most important features, which should be modified as little as possible in any road realignments. From the North, the Nikau Palm grove, just prior to the approach to the present bridge, is also regarded as a strong and significant local "identity area", necessary, again, to be handled with sympathy and sensitivity.

Against these strong features, the relatively flat area of Camp ground is a neutral element. From the road the camp is strongly overlooked, particularly in the higher areas closer towards the sea. The lower area, immediately behind the houses and their hedgerows, is screened to a greater extent. However, in both cases the degree of visual overlook will be increased in the future, when State Highway 6 is realigned and its level raised. Whilst this effect will be most marked close to the new bridge where the distance from the camp is greatest, there will, nevertheless be a need for screening within the camp.

The proposed road realignment has been discussed in detail with officers of the Ministry of Works, who are fully aware of the implications of the proposal. The probable alignment is indicated on the map on page 15 and the impact upon the Nikau Grove will be noted. The area has been examined in detail by traffic, landscape and environmental officers of the Ministry of Works, who believe that no alternative routing can be regarded as practically feasible, but who also believe that the effect can be kept to a minimum by careful construction. The suggestion has been made by them that the old approach roads to the bridge be retained, and used to service the potential picnic spaces, marked 2 and 3 on the map. This could add very effectively to the total resources of the area. There would also appear to be no reason why picnic area 2 could not be linked to the camp site, by the provision of an underpass in the South abuttments of the bridge, so long as early request for this is made to the Ministry of Works. This facility could be valuable to camp ground users, as the initiation of a walking track which avoids crossing a road; it could be equally useful to picnic area visitors who wish to use toilet facilities in the camp. This suggestion correlates with the concept of open space, the continued use of the existing toilet block, and the potential eventual replacement of this with a new ablution block linked to this open space, shown in the 'Concept' plan (page 21). This would allow use of these facilities by picnickers whilst still avoiding their penetration into the general camp area.

The sea-wards protection of the camp by the retention of the pines and the natural vegetation is an essential part of the camp setting. It screens the camp visually from up and down the coast, and screens it physically from the winds. Illustrations on page 16 (centre left) and page 10 (bottom left and centre right) demonstrate these points clearly.


TASMAN SEA
PROPOSED RE-ALIGNMENT No6 SH
1 PROPOSED ALIGNMENT
2) POTENTIAL PICNIC SPACES
3)
4- ACCESS ROUTE (UNDER BRIDGE)
PORARARI RIVER
View to upper valley area
LEGEND
LIMESTONE CLIFFS
STATE HIGHWAY No6
SCRUB
TALLER NATIVE BUSH
CAMP ISOVIST STATION
VISUAL LIMIT
STRONG VISUAL OBSTRUCTION
MODERATE VISUAL OBSTRUCTION
VIEWS : TO CLIFFS
TO HOUSES
ROAD APPROACHES :
ENCLOSURE
STRONG LOCAL IDENTITY AREA
N
SCALE : 1 TO 1500
PUNAKAIKI CAMP STUDY
VISUAL SURVEY

PUNAKAIKI CAMP STUDY

SITE FACILITIES

SITE SURVEY

The photos, page 16, illustrate the main features of the site. Basically, the site slopes away from the sea, its highest point being to the south west, and its lowest to the north east. The slope is not uniform, however, and parts of the slope are not readily negotiable by vehicles, which limits the use of the area.

The present entry point and track tends to divide the area into two parts, an upper area which is well used, and an area near the old tennis courts which receives only limited use. This latter area, however, is one of the better screened areas from the road, as has been previously noted. The views within the site, illustrated in the photos, are best seen from the north west corner which, from the road, is also the most visually dominant part of the camp. The vegetation between the camp and the river, and the camp and the sea is very important, visually, climatically, and biologically. It gives the camp a sense of containment, protects it physically, and provides attractions for those with biological interests, as the discussion on pages 11 and 12 show. The vegetation along the river bank could be developed into a very interesting natural history walk, having visual appeal, linking with the picnic area as discussed on p.14. Whilst it is accepted that the Pinus radiata are not particularly attractive as visual specimens they have tremendous importance to the camp and their further removal must be avoided at all costs. Without them the Camp would be exceedingly exposed, and lack the sense of identity which their enclosure provides. Any replacement planting should be placed outside this shelter, rather than inside it.

The existing tennis court, although a potentially useful facility is in need of considerable repair and renovation, which would be very expensive. Following discussion with the Scenic Board, when the preliminary proposals were presented, the view has been taken in this study that the space of the tennis court is more important than its presence. It occupies the position of a potential entry which could enable much greater use of the site overall for the basic purposes of the camp - camp ground facilities.

The existing facilities of the Punakaiki camp ground are:

1 camp hut with 3 poorly ventilated bunkers
2 caravan supply stands, each with 4 three-point power supply plugs
1 old cook house
1 kitchen
1 man's toilet
1 lady's toilet
1 old tennis court and a swing

Apart from the kitchen and toilets the condition of these facilities is not good, and the general "atmosphere" of the camp is somewhat primitive.

The overall character of the camp ground is distinctly rural however, and it is considered that this rural setting is the specific character which should be capitalised upon. Therefore, the view is strongly held that in the necessary upgrading of facilities to meet the increasing demand, these developments must not be the ubiquitous "concrete block" urban type of development, but should be designed in sympathy with this rural atmosphere and character. Curbed and channelled roads in the camp for example, would be very undesirable for this reason, whilst appropriate planting within the camp could not only introduce a measure of necessary screening, but would also break down the large-scale character of the camp ground into smaller, human-sized spaces which would also be more in character with the rural environment.

