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**MOONTA WALLAROO
MINES
PLANNING STUDY**

VOLUME 2

March, 1988

MOONTA WALLAROO MINES Planning Study

Prepared for

The Moonta Wallaroo Mines
Planning Study
Co-ordinating Committee

on behalf of the
Department of Lands

by

Bone & Tonkin Planners Pty. Ltd.
17 Hutt Street, Adelaide, S.A. 5000

in association with

Danvers Architects
364 Halifax Street, Adelaide, S.A. 5000

Applied Development Research Pty. Ltd.
45 Railway Road, Blackburn, VIC 3130

B.C. Tonkin & Associates
55 Queen Street, Adelaide, S.A. 5000

Arrangement

The Moonta Wallaroo Mines Planning Study Management Plan comprises three volumes:

Volume I: Site and Item Identification

Volume II: Planning Study

Volume III: Management Plan

This is the second document in the series which provides the discussion on selected aspects of the Moonta and Wallaroo Mines.

Acknowledgements

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Members of the Moonta Wallaroo Mines Planning Study Co-ordinating Committee;

Regional Manager, Central/Yorke/Lower North, Department of Lands, Chairperson of the above committee;

The District Council of Northern Yorke Peninsula;

The Department of Environment and Planning.

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1.0 Introduction

1.1 BACKGROUND

In July 1985, the Moonta Mines State Heritage Area Draft Management Plan prepared by the State Heritage Branch of the South Australian Department of Environment and Planning was released for public comment. Parts of that report have been implemented, but a number of problems, related primarily to land use, land tenure and conservation at the Moonta Mines site and similar concerns at the Wallaroo Mines site at Kadina, highlighted the need for further investigation. No similar assessment of the Wallaroo Mines had been undertaken. As a consequence of the proximity of the mines, their associated land uses, and the role they play together as historic and tourism experiences in the region, the authorities saw fit to seek a comprehensive and unified plan for their long term management.

1.2 LOCATION

The Moonta and Wallaroo Mines are located in the north western portion of Yorke Peninsula as shown on Figure 1.1. The mines areas abut the more recently developed townships of Moonta and Kadina. There exists a third part to the former copper mining and related activities at Wallaroo on the coast where smelting works operated, once the largest of their kind. These three places formed what is known by some as "the Copper Triangle".

The mines are only a short distance from the main roads leading through the associated townships of Moonta and Kadina and can be identified from various vantage points by their skimp heaps which are the residue of ore extraction.

The mines are set within undulating calcreted plains. These plains are predominantly grasslands used for cereal crop rotation and livestock grazing.

The climate is relatively warm and dry with a mean annual average rainfall of about 400mm. These conditions are attractive to holiday makers, many of whom reside at the nearby coastal towns of Moonta Bay and Wallaroo.

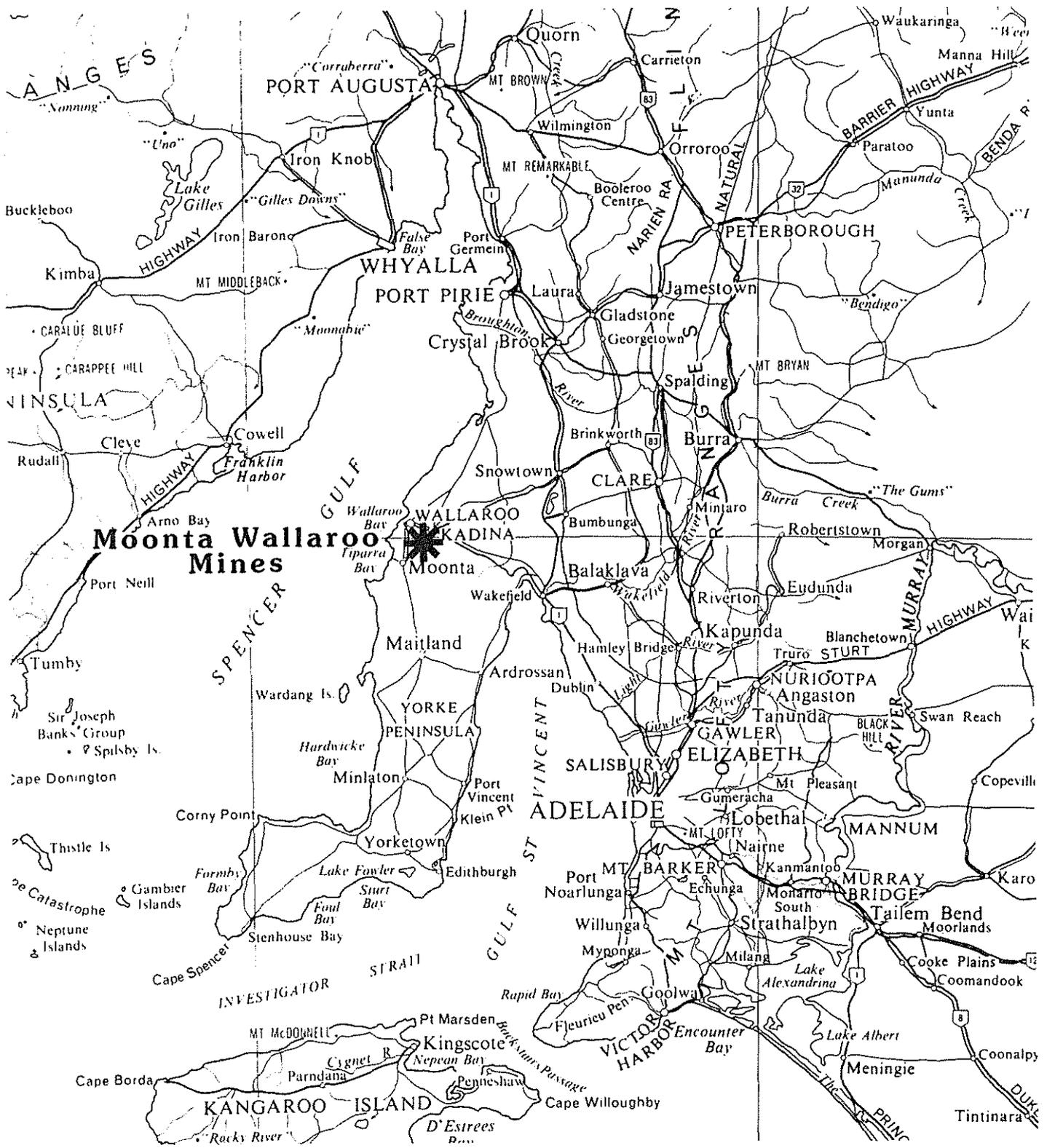


Figure 1.1
LOCATION PLAN

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1.3 THE BRIEF

In February 1986, the Department of Lands representing the Moonta Wallaroo Mines Planning Study Co-ordinating Committee invited Bone & Tonkin Planners Pty. Ltd. to make submissions for a study to prepare a consolidated Moonta Wallaroo Mines Management Plan.

The terms of reference for the brief were:

1. To utilise a co-ordinated and consultative study and implementation process, for the defined Moonta and Wallaroo Mines districts, to establish compatible and economic land tenure and use, properly serviced and developed in harmony with its heritage, nature and tourism potential.
2. To investigate the feasibility of establishing further co-ordinated commercially viable tourism and interpretive ventures, particularly at Wallaroo Mines.

with the following associated tasks:

1. Prepare a management plan for Wallaroo and Moonta Mines incorporating the following:
 - 1.1 The establishment of a firm tenure policy with a view to maximising heritage retention within a framework of compatible and economic land use and consideration of the necessity for the Crown's continuing role in the process. Such a policy would recognise a distinction between the proclaimed Heritage Area and other land in the defined districts.
 - 1.2 The preparation of policy objectives covering land use and development issues in concert with the tenure policy. Utilise these objectives to further establish an inventory of all parcels in the two districts, particularly Wallaroo Mines, with recommendations made as to future tenure, optimum land use, site definition, visual amenity, commercial value, and other related matters. The area under investigation to be appropriately defined.

Establish a strong implementation process for recommendations made.

- 1.3 Investigate the feasibility of preparing a heritage retention and development plan to enable the establishment of further co-ordinated commercially viable tourism and interpretive ventures, particularly at Wallaroo Mines. If the plan prepared is considered feasible, prepare the plan including a financial analysis showing projected rates of return until completion of the project.
 - 1.4 Investigate the servicing infrastructure (access, water supply, power, telecom, etc.) throughout the two districts. Prepare a concept plan in association with involved agencies, seeking to rationalise and upgrade a defined road network, consider the re-establishment of servicing corridors and provide a means to protect the interests of servicing authorities.
 - 1.5 Ensure that community comment, in line with co-ordinated and consultative procedures, is invited as an integral component of the study.
2. Provide specific objectives and input into the proposed Supplementary Development Plan as it relates to Moonta and Wallaroo Mines. Establish an integrated process to ensure that there is co-ordination of common issues addressed between the management plan, development plan and other plans prepared by involved agencies.

In response to these terms of reference, the following Study Objectives were confirmed and established:

- . To provide a unified and co-ordinated approach to the future economic development of the Moonta Wallaroo Mines areas;
- . To ensure the conservation of the heritage of the Moonta Wallaroo Mines areas; and
- . To identify and relinquish, where possible, land surplus to the requirements of the Crown.

To achieve these Objectives, the study envisages the preparation of a management plan comprising recommended strategies and actions, and identification of the responsible parties. The management plan is wholly contained within Volume III of the study.

With respect to task 1.3, it was determined by the Committee that feasibility analysis for commercial ventures should be dealt with as a separate and distinct assessment outside of the bounds of this review.

1.4 STUDY AREAS

1.4.1 Moonta Mines

The study area for the Moonta Mines is that which has been previously defined in the Moonta Mines Management Plan and which incorporates the State Heritage Area of the Moonta Mines and its associated buffer as shown on Figure 1.2.

1.4.2 Wallaroo Mines

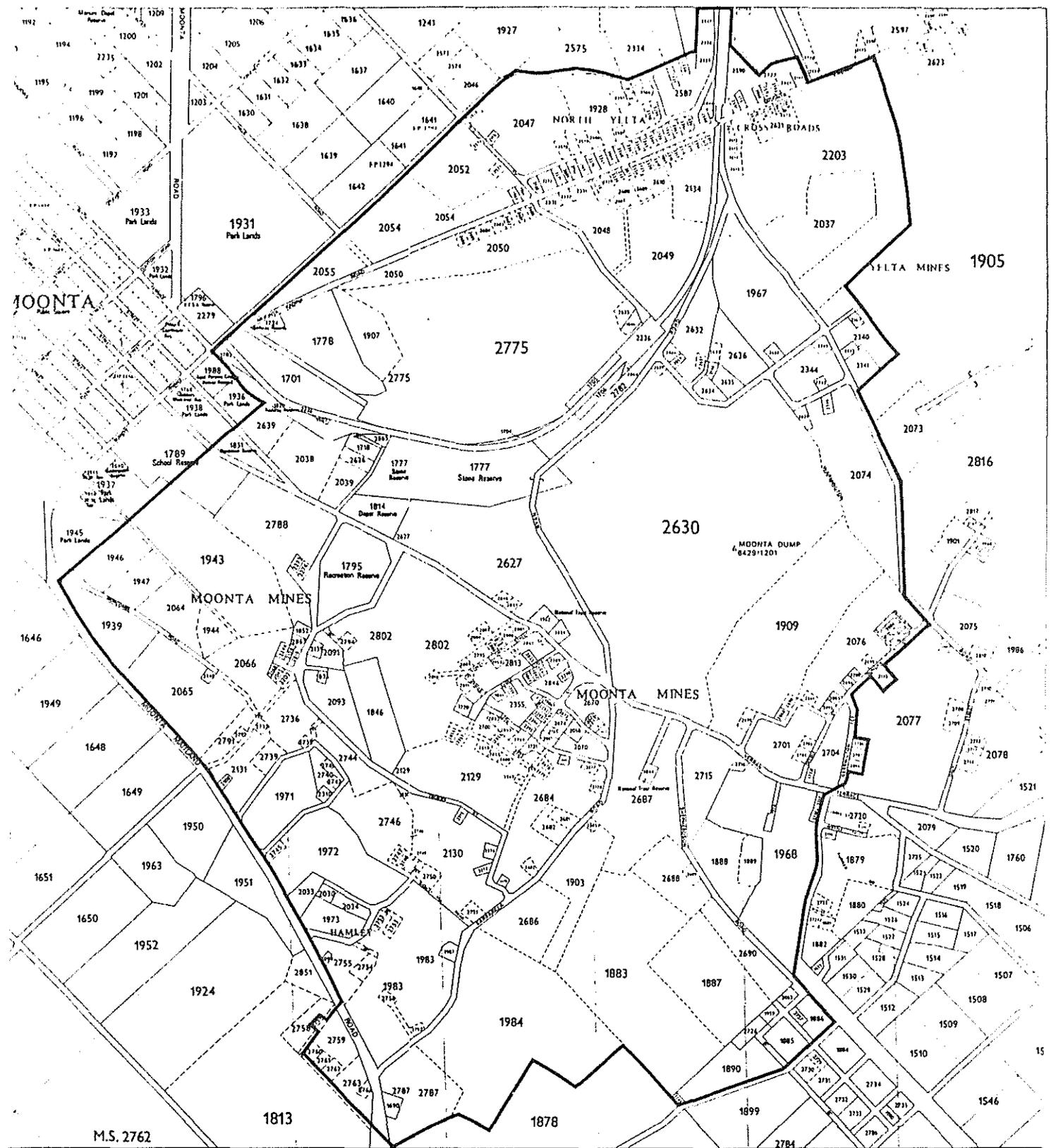
The Wallaroo Mines have a different association with its neighbouring development and presents a very different experience from that at the Moonta Mines. The outlying settlements of Jericho and Matta Flat have been included within the study area and although Jerusalem to the east is similar in its form, as an important group of buildings, it is removed both geographically and visually from the main mines complex and is located to the east of the Moonta Road.

The study area, as shown on Figure 1.3, extends to the north as far as Port Road, although the most significant features lie to the south of the railway line. The north eastern sector of the study area includes an enclave of residences developed in the period during the latter part or following mining activities. This enclosure is peripheral to the focus of interest at Wallaroo Mines and visually forms a close relationship with the urban residential part of the Kadina township. Those heritage features identified in Volume 1 outside of the core heritage area should be listed where appropriate and dealt with as separate items.

The study area extends to the south of Kurilla Mine and the old Duryea Mine in which recreational activities have been established and about which are cultivated rural lands.

1.5 METHODOLOGY

The study is to be undertaken in 4 separate professional areas, including architecture, heritage and urban design, engineering, marketing and resource development and management, and planning.



Study Boundary

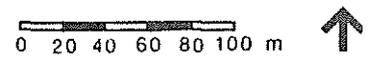
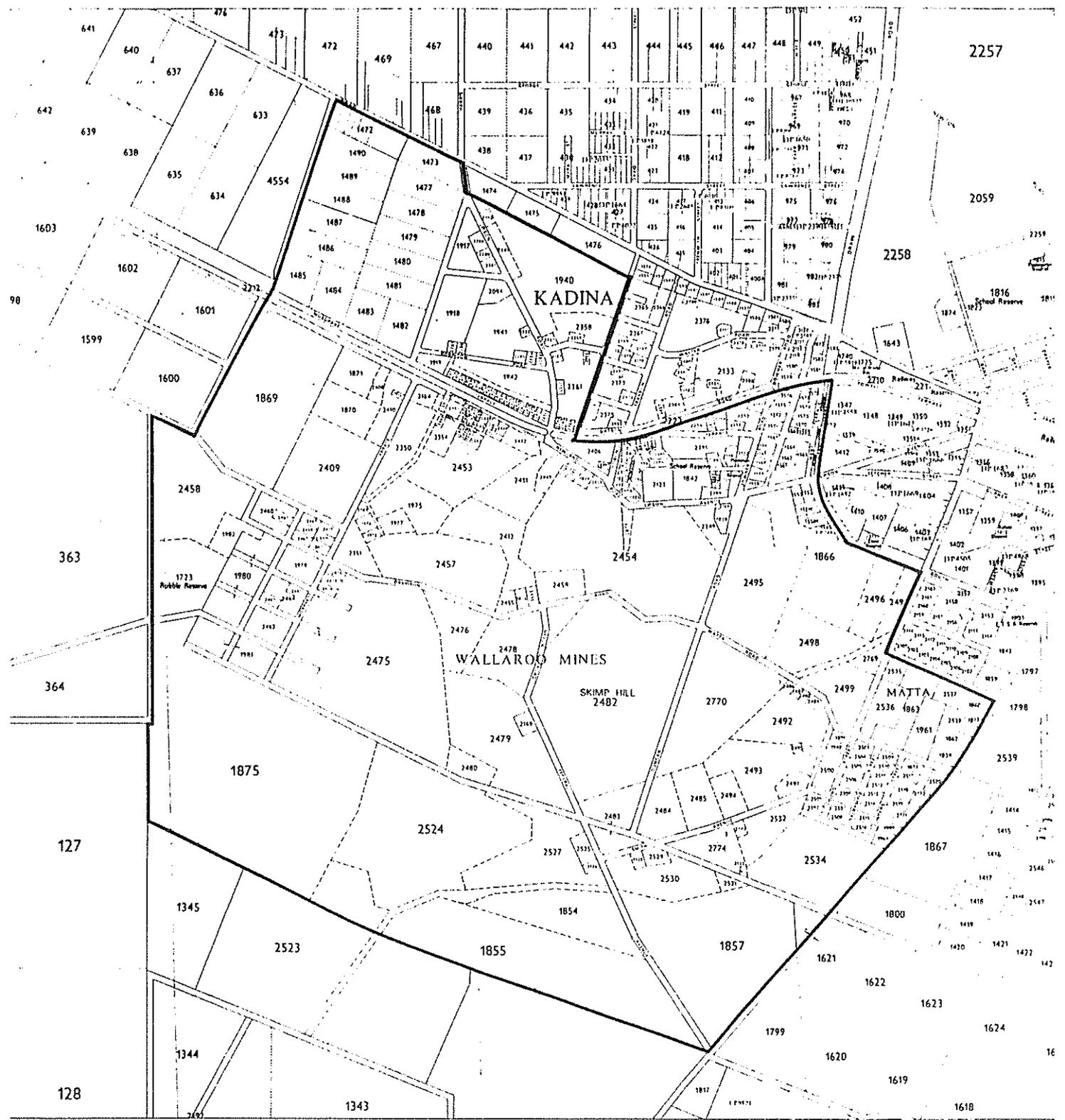


Figure 1.1
**MOONTA MINES
 STUDY AREA**



— Study Area Boundary

0 20 40 60 80 100 m

Figure 1.
WALLAROO MINE
STUDY ARE

The activities undertaken in each of these areas will include:

Architecture, Heritage and Urban Design

- . Survey of areas.
- . Review of historical data.
- . Preparation of historical statement.
- . Assessment and description of heritage items.
- . Assessment and statement of cultural significance of areas, items and groups of items.
- . Definition of heritage character and heritage zones.
- . Preparation of design guidelines encompassing building materials and colours, road paving, footpaths, roof shape, signs and streetscape.

Engineering

- . Servicing Infrastructure - Existing
Investigate, document and prepare a consolidated plan of the existing service infrastructure within the districts. Liaison with all service authorities, eg. Engineering and Water Supply Department, Telecom, E.T.S.A., together with Local Government and the Highways Department to locate and define on plan all the existing services within the districts.
- . In conjunction with other members of the study team, investigate and assess future servicing needs having particular regard to the demands that any tourist related development may impose.
- . Develop a strategy for protecting the existing rights of service authorities, and where appropriate make recommendations concerning the removal/relocation/replacement of services to ensure the heritage character of the districts is enhanced.
- . In particular, develop a strategy for motor vehicle traffic in the districts, having in mind both the need for retention of the heritage character and the facilitation of tourist development.

- . Provide other members of the team with specific advice from time to time on engineering matters related to the overall management plan - for example carparking/traffic control at specific sites.

Marketing

- . A review of the available data including marketing information on both the Moonta and Wallaroo Mines sites as it relates to tourist development, both commercial and education/information services.
- . Inspection of up to 4 comparable operations including Coal Creek and Sovereign Hill.
- . Collecting information on accommodation, eating places, purchasing of souvenirs and associated services.
- . Integration of static displays, information services.
- . Integration with the regional tourist offering.
- . Presentation as part of a state and national tourist base.
- . Expansion of the above findings and the collection of additional data including discussions with Tourism South Australia and other government organisations.
- . Developing a series of tourist activity profiles and preparation of preliminary feasibility assessments based on the above data.
- . Facilitating the recommendation of a profile application for the Moonta and Wallaroo Mines Districts.

Planning

- . Co-ordinate, direct and liaise with study team members/study management.
- . Assess position of authorities and refine as required.
- . Research land use, land tenure options.
- . Provide comment on proposed tenure policies (release of moratorium June 1986).
- . Consultation with community and assess response.

- . Examine proposals for Moonta Mines (to be incorporated as required).
- . Examine present and proposed provisions of the development plan.
- . Analyse findings of architectural, engineering and commercial resource consultancies.
- . Prepare concept/structure plans.
- . Prepare strategies for the built and physical environments and economic and administrative structures.
- . Prepare recommended actions for each of the strategies.
- . Prepare a programme for the co-ordinating committee as a basis for the implementation of the management plan.

In addition, the participants of the Planning Study Co-ordination Committee were asked to provide papers on their individual positions. These are summarised as follows:

Department of Lands

- . There is a dramatic lack of survey data on both the Moonta and Wallaroo Mines Areas.
- . Survey data which does exist is old, outdated or inappropriate.
- . Freeholding occurred in earlier times followed by piece meal and disjointed survey.
- . The department needs guidelines and policies to ensure co-ordination of an appropriate cadastre for the mines and associated areas.
- . Much of the land remains as Crown lands with tenure status ranging from Annual Licence, Miscellaneous Lease and Reserves to vacant Crown land;
- . The most common form of tenure is Annual Licence.
- . An Annual Licence is not a registered document and therefore cannot be used as security for registered mortgage purposes.

- . Cancellation of an Annual Licence can occur at only 1 months notice.
- . The Annual Licence provides occupancy for an express purpose.
- . An Annual Licence is a relatively insecure form of tenure.
- . The administration of this and other forms of tenure is a significant expense in the departments regional budget.
- . The department aims to determine the tenure and use of all parcels.
- . The department strongly supports freeholding of land of appropriately designated and defined parcels.
- . Service infrastructure has been provided in the past in a less than regular manner.
- . Many services including roads have been established along the paths of least resistance.
- . The department aims to promote the co-ordinated development of services within road reserves or easements created specifically for same.
- . Land surplus to the Crown's needs should be identified and disposed.
- . Commercial/tourist development potential associated with the heritage of the district exists.
- . An assessment of potential impact and implementation of development opportunities should be undertaken.
- . The department aims to assign uses to all Crown tenures and vacant land in accordance with the provisions of the development plan.
- . The Crown is exempt from the provisions of the plan and will therefore need to liaise with Council and Department of Environment and Planning.
- . A moritorium on changes to tenure was in force until June 30, 1986.
- . A supplementary development plan was to be promulgated to control development, thus eliminating the need for the tenure holding measure.

- . The moratorium once lifted is to be replaced by the tenure policy (as described in 3.0 Tenure of this Volume).

District Council of Northern Yorke Peninsula

- . Potential for new housing/land division development, including infill.
- . Services provision/maintenance (including drainage) implications.
- . Renovation and "gentrification" of existing housing stocks.
- . Redevelopment of localities with bad layout.
- . Complete and competent building survey of all potentially sub-standard dwellings, non-compatible commercial use, etc.
- . Reservation of localities for active/passive recreation groups primarily local residents, but inclusive of visitor needs.
- . Greater need for effective compliance by Crown instrumentalities and authorities with the provisions of the Planning Act/Regulations.
- . Reservation of land potentially required for public purposes, eg. relocation of Moonta Area School from its existing site to new as proposed 15 years ago.
- . Assessment of known proposals for business/commercial/tourist development.
- . Undergrounding of public utilities - E.T.S.A., Telecom in historic sites.
- . Detail design guidelines encouraging renovation of existing dwellings and new, blending with the old.
- . Dedication of all historic sites, including those where historic association only is now evident from fragmentary remains.
- . Register of sites, etc. for National Estate, National Trust, State Heritage Registers and implications of local heritage register.

- . Dedication of historic sites outside the study area boundaries which might best be resumed from current agricultural use of surrounding lands.
- . Wind erosion of historic sites and agricultural areas and remedial vegetative wind breaks, etc.
- . Opportunities for local streets/roads/lanes closing and opening.
- . Opportunity for creating future options for arterial by-pass routes and link roads and no through roads to discourage external traffic.
- . Safe visitor routes to established and potential historic/recreation areas.
- . Carparking facilities.
- . Dedication of Plantation Reserves co-ordinated to provide view sequences, screening of intrusive development.
- . Dedication of recreation areas within parklands and recreation reserves context.
- . Consideration of dedication of lands for off-road vehicle use for recreational purposes.
- . Dedication of sites for development of way-side visitor information bays, eg. Cross Roads site relative to Moonta area.
- . Potential for development of visitor orientation/interpretive/information facilities.
- . Potential for private enterprise development of visitor attractions (as distinct from cultural tourist facilities).
- . Development of cycle/walking trail systems.
- . Integration of Wallaroo township facilities complementary to establishing the historic significance of the triangle of the old copper towns - Kadina/Moonta/Wallaroo.
- . Recommended guidelines as to "best means of tackling proposals" either in a holistic approach or piece meal or combination of both.
- . Amalgamation of sections within and without the study areas for agricultural purposes.

- . Discouragement of land division for rural living purposes.
- . Encouragement of land division for rural living purposes within the context of area/regional/local needs both perceived and possible.
- . Economic implications for public authorities inclusive/exclusive of Department of Lands.
- . Potential localities (if any) for primary production (intensive).

Department of Environment and Planning

- . An historical overview is required for the industrial and social aspects of the history of Moonta and Wallaroo Mines.
- . Research is required to locate and identify the physical remains of building sites and structures.
- . The mines areas are predominantly archaeological sites with few "complete" structures.
- . The archaeological potential of these areas is high and historical research should help predict or ascertain where former significant buildings and features were located.
- . Item Identification sheets in accordance with the standard established in the Moonta Mines State Heritage Area Management Plan (1985).
- . The designation of a heritage area should include its size, boundary description, significance or value, a general description of the area during the period of significance, a list of all items contributing to the character and a definition of the character.
- . The primary focus of the study should be Wallaroo Mines.
- . The State Heritage Branch will provide an inventory of all industrial items at Wallaroo Mines.
- . The research should focus on the other remains of the period, eg. housing, streetscapes, road patterns, vegetation, etc.

- . The report should comprise recommendations on the management, conservation, interpretation and public use of any identified heritage zones or areas.
- . Management issues will include principles of development control, management organisation and programme for implementation and identification of critical management problems.
- . Guidelines for the public use and conservation of areas should be prepared.
- . Priority conservation should be identified.
- . Public use and interpretation strategies which identify key areas and features should be presented.
- . Recommendations for a visitor movement pattern.
- . Recommendations for a Supplementary Development Plan for the study areas to control and assist the public and private sectors in the co-ordinated and appropriate development of the areas.

Tourist Development Association

- . Definition of a heritage area boundary.
- . To decide if there are items of interest outside of those proposed boundaries which warrant protection and development.
- . To develop an accurate map of the area which clearly shows all historic sites and items which will be maintained in the future.
- . To look at the existing "mines walk" and determine what improvements can be made.
- . To bring the Wallaroo Mines area into line with development (in heritage terms) with the Moonta Mines area.
- . To promote the notion that development of both areas needs to be considered together in the future and to emphasize the interdependence of one area with the other.
- . To list, in priority order, sites which require re-building or re-furbishment in both Moonta and Wallaroo areas (2 lists).

- . To make recommendations regarding land tenure with the heritage area and "buffer zone". This will require an assessment of the present situation and then suggestions for future changes.
- . To ascertain the extent and variety of vegetation in the area and what needs to be done in the future.
- . Recommend possible sites for parkland development (this may be in the buffer zone).
- . Promotion of the conservation aspect of tourist sites.
- . Promotion of tourism based on heritage attractions.
- . Visitor information centres at both Moonta and Wallaroo Mines.
- . A study of tourist activity in the area, in say, the past 10 years.
- . A projection of expected tourism in the future, based on the suggested study.
- . Development of suitable walking and cycling tracks at appropriate places.
- . Future prospects for private enterprise in tourist promotion of the mining areas.
- . Recommendations/ideas for supplementary attractions.
- . Development of historic features for the sake of tourists as distinct from heritage appreciation.
- . Ways of promoting tourism (in general) in the area.

There are common threads which run through these sets of statements. The connection between heritage and tourism is indivisible. The future economic well being of the areas and their maintenance and improvement relies inexorably on the promotion and development of commercial ventures. The industrial attractions are strongly supported by their adjoining or nearby social fabric, now primarily occupied by the general public, which by virtue of the present tenure arrangements have little support to enhance the site improvements. The rationalisation of land tenure, servicing, access, planning policy, including design criteria, as well as the establishment of a master plan for the areas future is the common goal of all participants.

1.6 PRESENT MANAGEMENT

The management of the mines sites and adjoining areas is presently not co-ordinated in any way.

The District Council of Northern Yorke Peninsula administers its local government health, building, planning and other responsibilities without adequate guidelines with the exception of the Moonta Mines State Heritage Area Management Plan or an overall concept for the development, management and maintenance of the areas.

The Heritage Branch of the Department of Environment and Planning provides another tier in the planning, preparation and conservation mechanism, but this too is generally in respect to individual proposals rather than in the context of an overall concept.

The National Trust also provides management and maintenance resources to various facilities. Their prime interest is buildings and the extensive lands presently held by the Trust is incompatible with and detrimental to its primary intentions. Direction needs to be given to focus on those features worthy of preservation to ensure the best and most efficient use of resources.

The Moonta Mines State Heritage Area Committee has a management role which could be extended by the incorporation of the Wallaroo Mines. Naturally, this will require a rationalisation of membership and reduction according to the management plan. The resources of the future can then be distributed and affected in respect to the total Moonta Wallaroo Mines package. Recommendations for an alternative structure are provided in Volume III.

The Department of Lands as the administrator of Crown land does not have the resources to manage, nor is it within their brief, to maintain and develop such diverse and heritage significant areas. Further, the government should not hold land when much of the land is used or could be used for private purposes.

2.0 Heritage

2.1 INTRODUCTION

The two former mining districts of Moonta and Wallaroo Mines are of major historical importance in the settlement and development of South Australia. They represent the era when copper mining provided the colony's major source of income and helped establish its identity.

These sites are also significant in that they represent the remains of what was once the largest ethnic industrial settlement in the country. The industrial remains represent the Cornish and nineteenth century mining techniques on a scale not found elsewhere in Australia.

2.2 BACKGROUND

The heritage of both areas has been the source of more recent interest and investigations. With a view to retaining the character of the sites, investigations were undertaken to:

- . Provide an historical background statement for the two areas to link them in terms of historical and social development and to provide a general historical overview of the industrial and cultural aspects of the Mines.
- . Undertake a heritage survey of Moonta Mines to provide an updated heritage record and item identification sheets for all sites.
- . Undertake a heritage survey of Wallaroo Mines, to locate and identify the physical remains of buildings and record extant buildings, with the aim of determining boundaries for heritage and development controls.

To this end, the investigations included an historical background statement for the areas concerned with transcripts of oral histories taken during the research stage of the study, a geographical history of the sites, summarising the development of

the built and natural landscapes in the area and summary sheets based on all the items investigated and which are recorded in detail on item identification sheets. This detailed research was undertaken in 3 parts, namely:

- . historical and geographical background statement;
- . Moonta Mines item identification sheets; and
- . Wallaroo Mines item identification sheets.

These parts form a significant part of the background to the management plan and are incorporated as Volume I. Only the historical and geographical background statement have been incorporated in this document, Planning Study Moonta Wallaroo Mines Management Plan, Volume II.

2.3 THE ENGLISH CONNECTION

In order to understand the unique employment conditions at the Moonta and Wallaroo Mines, it is useful to have a background knowledge of Cornish life in England. The peculiarity of the Country of Cornwall with its people, habits and mining customs had not gone unnoticed throughout the centuries by the rest of the country. Indeed, as far back as Elizabethan times, Cornwall was described as being a "foreign country or that side of England next to Spain".¹ It was also noted by L.L. Price that from the Chambers Journal, 17th February, 1861, Cornwall was referred to as "one of the most unEnglish of English Counties"² and further to justify this claim it was seen "as the last region into which the railway engine penetrated".³

2.3.1 The People

There is no doubt that Cornwall's geographical position to the rest of England contributed to its isolation and separateness which created the County's unique character.

Before the 1860's Price had discovered that this part of England had been labelled "West Barbary" on account of the rude manners of the population.⁴ From this period onwards, however, Wesleyan Methodism had penetrated sufficient to effect "what might be described as a revolution in the moral and social conditions of Cornwall".⁵

Although an element of refinement may have evolved simultaneously with the development of religious well being outlawing the "Barbary" character, the essence of Cornish tradition, particularly with regard to the system of metal mining, remained entrenched. Shrouded in obscurity, tin mining, which preceded copper mining, was, in a report to the House of Commons in 1799 stated to have been "wrought time memorial".⁶ Since then, it has been discovered that metal remains have been found in a smelting pit in the St. Just area believed to be 300 B.C. Tin mining remained an important industry in Cornwall, but the Cornish techniques in underground mining were not developed through tin mining, but were formed after the discovery of copper in Cornwall in 1703, which necessitated the use of deep shafts and drives.

2.3.2 Technology

Two important factors that affected metal mining was the emergence of new technology and the development of the Malayan tin mines. Towards the end of the seventeenth century the use of modern technology saw the end of small scale mining operations and made copper mining instead, possible and a more viable proposition. Later, in the early nineteenth century, the developing tin mining industry in Malaya between the 1820's and 1840's caused Cornish tin mining to become uneconomical.⁹

The new technology of the late seventeenth century which included blasting by gunpowder and the invention of the atmospheric pumping engine resulted in the end of "small scale activity, carried on by small partnerships of working miners supplying the labour and local capitalists such as small landowners, merchants and traders supplying the capital".¹⁰

The new technology meant bigger, deeper excavations requiring more capital which the small time operators did not have. All too quickly, the necessary consolidation needed to apply the new technology, produced the redundancy of small time miners. Not to be beaten by the changes in fortune, the miners offered their labour and equipment to the better off mining companies. Although there is nothing unique about once self-employed miners becoming employees, what is unique is the way the system of employment was organised during the late seventeenth and eighteenth century. These traditions were brought to South Australia in the nineteenth century.

2.3.3 Employment

In offering labour to bigger mines, the miners kept an element of independence by choosing where they worked and the hours they worked. Their earnings were governed by individual skill and effort. Providing their own tools also, candles, powder and any other equipment needed, it was an attractive offer that mining companies could not refuse. This heavy expenditure, undertaken by the miners themselves, meant there was more capital that could be invested in further exploration by the mining companies.

Earnings once paid in the tin ore were paid in cash when copper mining became the main form of metal mining. The new technology of blasting and pumping which enabled bigger excavations, revealed the presence of copper ore at greater depths than tin in the existing and worked out tin mines. Earnings were tied to market value in that miners earned amounts which were in exact proportion to the selling value of the ores. This together with individual determination to extract ore with the least amount of fuss, provided an element of financial risk that some miners preferred.

The miner who offered his services with his own equipment and was paid for the amount of ore raised, was called a "tributer". In essence he was a speculator and a lay geologist, who, using his knowledge and his labouring skill, willingly sacrificed a steady income for the freedom and chance of great profit.

The mining year was divided into two month periods, the first day of each new period being called a "setting day". On this day it was decided by the manager, agents or captain of the mine that work was to be undertaken by the mine for the next eight weeks. On this day, men employed at the mine together with those who had come to the mine in search of work, gained their employment for the ensuing weeks by an auction system. Every part of the work that was expected to be undertaken by the different types of skilled labourer, was negotiated in public between the bosses and the miners. The "tributers" often knowledgeable about the "pitches" to be offered, bid for the highest quality ore "pitches" with what they considered was the lowest bid. "Pitches" were the workable portions of a lode in the horizontal tunnels (or stopes) which ran along the lines of the copper lodes where the ore was broken down. For the "pitches" known to have the high grade ore, the team of "tributers" who could offer the lowest bid to work it, secured the bid. The bid was secured not by an auctioneer's hammer but by a pebble thrown into the air by the captain. Before it reached the ground all bids were expected to be cast. A fair captain seldom allowed the bid to fall too low. A known low grade

ore "pitch" was not popular so the cost for working it was far higher. If "tributers" secured a "pitch" that after a short time was found not to be visible it could be relinquished, but at a fine which in 1849, was one pound per miner.¹¹

As the system of employment became refined, so the tools and equipment once supplied by the miners, were supplied by the mines to its employees for a fee. The miners were paid every two months after their ore had been assayed and sold. In the meantime they had to pay for their tools and have money to spend for day-to-day living. To overcome this, miners were able to borrow a subsistence each week which commonly became known as "subsist" or "cist".¹²

Basically, the Cornish system surrounding employment conditions worked satisfactorily through the eighteenth century and the early part of the nineteenth century when outside factors depressed metal mining in Cornwall.

Writing in 1849, James Sims, a mining engineer, wrote in his paper "On the Economy of Mining in Cornwall"¹³

"At no time of my mining and engineering experience during the last thirty five years have I ever known a greater depression in this country than there has been during the last years, and I am sorry to say, that as regards copper, I fear the county of Cornwall has seen her best days having all the world to contend with, in consequence of free trade in that article...."

As has been stated earlier, the tin mines of Malaya effectively destroyed the viability of the Cornish tin mines but what was to cause a more serious catastrophe was the discovery of copper not only in Cuba and Chile but also in South Australia in the 1840's. According to Sims, the influx of these ores from other countries into Great Britain, saw average monthly wages fall from an average of fifty shillings to, in some cases, ten shillings. Because the wages that could be earned by the miners, was tied to the fluctuations of the metal market, the Cornish copper market was finding it increasingly difficult to compete with overseas copper ore. Not only was the miner earning less but he was undoubtedly in an unfortunate position of indebtedness brought about by the practice of "cist". At the end of the nineteenth century it was thought that the miners had lost a great deal of their independence by the mere fact of their indebtedness to the local shopkeepers and to the mines themselves.

2.3.4 Cornish Out Migration

The discovery of mineral wealth in South Australia in the early 1840's in Kapunda, Burra Burra and then Moonta and Wallaroo was an attractive proposition to impoverished and redundant miners in Cornwall. Thus, in the 1840's the scene was set in Cornwall for a steady exodus of miners to greener pastures. In 1857, the Quarterly Review described the Cornishmen as "one of the most locomotive of mankind".¹⁴

By the 1871 and 1881 Census it was revealed that a third of the mining population had left the country¹⁵ and in 1881 the Registrar General had reported a drop of 8.9% in the last decade with the tin mines diminishing by 34%.¹⁶

In 1885, a correspondent of the Daily News who visited the mining areas of Cornwall, wrote that it was no exaggeration to say that there was hardly a family in the locality, some of the members of which were not pushing their fortunes in Australia or New Zealand.¹⁷

Miners with their families from Cornwall emigrated also to America and Canada. So it was that the Cornish mining traditions and people came to the Moonta and Wallaroo Mines area.

In a report to the House of Commons in 1887 it was stated that the Cornish system of wages and conditions had been universally adopted in other parts of the globe by mines which worked upon lodes and where the mines were managed by Cornish captains.¹⁸

2.4 COPPER IN SOUTH AUSTRALIA

By the 1900's in the locality of Moonta, Wallaroo and Kadina, the site of approximately forty three copper mines,¹⁹ of varying sizes and of varying degrees of success was recorded.

It was seventy five years after the first settlement of Botany Bay, that the first significant metal ore was discovered in Australia, not in the earlier settled parts of Australia as might be expected, but in South Australia. For the new colony, the find was a reprieve for an almost bankrupt South Australia. It was the beginning of an economic base, from which pastoralism and agriculture obtained a boost and could be further developed. Although the first mine was commenced in 1841 at Glen Osmond,²⁰ it was the copper discovery at Kapunda in 1842, that was to change the colony's fortunes for the better. Three years later, the "monster mine" of Burra Burra was underway producing "some of the richest copper ore imaginable".²¹

In the 1909 edition of The Record of the Mines in South Australia, H.Y.L. Brown stated "the Burra Burra Mine ... has yielded nearly 5,000,000 pounds worth of copper". The early mineral discoveries generated capital and more importantly, labour. As more copper and tin was discovered around the globe, so the potential for an upsurge of labour from Great Britain, especially Cornwall, was made possible.²² As copper and tin mineral discoveries depressed the Cornish mining industry, especially by the 1840's, so emigrants from this county travelled first to Kapunda, Burra Burra, the Australian goldfields and to the copper triangle of Moonta, Wallaroo and Kadina in the 1860's.

2.4.1 Copper in Moonta - Wallaroo - Kadina

The story of the discovery of copper in the Moonta Wallaroo Kadina triangle is so well known that a detailed study of the events does not need to be repeated, other than a brief outline to set the events in context to the overall historical background.

Walter Watson Hughes was already leaseholder of a pastoral lease in the region from 1857. Naming this station Walla-Waroo which is Aboriginal for wallaby urine,²³ he worked the first mine in the area, Wheal Mixter, when traces of copper ore were found on the beach at Wallaroo. Due to its unfortunate location next to the shore, constant flooding of the mine made the venture unprofitable. Not to be deterred by this misfortune, he was nevertheless alert to the prospect of future finds in the area. When one of his shepherds reported of a possible find in December 1859, Hughes quickly took out a mining lease on the area and cleverly approached the owners of the successful pastoral company, Messrs Elder, Stirling & Co. inviting them to form a syndicate with him. Notables, Thomas Elder, Robert Barr Smith and Edward Stirling, the company owners prepared to take a risk in such a venture, provided the valuable capital of 80,000 pounds needed to put the mine into operation.²⁴ With their investment, Walter Watson Hughes registered the mining company, 11 January, 1860, naming it after his property, Wallaroo.

Only months after the Wallaroo discovery, a similar find was discovered at Moonta. Discovered again by one of his shepherds, but this time not on land leased by him, securing the rights to the mineral lease was only by Hughes determination and cunning.²⁵

Because the copper lode at Moonta was so rich compared to Wallaroo, he was able to establish the Moonta Mines with the minimum of funds. For nearly thirty years, up until 1889, the Wallaroo Mines and the smelting works were one concern, whilst the Moonta Mines operated independently even though ore from Moonta was sold to Wallaroo for processing.

The effect of these mining operations in the north of the Yorke Peninsula triggered off the rush to the area by speculators lured by the hope of quick profits, to search out and register many mines within the Moonta, Kadina and Wallaroo area. Lured also, were eager mining labourers from the nearby areas of Kapunda and Burra Burra. News of the rich copper finds in the area also reached Cornwall which encouraged many mining families to seriously consider emigration and a chance of fruitful rewards in a young colony.

The phenomenal success of the Moonta Mine had the distinction to be the first mine in Australia to pay dividends aggregating one million pounds. From its discovery to the date of its amalgamation with the Wallaroo Mine in 1889 the Moonta Mine produced 545,127 tons of ore which realised 5,113,252 pounds out of which 1,168,000 pounds were paid in dividends to the lucky shareholders.

In February, 1865 the Wallaroo Times reported that each of six other mines in the region were turning out from 1,500 to 1,600 tons of ore each month. The mines mentioned were the Karkarilla Mine, the Yelta Mine, the New Cornwall Mine, the Matta Mine, Kurilla Mine and the South Wallaroo Mine.

2.4.2 Settlement Pattern

The impact of such intense activity in a poor waterless pastoral environment literally changed the landscape overnight to a densely populated industrial area and the landscape was further denuded by the demand for wood. Settlements sprang up at Moonta, Wallaroo, East Moonta, Cross Roads and Kadina. Before Moonta was officially gazetted as a township in 1863, miners and their families had already located themselves as close to the place of their work as possible on company mining leases where rent was nominal. When the town was gazetted, not all families were prepared to leave their low rental cosy homes for the rateable town blocks on the grid iron plan, so Moonta is unique because of the earlier settlement outside of the official township. This also happened at Kadina. Before the town was officially gazetted in 1861, miners and their families had already established themselves on the Wallaroo Mine leases.

Although the township of Moonta is close to the Moonta Mines, the Wallaroo Mines are in a different situation. The township of Wallaroo is situated near the ocean where the smelter works were chosen to be located because of the ideal port facilities. The Wallaroo Mines are five miles east of the port of Wallaroo and the

smelters. Miners working in the Wallaroo Mines vicinity walked to their homes which were located at the small townships of Matta Flat, Jerusalem, Jericho and The Cottages, but few walked to Kadina which was approximately one mile away.

2.4.3 Mine Life

The Moonta and Wallaroo companies survived longer than did the Kapunda and the "monster mine" of Burra Burra, the number of years being sixty-two. Prosperous for the first decade, the Moonta and Wallaroo Mines were hit particularly hard in the 1870's when world prices on the copper market depressed the mining industry so badly that all but the most secure mines went out of business, including Burra Burra.

The effects of the depressed copper market in the 1870's, which saw the closure of all minor mines, meant that by the late 1880's in order to survive financially, the Moonta and Wallaroo Mines cut their loss and amalgamated. This decision was a profitable consolidation which saw the new company progressing from strength to strength. Unfortunately the success was short lived for the effects of the First World War was a hurdle that even the combined strength of the two companies could not overcome. It was in 1923, after several years of financial struggle that the mines halted all operations, and went into liquidation never to be resurrected.

"In the wake of the miner came the farmer"²⁷ and at the closure of the mines, many miners turned to farming when their jobs in the mines were finished. Some farmers had profited during the mining years, supplying hay, timber and fresh foodstuffs to the mines. Wheat crops were able to thrive on what was once poor soil, with the addition of superphosphate provided by the Wallaroo Phosphate Company, which used sulphuric acid from the smelters. The area continued to prosper as a farming region, leaving the mines as a barren reminder of the past "industrial age" which once was the focus of activity in the area.

2.5 COMMUNITY LIFE IN THE WALLAROO MINES VICINITY 1920 -1930

In 1861, eighteen months after the discovery and setting up of the Wallaroo Mines, the town of Kadina was surveyed. In the meantime there had been an influx of miners and their families who needed property on which to settle. For convenience, they took up tiny pockets of land on the mining leases for a nominal rent. No more than half an acre at the most, these random blocks of land were often further secured by miners who built stone walls to surround their domain.

On modern day maps, these surviving cottages with their walled gardens are sparsely dotted on the old mining leases situated to the north and south of the mines but south west of Kadina.

According to Mr. Wearn, one time Mayor of Kadina, it is extremely difficult to comprehend, in the present day, just how many hundreds of little cottages were packed onto these mining leases. With little or no regard given to any form of basic town planning, lanes and roads twisted and wound around between the walled blocks.

Almost as soon as the Wallaroo Mines closed in 1923, many families in a hurry to find employment elsewhere simply left, leaving their cottages vacant. Many of the empty cottages were demolished to recover the timber, iron and stone for use elsewhere. Although unemployed miners probably did not leave the vicinity immediately, undoubtedly many did sooner or later and many houses on the mining leases were sold to contractors for the material alone. According to Mr. Wearn if a house could not be sold for further occupancy for between 20 and 40 pounds at the most, this became their fate. He said within the first year of the mines closure, hundreds of cottages were razed to the ground in this fashion. The depression of the 1920's and 1930's was beginning to bite at this time and profits gained from this salvaged material were valuable.

An idea of what these large crowded communities may have looked like can still be seen by the numbers that have survived at the location known today as The Cottages. This area would have to be the only site where one can gain a vague impression of what these communities on the mining leases may have been like, although it must be stated that even here only a few cottages and their walled gardens remain.

As with Moonta, when the official township was surveyed, many Wallaroo miners and their families preferred to continue to live in their dwellings on the mining leases. Many simply did not want to, or could not afford to buy a block of land in the surveyed township of Kadina which was about one mile from the Wallaroo Mines.

