

# STONY RANGE FLORA RESERVE

## FINAL MANAGEMENT STRATEGY PLAN

REFERENCE ONLY  
NOT FOR LOAN

Nov. 1994

Prepared for

Warringah Council

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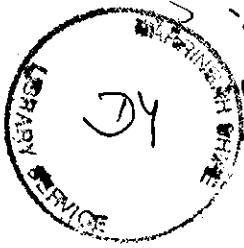


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## **1.0 RECOMMENDATIONS**

- 1.1 That Council appoint a salaried Reserve Manager ( Stony Range / Manly Dam) and an appropriately experienced Groundsman for Stony Range Reserve. Both appointments being within the current establishment by utilising the operational nexus with Manly Dam Reserve to enable a sharing of personnel functions and costs. These positions to be established within Council's Conservation Branch in lieu of the Property Branch as present.
- 1.2 That the present Management Committee at the expiry of its term (Oct 1995) be reconstituted under Section 355 as an Advisory Committee under Section 377. The new Committee to report to and assist the Reserve Manager in the maintenance and development of the Reserve, the implementation of the educative programs, and the encouragement of broader community involvement.
- 1.3 That Council seek professional advice from the Northern Region Environmental Educators Committee (Chairman David Tribe) in regard to developing the educative role of the Reserve.
- 1.4 That Council's Conservation Branch investigate and report on the opportunities for establishing Stony Range as a resource centre for the Council's Bushland Management Program, and as a specialist display and propagation centre for rare and endangered native plants of the local region.
- 1.5 That Council adopt the attached Development Program in principle and consider allocation of Improvement Funds for these works in its future Work Programs.
- 1.6 That as a priority, the Committee utilise existing funds held in trust, for the professional design of a comprehensive interpretative and directional signage system.



## STONY RANGE FLORA RESERVE DEVELOPMENT PROGRAM

PRIORITY	ITEM	95/96	96/97	97/98	98/99	99/00	EXPENDITURE
1	Nursery upgrade						\$ 5,000
2	Interpretative and directional signs						\$ 10,000
3	Path repairs and upgrade						\$ 15,000
4	Visitor centre upgrade						\$ 80,000
5	Entry upgrade						\$ 30,000
6	Boundary works						\$ 30,000
	Total						\$ 170,000



## 2.0

### BRIEF

Woodhead Firth Lee was commissioned by Warringah Council on 21st April 1993 to prepare a Management Strategy Plan for Stony Range Flora Reserve.

This Plan is required to address three management objectives for the Reserve, mainly:

1. Conservation of the endemic plant communities and the display of Australian Flora for public enjoyment and education.
2. Promotion of the Reserve through a program of recreational and educational activities.
3. Encouragement of public, professional and scientific involvement in the Reserve's management.

The purpose of the Plan will be to establish a set of mutually agreed goals by which Council and the Management Committee will develop and manage the Reserve.

This will be achieved by a series of recommendations on the Reserve's:

- a) Regional and Local Roles.
- b) Management Structure
- c) Development Program
- d) Operational Standards

### 3.0

## BACKGROUND

The present Crown lands known as Stony Range Flora Reserve were generally established with the Notification of Reserve No. 138 for Public Recreation in the Government Gazette of 3rd April 1886.

Predominantly through the efforts of Councillor Joe Corkey, the present Reserve No. 79601 was Gazetted on 10th May 1957 for the "Promotion of Native Flora and Fauna", with Warringah Shire Council being responsible for its care, control and management.

Council subsequently formed a Management Committee with membership drawn from the Manly Warringah Flora and Fauna Protection Society, which was instrumental in persuading the State Government to establish the Reserve. The first meeting of the Committee was held on 24th October 1957.

In 1962 the Department of Lands and Warringah Council agreed to representations proposing to close all but 6 metres of the adjoining road reservation to the north of the Reserve, and to incorporate this into the Reserve. Following years of inertia, the incorporation was finally Gazetted on 15 May 1987.

Additional land was also added to the Reserve in 1968, with the dedication of approx. 1/4 hectare of Hawkesbury sandstone hillside land to the south of the Reserve, as part of the subdivision of the "Bonds" site. This area now incorporates the Flannel Flower area, which includes the west facing escarpment containing a pristine community of endemic flora.

An excellent detailed history of the Reserve has been prepared by Management Committee member Harry Kilby, refer Reference (ii).