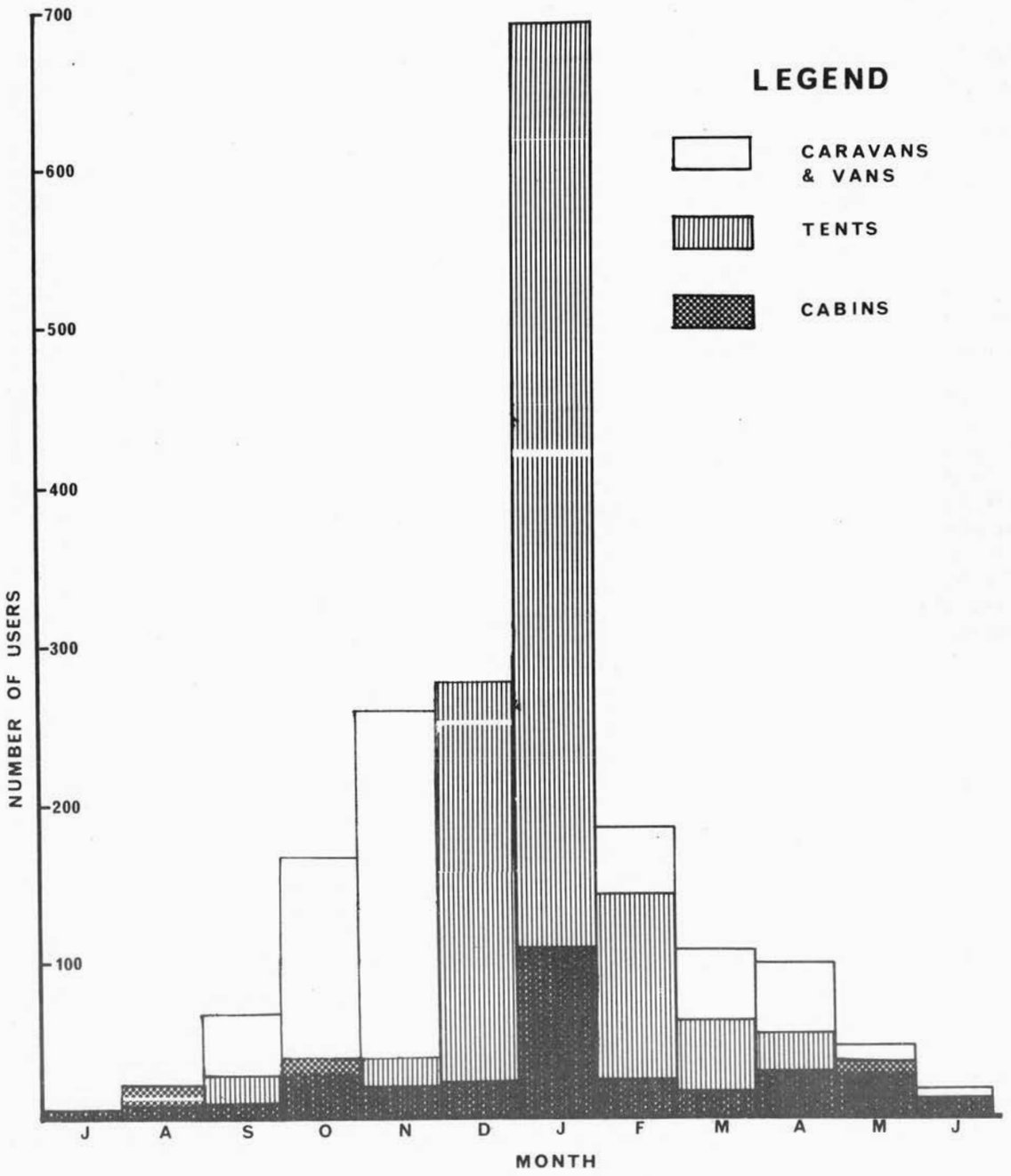
Overall, the conclusion to be drawn is that the camp has potential in its placement, and visitor population, but should be developed in sympathy with the environment to maximise its appeal, and so enable the varied recreational opportunities of the area to be fully exploited.

SURVEY - CAMP USERS

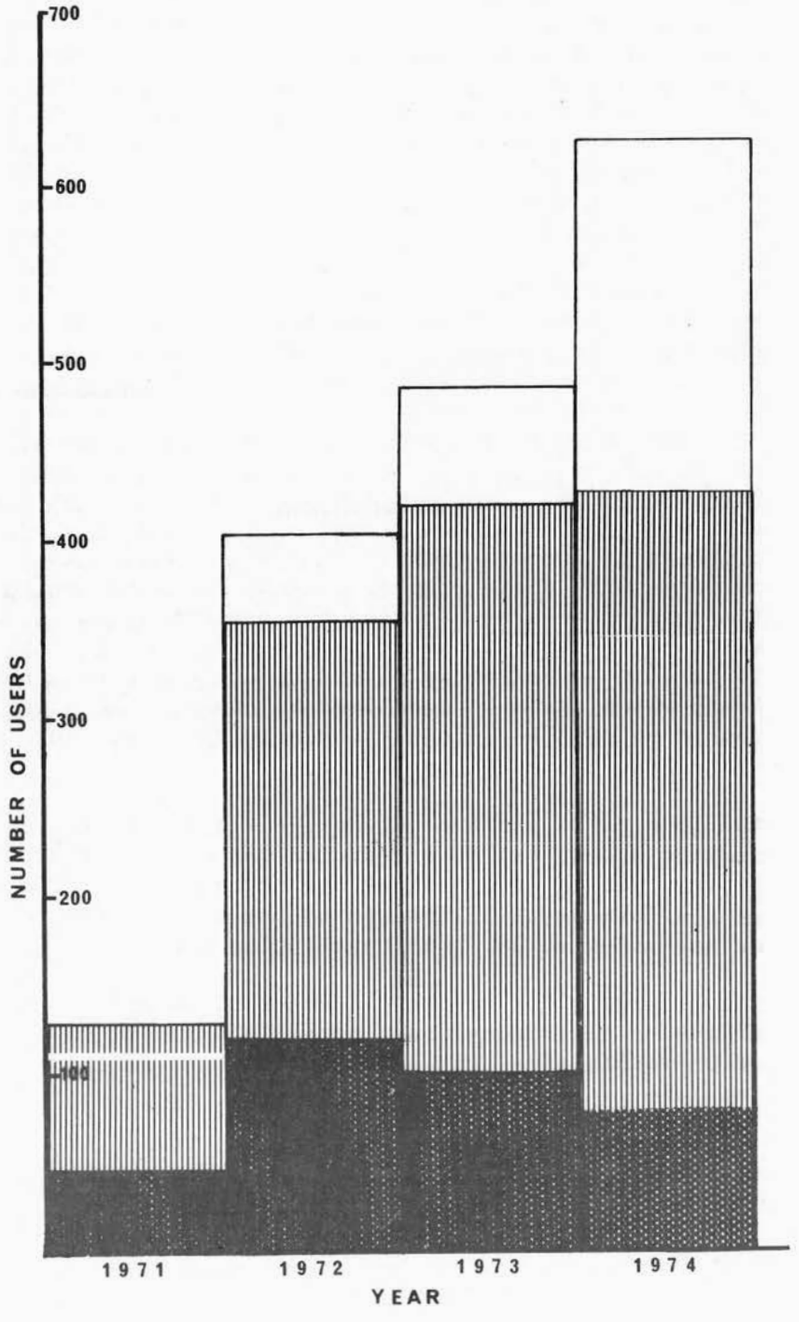
The histogram of camp users, (sites, not persons) on page 19, has been prepared from analysis of the receipt book for camp ground fees, which was supplied by Reserves Ranger, Graham Champness. It covers the four year period January 1971 to December 1974. Graph 1 displays the occupancy per month, the figures being the grand totals for the whole four years, inclusive. Graph 2 gives the figures on an annual basis. The figures for each of the three categories commence on the same base, and are not cumulative.