Information from older residents of the locality such as Mr. Wearn and Ducky Chambers conveyed a sense of deference between the residents of Kadina proper and all the other residents who lived on occupation blocks or the mining leases surrounding the Wallaroo Mines. It is understood these differences were basic socio-economic ones. Traders, professionals and upper echelons of the mining hierarchy lived in the township of Kadina, whilst the poorer working class and miners clung to the occupation blocks and

their randomly situated dwellings on the mining leases. Several of the mining captains and managers lived very near to the Wallaroo Mines. Three of their substantial villas survive, but the fourth one is now in ruins.

Separate identities were given to the localities known as Matta Flat, The Cottages, Jerusalem and Jericho. Whilst they shared in common the enormous Wallaroo Mines school, a couple of the localities had their own church, chapel or citadel. Much in the way of grocery and other provisions could be brought or obtained within these local areas, but beyond the basic requirements, a walk or ride into the town of Kadina was necessary at least once a week.

From the little information gained from the older residents of the area, it is apparent that life in these locations outside of Kadina was one of extreme impoverishment once the mines closed in 1923. However, despite the harsh conditions where there was little material comfort, the message to be derived from the older residents was that they lacked for nothing when it came to spiritual well-being. Despite the bleak times of the depression following the mines' closure there was a community which relied heavily on each other for moral support.

Mrs. Reynolds, 90 years old, stated:

"My children were at school during the depression. You look back and wonder how you coped. We had to get relief like most people. You had to go and apply for it at the police station. Well, nearly everyone was on relief. You couldn't get work, but well, we all shared. Although it was tough times, it was happy".

2.5.1 Mines Closure

The closure of the mines was a catastrophe, for it saw a gradual dispersal of a large population from the region. The end of an era was plainly visible by the rapid dismantling of moveable fittings from the mines such as the pump heads and the demolition on a large scale, of the miners' cottages on the mining leases. However, the remaining community slowly adapted to a life that no longer revolved around the operations of a mine. Although the mines closed, never to be started up again, the exodus from the region was not an overnight event but a process that took several years.

To someone like Mr. Wearn, the closure of the mines saw him lose his job as a foreman tailor. Until the mines shut he stated that he was foreman to forty-six tailors. Overnight, business declined and he was made redundant. However, he set up his own tailoring business and went on to be one of Kadina's most notable residents.

For Ducky Chambers, whose father died when she was just two years old, she was between eight and nine years old when the mines shut. Her father had been quite well off as a farmer in the Moonta area. When he died, she and her mother and elder sister were allowed to stay on the farm until it was needed by her father's younger brother, six years later. A house was then found for them by her father's family at Matta Flat one year before the mines shut down. One of her first impressions of the move, she recalled was:

"The mines were in the middle with all the houses around it. When we moved to the mines we had to get used to the noise of the condenser. From a farm where we heard only animal sounds we had to get used to this awful up and down noise. It was an unusual noise. Also the lights were left on all night".

For her, her sister and mother, life was dramatically different to a life on a farm where a more comfortable living had been gained. Despite the downturn in their fortunes, Ducky Chambers' mother and sister were well off when compared to their neighbours at Matta Flat. Coming from a farm they brought with them a horse and buggy and a couple of cows. From the cows, milk, butter and cream was made and sold throughout their neighbourhood. They also kept chickens from which eggs were gathered and sold. Ducky Chambers stated that they were well provided with meat from the family farm, a luxury that not too many of their neighbours would have been blessed with.

Ducky Chamber's widowed mother was, by all accounts, a guardian angel in her locality. Often sick herself through diabetes, she was a comforter of the sick, entertainer and loving mother. Ducky Chamber's mother was always called upon when there was a death in a family within their locality. She would "do the honours" as it was called in laying out the dead and giving comfort to the bereaved family. She and her daughter would occasionally make shrouds or nighties in which to dress the dead when the bereaved families concerned were too poor themselves to provide the simplest of dress. Where the families were too poor to pay for a coffin, they were made out of the deal packing cases that kerosene containers were stored in. These were then fashioned into the shape of a coffin. It was on such visits that Ducky Chambers remembered the pitiful conditions of some of the homes. Floors were of coalash and often the tiny dwellings were divided internally by a dresser or screen to separate the living from the

sleeping area. In Ducky Chamber's house the big kitchen stove was kept alight, winter as well as summer, no matter how hot it got. It had a boiler on top called a fountain. The wood for the fire also came from the family farm. There was no electricity or gas and they didn't have a bathroom. In-line with everyone else they had a bath once a week at the weekend. It was a laborious job because the water had to be heated in a big copper. The water was then carried in buckets to the tin bath which was kept in the wash house.

When the mines closed, the areas around the mines became a health hazard as well as becoming dangerous to children. The Wallaroo Mines school was situated by a big dump. The dumps were no longer maintained when the mines shut and on windy days the school was blanketed in dust. So much dust continually blanketed the school that it had to be regularly cleaned up with bulldozers enabling children to go to school. The mines area also became dangerous to children. It appears that most children in the vicinity played in and around the mines shafts, as well as passing through the area to reach school. Although the children knew the dangers, it did not deter their activities, even when their activities had led to tragic accidents.

2.5.2 Community Activities

The major community activities centred around the churches. According to Mrs. Reynolds, Mrs. Favillo and Ducky Chambers, children went to church and Sunday School three times on a Sunday. Much of their activity was spent preparing themselves for the annual church anniversary. When they were not attending the church, church orientated social evenings were spent in each other's homes. These occasions were opportunities to practice what is the area's favourite activity - that of singing.

At Christmas time according to Ducky Chambers, all homes got an annual whitewash inside and out. She also recalled that when a child was born a new room was added to these little cottages. If you notice the rooflines get lower and lower as additions were built. She said they could cope with building a downward sloping roofline but they could not cope with new hip roofs and so on.

2.5.3 Conclusion

From the older residents, Mr. Wearn, Mrs. Reynolds, Mrs. Favillo and Mrs. Ducky Chambers, who were interviewed on the 8 and 11 August, 1986, it is apparent that the social history of the Wallaroo Mines is rich and diverse. From them, an impression of what life was like between 1920 and 1930 is conjured up to be one

of hardship yet far from being unhappy. The four transcripts, as contained in Volume I, of the residents interviewed are a valuable record of their accounts, but in order to give their impressions weight and significance, further older residents should be interviewed as well as evidence from newspapers of the day and government reports sought. Whilst one can accept the impressions of these few people, only further research will confirm that their experiences were common to many other residents or few of them. Topics discussed by the older residents were fleetingly referred to. They give an indication of the kind of issues that could be further researched for later projects.

2.6 A CORNISH WAY OF LIFE IN SOUTH AUSTRALIA

With the potential of the Wallaroo Mines quickly emerging soon after operations commenced, Cornish miners began to leave the Burra Burra Mines for the area, as did miners from Victoria. These early labourers to Moonta and Wallaroo were soon joined by migrants from Cornwall itself where the copper and tin mines were from the late 1840's in a depressed state.

Philip Payton states:

"Their migration was aided by the Sutherland Act of 1863 which reserved one-third of the annual revenue to finance assisted migration. In 1864, of all migrants over twenty per cent were from Cornwall, the small mining district of Marazion sending as many as 150 miners. And in 1865, a staggering forty three per cent of persons entering the colony were of Cornish origin".²⁸

He goes on to state that though restrictions had to be imposed to prevent a flood of Cornish people into South Australia, in 1867, 7,830 miners left Cornwall for greener pastures and during 1875 the West Briton newspaper had recorded that 10,567 had migrated from Cornwall to settle in Australia.²⁹

As would be expected of any ethnic group uprooting itself from its known environment and transplanting itself into a strange country, customs, traditions and religious well-being was continued with only minor variances to allow for climatic or environmental conditions.

2.6.1 Religion

Perhaps for any ethnic group in an alien environment, religious well-being is the common bonding factor as well as being considered the most important. Arnold Hut stated that in the 1891

census 80 per cent of the people in the region were returned as belonging to a Methodist church, with the largest group being the Wesleyans.³⁰ Indeed, the Wesleyans built the biggest churches and the Moonta Mines church survives, with seating for twelve hundred as the only Cornish-style church of its size in South Australia.³¹ The later Wesleyan church of 1874 in Moonta square "still dominates the town square and remains as one of Moonta's finest legacies from the past".³²

The importance of religion to the Cornish in the Copper Triangle can be best understood simply by the mere numbers alone of churches in Moonta. By 1875, the combined numbers of Methodist churches which included Wesleyan, Primitive Methodist and Bible Christian was fourteen. There were also 10 in Kadina and Wallaroo making a staggering total number of twenty-four. "When union came in 1900, the circuits based in Kadina and Moonta had³³ in all, 31 churches, of which eight served farming communities".

Arnold Hunt stated that the propensity of Methodists for building churches close to each other was hardly strange in the Moonta of a hundred years ago as it had been the practice of close proximity of all³⁴ denominations of churches in Cornish communities in England.

The life of the Cornish appeared to revolve around their churches as Methodism brought colour into their lives. Through the church, miners and their families could vent their feelings through oratory and singing. According to Hunt, opportunities for preaching from the pulpit by the miners themselves, gave them confidence and experience at public speaking, thus preparing them for political conflict between the miners and their employers.³⁵

As a result of the close alignment between miners and their Methodist church, the formation of the Moonta Miners Association, a trade union, was formed³⁶ in 1874, with the leaders being the local Methodist preachers.

Religion even managed to permeate into strikes. In 1864, a miner recalled:

"What sort of meetings! First we'd sing then we'd have a word or two of prayer and some of the leaders would discuss the dispute between hymns. We'd have a good time and walk back to the mines in the evening".³⁷

2.6.2 Cornish Cottages

Apart from the influence of the Methodist church, family life of the Cornish community was an important factor for the safeguard of Cornish tradition and customs.

No better way does the legacy of the Cornish survive than in the quaint little whitewashed cottages dotted around the townships of Moonta, Wallaroo and Kadina. Often built "temporary - for the time bein'", as their builders put it, Oswald Pryor stated many were demolished once the mines finally closed down in 1923. Those that have survived, have changed little in outward appearance although, like a much patched garment, not a great deal of the original fabric survives.³⁸ The miners, not very optimistic of the life of a mine, did not at first see their hurriedly built homes as permanent, but when the township of Moonta was officially gazetted as a town in 1863, few who had built substantial homes on the mining leases wanted to move from them. Temporary homes became permanent and those miners with their families who continued to live outside the town proper did so because they preferred the low rents, no rates, being handy to work and being away from the hotels. Six thousand people,³⁹ it is reputed by Pryor, lived on the Moonta leases at one time.

Oswald Pryor stated that the miners were their own architects with little scope for self expression or time to spend on creating a home. They were built "out of coor", that is after a shift was over.

"They had to make do with such materials for walls as the stone and clay available on the leases, and timber for roofing and fittings were often "borrowed" from the stacks belonging to the mine. To save time and money some houses were built by excavating the rooms to a depth of a few feet and using the limestone thus obtained to build walls to the required height. As a result, they looked so squat that it almost seemed as if a man could put his arm down the chimney and unlatch the front door".⁴⁰

Necessity was the mother of invention and the miners used whatever materials were handy. Consequently, some homes were of wattle and daub; some were by "German bricks" which appears to be the method by which mud bricks were made; by planks which were placed horizontally, a foot or 15 inches apart, then filled in between the spaces with a mixture of loam, clay and broken stone, which was well rammed and allowed to set before the boards⁴¹ were raised for the next course.

While it is remembered that Moonta and Kadina were predominantly Cornish this did not apply to Wallaroo. Wallaroo had a Welsh flavour and this was because of the smelting works which were set up in 1861. Renown for their expertise in and around Swansea, Wales, smelters were encouraged to emigrate to South Australia to work in the newly established smelting works of Wallaroo.⁴²

Of the Cornish customs and traditions the Adelaide Observer, 4 March, 1899, stated:

"Miners and their families brought out old manners and customs, and so long as the first generation lasts they will not pass away, but the patriarchs are gradually crossing the bar, and their successors are forgetting and forsaking traditions. Australian traits appear. But the pioneers stamped their splendid physique on the native born".

There is still, however, a strong Cornish culture in the area, and many of the physical examples of the Cornish way of life are left as reminders of the impact these people made on the colony of South Australia.

2.7 MINOR MINES IN THE COPPER TRIANGLE

The success of the Wallaroo and Moonta Mines caused much of the surrounding countryside to be taken up for mining purposes. In the hope of quick profits, foresight was rarely a prerequisite and so, many claims taken up containing copper lodes worth pursuing, never reached their full potential due to lack of capital needed for the necessary machinery required for operating a mine. Some of the more profitable mines in the Moonta and Wallaroo vicinity started off as private companies but invariably were sold to the Wallaroo and Moonta Mines during periods of low prices for copper from the 1870's. Those not sold to the big company were invariably abandoned but often not before there had been several determined attempts to revive mining works.

In 1908 H.Y.L. Brown recorded that the following mines were part of the Moonta and Wallaroo Mining Company.⁴³

The Cumberland Mine which seems to have been started in 1863 is one and a half miles to the south of the Clinton Road and 11 miles from Kadina. After being abandoned for many years, operations were restarted in 1907.

The Duryea Copper Mine. Of this mine, there were once, great hopes and though a good deal of capital was expended on it, the results were anything but satisfactory.⁴⁴

Hamley Mine, first called the Karkarilla. In 1861, a small company subscribed twenty shares taking up seven adjoining sections west of Moonta Mines.⁴⁵ The lode worked upon, was the main Moonta one. Although a large amount of ore was raised, it was a difficult mine to work and costly. Due to unforeseen circumstances, the old Karkarilla Company ceased operation for about three years before it was sold to half a dozen Adelaide speculators, one who was Sir William Morgan. It was renamed Hamley after the Acting Governor and had some degree of success under the management of Captain John Warren, with 30 hands being employed.⁴⁶ It was stated by H.Y.L. Brown, that ore raised in 1887 equalled 41,814 tons worth 333,739⁴⁷ pounds in value. In 1903-6, 17,756 tons of ore had been raised.

The Mid Moonta Mine was bought by the Wallaroo and Moonta Mine in 1907 after being abandoned for about twenty four years through want of capital. It became known as the Moonta Central.⁴⁸ In 1899, The Adelaide Observer for 18 February stated that a company had been registered in London with capital of 130,000 pounds. Whether this company ever had success with this venture is not known but the mine was known to have good prospects and obviously the Wallaroo and Moonta Mining Company thought so too as evidenced by its purchase of the mine.

The Wombat Copper Mine is aptly named for it was discovered as a result of a wombat exposing it. Not much is known about it, other than the fact that it was eventually incorporated into the Wallaroo Mine property before 1908.

The Yelta Mine began in 1864 on seven, eighty acre sections adjoining the Moonta Mine on its north side. In its first twelve years it was recorded by Brown as having been worked with much success. Between 1899 and 1908, the mine was recorded as being owned by a consortium of English capitalists and then a French company. In the latter's case it was worked in conjunction with the Paramatta Mine.⁴⁹ It was considered in its heyday to be one of the principal mines in the Moonta district, employing 300 hands. When the English syndicate took over the mine, it had been abandoned for a while. Initial operation by the mine's new owners was costly in that thousands of pounds was spent on pumping water from the mine.⁵⁰ Shortly after this article, it became part of the Moonta Mine properties.⁵¹

Some of the mines that were successful for a while, but not owned by the Wallaroo and Moonta Mines, deserve mention.

The Paramatta Mine, a little to the north of Moonta, was worked for many years with a fair yield but as the yields became more difficult to obtain and less cost effective, the mine closed down. By 1899, this mine together with nearby Wheal Hughes and Wheal

James were acquired and worked as one company. When the new company became involved in this venture, about 1899, vigorous operations were undertaken by its 400 employees and was still in operation in 1907.⁵²

Many of the smaller mines suffered in the 1870's when there was a world wide copper crash - a catastrophe from which only the most profitable companies escaped. Even the "monster mine" at Burra Burra could not survive and it had given only one month's notice to its employees when it ceased all operations on 29 September, 1877. In the Burra News, 21 September, 1877, it was stated that "in consequence of the low state of the copper market the Directors of the Burra Burra Mines have decided temporarily to suspend all operations".⁵³

The following are mines recorded by Brown which eventually became disused. They are:

Challa - closed about 1870 due to poor yields.

Copper Valley (Koorona) - abandoned due to collapse of copper market.

Earl Dalhousie (Terry's) Mine - owned by Messrs Levi and Watts, but no payable lode.

East Moonta - lack of capital during copper depression of 1870's.

Emu - affairs wound up when initial exploratory tests gave discouraging results.

Euko - abandoned when lode never discovered.

Great Britain - because of its seashore location it was prone to flooding by seawater and works ceased 1890.

Kooagnie - found to have non-productive vein.

Nalyappa - discontinued when owners not prepared to invest further capital.

North-East Moonta Mining Co. - costly expenditure for little result.

North Poona - lack of capital stopped all operations.

South Devon - good lodes discovered but low copper prices of 1870's discouraged further operations.

Truor - taken up as prospecting venture but abandoned.

Vulcan - abandoned when lode never discovered.

West Doora - abandoned about 1874 when the supposed Doora lode not found.

Wheal Devon - abandoned 1874 due to poor results.

Wheal Hughes - was reported as having been unworked for years by 1890, but about to be restarted in 1899.

Wheal Mixter - close to beach at Wallaroo and worked by Captain Hughes before discovery of Wallaroo Mine. Abandoned due to continued flooding of water.

Other mines mentioned but also abandoned by 1900:

Agery
North Britain
Prince Albert Copper
Royal
Victoria
Wheal Goyder

Mines in 1908 that Brown found were about to undergo new attempts of development or those that had just been reopened are:

Copper Hill Mine - work resumed about 1906-7.

Cornwall (New Cornwall) - in two years prior to 1907, mine was being worked by Paull and party.

Doora - still being worked but ore of low grade.

North East Matta - in 1888 mine manager regarded lode as "strong and permanent vein".

South Doora and South East Doora - were both reported as having had large quantities of excellent copper mined from mine.

Wallaroo Beach - work commenced on this mine about 1906-7.

Wandilta - in 1907 operations were in progress using diamond drill.

Wheal Fortune Copper - first worked in 1861-2 by a company of Moonta miners who regarded it as a good prospecting venture.

Two mines mentioned but with no revealing information were the Wheal Humby Mine, four miles from Moonta, and Wheal Stuart Mine, three and a half south east of Moonta.

2.8 HISTORICAL GEOGRAPHY OF WALLAROO AND MOONTA MINES

The present landscape of both the Moonta and Wallaroo Mines is today a far cry from that of the mining era of the 1860's and 1920's. It is difficult to comprehend today, with the few remaining cottages and mining structures and the haphazard maze of tracks and roads, just how densely populated the area was. Clusters and rows of cottages, mingled with public buildings, churches and schools, surrounded the conglomerations of mining plants and machinery. It is also hard to believe that the Copper Triangle represents the most significant industrial and migrant settlement area in colonial South Australia. The numbers of houses and the scale of the mining structures have long since been lost.

Copper was first discovered in 1859 near Kadina in an area that was at the time pastoral. Not much over a year later a second mineral discovery was made on a mallee plain to the south of the first find. The consequent explosion of mining activity and attendant settlement, aided by the proximity of the sea, the richness of the ore and investment of capital, dramatically changed the area from a Wakefieldian agricultural colony to a thriving industrial centre in a matter of years.

2.8.1 Settlement Pattern

The settlement of the mining sites by predominantly Cornish miners, evolved in a sudden haphazard form as temporary dwellings were constructed on mining leases adjacent to the industrial elements of the mine workings. A lack of social planning and the influence of the Cornish culture led to "village" settlement patterns, clustered around major focal points, such as the churches, and in groups around the mines themselves.

Residential development became more established as mining progressed and the original "temporary" dwellings were made more permanent and larger houses and public buildings were constructed. "Village" centres became established around the churches, which was of particular importance in the Cornish lifestyle. At Moonta, a "village" was established around the Moonta Mines Wesleyan Methodist church and at Wallaroo developed around the former Wallaroo Mines Methodist church on Lipson Avenue.

In the mid 1860's the mining company surveyed occupation blocks, designating rectilinear residential blocks at both Moonta and Wallaroo Mines. These were generally ignored in favour of the established community or "village" style of settlement pattern which gave cottages substantial curtilage for stables and outbuildings. Peripheral clusters of dwellings were established as the centres became too crowded at Moonta Mines, East Moonta, Hamley, North Yelta; at Wallaroo, development along the railway line and Stirling Terrace. The placement of public buildings, mine officers residences, and occupation blocks reveals a belated attempt by the mining companies to give some rational order to mines area settlement.

Kadina township was surveyed in 1861, with its site dictated by the location of nearby mines and mineral leases. The town of Moonta was established in 1863 on a grid pattern similar to that of Adelaide, but the Cornish migrants remained essentially in the poorer labouring class areas of the mine sites, where rent and rates were low and the miners were close to their work. The proximity of these defined and surveyed commercial cores also meant that urban planning was concentrated in these townships rather than in the haphazard settlements at the mines.

2.8.2 Community Facilities

Government planning increased during the late 1870's, with the opening of schools (Moonta Mines Model school, 1878), the upgrading of transport systems (Moonta Bay Tramline, 1877) and other community facilities such as institutes. Education became compulsory in 1875 and prior to this many were given Sunday school education.

Between 1880 - 1900 there was a shift of mining enterprise and settlement towards Wallaroo Mines as Moonta Mines went into a period of decay. A worldwide slump in copper prices led to the closure of mines and a rapid decline in the mining population, who moved to seek mining opportunities elsewhere or settled in the agricultural areas of northern Yorke Peninsula. The townships of Moonta and Kadina survived and flourished as agricultural, commercial and administrative centres.

2.8.3 Physical Appearance

The physical appearance of the area has changed almost as much as the man-made environment. Intensive settlement and mining industry for 60 years (1861 - 1923) resulted in the complete clearing of the once mallee covered plain. Few trees remain after the cutting of timber for mine props, firewood and building

elements. Goats also had a devastating effect on the remaining vegetation. Tailing heaps are now the major feature of a generally low relief landscape. Mining has also affected the soil quality in many areas and the tailing heaps and precipitation works are still virtually barren.

The early settlement pattern forms an integral part of the heritage of the area, with a scattered and low lying appearance and no proper control of land development. Dispersed, but homogenous in scale, form and materials, the original two roomed cottages were expanded over the life of the mines with numerous additions and extensions, all of similar style with gabled roofs, symmetrical fronts and lean tos, which harked back to Cornwall in their form and construction. The mines areas are characterised by these low profile cottages set in an undefined streetscape, offset by the larger public buildings and industrial structures of the mines.

The present landscapes of Moonta and Wallaroo Mines are dominated by ruins of old mining buildings and sites, skimp heaps and miners' cottages, reflecting the impact of early mining activities. Topography of low relief is dominated by the remains of post-mining activity. At the close of mining many cottages were vacated and either demolished or left to ruin and much of the land once occupied by houses is now used for pastoral activities. This, combined with isolated cottages, forms the major landscape element. The most striking feature of the landscape today, is the apparent lack of geometry in the arrangement of the extant cottages, public buildings and mining sites, a sharp contrast to the formal rectilinear layout of Moonta and Kadina.

2.9 DEVELOPMENT OF THE LANDSCAPES AT MOONTA AND WALLAROO MINES

The following notes and maps describe briefly the development and growth of the two mining areas, and their decline, leading to a picture of the present physical and man-made landscapes of the sites.

2.9.1 Development of Moonta Mines

The present landscape, although a far cry from the thriving centre of activity of the mining era, still bears resemblance to the past, with skeletal remains of mining structures, and skimp heaps dominating the scattered cottages.

Mining began in the early 1860's, with large industrial buildings constructed along mineral lodes. Also during this period, a residential core was established in the centre of mining zones on mineral leases with easy access to the mines. This "village" centre focussed on the Moonta Mines Methodist church, built in 1865, which formed an integral part of the Cornish lifestyle.

Smaller clusters of residences were also established near the present National Trust cottage and at Hamley Hill, whilst early development began at Cross Roads - North Yelta.

During the 1860's, a landscape of low cottages and mining structures evolved.

In the 1870's there was further establishment and expansion of mining structures. More cottages were built in the National Trust cottage and Hamley Hill area, some of which are still extant. Other parts of the urban fabric occurred, including construction of the school building and other "cultural" structures, including the churches and church hall at Cross Roads - North Yelta.

The 1880's was a period of consolidation as well as further expansion of all aspects within the landscape, including the construction of the Bower Street Methodist church hall. Population density increased and the area was at its peak in terms of production and building numbers. At this stage, Moonta Mines was probably fairly crowded. Expansion continued at Yelta.

The era of the 1890's and 1900's saw the development of the villa style of house, with rows of houses, mostly manager's residences, being constructed and further consolidation of the community. Examples of these exist at Burnside Terrace, and on Verran Terrace where a row of dwellings remain. The present railway station was also built during this period.

By the 1920's the decline had begun and numerous houses were being left to ruin or otherwise were demolished when the mines closed. Small pockets of buildings remain, the main "village" centre near the church, the small cluster around the National Trust cottage, and the rows on Hamley Hill, Cross Roads - North Yelta.

The mining sites are derelict with a few large structures remaining partially complete, and remnants at ground level.

Physical environment today is dominated by the skimp heaps with dune ridges, such as Hamley Hill. In contrast to this are the extensive flats of the precipitation works, and slimes.

The present man-made geography includes the cluster of residences around the church, the Moonta Mines "village", leading away down Karkarilla Road to Hamley Hill line. A smaller cluster remains on the ridge near the National Trust cottage.

The line of cottages on Moonta - Kadina Road at Yelta dominate the route into Moonta from Kadina. The remaining development is sparsely scattered in a ring around the mines sites.

As for the mine sites, the lodes run predominantly north-south on each side of the central residential core. The majority of industrial buildings, shafts, and associated works were concentrated on these lines.

2.9.2 Development of Wallaroo Mines

The development of Wallaroo Mines appears to be more ordered than Moonta Mines. The extant remains give more impression of order and planning than those at Moonta. Activities turned to the Wallaroo mine after the Moonta mine started its decline, although copper was found at Wallaroo first.

Early development during the 1860's occurred around Matta House and Matta Flat and mining sites established in a string along the mineral lodes.

The cottages dotted around the mining area itself are of similar age to the Matta Flat area, built when the mines were established. "The Cottages" on Musgrave Terrace and off Datson Road are also original, but the type of development is quite different, that is, neat orderly rows near the railway, compared to random walled blocks off Datson Road. These latter developments were established prior to the attempt by the mining company to rationalise building and development.

In the 1880's further lineal development occurred along the railway line with rows of small cottages along both sides of the line and development of the houses in Stirling Terrace, near the Institute. Occupation blocks were established prior to 1906. The occupation block areas of Matta Flat, Jericho and Jerusalem still have a few cottages in them.

The lineal development dominates the present physical environment in both mine sites and residential sites. Along Lipson Road, important community buildings were established, including a school and church. Along Stirling Terrace, the Institute building is isolated and contrasts with the row of houses on the eastern side.

The railway has a strong influence as it divides the residential areas. On the north side of the railway are the Musgrave Terrace cottages set in a formal row. Individual houses exist on the roads out from the centre of the mine at Matta Road, Smith Avenue, northern Lipson Road and the Main Port Road.

The mine site itself is generally compact and lineal.

2.10 CONCLUSION

The mines have significant heritage value at state and national levels, being the largest of their kind in the country. The technology used and developed was in many ways unique and has left a significant mark on the development of mining in Australia. The lifestyle of the people and the settlements established remain by few examples and by representation in today's museums.

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3.0 Tenure

3.1 INTRODUCTION

Settlement of the Moonta and Wallaroo Mines areas during the mining operation period 1861 - 1923 was generally ad hoc as temporary dwellings and later more permanent structures were placed on mining leases in clusters adjacent to mine workings. This mode of development resulted in a lack of geometry and produced a layout which is uneconomic in its function and ability to serve in the long term. Many of the buildings and development works in both areas however, have been removed during times before an adequate appreciation of the historic and tourist value of these places were realised.

On the cessation of mining operations, those operations with remaining rights to mining saw fit to relinquish them and consequently, the land at Moonta and Wallaroo Mines again became the unfettered property and the responsibility of the Crown. This responsibility is administered under the Crown Lands Act. It is significant that the major part, about 95% of both areas, remain as Crown land subject to various tenures. Refer Figures 3.1 a-e and Figures 3.2 a-d.

Today, there is an intense interest in the mines areas for their heritage appeal and tourism potential. As these pressures grow, so do the problems of land tenure, ongoing management, and administrative responsibilities become more evident. In its capacity as the administrator of Crown land, the Department of Lands has undertaken to meet its responsibilities, particularly in respect to field survey in order to rationalise and define cadastral boundaries, including road networks and tenure administration in a capacity said to be far beyond its normal function.

The Department of Lands has, in the knowledge of the heritage significance of the areas, also played the role of a pseudo planning authority. Where possible and practicable, the Department of Lands has also attempted to freehold parcels which do not require the Crown to maintain an interest. These areas are also affected by legislation other than the Crown Lands Act

which provide control over development and assist in the management of lands in respect of heritage, planning, access, road infrastructure and servicing. A co-ordinated approach to the land management is necessary to secure its future.

The Department of Lands has recognised these needs, its limitations to continue to manage the whole of the land and its need to maintain ownership of all existing parcels. For these reasons a rationalisation of tenure throughout the mines areas needs to be undertaken to ensure that, in the long term, the needs of the community are met in an economic and efficient manner.

3.2 TENURE AND USE POLICY

The Department of Lands has had for many years policies affecting the tenure and use of land applicable to the Moonta and Wallaroo Mines areas. There exists a range of forms of tenure and status of these lands, including freehold, leased, licensed, reserved and vacant lands.

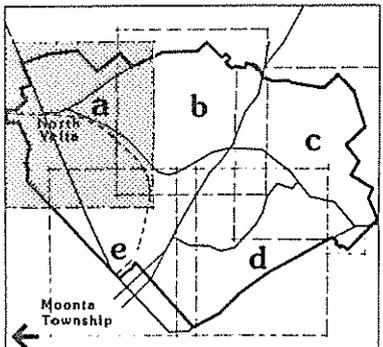
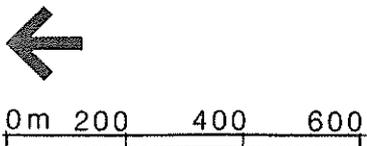
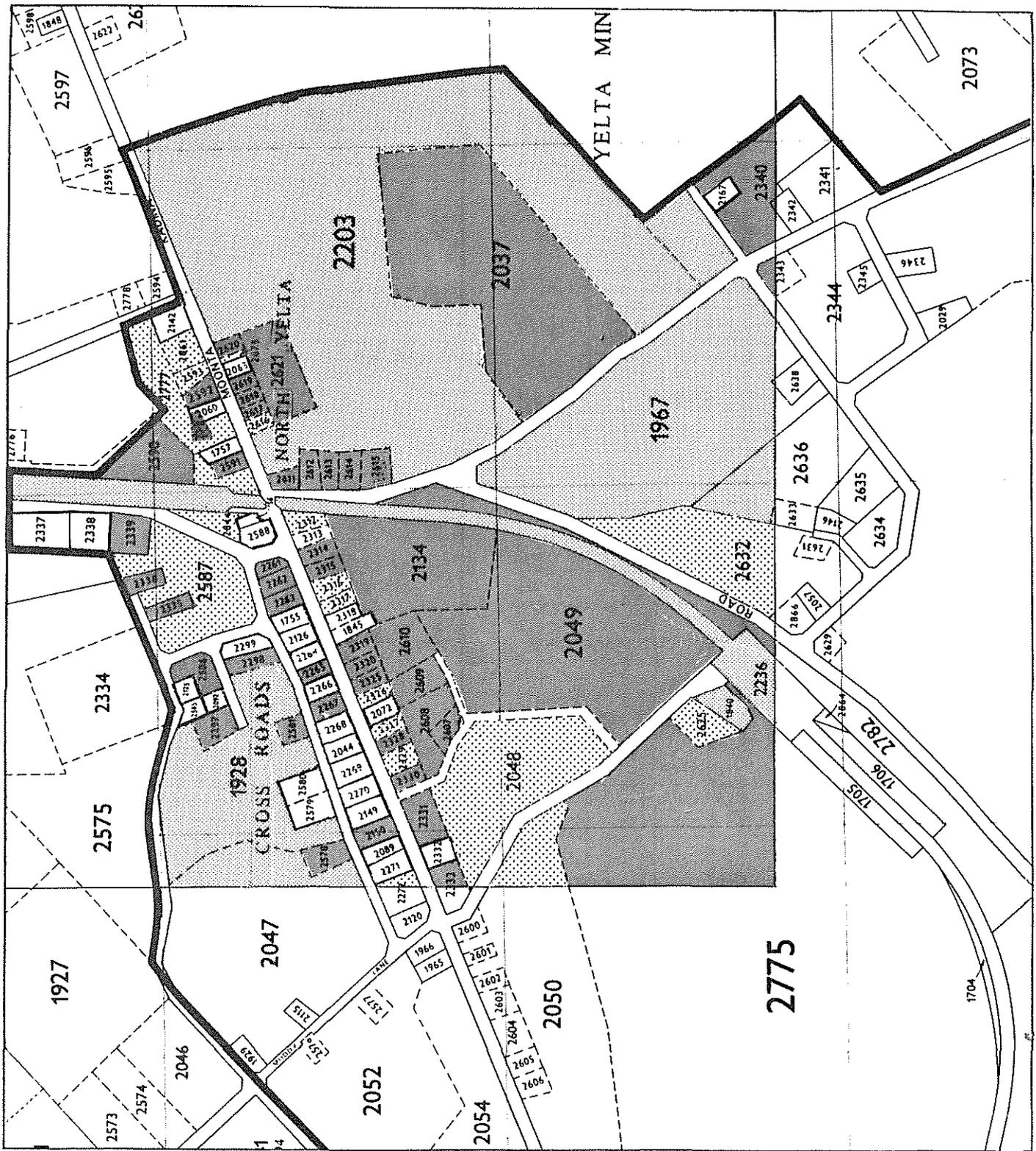
Previously, in agricultural areas, the Department of Lands:

- . encouraged the aggregation of licences to promote economic units; and
- . issued miscellaneous leases at varying terms, having regard to mining tenements, tenants and Mining Act requirements.

In respect to residential use, the Department of Lands:

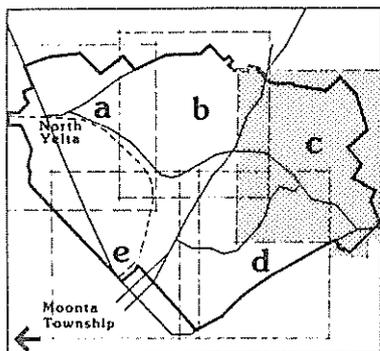
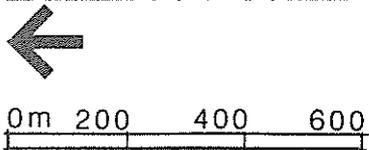
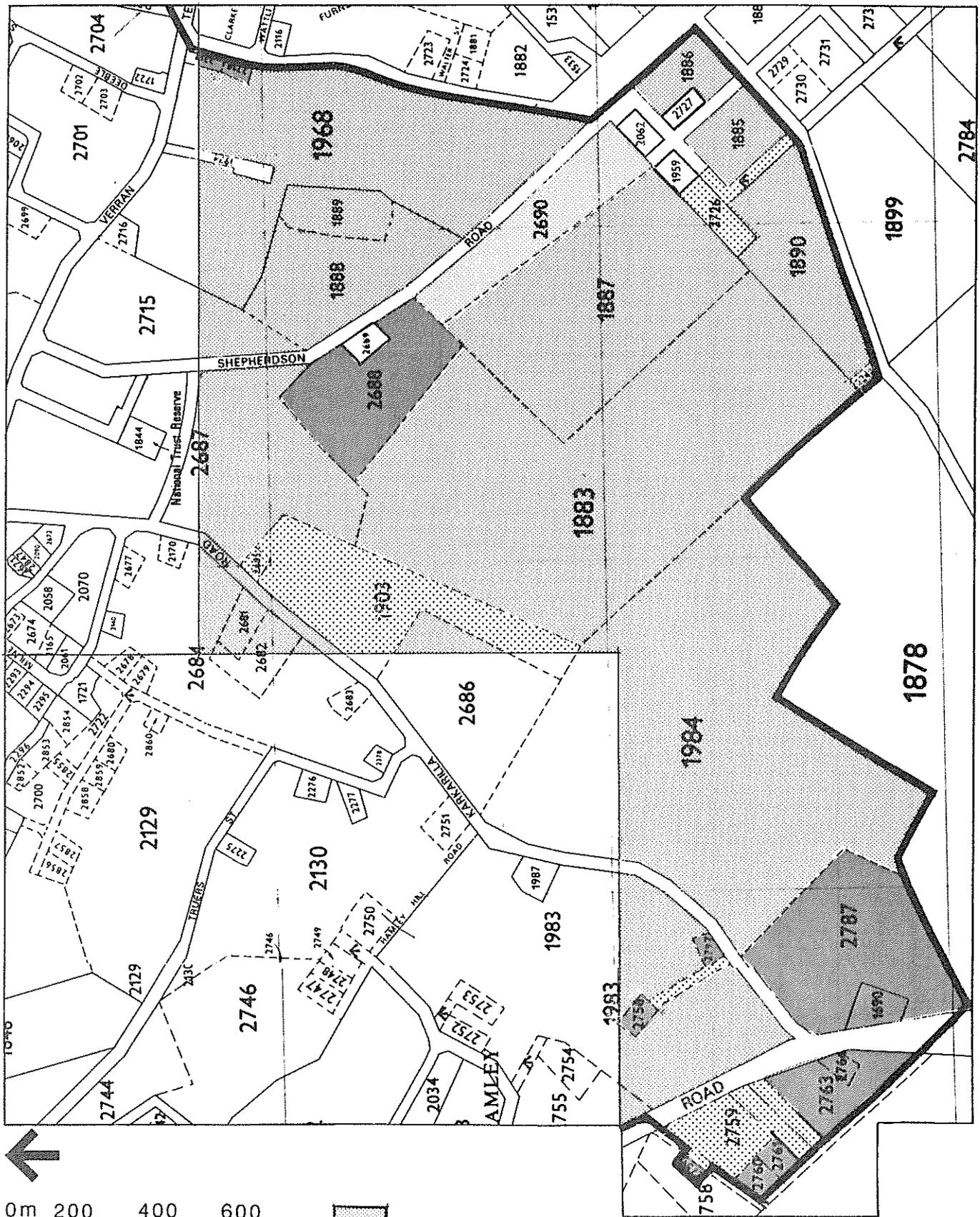
- . continued the renewal of licences to existing occupiers;
- . allowed transfers (irrespective of Building or Health Act requirements);
- . enabled terminating miscellaneous leases, perpetual leases or freehold to be established where a substantial residence exists and the proposal conformed to survey requirements. In respect to freeholding, the applicant is also required to obtain from council certification that the buildings on the land meet all local government requirements; and
- . constrained freehold of parcels to a maximum of one hectare.

Areas of historic interest and where land is used for residential purposes, the department made available to other relevant bodies such as local government and the National Trust. In respect to unimproved land, the Crown has allotted this for rural purposes only.



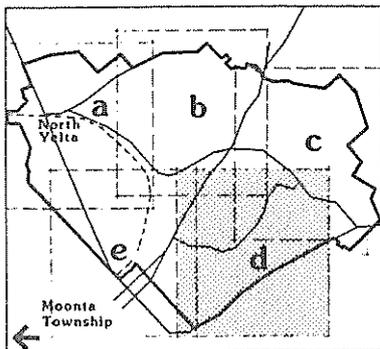
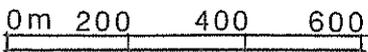
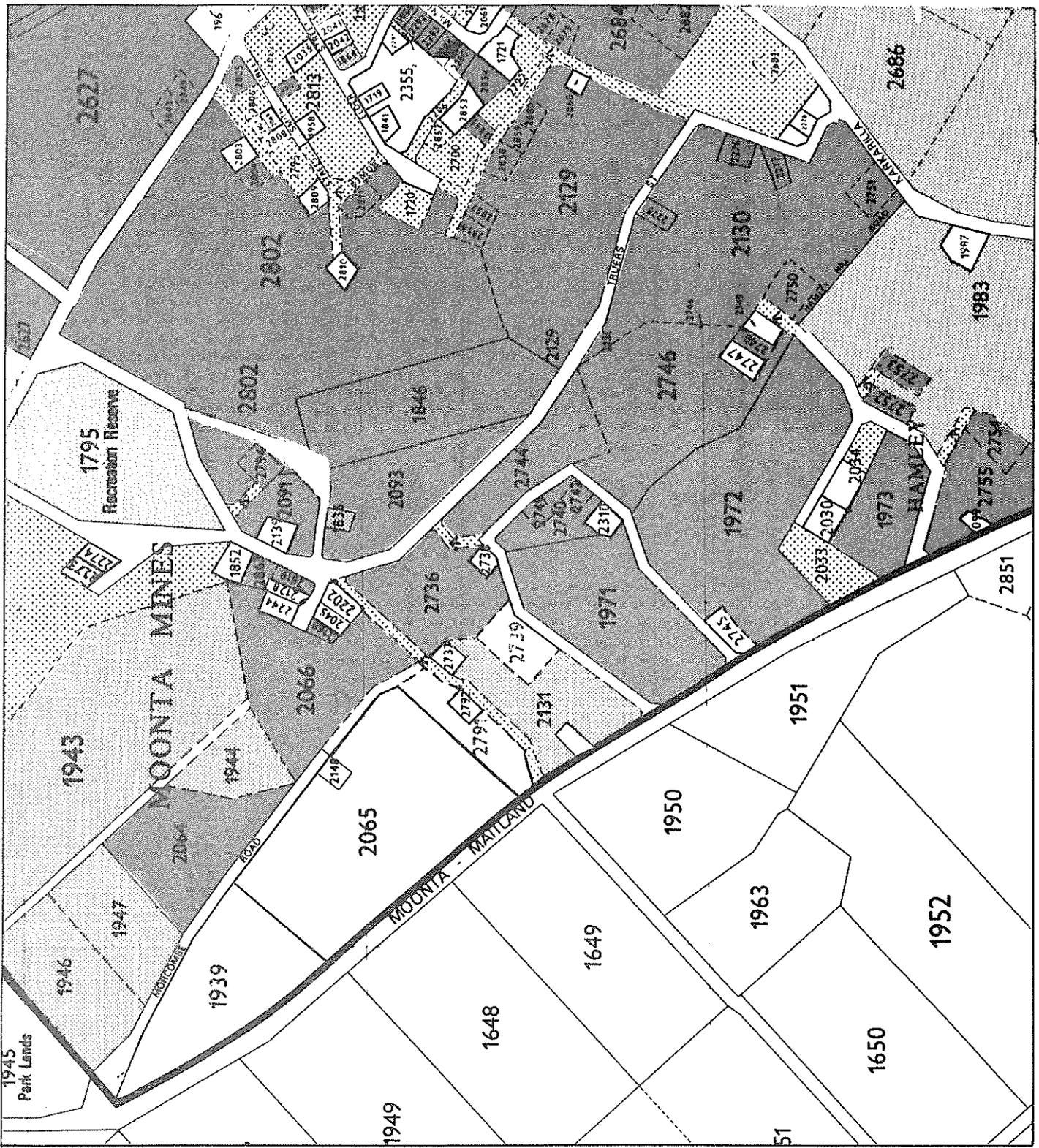
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- Licensed
- Vacant Crown Land
- Reserved
- Freehold
- Study Boundary

Figure 3.1a
Moonta Mines
LAND TENURE



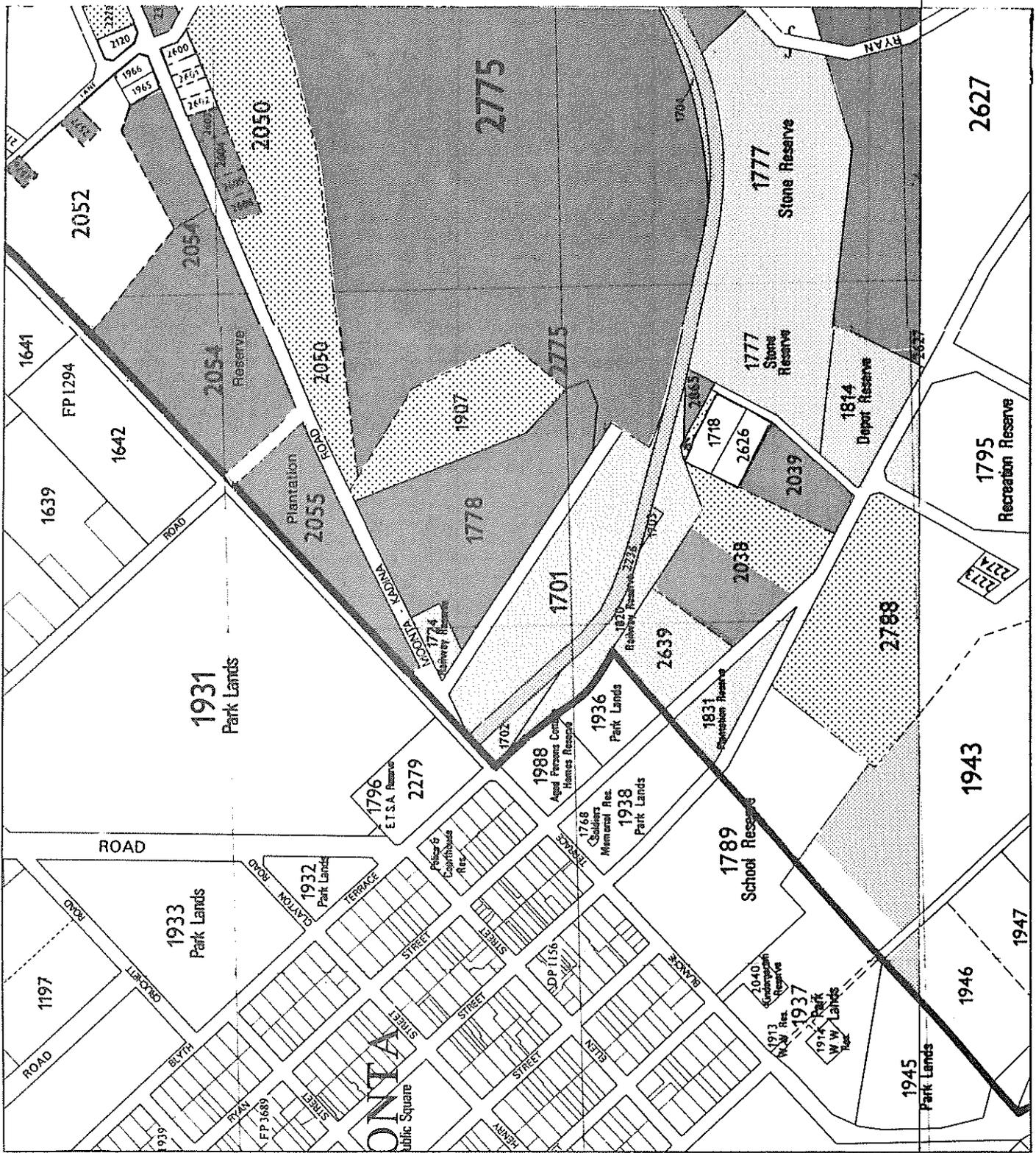
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-  Vacant Crown Land
-  Reserved
-  Freehold
-  Study Boundary

Figure 3.1c
Moonta Mines
LAND TENURE

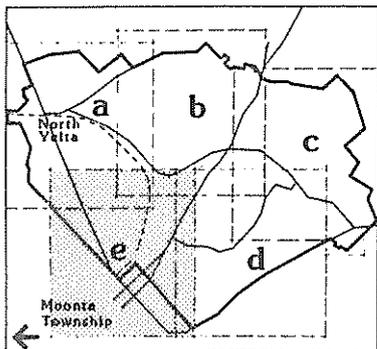


-  Leased
-  Licensed
-  Vacant Crown Land
-  Reserved
-  Freehold
-  Study Boundary