## 4.0

### CURRENT STATUS

The Reserve currently consists of 3.6425 ha of fenced bushland in a well maintained and well presented form. Its primary role is one of display of native plants from all over Australia, in addition to the local flora.

Facilities currently consist of the "Corkery Building" consisting of a 45 m<sup>2</sup> Meeting Hall with associated kitchenette, store and toilets), Caretakers Residence of 103 m<sup>2</sup>, Nursery Compound of 350 m<sup>2</sup>, a shade house of 22 m<sup>2</sup>, two glass houses totalling 30 m<sup>2</sup>, and a single vehicle garage.

A comprehensive network of walking trails provides access to every section of the Reserve, and adequate carparking for 28 vehicles is provided with direct access off Pittwater Road.

The reserve is securely titled and zoned, being a Crown Reserve under Council's "care, control and management", and is zoned Open Space 6(a) Existing Recreation.

Council currently outlays \$35,054 per annum to maintain the Reserve, representing 1.27% of Council's annual Parks and Reserves maintenance budget.

Stony Range represents 0.74% of Warringah's "developed" parks area, and 0.44% of its "undeveloped / bushland" open space.

The Management Committee has been duly constituted pursuant to Section 527 and 530a of the Local Government Act and operates under its own Constitution with its current term effective to 15/10/95. The committee meets formally four times per year, with frequent informal meetings as required.

Current elected citizen members are:

Hon President	-	Mr Alec Blombery
Publicity Secretary	-	Ms Betty Maloney
Hon. Secretary	-	Mr John Burton
Acting Hon. Sec.	-	Mr Phil Lane
Treasurer	-	Mr Harry Kilby
	-	Mr Reg Rees

plus 5 ex-officio members from Council.

No current visitor statistics are available but levels are considered moderately low relative to similar facilities such as the Joseph Banks Native Plant Garden, Kareela; and Ku-ring-gai Wildflower Garden, St. Ives.

Usage beyond activities organised by the Committee is generally limited to casual recreation, one off regional visitors, photography sessions, art classes, civil weddings adjacent the rainforest pond, special interest group uses of the meeting room and nursery facilities, and voluntary worker activities in maintenance and development of the Reserve.

The educational / interpretative role of the Reserve is virtually non existent due to the lack of both interpretative material and support personnel.

Promotion of the Reserve and the organisation of activities and events is constrained by the limited time and resources of the Management Committee. Major crowd attractions and public awareness events are currently limited to the two main annual events which attract in the order of 800 - 900 visitors each, i.e. the Management Committee's "Gala Day" held the first Sunday in March (Autumn) and the "Subscribers Day" organised by the Society for Growing Australian Plants in early September (Spring), which is at the height of the spring flowering (mid August to late September).

School group visits are only occasional and are not supported with formal interpretative material specifically designed to meet curricula needs. The Reserve's Gardener, David Buckner, does perform a limited interpretative role with general public horticultural enquires, and he presently assists with school groups when requested. This role is outside his job requirements and is not supported with prepared material within a curriculum orientated program. The education process ceases at the gate as there is no reinforcement of the learning experience through continuing programs of reading, experimenting, planting, collecting etc.

**In summary, Stony Range Flora Reserve is well managed and maintained to fulfil its first objective of conservation of the endemic plant communities and the display of Australian Flora for public enjoyment and education.**

**However, it is not at present effectively addressing the other two equally important objectives of:**

- i) promotion through recreational and educational programs**
- ii) ensuring continued public, professional and scientific involvement in its future management.**

**THE FUTURE OF STONY RANGE FLORA RESERVE LIES NOT IN BEING A COCOONED "EXHIBIT", BUT IN BEING AN INTERACTIVE COMMUNITY RESOURCE.**

## 5 DRAFT STRATEGY PLAN RECOMMENDATIONS

### 5.1 REGIONAL AND LOCAL ROLES

Stony Range Flora Reserve is a unique “natural” resource within the northern Sydney Region.

It compliments but is not duplicated by, other high standard native flora resource facilities within the region.

It has the potential to perform a unique role within the region’s network of environmental resource centres, namely the Coastal Environment Centre, the Manly Environment Centre, Ku-ring-gai Wildflower Garden, and the Garigal and Ku-ring-gai Chase National Parks system.