The general increase overall is very marked, rising from 280 in 1971 to 1110 in 1974. It is certain that at this rate of increase the camp will have a limited life before its facilities are overtaxed. This fact was drawn to the attention of the Board at the preliminary meeting, but the implication - the acquisition and development of a totally new, larger, site - was not considered feasible at that stage.

The pattern of use shows that caravans are the most important facility to be provided for, and that their rate of use is increasing at a greater rate than camping. However in the months of December use of the grounds for camping exceeds that for caravans, and in January greatly exceeds it, so that a number of double purpose spaces are required. The use of cabins is limited, but it is suggested that this low occupancy, contrary to the increasing demand for permanent accommodation experienced elsewhere, is probably due to the limited appeal of the existing accommodation, rather than a lack of interest in cabins. It is difficult, therefore, to appraise the potential demand with any degree of precision, and it will be necessary to have certain spaces which can have double purposes. The major occupancy rate occurs in January, when the total occupancy, over the four year period, was 420 caravans and vans, 691 tents and 107 cabins - a grand total of 1218, and an average of 304 sites occupied per month over the four years. Figures for January 1975, alone, were 210 caravans, 301 tents and 33 cabins - a grand site occupancy of 544. This gives an average of 17 sites occupied per day. Since 100% occupancy every day of the month would be almost impossible to attain, this indicates that about approximately 20 sites are currently required to accept the attendance accepted under maximal use conditions. If each site accommodates 3.5 persons (average figures for other studies) then it indicates that current ablutions and toilet facilities should currently be geared to 70 persons per day.



GRAPH 1 : TOTAL NO. OF USERS OVER A FOUR YEAR PERIOD (1971–1974) ON A PER MONTH BASIS



GRAPH 2 : TOTAL NO. OF USERS FOR EACH YEAR

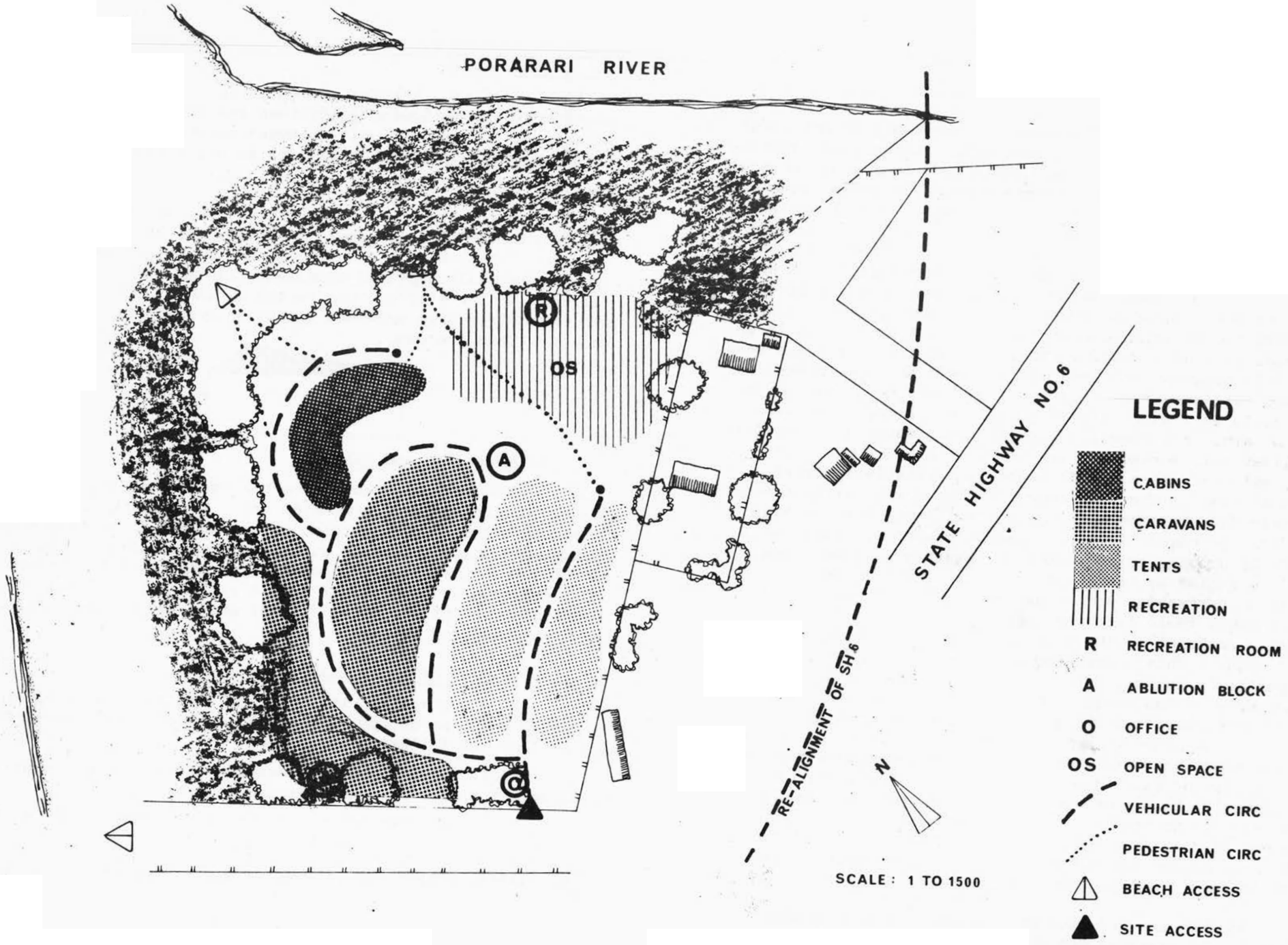
NOTE: ALL FIGURES HAVE A COMMON BASE LINE AT O.