Figure 3.1d
Moonta Mines
LAND TENURE

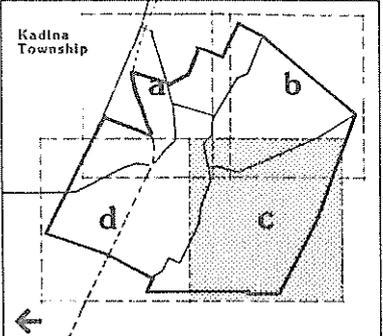
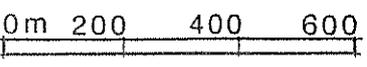
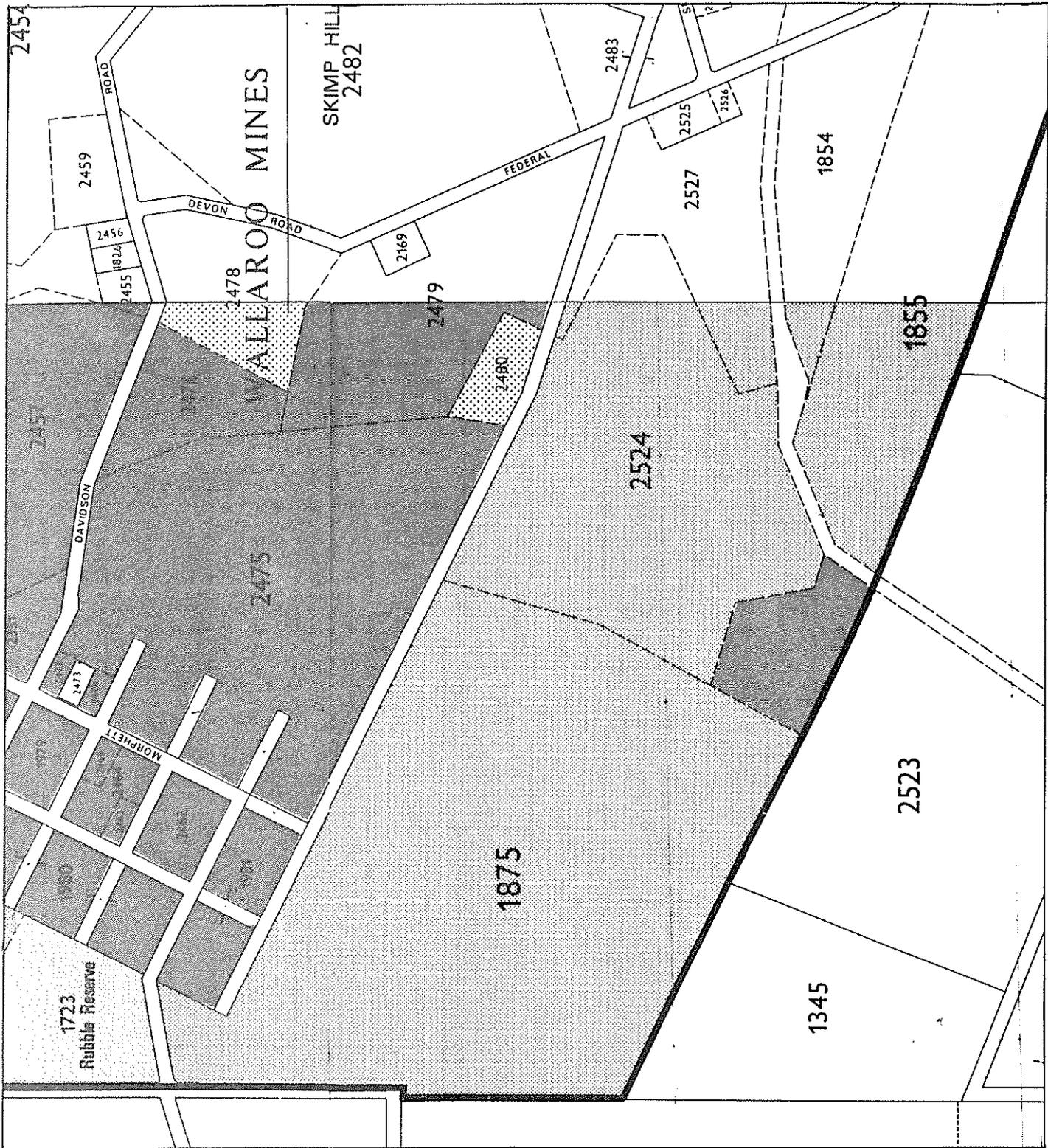


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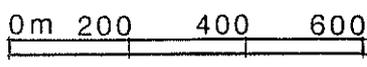
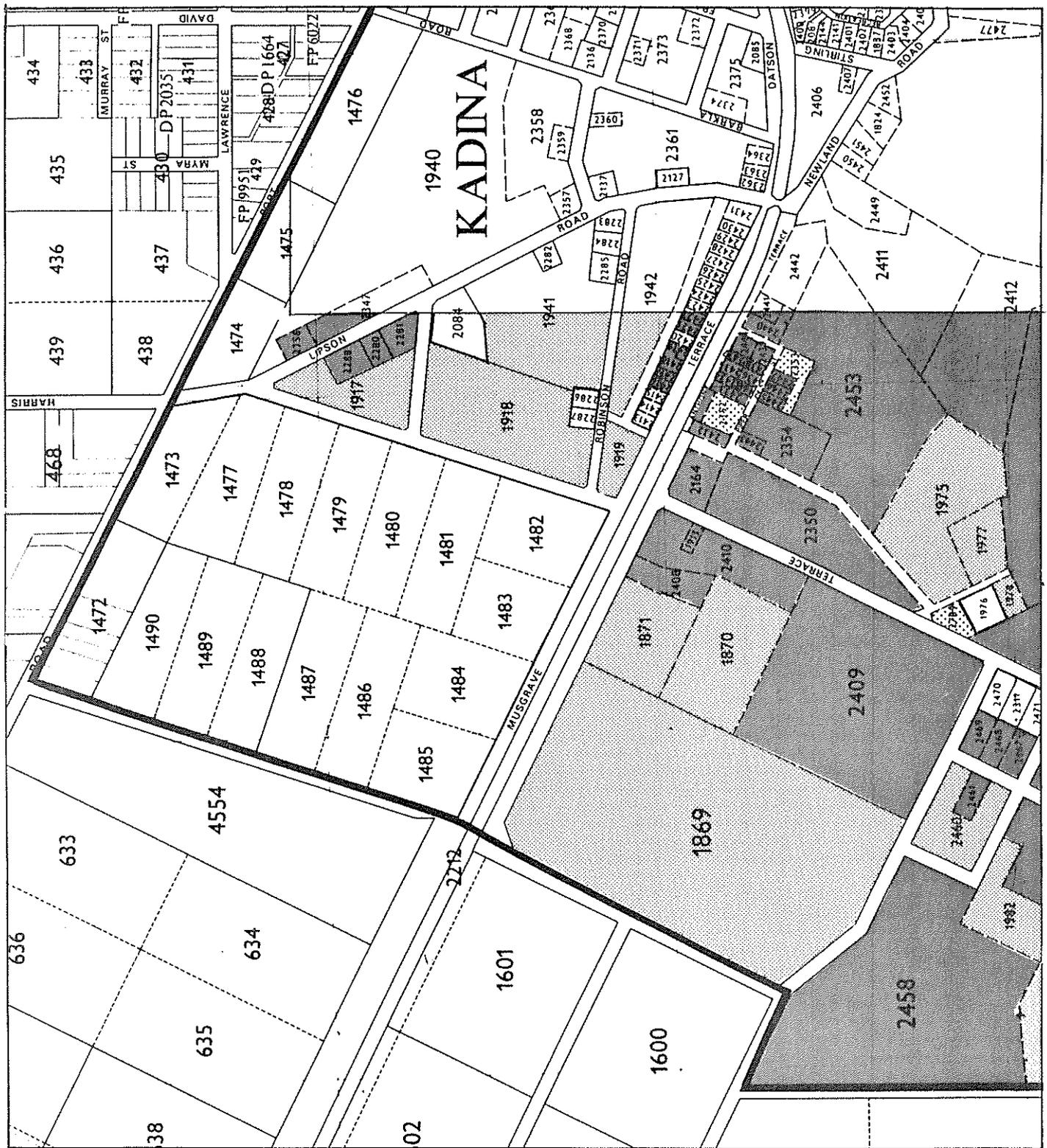
-  Leased
-  Licensed
-  Vacant Crown Land
-  Reserved
-  Freehold
-  Study Boundary

Figure 3.1e
Moonta Mines
LAND TENURE



-  Leased
-  Licensed
-  Vacant Crown Land
-  Reserved
-  Freehold
-  Study Boundary

Figure 3. 2 c
Wallaroo Mines
LAND TENURE



-  Leased
-  Licensed
-  Vacant Crown Land
-  Reserved
-  Freehold
-  Study Boundary

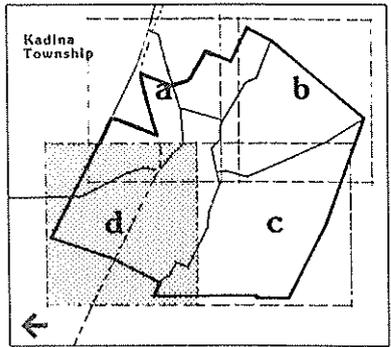


Figure 3.2 d
Wallaroo Mines
LAND TENURE

As a consequence of the increased awareness of the heritage and tourist potential of the areas, the Department of Lands prepared in 1985, an amended policy for tenure at the Moonta and Wallaroo Mines.

In respect to Moonta Mines a moratorium of "No Change" to Crown tenures was established. In the rural areas, no permanent tenure was to be allowed, nor any change to current tenures, except that licences for agricultural purposes only be issued over unallotted unimproved land. No tenure was to be granted for industrial activities and tenure over publicly used land may be granted only to appropriate authorities.

In addition to these policies, the following more general departmental policies apply to the Moonta and Wallaroo Mines areas.

- . Rentals on Crown tenures will be based upon advice from the Valuer-General to the appropriate level of rental for each new tenure.
- . Easement rights will be granted to government departments and statutory authorities where formalised protection of an installation is sought. Survey and other costs are to be borne by the agency or authority requiring occupation. Where only a licence is feasible in lieu of an easement, it will be issued at the minimum annual fee.
- . The issue, cancellation and control of licences over unalienated Crown land and dedicated lands is at the discretion of the regional manager.
- . All licences within the Moonta and Wallaroo Mines areas will be issued and dealt with in accordance with the Draft Moonta Wallaroo Mines Management Plan.
- . Regional managers may allow occupation of Crown land for a limited period without issuing a licence. The question of whether or not a fee should be payable will be at the discretion of the manager but the intent of the department's Business Plan should be kept in mind.
- . Except as an interim measure toward better tenure, wherever possible licences will not be issued where fixed improvements of a structural nature are proposed.

- . Licences over reverted lands held by the Minister under freehold title are issued by the Minister of Lands in his capacity as a registered proprietor and in terms of his corporate powers under the Minister of Lands Incorporation Act, 1947. The power to issue such licences has not been delegated.
- . Conditions applying to licences over reverted lands should be carefully proposed as the standard conditions pertaining to licences issued under the Crown Lands Act may not be applicable.
- . The department will make every effort to inform existing and intending licencees of the tenuous nature of their occupation of the land.
- . Reserves created under the Crown Lands Act should have legal access adequate to the purpose of the Reserve, preferably by public road or by easements over adjoining land, without requiring each land parcel comprised in a Reserve to have separate access.
- . A full, market price, based on commercial return will be sought for all surplus Crown land required by councils or community organisations for local fund raising purposes.
- . If the land has been declared surplus or has been identified for disposal in the Land Resource Inventory, the emphasis should be heavily on disposal rather than leasing.
- . If leasing is considered appropriate, a revenue sharing approach using, say, a commercial share farming arrangement may be used as an alternative to a direct rental basis.
- . Railway lands which are vested in Australian National pursuant to the 1975 Railways (Transfer Agreement) Act and which are returned to the state will, irrespective of tenure, be deemed to have vested in the State Transport Authority. The Authority will be entitled to receive a Land Grant at a fee to cover departmental administrative costs only - currently \$300.

- . Other lands used by State Transport Authority will be dealt with as follows:
 - (a) if the land is Crown land or was dedicated under Section 5(d) of the Crown Lands Act and is either surplus to State Transport Authority requirements or still required by State Transport Authority, the Authority can obtain a Land Grant at full market value or at a fee of \$300 to cover administrative costs, whichever is the greater;
 - (b) if the land was reserved under Section 5(f) of the Crown Lands Act, the State Transport Authority may obtain a Land Grant upon the payment of the fee to cover administrative costs (\$300).

- . Assessment of survey requirements:
 - all proposals involving freehold Crown land and tenures shall be referred to the Department of Lands, Survey Division, Services Branch for assessment of survey requirements.

- . Survey will be required for:
 - unsurveyed boundaries;
 - cases involving unreliable survey data or boundary uncertainty;
 - new boundaries involving waterfront land;
 - new subdivisional boundaries.

- . Cost of surveys:
 - except in special circumstances, the cost of surveys required for freeholding will be at departmental expense from the freeholding fund;
 - the costs of subdivisional surveys for freeholding that are initiated by the lessee or grantee are to be met by them.

- . Assessment of survey requirements:
 - all proposals involving leasing, reserving or subdividing Crown land should be referred to the Department of Lands, Survey Division, Services Branch for assessment of survey requirements.

- . Survey will be required for:
 - new lease or reserve boundaries;
 - unsurveyed perimeter lease or reserve boundaries;
 - cases involving insufficient data to define lease or reserve boundaries.
- . Re-issue of leases:
 - the requirement for surveyed boundaries does not apply to the re-issue of leases.
- . Cost of surveys:
 - the Department of Lands, Survey Division, Services Branch will prepare survey advice/cost estimates and identify the responsibility for payment of survey costs.
- . Lessees initiating the subdivision of Crown leases are responsible for the cost of survey to define new subdivisional boundaries.
- . Any necessary survey initiated by the department will be undertaken at departmental expense. Proposals initiated by or providing benefits to external bodies (councils, statutory authorities, etc.) may involve survey cost sharing arrangements. In these cases the funding arrangements for survey work should be indicated on the submitted proposal from the negotiating region.

To effect these policies and to encourage a co-ordinated approach to survey in the study areas, the most appropriate means recognised to date is for the establishment of a survey team charged specifically with the task of re-organising and "cleaning up" the present circumstances.

3.3 PRESENT TENURE POLICY

3.3.1 Moonta Mines State Heritage Area

- . Improved residential sites of up to one hectare in area currently held under an annual licence or crown lease, can be converted to freehold tenure provided that an acceptable residence, or one worth preserving exists (council certification required) and that the parcel conforms with survey requirements and is adaptable to a road pattern.
- . No permanent tenure will be issued over vacant Crown land or land leased or licenced for agricultural use.
- . Designated heritage and tourism sites on Crown land are to be dedicated under the Crown Lands Act for the purpose stated, under the care, control and management of the most appropriate responsible incorporated body, ie. Moonta Mines Heritage Area Advisory Board when in existence and incorporated. This approach may alter in the future subject to specific major initiatives investigated through the planning study.
- . Vacant and unused Crown land - appropriate responsible body must assume control and responsibility. Dedication is the most appropriate tenure with an annual licence being an interim measure.
- . Industrial uses on Crown land will not be permitted, in line with proposed planning controls.
- . No new commercial development on Crown land will be allowed unless it pertains to the management and operation of visitor and tourism services connected with area interpretive programmes, subject to particular investigation through the planning study.
- . No commercial use will be permitted which radically alters the environmental character of the area.

3.3.2 Moonta Mines State Heritage Area Buffer Zone and Wallaroo Mines Historic Zone

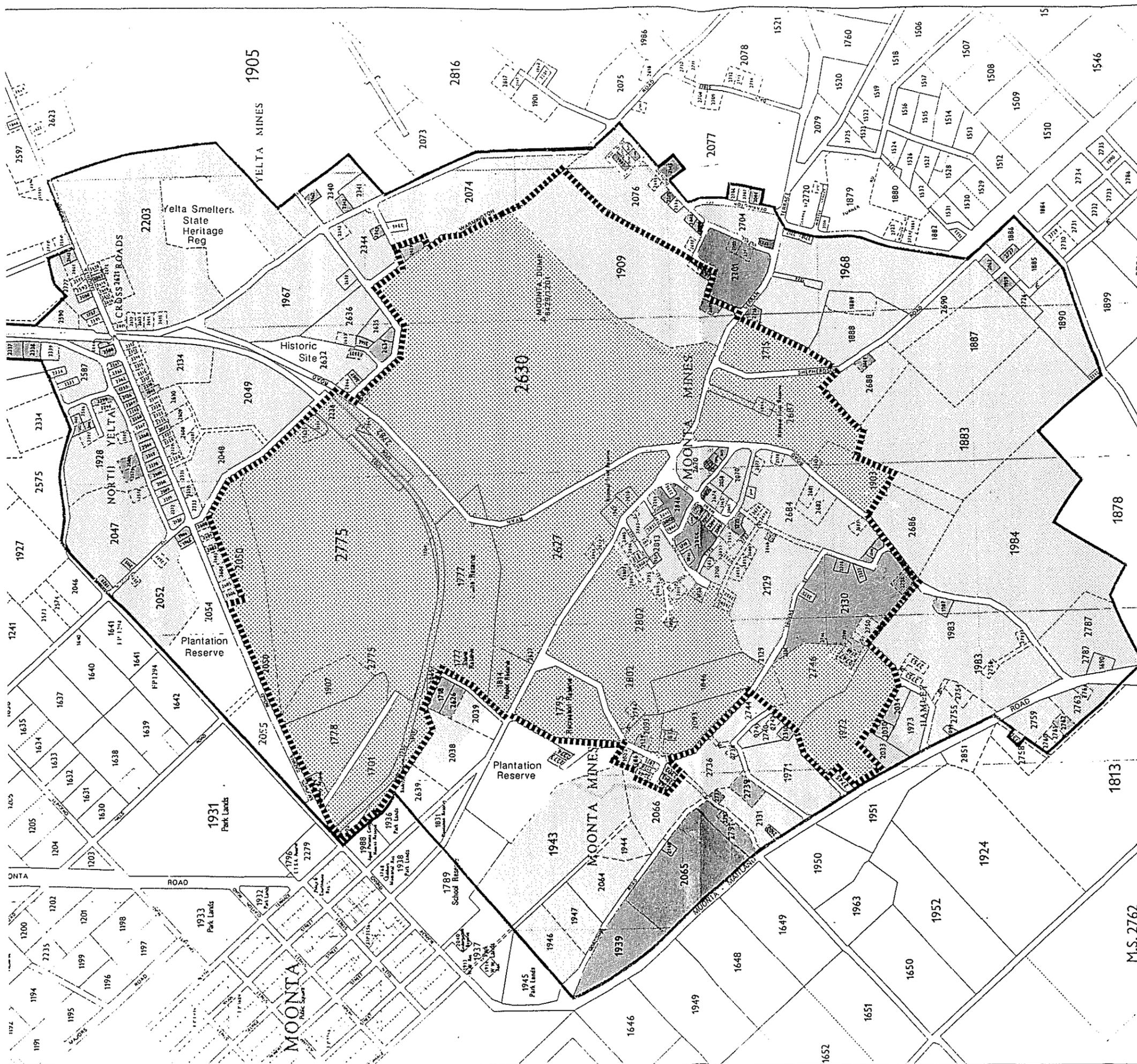
- . House sites up to one hectare currently held under an annual licence of Crown lease, no change to current policy, ie. can be freeholded.

- . Vacant Crown land and land leased or licenced for agricultural purposes can be freeholded using the following criteria:
 - (a) no increase in the number of sections currently defined;
 - (b) if a section has unsurveyed boundaries and its retention as a separate identity is not warranted then freeholding can proceed on the basis of merger of smaller sections into a single larger section thus inhibiting the proliferation of separate residential occupations.
- . Dedicate to responsible authorities all areas of Crown land with heritage or tourism significance - as for Heritage Area.
- . Continue to issue agricultural miscellaneous leases until freeholding can be expedited.
- . Industrial uses on Crown land will not be permitted in line with proposed planning controls.
- . No commercial use on Crown land will be permitted which radically alters the environmental character of the area, subject to particular investigation through the planning study.

3.4 FUTURE TENURE

The present policy of the Department of Lands is appropriate for application in the Moonta and Wallaroo Mines areas. As a consequence of this policy, the land to which these apply will be reduced over time by the freeholding of land no longer required to be held by the Crown.

The land which provides major industrial heritage features should, in the interests of the public, be retained by the Crown, albeit placed in the care and control of other more appropriate authorities or bodies. Such lands include the reserves, old mining areas and tailing heaps.

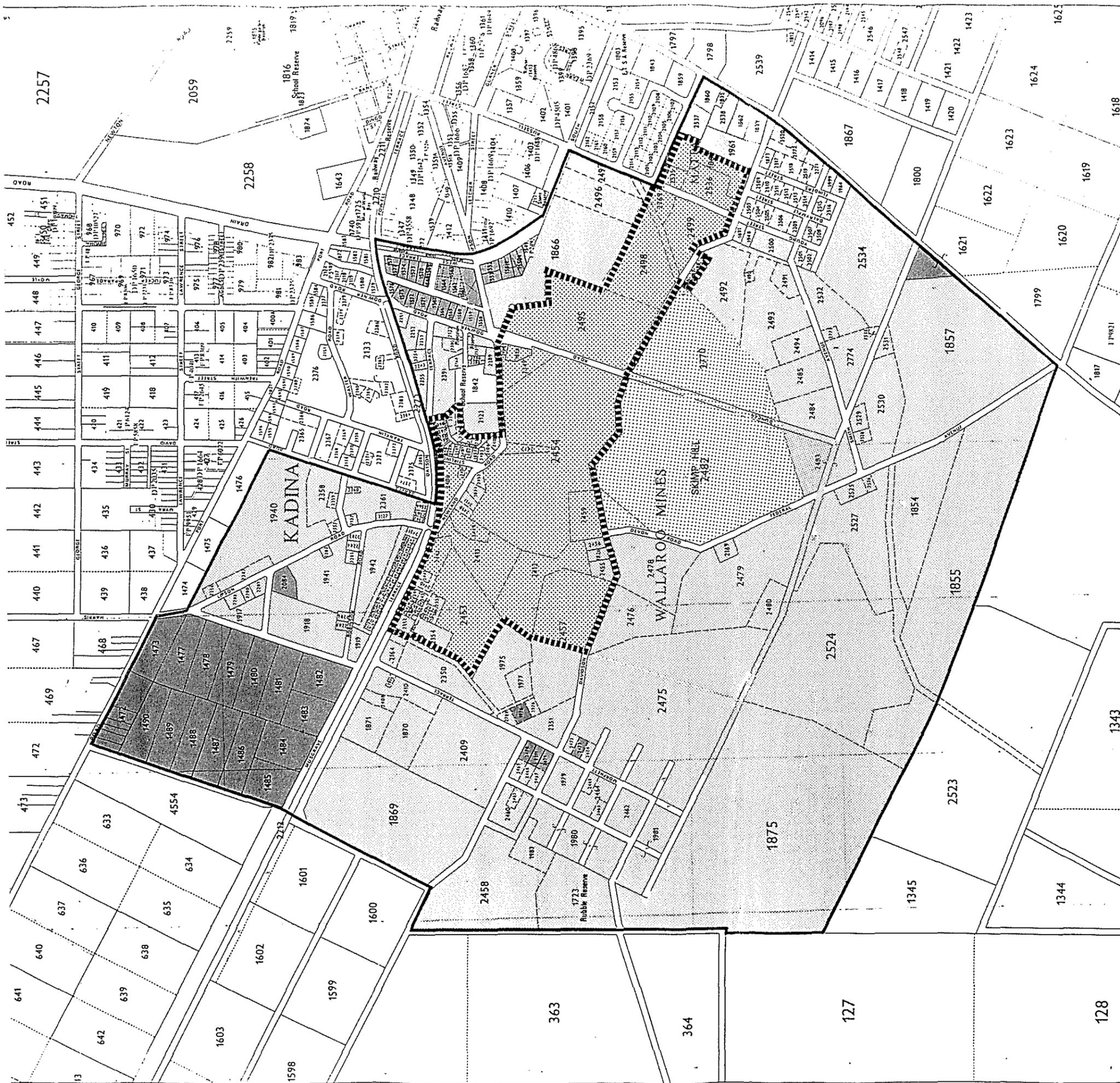


-  Proposed Reserved Land
-  Existing Freehold Land
-  Proposed Freehold Land
-  State Heritage Area Boundary
-  Study Boundary

1:12500



Figure 3.3
MOONTA MINES
FREEHOLD
PROPOSED TENURE



-  Proposed Reserved Land
-  Existing Freehold Land
-  Proposed Freehold Land
-  State Heritage Area Boundary
-  Study Boundary

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Figure 3.4
WALLAROO MINES
FREEHOLD
PROPOSED TENURE

Investigations revealed that extensive areas of vacant, licenced or leased land outside of the existing State Heritage Area at Moonta Mines and about the periphery of the Wallaroo Mines are used for agricultural or related purposes and do not, in terms of the present extensive kinds of use, impact adversely on the core mines and heritage areas. Subject to adequate planning guidelines, these lands should be made available for freeholding.

There exists within the State Heritage Area of Moonta Mines numerous parcels of leased and licenced land with improvements, mainly dwellings in varying degrees of repair and condition. The most significant grouping is at Moonta Mines proper, whilst small groups remain at Hamley around the National Trust cottage. These represent only a small part of what was formerly an expansive busy residential agglomeration.

There is potential for the Department of Lands to divest their interest in certain of these parcels on the basis that appropriate development and management controls or mechanisms are established or enhanced. The desired future tenure is detailed in Volume III of this study and as graphically represented on Figures 3.3 and 3.4. Such freeholding or other tenure alterations are reliant upon changes to the Northern Yorke Peninsula Development Plan, the establishment of a management trust, the use of land management agreements where the more specific needs of sites or buildings can be met, and the proper definition of sites by survey. Without adequate survey information, definition of land likely to be affected cannot be achieved. It is therefore essential to have undertaken a comprehensive co-ordinated survey.

Much of the mines areas, but more particularly Moonta Mines, was established in a rather haphazard needs basis without regard for the future ordering of services and access. Further, as the Crown has held control over much of the land since the early 1920's there has not been any urgency to provide easements over land for the services provided. With a programme of divestment, either through freeholding or other tenure, to commercial and private interests, and as a sound management practice, all services should be incorporated within easements at the time of survey.

Reorganisation of the present tenure arrangements will free up capital and resources in the longer term to assist in the development, management and maintenance of the most significant parcels of land.

4.0 **Tourism Development**

4.1 **INTRODUCTION**

In assessing tourism in relation to the Yorke Peninsula, material collated and processed by the Australian Bureau of Statistics, Tourism South Australia, National Trust of South Australia and the Yorke Peninsula Tourist Association, has been analysed and interpreted. In addition, site inspections have been undertaken and discussions held with representatives at local and state levels. Further, a specific survey was conducted via the auspices of the Yorke Peninsula Tourist Association within the summer holiday period 1986-87 to obtain a selection of current data on visitors to the Peninsula.

4.2 **REGIONAL TOURISM**

The Yorke Peninsula tourist region of South Australia was the subject of an Inventory of Tourism Resources published by Tourism South Australia (March 1985).

This inventory included:

- . eight national parks totalling 10,582 hectares;
- . 35 major annual events (note: Kernewek Lowender, the Cornish Festival is biennial);
- . profiles of 34 Yorke Peninsula towns including where appropriate:
 - natural attractions;
 - developed attractions;
 - sporting facilities.

When these towns vary between 142 and 299 kilometres from Adelaide and the region offers such a wide range of natural and developed attractions it is not surprising that the Yorke Peninsula has become a popular tourist destination. Traditionally, this role has been recreation based and many locations have become holiday house/retirement oriented.

Complementing this role, the agricultural and mining history of the Yorke Peninsula has contributed to many of the developed attractions in the region. They range from National Trust mining to privately operated galleries and craft outlets.

While many of these attractions put out their own publicity and the region is promoted by Tourism South Australia, the Yorke Peninsula Tourist Development Association in 1986-87 published its first locally co-ordinated tourist booklet. This booklet is complementary to the "Visitor Guide to the Copper Triangle" which is published twice a year and distributed within the Copper Triangle and to major tourist outlets in South Australia.

Little local or district information is available for Moonta and Wallaroo as a consequence of which, the committee was prompted to undertake the visitor survey in conjunction with the Yorke Peninsula Tourist Development Association. Further surveys should be conducted, particularly to clarify local accommodation demand and supply conditions as part of the future feasibility studies for specific projects.

In the final analysis it is intended to provide accommodation, when feasible, that is complementary to existing accommodation for the district needs.

In terms of present tourist accommodation, the accommodation offered is in line with the present attractions, primarily the beaches and the coast. Changing the total tourist offering by developing the mine sites, will lead to changes in the provision of tourist accommodation in both location, type and quality of accommodation.

In view of these factors, the following more detailed information must be read in its regional context and until such time as more district level information is gathered and analysed, it is difficult to define precisely the role and special differences, in statistical terms, of the district tourism as compared with the region.

4.2.1 Mining History

The dominance of the Copper Triangle in the tourist literature is to be expected given the importance of copper mining in the development of South Australia. At a state level the Heritage Branch of the South Australian Department of Environment and

Planning in conjunction with the South Australia Department of Mines and Energy documented mining sites and assessed their heritage potential through the preparation of a Mining Heritage Systems Plan.

On Yorke Peninsula, copper and gypsum and limestone are represented. Copper is dominant with 29 locations being identified throughout the state of South Australia, nine limestone sites and three gypsum.

It is significant that on a state level the Moonta location rated number one on both public use, city and conservation priority, Wallaroo mines numbered two and three respectively, whilst Burra number three in terms of public use priority and number five in terms of conservation priority. Of the nine limestone locations, Wool Bay (Yorke Peninsula) ranked number one on both public use priority and conservation priority and the Stenhouse Bay Gypsum site is the only one in the state considered suitable for conservation and public use development.

4.3 REGIONAL ACCOMMODATION

Two recent changes have impacted on statistics relating to tourist accommodation, first Tourism South Australia are consolidating their published information to a travel data card format and summary tabular data, and second, the Yorke Peninsula region has been amalgamated with the newly defined Lower North region for the release of Australian Bureau of Statistics information. This has resulted in changes in available information from 1985-86, and as this is the last full year for information currently available it has been excluded from the trend analysis of accommodation data.

4.3.1 Hotel and Motel Accommodation

The information in this section is based on the Australian Bureau of Statistics quarterly survey and includes establishments with facilities available in most rooms.

Between 1980-81 and 1984-85 South Australia increased the number of hotel motel establishments from 257 to 299 (Table 4.1) an increase of 16.3% with a corresponding increase in the number of rooms from 6,625 to 8,037, an increase of 21.3%. While the Yorke Peninsula is small as a minor contributor to state accommodation, in 1984-85 it had five establishments offering 206 rooms, it has more than doubled its supply relative to the South Australian increases since 1980-81.

Between 1980-81 and 1984-85 the number of establishments increased by 36.4% and the number of rooms by 48.2%.

Table 4.1
Hotel and Motel Accommodation Capacity,
Room Occupancy Rates and Room Nights
South Australia & Yorke Peninsula, 1980-81 - 1984-85

Year Ending June	Establishments	Guest Room	Room Occupancy Rate %	Room Nights ('000)
South Australia				
1981	257	6,625	54.0	1,303
1982	270	6,820	54.5	1,354
1983	282	7,512	50.6	1,364
1984	285	7,662	52.7	1,465
1985	299	8,037	52.3	1,505
Yorke Peninsula				
1981	11	139	53.7	27.2
1982	13	170	51.4	31.9
1983	13	169	46.1	28.1
1984	13	177	47.0	30.4
1985	15	206	42.9	29.5

Source: Tourism South Australia

This large increase in available accommodation, particularly in 1984-85 has seen a marked reduction in room occupancy rates. The number of room nights has not shown a similar decline. Hotel/motel accommodation for the Yorke Peninsula appears to have a biennial cycle and to be relatively consistent in number of room nights. South Australia as a whole steadily increased its room nights between 1980-81 and 1984-85. Between 1980-81 and 1984-85 the states room nights increased by 15.5%, while for Yorke Peninsula the increase was only 7.3%.

Of the South Australian Tourist Regions (Table 4.2) Barossa Valley and the Riverland show poor performance in terms of room nights between 1980-81 and 1984-85. While the major increases were in Adelaide (specifically inner Adelaide) and the Fleurieu Peninsula. The Yorke Peninsula is at the lower end of the mid-range performances.

In terms of financial return from hotel/motel accommodation (excluding meals), South Australia increased its takings from \$51.4m to \$60.6m between 1980-81 and 1984-85 at June 1985 dollar values. This represented an increase of 17.8%. Again, the Yorke Peninsula was smaller in scale, 1984-85 takings representing 1.5% of the state total, however regional takings grew by only 5.4% between 1980-81 and 1984-85.

Table 4.2

Hotel/Motel Accommodation
 Percentage Change in Room Nights -
 South Australia Tourist Regions, 1980-81 - 1984-85

Region	% Change
Total Adelaide	29.5
Inner Adelaide	40.5
Barossa Valley	2.9
Eyre Peninsula	7.8
Far North	-
Fleurieu Peninsula	36.5
Flinders Ranges	24.4 (7.7 excluding Port Augusta)
Kangaroo Island	14.3
Lower Murray	11.4
Mid North	-
Riverland	-8.4
South East	10.4
Yorke Peninsula	7.3
Total South Australia	15.5

Source: Tourism South Australia

Table 4.3

Hotel and Motel Accommodation Takings -
 Accommodation (No Meals), Constant June 1985 Value -
 South Australia and Yorke Peninsula,
 1980-81 - 1984-85

Year Ending June	Total (\$'000)	Average Takings Per Room	
		Per Year (\$)	Per Day (\$)
South Australia			
1981	51,425	7,766	21.3
1982	52,686	7,718	21.2
1983	52,526	7,010	19.2
1984	58,609	7,654	20.9
1985	60,569	7,536	20.6
Yorke Peninsula			
1981	868	6,245	17.1
1982	943	5,547	15.2
1983	857	5,071	13.9
1984	980	5,535	15.1
1985	915	4,441	12.1

Source: Tourism South Australia

This result suggests poor performance by the Yorke Peninsula space. From Table 4.3, it can be seen that there has been a marginal decline in average daily takings per room in South Australia from \$21.30 in 1980-81 to \$20.60 in 1984-85, representing a 3.3% decline. In comparison, Yorke Peninsula performance has fallen from \$17.10 in 1980-81 to \$12.10 in 1984-85, a decrease of 29.2%.

Comparative data by tourist region for average takings per room per day in 1984-85 is presented in Table 4.4. This shows the Yorke Peninsula with the second lowest average daily takings per room on a regional basis.

On balance, while performance of Yorke Peninsula hotel/motel accommodation has held out through the period 1980-81 to 1984-85, this has been costly in terms of financial performance of the operating establishments.

Table 4.4
 Hotel/Motel Accommodation Average Takings
 Per Room Per Day by Tourist Region, 1984-85

Region	Average Takings Per Room Per Day \$
Total Adelaide	26.2
Inner Adelaide	33.1
Barossa Valley	17.6
Eyre Peninsula	15.6
Far North	13.5
Fleurieu Peninsula	17.8
Flinders Ranges	18.0 (16.9 excluding Port Augusta)
Kangaroo Island	17.4
Lower Murray	11.8
Mid North	15.9
Riverland	14.0
South East	15.1
Yorke Peninsula	12.1
Total South Australia	20.6

Source: Tourism South Australia

4.3.2 Holiday Flats

Tourism South Australia noted in their documentation that holiday flats are, subject to competing demands, converted to permanent accommodation and so figures represent a net balance which may reduce even if new flats are constructed. At 1984-85 Yorke Peninsula had 132 flats, 12.2% of the state total of 1,082 (Table 4.5). This contrasted in 1980-81 when 125 flats represented 14.4% of the state total of 869 flats.

Table 4.5
 Growth in Number of Holiday Flats
 South Australia & Yorke Peninsula, 1980-81 - 1984-85

Region	Year Ending June				
	1981	1982	1983	1984	1985
South Australia	869	932	973	1,026	1,082
Yorke Peninsula	125	128	123	133	132

Source: Tourism South Australia

Over the survey period, occupancy of flats in Yorke Peninsula was below the state average with the exception being the month of January (Table 4.6).

Table 4.6
 Holiday Flats and Average Unit Occupation
 Rates by Month -
 South Australia and Yorke Peninsula,
 1980-81 -1984-85

Month	South Australia	Yorke Peninsula
	%	%
July	26.8	15.4
August	37.1	24.0
September	47.5	38.6
October	44.8	35.4
November	40.9	27.1
December	46.0	35.7
January	86.9	93.4
February	58.4	48.9
March	53.7	41.5
April	54.5	48.9
May	56.8	50.8
June	32.8	22.1
Annual 5 Year Average	49.1	40.2
Year Ending June 1985	51.8	42.4

Source: Tourism South Australia

4.3.3 Caravan Parks

While some information on caravan parks after 1984-85 is available for the Yorke Peninsula, for consistency, it has not been included in this analysis. The data reveals that from 1980-81 to 1984-85 the number of caravan parks on the Yorke Peninsula remained constant at 21 where for South Australia the number of parks rose marginally from 155 to 157 (Table 4.7).

Table 4.7
Caravan Parks Capacity, Occupancy Rates
and Site Nights
South Australia and Yorke Peninsula,
1980-81 - 1984-85

Year Ending	Caravan Parks	Total Sites	Site Occupancy Rate %	Site Nights ('000)
South Australia				
1981	155	17,844	17.9	1,158
1982	159	18,191	18.4	1,222
1983	154	17,751	18.5	1,220
1984	155	18,086	19.2	1,274
1985	157	18,344	18.8	1,248
Yorke Peninsula				
1981	21	2,098	18.1	141
1982	21	2,120	18.4	149
1983	21	2,150	18.5	149
1984	21	2,164	19.2	163
1985	21	2,193	18.8	159

Excluding parks with a predominance of permanent and long-term campers (1985 figure, 83% of all sites for South Australia and 93% of all sites for the Yorke Peninsula).

Source: Tourism South Australia

In terms of total sites, the Yorke Peninsula grew by 95 sites or 4.5% over the period compared to a state increase of 500 sites or 2.8%. This result is in keeping with the provision of hotel/motel accommodation, however in contrast, both site occupancy and site nights have been increased in the Yorke Peninsula in keeping with state trends.

Site occupancy over the period for South Australia rose marginally from 17.9% to 18.8% and site nights increased from 1,158,000 to 1,248,000 or 7.8%. For Yorke Peninsula, the corresponding performance was that site occupancy rose marginally from 18.1% to 18.8% and site nights increased from 141,000 to 159,000 or 12.8%. This increase in site nights on a tourist region basis (Table 4.8) showed Adelaide and the Fleurieu Peninsula as having the highest rate of growth while the Riverland, Lower Murray and Kangaroo Island (see table note) had absolute declines.

Table 4.8
Caravan Parks Percentage Change in Site Nights
South Australian Tourist Regions, 1980-81 - 1984-85

Region	% Change
Adelaide	22.5
Barossa Valley	16.0
Eyre Peninsula	11.1
Far North and Flinders Ranges	- (excluding Port Augusta)
Fleurieu Peninsula	22.4
Kangaroo Island ⁽¹⁾ (Onkaparinga)	-20.0
Lower Murray	-4.9
Mid North	15.6
Riverland	-7.7
South East	11.9
Yorke Peninsula	12.8
Total South Australia	7.8

(1) Confidentiality Constraints

Source: Tourism South Australia

The Yorke Peninsula is again in the middle range performers, but is above the state average.

On the basis of monthly occupancy rates, the Yorke Peninsula rates are higher than the state average in the warmer months October through May (Table 4.9).

Table 4.9
Caravan Parks, Average Site Occupancy Rates by Month
South Australia and Yorke Peninsula
1980-81 - 1984-85

Month	South Australia Site Occupancy Rate 5 Year Average		Yorke Peninsula Site Occupancy Rate 5 Year Average	
	%	%	%	%
July	9.1	10.0	5.9	6.5
August	12.7	13.5	8.6	9.0
September	15.8	15.0	12.9	11.5
October	17.1	17.8	16.9	19.7
November	13.7	15.0	13.9	15.7
December	21.9	22.5	24.7	27.1
January	42.4	40.9	54.4	52.0
February	19.4	19.7	20.7	22.6
March	17.9	18.0	17.7	18.5
April	22.9	23.1	27.3	27.3
May	18.3	18.2	19.3	19.5
June	11.2	11.3	8.3	8.4

Source: Tourism South Australia

4.3.4 Private Holiday Homes

Visitor accommodation is changing in the hinterlands of Australia's major cities as the phenomenon of the "holiday home" (sometimes used for retirement) becomes established as part of the fabric of society (Table 4.10).

The impact of these second houses on visits to an area like the Yorke Peninsula is significant and can become an alternative to other forms of accommodation (with facilities) for family, friends and relations. Further, this impact is likely, due to frequency of visits to be more concerned with recreation rather than repeated patronisation of developed tourist attractions.

Table 4.10

Growth in Number of Private Holiday Homes
Yorke Peninsula, Fleurieu Peninsula, Lower Murray
and South Australia

Region	1971	1976	1981
Yorke Peninsula	2,063	2,968	3,240
Fleurieu Peninsula	1,820	2,314	2,997
Lower Murray	790	1,438	1,825
South Australia	8,936	11,379	13,384
Barossa Valley	212	248	282

Source: Australian Bureau of Statistics

From the table it can be seen that holiday houses increased from 8,936 in 1971 to 13,384 in 1981. This represents an increase of 49.8% over the period. Over the same period, the tourist regions adjacent to Adelaide had considerable growth.

Yorke Peninsula	57.1%
Fleurieu Peninsula	64.5%
Lower Murray	131.0%
Barossa Valley	33.0%

Of these regions the Yorke Peninsula had the largest component of holiday homes, 24.2% of the state total in 1981.

4.4 REGIONAL VISITORS

In assessing visitors to the Yorke Peninsula, three major data sources have been considered, these are published data from Tourism South Australia, primary data collected by the National Trust of South Australia, and a visitor survey undertaken specifically for this study. Data collection for this survey was undertaken by the Yorke Peninsula Tourist Development Association.

4.4.1 Tourism South Australia

In August 1986, Tourism South Australia, Planning and Research Division released the Summary of South Australian Tourism Statistics for 1984-85. This data showed the Yorke Peninsula achieving 290,000 visits (a stay of one night or more for any purpose by persons aged 14 years and over), representing 6.7% of the South Australian total (Table 4.11).

Table 4.11
Visits to South Australian Tourist
Regions, 1984-85

Region	Visits ('000)	Origin of Visit		
		Local %	Inter- state %	Inter- national %
Fleurieu Peninsula	393	92.6	6.6	0.8
Flinders Ranges	236	65.7	31.8	2.5
Lower Murray	287	89.8	9.8	0.3
Yorke Peninsula	290	98.3	1.4	0.3
Adelaide	1,541	50.2	42.8	7.0
Total South Australia	4,292	69.2	27.5	3.3

Source: Tourism South Australia

While the above percentage does not seem significant, the Yorke Peninsula visitors represent 18.8% of the Adelaide visits and are higher than both the Lower Murray and the Flinders Ranges equivalents.

The data in Table 4.11 reflects the Yorke Peninsula as having visitor potential in the interstate and international markets. In 1984-85 the region attained 1.4% and 0.3% respectively in terms of visits from these markets. Both these components for the region represented less than 1% of visits to Adelaide. Interstate origins were 0.6% and international origins were 0.9%. Tourists from these markets are sourcing Adelaide but have yet to be converted to the adjacent Yorke Peninsula.

To isolate trip purposes to the Adelaide hinterland, comparative data is presented for Yorke Peninsula, Fleurieu Peninsula and the Lower Murray regions (Table 4.12).

Table 4.12
 Domestic Travel Purpose of Visit to
 Yorke Peninsula, Fleurieu Peninsula and Lower Murray
 Average 1981-82, 1982-83 and 1983-84

Purpose	Yorke Peninsula %	Fleurieu Peninsula %	Lower Murray %
Pleasure/Holiday	70.8	77.6	60.3
Visiting Friends	16.8	13.7	24.4
Private Reasons	*	*	3.9
Conference/Seminar	2.4	1.9	1.5
Other Business	6.5	3.9	4.5
Accompanying a person	1.0	*	*
Working Holiday	1.2	*	3.2
Education/School Excursion	*	1.0	1.4

* Not stated

Source: Tourism South Australia

On both the Pleasure/Holiday and Visiting Friends, the Yorke Peninsula had the mid score out of the three regions. This data suggests tourists rather than Adelaide persons travelling to the region as is sometimes suggested for these regions adjacent to capital cities.

To further confirm this result, origins of trips from within South Australia were addressed (Table 4.13).

Table 4.13

South Australian Trip Origins to
Yorke Peninsula, Fleurieu Peninsula and Lower Murray
Regions as % of total domestic trips -
Average 1981-82, 1982-83 and 1983-84

Origin	Yorke Peninsula %	Fleurieu Peninsula %	Lower Murray %
Adelaide	75.7	86.8	74.2
Other South Australia	22.7	9.6	19.5
Total South Australia	98.4	96.4	93.7

Source: Tourism South Australia

From the data it can be seen that, while the Yorke Peninsula has the highest proportion of domestic visitors from South Australia, it also has the highest proportion of Other South Australia (not living in Adelaide). This relationship also holds if the data considered is on the basis of visits rather than trips. Note the "trip" is the major destination while "visit" relates to all locations nominated as visited.

4.4.2 National Trust Data (Moonta Branch)

The Moonta Branch of the National Trust have been keeping records of attendances at their Moonta Mines facilities for several years. A request for information has identified visitor records back to 1973 (Table 4.14).

Table 4.14
Attendance at Moonta Mines Facilities,
1973-1986

Year	Museum	Miner's Cottage	Railway
1973	14,855	10,056	-
1974	13,181	9,391	-
1975	15,711	10,069	-
1976	13,766	9,707	-
1977	16,234	11,704	-
1978	13,029	9,884	-
1979	15,015	12,223	-
1980	14,175	10,397	-
1981	13,242	9,847	-
1982	11,905	9,517	9,804
1983	13,633	11,195	12,437
1984	15,934	10,825	13,412
1985	15,594	10,570	12,021
1986	18,405	9,165	12,227

* Kernewek Lowender (Cornish Festival) biennial on the odd years

* Train commenced January 1982, track extended to station September 1984

Source: National Trust of South Australia

While the figures fluctuate in line with the Kernewek Lowender Festival, the impact of recent site works in the declared Heritage Area and upgrading of the Mines Museum are reflected in the 1986 figures.

To test the mix of visitors portrayed in Tourism South Australia data visitor book, entries for 1977, 1985 and 1986 have been analysed (Table 4.15).

Table 4.15
 National Trust Museum Moonta Mines
 Adult Visitors Signing Visitors Book,
 1977, 1985 and 1986

	1977		1985		1986	
	Number	%	Number	%	Number	%
Adelaide	3,183	59.0	1,847	51.1	1,798	46.1
Moonta	-	-	22	0.6	50	1.3
South Australian Country	1,477	27.4	1,011	28.0	997	25.5
Total South Australia	4,660	86.3	2,880	79.7	2,845	72.9
Victoria	225	4.1	242	6.7	253	6.5
New South Wales	181	3.4	159	4.4	243	6.2
A.C.T.	17	0.3	14	0.4	22	0.6
Western Australia	71	1.3	50	1.4	97	2.5
Northern Territory	13	0.2	15	0.4	25	0.6
Queensland	41	0.8	31	0.9	65	1.7
Tasmania	20	0.4	9	0.2	28	0.7
Total Interstate	568	10.5	520	14.4	733	18.3
Overseas	170	3.1	214	5.9	326	8.3
Total	5,398	100.0	3,614	100.0	3,904	100.0

Source: South Australian National Trust, Moonta Branch

Accepting the limitations of the data sampling frame (visitor book signatories do not necessarily have a normal distribution), the data does show increases in interstate and overseas visitors. The 1985-1986 data is of considerable interest given the upgrading of the Moonta Mines Heritage Area.