Particularly, the Reserve is unique in its compact floral diversity, from “rainforest” to “heathland”, which lends it well to both exhibition and education roles. It is no longer simply a “museum” of the endemic flora of Dee Why, for through the efforts of the past and present Management Committees, it contains a rich diversity of Australian flora arranged in easily accessed, comprehensible communities.

Concurrently, the Region has a high public interest in the natural environment generally, and in native flora specifically, a fact evidenced by the existence and high usage of the regional environmental resource centres mentioned above, and the active environmental education programs in the Region’s schools.

**It is therefore logical to match the resource to the demand by establishing proactive education and recreation programs based around the opportunities available at Stony Range.**

Such programs do not demand significant physical resources, but they do require support materials and sensitive management. This role is one that Council would need to coordinate with the regional resource centres and education authorities. It is not a role for the Management Committee per se, although it would need the Committee’s support.

Warringah is fortunate in that Manly Vale Public School is classified as a Centre of Excellence in Environmental Education, and as such is well placed to assist in the development of curriculum based environmental education programs. David Tribe (Principal) has indicated his willingness to assist on a professional basis in this regard, through the Metropolitan North Region Environmental Education Committee. It is recommended that Council pursue this role offer for Stony Range.

Stony Range due to its specific focus on Australian flora, has also the potential if correctly managed to be a specialised resource centre for rare and endangered native plants, and bushland management practices, two areas of interest not specifically addressed by the other regional centres. Council’s own staff are well placed and experienced to establish such a resource centre.

## **5.2 MANAGEMENT STRUCTURE**

### **5.21 Present Committee**

The past and present management structure for the Reserve, namely a formally constituted 527/530a Management Committee of interested citizens, has served the reserve well in achieving the primary objective for which Stony Range was originally established, that is, the preservation and presentation of endemic and Australian flora.

The present management structure is not able to meet the other primary objectives involving a broad based, active public involvement in recreational and educational programs centred on the Reserve.

The majority of the present members will most likely be unavailable beyond the life of the present Committee (i.e. October 1995), and therefore it is opportune to address a new Committee structure to carry the operation of Stony Range into the next century.

### **5.22 Proposed Committee**

It is proposed that the future structure should be one of an Advisory Committee more open to the broader community, thus attracting a more diverse background of expertise and general environmental interest. Greater representation from related organisations (e.g. S.G.A.P., Friends of the Bush, North Metrop. Env. Education) and volunteer worker groups should be actively encouraged, at the same time maintaining a core of expertise in native plant ecology and propagation.

The emphasis should shift from one of "management" to one of "advisory", with overall management being placed in the hands of an experienced professional full time Reserve Manager, who would be responsible for the day to day operation of the Reserve and its activities, coordination with other resource centres, and liaison with the Committee. The Reserve Manager would be employed by and answerable to Council, for staffing, budget and administrative matters.

The Committee would need to be reconstituted under Section 355 of the Local Government Act, with its defined functions established under S 377 as an Advisory Committee assisting the Reserve Manager with policy, operational standards, educational and recreational programs and development of a resource library, herbarium and interactive information system. etc.

### 5.23 Reserve Management

Stony Range has to date been managed by Council staff on a "part time, as needs" basis, with little interaction between the Management Committee and Council's Parks Management.

The initiatives, program and works recommended within this report will only be successfully implemented if a more pro active, dedicated management resource is provided by Council.

This report identifies an operational nexus between Manly Dam Reserve and Stony Range Reserve. Both reserves currently have on site staff, are fenced and are open to the public only during daylight hours. Manly Dam Reserve is the most significant bushland reserve in Warringah and the Stony Range Flora Reserve represents a unique display of Australian flora. As such both complement each other and are well suited to a resource role in Warringah's program for environmental education and ecotourism.

It is strongly recommended that this role interplay be reflected in the management structure of the reserve, by the provision of a common "Manager" who would be dedicated solely to these two reserves in a "hands on" capacity, with responsibility for implementing the approved programs, liaison with the public, liaison with the Advisory Committee, and an advisory overview of all operational functions.

It is recommended that the present positions of Park Manager (Manly Dam) and Assistant Manager be redefined to reflect the above mentioned nexus between Manly Dam and Stony Range and that the roles and responsibilities for all existing reserves be subject to Council's current work redesign process.