CONCEPT

The basic concept for the proposal, based on preliminary discussion with the Board, and incorporating suggestions made then, is shown on page 21. It uses the principle of zoning, in which similar uses having similar needs are associated together, and distinct uses with distinct needs are segregated from each other. These zones are then themselves associated with the most appropriate spaces, bearing in mind the needs of access and shelter, probable financial return to the camp, and the needs of convenience in return for expenditure. Placement of the four basic zones can be readily appreciated from the plan. The cabins have been placed close to beach access, where the best views are, and in close proximity to the recreation space and existing toilet block. Their placement in an area of future maximal overlook from the road will also ensure a permanently attractive appearance for the camp, if they are designed with sympathy. The caravan area is related to the loop road, so that maximal manoeuvring convenience is obtained, and is placed high on the site, since it can accept more readily the problems of wind from the sea, or down the gorge. The camping area has been kept low, to minimise wind problems, and placed on a cul-de-sac, which avoids problems of through traffic and which will tend to segregate caravans with their greater demands for manoeuvring space. The recreation area has used the present space adjacent to kitchens and toilet, where people will tend to congregate. It is also conveniently placed to associate with the walking track which could be developed to link to the picnic area discussed on page 14, without encouraging those users to penetrate into the camp itself.

The loop road, and its cul-de-sac fingers to the cabin and camping areas, has been designed for minimal traffic interaction, yet to give maximal use of the site.. The pedestrian routes form natural linkages to the coast, skirting the zones or sub-zones rather than penetrating them.

The proposals for future placement of ablution - blocks are chosen to distribute their probable usage evenly. Control of the whole site from one office at the entrance is very feasible.



PUNAKAIKI CAMP STUDY CONCEPT

DESIGN

1. Topography

As has been pointed out, the present topography is not ideal for maximum use of the site. Moreover, it's present character is somewhat amorphous and changes have been made already in the South West corner. In the section on soils (page 8) it was pointed out that no real development of soil horizons had occurred on the higher areas, and only slight development had occurred on the low lying areas along the Eastern boundary. It is therefore considered that modification to soil levels to fit the needs of the proposal and create a more characteristic landscape could be undertaken without major detriment to the soils already present. A good sward is an essential part of a camping ground to withstand wear and tear, but little progress has been made towards the development of the good soil structure needed to support such a sward. The Board could well start afresh, modify the levels, improve the soils by ample top dressing with rotted sawdust and long-life fertiliser well worked in, and be back to a satisfactory state, able to give a better sward in a relatively brief period of time. The plan opposite, Topography, illustrates proposals for creating a larger central terrace by pushing soil from the higher levels Eastward, making a larger basal terrace by pushing soils Westward, creating a larger area under the cabins by taking off the top of the mound and pushing it Eastwards, and absorbing the slight changes of level between those terraces (approx. 1.5 metres) in a planted embankment. The developed concept is shown in the master plan. This correlates with the roading pattern and is a perfectly logical correlation in the zoning proposals already made in the basic concept. These proposals would require development on the ground with a qualifed landscape adviser. The proposed contours cannot be taken as precisely accurate since they were based on existing contours created from a series of spot levels (L. & S. File 13/11/5), plus photographic interpretation. The so-called "existing contours" may not be precise. But existing levels will have to be modified for maximal camp usage; the opportunity to create a landscape character which correlates with layout proposals should not be dismissed lightly.

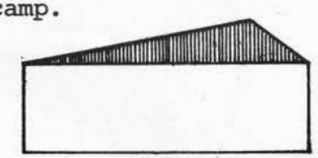
The College has layered cardboard study models made when working up the proposal and would be willing to lend these to the Department of Lands and Survey landscape staff to put the proposal into operation.

2. Cabins.

While appreciating that cabin design is the realm of the architect, the following guidelines are suggested to ensure an overall fitness and unity between structures and site. These suggestions apply equally to ablution blocks and cabins.

(a) Style

Currently fashionable styles such as 'A' frames rarely reflect the character of their site, but rather impose upon it. The style we would suggest is considered sympathetic to the windsculptured appearance of the pines and reflects the form of the cliffs opposite the ground. Both the trees and the cliffs have provided inspiration for much of the design within the camp.



(b) Materials and Colours

The need to change from the ubiquitous concrete block has already been commented on. In keeping with the tradition of timber production on the coast, rough sawn board and batten construction is suggested for all structures, stained greenish-brown. Roofing materials used in conjunction with the stained timber should reflect the natural colours adjacent to the site. Local stone may be set informally in sand for patios.