4.4.3 Visitor Survey - Summer, 1986-87

As a further check, a survey of some 250 visitors was conducted over the summer school holidays by the Yorke Peninsula Tourist Development Association at the Kadina Visitors Centre. For a non-professional survey the consistency of data achieved was most acceptable, and for the exercise, incomplete questionnaires were not excluded from the data analysis.

It must be recognised, when considering the following data, that the sample came from people enquiring at the Kadina Visitors Centre and is therefore biased towards families and friends rather than organised groups.

In terms of visitor origins, the survey was higher on Adelaide visitors at 65.4% than the National Trust data and lower on overseas visitors at 3.1% (Table 4.16).

Table 4.16
Kadina Survey Visitor Origins,
Summer, 1986-87

Origin	Respondents %
Adelaide	65.4
Other South Australia	16.3
Interstate	15.2
Overseas	3.1

Source: Yorke Peninsula Tourist Development Association Survey

The higher Adelaide figure is not expected given the school holiday timing of the survey and the recreation and holiday home composition of the Peninsula.

As cited above, the bias to family and friends was evident in that 86% of respondents were travelling in a group of between two and six persons (Table 4.17).

Table 4.17
 Kadina Survey, Persons in Travelling Party,
 Summer, 1986-87

Number in Party	%
1	3.9
2	27.0
3	12.4
4	29.5
5	12.0
6	5.8
2-6	86.7
7-10	7.8
over 10	1.6

Source: Yorke Peninsula Tourist Development Association Survey

Single persons represented 3.9% of respondents and groups of over ten persons 1.6%. Of these respondents travelling in a group, 81% were families, and of the total respondents 57% were on a touring holiday. The survey revealed that, of the respondents nominating a "Place Stayed At", 71.5% were within the Copper Triangle and only 3.3% nominated themselves as Adelaide-based day trippers (Table 4.18).

Table 4.18
 Kadina Survey, Places Stayed at
 Yorke Peninsula, Summer, 1986-87

Locations	Respondents %
Moonta/Moonta Bay/Pt. Hughes	27.9
Wallaroo/North Beach	34.1
Kadina	9.5
Total Copper Triangle	71.5
Pt. Broughton/Fisherman's Bay/Mundoora	6.1
Paskeville/Bute	1.1
Pt. Clinton	0.6
Maitland	0.6
Ardrossan	3.3
Port Victoria	3.9
Port Rickaby	0.6
Port Minlacowie	0.6
Stansbury/Yorketown/Pondalowie	2.2
Clare	0.6
Port Pirie	0.6
Various Yorke Peninsula Sites	5.0
Adelaide Daytrippers	3.3

Source: Yorke Peninsula Tourist Development Association Survey

When asked to nominate their major destination, 80% responded to the question and of these 68% nominated a Copper Triangle location (Table 4.19).

Table 4.19
 Kadina Survey, Major Destination,
 Summer, 1986-87

Major Destination	Respondents %
Moonta	23.4
Wallaroo	30.3
Kadina	6.8
Copper Triangle General	7.3
Total Copper Triangle	67.8
Port Broughton	5.2
Other Yorke Peninsula Towns	10.4
Yorke Peninsula General	10.9
Adelaide	3.1
Travelling through	2.6

Source: Yorke Peninsula Tourist Development Association Survey

Of the attractions visited, even in mid-summer holiday season, 47% of respondents nominated historic elements (Table 4.20).

Table 4.20
Kadina Survey, Attractions Visited,
Summer, 1986-87

Attraction Visited	Respondents %
Mines	22.1
Museum	10.8
Cornish Heritage	4.7
Matta House	3.5
Miners Cottage/s	2.3
Cemetery	1.6
Churches	1.6
Total Historic	46.6
Beach/Fishing/Wharf	26.4
Relatives and Friends	5.8
Coastline and Countryside	4.6
Arts/Crafts/Antiques	4.3
Relaxing	3.1
General	27.5

Source: Yorke Peninsula Tourist Development Association Survey

The survey also revealed a strong focus on the cheaper end of the accommodation market with 47.9% of the 80% of respondents answering the question staying at "Camping/Caravan Site/Cabins" and 33.9% in "Private House/Shack/Beachhouse". In addition, the average peak holiday period length of stay within the region was 4.97 visitor nights.

4.5 MINES TOURISM

4.5.1 Introduction

Currently, tourist development work has been undertaken at both the Moonta and Wallaroo Mines sites. Minor work has been completed following the release of the Moonta Mines State Heritage Area Draft Management Plan in June 1985. These works have begun to reveal a wealth of history and tourist recreation potential.

4.5.2 Moonta Mines

To date, the Stage 1 vehicle path and signs have been completed and the Stage 1 railway line was opened in September 1984, as outlined in the draft management plan.

It should be noted that much of this work was foreshadowed in the Moonta Mines Conservation Area Interpretive Concept Plan (South Australian Department of Environment and Planning, 1984). The National Trust confirm that approximately \$500,000 was spent on the Museum and Moonta Mines area between May 1984 and May 1986 as part of the South Australia 150 Jubilee programme.

Within this programme, the Museum has undergone redevelopment with several new exhibits at the Precipitation Works accessed by the train between the Museum and the Moonta Railway Station.

The vehicle path currently includes:

- . Moonta Methodist Church
- . Hughes Pumphouse and Chimney
- . Richmans Plant and Heap
- . Ryans Heap
- . Miner's Cottage and Hancocks Heap

The path commences at the Museum with its attendant features including the railway station, Wheal Munta display (National Trust - opened 13th May, 1978), visitor carpark and sweets shop.

4.5.3 Wallaroo Mines

In conjunction with the site development work at Moonta, several dangerous sections of the Wallaroo Mines were fenced off and an off-street carparking area and circular Mines Walk established. The Mines Walk is timed at thirty minutes and includes a number of shafts and building sites. The major features are:

- . Harveys Engine House
- . Youngs Shaft
- . Office Shaft and Duct
- . Richmans Shaft

Adjacent to the extended mines site, the National Trust (Kadina Branch) have established Matta House supported by an agricultural and print museum, the former incorporating a range of domestic memorabilia. In addition, there are picnic areas, flora and fauna reserve, and the Matta Matta Shaft can be accessed via a short walk.

4.5.4 Wallaroo Township

The township of Wallaroo is outside the brief of the present study (Moonta and Wallaroo Mines Districts). However, in considering the tourist potential of heritage mining sites, it should be recognised that:

- . the importance of the smelters and Port of Wallaroo to the mines at Moonta and Wallaroo (Kadina);
- . the township forms the third corner of the Yorke Peninsula Copper Triangle;
- . when heritage mining becomes a significant tourist generator in South Australia, the Copper Triangle will become a major focus;
- . the smelter and port facilities will become an important Copper Triangle heritage resource for interpretation and development as part of the tourist infrastructure.

4.5.5 Development Perspective

In considering the future of the Moonta and Wallaroo Mine sites as tourist attraction heritage areas, care has to be taken to balance the various elements of:

- . land tenure;
- . public access;
- . commercial opportunity;
- . financial viability;
- . historical integrity; and
- . archaeological significance.

To gain a perspective of the integration of these elements in the formation of a tourist attraction/destination, a survey was undertaken of a range of similar developments, including site inspections and discussions with senior staff of those developments. Specific results, as they impact on development of the Moonta and Wallaroo Mines sites, are presented by site to facilitate further investigations should this be deemed appropriate. Relevant points are summarised below.

Sovereign Hill

- . Operating Structure
 - Board and Executive Director
 - Committees - Site Planning
 - Mining
 - Museum
 - Theatre
 - Marketing
 - Sub-committees - Acquisitions
 - Landscape
 - Interiors
 - Security
 - Digging
- . Brochure including layout plan in both English and Japanese versions.
- . Use of "Friends" group.
- . Income generation is very important to the operations, capital and recurrent costs with the aim to maximise non gate expenditure.
- . Has a tight historic time-frame (Sovereign Hill 1851-1861).
- . Use of generic buildings.
- . Marketing is important intra and interstate.
- . Importance of government funds and agencies.
- . Liaison with group tour organisers.
- . Daily programme of activities.
- . Business acumen is essential.
- . Orientation for incoming visitors.
- . Plan the total concept as part of the initial strategy programme.
- . Become part of the local community (through the theatre and late night shopping).

Coal Creek

- . Management is critical, particularly at Board and Committee level.
- . Keep a narrow time span.
- . Capital development funded by government and needs a commitment over time.
- . Plan the whole development initially - have a master plan.
- . Contribution to expenditure within the adjacent township.
- . Need to cover maintenance and operating costs from revenue.
- . U.S.A. experience - administration and research for two years, then grow in the next 10-20 years.
- . Each park is individual - don't copy, don't compare.
- . Operate like a business -
years 1-5 market plan
years 6-10 flexible
- . Be sensible about potential market size; think at a state and national level.
- . Create pictures and new scenes along movement paths.
- . Landscaping is very important.
- . Establish a nursery (sell some of the output).
- . Use external resources where applicable.
- . Leasing/franchising work if they are commercially viable.
- . Plant trees to enhance bird life and character.
- . Movement paths, concept of inner and outer circle - let people make their own connections.
- . Use people for interpretation.
- . Link with local community.
- . Have an authentic mine.
- . Layout segments, views, panoramas and illusions.

- . Eye contact at entrance/exit and selling points.
- . Build a total environment.
- . Modify and copy in lieu of "the real thing".
- . School project material as promotion.

Swan Hill Pioneer Settlement

- . Need an established focus on which to build.
- . Independence of operation as a statutory authority.
- . Only viable retail outlets can be franchised/leased.
- . Management is important.
- . Forward planning is important.
- . Need government support.
- . Use voluntary workers.
- . Visitor involvement and the question of litigation.
- . Keep to the master plan with orderly revisions.
- . Staff training is important.
- . Community involvement.
- . Link to state tourist commission.

Port of Echuca

- . Establish clear objectives for the proposal.
- . Administrators work to objectives.
- . It is difficult to integrate private and public sector because of different agendas and motivation.
- . Planning is very important.
- . Prices must represent value for word-of-mouth promotions.

- . Use government as a financial resource.
- . Income generation is important for maintenance and operating expenses.
- . Long term strategic planning is important.
- . Look at the limitations of becoming a statutory authority.
- . Consider licensing as a source of income.
- . Lease commercial operations where possible.
- . Control of operations.
- . Develop linked income producing projects.
- . Establish a "Friends" group.
- . Look to an educational experience.
- . Restoration is important.
- . Be as authentic as is financially possible.
- . Free advertising when appropriate.

Burra

- . Prepare clear objectives.
- . Integrate heritage elements.
- . Establish a management system.
- . Prepare an overall plan and implementation programme.
- . Identify clearly market parameters.
- . Operate as part of a state/national tourist destination system.
- . Bring different groups together with established patterns for working as a team - even four teams of "one" can work within established guidelines.

4.6 CONCLUSIONS

4.6.1 General

Development throughout the Moonta and Wallaroo Mines and their association with the Wallaroo Smelters has occurred in a piecemeal unco-ordinated manner in terms of the regional tourist perspective. Co-ordination and unification of objectives, finance, management and development will enable a more readily realised product, and a high standard of facilities which can be operated with a common strategy and combined force.

4.6.2 Moonta and Wallaroo Mines

- . One element of a wide ranging tourist offering available on the Yorke Peninsula.
- . Of major heritage significance to South Australia.

4.6.3 Tourist Accommodation

- . Hotel and motel accommodation for the whole of the Yorke Peninsula, with recent expansion, is now in an over-supply situation with declining financial returns.
- . Northern Yorke Peninsula differs from the remainder of the peninsula.
- . Holiday flats are declining in relation to overall state supply levels.
- . Caravan sites have marginally increased and are in concert with overall demand.
- . Holiday homes are becoming a significant component of visitor accommodation.

4.6.4 Visitors

- . Tourism South Australia data shows a high concentration in visitors from South Australia, but with a broader appeal to non-Adelaide residents than other regions adjacent to the metropolitan area.
- . Records kept by the National Trust show a fairly constant attendance at Moonta Mines (marked increase in 1986) with a biennial effect in association with Kernewek Lowender.

- . Visitor book records at the Museum (Moonta Mines) show a recent increase in interstate and overseas visitors.
- . Visitor profile information collected by the Yorke Peninsula Tourist Development Association shows the current dominance of the Copper Triangle as a tourist offering and a strong summer family/friends tourist profile.

Development Opportunities

5.1 INTRODUCTION

The existing facilities at the Moonta and Wallaroo Mines sites lend themselves to incorporation into an expanded tourist operation. It is clear from the proposals presented to various authorities over the years that there is considerable interest in developments directly oriented toward the revitalisation of old buildings for use in conjunction with services to visitors to the area. At the same time, inadequate recognition and utility of resources has resulted in the failure to present and market the mines areas and the region.

5.2 DEVELOPMENT CRITERIA

5.2.1 Scale of Development

Tourist development at one of the sites could form a prime focus for the Yorke Peninsula and be able to compete, if fully developed, as a viable element in a national tourist destination "menu" for Australian and overseas visitors. However, there do exist alternatives which provide more direct access by the public. Should these more accessible facilities not be established, consideration should be given to development of a primary tourist focus.

Such a complex would require a planning phase of up to three years, and by definition incorporate the preparation of the range of facilities and destinations available on the Yorke Peninsula.

At Moonta Mines, the geographic scale of the mining operation and the resultant heritage area along with developed tourist foci, favours an expansion to realise the potential of a range of features presently undeveloped, and the integration and expansion of the existing mines tour routes.

In contrast, the Wallaroo Mines site with its less stable heaps and deteriorated landscape both in natural and built terms, lends itself to a more compact heritage/tourist development. While this may appear to be to the detriment of the site in heritage terms, it enables the development of a multi-focus theme park as a prime regional destination, and marketing tool for the Yorke Peninsula. At this time, the site is not promoted as an attraction.

The peninsula has many tourist attractions which need to be comprehensively packaged from a focal point on the peninsula. The mines sites being one of the significant features of the tourism experience could be reinforced as the stepping off point for the peninsula. In order to achieve this, direction must be given to the mix, nature and form of development most suited to these areas.

5.2.2 Time Scale

The clarity of theme/heritage parks is significantly assisted by the definition of a tight time scale, for example a park covering transport featuring horse, steam and petroleum products will, in essence, be more complex than one focussing on horse-drawn vehicles.

The mines and associated activities are generally well confined in terms of time scale and it is essential that these limits are adhered to when presenting the products of the past.

5.2.3 Department of Tourism Support

In securing government tourism support, development will need to:

- . be commercially viable, ie. its documentation will need to draw out the revenue elements and identify the markets which will ensure viability;
- . become a destination and act as a traffic generator not solely a user of existing tourist visitors;
- . appeal in the first instance, to South Australian residents and use them as a basis for attracting other markets.

It is beneficial, in the medium term, say five to ten years, that development produces repeat visits and form part of a larger, longer tourist itinerary.

Commercial viability will require that the development generates sufficient revenue to cover its operating and maintenance costs, with a residual to be used as an incentive for government support in future developments beyond the initial proposal.

5.2.4 Cultural Sensitivity

Where a theme park or other tourist related activities are developed in the background of an existing community, care has to be taken to protect the dignity of local residents and to encourage their support and involvement.

5.2.5 Government Funding

For a tourist/heritage development to be viable, it must secure long term government support. This will require a regional perspective as well as some change in policy with respect to the source and application of funds received for the sale, lease or license of Crown land in the district. These funds can include grants and loans whereas other sources of assistance with advice and physical works are from time to time forthcoming from formal and informal, statutory and volunteer organisations.

Various fund sources exist for heritage and tourist related activities and facilities. Buildings and sites designated as heritage items and listed on the Register of State Heritage Items qualify for funding for conservation treatment from two main sources, namely the State Heritage Fund and the National Estate Grants Programme.

State Heritage Fund

The Department of Environment and Planning through its State Heritage Branch administers the State Heritage Fund which is issued in the form of grants to community organisations and local government authorities. Private owners and commercial enterprises are assisted by way of low interest loans on which single annual installments are required for the period of the loan.

National Estate Grants Programme

The Australian Heritage Commission administers the programme on behalf of the Federal Government. Grants are awarded for research, conservation, planning and historical research and some physical works.

Less formal sources of funds for heritage related purposes previously existed through employment creation schemes. These funds required sponsor contribution and are allocated on a regional basis. Labour intensive projects which utilise unskilled people have in the past been preferred.

The Department of Mines and Energy has an interest in the mines areas in a historical mining sense. Although the department is generally unable to provide capital, technical expertise is available, where approved, to undertake on site interpretation of extant remains, as well as drafting, design, engineering and technical assistance.

Tourism South Australia also provides funds for approved projects which will create or boost tourism potential of a place. Various other mining sites around the state have benefited from Tourism South Australia assistance which is made to improve visitor access and enjoyment. The department is selective in their priorities, selecting those which generate income to enable self generation and sufficiency.

In addition, the Commissioner of Highways on advice from Tourism South Australia may make tourist road grants to councils. In assessing applications, Tourism South Australia examines the road in question, the proposed design, works to be undertaken, estimate of project cost and details of visitor and local use of the road.

The following provides the more detailed considerations for Tourist Road Grants.

Tourism South Australia Tourist Road Grant Guidelines

A tourist road is:

"A surveyed local road leading through an area of distinct tourist interest, or to a tourist destination or feature, and used predominantly by non-residents of the local council area".

The relative priority of each project is assessed in relation to the following factors:

- . the priority allocated to the council's various applications;
- . the level of funds required;
- . the volume of tourist use of the road;

- . the potential for increased tourist use resulting from the upgrading;
- . the degree of tourism importance attached to the feature, facility or area of tourist interest;
- . the relative importance of the area as a tourist destination;
- . the scale of expenditure for the project related to the likely tourist benefit;
- . the existence of tourist facilities provided at the destination or feature or planned for it, eg. carparking, lookouts, picnic facilities.

Grants are conditional upon contributing expenditure by councils. The normal grant is on a \$1:\$1 basis. However, projects of significant tourism importance may warrant a greater than usual proportion of grant.

Projects will be subject to examination by Highways Department District Engineers in relation to suitability of specifications for roadworks and the estimated costs.

The following points will be considered in relation to eligibility of projects:

- . the road is on a surveyed road reserve;
- . the proposed roadwork is an upgrading or new construction;
- . the road leads through an area of distinct tourist interest such as natural features of interest, eg. mountains, valleys, rivers, lakes, etc., features of historic interest, eg. cairns, plaques, historic camp sites, ruins, etc.; unique examples of significant flora or fauna; "tourist" type establishments such as wineries, art and craft sales outlets, museums, etc.;
- . the road is an access to a tourist destination or feature such as a mountain gorge, beach, fishing area, picnic facility, prime river frontage, lookout, etc.;
- . the road is used predominantly, but not necessarily exclusively, by non-residents of the local council area concerned;
- . installation of white on brown tourist road signs to Highways Department specifications.

Roads which council is committed to provide for the benefit of its own ratepayers or for general traffic passing through the council area are not eligible for funding under this programme. Ineligible works include the following:

- . road maintenance work;
- . a project to provide a service to a council's own ratepayers, eg. a sub-division, access to a sporting facility, etc.;
- . arterial roads carrying commuters or commercial traffic through a council's area;
- . roads provided for the use of ratepayers;
- . access road for business ventures.

Applications received by Tourism South Australia up to 31st March each year will be considered for inclusion in the programme to be recommended to the Commissioner of Highways for the following financial year.

Councils are invited to submit applications on an ongoing basis to cover present and future projects which will be incorporated into a forward planning programme. Applications will not bind councils to a particular project or time until approved and will not preclude future additional applications.

It is proposed to re-submit unsuccessful applications to councils each year for updating of estimates and revision of council priorities.

Applications for each project should include the following:

- . council's priority;
- . a large scale map locating the particular road;
- . the length of the road and the road width;
- . a brief specification for the work;
- . an estimate of the amount of tourist traffic using the road;
- . an estimate of cost, excluding sealing work;

- . a separate estimate of cost of any sealing work if this is included. (Sealing will only be considered where the project has a high degree of tourism importance or is appropriate to other specific reasons);
- . applications for projects which are planned to proceed in stages must be identified as such and the staged programme submitted with the initial application.

Councils will be advised by Tourism South Australia when projects are included in a programme recommended to the Commissioner of Highways. The Highways Department will advise councils of the success of particular applications in due course and after consideration and investigation of the recommendations.

Having regard to the above requirements and benefits, it is essential to identify a priority list of roads to be presented to Council for inclusion in its grant applications.

5.2.6 Non Government Funding

No established formal source of funding exists in the non government sector. The National Trust however, through its branches has made significant investment into the Moonta Mines area and at Matta House at the Wallaroo Mines. Opportunities for capital injections into the mines areas will inevitably focus on commercial activities and services to the tourist and visitor public. These kinds of ventures may include redevelopment of sites or buildings for use as ticketing, kiosk, hotel, motel, restaurant, souvenir and entertainment venues. The capital works to redevelop, renovate or establish these kinds of facilities in concert with the prescribed objectives ultimately result in the enhancement of the place and support for government funded projects. Naturally, for this enhancement to be achieved, an overall strategy and programme must be established.

A co-ordinated and non partisan approach to the mines areas should result in an improved environment and marketable tourist product.

5.2.7 Hands-On Exhibits

In line with recent musea developments, participatory "hands on" exhibits and real life experience-based exhibits will be required. Touching and doing have become key concepts in the entertainment era of musea and associated displays. For this to be achieved, audiovisual information needs to be presented if a person providing detailed information is not available. The sophistication of audiovisual presentation will depend to a large

extent on the matter to be presented. There are various alternatives from slide or still picture presentations through to interactive laser disc and its visual technology which can place the user into the experience of the presentation matter.

5.2.8 Sale of Product

Sale of product acquired externally or produced in-house has become an important element in the commercial viability of theme/historic parks and musea. This product ranges from souvenir material, catering to both tourists and local population markets, to interpretative publications both print-visual and audio-visual.

Selected products including printed material, could be produced for "outside markets" ranging from theme parks to specialist groups and the general public.

5.2.9 Marketing

To sustain an effective marketing thrust through the initial development period and to consolidate a regional perspective, control of the following key commercial items needs to be secured:

- souvenir product range;
- retail franchises and/or management contracts;
- central ticketing;
- integrated advertising;
- itinerary planning - package tours.

This integrated approach requires regional co-operation and acceptance of Moonta/Wallaroo as the regions focus.

5.2.10 Management

Care needs to be taken in the design and implementation of development to ensure the maximisation of the development potential of both heritage areas. Professionalism will require paid staff integrated with "Friends" type organisations.

Commercial viability rests heavily with the form and quality of management. This includes not only paid positions on full-time, part-time and ad hoc basis, but also the establishment of a management committee with a blend of expertise capable of providing administrative heritage, development management, commercial and some entrepreneurial skills. Tourist development, particularly heritage based, needs a "business" orientation if it is to survive and grow.

This management committee in its professional and commercial capacities should provide the impetus to consolidate the work currently undertaken at Moonta Mines and ensure a world-class theme park at the Wallaroo Mines. Together these sites could become the prime tourist focus for the Yorke Peninsula and a major destination on both national and international tourist/visitor circuits.

In addition to the theme park outlined in the preceding section, management should be capable of co-ordinating tourist activities and accommodation. A management structure should be established with representation from local government, heritage and tourist interests as well as the prime land owner. The land owners responsibility however, will diminish over time with the establishment of the management structure and the progression of the management plan which recognises state policy to divest itself of responsibilities for the land where appropriate alternatives exist.

5.2.11 Development Management

At this time, no appropriate or specific zoning guidelines for development in the mines areas has been established. Reliance is made only on the policy established for the rural areas. Clearly this is inadequate and warrants amendment to provide some security in knowing what is most likely and appropriate to develop. A supplementary development plan should therefore be drafted to provide the planning authorities with the necessary guidelines and the community understanding of what development is anticipated.

5.3 HERITAGE INTEGRATION

The heritage components relating to the Moonta Mines area have been dealt with through the establishment of the Moonta Mines State Heritage Area. The area is currently controlled by a management committee, however, fragmented responsibilities have resulted in limited development to date. That which has occurred gives an insight into the potential for substantial benefits in heritage, tourism and ultimately economic terms. Future development interpretation and access will require an integrated planning and management approach.

In the case of Wallaroo Mines, no heritage area exists. The establishment of such an area, justified by the scale of operations in terms of size, time and technology, requires integrity of development such that continuing technical and archaeological research can be undertaken. The following heritage criteria are relevant:

- . For a consolidated heritage area to be declared, the theme park concept of such a site needs to be authentic in terms of the historical operation and built environment.
- . Activated mining displays, while popular and income generating, are not necessarily in concert with a declared heritage area.
- . Tourist accommodation, given sympathetic treatment as directed to specific markets segments as in Paxton Square at Burra, could be integrated on the periphery of a heritage area or within the urban portion of the heritage area.
- . Wherever possible, development of complementary non-mining heritage components such as Cornish migration and settlement, should incorporate authentic sites and artifacts.

Meeting these criteria will maximise the opportunities for an alternative form of experience from that presented at the Moonta Mines.

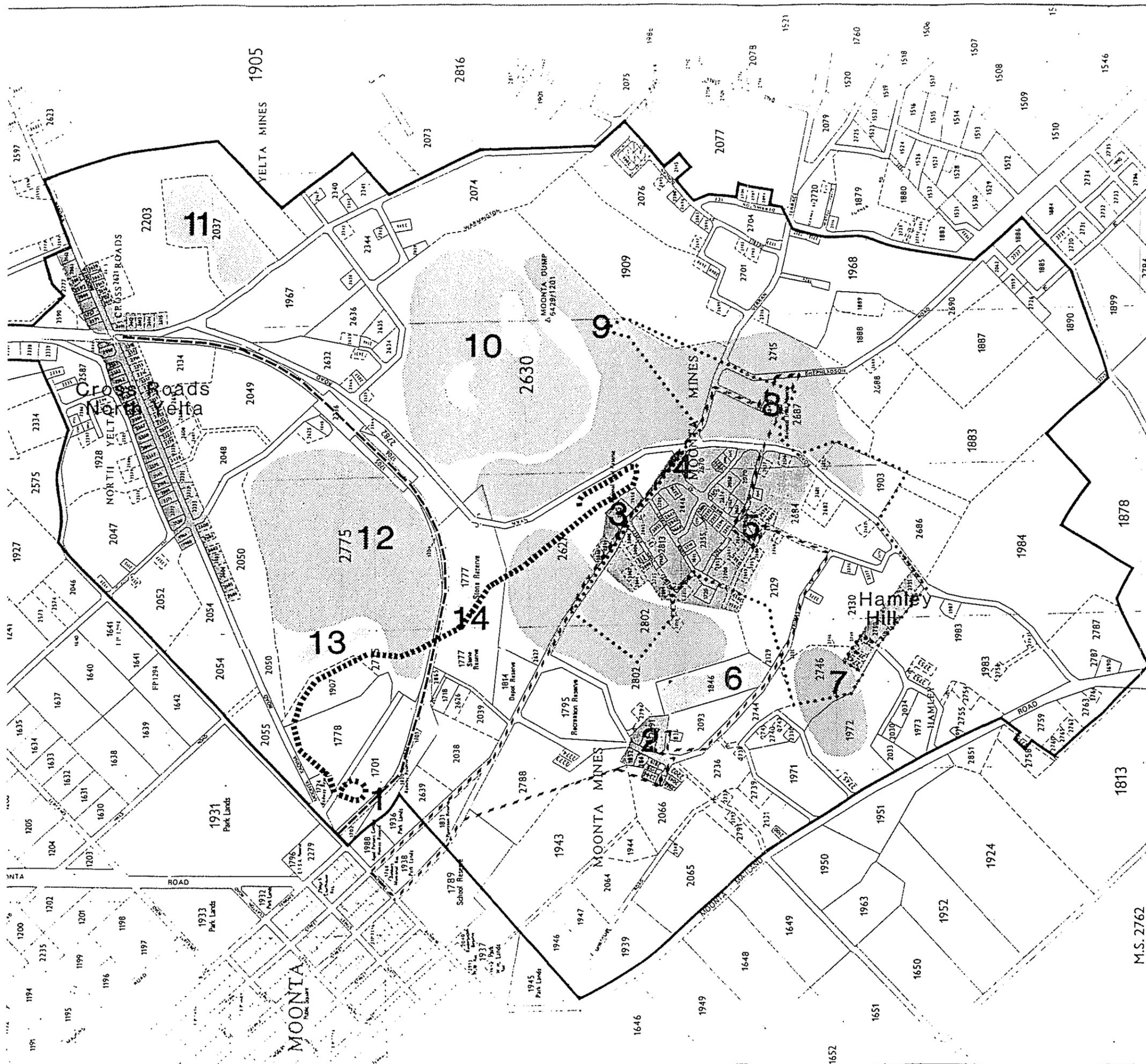
5.4 DEVELOPMENT SCENARIOS

5.4.1 Introduction

As a consequence of the review undertaken by the Moonta Wallaroo Mines Management Plan Committee, development scenarios have been prepared for the Moonta and Wallaroo Mines sites.

These scenarios are further promoted in Volume III, the Management Plan.

Prerequisites to the development of special facilities is the marketing and identification of the facilities. Signs therefore are critical to ensure ready accessibility to the sites by the public.



-  Mining Areas
 -  Skimp Heaps
 -  Slimes Areas
 -  Important Groups of Buildings
- 1 Moonta Railway Station
 - 2 N.T. Miners Cottage
 - 3 N.T. Museum
 - 4 Mine Office & Store
 - 5 Wesleyan Methodist Church
 - 6 Hancocks Tailing Heap
 - 7 Hamley Mine
 - 8 Hughes Pump House
 - 9 Richmans Engine House
 - 10 Richmans Tailing Heap
 - 11 Yelta Mines Smelting Works
 - 12 Slimes
 - 13 Precipitating Works
 - 14 Ryans Tailing Heap
-  Existing Rail Tour
 -  Proposed Rail Tour
 -  Proposed Mine Explorer Tour
 -  Revised Tram Car Tour
 -  Study Boundary

1:12500 ←

Figure 5.1
MOONTA MINES
FEATURES

5.4.2 Moonta Mines

The Moonta Mines site and its features, Figure 5.1, through the Moonta Mines Management Plan has had a major orientation toward the ongoing development of the archaeological features of the area. This should be balanced with the commercial development of sites consistent with the use and forms of development of the locality.

In order to provide a focus to what was once the former centre of activity and the existing community and tourist offerings, it is appropriate to consolidate a main focus at the intersection of Milne Street and Verran Terrace on the site of the former mine manager's residence and overseers office in Section 2670, incorporating a range of visitor related facilities, including:

- . information and souvenir outlet;
- . a set down/pick up location for vehicle tour routes;
- . limited interpretation and orientation, including an upper level viewing platform representative of Captain Hancocks original facilities;
- . catering facilities, takeaway foods and restaurant;
- . motel/unit accommodation; and
- . associated carparking.

In addition, the area adjoining and presently developed for the "Wheal Munta" display should be improved as an open space with informal picnicing and eating areas readily apparent and visible to the public.

The museum and adjacent facilities require assessment to identify features incompatible with the Moonta Mines and community activities of the era. There should be a period of consolidation and refinement and continuing assessment to ensure the best and authentic presentation to the public. This should remain and be supported as the primary museum and interpretation focus for the Moonta Mines.

More particularly, the "Wheal Munta" theme park is not consistent with the objectives for the presentation of the Moonta Mines and as such should be removed from its present site.

The existing public tour route requires some refinement to recognise certain minor changes to the road pattern and to improve access to the significant features.

The revised movement pattern, Figure 5.1, attempts to minimise exposure to the through traffic on Verran Terrace. This has in part been achieved by proposing closing or abandoning a number of minor roads where their use is limited or established patterns do not exist.

Additional elements have been included and the tour path now accesses the following exhibits:

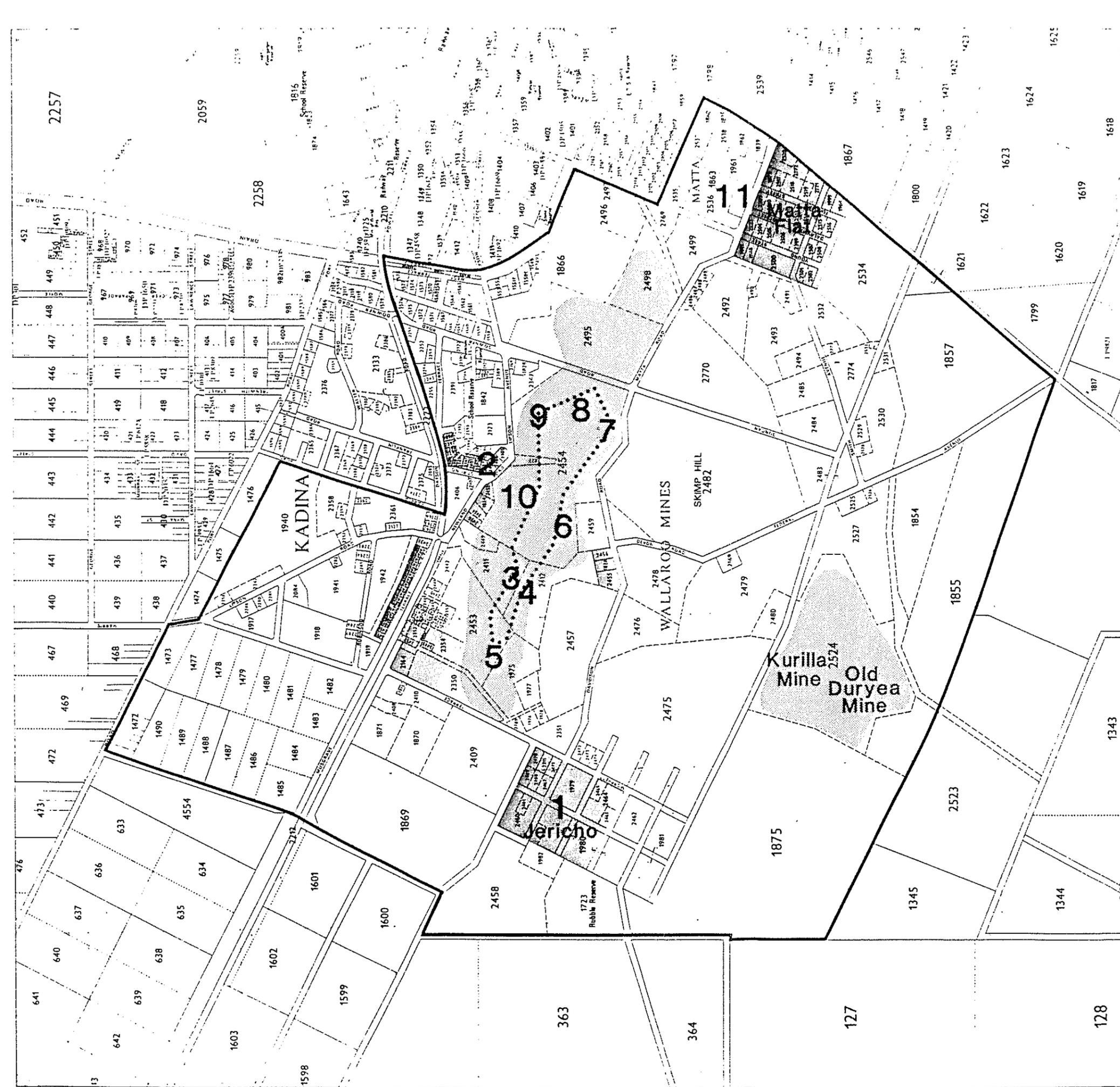
- . Mines Office
- . Moonta Methodist Church
- . Unnamed Floor
- . Miners Cottage/Hancocks Heap
- . Unnamed Floor
- . Hughes Pumphouse and Chimney
- . Richmans Plant and Heap

The tour should begin and end at the Hancock Mine manager's residence.

An autonomous tram tour privately run and funded is established in the mines area extending further than the public road system. This tour route requires refinement and formalisation to access exhibits, whilst recognising the needs of the existing resident community. Figure 5.1 indicates the preferred tour route.

The National Trust also operates a mini gauge train tour running between the Moonta Railway Station and the museum, through the skimp heap and past the cementation works. This feature begins and ends at the museum, however, should the Moonta Railway Station be reopened for use in association with the tourist activities, the train should provide for stopovers with the service having two terminus in order to enable passengers to join the train at either end. Proposals have also been submitted to establish additional rail tours using the line between Yelta and the Moonta Station. A journey is proposed along the crescent stretch of line to a point south of Cross Roads at which point a siding may be redeveloped. The tour proposes to illuminate the treatment works associated with the mining industry and to provide an alternative experience to the visitor. This operation is proposed to be privately run and funded.

The Moonta railway station warrants restoration generally in the manner of the Wallaroo station. Proposals have been presented in the past for the station to be operated as a restaurant, however, no proposal has yet been fulfilled. The facility should become an integral part of the Moonta and Wallaroo Mines experience. As a single use there is some doubt as to its viability, however as a fully integrated facility operated as a kiosk, restaurant and



-  Mining Areas
-  Skimp Heaps
-  Important Groups of Buildings
- 1 Institute Building
- 2 Cornish Village
- 3 Harveys
- 4 Hughes
- 5 Powder Magazines
- 6 Power Plant
- 7 Taylors
- 8 Viewing Platform
- 9 Settling Pool
- 10 Entry Gallery
- 11 Matta House
- Proposed Tour Routes
- Study Boundary

1:12500 ←

Figure 5.2
WALLAROO MINES
FEATURES

ticketing site, support from all parts of the mines activities is possible. The redevelopment should accord with detailed development guidelines provided by the Heritage Branch of the Department of Environment and Planning.

In order to provide an improved traffic environment for local and visitor traffic, Verran Terrace within the core of the heritage area should have traffic speed restrictions imposed to slow traffic and make travellers more aware of the locality through which they pass. The Moonta Mines area should be well signed to indicate entry and exit and the road surface at the entry to the core heritage area and at the principal mines town route crossings should be treated either by texture, colour, paving, form or a combination of these. This will provide improved identity to the area and assist in the marketing of the area by creating greater public awareness.

5.4.3 Wallaroo Mines

The Wallaroo Mines, Figure 5.2, has less within the core area remaining upon which to build, and presents a different form of experience than the Moonta Mines. The existing mines walk should be revised and extended, developed, starting and finishing at a central focus. Exhibits accessed by the walk should include:

- . Viewing platform overlooking a partly redeveloped settling pool;
- . Taylors Shaft and Engine House, incorporating a viewing platform
Taylors Original Shaft
Taylors Engine Pool;
- . The Power Plant and Flue and Coal Handling Conveyor and Pit;
- . The Office Shaft, Engine/Winding House and Office Sorting Plant.

The path should also incorporate an adjunct route to:

- . Youngs Shaft;
- . Youngs Engine House with visual access only;
- . Harveys Engine House, incorporating a viewing platform; and
- . Nature trail out to the powder magazine and back to the central focus.

The region lacks a comprehensive superior tourist focus which presents markets and integrates all of the regions offerings. This focus is best presented as the Yorke Peninsula Gallery which provides kiosk, souvenir and information services for the region. We understand such facilities may be provided at the Old Kadina Railway Station. However, an entry way to the Wallaroo Mines is required in the short to medium term to provide adequate services and facilities to the touring public for their attention to be drawn to the Wallaroo Mines.

In the very long term it is possible that a Cornish Village re-enactment could be established and accessed directly from the entry way via a simulated mine shaft under Newland Road. Although ambitious, it should be recognised that it is special developments and experiences that succeed in attracting tourists and visitors. Elements in the village could include:

- . a Cornish Museum within the Institute Building and in appropriate buildings;
- . Print shop;
- . Cornish pasties, confectionary, sweets, other foodstuffs;
- . Police station and gaol;
- . Antiques and lace;
- . Post office;
- . Doctor;
- . Copper shop (souvenirs);
- . Private residences;
- . Picnic reserve/play area; and
- . Rotunda.

The building and urban features of this precinct should be redeveloped in a form consistent with their original character and in accordance with strict design guidelines. The rotunda presently situated at Matta House was formerly within Newland Park. Its return would provide an attractive focus to the open space area.

Further, extensive printing equipment exists at Matta House. Its potential would be better realised were it to be used in conjunction with the promotional and ticketing needs of the region. Authentic printing equipment producing multi activity ticketing, mines bulletins, tour route guides and general information would be an attraction in itself.

The entry way to the Wallaroo Mines would be built on the site of the stables and mechanical shop. This forms the primary focus for the Wallaroo Mines Heritage Area Tourist Proposal and has potential to establish car and bus parking facilities close by.

Should no other suitable venue be established, the entry way could be developed as the main Yorke Peninsula regional tourist focus and information centre.

Under these circumstances, the entry way could ultimately incorporate the following:

- . Regional Tourist Office;
- . Entrance/exit to the mines walk and Cornish village;
- . Promotional displays in print visual and audio-visual forms for tourist attractions throughout the peninsula;
- . Promotional displays for other South Australian mining heritage areas;
- . a "teaser" regional souvenir sale outlet in conjunction with a central "passport" ticketing bureau;
- . Minor catering outlet;
- . Major promotions area for temporary exhibitions of required features.

In view of the interest in the Kadina Railway Station and having regard to its location, the entry way is considered a poor alternative.

Due to the potential for traffic movements across Newland Road in the short and medium term, a section of Newland Road through the core of the proposed development should operate at a restricted vehicle speed with appropriate signs and surfacing to emphasise the passage through or into the area. This will provide a more safe section of roadway as well as providing a greater opportunity to promote the Yorke Peninsula Gallery.

Matta House is too distant to be linked directly into the pedestrian based experience of the mines adjacent. Further, it deals with other aspects of community life during the mining period. It should continue to operate as an independent facility.

There is a need to rationalise the existing museums presented and limit the information being presented to that entirely relevant to the era. The entrance/exit facility should continue to incorporate souvenirs and in future may provide some minor catering or kiosk facilities.

Matta House should present a series of activated low technology mining displays as well as an operating historical printing plant. This plant could form the basis for the production of all or most printed matter presented to the public and as such, be a source of revenue not yet realised. Another recent study of Matta House was undertaken by J. Perkins, the recommendations of which were as follows:

The Story of Matta House

An appropriate objective could be "to preserve and promote the heritage of Matta House, a mine-manager's residence". The inclusion of the phrase "a mine-manager's residence" is important given the significance of mining in the area and it provides an opportunity to give the house a distinctive character.

This could be achieved by linking the house to a particular mine-manager and family who resided there, and the furnishings, etc. could be modified accordingly, to reflect that family's use of the house at a particular time, say July 1874. Before this could be attempted, research would have to be done on the mine-managers and their families as well as to determine the state of the garden, fences and outbuildings at the time. It is important that the grounds as well as the house become a period piece.

The Museum's entrance/sales area located under the side/rear verandah should eventually be relocated away from the building. A more appropriate use of the room behind the kitchen (with its collection of bottles, etc.) would be to house interpretative displays on the history and restoration of the house.

Kadina's Past - A Local History

A local history theme is not only appropriate, but it should also attract community interest.

Apart from the material associated with Matta House and farming, the rest of the collection could largely be encompassed under the broad theme of Kadina's past. Such a theme could cover the mining material, most of what is left in Building II, part of the vehicle collection, plus any items from Building VI and some of the printing equipment. Even the old gaol cell from Port Victoria could be incorporated by using its interior for a law and order display on Kadina's past. The blacksmith's shop could provide an interesting link with the farming displays.

Research would need to be undertaken to identify the major themes in Kadina's past and this would form the basis for a collecting policy to ensure that each theme is represented in the collection.

Given its present condition, under-utilised state and large floor area (180 square metres), Building II would be an appropriate venue to redevelop with displays on Kadina's past.

The History of Farming on Yorke Peninsula

Although known as the agricultural collection, a more appropriate title would be the farming collection of the Yorke Peninsula. Farming a word which includes pastoral activities such as wool growing (which the collection covers) and wool growing was important for many farmers in the region. The collection should also be identified with a particular area and given the Museum's location the appropriate area would probably be the Yorke Peninsula.

As a major collection it is appropriate that the subject is covered in depth, that is, the development of each type of farming equipment used on Yorke Peninsula to be represented in the collection.

I believe the time has come to curtail the expansion of the collection in the period after 1945 in order to relieve storage congestion and provide additional display space for the existing collection. The priority should now be on refining and improving the existing collection by weeding out unnecessary duplication (why are twenty stationary engines being preserved?) and filling gaps. In order to do the latter a research programme needs to be undertaken to identify the gaps and items appropriate for collection.

In addition to displays showing the development of machinery it is also important to feature interpretative displays about farming life and the hardships endured in making a living on the land. Sadly this is a theme most rural museums fail to tackle and it is one theme which should be covered when additional display space becomes available.

A Long Term Plan

A Logical Approach

In pursuing the three themes I have identified it is important that the physical development of the Museum site follows a logical and cost effective plan which utilises buildings to their best advantage. I recommend the following plan as a way of achieving this over the long term, and I stress the long term nature of the proposal. The following points relate to the plan.

Building Use

Building III is appropriate for the display of farm machinery due to its character and construction. Building IV, a large steel shed of modern appearance is more appropriate for storage than displaying old relics, however for practical considerations the large printing press and camera could remain there with public access. As for the printing equipment relevant to the Yorke Peninsula Country Times, I recommend its relocation to the bandstand (Building VI) to create a period setting, in keeping with this interesting old building. As for the galvanised steel shed (Building VII) nearby, I recommend its removal for storage purposes. This area should be set aside in case any significant and appropriate old buildings become available. The result would be a row of "old buildings" commencing with the blacksmith's shop, and containing local history displays - a theme which the public first encounters in Building II. I propose that the farming collection be split into two areas. Displays on machinery development in Building III and interpretative displays on farming life in a series of new buildings. In order to cut costs and help mask the facade of Building IV, I suggest the first new building should be an extension of Building IV with a sloping roof in the style of an old farm shed under which the theme of the early farmers establishing themselves on Yorke Peninsula could be developed. As funding became available other display sheds or pavilions could be added. In each case they would draw on the collection in Building III reducing the congestion of material there and thus improving its display potential.

Unifying the Complex

It is important to link the various components of the Museum complex together. The various buildings and displays should appear as part of a whole rather than as isolated units. This could be achieved by connecting buildings with appropriate outside "displays" such as a poultry yard, sheep pen, draught horse enclosure, dam, etc., in the case of farming buildings. This adds to atmosphere and visitor appeal - the latter would certainly be increased by an extensive planting of shade trees.

There also exists the opportunity with the existing machinery to establish a model farm in conjunction with the agricultural museum. This could include cultivating and harvesting exhibitions as well as farm animal handling and use. Matta House presents a major educational/recreational opportunity, which demands greater realisation.

6.0 Engineering Infrastructure

6.1 GENERAL

The existing services were investigated by both site inspection and enquiry to the respective service authorities. The services encountered were:

- Water Supply
- Stormwater Drainage
- Electricity Supply
- Telephone Service
- Transport Corridors

No public sewers, common effluent drains or piped gas supplies exist in either the Moonta or Wallaroo Mines areas.

An assessment has also been made of existing roads and tracks, some of which are not formal road reserves. These have been compared with the latest cadastral survey for the area to determine the most appropriate pattern of access.

Although apparently haphazard services extend throughout the mines areas. In the past little recognition has been given to the need for formality in their establishment and it appears that there are instances where authorities cannot establish with reasonable particularity the form or location of certain of their services. This emphasises the "casual" approach taken in the past. However with the assistance of considerable local knowledge much of the information could be relied upon.

6.2 EXISTING SERVICES

6.2.1 Water Supply

Existing services were determined from 1:3168 record plans supplied by the Engineering and Water Supply Department (E. & W.S.) and with the assistance of council staff. It is believed that these records are reliable and up to date.

Discussions with the Investigations Section of the E. & W.S. have indicated that although several of the pipes are old and corroded, there are no proposals at present for any extensive works to renovate and rationalise the networks. With the potential for greater demands for service, certain of these facilities may require replacement as part of the development activities. The area does not rely on local supplies, however it is appropriate that future development incorporate their own private supplies by rainwater tanks.