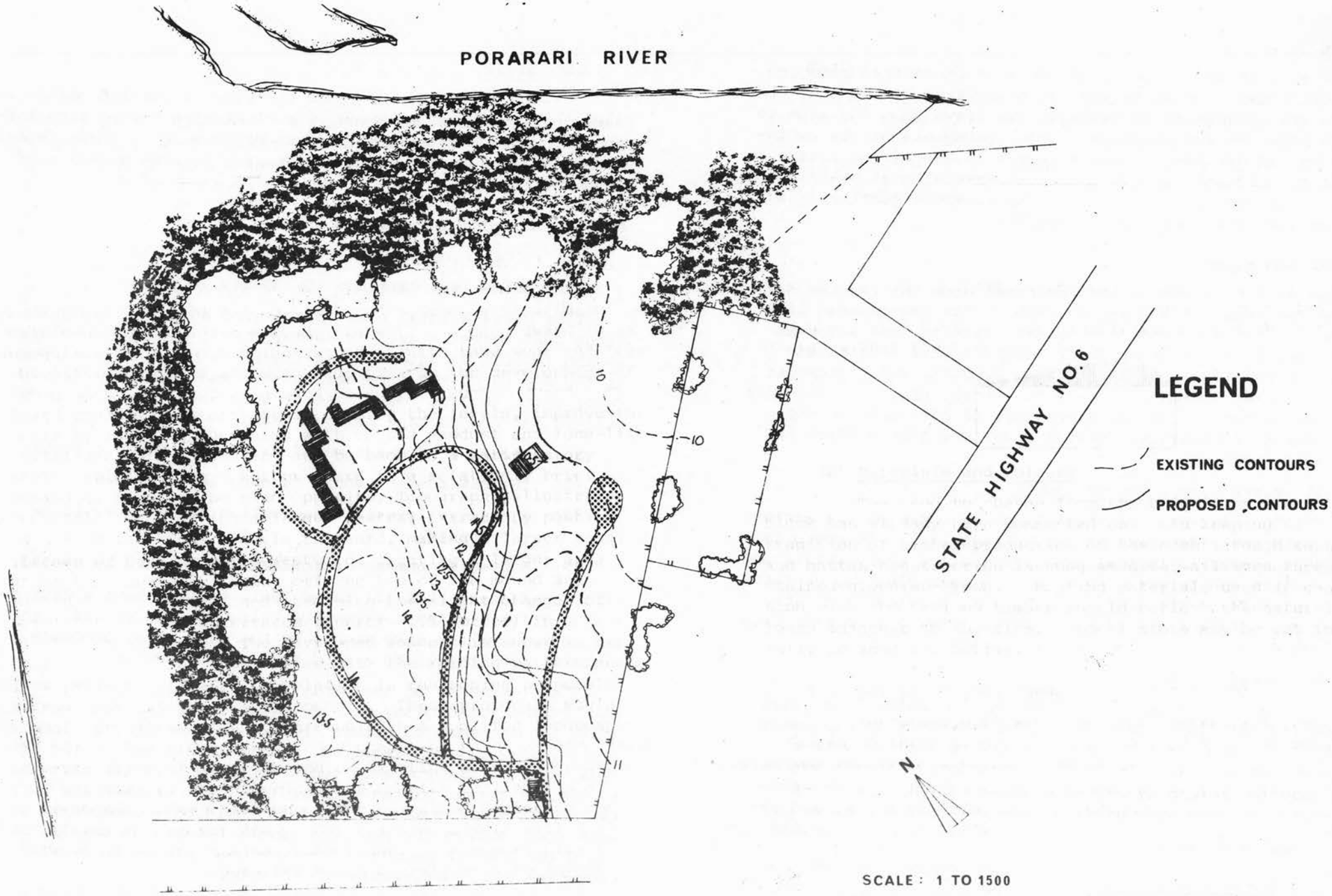
(c) Layout of individual units (See p. 25)

The units, each with identical interior layouts, are arranged in three groups of four and a pair. The suggested layout has the following advantages:

(i) Direct vehicle access to cabins for occupants and servicing with adequate parking.

(ii) Services and parking area are kept out of sight of camp, at the rear of the huts.

(iii) Patios for outdoor living are provided for each unit.



PUNAKAIKI CAMP STUDY TOPOGRAPHY

As the activities of the occupants will be centred outdoors during the day, the units are not orientated to the sun, but rather are orientated to maximise the views from the site to ensure interest and pleasure when occupants may be cabin-bound in bad weather. Window levels in the living area should be sufficiently low to allow views without standing up. Entry, from the rear, is through the sleeping quarters; access to the patio from the living area.

3. Caravan Sites

Spaces for caravan sites are based upon the recommendation of the Canterbury A.A. Caravan Club. The recommended site dimensions for accommodation of car, caravan, and adjacent awning are 27 ft. wide by 25 ft. deep. This accepts the maximal size caravan of 23 ft. long by 8 ft. wide, together with an awning (normally 6½ - 8 ft. wide), plus car, and with space for access. Concrete pads may be advisable on the sandy soils of Punakaiki, placed under the jockey wheel and main axle positions.

(a) Water supply and wet sumps

The placement of these items is shown on the Master Plan, with their detailed design on page 28. Placement is such that access is logical and distribution even, whilst all water points can be serviced by a ring main plus two or three short laterals. The quantity of points provided - 7 sites per point, caravans and tents combined - is in line with Caravan Club suggestions of 6 sites per point.

(b) Rubbish bins

Again, placement is shown on the Master Plan, with the design details on page 27. The criterion in placement was distribution, access, and ease for collecting with a truck or car plus trailer. The criterion in design was capacity - based on a 44 gallon drum as the liner - convenience for emptying, good appearance of the drum container, and relatively cheap, practical construction which, nevertheless, is serviceable.

(c) Electrical points

No proposals for the placement of points have been made. However, two lines could supply all the points needed. It is strongly recommended that lines should be buried and NOT carried on overhead wires - visually very undesirable as well as a potential cause of trouble with trees etc.

(d) Signs

All signs should be of the same colour and design as those used in Crown Reserves, i.e. lettering routed into timber, painted white against a brown background. Their number should be kept to the minimum necessary to show position of site facilities.

4. Site Numbers allocated

The actual numbers of facilities proposed is:

Cabins 14, Caravans 16, Tents 18

This gives a total camp capacity of 48 sites, a figure 2½ times that actually used in January 1975, the highest figure in the records to date. This figure is below that suggested in the Report of the Reserves Ranger, and certainly is much fewer than the Camp could hold if less attention were to be paid to the environment being created.

An increase in numbers would have three major effects:

(1) The environment would be much less relaxed.

(2) A more regimented organisation of sites would be required.

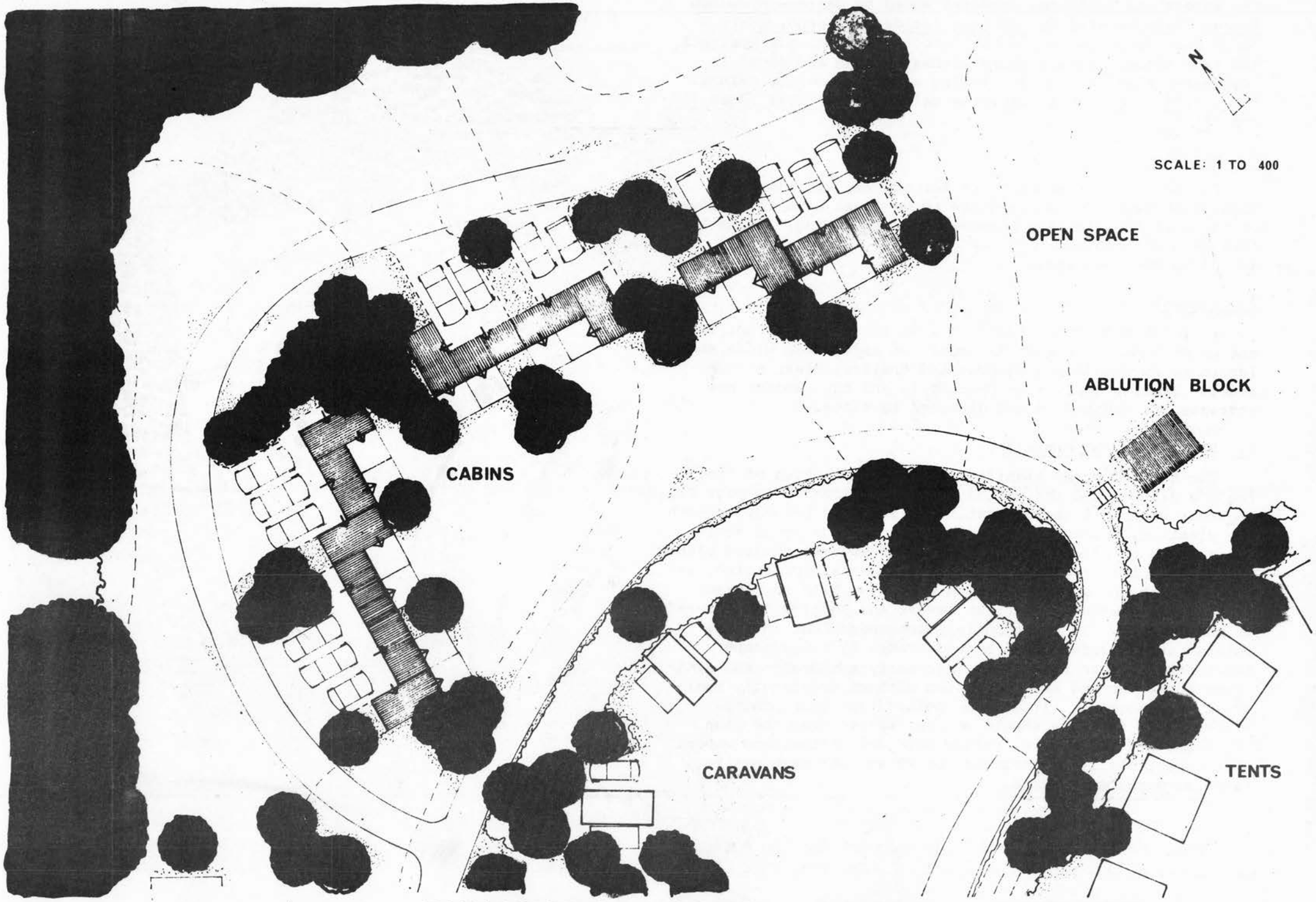
(3) A greater number of roading loops would be needed.

It is considered that all these factors would have a detrimental effect on the environment being offered to visitors; the purpose of the camp should be not just to accommodate numbers, but to provide a good holiday environment.

These comments do not imply an inflexible capacity within the present roading layout. Probably a further four caravans could be accommodated within the caravan section, so long as power points are not required, and the South end of the tent area, nearest the entrance could probably hold six caravans in lieu of tents, giving a capacity of 26 caravans and 10 tents. Greater numbers than this could be accommodated if essential, before the proposed layout becomes untenable, but would involve the removal of vegetation, placed to provide screening and 'comfortable-sized' spaces.

5. Planting.

Detailed planting proposals have not been prepared, but the selection should be made from amongst the species native



PUNAKAIKI CAMP STUDY **CABINS**

to the area. First choice, for creating the 'structure' of the spaces and platforms proposed would be Ngaio - Myoporum laetum, supplemented by Coprosma lucida, Pittosporum etc. These planted areas should be protected with simple uprights and rail fences (except where pathway routes are shown in the Master Plan) to avoid tracking and to encourage natural regeneration which will minimise maintenance. (See pages 11 and 12).

6. Roading

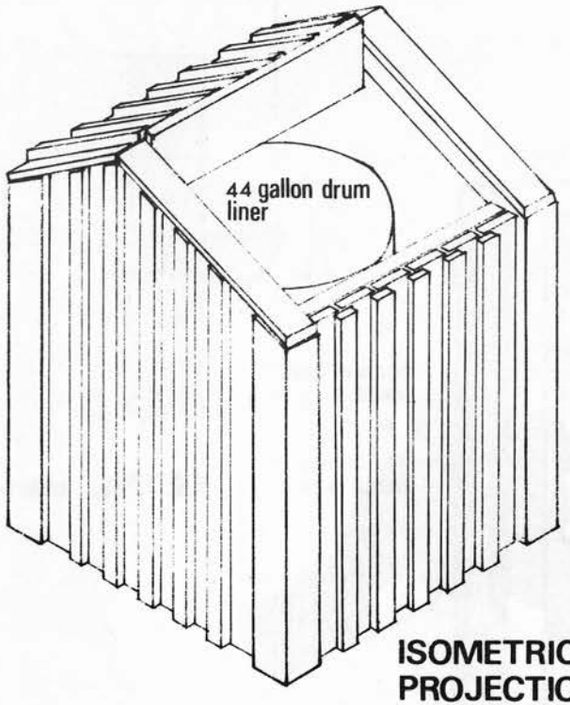
The main loop road is to be for one-way traffic. The grounds adjacent to the road are to be flush with the surface of the seal to allow for passing and manoeuvring. Roads to tent area and cabins are to be of gravel, as is the turn around in the tent area.