Moonta Mines

The majority of the services within the actual mines area are of diameter 50mm or 80mm with a 125/150mm diameter main running along Verran Terrace that bisects the mines area, and a 100mm diameter main along Karkarilla Road. Other larger mains run along the periphery of the area, a 375mm diameter main along the Moonta/Kadina Road, and a 200mm diameter main along the north east boundary. Most of the mains are denoted on E. & W.S. plans as being constructed of asbestos cement.

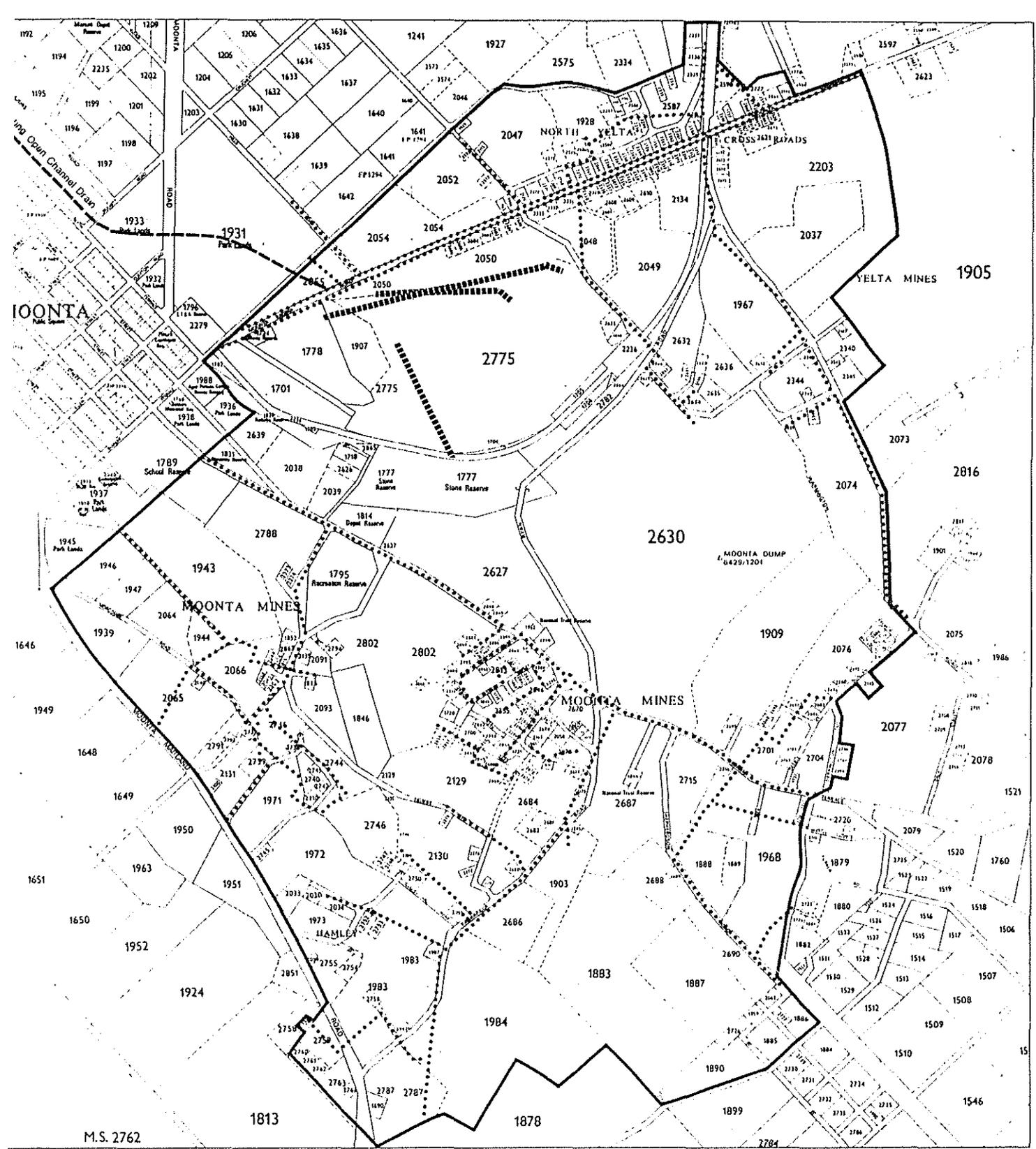
As shown on Figure 6.1 many of the subsidiary mains wander significantly away from the existing road corridors and cross open ground, primarily Crown land. This fact may have a bearing on any proposed freeholding or development of land as well as placing restrictions on the ease of future services from the main.

Wallaroo Mines

The majority of the services, Figure 6.2, within the mines area are of diameter 50mm or 80mm, with the only exception being a 250mm main in Duncan Road, running south from Lipson Avenue. The mains are either asbestos cement or cast iron. As in the Moonta mines area, mains in the actual mines area tend to wander away from the existing road corridors and hence may constrain future servicing and freeholding.

6.2.2 Stormwater Drainage

Very few man-made stormwater drains exist in either of the mine areas, but a comprehensive stormwater disposal study was carried out in the period 1978-80. Figures 6.1 and 6.2 indicate both existing and future stormwater drains together with the natural water courses.



- Drainage
- Water Mains
- Study Boundary

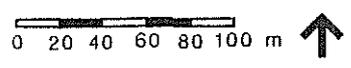
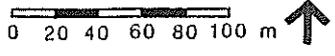
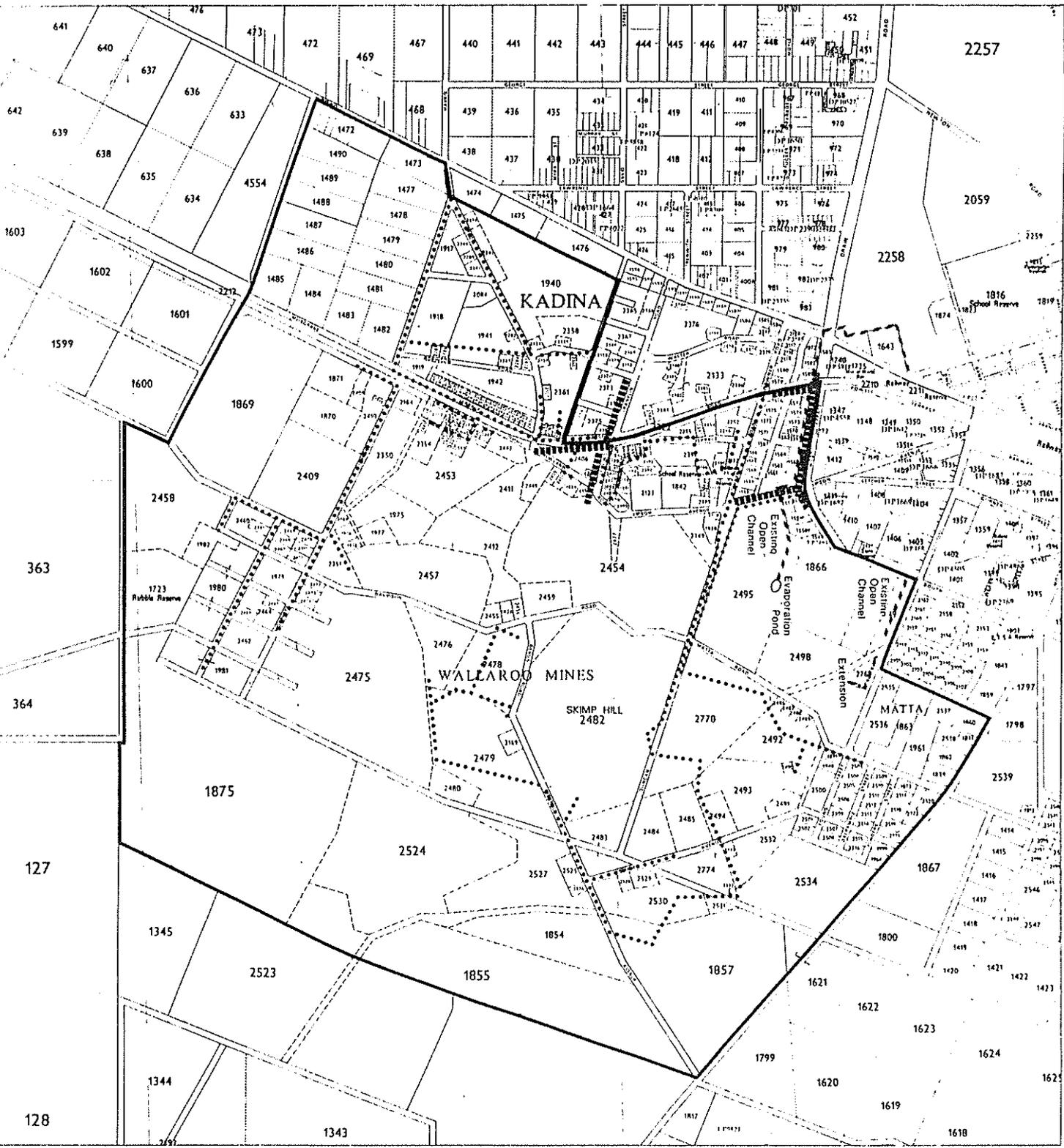
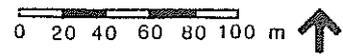
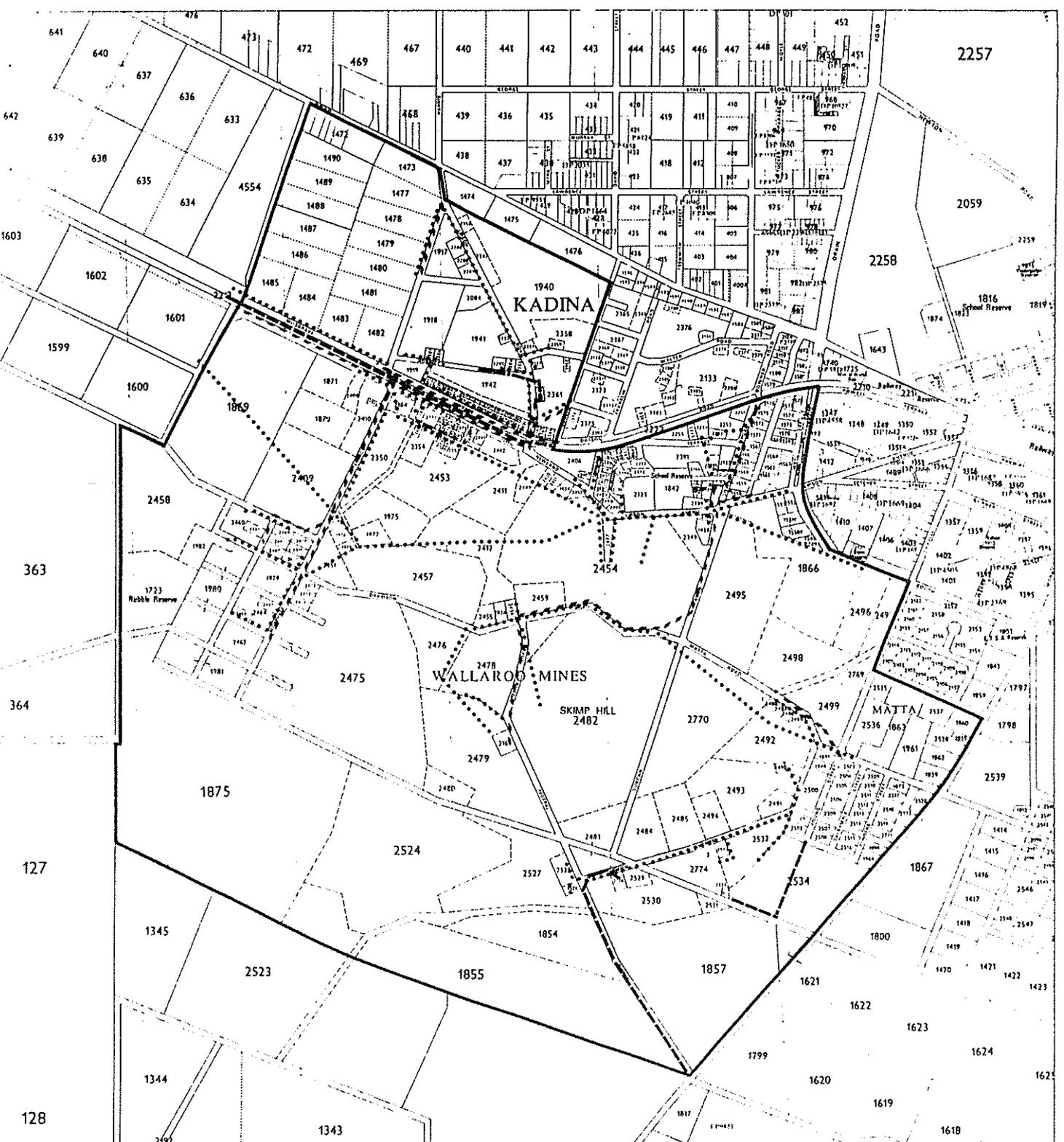


Figure 6.1
MOONTA MINES
EXISTING
DRAINAGE & E&WS



- ▬ Drainage (Pipe)
- ⋯ Water Mains
- ▬ Study Boundary

Figure 6.2
WALAROO MINES
EXISTING
DRAINAGE & E&WS



- Telecom(Overhead)
- Telecom (Underground)
- ETSA
- Study Boundary

Figure 6.4
WALLAROO MINES
EXISTING ETSA &
TELECOMMUNICATION
SERVICES

As part of the stormwater drainage study, a full aerial survey of the areas was carried out which provides a valuable base for future works in the mine areas.

6.2.3 Electricity Supply

Enquiries directed to the Electricity Trust of South Australia (E.T.S.A.) local office in Kadina indicated that all electricity supply cables within the two areas are overhead except for a few very localised services to individual properties, Figures 6.3 and 6.4. E.T.S.A. have indicated that their records are not up-to-date, and consequently, only nominally 80% correct. Although it was not possible to obtain copies of the E.T.S.A. record plans, facilities were provided to enable relevant information to be extracted. This was combined with the information gained from the aerial survey data and the resulting network verified by site inspection. Hence, omissions on the E.T.S.A. records have been remedied.

While many of the electricity lines follow the existing roads, a significant proportion cut across open areas, much of which is Crown land. Whilst not ideal, this situation is considered to be less serious than for underground services as their existence prior to freeholding or other development is less likely to be overlooked.

E.T.S.A. have also indicated that where services have been inappropriately located, then consideration will be given to their relocation.

6.2.4 Telephone Service

Records of the existing services are maintained on microfiche at the Telecom office in Kadina. Relevant information has been extracted from this source to determine the extent of services provided. Both overhead and underground telephone cables exist, with many of the overhead cables sharing the E.T.S.A. poles, Figures 6.3 and 6.4.

Defining the location of underground cables has been based entirely on the information taken from microfiche, whereas the overhead cables have been checked and more accurately located by use of the aerial survey. The underground telephone cables are generally located within existing road reserves, although there are occasions when they do deviate onto land outside road reserves.

6.2.5 Roads

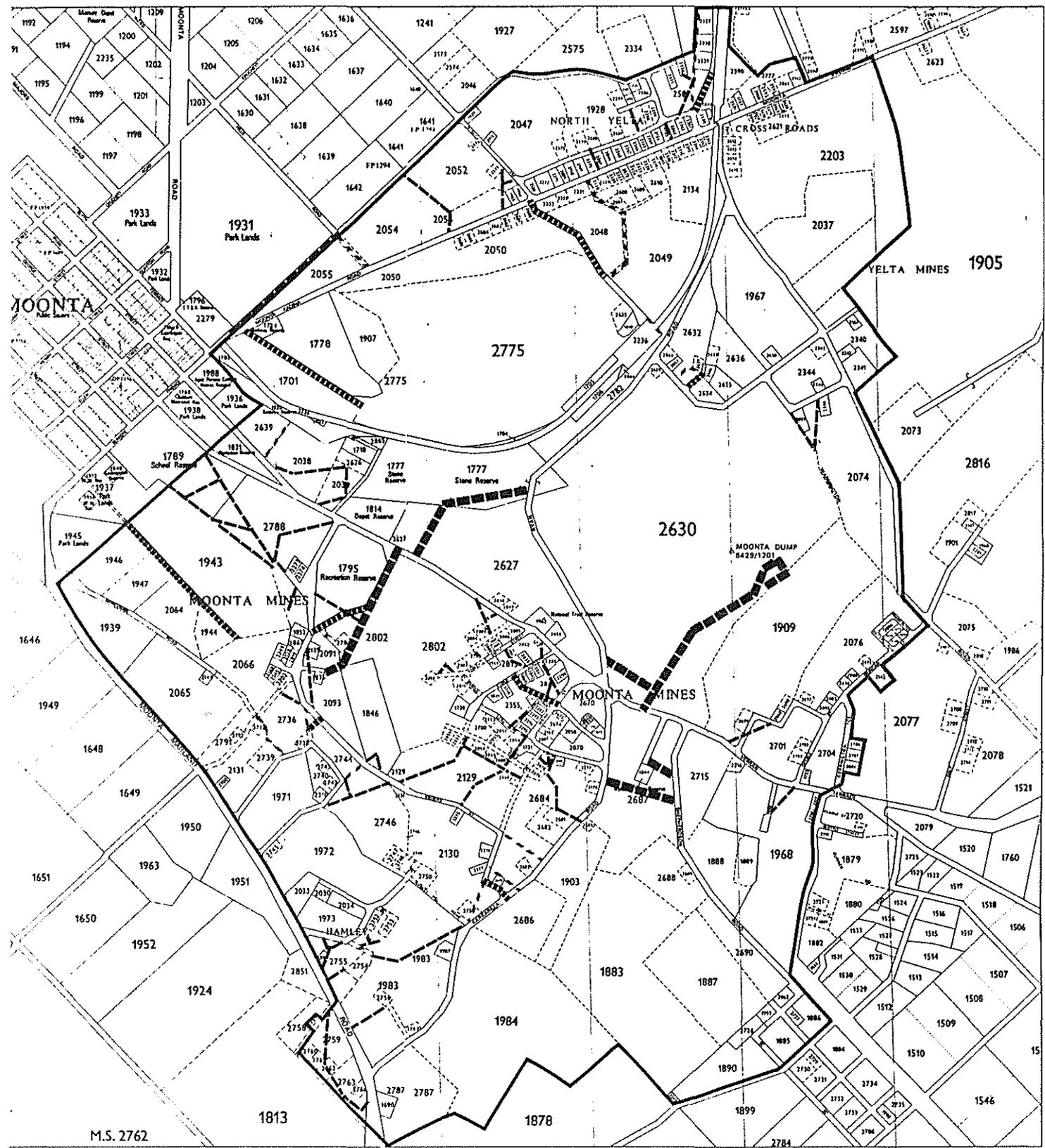
The aerial survey (1978) undertaken for the stormwater drainage study in 1978-1980 shows all roads and tracks in existence at that time. This has been compared with the latest cadastral survey 1:10000 series. As anticipated, there are a significant number of roads and tracks in existence which are not shown on the cadastral survey. There are also a number of road reserves shown on the cadastral survey in which no road currently exists, Figures 6.5 and 6.8. Rationalisation of the traffic networks is required to maintain residential access and formalise appropriate tourist access. Consequently, a programme of road closures and openings will be necessary to recognise the preferred traffic systems. These changes are shown on Figures 6.6 and 6.9.

In addition, further tourist access may be required in and through the mines and associated areas for which purpose separate access arrangements will be required without the need for the formalisation of public thoroughfares.

As a result of the proposed changes, the preferred road network as shown on Figures 6.7 and 6.10 will provide and maintain a high degree of accessibility to and through the study areas whilst enabling the rationalisation of the provision of roadways. The degree to which access is afforded in many circumstances is excessive and results in the fragmentation of land, the isolation of small parcels from the main portions of land parcels, the duplication of roadways, the potential for greater traffic hazards, poorly defined access to sites and greater maintenance costs. For these reasons, it is appropriate to reduce the road length overall whilst still enabling good access to sites and in so doing provide a more readily definable route to each of the tourist features or centres. Such redefinition also goes hand in hand with a system of improved signs to direct the public in the simplest manner without prejudice to residential access.

6.2.6 Conclusions

Although it is apparent that many of the services have been installed in a haphazard fashion, fairly reasonable networks exist in the more densely developed areas. In other areas however, particularly the mines areas, the services follow inconsistent and random routes. It is considered that these are the services most likely to cause problems, and should be taken into consideration in the planning of any proposed changes to the road, land tenure and servicing networks. These ultimately rely upon adequate survey data, the lack of which is promulgated existing inadequacies in definition of services.



-  Jubilee 150 Tour Road
Surveyed & built 1986
-  Existing Roads to be Deleted
-  Cadastral Roads not
made to be Closed
-  Existing Roads to be Surveyed
-  Study Boundary

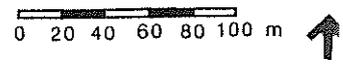
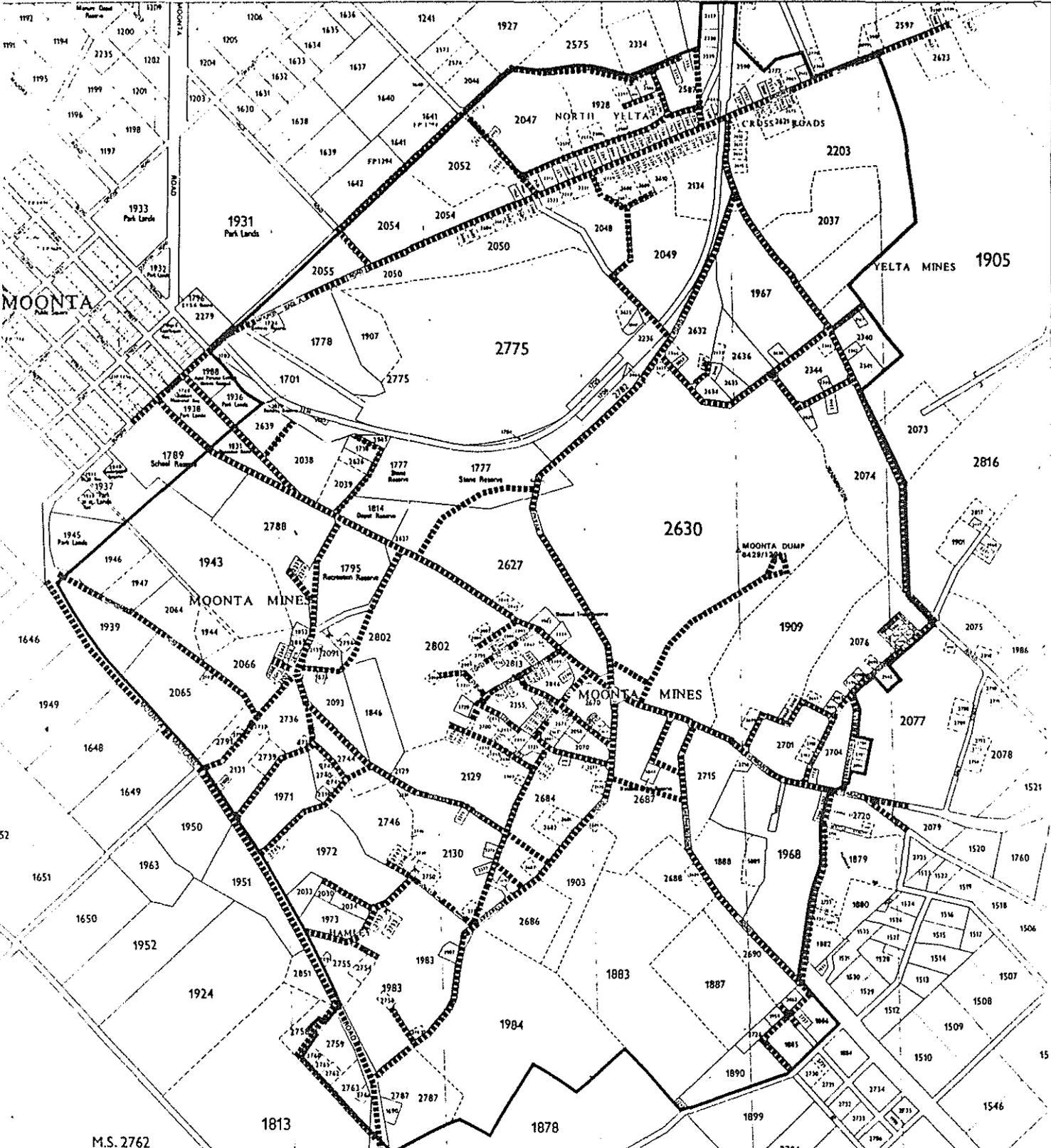


Figure 6.6
MOONTA MINES
PROPOSED ROAD
ALTERATIONS



Road Network
 Study Boundary

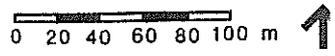
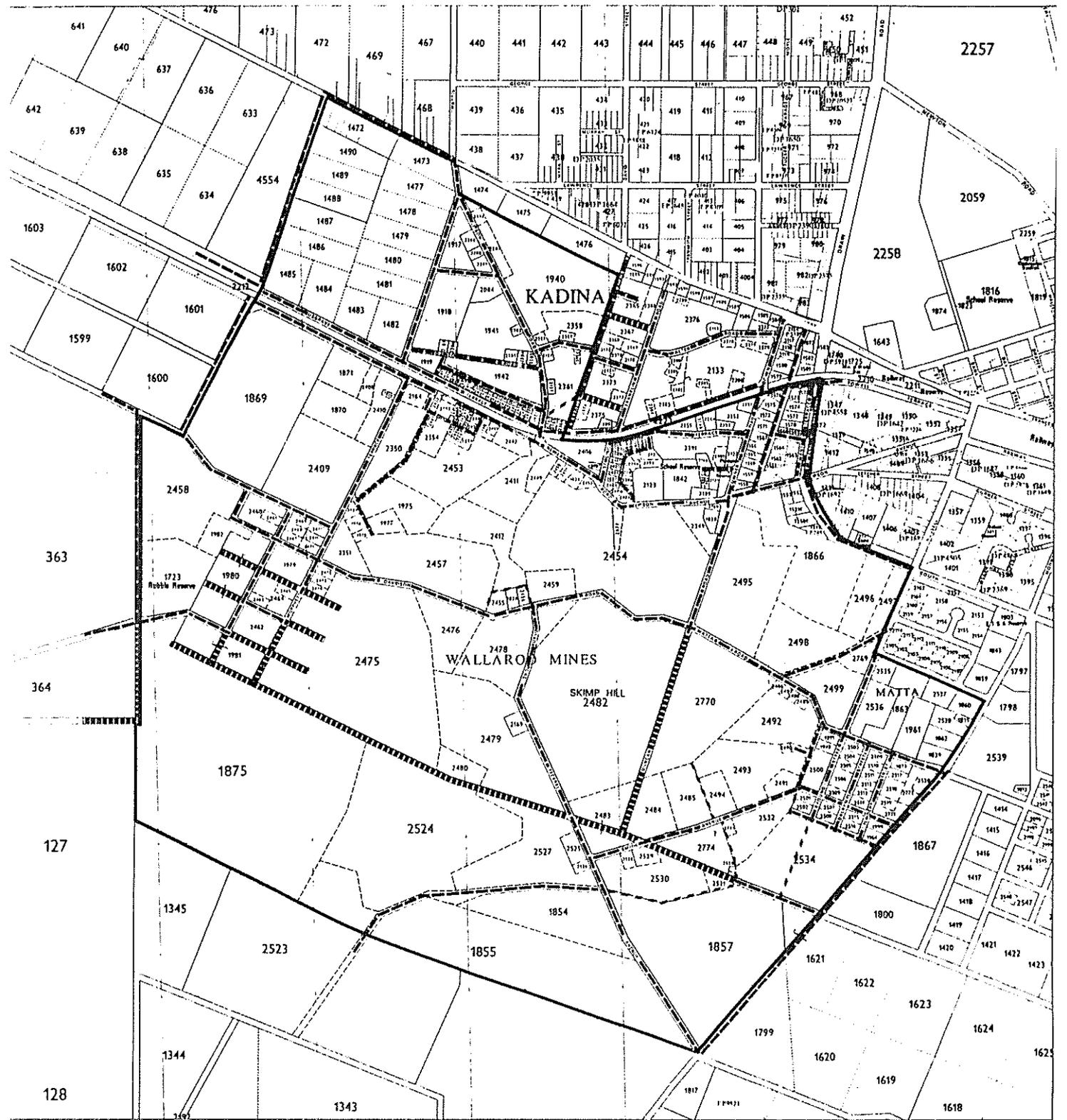


Figure 6.1
MOONTA MINES
PROPOSED ROAD
NETWORK



- Existing Cadastral Roads
- .- Existing Other Roads/Tracks
- Unmade Roads
- Study Boundary

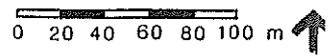
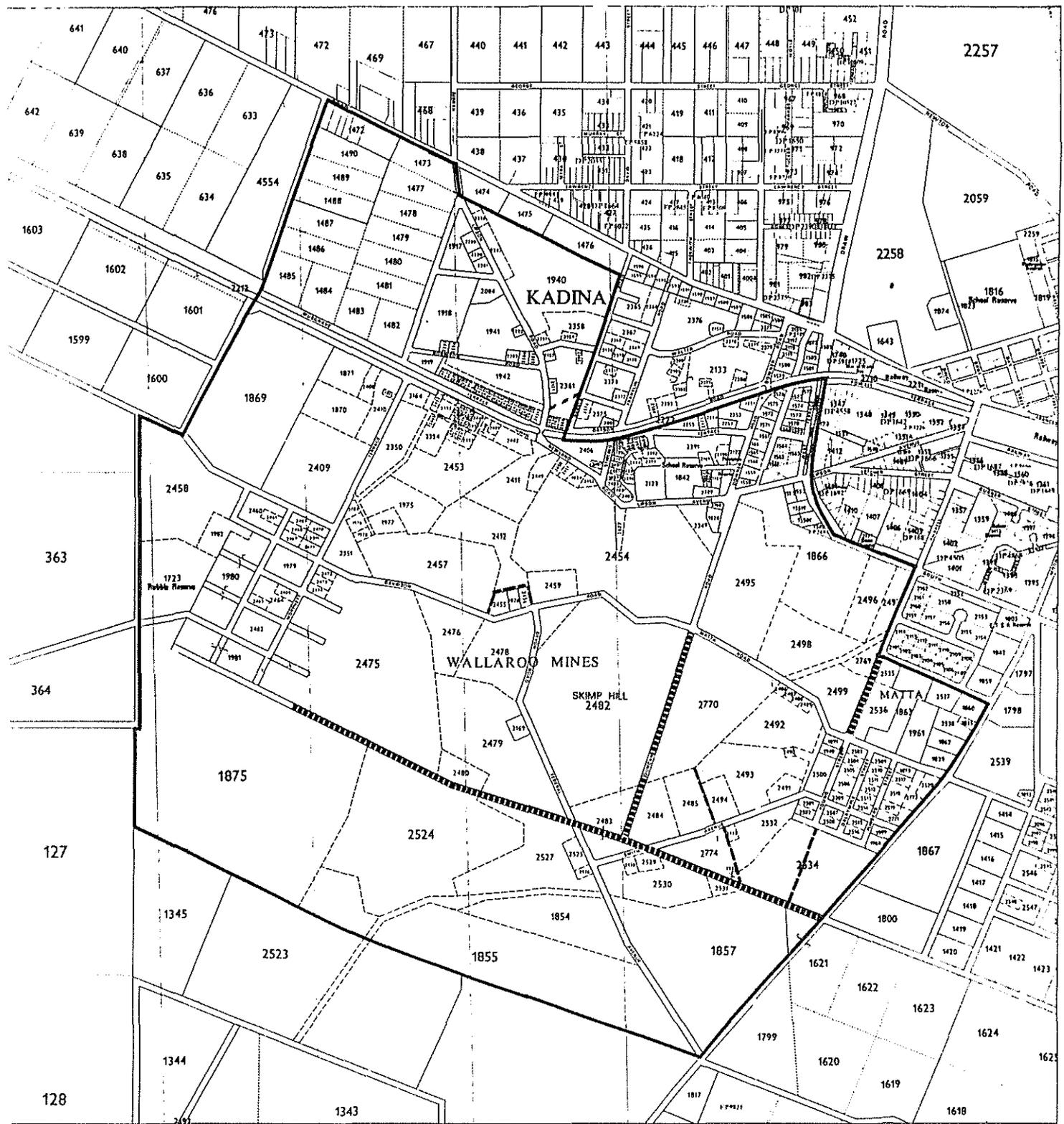


Figure 6.8
WALLAROO MINES
ROADS



- Existing Roads to be Deleted
- Cadastral Roads not made to be Closed
- .-.- Existing Roads to be Surveyed
- Study Boundary

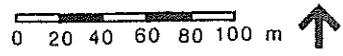
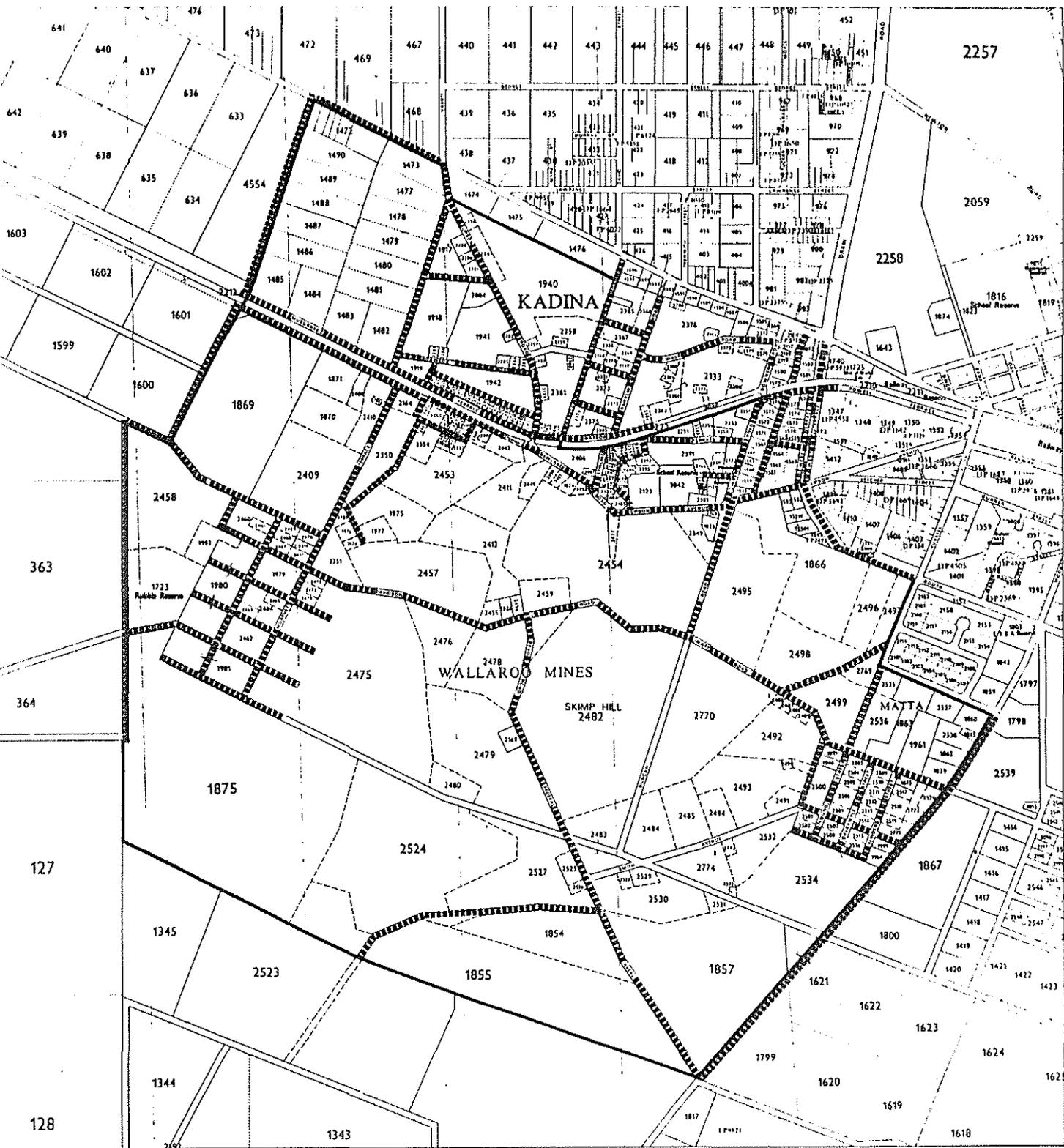


Figure 6.9
WALLAROO MINES
PROPOSED
ROAD ALTERATIONS



 Road Network
 Study Boundary

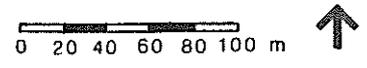


Figure 6.10
WALLAROO MINES
PROPOSED ROAD NETWORK

Services which do traverse land in an undefined manner will require special consideration when dealing with freehold applications. These features could add to the survey burden already existing. Although wholesale relocation of services into the ultimate road reserves would be ideal, the costs would be very high and the benefits limited. It may be necessary and justifiable in some localised areas to consider comprehensive schemes of redevelopment for services by providing easements which accommodate a range of services. Once a long-term road network has been adopted as part of the management plan, the service authorities should be encouraged to ensure that future provision is made for services to be located with due deference to the plan. These will of course be circumstances where standard easements are required to identify and specifically provide protection to services.

6.3 TOURIST ROUTES

Much of the tourist circulation about the mines areas are on defined paths or existing roadways or tracks. Minor changes may occur as a consequence of rationalisation in the movement pattern, recognition of cadastral information or enabling extensions of paths into areas which have not in the past had formal access, Figures 5.1 and 5.2. Any such re-arrangement must be undertaken in accordance with normal engineering practice. Further, where necessary appropriate protective measures against erosion, land slump or cave in should be taken. For these reasons, it may be necessary from time to time to seek the services of the Department of Mines and Energy. These tracks or paths should also be designed using finishing materials as specified in each case by the relevant authorities.

7.0 Legislative Provisions

7.1 INTRODUCTION

Of the legislation applicable or potentially applicable to the mines areas, the most significant are the Crown Lands Act, Planning Act and the State Heritage Act. The latter two will assist to direct and secure a manageable future for the mines areas, whilst the Crown Lands Act operates over much of the land significant to the areas future. Further, the Weeds and Pests Control Act and the Native Vegetation Management Act have provided and will continue to provide the opportunity to improve the natural environment.

7.2 CROWN LANDS ACT

The Department of Lands administers much of the land in the mines areas in its capacity as administrators for Crown owned land. The Act provides the administrative powers to ensure the proper management, securing, and disposal of land for the Crown's purposes. However, of greater significance is the policies of the Department of Lands which has and will affect the mines areas. The government policies which relate to tenure, access, the disposal of surplus land and management are significant for the mines areas as these areas are primarily controlled by the Crown. The Crown however, has determined there was a need to review their position and where appropriate, to dispose of land surplus to their requirements or where their interest in the land did not stem from a maintenance need. The principal relevant policies for Moonta and Wallaroo Mines are contained in this Volume, 3.0 Tenure.

7.3 THE PLANNING ACT

The Planning Act enables the establishment and amendment procedures for the development plan, which provides the guidelines by way of objectives, proposals, principles of development control and conditions to be used by planning authorities making decisions on development. Further, the Act provides in Section 61 specifically for Land Management Agreements to be entered into

between the relevant state Minister or council and any person in relation to development, preservation or conservation of land that person owns. Where council or other bodies are seeking a certain kind of development or management on land, Land Management Agreements can provide the necessary detailed direction.

7.3.1 Land Management Agreements

A wide range of community assets are at risk with inappropriate or poorly managed and maintained land uses. The land, flora, fauna, aesthetics, heritage and community harmony are all vulnerable if decisions and practices are not adequately matched to their resources. By their very nature, development plans are consensus documents which can not be expected to accommodate every eventuality in our developing environment.

A Land Management Agreement is a contract between a land owner and an institution to provide specific guidelines on development and management which might otherwise be, inadequately considered in existing legislated mechanisms or in some cases, precluded by zoning controls. It is the responsibility of the land owner or developer to demonstrate that a proposed activity will not prejudice or conflict with community objectives.

Generally, Land Management Agreements should provide specific guidelines or limits on activities and development appropriate to the land. These agreements where necessary, should follow a standard legal format and be readily modified to meet the specific requirements of each task.

In some instances, management plans may require plans with further survey information, where this is the case, and where survey is required for site definition, the two processes should be combined to ensure efficient use of resources.

7.3.2 The Development Plan

The areas of the Moonta and Wallaroo Mines are located within the District Council of Northern Yorke Peninsula. For the purposes of development control, the relevant provisions of the development plan are:

Part XIII - Yorke Peninsula

Part XIII - Northern Yorke Peninsula (D.C.), (October 2, 1986)

7.3.3 Yorke Peninsula Provisions

The Yorke Peninsula provisions set out the broad context of planning for the region. There exist no provisions which apply exclusively to the mines areas, but rather establish the broad objectives and principles for planning in the region.

7.3.4 Northern Yorke Peninsula Provisions

Part XIII, Northern Yorke Peninsula (D.C.) provisions rely on and further detail the required provisions with additional principles applicable to the council area. The townships have also been treated discreetly for which separate objectives, proposals and principles of development control have been enunciated.

However, the mines areas have been neglected and do not form part of these towns. The desired structure of the towns of Kadina and Moonta are illustrated on Maps NoYP/1 and NoYP/2 dated 5 July, 1984 and reproduced herein as Figures 7.1 and 7.2.

In each of these areas the majority of the land is not indicated on the maps, or, where shown, either vacant or rural with some minor exceptions only. These exceptions include some railway land, open space land for public purposes or some isolated living.

At this time therefore, the most directly relevant provisions are those applicable to rural development as follows:

- 42 Rural areas should be retained primarily for agricultural and pastoral activities.
- 43 The design, siting and maintenance of buildings and structures in rural areas, should ensure that the natural character and beauty of those areas are maintained.
- 44 Rural land should not be divided unless:
 - (a) the proposed allotment would comprise, and be used as, a property for the business of primary production, which is capable of maintaining a reasonable standard of living for an owner or lessee, without such person having to resort to any other source of income; or
 - (b) the owner of the land:
 - (i) wishes to erect a house for a relative on a proposed allotment not greater than one hectare; and

- (ii) requires a separate title for the proposed house; and
 - (iii) can show that the land is held in a single Certificate of Title which was current on 1 December, 1972; and
 - (iv) can show that the area of land remaining will comprise an independent property for the business of primary production, which is capable of maintaining a reasonable standard of living for an owner or lessee over a reasonably long period of time, without such person having to resort to any other source of income; or
- (c) an owner requires a separate title in respect of each house, for land on which two houses existed, or were under construction, prior to 1 December, 1972 provided:
- (i) one of the proposed allotments is not greater than one hectare; and
 - (ii) the other allotment can be provided to be an independent property for the business of primary production, which is capable of maintaining a reasonable standard of living for an owner or lessee, over a reasonably long period of time, without such person having to resort to any other source of income.

45 Rural industries of a factory-type nature, such as piggeries, chicken hatcheries, dog kennels and other buildings and structures for the shelter of animals, should not be established in areas adjoining country townships where their presence is likely to detract from the amenity of the area, or cause a disturbance to neighbours by their proximity or generation of noise or smell.

Clearly these provisions for the mines areas lack direction and fail to recognise the significance of the mines areas.

7.3.5 The Planning Authorities

Development within the Moonta Mines area is administered primarily by the district council, however, all applications within the State Heritage Area require consultation with the South Australian Planning Commission in accordance with Regulations 23, 24, 25, 26, 27, 28 and 30 of the Regulations under the Planning Act, 1982, as



EXISTING	PROPOSED	
		Living
		Business
		Commercial
		Industrial
		Public Purposes
P		Primary School
S		Secondary School
T		Tourist Accommodation
		Open Space
		Vacant or Rural
		Rural Deferred Living
		Railway Land
		Primary Road
		Secondary Road

Scale 1:20 000
0 metres 400 800



**KADINA
TOWN PLAN
MAP NoYP/1**
5 July 1984

Figure 7.1

**EXTRACT FROM THE
DEVELOPMENT PLAN**



EXISTING	PROPOSED	EXISTING	PROPOSED
Living	Living	Open Space	Open Space
Business	Business	Vacant or Rural	Vacant or Rural
Local Shopping	Local Shopping	Rural (Deferred Living)	Rural (Deferred Living)
Commercial	Commercial	Railway Land	Railway Land
Public Purposes	Public Purposes	Undefined Site	Undefined Site
P	P		
Primary School	Primary School	Primary Road	Primary Road
S	S		
Secondary School	Secondary School		
Tourist Accommodation	Tourist Accommodation		

Scale 1:20000
 0 metres 400 800

**MOONTA, MOONTA BAY
 AND PORT HUGHES
 TOWN PLAN
 MAP NoYP/2
 5 July 1984**

**Figure 7.2
 EXTRACT FROM
 DEVELOPMENT
 PLAN**

amended. The same level of consultation is necessary for a defined area of the Wallaroo Mines as well as other sites and items about the mines. Further, where land is held by lessee or licence, the Crown Lands Act requires approval by the Minister of Lands for any proposal. The process is extensive and onerous on all parties in recognition of the significance of the area. The planning provisions read:

- 23 Except for applications lodged with the Commission under regulation 9(3) of these regulations, a council shall on receipt of an application for consent to undertake development of a kind or in a location prescribed in the Fifth Schedule, forward to the Commission such number of copies of the application form and the plan as the Commission may require, within 7 days of receiving the application.

Commission to forward Applications to Council

- 23A (1) Subject to subregulation (2), following receipt of an application for consent, which is wholly or partly for division of land under regulation 9(3), the Commission shall, within seven days of such receipt, forward to the council the application form, and such reasonable number of copies of the plan of the proposed development as the council may require.
- (2) Where an application is lodged with the Commission under regulation 9(3) being an application to which regulation 47 of these regulations applies, the Commission shall, within seven days of such lodgement, forward to the council a copy of the application form, and such reasonable number of copies of the plan of the proposed development as the council may require.

Commission to Consult Agencies

- 24 On receipt of the required number of copies of the application form and the plan, the Commission may consult any person or agency who or which is, in its opinion, concerned with any aspect of the proposed development or any work or undertaking for the purposes thereof.

Agencies to Report to Commission

- 25 Each of the persons and agencies to whom the application form and the plans are forwarded pursuant to regulation 24 shall examine the application form and the plans and forward a report on them to the Commission within 28 days of the date of receipt. If no report is received by the Commission within the said period of 28 days, the relevant person or agency may be deemed by the Commission to have reported that he or it has no objection to, or comment on, the proposed development.

Contents of Reports by Agencies

- 26 A report forwarded to the Commission pursuant to regulation 52 may contain:
- (a) comment which the council should have regard to when determining the application; or
 - (b) conditions which the council should attach to any consent notice that the council may issue, and which are enforceable under the Act.

Commission to Forward Consolidated Report to Council

- 27 (1) On receipt of all reports forwarded pursuant regulation 25, the Commission shall consider them and if the Commission is satisfied that there is no conflict in the comment or the conditions contained in the reports received, the Commission shall prepare a report containing, in all material respects, the said comment and conditions and forward the report to the council.
- (2) The Commission shall not omit from its report any representation by the Minister under section 48 of the Act which the Minister requests the Commission to forward to the council.

Commission to Resolve Conflict

- 28 If the Commission is of the opinion that the comment or conditions contained in the reports forwarded to it pursuant to regulation 25 conflict in a material respect, the Commission shall take such steps as it considers necessary to resolve the conflict.

Council shall Consult Commissioner of Highways

- 29 (1) A council shall, on receipt of an application to undertake development which, in the opinion of the council, is likely to:
- (a) alter an existing access; or
 - (b) change the nature of movement through an existing access; or
 - (c) create a new access.

to an existing or proposed arterial road or to an existing or proposed primary or primary arterial road, any of which are delineated in the development plan, forward to the Commissioners of Highways a copy of the application and supporting material provided the application is not one which would be forwarded to the Commission pursuant to regulation 23, or which has been received by the Commission pursuant to regulation 23A of these regulations.

- (2) The Commissioner of Highways shall examine the application form and the plans and forward a report to the council which may contain:
- (a) comment which the council should have regard to when determining the application; or
 - (b) conditions which the council should attach to any consent notice that the council may issue.

Council to Await Reports

- 30 (1) A council which forwards an application to the Commission pursuant to regulation 23 or to the Commissioner of Highways pursuant to regulation 29 shall not determine the application until a report has been received from the Commission or the Commissioner of Highways as the case may be.
- (2) If the council receives no report from the Commission within a period of eight weeks from the date of forwarding the required number of application forms and plans pursuant to regulation 23, the Commission shall be deemed to have no report to make on the proposed development.

- (3) If the council receives no report from the Commissioner of Highways within a period of 28 days from the date of forwarding of the required number of application forms and plans pursuant to regulation 29, the Commission shall be deemed to have no report to make on the proposed development.
- (4) Subject to subregulation (5) of this regulation, when a council receives an application from the Commission pursuant to regulation 23A(1), it shall not, for the purposes of section 47(10) of the Act, determine the application until a report has been received from the Commission.
- (5) If the Commission does not report to the council within a period of eight weeks from the date when an application is received by the Commission under regulation 9(3) of these regulations, the council may proceed to determine the application.

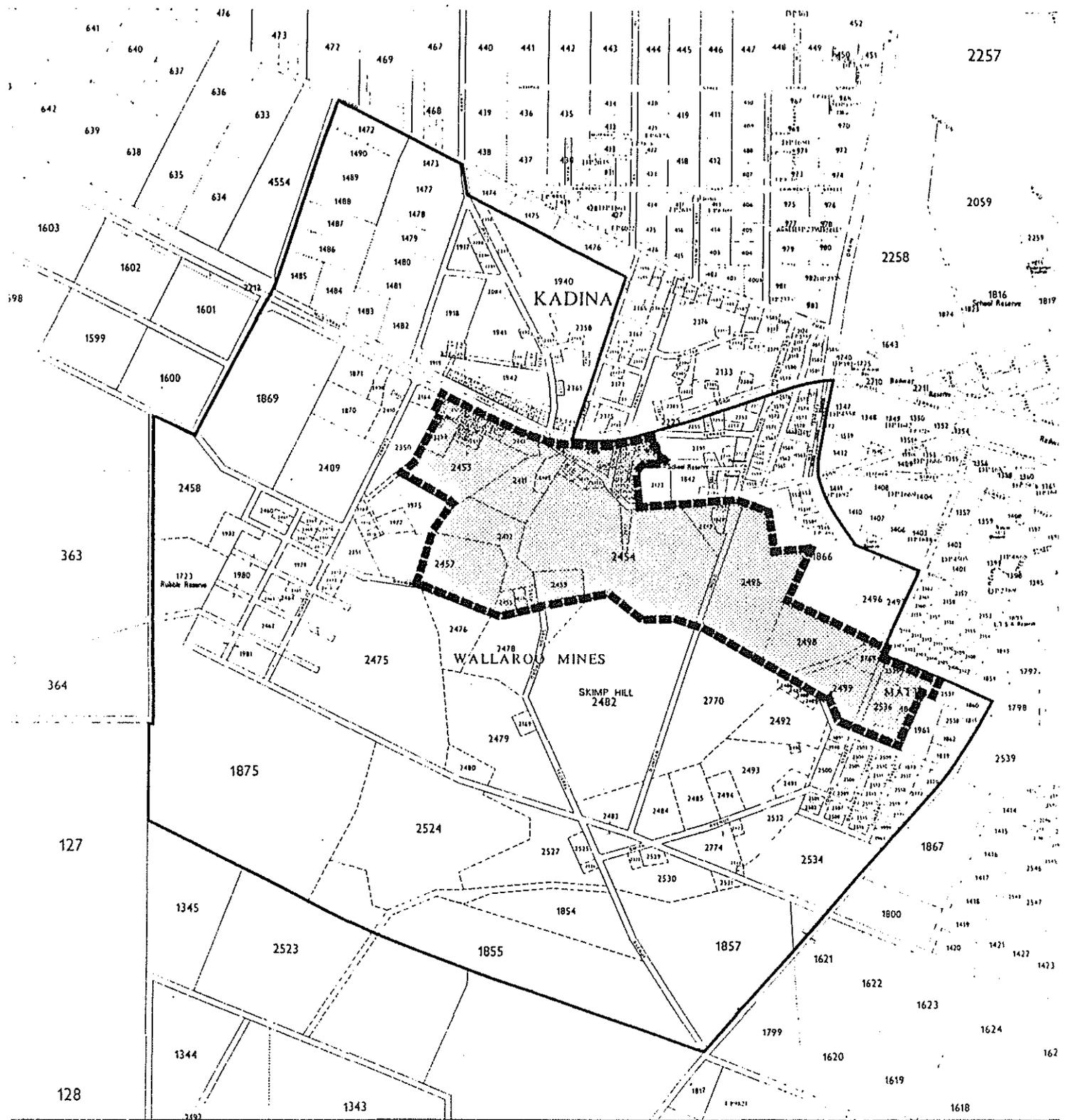
No such level of control exists at Wallaroo Mines. Wallaroo Mines are not able to be defined in the same way as Moonta Mines. The primary area is considerably smaller and has not the same wide distribution of activities mixed together remaining, as is the case at Moonta. For this reason, a discreet mines area can be defined and associated sites surrounding the core can be identified as separate items. The Moonta Mines area has retained a level of homogeneity which has been incorporated within the State Heritage Area which is not possible at the Wallaroo Mines.

The mines at Wallaroo need protection and direction for its future growth and use as provided at Moonta. A State Heritage Area should therefore be established. Recommendations for the designation of a State Heritage Area are shown on Figure 7.4.

7.3.6 Development Plan Amendment

As a consequence of the need to incorporate additional provisions in the planning system to assist in guiding development in these areas, the development plan should be amended to incorporate the necessary control provisions, to educate and guide the public and private sectors in how the area is used and developed and to promote a lively and attractive tourist destination.

The kind of provisions are provided in 8.0, Draft Provisions.



-  State Heritage Area
-  State Heritage Area Boundary
-  Study Boundary

0 20 40 60 80 100 m

Figure 7.4
WALLAROO MINES
PROPOSED
STATE HERITAGE AREA

7.4 STATE HERITAGE ACT

Moonta Mines was declared a State Heritage Area pursuant to the State Heritage Act, 1978 in May 1984. This designation now enables a considerably higher degree of control over activities in the Moonta Mines area which is to date not possible under the Planning Legislation. To date no similar designation has been established for the Wallaroo Mines and therefore considerably less opportunity exists to protect the heritage of the area at this time.

7.5 NATIVE VEGETATION MANAGEMENT ACT, 1985

Under this legislation, consent of the Native Vegetation Authority must be obtained before vegetation is removed. In deciding whether to consent to an application to clear native vegetation, the Authority:

- . must have regard to the relevant provisions of the development plan; and
- . shall not make a decision that is "seriously at variance" with those provisions.

There exist various exemptions from this control. For example, native vegetation may be cleared where it is:

- . incidental to the lawful erection of a building or is within 20 metres of a dwelling;
- . required in an emergency or a potentially dangerous situation;
- . necessary to establish fence lines, fire breaks or tracks;
- . sown or planted by man;
- . associated with mining operations;
- . associated with mining operations authorised under the Mining Act, 1971-1983;
- . regrowth that has occurred following any clearance which took place before 12 May, 1983, but which is no more than five years old. This "regrowth" exemption will cease to apply after 12 May, 1988.

The mines areas have had significant, although not always appropriate, regrowth of vegetation. The areas were extensively cleared during their mining. It is essential to have established an ongoing programme for tree planting and where existing vegetation remains or has re-established, its protection. The public is often not aware of these types of controls.

7.6 WEED AND PEST PLANT CONTROL ACT

7.6.1 History of Commission's Involvement

For nearly ten years the Pest Plants Commission has provided funds to control pest plants on unoccupied Crown land in the Moonta and Wallaroo Mines. Figure 7.1 shows the break up of this expenditure.

The Northern Yorke Peninsula Pest Plant Control Board has been responsible for implementing the necessary control programmes on these areas of land since 1977. Prior to this time, the Department of Agriculture provided funds to the District Council of Kadina to carry out this work.

Programmes which have been implemented include short and long term weed control. Techniques used to give short term control of pest plants included cultivation and spot spraying with herbicides. Cultivation on a regular basis using a disc plough gave reasonable control of pest plants and reduced the risk of fire over the summer period.

However, disadvantages included encouraging further germination of pest plant seeds as well as creating an erosion problem. Negotiating ploughed ground with spot spraying equipment was more difficult than unploughed land.

Considerable money has been spent on removing rubbish. This work was done so that pest plant control work could be carried out more effectively.

The Department of Lands has provided small amounts of money for this work but not on a regular basis. In 1979 an attempt was made by the Northern Yorke Peninsula Pest Plant Control Board and the Pest Plants Commission to involve other departments in the rehabilitation of these areas. Unfortunately this exercise was not successful. However, at this time, control techniques were changed from the use of cultivation and herbicides to slashing and herbicides.

To facilitate the use of a slasher over these areas there was a need to reduce the number of surface rocks which had been produced by the continual ploughing of these areas. A twelve tonne rock roller was used to crush the limestone rocks while iron stone rocks were picked by hand.

The use of the slasher increased the amount of seed set by grasses and allowed the use of selective herbicides to control the broadleaf pest plants such as horehound, false caper and caltrop.

These short term control methods have been used to prepare an area of land to a stage where natural vegetation can be used to provide long term control of pest plants.

Planting trees for long term pest plant control has been practiced in these areas for a long period of time. Several plantations are now fifteen years old and their effect on reducing the amount of annual growth is very evident.

Establishing and maintaining plantations to an age where they require a minimum amount of attention is an expensive and time consuming exercise. Direct seeding of native seed may be a cheaper method of establishing vegetation.

Other benefits from these areas have included increased native bird populations as well as beautifying areas which have been scarred by mining operations.

The historic importance of an area has nearly always been considered before establishing tree plantations. In most instances the species of eucalyptus that have been planted has been of Western Australian origin.

These trees are well known for their flowers and appear to grow extremely well in these areas.

There has been a considerable amount of funds expended in these areas by the Pest Plants Commission and the Department of Agriculture. In many instances the type of work carried out could well have been funded from other state government departments. This would allow Commission funds to be used more effectively on Crown lands or be redeployed to other areas requiring pest plant control.

7.6.2 Responsibilities for Controlling Pest Plants in the Area

The Commission is responsible for pest plant control on unallotted Crown lands.

In this area it has been very difficult to identify the ownership of certain portions of land and the Commission has, in the past, outlayed expenditure on those portions where ownership and responsibility has not been adequately identified.

However, where private ownership can be clearly identified the owner is responsible for pest plant control on the portion of land which he or she owns.

In the case of allotted Crown land the relevant department responsible for the land is responsible for pest plant control. However, under present legislation the Crown is not bound. Under the new Act covering pest plants the Animal and Plant Control Act, which is currently before Parliament, the Crown will be bound.

In summary, in the Wallaroo Moonta Mines area the Commission has taken responsibility for pest plant control on unallotted Crown lands and areas where ownership is open to question. Private landholders are responsible for pest plant control on areas of land that can be clearly identified as belonging to them.

7.6.3 Mechanisms for Ensuring Control is Carried Out

Pest plant control is the responsibility of pest plant control boards in the district council areas for which they are responsible.

The general mechanism for pest plant control on unallotted Crown lands and roadsides adjoining Crown land is that the Commission allocates an agreed sum of money to the pest plant control board responsible for the general area in any particular year to carry out the work.

Since 1977/78 the Commission has allocated monies to the Northern Yorke Peninsula Pest Plant Control Board for pest plant control work on unallotted Crown lands and portions of land whose ownership is in doubt in the Wallaroo Moonta Mines area.

Under the provisions of the Pest Plants Act, 1975, the Board has directed private landholders to carry out pest plant control work on areas for which they are responsible, or the board has carried out the work and charged the relevant landholders.

7.6.4 The Commission's Role in the future in the Moonta/ Wallaroo Mines Area

The Commission will continue to fund pest plant control on areas for which it has a legal responsibility - unallotted Crown lands - and areas for which ownership is open to doubt. It is generally agreed that the measures that have been taken to control pest plants have included activities that have markedly increased the economic and social value of the land that has been treated.

However, it is likely that the rate of treatment of the land (and its associated rehabilitation) will be reduced in the future due to financial strictures on the Commission and allocation of funds to higher priority work.

With the intent for reduced Crown ownership and control of land, the extent of the Commission's responsibilities in these areas will diminish over time.

7.7 CONCLUSION

Although not all of these facets of legislation are directly linked to one another, all play a significant role in the overall maintenance improvement and development of the mines areas. Rather than the continued piecemeal approach taken over the past years by the various authorities, it is of considerable benefit to undertake a co-ordinated approach to the activities in the mines areas. Through a co-ordinating body and with the sale of selected land presently held by the Crown, a more economic efficient and possibly reduced role in the long term will be demanded of various responsible bodies.

8.0 Development Plan

8.1 INTRODUCTION

The development plan requires amendment to ensure the future of the mines areas are adequately protected. Further, to provide direction to the public in their understanding of the likely kind of development anticipated for these areas, a supplementary development plan identifying the various policy areas should be incorporated as a primary step in the management of the area. The following provides draft provisions which may be considered appropriate as part of that supplementary development plan.

8.2 ARRANGEMENT

The areas of the Moonta and Wallaroo Mines should be incorporated into heritage zones with general provisions relating to heritage, form of development, land division and the like applicable to both zones within which there are numerous precincts. The following forms the basis upon which the zones and the precincts within the zone should be established.

8.3 DRAFT PROVISIONS

Moonta and Wallaroo Mines Heritage Zones

The Moonta Mines Zone incorporates the State Heritage Area and the associated buffer. There are numerous distinct historically functional parts to the whole which together provide an integrated and diverse heritage based tourism resource. These parts are described as precincts and have particular objectives and principles which apply. There are also objectives and principles which apply to the whole of the zone. Together these form a comprehensive mechanism to guide the public and authorities in decisions on planning and development.

Wallaroo is not an area yet designated as a State Heritage Area, however it has similar needs to that of the Moonta area. They differ in as much as the mines area is considerably more compact.

Objective 1: Protection of the historic and cultural significance of the Moonta Wallaroo Mines Heritage Zone.

Objective 2: Conservation of areas and items of heritage significance, including sites, landscapes, buildings, structures and remains which are of aesthetic, historic, scientific, architectural or cultural value.

Objective 3: Conservation of the distinctive character of the Moonta Mines Heritage Zone.

Objective 4: Public awareness, appreciation and interpretation of the zone.

Objective 5: Provision of accommodation, attractions, and other facilities which promote the heritage of the zone and district.

Principles

Form of Development

- 1 Housing and other urban development should:
 - (a) form a compact and continuous extension of an existing built up area;
 - (b) be located in order to achieve economy in the provision of public services; and
 - (c) create a safe, convenient and pleasant environment in which to live.
- 2 Extensions of built-up areas should not be in the form of ribbon development along roads, particularly the entries to townships.
- 3 Development in localities having a bad or unsatisfactory layout, or unhealthy or obsolete conditions, should be improved or rectified.
- 4 Development in localities dominated by the 19th and early 20th century development, should be in sympathy with the historic character of these areas.
- 5 Development should comprise roofs consistent with the form of 19th century and early 20th century development which was simple with regular shapes, roofs were pitched at 22.5 degrees or steeper, either gable or hip in design with verandah roofs much shallower.

- 6 Development should not dominate, but be compatible with the existing built form, or that which it proposes to replace, and the scale and mass of surrounding development.
- 7 The use of materials in development should have regard to the appearance of early development, including:
 - (a) walls and cladding should be layered or tuck pointed stonework, cement render or bagged (not heavily patterned), earth toned or rustic brickwork or weatherboard;
 - (b) roofs should be finished with corrugated iron, corrugated fibrous material, timber shakes, shingles or slate;
 - (c) building trims including verandahs and balustrades should be constructed of timber;
 - (d) fencing should be constructed of stone, wood picket or paling, decorative wire mesh, iron picket, timber lattice or painted galvanised iron;
 - (e) external colours of buildings should be earth tones in sympathy with the existing rustic character.
- 8 No development should be undertaken using cream or multicoloured external finishing materials.
- 9 Development of, or in proximity to, areas or items of heritage significance, subject to the South Australian Heritage Act, 1978 should have regard to:
 - (a) the existing character and appearance of the area or item and the contributions such area or item makes to the historic character of the locality;
 - (b) the design, construction materials, colours and appearance so as not to detrimentally affect the historic character and appearance of the area or item.
- 10 Where development results in the demolition, removal or loss of an area or item subject to the South Australian Heritage Act, 1978, such development should conform in appearance and character with the historic character of the buildings and structures on the allotment or in the area.

Land Division

- 11 Land should not be divided:
 - (a) in a manner which would prevent the satisfactory future division of the land, or any part thereof;
 - (b) if the proposed use, or the establishment of the proposed use, is likely to lead to undue erosion of the land or land in the vicinity thereof;
 - (c) unless wastes produced by the proposed use of the land, or any use permitted by the principles of development control, can be managed so as to prevent pollution of a public water supply or any surface of underground water resources;
 - (d) if the size, shape and location of, and the slope and nature of the land contained in each allotment resulting from the division is unsuitable for the purpose for which the allotment is to be used;
 - (e) if any part of the land is likely to be inundated by floodwaters and the proposed allotments are to be used for a purpose which would be detrimentally affected when the land is inundated;
 - (f) where community facilities or public utilities are lacking or inadequate;
 - (g) where the proposed use of the land is the same as the proposed use of other existing allotments in the vicinity, and a substantial number of the existing allotments have not been used for that purpose; or
 - (h) if it would cause an infringement of any provisions of the Building Act or any by-law or regulation made thereunder.
- 12 When land is divided:
 - (a) any reserves or easements necessary for the provision of public utility services should be provided;
 - (b) stormwater should be capable of being drained safely and efficiently from each proposed allotment and disposed of from the land in a satisfactory manner;

- (c) a water supply sufficient for the purpose for which the allotment is to be used should be made available to each allotment;
- (d) provision should be made for the disposal of waste waters, sewage and other effluents from each allotment without risk to health;
- (e) roads or thoroughfares should be provided where necessary for safe and convenient communication with adjoining land and neighbouring localities;
- (f) each allotment resulting from the division should have safe and convenient access to the carriageway of an existing or proposed road or thoroughfare;
- (g) proposed roads should be graded, or be capable of being graded to connect safely and conveniently with an existing road or thoroughfare;
- (h) for urban purposes, provision should be made for suitable land to be set aside for usable local open space; and
 - (i) the land borders a river, lake or creek, the land immediately adjoining the river, lake or creek should become public open space.

Movement of People and Goods

- 13 Development and associated points of access and egress should not interfere with the free flow of traffic on adjoining roads.
- 14 Development should include appropriate provision on the site to enable the parking, loading, unloading, turning and fuelling of vehicles.

Commercial and Industrial Development

- 15 Industrial or commercial use of land should be operated during such hours so as not to cause nuisance to adjoining landowners.
- 16 Noise levels generated by an industrial or commercial activity outside the site of that activity should not exceed the level of noise already present in a locality.

Public Utilities

- 17 Development should not be undertaken which would lead to the pollution of water catchment areas.
- 18 Public services and facilities should be undergrounded where practicable.
- 19 Development should be connected, or be able to be connected, to constructed roads and public utilities (such as water supply, effluent, drainage, electricity supply, lighting and telephone services) likely to be required by the user of the development with the costs being paid by the developer.
- 20 Urban development should be capable of economic servicing for garbage collection, fire protection and street lighting.
- 21 A water supply adequate for domestic use and fire control should be available to the site of any development.
- 22 The treatment and disposal of effluent and other waste material from any development or use of land should, having regard to the location and design of that development or use, be able to be achieved without risk to health or impairment to the environment.
- 23 There should be an area of land between any site of effluent disposal works and adjacent areas used or intended to be used for urban development or isolated dwellings, of such size and proportions as will insulate that adjacent land from any significant effects of odour or risk to health resulting from the effluent treatment works.

Mining

- 24 The overall benefit to the community from the minerals produced, and from the planned after-use of the site, should outweigh the loss of amenity and other resources resulting from the mining operation.
- 25 Where a site contains minerals of the necessary quality and that for reasons of location, quality or other factors no practical alternative source is available, it should not be prejudiced by other forms of development.
- 26 The proposed operation should maximise the utilisation of the resource but minimise its adverse impacts.

- 27 A sufficient area of land, vegetation or mounding should be established between any site of mining operations and areas for other uses so as to protect those uses from any adverse affect of the mining operations.
- 28 Mining operations should be conducted in accordance with a development and reclamation programme approved by the appropriate authority and which:
- (a) ensures that danger or unreasonable damage or nuisance does not arise from the workings of any operations conducted therein;
 - (b) provides for progressive reclamation of disturbed areas, taking into account the appropriate after-use of the worked-out area;
 - (c) provides for the removal of buildings, plant, equipment, rubbish and litter when operations are completed; and
 - (d) renders the site safe for future occupiers or users.
- 29 An after-use appropriate to the site and location should be established on the completion of mining operations.

Conservation

- 30 Development should have the minimum effect on natural features, land adjoining water, scenic routes or scenically-attractive areas.
- 31 Development should not impair the character or nature of buildings or sites of architectural, historical, archaeological or scientific interest or sites in natural beauty.
- 32 Roadside vegetation should be preserved wherever possible, and replanting should take place wherever practicable.
- 33 Power and telephone lines should be located in order to preserve roadside vegetation and placed along the inside of fences wherever practicable.
- 34 Trees or groups of trees of historical, local or visual significance should be conserved.
- 35 Where trees are felled, replanting of appropriate species should be undertaken.

- 36 Native vegetation should not be cleared if it:
- (a) provides important habitat for wildlife;
 - (b) has a high plant diversity or has rare or endangered species and plant associations;
 - (c) has high amenity value;
 - (d) contributes to the landscape quality of an area;
 - (e) has high value as a remnant of vegetation associations characteristic of a district or region prior to extensive clearance for agriculture;
 - (f) is associated with sites of scientific, archaeological, historic or cultural significance; or
 - (g) is growing in, or is characteristically associated with the Moonta Mines environment.
- 37 Native vegetation should not be cleared if such clearance is likely to:
- (a) create or contribute to soil erosion;
 - (b) decrease soil stability and initiate soil slip;
 - (c) create or contribute to, a local or regional soil salinity problem;
 - (d) lead to the deterioration in the quality of surface waters; or
 - (e) create or exacerbate the incidence or intensity of local or regional flooding.
- 38 When clearance is proposed, consideration should be given to:
- (a) retention of native vegetation for, or as:
 - (i) corridors or wildlife refuges;
 - (ii) amenity purposes;
 - (iii) livestock shade and shelter; or
 - (iv) protection from erosion along watercourses and the filtering of suspended solids and nutrients from runoff;

- (b) the effects of retention on farm management; and
- (c) the implications of retention or clearance on fire control.

Heritage

- 39 Sites of heritage significance should be conserved and protected.
- 40 Development in close proximity to items or sites of heritage significance should not adversely affect such items, but where possible, complement them and not visually detract from them, or otherwise adversely impact on them.
- 41 Development of buildings, structures or sites of heritage significance should be compatible with maintaining and conserving that significance in terms of its structural, visual, material and historic integrity.
- 42 Development should not result in damage to, demolition of, destruction of, or be in anyway detrimental to a building, structure or site of heritage significance, subject to the South Australian Heritage Act, 1978.

Appearance of Land, Buildings and Objects

- 43 The appearance of land, buildings and objects should not impair the amenity of the locality in which they are situated.
- 45 Development should be designed in respect to its size, colour, form, siting, architectural style, construction, materials and finishes, having regard to the desired character of the area or locality as described by the objectives for the area or the predominant character of other buildings in the area or locality, including that of historical significance or heritage value.
- 45 Development should take place in a manner which will not in respect of its appearance, interfere with the desired character described by the objective for the or otherwise, the existing character of scenically or environmentally important areas, including areas which are prominent and visible from other land or are frequented by the public.
- 46 Development should incorporate landscaping which would be effective in screening:

- (a) future excavation and earthworks, including cutting and filling of natural surfaces, quarrying and stockpiling of excavated materials;
 - (b) new buildings; and
 - (c) views of other development which is or is likely to become unsightly.
- 47 Excavations and earthworks should take place in a manner that would not be extensively visible from surrounding localities.

Outdoor Advertisements

- 48 Signs should:
- (a) comprise typefaces, colours, sizes and forms consistent with the simple, clear and symmetrical form used in the 19th and early 20th centuries, including Roman, Berling, Clarendon, Grotesque and Helvetica;
 - (b) be located on buildings at the point of connection between the verandah and main building or applied directly to, or hung from the gables or facades of verandahs or main buildings.
- 49 Free standing mobile signs should be displayed only on footpaths immediately abutting the activity to which it relates.
- 50 Signs should not be flashing, animated, revolving, oscillating, exposed neon tube, paper or cardboard.

Setbacks

- 51 Building setbacks should generally be consistent with the siting of adjoining development and not detract from the character, amenity or safety of the locality.
- 52 Development should be sited in line with, or set back from adjoining development, as well as maintaining the prevailing pattern of side set backs.

MOONTA MINES

Yelta Slimes Precinct 10

The precinct incorporates all of the slimes dams on Sections 2050 and 2775, the northern boundary being the Kadina Road and the southern boundaries of Sections 2600, 2601, 2602, 2603, 2604, 2605 and 2606. The eastern boundary is the unnamed road to the east of the slimes, the southern boundary is the disused Australian National rail reserve, and the western boundary extends in a straight line along the canal system of the precipitation works from the Kadina Road to the Australian National rail reserve.

Objective 1: Preservation of the open character of the precinct.

Objective 2: An area with visual public access only.

Principle

- 1 All kinds of development are prohibited in the precinct except for those works associated with the conservation of heritage resources.

Richmans Precinct 3

The precinct incorporates Richmans Engine House and Plant ruins, the two dominant tailings heaps, and slimes dams and ore floors. The northern boundary is Ryans Road and the unnamed road adjoining Warmington Road which road forms the eastern boundary. The southern boundary follows the north western boundary of Section 1909 to south of Richmans Engine House, whilst the western boundary is a straight line enclosing the tailing heaps and the engine house and extending from Ryans Road to a point south of the engine house.

The precinct also incorporates a range of heritage resources, including:

Richmans Engine House and Plant ruins
Warmington Shaft
Stuckeys Shaft
Stirlings Engine House site
Richmans Tailings Heaps No. 1 and No. 2 and Slimes Area

Objective 1: An area dominated by the tailings heaps and Richmans Engine House and Plant ruins.

Objective 2: An area in which public access is maintained and controlled.

Principles

- 1 No development should prejudice the dominant character of the tailings heaps and Richmans Engine House.
- 2 All kinds of development are prohibited in the precinct except those works associated with the conservation of, and controlled public access to heritage resources.

Taylor's Precinct 4

The precinct incorporates Taylor's Engine House and ruins, Taylor's Shaft and other features comprising Taylor's Plant. The northern boundary is Warmington Road, the south eastern boundary is the south eastern boundary of Section 1909, south to Duncan Street, following Duncan Street in a dog leg to Verran Terrace.

Verran Terrace forms the southern most boundary and the north western boundary is coincident with a part of the north western boundary of Section 1909 which extends between Warmington Road and Verran Terrace. At the point just south of Richmans Engine House, the boundary runs to a point just west of the access road to Hughes Pump House.

Objective 1: Preservation of the open character of the northern portion of the precinct.

Principle

- 1 All kinds of development are prohibited in the precinct except works associated with the conservation of, and controlled public access to heritage resources.

Mine Management Precinct 12

The precinct incorporates the mine office ruins, mine store ruins, manager's house ruins, police station site and the mines recreation grounds. The precinct is within the heart of the mines areas, and abuts the Ryans slime dam to the north east, and Taylor's precinct to the south east. The northern boundary extends to include Section 2850 and then in a north easterly direction to meet the north eastern boundary at the Ryans Slimes Dam.

Objective 1: A precinct comprising the major focus for tourist activities of the Moonta Mines.

Objective 2: Conservation, including redevelopment of the mine, manager's residence, office and store facilities to provide for tourist accommodation and associated tourist activities on Section 2670.

Objective 3: Preservation of the open space areas to the north of Verran Terrace.

Principles

- 1 Development should not prejudice the open space character of the precinct to the north of Verran Terrace.
- 2 Development should comprise tourist accommodation and interpretative facilities in Section 2670 based on the form, scale and features of the former mines office and store.
- 3 Development should be compatible with the historic character, streetscape and built form of the precinct.
- 4 Redevelopment of buildings should reconstitute their former character to enhance the historic integrity of the precinct.
- 5 External finishes, materials and colours of structures should be similar to those originally used for the buildings in the precinct.
- 6 The following kinds of development are prohibited in the mine manager's precinct:

Abattoir	Light Industry
Agistment and Holding of Stock	Major Public Service Depot
Amusement Hall	Marshalling Yards
Auction Room	Motor Repair Station
Billiard Saloon	Motor Showroom
Bowling Alley	Permanent Sewage Treatment Plant
Builders Yard	Petrol Filling Station
Bus Depot	Refuse Destructor
Bus Station	Reservoir
Caravan Park	Road Transport Terminal
Cemetery	Service Industry
Concert Hall	Shop or group of shops with a gross leasable area greater than 450m ²
Crematorium	Skating Rink
Dance Hall	Special Industry
Defence Establishment	Squash Court
Electricity Generating Station	Stock Saleyard
Exhibition Hall	Stock Slaughterworks
Fire Station	Store
Fuel Depot	

Gas Holder	Theatre
General Industry	Timber Yard
Industry	Transmitting Station
Intensive Animal Keeping	Used Car Lot
Junk Yard	Warehouse
	Waterworks

Hughes Precinct 5

The precinct incorporates Hughes Engine House and Chimney and a range of heritage resources, including Elders and Truers Engine House ruins, Workshop site, Stables site, Warmington Duncan and Bennett Shafts sites and others. The north eastern boundary runs along Verran Terrace abutting Sections 2687 and 2715, whilst the western boundary runs along Karkarilla Road abutting Sections 2687 and 1903. The whole of Sections 1903, 2687, 1844 and 2715 are enclosed to the south and east representing also the State Heritage Area boundary.

Objective 1: Preservation of the open character of the precinct, dominated by the Hughes Engine House and Chimney.

Objective 2: An area in which public access is maintained and controlled.

Principles

- 1 No development should prejudice the dominance of the Hughes Engine House and Chimney.
- 2 No development should prejudice the open space character of the precinct.
- 3 All kinds of development are prohibited in the precinct except works associated with the conservation of, and controlled public access to heritage resources.

Hamley Precinct 6

This precinct incorporates the Karkarilla and Hamley mine sites and also includes a number of dwellings. The precinct is confined between Truer Street in the north east to Karkarilla Road, then in the south east along Karkarilla Road to the south corner of Section 2751. The south western boundary runs along Hamley Hill Road up to Section 2749 then south to an unnamed road and west and

south along the boundary of Section 1472 to the Moonta-Maitland Road up to Section 2745. The north western boundary extends from the Moonta-Maitland Road north east excluding Section 2745, but then along the unnamed road to Truers Road.

Objective 1: A precinct with a predominantly rural and open character containing a defined and protected mines ruins core.

Principles

- 1 Development should comprise only essential facilities associated with the agricultural pursuits of the precinct.
- 2 Development should not detract from the open character of the precinct.
- 3 Development associated with agricultural pursuits of the precinct should be:
 - (a) sited and designed to be unobtrusive;
 - (b) constructed of materials which blend with the landscape;
 - (c) constructed of materials which complement the building materials of the period 1861-1923; and
 - (d) consistent in form, scale, fenestration and fencing to the original built character.

Hancocks Precinct 7

The precinct incorporates the industrial sites around Hancocks Tailing Heap and also include some residences. The heritage resources include Hancocks, Bowers and Beddomes Engine House ruins, Hancocks Tailing Heap, Attle Heaps, Greens, Fergusons, Simpsons, Beddomes, Lloyds, Munograves and Prince Alfred Shafts, Tanks, Brick Kiln ruins and Ore Floors.

The northern boundary to Verran Terrace from Section 2788 up to Section 2805. The eastern boundary follows the western sides of Sections 2803, 2804 from Verran Terrace then a straight line to Section 2810 then turning south east to the south western corner of Section 120 then south to Section 2856 then eastward along the northern boundary of Sections 2856, 2857, 2129, 2858, 2859 and 2680, then south along the unnamed road to Truers Street up to and

including Sections 2202, 2045 and 2168. The western boundary then follows the western sites of Section 168, 2244, 2863 and 1852 then enclosing the Recreation Reserve on Sections 1795, to rejoin Verran Terrace.

Objective 1: A precinct dominated by the Hancocks Tailings Heap.

Objective 2: Conservation of the historic residential enclosure to the north west of the Hancocks Tailing Heap.

Objective 3: Large areas of rural and recreational open space.

Principles

- 1 No development should prejudice the dominance of Hancocks Tailing Heap.
- 2 No development should prejudice the historic character of the residential enclave to the north west of Hancocks Tailing Heap.
- 3 No development should prejudice the open space character of the rural or recreation areas in the precinct.
- 4 All kinds of development are prohibited in the precinct except those works associated with the conservation of, and controlled public access to heritage resources.

Ryans Precinct 11

The precinct incorporates the Ryans Tailing Heap and the extensive industrial remains including Ryans and Youngs Engine House sites, Ryans Tunnel, Line Kiln site, Assay Office ruins, Ryans, McDonnells, Harveys, Youngs and Dominicks Shafts, Clarifying Pits, Attle Heaps Drains, Slimes Area, Stone Retaining Walls, Reservoir and Explosive magazine.

The northern boundary is defined by the Australian National railway reserve, to the north east by the Richmans Heaps, to the south by the Mines Management Precinct and the northern boundaries of the National Trust Reserve of Section 1962 and Sections 2849 and 2848. The south western boundary then runs along Verran Terrace to incorporate the Depot Reserve Section 184.

Objective 1: An open undeveloped precinct in which the industrial ruins and remnants are preserved and conserved.

Objective 2: An area in which public access is maintained and controlled.

Principles

- 1 No development should be undertaken which would prejudice the maintenance of an open undeveloped precinct.
- 2 No expansion of the depot activities should occur.
- 3 Controlled public access by road, rail and pedestrian trails should be provided into and through the precinct.
- 4 All kinds of development are prohibited in the precinct except works associated with the conservation of, and controlled public access to heritage resources.

Moonta Station Precinct 8

The precinct comprises the Moonta Railway Station and associated facilities, including goods shed, railway yard, waiting room and toilets and crane. The area is small and is bound to the north west by the Moonta-Kadina Road, the north east by the entire length of an unnamed road extending from the Kadina Road. The south western boundary extends along the south western sides of Sections 1820 and 2905 and the south eastern boundary, the south eastern end of Sections 1701 and 1820.

Objective 1: A gateway to the Moonta Mines facilities providing a range of tourist related facilities.

Objective 2: A redeveloped precinct in the form of the original railway station.

Principle

- 1 Development should be confined to the conservation of the railway station to function as a gateway to the Moonta Mines.

- 2 The following kinds of development may be appropriate within the railway station building:

Cafe/restaurant;

Shop, for the sale of art, craft, souvenirs and food stuffs and related matter primarily to service the tourist population;

Office for the administration of tourist facilities and activities.

Precipitation Works Precinct 9

This precinct incorporates the tanks, wash and dry house, pump house and reservoir of the precipitation process.

The land is contained by the Kadina Road to the north west from Section 2888 to the end of Section 1907. The eastern boundary is the eastern boundary of Section 1907. The southern boundary is the Australian National rail reserve and the south western boundary of Section 1778.

Objective 1: An open precinct comprising conserved heritage resources.

Objective 2: Controlled public access, by rail, and pedestrian trail.

Principle

- 1 All kinds of development are prohibited in the precinct except those works associated with the conservation of, and controlled public access to, heritage resources.

Moonta Residential Precinct 13

There are two main collections of residential buildings which warrant inclusion into functional areas as part of the total Moonta Mines Heritage Zone. These are at Moonta Mines and North Yelta. The Moonta Mines Residential Precinct is bound by Karkarilla Road to the east down to Truers Road. The southern boundary is Truers Road north to the public road along the north of Sections 2129, 2680, 2859, 2858, 2857 and 2856. The western boundary then coincides with the boundary of Hancocks Precinct up to Verran Terrace. The precinct extends over Verran Terrace to include Sections 2848 and 2849. The north eastern boundary then follows Verran Terrace to Section 2670 then to the south of

Section 2670 to Karkarilla Road. This precinct incorporates the residential area of the Moonta Mines area, including the Wesleyan Methodist Church and hall and 45 of the original cottages and houses.

The North Yelta Residential Precinct comprises primarily a ribbon of miners cottages along the Kadina Road. The precinct is bound in the south by the rear of the allotments fronting the Kadina Road extending from Section 2606 in the west to Section 2620 in the east, except a southerly extension along Ryan Road south to include Sections 2612, 2613, 2614 and 2615. The north side of the North Yelta is more extensive and is bound by the southern boundaries of Sections 2052, 2047, 1982, 2334, 1926, 1925, 2590 and 2777.

Objective 1: Residential development sympathetic with the character of the miners cottages and houses.

Principles

1 Development should be primarily residential development.

2 Development should have regard to:

- (a) the design;
- (b) siting;
- (c) intensity;
- (d) building materials and finishes;
- (e) scale, form and character;

of the residences of the late 19th and early 20th century.

3 The following kinds of development are prohibited in the Residential Precinct:

Abattoir	Major Public Service Depot
Amusement Hall	Marshalling Yards
Auction Room	Motor Repair Station
Billiard Saloon	Motor Showroom
Bowling Alley	Permanent Sewage Treatment Plant
Builders Yard	Petrol Filling Station
Bus Depot	Refuse Destructor
Bus Station	Reservoir
Caravan Park	Road Transport Terminal
Cemetery	Service Industry
Concert Hall	Shop or group of shops with a gross leasable area greater than 450m ²
Crematorium	
Dance Hall	
Defence Establishment	

Electricity Generating Station	Skating Rink
Exhibition Hall	Special Industry
Fire Station	Squash Court
Fuel Depot	Stock Saleyard
Gas Holder	Stock Slaughterworks
General Industry	Store
Industry	Theatre
Intensive Animal Keeping	Timber Yard
Junk Yard	Transmitting Station
Light Industry	Used Car Lot
	Warehouse
	Waterworks

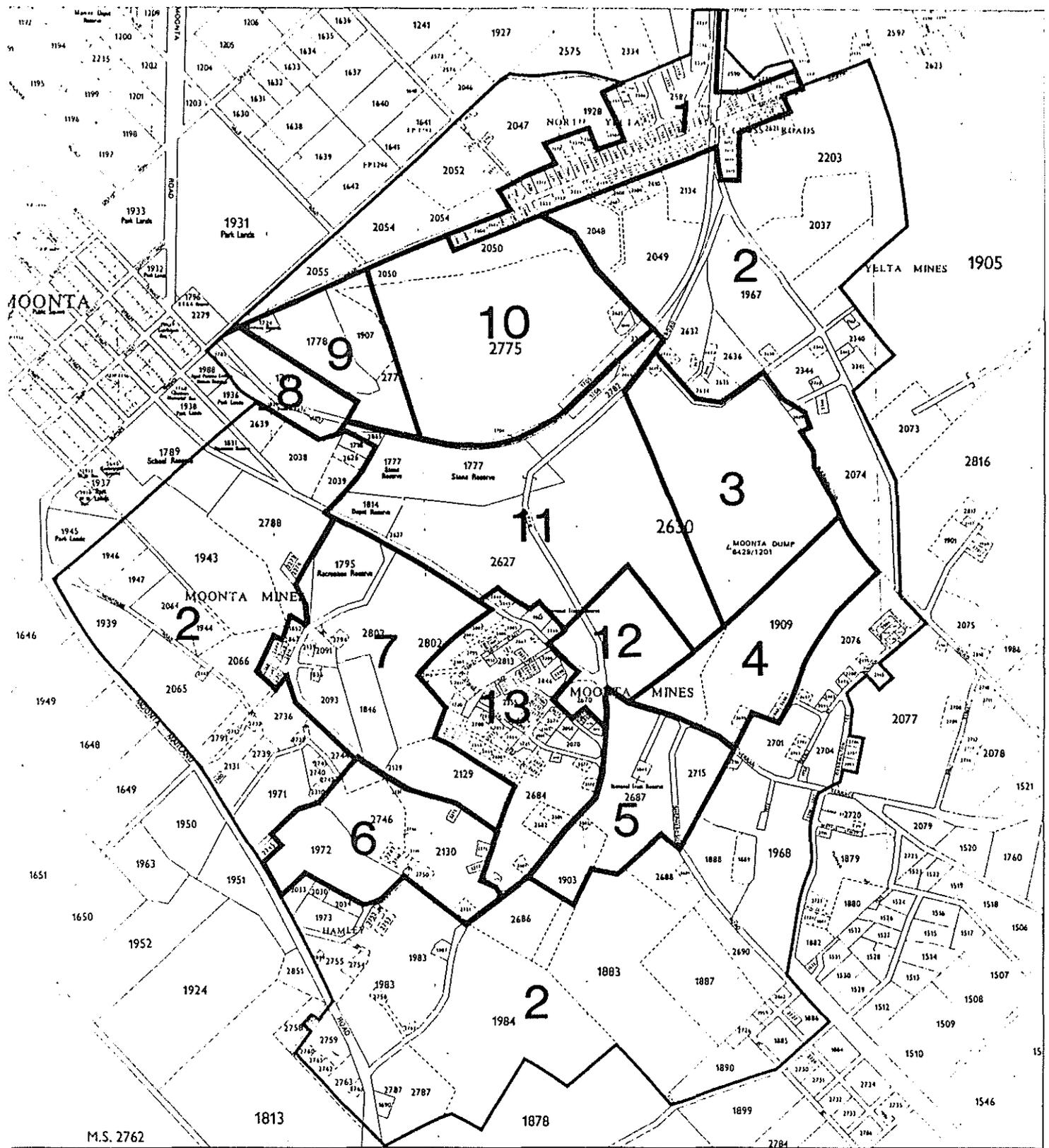
Moonta Mines Buffer Precinct 2

The Buffer Precinct incorporates all of that land outside of the State Heritage Area and extending to the study area boundary. This buffer is rural in nature and comprises a number of dwellings set generally within larger holdings. To ensure the maintenance of a transition between non historic mine related uses and activities, a buffer precinct should be maintained.

Objective 1: An open rural precinct contrasting with the core heritage precincts.

Principles

- 1 Development should retain the open rural character of the precinct.
- 2 Land division should only occur where such division results in either the rationalisation of existing anomalies in boundary alignments or where the division results in the amalgamation and consolidation of land.
- 3 Development should comprise only essential facilities associated with agricultural pursuits of the precinct.
- 4 Development should be:
 - (a) sited and designed to be unobtrusive; and
 - (b) constructed of materials which blend with the landscape.
- 5 No development should compromise the conservation and interpretation of heritage resources.



Precincts

- 1 Yelta Cross Roads Residential
- 2 Mines Buffer
- 3 Richman
- 4 Taylors
- 5 Hughes
- 6 Hamley
- 7 Hancocks
- 8 Moonta Station
- 9 Precipitation Works
- 10 Yelta Slimes
- 11 Ryans
- 12 Mine Management
- 13 Mines Residential

Precinct Boundary
 Study Boundary

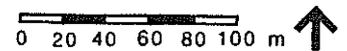


Figure 8.1
MOONTA MINES
HERITAGE ZONE
PRECINCTS

WALLAROO MINES

Kadina Residential Precinct 1

The precinct comprises two residential groupings, the first of which incorporates the area extending south of the railway line to Lipson Avenue, and from West Terrace in the east to the school reserve and including the bowling club to the west. The second and larger area comprises the land to the north of Musgrave Terrace and the railway line extending north to the rear property line of those properties abutting Port Road east of Lipson Road.

Objective 1: Residential development sympathetic with the character of development established in the precinct in the late 19th and early 20th century.

Principles

- 1 Development should be primarily residential.
- 2 Development should have regard to:
 - (a) the design;
 - (b) siting;
 - (c) building materials and finishes;
 - (d) scale, form and character;

of development established in the precinct in the late 19th and early 20th century.

- 3 The following kinds of development are prohibited in the Kadina Residential Precinct:

Abattoir	Marshalling Yards
Amusement Hall	Motor Repair Station
Auction Room	Motor Showroom
Billiard Saloon	Permanent Sewage Treatment Plant
Builders Yard	Petrol Filling Station
Bus Depot	Refuse Destructor
Bus Station	Reservoir
Caravan Park	Road Transport Terminal
Cemetery	Service Industry
Crematorium	Shop or group of shops with a gross leasable area greater than 100m ²
Defence Establishment	Skating Rink
Electricity Generating Station	Special Industry
Exhibition Hall	Squash Court
Fire Station	Stock Saleyard
Fuel Depot	
Gas Holder	

General Industry	Stock Slaughterworks
Industry	Store
Intensive Animal Keeping	Theatre
Junk Yard	Timber Yard
Light Industry	Transmitting Station
Major Public Service	Used Car Lot
Depot	Warehouse
	Waterworks

Cornish Village Precinct 2

The Cornish Village Precinct 2 comprises two groups of buildings established during the developing period of the mine. The smaller group located on the south side of Newland Terrace were mine managers' residences of substantial proportion. The larger group to the east of Stirling Terrace were used for a range of residential, commercial and community purposes. These buildings are generally more modest than the mine managers' properties and in many cases are in the form of semi-detached dwellings. In the north western sector of the precinct is Newland Reserve, recreation area upon which was a rotunda. The further intrusion into this reserve is the former institute building.

Objective 1: A village atmosphere comprising dwellings and associated community buildings for residents, tourist accommodation and related services.

Objective 2: Development sympathetic with the character of development established in the precinct in the late 19th and early 20th century.

Principles

- 1 Development should enhance the village atmosphere of the precinct.
- 2 The scale and form of development should be consistent with the scale and form of the early development of the precinct.
- 3 Non residential development in the precinct should comprise residential, interpretative, community and tourist related activities.
- 4 The following kinds of development are prohibited in the Cornish Village Precinct:

Abattoir	Marshalling Yards
Amusement Hall	Motor Repair Station
Auction Room	Motor Showroom

Billiard Saloon	Permanent Sewage Treatment Plant
Bowling Alley	Petrol Filling Station
Builders Yard	Refuse Destructor
Bus Depot	Reservoir
Bus Station	Road Transport Terminal
Caravan Park	Service Industry
Cemetery	Shop or group of shops with a gross leasable area greater than 450m ²
Concert Hall	Skating Rink
Crematorium	Special Industry
Dance Hall	Squash Court
Defence Establishment	Stock Saleyard
Electricity Generating Station	Stock Slaughterworks
Exhibition Hall	Store
Fire Station	Theatre
Fuel Depot	Timber Yard
Gas Holder	Transmitting Station
General Industry	Used Car Lot
Industry	Warehouse
Intensive Animal Keeping	Waterworks
Junk Yard	
Light Industry	
Major Public Service Depot	

Mines Buffer Precinct 3

This precinct comprises the open areas primarily used for agricultural pursuits about the core area of the mines described as Mines Industry Precinct 6. This area is extensive to the south and to the west incorporating the division of Jericho, the skimps to the south and the open area north of Musgrave Terrace to Port Road. Further, a smaller area of open land lies to the east separating the Mines Industry Precinct from a well developed industrial area of Kadina.

Objective 1: A open rural precinct contrasting with the core heritage precincts.

Principles

- 1 Development should retain the open rural character of the precinct.
- 2 Land division should only occur where such division results in either the rationalisation of existing anomalies in boundary alignments or where the division results in the amalgamation and consolidation of land.