7. Control.

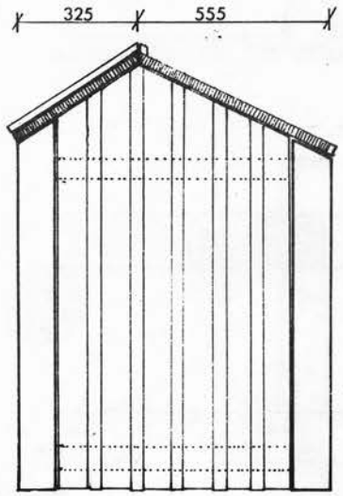
To facilitate convenient entry it is suggested that the office have hard standing in front, of sufficient width and length to accommodate a caravan and trailer, clear of the road. Traffic could then proceed in and out, whilst new entrants are checked in and directed to sites.

8. Staging and Supervision.

The task of prime significance is the creation of the roading pattern and the various levels, discussed on page 22, together with soil improvement. This should be coupled with the planting, which MUST be undertaken on a generous scale if it is to be effective - a minimum of several hundred plants will be involved. These should be adequately protected, as mentioned above, a process which will also help to protect the slopes between the various levels and to give "structure" to the layout. It is strongly recommended that in these initial stages supervision be undertaken by a Landscape Architect, who can thus ensure necessary amendments and additions on the ground are undertaken without drastically modifying the concept. It must be pointed out that precise placement of features should not be implied from the plan. The plans are indicative, rather than definitive, and except where specifically dimensioned (pp 27 and 28) must not be taken as working drawings.



ISOMETRIC PROJECTION scale 1-200



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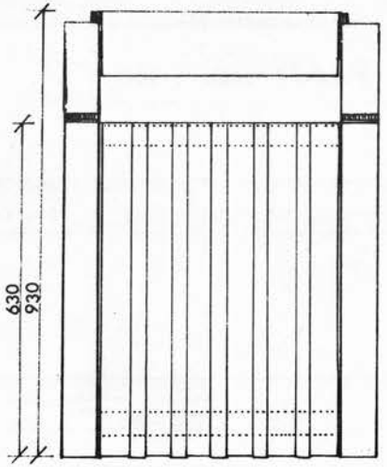
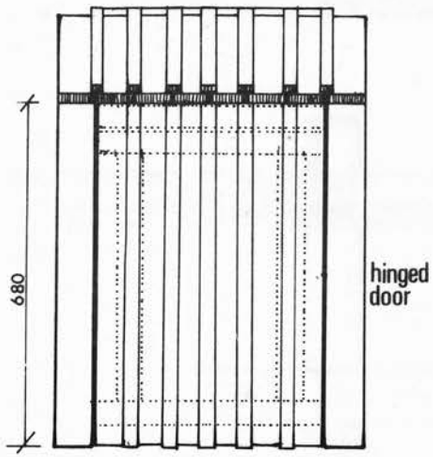


front



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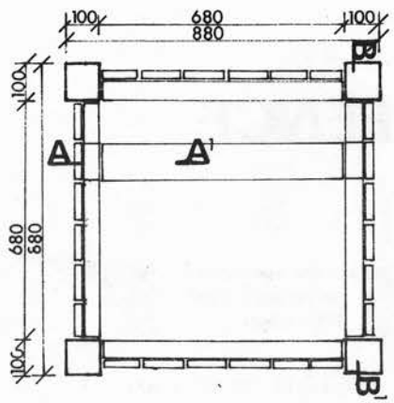
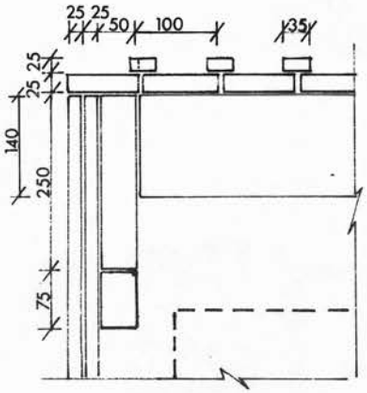
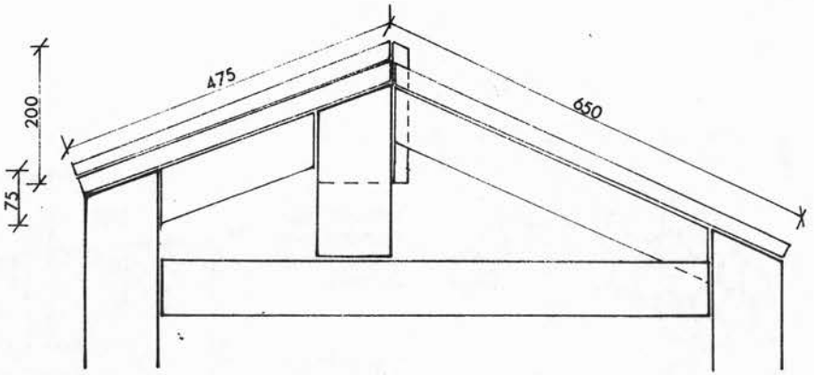
ELEVATIONS scale 1-200