- 3 Development should comprise only essential facilities associated with agricultural pursuits of the precinct.
- 4 Development should be:
 - (a) sited and designed to be unobtrusive; and
 - (b) constructed of materials which blend with the landscape.
- 5 No development should compromise the conservation and implementation of heritage resources.
- 6 The following kinds of development are prohibited within the Mines Buffer Precinct:

Abattoir	Marshalling Yards
Amusement Hall	Motor Repair Station
Auction Room	Motor Showroom
Billiard Saloon	Permanent Sewage Treatment Plant
Bowling Alley	Petrol Filling Station
Builders Yard	Refuse Destructor
Bus Depot	Reservoir
Bus Station	Road Transport Terminal
Caravan Park	Service Industry
Cemetery	Shop or group of shops
Concert Hall	Skating Rink
Crematorium	Special Industry
Dance Hall	Squash Court
Defence Establishment	Stock Saleyard
Electricity Generating Station	Stock Slaughterworks
Exhibition Hall	Store
Fire Station	Theatre
Fuel Depot	Timber Yard
Gas Holder	Transmitting Station
General Industry	Used Car Lot
Industry	Warehouse
Intensive Animal Keeping	Waterworks
Junk Yard	
Light Industry	
Major Public Service Depot	

Matta Residential Precinct 4

The Matta Residential Precinct lies immediately to the south of the Matta Museum industrial activity adjoining to the east. This division comprises a number of dwellings and vacant parcels remnants of the miners dwellings.

Objective 1: Residential development sympathetic with the character of the miners cottages and houses.

Principles

1 Development should be primarily residential.

2 Development should have regard to:

- (a) the design;
- (b) siting;
- (c) intensity;
- (d) building materials and finishes;
- (e) scale, form and character;

of the residences of the late 19th and early 20th century.

3 The following kinds of development are prohibited in the Matta Residential Precinct:

Abattoir	Major Public Service Depot
Amusement Hall	Marshalling Yards
Auction Room	Motor Repair Station
Billiard Saloon	Motor Showroom
Bowling Alley	Permanent Sewage Treatment Plant
Builders Yard	Petrol Filling Station
Bus Depot	Refuse Destructor
Bus Station	Reservoir
Caravan Park	Road Transport Terminal
Cemetery	Service Industry
Concert Hall	Shop or group of shops with a gross leasable area greater than 450m ²
Crematorium	Skating Rink
Dance Hall	Special Industry
Defence Establishment	Squash Court
Electricity Generating Station	Stock Saleyard
Exhibition Hall	Stock Slaughterworks
Fire Station	Store
Fuel Depot	Theatre
Gas Holder	Timber Yard
General Industry	Transmitting Station
Industry	Used Car Lot
Intensive Animal Keeping	Warehouse
Junk Yard	Waterworks
Light Industry	

Matta Museum Precinct 5

This precinct incorporates all of that land extending from Section 186 in the east abutting the industrial estate, to the eastern boundary of Section 2498 in the west. Matta Road forms the southern boundary, whilst the northern boundary is formed to include the remains of the Matta Mine. The precinct therefore includes the extensive museum of Matta House and extends to the west to enclose an open rural space.

Objective 1: A precinct providing a range of educational and tourist related facilities associated with the presentation of the rural lifestyle of the area during the mines development era.

Principles

1 Development should only be undertaken which reinforces and promotes the establishment of facilities to present the rural lifestyle of the area during the mines development era.

2 Development should have regard to:

- (a) the design;
- (b) siting;
- (c) intensity;
- (d) building materials and finishes;
- (e) scale, form and character;

of Matta House and typical rural outbuildings.

3 The following kinds of development as prohibited in the Matta Museum Precinct 5:

Abattoir	Major Public Service Depot
Amusement Hall	Marshalling Yards
Auction Room	Motor Repair Station
Billiard Saloon	Motor Showroom
Bowling Alley	Permanent Sewage Treatment Plant
Builders Yard	Petrol Filling Station
Bus Depot	Refuse Destructor
Bus Station	Reservoir
Caravan Park	Road Transport Terminal
Cemetery	Service Industry
Concert Hall	Shop or group of shops with a gross leasable area greater than 450m ²
Crematorium	
Dance Hall	
Defence Establishment	

Electricity Generating Station	Skating Rink
Exhibition Hall	Special Industry
Fire Station	Squash Court
Fuel Depot	Stock Saleyard
Gas Holder	Stock Slaughterworks
General Industry	Store
Industry	Theatre
Intensive Animal Keeping	Timber Yard
Junk Yard	Transmitting Station
Light Industry	Used Car Lot
	Warehouse
	Waterworks

Mines Industry Precinct 6

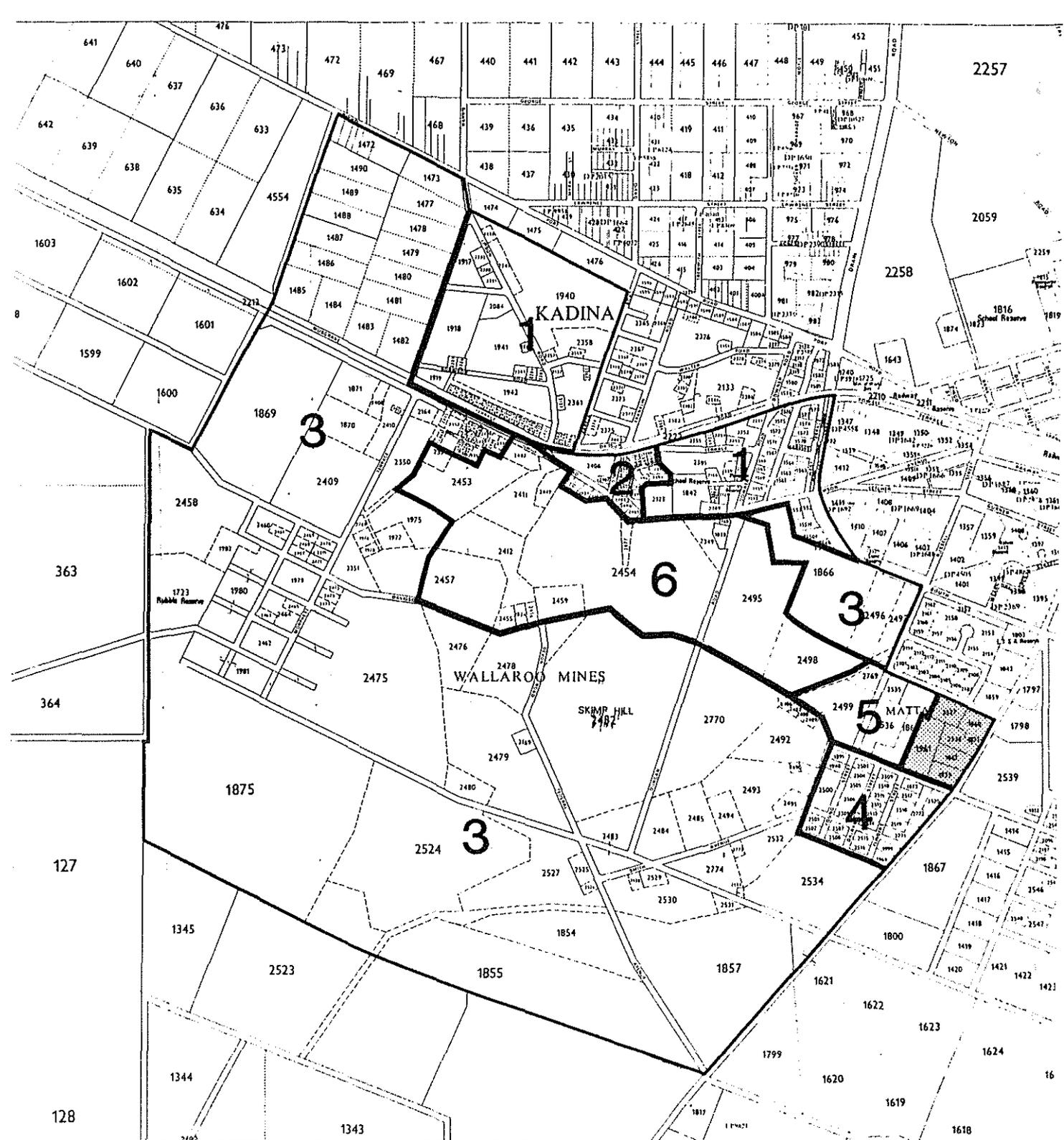
The Mines Industry Precinct encompasses a core of the industrial artefacts of the Wallaroo Mines, including engine houses, power plants, mines, settling pools and powder magazines. These features are contained within an area contained by the skimps to the south, Lipson Street and segments of Newland Road and Anton Terrace in the north. The eastern extremity abuts the open rural land and Matta House Precinct which provides a buffer between Kadin's residential and industrial development and the Mines Industry Precinct.

Objective 1: A precinct dominated by the remains of mines industrial development.

Objective 2: A precinct in which public access is maintained and controlled.

Principles

- 1 No development should prejudice the preservation and conservation of the mines industry remains.
- 2 All kinds of development are prohibited within the Precinct except those works associated with the conservation of and provision of controlled public access to heritage resources, including the redevelopment of buildings.



Precincts

- 1 Kadina Residential
- 2 Cornish Village
- 3 Mines Buffer
- 4 Matta Residential
- 5 Matta Museum
- 6 Mines Industry

Area not included in Heritage Zone

Precinct Boundary
 Study Boundary

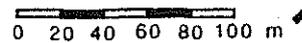


Figure 8.
WALLAROO MINE
HERITAGE ZON
PRECINCT

8.4 IMPLEMENTATION

This presentation of policies to be incorporated in the Northern Yorke Peninsula Development Plan is a draft only. There exist a range of actions necessary to fulfil the recommendations of the Moonta Wallaroo Mines Management Plan as presented in Volume 3. The changes to the development are to some extent contingent upon decisions made in respect to the management plan.

However, the council and Department of Environment and Planning should undertake an amendment at the earliest opportunity. As the area also includes State Heritage Areas existing and proposed, the Minister of Environment and Planning in accordance with Section 41(2)(d) of the Planning Act should prepare the plan in consultation with council. Further, consideration should also be given to invoking Section 43(c) which provides that where it is necessary in the interests of orderly and proper development of an area, a supplementary development plan may be brought into immediate operation on an interim basis. Whichever the case, the amendment will be implemented by its carriage through the processes set out in Section 41 of the Planning Act, 1982.

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**MOONTA WALLAROO
MINES
MANAGEMENT PLAN**

VOLUME 3

March 1988

MOONTA WALLAROO MINES Management Plan Volume 3

Prepared for

The Moonta Wallaroo Mines
Planning Study
Co-ordinating Committee

on behalf of the
Department of Lands

by

Bone & Tonkin Planners Pty. Ltd.
17 Hutt Street, Adelaide, S.A. 5000

in association with

Danvers Architects
364 Halifax Street, Adelaide, S.A. 5000

Applied Development Research Pty. Ltd.
45 Railway Road, Blackburn, VIC 3130

B.C. Tonkin & Associates
55 Queen Street, Adelaide, S.A. 5000

Arrangement

The Moonta Wallaroo Mines Planning Study Management Plan comprises three volumes:

Volume I: Site and Item Identification

Volume II: Planning Study

Volume III: Management Plan

This is the third document in the series.

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Regional Manager, Central/Yorke/Lower North, Department of Lands, Chairperson of the above committee;

The District Council of Northern Yorke Peninsula;

The Department of Environment and Planning.

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1.0 Introduction

The Management Plan is the result of considerable research and investigation undertaken by the Moonta Wallaroo Mines Planning Study Co-ordinating Committee and the consultants to that committee.

This research is contained in Volumes I and II, the Site and Item Identification, and the Planning Study which present the heritage significance, tourism potential and development opportunities and general background to the study areas.

This third Volume comprises the conclusions and recommendations distilled from Volumes I and II.

1.1 Management Plan Structure and Use

The conclusions and recommendations are presented as objectives, priorities, actions and responsibilities which together form the Management Proposals for each management function, refer Appendix A, Definition of Terms. Together these form the Management Plan. To assist the reader, the objectives have been extracted and presented in summary at the beginning of this Volume.

This plan is a statement to assist government, the community and business in their decision making processes relative to the Moonta and Wallaroo Mines areas, hereafter referred to as the "Mines Area", refer to Appendix A. At the same time a number of the matters considered in the plan have implications that reach further than the "Mines Area", particularly in respect to tourism.

The plan indicates the changes proposed to a range of established control and administrative mechanisms including land tenure, planning controls, and various other local government and state government responsibilities.

It is intended to guide and reinforce the functional and historic activities within the mines areas, and provide a direction for tourism and the interpretation and representation of the mines heritage experiences.

The plan provides the framework for the co-ordination of decisions by government and private bodies and the form and future direction of development. It establishes the basis upon which the most effective management of resources can be undertaken by a management body.

The intent of the management proposals is to guide the relevant authorities in undertaking their statutory and associated responsibilities. The plan promotes the establishment of a management body to oversee and manage the future development of the "Mines Area".

The plan concludes with an Implementation Strategy which presents the actions necessary in order to fulfill these proposals.

1.2 Summary of Objectives

Objective: Management Body Priority 1
Reference Page 8

To provide a co-ordinated administration and management structure for the "Mines Area".

A body to co-ordinate, program and implement the wide range of actions essential to the ongoing conservation, development and promotion of the resources and related opportunities within the "Mines Area".

All actions are to be implemented by administrative agreement and commitment of the agencies represented on the management body. It is not intended that special funding requirements be sought other than in accordance with the normal budgetary capacity and priorities of each separate agency.

Objective: Survey Priority 1
Reference Page 9

To establish a soundly based cadastre for the "Mines Area".

The present cadastral information, tenure arrangements, easement identification and responsibilities for land requires considerable improvement. The objective seeks a remedy by the establishment of a survey team, funded by the state government freeholding fund to undertake a program over the next 2 years.

Objective: Tenure Priority 1
Reference Page 9

To ensure all land within the "Mines Area" is held under appropriate tenure.

Many parcels of land require redesignation as to its tenure as the government has recognised it no longer has specific interest in much of the land. Freeholding of many presently occupied parcels and improved designation of others where controls remain essential to the public interests.

Objective: Statutory Planning
Reference Page 11

Priority 1

To establish planning controls relevant to the "Mines Area".

The district council and state government should work together to assume the preparation and authorisation of a supplementary development plan for the necessary planning directions to be put in place for the "Mines Area". The management body may be of assistance in its implementation.

Objective: Land Management Agreements
Reference Page 13

Priority 2

To provide a complete and flexible approach to the maintenance and management of the "Mines Area", including a more detailed means of controlling development than the existing statutory mechanisms.

As certain parcels require specific design development considerations, Land Management Agreements may be used to ensure activities are consistent with the intentions of the governing authorities.

Objectives: Heritage
Reference Page 15

Priority 1

To protect the items, sites and heritage features of the Moonta and Wallaroo Mines.

To provide to the public a heritage experience unique to the Moonta and Wallaroo Mines as a state, national and international venue.

The management body should submit to the Minister of Environment and Planning a proposal for the designation of a Wallaroo Mines State Heritage Area. A program for conservation and preservation should be prepared by the Heritage Branch of the Department of Environment and Planning.

Objective: Tourist Accommodation - Moonta and Wallaroo Mines Reference Page 17 Priority 3

To ensure the provision of tourist accommodation within the "Mines Area" with particular reference to "The Burra Charter, the Australian International Council On Monuments and Sites (I.C.O.M.O.S.), Charter for the Conservation of Places of Cultural Significance".

Specialist tourist accommodation may be provided, having regard to relevant heritage and economic considerations. Investigations revealed potential for the site of Captain Hancock's residence and office and the site located at Newland Pace, Newland Road and Stirling Terrace at Wallaroo Mines.

Objective: Tour Infrastructure and Facilities Reference Page 18 Priority 2

To provide a range of tours and facilities to satisfy the varied interests of tourists.

To provide a source of funds directly to the management body from tour revenue.

Having regard to the safety of the public, various tours require extension or establishment. These activities may provide a small, but significant source of funds to the management body.

Objective: Traffic Management Reference Page 20 Priority 3

To create awareness of the "Mines Area" by means of interpretive signage and traffic flow modifications.

The provision of management devices will ensure a greater awareness of the presence of the "Mines Area". This coupled with a comprehensive sign program, management of traffic can be maintained. Investigations are also necessary to determine to ultimate value of the closure of Verran Terrace.

Objective: Services Priority 3
Reference Page 21

To provide, in the longer-term, a rational, ordered service infrastructure in the "Mines Area".

Present arrangements in many areas requires rationalisation by incorporation in easements, removal or redevelopment.

Objective: Natural Environment Priority 4
Reference Page 22

To present the "Mines Area" as an attractive, well vegetated and stable natural environment.

The "Mines Area" requires land clearance of debris, weed and pest plants followed by a planting program to stabilise soils and promote the attractiveness of the "Mines Area" and features.

Objective: Built Environment Priority 1
Reference Page 24

To maintain and enhance the extant features of the "Mines Area" in the character, scale and form of the late 19th and early 20th century.

A detailed design guidelines document should be produced for public consumption and general incorporation of the design criteria in the development plan.

Objective: Marketing Priority 2
Reference Page 25

To develop a comprehensive and fully integrated "Mines Area" marketing strategy.

This objective requires a co-ordinated promotion and marketing of the "Mines Area".

Objective: Education Priority 4
Reference Page 26

To formulate education curriculum which provides a comprehensive presentation of the history, development and significance of the Moonta and Wallaroo Mines.

The "Mines Area" provides important background to the development of the state and should therefore be promoted to students and the public at large.

2.0 Management Structure

The objectives and the stated needs of the community were presented by the participating bodies in the Moonta Wallaroo Mines Planning Study Co-ordinating Committee. These indicated a clear need for commitment to the future of the "Mines Area". This commitment should be recognised by establishment of a suitably titled management body with clear implementation responsibilities for the proposals contained in this report.

The body should be established as soon as practicable. In view of local government's significant and preliminary role in the management of the area it is appropriate that it plays a major role in the day-to-day management of these special areas. The management body should ideally comprise:

- . two councillors as nominated by the District Council of Northern Yorke Peninsula;
- . the District Clerk or nominee;
- . a representative of the Regional Tourist Development Association;
- . a representative of the Department of Environment and Planning, Heritage Branch;
- . two persons from the National Trust;
- . a representative of the Department of Lands;
- . a representative of the Department of Mines and Energy; and
- . an independent chairperson to be nominated.

An executive officer should be appointed to undertake secretarial and operational activities, and the functional co-ordination and organisational duties of the management body. Opportunity exists to utilise the expertise and position of the Northern Yorke Peninsula development officer as the executive officer for the management body. It is also anticipated that the involvement of the Department of Lands will become less relevant as it divests its interests in much of the land within the "Mines Area". The Department should however, continue to be used as a resource of information and personnel.

The management body should promote activities, in accordance with the plan, and seek to maximise returns from these ventures in order to further support the maintenance of all operations, land and buildings.

All actions in the first instance are to be implemented by administrative agreement and commitment of the agencies represented on the management body. It is not intended that special funding requirements be sought other than in accordance with the normal budgetary capacity and priorities of each separate agency.

It will also assist in the preparation of submissions for grants to relevant funding bodies for special projects. The management body will aim to be self funding by establishing or providing the catalyst for commercial opportunities outlined in Section 7, Tourism and Section 12, Marketing.

Objective: Management Body Priority 1

To provide a co-ordinated administration and management structure for the "Mines Area".

Actions

- . Establish the management body under the provisions of Section 39 of the Local Government Act.
- . Provide a co-ordinated and co-operative approach to development, conservation and preservation in the study areas, as designated on Figures 1 and 2.
- . Seek and manage funds for the establishment of services and facilities and the restoration, preservation or conservation of heritage and tourist features.
- . Establish a works program for the progressive improvement of the natural and built environment of the mines.
- . Co-ordinate the development of an integrated, mining, heritage and tourist experience.
- . Promote the establishment of commercial developments consistent with the management plan and other statutory requirements.
- . Encourage self-funding by way of return on development and operational activities.

Responsibility

The Department of Lands should continue as convenor of the Moonta Wallaroo Mines Planning Study Co-ordinating Committee. As an interim measure the District Council of Northern Yorke Peninsula will provide an executive officer to the management body. When financially viable, the management body will engage staff to undertake the body's day-to-day operations.

3.0 Land Tenure

Much of the land contained within the "Mines Area" is owned by the Crown. The Crown has identified significant tracts of land over which it has no need to retain ownership.

The Moonta Wallaroo Mines Planning Study reinforces the view that the Crown does not need to hold large areas of the "Mines Area". Appendix B identifies all of the parcels which are capable of being sold or freeholded, it also identifies those existing Crown parcels that can be promoted into more appropriate tenure. Figures numbered 3 and 4 indicate those parcels which should be considered for sale or freehold.

A prerequisite to the freeholding of land will be the undertaking of extensive surveys to adequately define the relevant land parcels. The return on sale should cover all costs associated with sale. It is anticipated that the parcels available for freeholding will ultimately return in excess of \$2.25 million (Valuer-General, 1987).

Objective: Survey Priority 1

To establish a soundly based cadastre for the "Mines Area".

Actions

- . Seek approval for, and establish a Moonta Wallaroo Mines Survey Unit to undertake as a special and discreet project, the survey of the areas with all costs met from the government freeholding fund.
- . Prepare a 2-year program for the progressive survey of all inadequately defined lands.

Objective: Tenure Priority 1

- . To ensure all land within the "Mines Area" is held under appropriate tenure.

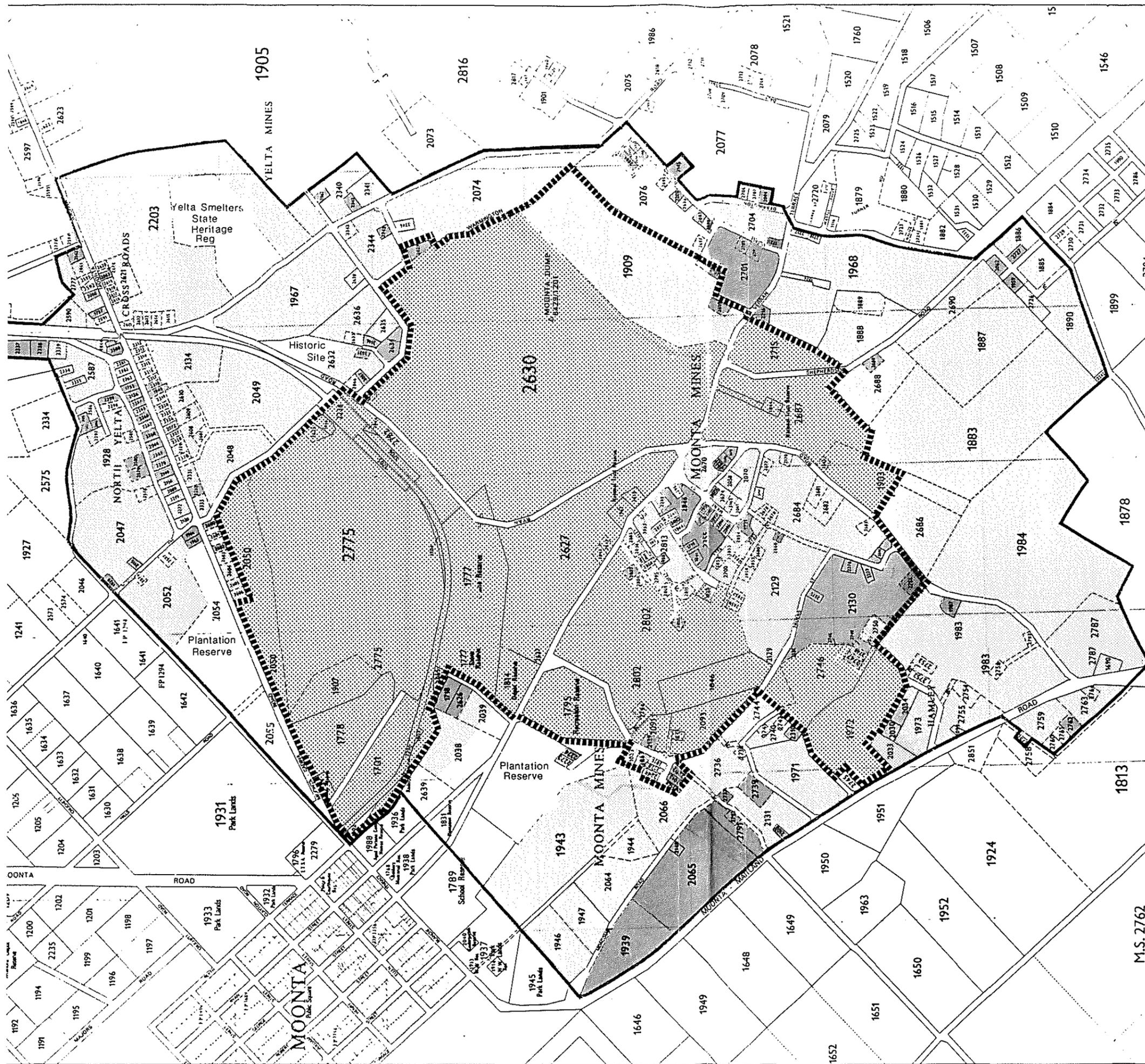
Actions

- . Following survey, develop a designed marketing strategy and dispose of the Crown's interest in all surplus land.
- . Place under appropriate control all those lands to be retained.

- . Seek registrations of interest for the commercial operation on all defined development sites in accordance with a draft pre-determined development sequence.
- . Land Management Agreements should be considered as an integral part of the sale of land as appropriate.
- . Examine the case for a submission to the Treasurer for the local retention of funds, or part thereof, from the program of freeholding herein to assist, amongst other things, with the initial establishment of identified tourist development opportunities.

Responsibility

The Department of Lands is responsible for all actions to be taken in the disposal of land except where freehold sites are involved.



-  Proposed Reserved Land
-  Existing Freehold Land
-  Proposed Freehold Land
-  State Heritage Area Boundary
-  Study Boundary

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Figure 3
MOONTA MINES
FREEHOLD
PROPOSED TENURE



-  Proposed Reserved Land
-  Existing Freehold Land
-  Proposed Freehold Land
-  State Heritage Area Boundary
-  Study Boundary

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Figure 4
WALLAROO MINES
FREEHOLD
PROPOSED TENURE

4.0 Statutory Planning

Development control activity for the "Mines Area" is with the District Council of Northern Yorke Peninsula (local planning authority) and the Minister of Environment and Planning through the South Australian Planning Commission and the Department of Environment and Planning. The present development plan for the "Mines Area" requires considerable enhancement to adequately recognise the significance of the "Mines Area" as an historic place of tourist interest.

The value of these areas is becoming more apparent as pressure grows from various quarters to change or modify the natural and built environment. The physical integrity of the "Mines Area" particularly requires urgent attention to ensure that future generations have the opportunity to appreciate the nature of the mining industry at Moonta and Wallaroo. The primary method of land use control and direction should recognise these urgent needs and establish more specific control criteria.

The supplementary development plan should be prepared as soon as practicable. There are no guidelines yet established specifically for these areas and guidance is needed. The Moonta and Wallaroo Mines Heritage Zones as they have been titled in Chapter 8 of Volume II incorporates the existing and proposed State Heritage Areas at Moonta and Wallaroo Mines respectively. The zones are divided into precincts which have been defined on both historic and functional grounds as shown on Figures 5 and 6.

Objective: Statutory Planning Priority 1

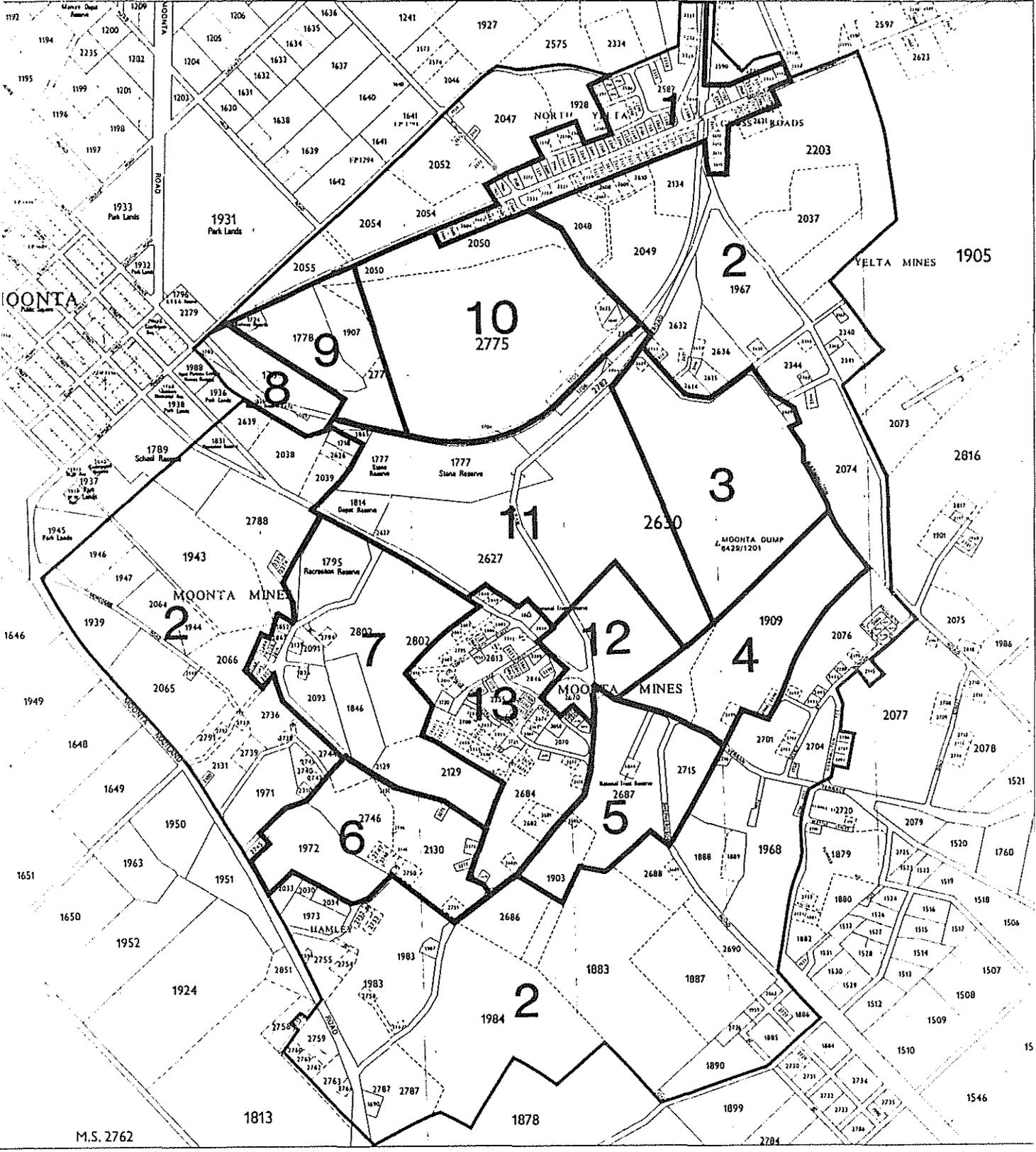
To establish planning controls relevant to the "Mines Area".

Actions

- . Bearing in mind the complexities of the area, seek additional funding for supplementary development plan preparation. Based on the draft proposal as described in Chapter 8, Volume II of the Planning Study, prepare and implement a supplementary development plan for the "Mines Area".
- . The management body to act in an advisory capacity to the Minister of Environment and Planning in respect to development applications in the Heritage Zone.

Responsibility

The area has considerable state heritage significance. It is appropriate therefore that the district council seek the financial assistance of the Minister of Environment and Planning in the discharge of its planning responsibilities.



- Precincts**
- 1 Yelta Cross Roads Residential
 - 2 Mines Buffer
 - 3 Richman
 - 4 Taylors
 - 5 Hughes
 - 6 Hamley
 - 7 Hancocks
 - 8 Moonta Station
 - 9 Precipitation Works
 - 10 Yelta Slimes
 - 11 Ryans
 - 12 Mine Management
 - 13 Mines Residential

Precinct Boundary
 Study Boundary

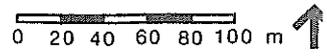
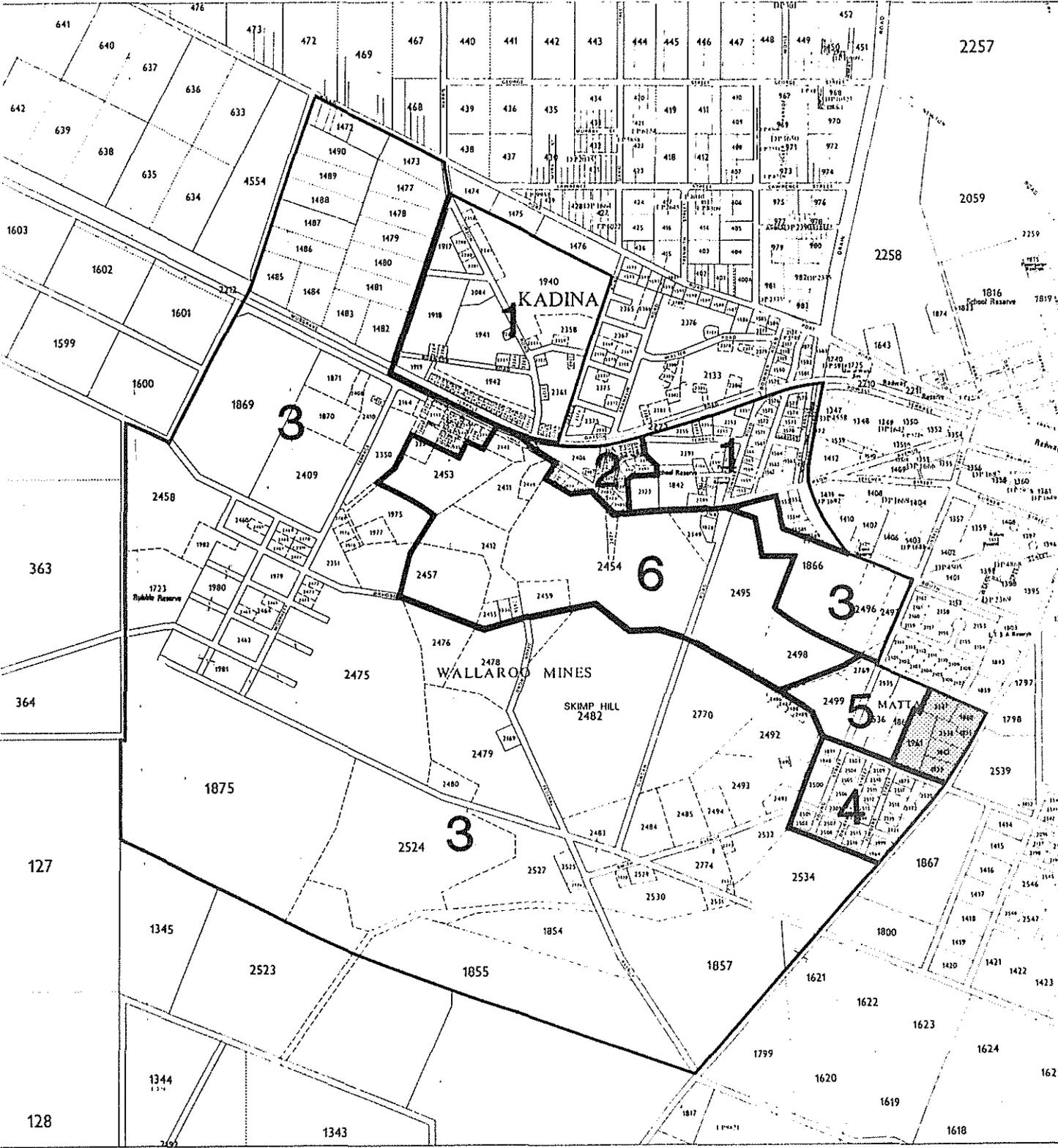


Figure 5
MOONTA MINES
HÉRITAGE ZONE
PRECINCTS



- Precincts**
- 1 Kadina Residential
 - 2 Cornish Village
 - 3 Mines Buffer
 - 4 Matta Residential
 - 5 Matta Museum
 - 6 Mines Industry
-  Area not included in Heritage Zone
 Precinct Boundary
 Study Boundary

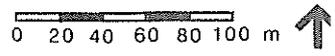


Figure 6
WALLAROO MINES
HERITAGE ZONE
PRECINCTS

5.0 Land Management Agreements

In a number of cases it will be appropriate for relevant Ministers of the Crown or the Local Government authority to enter into land management agreements as a condition of disposal of the Crown's interest. These agreements specifically apply approved planning principles, management practices, and other control mechanisms as appropriate to individual alienated parcels.

Appendix C details the procedures, considerations and contents generally applicable to land management agreements.

The district council is responsible for the day-to-day running of the area and is the appropriate body to monitor these agreements. This does not preclude it from seeking assistance from other bodies.

Those sites with a heritage listing will also be monitored by the Department of Environment and Planning which is responsible for matters of state heritage.

Objective: Land Management Agreements Priority 2

To provide a complete and flexible approach to the maintenance and management of the "Mines Area", including a more detailed means of controlling development than the existing statutory mechanisms.

Actions

- . Where items or sites of major heritage or environmental significance exist, initiate the establishment of appropriate land management agreements.
- . In the case of selected development opportunities prepare agreements for consideration when disposal is being negotiated.
- . Prepare a register of all land management agreements.

Responsibility

The management body should be responsible for the investigations and subsequent negotiations of the land management agreements. (The Department of Lands will be financially responsible for the legal production costs of the Land Management Agreements with such costs recoverable through a freeholding fund or similar finance structure). The Minister of Environment and Planning or district council will be responsible for approval.

The management body should be responsible for a priority list of items and sites. The Department of Lands will consider this priority list in preparing its marketing strategies.

Monitoring of these agreements will be undertaken primarily by the district council. Alternatively, consideration could be given to amending the Planning Act to invest the management body with the necessary power to assist the district council and the Minister in monitoring land management agreements.

6.0 Heritage

Volume I provides a comprehensive survey of sites and items of heritage significance, while Volume II recommends the establishment of a State Heritage Area for the Wallaroo Mines. Fragmented remains of the mines development era exist outside these heritage areas. To date these areas have not been severely impaired by the developments of more recent years.

As these areas are cleared and cleaned they may reveal more of the industrial and social infrastructure of the mines era. Further archaeological research is essential to establish a factual base for the full interpretation of these areas.

The heritage of the "Mines Area" is the primary focus for tourist activity. This should be enhanced by the preservation, conservation and interpretation of the area.

Objectives: Heritage Priority 1

To protect the items, sites and heritage features of the Moonta and Wallaroo Mines.

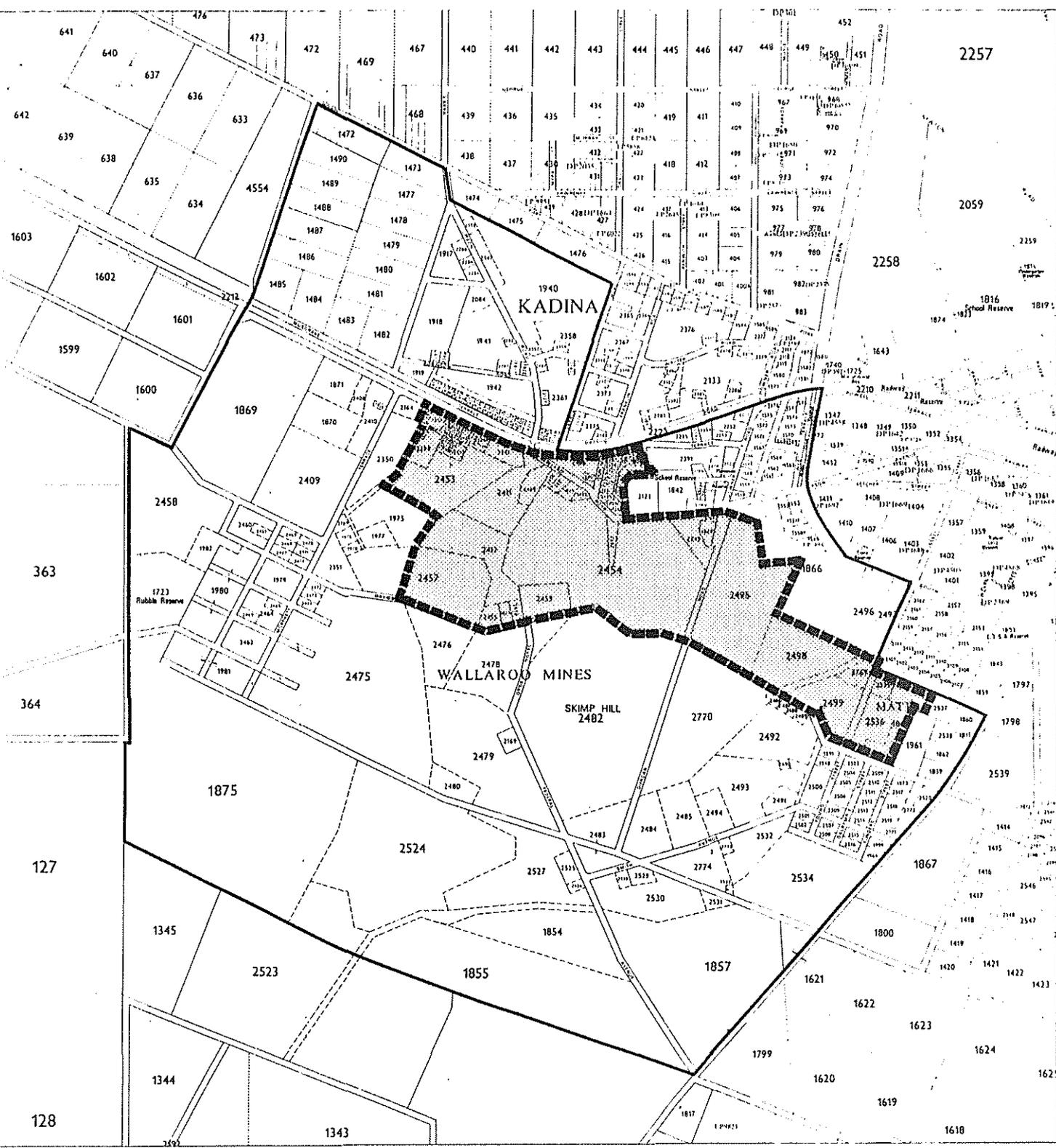
To provide to the public a heritage experience unique to the Moonta and Wallaroo Mines as a state, national and international venue.

Actions

- . Submit to the Minister of Environment and Planning a proposal for the definition of the Wallaroo Mines State Heritage Area, as shown on Figure 7.
- . Establish a program for the interpretation and conservation of the extant features of the mines as identified in Volume I.

Responsibility

The State Heritage Branch of the Department of Environment and Planning should provide a recommended program for the conservation, preservation and interpretation of the Moonta and Wallaroo Heritage Zone features.



-  State Heritage Area
-  State Heritage Area Boundary
-  Study Boundary

0 20 40 60 80 100 m ↑

Figure 7
WALLAROO MINES
PROPOSED
STATE HERITAGE AREA

7.0 Tourism

There exists a significant and wide range of opportunities associated with local and regional tourism. These opportunities include accommodation, tours, ticketing and the associated service infrastructure.

It is known there is a multiplier effect within a tourist region for every \$1 spent; it has been suggested that this is threefold. Regional tourist promotion will provide a boost to the local economy.

The Moonta Mines area is presently controlled by a management committee. Due to fragmented responsibilities this management has met with limited success. Future tourist development will require integrated planning and management. All opportunities should therefore, be accessed with the guidance of the management body proposed in this report:

As mentioned previously, the Wallaroo Mines require further technical and archaeological research and investigation. Wallaroo Mines differ from the Moonta Mines inasmuch as it is homogeneous rather than interspersed with a range of other land uses.

There exists in the region a range of accommodation for tourists. However, there are seasonal shortages relating to summer coastal visitation. To satisfy this need and to promote the direct association between the tourists and the historic areas, accommodation should be provided for tourists within the heart of the Moonta Mines area and associated with the main entrance to the Wallaroo mines.

These developments could include motel accommodation in the form of serviced apartments and flats.

The properties should be redeveloped in an authentic manner similar to the Paxton Square Cottages at Burra. This approach will provide direct access to the mine sites and the range of other tourist attractions nearby.

The access routes existing through the area of the mines require extensions and alterations. Improved access and other opportunities identified in this review, will support a regional ticketing facility. The intent of a regional ticketing facility is to provide admission to a number of separate facilities on one ticket which is generally purchased at a central booking point.

**Objective: Tourist Accommodation - Moonta and Wallaroo Mines
Priority 3**

To ensure the provision of tourist accommodation within the "Mines Area" with particular reference to "The Burra Charter, the Australian I.C.O.M.O.S. Charter for the Conservation of Places of Cultural Significance".

Actions - Moonta Mines

- . Undertake archaeological investigations to identify the extent, form and nature of Captain Hancock's residence, office and associated buildings.
- . Investigate the potential of retaining portions of Captain Hancock's buildings as an integral part of the redeveloped tourist facilities and accommodation.

Actions - Wallaroo Mines

- . Investigate the possibility of redeveloping portion of the properties at Newland Place, Newland Road and Stirling Terrace for tourist accommodation.
- . Prepare detailed specifications for the extent and nature of works to be undertaken to return the dwellings to their original form in accordance with the Burra Charter and as further outlined in Kerr, J.S., "The Conservation Plan; A Guide to the preparation of conservation plans for places of European cultural significance", The National Trust of Australia (N.S.W.) 1985.

Responsibility

The district council and the Minister of Environment and Planning are ultimately responsible for approving development within the Heritage Areas.

The management body will be responsible for determining whether tourist accommodation developments are undertaken or passed on to the private sector.

Properties identified for tourist accommodation should remain in the hands of the Crown until such time as development proposals have been approved and agreements signed for the long-term management of the site.

Objective: Tour Infrastructure and Facilities Priority 2

To provide a range of tours and facilities to satisfy the varied interests of tourists.

To provide a source of funds directly to the management body from tour revenue.

Actions - Moonta Mines

- . Revise vehicular tour routes to provide optimum exposure to the industrial and social fabric of the area.
- . Extend the current "tram" mine tour route and provide a mine explorer route in accordance with the routes identified on Figure 8.
- . Establish an entryway to the Moonta Mines incorporating extant buildings.
- . Establish a tourist office including kiosk and tearoom facilities with associated car parking and landscaping.
- . Determine the necessary traffic management requirements to ensure safe and convenient access to and from the site.