PLAN scale 1-200



section A–A¹

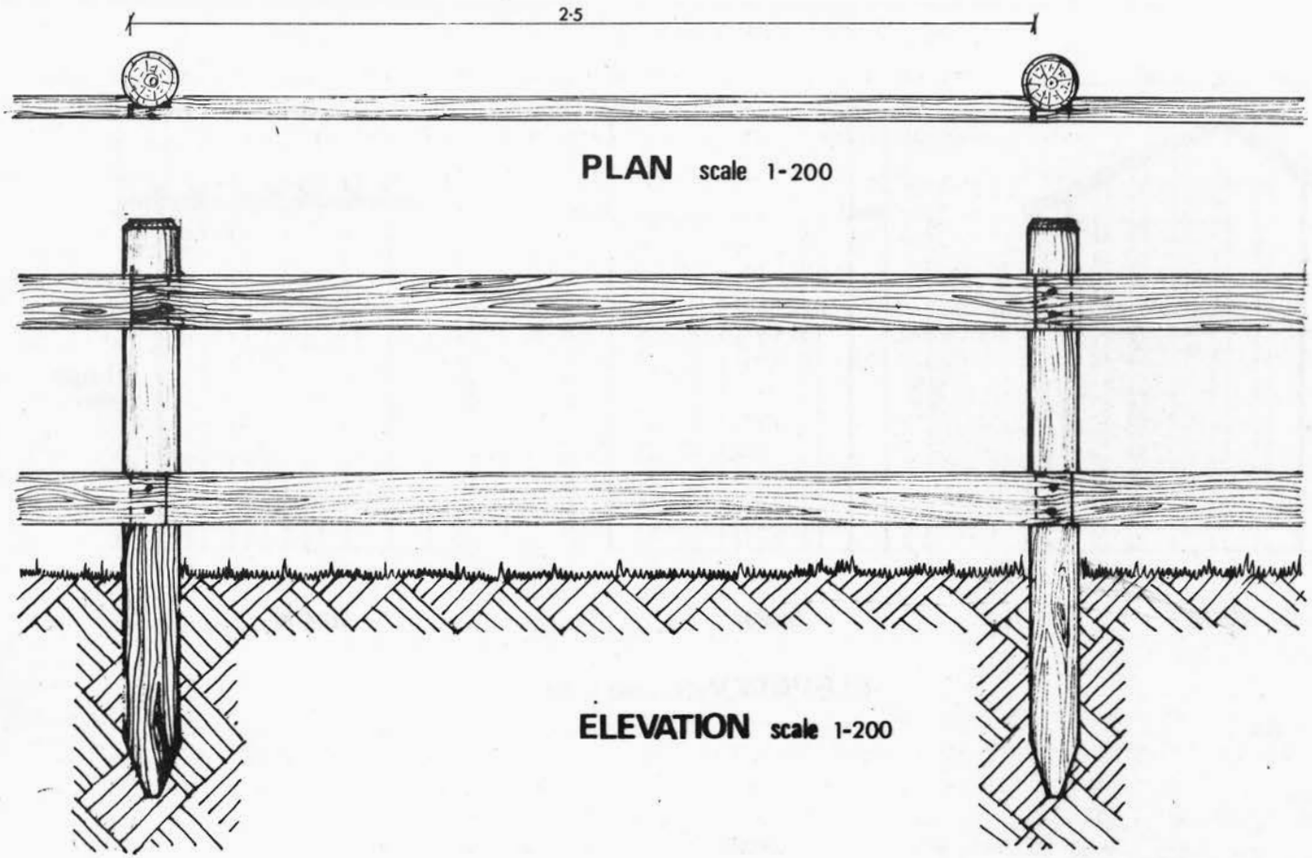


section B–B¹

DETAILS scale 1-100

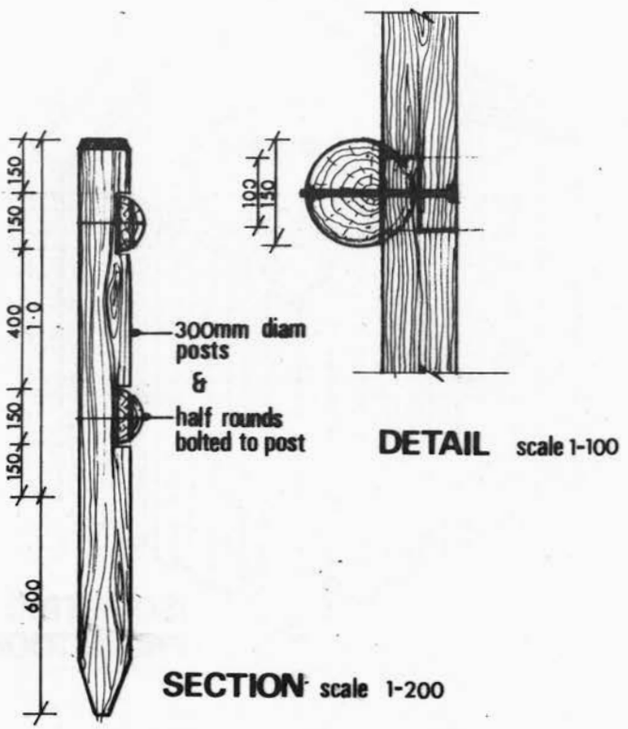
NOTE - all measurements are metric

RUBBISH BOX



PLAN scale 1-200

ELEVATION scale 1-200



DETAIL scale 1-100

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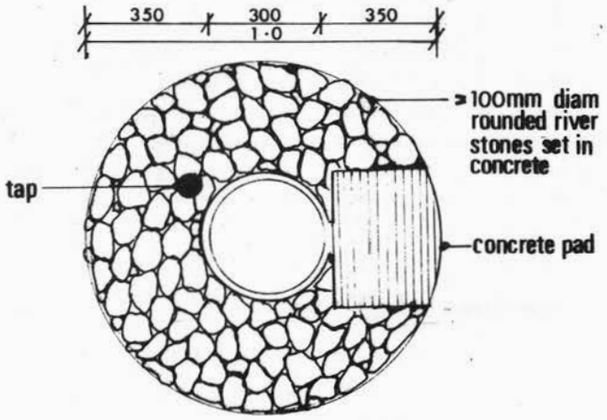
FENCE



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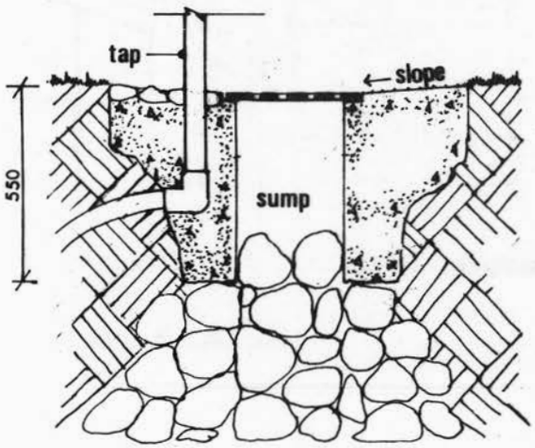

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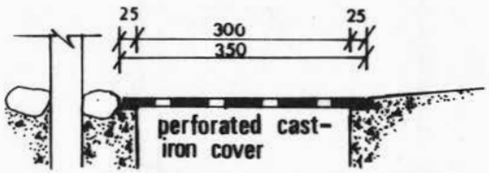

DETAIL scale 1-100

NOTE - all measurements are metric

SOAK PIT

ACKNOWLEDGEMENTS

Appreciation is expressed to all those who contributed towards the production of this proposal.
In particular the Study Team would like to thank:

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Mary Chapman, Landscape Assistant, Lincoln College.