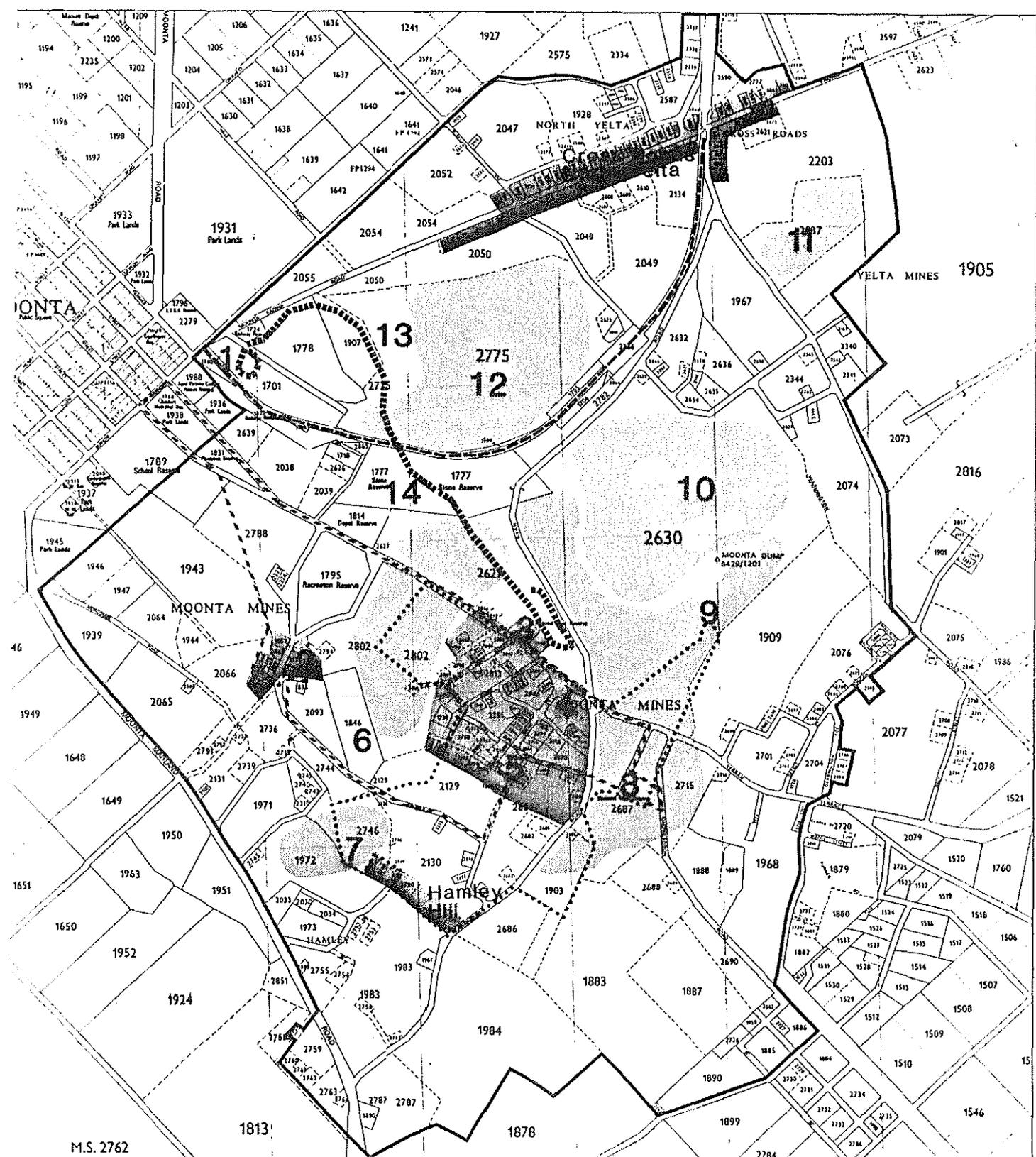
Actions - Wallaroo Mines

- . Undertake extensions to the existing mines walk to accommodate both pedestrian and guided tour vehicles in accordance with Figure 9.
- . Extend the mines tour to incorporate a greater range of facilities with particular emphasis on Taylor's and Young's shafts.
- . Establish an entry gateway to the Wallaroo Mines compatible with the form of the mines office, stables and mechanical shops.
- . Rationalise the Matta House museum in accordance with the recommendations by J. Perkins in his report to the Kadina branch of the National Trust, August 1, 1987.
- . Reinforce the existing museum activity and extend the activities within Matta precinct to incorporate a model farm display of mixed farming activities relevant to the mining period.
- . Reassess the presentations made of printing engineering and motor vehicle memorabilia to rationalise those displays.

Responsibility

The management body should be responsible for all tour activities and infrastructure although the day-to-day operation of these may remain with individual operators.

The management body should retain responsibility for the management and operation of special public features such as the Moonta railway station and Wallaroo Mines entry. Safe and convenient access should be developed in conjunction with the district council.



- | | | | |
|----|----------------------------|---|-------------------------------|
| 1 | Moonta Railway Station |  | Mining Areas |
| 2 | N.T. Miners Cottage |  | Skimp Heaps |
| 3 | N.T. Museum |  | Slimes Areas |
| 4 | Mine Office & Store |  | Important Groups of Buildings |
| 5 | Wesleyan Methodist Church | | |
| 6 | Hancocks Tailing Heap | | |
| 7 | Hamley Mine | | |
| 8 | Hughes Pump House | | |
| 9 | Richmans Engine House | | |
| 10 | Richmans Tailing Heap | | |
| 11 | Yelta Mines Smelting Works | | |
| 12 | Slimes | | |
| 13 | Precipitating Works | | |
| 14 | Ryans Tailing Heap | | |

-  Existing Rail Tour
-  Proposed Rail Tour
-  Proposed Mine Explorer Tour
-  Revised Tram Car Tour
-  Study Boundary

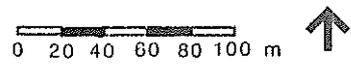
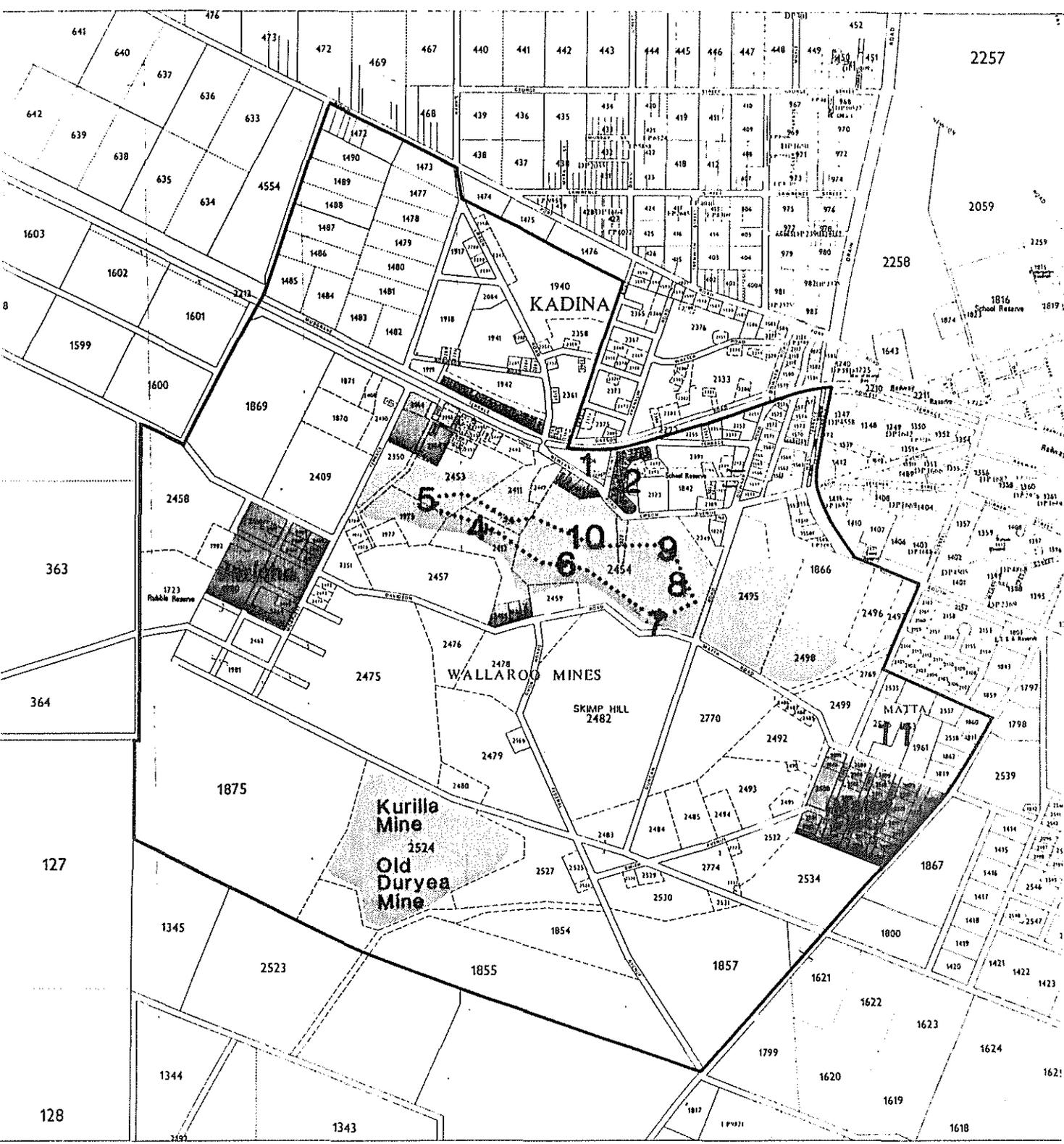


Figure 8
MOONTA MINES
FEATURES



-  Mining Areas
-  Skimp Heaps
-  Important Groups of Buildings

- 1 Institute Building
- 2 Cornish Village
- 3 Harveys
- 4 Hughes
- 5 Powder Magazines
- 6 Power Plant
- 7 Taylors
- 8 Viewing Platform
- 9 Settling Pool
- 10 Entry Gallery
- 11 Matta House
- Proposed Tour Routes
- Study Boundary

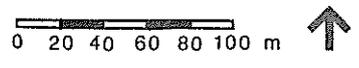


Figure 9
WALLAROO MINES
FEATURES

8.0 Traffic Management

The Planning Study examined the existing road pattern and having identified a number of anomalies in the system has recommended changes to the status of a number of the roads. As a consequence, road closures, road openings and realignments will be necessary to implement these recommendations. The proposed road system is indicated on Figures 10 and 11.

Informal passageways within the "Mines Area" will also need to be established to provide routes for access by pedestrians and/or tour vehicles. These passageways should be of minimum width and design.

It will be necessary to specifically identify the "Mines Area" to vehicular traffic by way of pavement modifications and interpretive sign posting. Special attention needs to be paid to speed limits through this area.

Objective: Traffic Management Priority 3

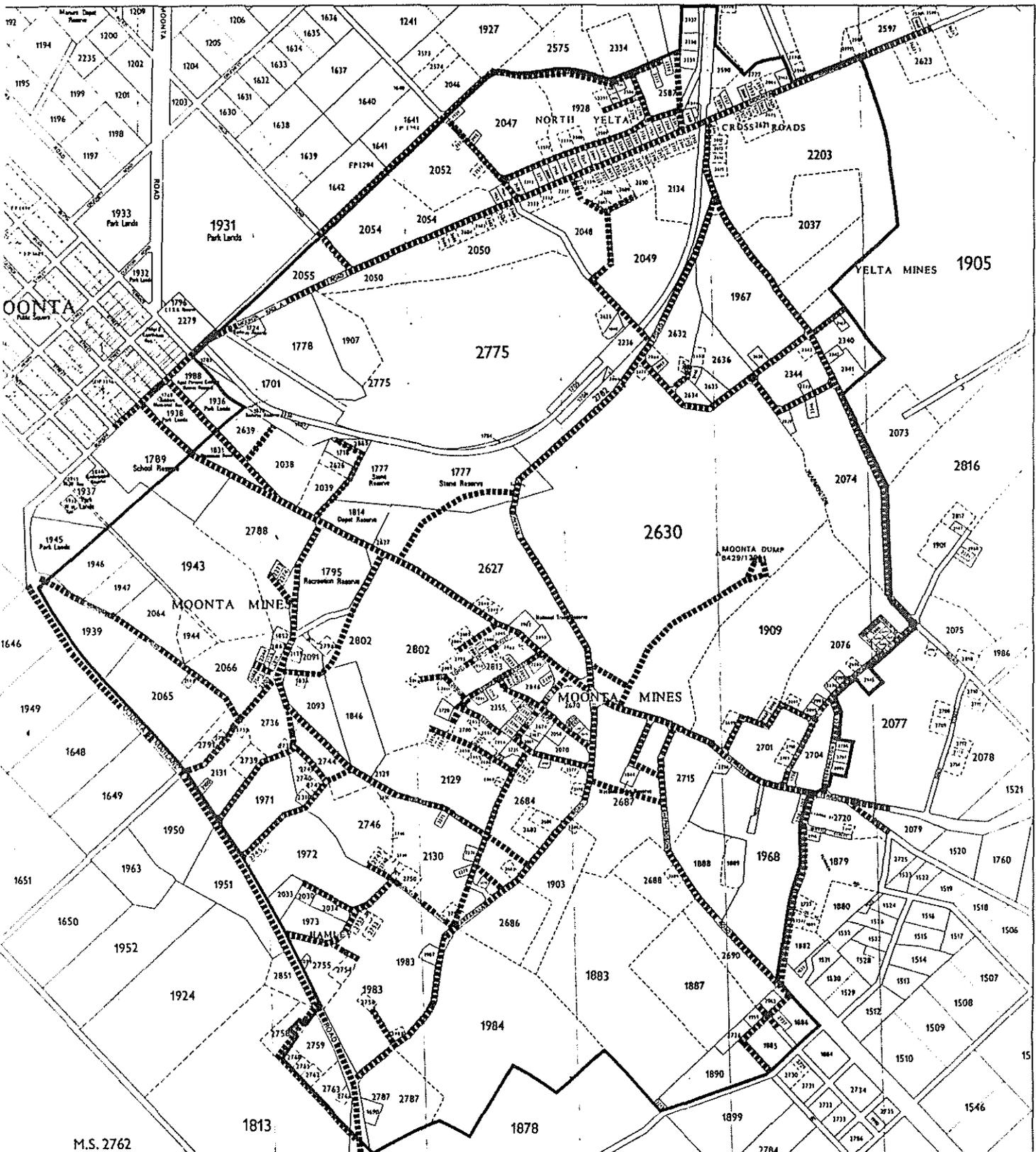
To create awareness of the "Mines Area" by means of interpretive signage and traffic flow modifications.

Actions

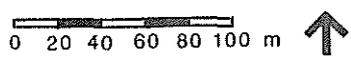
- . Propose speed restrictions in the proximity of the "Mines Area".
- . Clearly identify mine location.
- . Investigate the possible closure of Verran Terrace.
- . Develop pedestrian and vehicular routes about the "Mines Area".

Responsibility

The management body should undertake the necessary research reviews and preparation of application documentation to implement the traffic management objective.

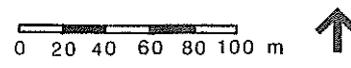
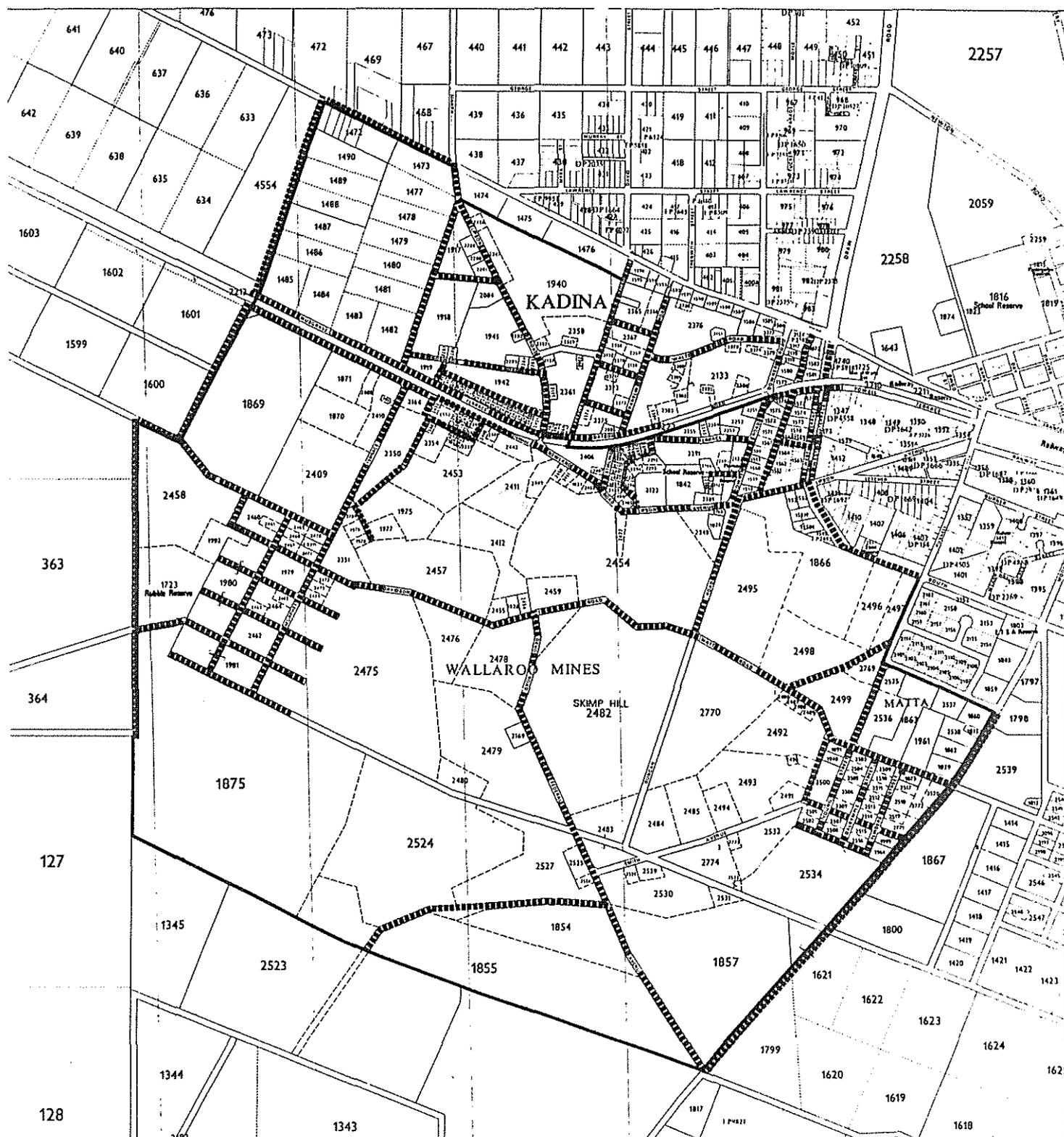


M.S. 2762



 Road Network
 Study Boundary

Figure 10
MOONTA MINES
PROPOSED ROAD
NETWORK



■■■■■ Road Network
 — Study Boundary

Figure 11
WALLAROO MINES
PROPOSED ROAD
NETWORK

9.0 Services

Public utility services within the "Mines Area" are haphazard in some areas at this time, however, major rationalisation is inappropriate. It is apparent that not all service authorities are fully aware of the location or condition of their services.

Objective: Services Priority 3

To provide, in the longer-term, a rational, ordered service infrastructure in the "Mines Area".

Actions

- . Formalise the easements to incorporate existing services where appropriate.
- . Request servicing authorities to provide information on existing services and proposed changes.
- . Investigate the range and form of above ground services which are available and consistent with the character of the area.

Responsibility

The district council and Minister of Environment and Planning are ultimately responsible for the approval of any new development works that may require services and should therefore have regard to specific needs of the Heritage Zones when considering proposals.

Within land held by the Crown, the Department of Lands remains responsible for ensuring facilities are provided in a suitable form.

10.0 Natural Environment

Over the past ten years, the Departments of Agriculture and Lands have undertaken a clean up program to remove weeds, pests, rubbish and debris from large portions of the "Mines Area". The National Trust branches at Moonta and Kadina have also provided substantial assistance and energy to improve the natural environment and present to the tourist some of the features of the mine industry and its social infrastructure. These bodies have undertaken tree planting programs within their limited resources.

There remain, however, considerable tracts of land which require further clearing of debris as well as an ongoing weed and pest eradication program. A comprehensive approach is required to ensure that the efforts made over the past ten years are supported and expanded.

The skimps at Moonta Mines are subject to erosion and tourist activity should be controlled to minimise denudation. The skimp heaps at the Wallaroo Mines are subject to wind erosion due to their fine particulate size. Some planting has been carried out.

Objective: Natural Environment Priority 4

To present the "Mines Area" as an attractive, well vegetated and stable natural environment.

Actions

- . Promote a comprehensive tree planting program for the streets and public places within the study areas.
- . Continue to provide a planned weed and pest eradication program on Crown land and extend this to land owned or controlled by other individuals and organisations.
- . Initiate a planting program to stabilise erosion prone areas, with particular emphasis on the Wallaroo Mines skimp.

Responsibility

The Department of Agriculture and the Vertebrate Pest and Pest Plant Board should remain responsible for weed and pest eradication in the "Mines Area".

The District Council of Northern Yorke Peninsula should be responsible for encouraging all developers and government departments to incorporate landscaping in all proposals. A program for public space tree planting should be developed by district council with the assistance of the Department of

Agriculture and the management body. The mangement body should co-ordinate the efforts of state and local authorities to enhance the land by clearance and re-vegetation where appropriate. The continuation of clearing activities by a programed clearing of land of debris.

The tree planting program should incorporate the species approved in consultation with district council and Department of Agriculture.

11.0 Built Environment

The built environment comprises the dwellings, the industrial structures and the reshaped landform evidenced in the skimps, dams and heaps. These features provide the primary elements of attraction to tourists by virtue of their form and architecture. They represent an era of considerable mining, economic and social significance to the state and the country and warrant protection. Together they provide one of the most significant recreational and educational facilities available in South Australia.

It is essential that new development or redevelopment have regard to the form and nature of the existing development to ensure that the integrity of sites or areas is maintained. This can be achieved by providing detailed design criteria as proposed in the draft development plan provisions as presented in Chapter 7 of the Planning Study, Volume II.

Objective: Built Environment Priority 1

To maintain and enhance the extant features of the "Mines Area" in the character, scale and form of the late 19th and early 20th century.

Actions

- . Produce design guidelines for distribution to the public to encourage awareness of the need to maintain sympathy with the built form of the "Mines Area".
- . Promote the promulgation of an supplementary development plan for the Historic Zones incorporating design and siting criteria.

Responsibility

The District Council of Northern Yorke Peninsula, through its development plan is the primary planning authority administering development control.

Should the management body be given any formal planning responsibilities it could be used in a consultative capacity in the same manner as the Department of Environment and Planning's Heritage Branch.

12.0 Marketing

An effective marketing thrust in the "Mines Area" will require control over key commercial elements such as:

- . central ticketing;
- . integrated advertising;
- . itinerary planning.

Consideration of regional activities may also extend to the souvenir product range, retail franchises and/or management contracts and development works.

This will also require co-ordination and consultation with the regional tourism officer, other Yorke Peninsula tourist operators and the production of a co-ordinated design and distribution program of marketing documentation and souvenir material for the Yorke Peninsula.

Objective: Marketing Priority 2

To develop a comprehensive and fully integrated "Mines Area" marketing strategy.

Actions

- . Encourage co-ordination with other Yorke Peninsula tour operators.
- . Liaise with Tourism South Australia, the regional tourism officer and the Yorke Peninsula Tourist Development Association to promote the "Mines Area" as a tourist destination.
- . To undertake the preparation of co-ordinated design, production and distribution of marketing information.

Responsibility

The Moonta Wallaroo Mines management body should participate in discussions with the various other relevant authorities and bodies involved in tourist development and tourism activities on the Yorke Peninsula in order to develop a fully integrated program for the marketing of the "Mines Area".

13.0 Education

These areas are significant in the historical development of the state in economic, industrial and social terms. It is reasonable therefore to expect that any state history curriculum incorporate as an integral part, a significant presentation about the Moonta and Wallaroo Mines.

Objective: Education Priority 4

To formulate education curriculum which provides a comprehensive presentation of the history, development and significance of the Moonta and Wallaroo Mines.

Actions

- . Promote to the Department of Education the merits and wealth of information about Moonta and Wallaroo Mines and their significance in the development of the state.
- . Provide brochures and marketing information to educate the general public and create a greater awareness of the existence and significance of the Moonta and Wallaroo Mines.

Responsibility

The management body should provide the impetus to the promotion of the "Mines Area" to the general public and the education authorities as part of the marketing program.

14.0 Conclusion - Implementation Strategy

An implementation strategy should be established in order to provide a control on the expenditure of capital and labour. The past disjointed efforts of various parties although producing major improvements in their respective areas, have been less than efficient. It is therefore appropriate to join together these energies to develop and promote a unified approach to the development and management of the "Mines Area". The ability to undertake the development works will depend primarily on demand for the facilities and supply of funds to provide the facilities.

The primary objective of this management plan is the establishment of a major state tourist venue with particular emphasis on heritage as well as enabling the Crown to divest itself of considerable surplus property. In order that this can be achieved a number of actions need to be undertaken, actions which vary in their import, and the priorities for which will need to be firmly established by the management body. In this respect, the first of the following actions is essential.

Actions	Timing
. Establish the Moonta Wallaroo Mines management body.	July 1988
. Undertake feasibility studies for the development of features within the "Mines Area".	Ongoing, commence July 1988
. Prepare a staging program for the progressive development of the mines features.	To be completed by December 1988
. Prepare a comprehensive operations program in respect to the daily presentation and interpretation of all commercial and management activities and to co-ordinate all functions voluntary or commercial, into this operations program.	By December 1988 subject to review
. Provide the public with expert interpretation in its various forms.	Ongoing

The complexity of the "Mines Area" and their administration and management has not allowed the preparation of detailed proposals for each site to be prepared. However, there is a clear need to rationalise land ownership by the sale of areas no longer requirement by the Crown, the protection of the mines and associated historic features and subsequent tourist facilities.

The management plan is the distillation of ideas produced through the review undertaken and presented in Volumes I and II as well as those ideas provided by local and individuals interests.

The management plan identifies the main priorities and on the assumption that the most significant of these, the establishment of a management body is achieved, the management plan provides the directions to be taken. It does not profess to provide the answers to the financial, economic, management and development issues for the "Mines Area" as this is the role established for the management body, to set priorities, attain funding, identify development opportunities, manage labour resources and the like.

The management plan will not only assist the management body established, but also attempts to make it more efficient by bringing together the resources and expertise of many bodies and authorities responsible for a wide range of undertakings throughout the "Mines Area". With greater co-ordination and communication, the improvement and ordered development of the "Mines Area" can be more economically achieved.

APPENDIX A

DEFINITION OF TERMS

- . **Action:** To achieve the stated objectives there are single or multiple actions required. These may be in the form of actions undertaken.
- . **I.C.O.M.O.S.:** International Council On Monuments and Sites.
- . **Land Management Agreement:** Contract pursuant to the Planning Act, 1982, between a land owner and an institution to provide guidelines on development and management.
- . **Management Body:** The Management Committee, a body established under Section 39 of the Local Government Act.
- . **Mines Area:** The Moonta and Wallaroo Mines Areas as depicted in Study Area, Figures 1 and 2.
- . **Objective:** The objective establishes the aims for each of the management proposals. These may apply to a range of authorities and bodies with established or future interests in the Moonta and Wallaroo Mines areas.
- . **Priority:** A numbered priority system is established to provide a relativity between the numerous responsibilities of the plan. These priorities can only relate to the management plan and not those of the individual body. There must however be a level of commitment from all of the parties such that the management authority is able to implement the various objectives and actions as established by the management plan. The priority system is based on a 5 point scale, 1 being the highest priority.
- . **Responsibility:** This provides a recommendation for the body or bodies responsible for carrying out the undertakings established by the objectives and actions.

APPENDIX B

PROPOSED TENURE ALTERATIONS

MOONTA MINES STATE HERITAGE AREA

Section No.	Existing Tenure	Proposed Change to Tenure
1701	Reserve	
1702	Reserve	
1703	Reserve	
1704	Reserve	
1705	Reserve	
1706	Reserve	
1719	Freehold	
1720	Vacant	Reserve
1721	Freehold	
1777	Reserve	
1778	Licence	Reserve
1795	Reserve	
1814	Reserve	
1820	Reserve	
1836	Perpetual Lease	Freehold
1840	Perpetual Lease	Reserve
1841	Freehold	
1844	Reserve	
1846	Licence	Reserve
1852	Freehold	
1864	Perpetual Lease	Freehold
1903	Vacant	Reserve
1906	Perpetual Lease	Freehold
1907	Vacant	Reserve
1909	Licence	Freehold
1958	Freehold	
1962	Reserve	Reserve
1972	Licence	Reserve
2029	Freehold	
2035	Freehold	
2041	Licence	Freehold
2042	Freehold	
2045	Freehold	
2050	Vacant	Reserve
2058	Freehold	
2061	Freehold	

Section No.	Existing Tenure	Proposed Change to Tenure
2068	Freehold	
2069	Freehold	
2070	Licence	Freehold
2090	Freehold	
2091	Licence	Reserve
2093	Licence	Reserve
2128	Freehold	
2129	Licence	Freehold
2130	Licence	Freehold
2139	Freehold	
2140	Freehold	
2165	Freehold	
2168	Licence	Reserve
2170	Freehold	
2202	Freehold	
2236	Granted Memorial	Reserve
2244		
2275	Licence	Reserve
2276	Licence	Freehold
2277	Licence	Freehold
2278	Freehold	
2289	Licence	Freehold
2290	Licence	Freehold
2291	Freehold	
2292	Licence	Freehold
2293	Licence	Freehold
2294	Licence	Freehold
2295	Licence	Freehold
2296	Vacant	Reserve
2307	Vacant	Reserve
2323	Vacant	Freehold
2625	Vacant	Reserve
2627	Licence	Reserve
2629	Freehold	
2630	Licence	Reserve
2670	Vacant	Freehold
2671	Freehold	
2672	Freehold	
2673	Freehold	
2674	Vacant	Freehold
2677	Licence	Freehold
2678	Licence	Freehold
2679	Licence	Freehold

Section No.	Existing Tenure	Proposed Change to Tenure
2680	Licence	Freehold
2681	Licence	Freehold
2682	Licence	Freehold
2683	Vacant	Freehold
2684	Licence	Freehold
2685	Licence	Reserve
2687	Licence	Reserve
2698	Licence	Freehold
2699	Vacant	Freehold
2700	Vacant	Freehold
2715	Licence	Reserve
2722	Vacant	Freehold
2744	Licence	Reserve
2746	Licence	Reserve
2747	Freehold	
2748	Licence	Freehold
2749	Freehold	
2750	Licence	Freehold
2751	Licence	Freehold
2775	Licence	Reserve
2782	Licence	Reserve
2794	Licence	Reserve
2795	Licence	Freehold
2802	Licence	Reserve
2803	Freehold	
2804	Licence	Freehold
2805	Licence	Freehold
2806	Vacant	Freehold
2807	Freehold	
2808	Licence	Freehold
2809	Freehold	
2810	Freehold	
2811	Licence	Freehold
2812	Licence	Freehold
2813	Vacant	Freehold
2819	Licence	Freehold
2846	Vacant	Reserve
2847	Freehold	
2848	Licence	Reserve
2849	Licence	Reserve
2850	Licence	Reserve
2852	Freehold	
2853	Freehold	

Section No.	Existing Tenure	Proposed Change to Tenure
2854	Licence	Freehold
2855	Licence	Freehold
2856	Licence	Freehold
2857	Licence	Freehold
2858	Licence	Freehold
2859	Licence	Freehold
2860	Freehold	
2862	Licence	Freehold
2863	Licence	Reserve
2864	Vacant	Reserve
2865	Licence	Reserve
2888	Freehold	
2889	Freehold	
2890	Freehold	
2891	Freehold	
2898	Vacant	Freehold
2899	Licence	Freehold
2899	Freehold	
2900	Licence	Freehold
2905	Licence	Reserve
2914	Licence	Freehold
3010	Vacant	Reserve
3011	Vacant	Reserve

MOONTA MINES STATE HERITAGE AREA BUFFER ZONE

Section No.	Existing Tenure	Proposed Tenure
1690	Licence	Freehold
1718	Freehold	
1722	Freehold	
1755	Freehold	
1756	Freehold	
1757	Freehold	
1831	Reserve	
1845	Freehold	
1883	Miscellaneous	Freehold
1885	Miscellaneous	Freehold
1886	Miscellaneous	Freehold
1887	Miscellaneous	Freehold
1888	Miscellaneous	Freehold
1889	Miscellaneous	Freehold
1890	Miscellaneous	Freehold
1903	Vacant	Freehold
1905	Miscellaneous	
1928	Miscellaneous	Freehold
1929	Freehold	
1939	Freehold	
1943	Miscellaneous	Freehold
1944	Miscellaneous	Freehold
1946	Miscellaneous	Freehold
1947	Miscellaneous	Freehold
1959	Freehold	
1965	Freehold	
1966	Freehold	
1967	Licence	Freehold
1968	Miscellaneous	Freehold
1971	Licence	Freehold
1973	Licence	Freehold
1974	Freehold	
1983	Miscellaneous	Freehold
1984	Miscellaneous	Freehold
1987	Freehold	
2030	Freehold	
2033	Vacant	Freehold
2034	Freehold	
2037	Licence	Freehold
2038	Vacant	Freehold
2039	Licence	Freehold
2044	Freehold	
2047	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2047	Licence	Freehold
2048	Vacant	Freehold
2049	Licence	Freehold
2052	Freehold	
2054	Vacant	Reserve
2055	Vacant	Reserve
2057	Freehold	
2060	Freehold	
2062	Freehold	
2063	Freehold	
2064	Licence	Freehold
2065	Freehold	
2066	Licence	Freehold
2072	Freehold	
2074	Miscellaneous	Freehold
2076	Miscellaneous	Freehold
2083	Freehold	
2086	Freehold	
2088	Freehold	
2089	Freehold	
2092	Freehold	
2094	Freehold	
2095	Freehold	
2099	Freehold	
2100	Freehold	
2115	Freehold	
2120	Freehold	
2125	Freehold	
2126	Freehold	
2131	Miscellaneous	Freehold
2134	Licence	Freehold
2142	Freehold	
2145	Freehold	
2146	Freehold	
2148	Freehold	
2149	Freehold	
2150	Licence	Freehold
2167	Freehold	
2200	Freehold	
2203	Miscellaneous	Freehold
2203	Miscellaneous	Freehold
2237	Granted Memorial	
2242	Reserve	Freehold
2261	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2262	Licence	Freehold
2263	Freehold	
2264	Vacant	Freehold
2265	Licence	Freehold
2266	Freehold	
2267	Freehold	
2268	Freehold	
2269	Freehold	
2270	Freehold	
2271	Freehold	
2272	Vacant	Freehold
2273	Freehold	
2274	Freehold	
2297	Licence	Freehold
2298	Licence	Freehold
2299	Freehold	
2310	Freehold	
2312	Vacant	Freehold
2313	Licence	Freehold
2314	Licence	Freehold
2315	Licence	Freehold
2316	Vacant	Freehold
2317	Vacant	Freehold
2318	Freehold	
2319	Licence	Freehold
2320	Licence	Freehold
2325	Licence	Freehold
2326	Vacant	Freehold
2327	Vacant	Freehold
2328	Licence	Freehold
2329	Vacant	Freehold
2330	Licence	Freehold
2331	Licence	Freehold
2332	Freehold	
2333	Vacant	Freehold
2335	Licence	Freehold
2336	Licence	Freehold
2337	Freehold	
2338	Freehold	
2339	Licence	Freehold
2340	Licence	Freehold
2341	Licence	Freehold
2342	Freehold	
2343	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2344	Licence	Freehold
2345	Freehold	
2346	Licence	Freehold
2576	Licence	Freehold
2577	Licence	Freehold
2578	Licence	Freehold
2579	Freehold	
2580	Freehold	
2581	Licence	Freehold
2586	Vacant	Freehold
2587	Vacant	Freehold
2588	Freehold	
2590	Licence	Freehold
2591	Licence	Freehold
2592	Licence	Freehold
2593	Vacant	Freehold
2600	Freehold	
2601	Freehold	
2602	Freehold	
2603	Licence	Freehold
2604	Licence	Freehold
2605	Licence	Freehold
2606	Licence	Freehold
2611	Freehold	
2612	Freehold	
2613		
2614	Licence	Freehold
2615	Licence	Freehold
2616	Vacant	Freehold
2617	Licence	Freehold
2618	Licence	Freehold
2619	Licence	Freehold
2620	Freehold	
2621	Licence	Freehold
2626	Freehold	
2631	Freehold	
2632	Vacant	Freehold
2634	Freehold	
2635	Vacant	Freehold
2636	Licence	Freehold
2638	Licence	Freehold
2639	Reserve	
2640	Vacant	Freehold
2675	Vacant	Freehold

Section No.	Existing Tenure	Proposed Tenure
2676	Vacant	Freehold
2686	Miscellaneous	Freehold
2688	Licence	Freehold
2689	Freehold	
2690	Reserve	Freehold
2692	Licence	Freehold
2693	Licence	Freehold
2694	Licence	Freehold
2695	Licence	Freehold
2696	Licence	Freehold
2697	Licence	Freehold
2701	Freehold	
2702	Licence	Freehold
2703	Freehold	
2706	Licence	Freehold
2707	Licence	Freehold
2716	Freehold	
2717	Licence	Freehold
2718	Freehold	
2726	Vacant	Freehold
2727	Freehold	
2736	Licence	Freehold
2737	Freehold	
2738	Freehold	
2739	Freehold	
2740	Licence	Freehold
2741	Freehold	
2742	Licence	Freehold
2744	Licence	Freehold
2745	Freehold	
2752	Licence	Freehold
2753	Licence	Freehold
2754	Licence	Freehold
2755	Licence	Freehold
2756	Freehold	
2757	Licence	Freehold
2759	Licence	Freehold
2760	Licence	Freehold
2761	Licence	Freehold
2762	Freehold	
2763	Licence	Freehold
2764	Freehold	
2777	Vacant	Freehold
2782	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2787	Licence	Freehold
2788	Licence	Freehold
2792	Freehold	
2844	Vacant	Freehold
2861	Vacant	Freehold
2869	Miscellaneous	Freehold
2870	Miscellaneous	Freehold
2874	Freehold	
2906	Freehold	
2917	Licence	Freehold
2919	Licence	Freehold
2923	Reserve	
2925	Freehold	
2928	Freehold	
3042	Vacant	Freehold
3046	Freehold	
3047	Licence	Freehold

WALLAROO MINES - LAND EXTERNAL TO PROPOSED HERITAGE AREA

Section No.	Existing Tenure	Proposed Tenure
1472	Freehold	
1472	Freehold	
1473	Freehold	
1477	Freehold	
1478	Freehold	
1479	Freehold	
1480	Freehold	
1481	Freehold	
1482	Freehold	
1483	Freehold	
1484	Freehold	
1485	Freehold	
1486	Freehold	
1487	Freehold	
1488	Freehold	
1489	Freehold	
1490	Freehold	
1549	Freehold	
1550E	Freehold	
1551E	Freehold	
1552	Freehold	
1553	Freehold	
1558	Freehold	
1559	Vacant	Freehold
1560	Freehold	
1561	Freehold	
1562	Freehold	
1563	Freehold	
1564	Freehold	
1565	Freehold	
1566	Freehold	
1567	Freehold	
1568	Freehold	
1569	Freehold	
1570	Freehold	
1571	Freehold	
1572	Freehold	
1573	Freehold	
1574	Freehold	
1575	Freehold	
1576	Freehold	
1577	Freehold	
1578	Freehold	

Section No.	Existing Tenure	Proposed Tenure
1621	Freehold	
1723	Reserve	Freehold
1803	Reserve	
1835	Freehold	
1839	Freehold	
1842	Reserve	
1843	Freehold	
1854	Miscellaneous	Freehold
1855	Miscellaneous	Freehold
1857	Miscellaneous	Freehold
1859	Freehold	
1862	Freehold	
1866	Licence	Freehold
1869	Miscellaneous	Freehold
1870	Miscellaneous	Freehold
1871	Miscellaneous	Freehold
1873	Freehold	
1875	Miscellaneous	Freehold
1891	Freehold	
1915	Licence	Freehold
1917	Miscellaneous	Freehold
1918	Miscellaneous	Freehold
1919	Miscellaneous	Freehold
1940	Miscellaneous	Freehold
1941	Miscellaneous	Freehold
1942	Miscellaneous	Freehold
1948	Freehold	
1961	Licence	Reserve
1964	Licence	Freehold
1975	Miscellaneous	Freehold
1976	Freehold	
1977	Perpetual Lease	Freehold
1978	Perpetual Lease	Freehold
1979	Licence	Freehold
1980	Licence	Freehold
1981	Licence	Freehold
1982	Miscellaneous	Freehold
1999	Freehold	
2084	Freehold	
2087	Licence	Freehold
2101	Freehold	
2102	Freehold	
2103	Freehold	
2104	Freehold	

Section No.	Existing Tenure	Proposed Tenure
2105	Freehold	
2106	Freehold	
2107	Freehold	
2108	Freehold	
2109	Freehold	
2110	Freehold	
2111	Freehold	
2112	Freehold	
2113	Freehold	
2114	Freehold	
2121	Freehold	
2122	Reserve	
2123	Licence	Freehold
2127	Freehold	
2137	Freehold	
2141	Freehold	
2144	Freehold	
2159	Freehold	
2160	Freehold	
2161	Freehold	
2164	Licence	Freehold
2166	Freehold	
2169	Freehold	
2210	Reserve	
2222	Reserve	
2243	Freehold	
2251	Licence	Freehold
2252	Licence	Freehold
2253	Licence	Freehold
2254	Licence	Freehold
2255	Vacant	Freehold
2280	Licence	Freehold
2281	Licence	Freehold
2282	Freehold	
2283	Freehold	
2284	Licence	Freehold
2285	Licence	Freehold
2286	Licence	Freehold
2287	Freehold	
2288	Licence	Freehold
2300	Reserve	
2301	Freehold	
2302	Freehold	
2303	Freehold	

Section No.	Existing Tenure	Proposed Tenure
2304	Freehold	
2305	Licence	Reserve
2306	Freehold	
2309	Freehold	
2311	Freehold	
2347	Licence	Freehold
2350	Licence	Freehold
2351	Licence	Freehold
2356	Licence	Freehold
2357	Freehold	
2358	Licence	Freehold
2359	Licence	Freehold
2360	Licence	Freehold
2361	Licence	Freehold
2362	Licence	Freehold
2363	Licence	Freehold
2364	Licence	Freehold
2388	Vacant	Freehold
2389	Licence	Freehold
2390	Licence	Freehold
2391	Vacant	Freehold
2406	Vacant	Licence
2407	Licence	
2408	Licence	Freehold
2409	Licence	Freehold
2410	Licence	Freehold
2413	Freehold	
2414	Freehold	
2415	Freehold	
2416	Licence	Freehold
2417	Licence	Freehold
2418	Licence	Freehold
2419	Licence	Freehold
2420	Freehold	
2421	Licence	Freehold
2422	Licence	Freehold
2423	Licence	Freehold
2424	Licence	Freehold
2425	Licence	Freehold
2426	Licence	Freehold
2427	Licence	Freehold
2428	Licence	Freehold
2429	Licence	Freehold
2430	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2431	Licence	Freehold
2457 Part	Licence	Freehold
2458	Licence	Freehold
2460	Freehold	
2461	Licence	Freehold
2462	Licence	Freehold
2463	Licence	Freehold
2464	Licence	Freehold
2465	Licence	Freehold
2467	Licence	Freehold
2468	Licence	Freehold
2469	Licence	Freehold
2470	Freehold	
2471	Freehold	
2472	Licence	Freehold
2473	Freehold	
2474	Licence	Freehold
2475	Licence	Freehold
2476	Licence	Freehold
2478	Licence	Freehold
2479	Licence	Freehold
2481	Licence	Freehold
2482	Vacant	Freehold
2482	Licence	Freehold
2483	Licence	Freehold
2485	Licence	Freehold
2486	Licence	
2489	Licence	
2490	Licence	Freehold
2491	Licence	Freehold
2492	Licence	Freehold
2493	Licence	Freehold
2494	Licence	Freehold
2496	Licence	Freehold
2497	Licence	Freehold
2500	Licence	Freehold
2501	Licence	Freehold
2502	Licence	Freehold
2503	Licence	Freehold
2504	Licence	Freehold
2505	Licence	Freehold
2506	Licence	Freehold
2507	Licence	Freehold
2508	Licence	Freehold

Section No.	Existing Tenure	Proposed Tenure
2509	Licence	
2510	Vacant	Freehold
2511	Licence	Freehold
2512	Licence	Freehold
2513	Licence	Freehold
2514	Licence	Freehold
2515	Licence	Freehold
2516	Freehold	
2517	Licence	Freehold
2518	Licence	Freehold
2519	Licence	Freehold
2520	Licence	Freehold
2523	Licence	Freehold
2524	Miscellaneous	Freehold
2525	Licence	Freehold
2526	Licence	Freehold
2527	Licence	Freehold
2528	Licence	Freehold
2529	Licence	Freehold
2530	Licence	Freehold
2531	Licence	Freehold
2532	Licence	Freehold
2533	Licence	Freehold
2534	Licence	Freehold
2771	Vacant	Freehold
2772	Vacant	Freehold
2773	Licence	Freehold
2774	Vacant	Freehold
2789	Licence	Freehold
2793	Freehold	
2796	Licence	Freehold
2892	Freehold	

WALLAROO MINES - LAND WITHIN PROPOSED HERITAGE AREA

Section No.	Existing Tenure	Proposed Tenure
1824	Perpetual Lease	Freehold
1826	Perpetual Lease	Freehold
1828	Freehold	
1837	Perpetual Lease	Reserve
1863	Licence	Reserve
2098	Freehold	
2349	Vacant	Reserve
2352	Vacant	Freehold
2353	Vacant	Freehold
2354	Licence	Freehold
2392	Licence	Reserve
2393	Licence	Reserve
2394	Freehold	
2395	Freehold	
2396	Licence	Reserve
2397	Licence	Reserve
2398	Licence	Reserve
2399	Freehold	Reserve
2400	Licence	Reserve
2401	Licence	Reserve
2402	Licence	Reserve
2403	Licence	Reserve
2404	Licence	Reserve
2405	Licence	Reserve
2411	Licence	Reserve
2412	Licence	Reserve
2432	Freehold	
2433	Freehold	
2434	Licence	Freehold
2435	Licence	Freehold
2436	Licence	Freehold
2437	Licence	Freehold
2438	Licence	Freehold
2439	Licence	Freehold
2440	Licence	Freehold
2441	Licence	Freehold
2442	Licence	Freehold
2443	Licence	Freehold
2444	Licence	Freehold
2445	Licence	Freehold
2446	Licence	Freehold
2447	Licence	Freehold
2448	Licence	Freehold

shown as
Freehold on
map Vol 2
Figure 3.4
also Vol 3
Figure 4

Section No.	Existing Tenure	Proposed Tenure
2449	Licence	Reserve
2450	Freehold	
2451	Freehold	
2452	Licence	Freehold
2453	Licence	Reserve
2454	Vacant	Reserve
2455	Licence	Freehold
2456	Licence	Freehold
2457 Part	Licence	Reserve
2459	Licence	Reserve
2477	Vacant	Reserve
2495	Vacant	Reserve
2498	Licence	Reserve
2499	Licence	Reserve
2535	Freehold	
2536	Licence	Reserve
2768	Reserve	
2769	Vacant	Reserve

APPENDIX C

LAND MANAGEMENT AGREEMENTS

The following details of the procedures, considerations and contents generally applicable to land management agreements.

The strategy taken with land management agreements generally follows the following sequence.

- . the identification of issues and situations to which management agreements should apply;
- . the determination of priorities for action;
- . the application of management agreements to selected subjects on a trial or test basis, as a guide to future management agreements;
- . the monitoring of management agreements;
- . possible refinement and promotion of management agreements.

A number of factors have to be considered in the establishment of management agreements, including:

- . are the circumstances such as to warrant an agreement, how important is the feature, are proposed changes acceptable or otherwise?
- . what action is required, is the agreement for restoration, maintenance, enhancement, or development?
- . who are the parties responsible in terms of the management agreement, what role will they play in the implementation of the agreement, how will the costs and benefits of the agreement be apportioned?
- . what party or parties have the resources in terms of finance, time, labour and expertise to arrange and implement the agreement?
- . if appropriate, what compensation, assistance or payment, should be made for the agreement?

- . the agreement is to be made between the Minister responsible at the time for those relevant provisions under the Planning Act, 1982, and the agreeing party. However, in many instances such agreement may be catalysed through the Department of Lands on instigation of the sale or freeholding of the subject land, or by the management body proposed to be established?
- . full legal documentation will be required for the registration of the agreement and where this occurs as a consequence of the sale or freeholding of land, the cost should be borne by the Crown;
- . although not irrevocable, the agreement should be made where a long term management mechanism is essential.

The contents of these agreements are as important as the legislation that enables them. They should contain the following information:

- . the parties, the grantor and the grantee;
- . site, place or feature identification by title references and plan;
- . the nature of the features or site or item subject of the agreement;
- . identification of the constraints and the opportunities to establish the requirements of and to secure the aim of the agreement;
- . details and definition of the agreement in terms of parties responsibilities and the controls imposed;
- . any rights of the parties;
- . the terms of the agreement, payment if appropriate, review, notification of change of ownership, and advice on default.