Council's Property Reserves Branch has responsibility for the majority of Warringah's developed reserves, comprising intensively used, active recreation facilities which require the specified management skills of grounds and building maintenance, and amenity horticulture. These skills are quite distinct from the natural area management skills required for both Stony Range and Manly Dam. To enable each reserve to perform its function in Warringah's program of environmental education, each will require management which ensures that it provides an example of excellence in land management practice.

The management role requirements for Stony Range and Manly Dam Reserves are:

- 1. Management**
- 2. Environmental Education and Public Liaison**
- 3. Natural Area Interpretation**
- 4. Advisory Committee and Park Operations Liaison.**

Under Council's new corporate structure, these roles are more related functionally and vocationally within Council's Conservation Branch (Environmental Management Division), rather than as at present with the Property Reserves Branch (Finance and Corporate Services Divisions) as at present.

The Conservation Branch now has functional responsibility for Environmental Research and Education, Environmental Projects, and Bushland Management, the bulk of which are directly related to the core operations of the two subjects reserves. The professional skill base offered by the Conservation Branch's Environmental Officers (6) is also directly applicable to these two reserves, more so than the Reserves and Building Services (Maintenance) skills of the Property Branch.

It is therefore recommended that the present positions of Park Manager (Manly Dam) and Assistant Manager within the Property Reserves Branch, be redefined as Reserve Manager (Manly Dam / Stony Range) and Assistant Reserves Manager within the Conservation Branch. Refer to the attached Position Description Appendix II.

#### **5.24 Management Hierarchy**

It is recommended that the following reporting hierarchy structure be implemented under a reconstituted Committee.

- |  |  |
|--|--|
| <b>Level 1 Council</b>                           | - financial, legal and promotional support.  |
| <b>Level 2 Manager</b>                           | - managerial responsibility for all activities.<br>- staff supervision, public liaison, maintenance works, improvement works                                       |
| <b>Level 3 Advisory Committee</b>                | - supports Manager to develop programs<br>- organises volunteers, promotes public involvement, provides technical advice.<br>- liaison with Royal Botanic Gardens. |
| <b>Level 4 Volunteers &amp; Community Groups</b> | - assist in maintenance works.<br>- assist in educative/interpretative works.  |

#### **5.25 Staffing Levels**

Staffing levels will be dependent on the level of community (volunteer) assistance that is stimulated by this Plan.

Assuming an active core group of twelve volunteers making available two days per month, it is considered that five days per week would be required for general maintenance duties by a groundsman / ranger trained in natural area management. The Manager's time would generally be divided between the related activities of Manly Dam, but would equate to 2.5 days per week on average for Stony Range Reserve.

This equates to a total of 7.5 days per week by Council employees, supplemented by voluntary assistance. This is a marginal increase on the present level of one full time groundsman (five days/week) and occasional Supervisory input.

### **5.3 OPERATIONAL STANDARDS**

Generally the Reserve is well presented to the public, but many areas of detail and quality need to be addressed if the higher standards now expected by park visitors (and currently offered by similar facilities,) are to be met.

A list of items requiring attention follows and the recommended approach is given.

#### **5.31 Trail Hierarchy**

- Problem
- the present trail network is extensive and lacks definition or any hierarchical logic.
  - the system of paths is confusing to the unfamiliar visitor and does not easily address the different needs of walkers (short walks, long walks, disabled access etc)
  - several sections of trail are in need of repair.
- Solutions
- a clearly defined hierarchy of trails in proposed (refer Trail Hierarchy Plan)
  - the hierarchy should be physically evident to the walker by the visual clues of surface width, surface finish and vegetative enclosure. These different treatments are indicated on the Plan.
  - coloured directional signage of both the entrance and trail junctions is required, supported by a colour pamphlet associated with the interpretative material collected at the entrance. Positions noted on the Plan
  - a program of path repairs/upgrading is required. (refer Trail Condition Plan)

### **5.32 Interpretation and Education**

- Problem** - other than the monochrome pamphlet currently available to visitors and the plant identification plaques adjacent the trails, there is little interpretative material available to casual visitors or organised groups.
- Solutions**
- a static display is required at the entrance assembly area to provide a basic introduction to the Reserve, background, opportunities and layout
  - detailed pamphlets should be available at this point addressing a range of topics from specimen lists, fauna, plant communities represented etc.
  - a resource library should be established along with a herbarium of local and rare native plants, all to be displayed in the enlarged Visitors Centre.
  - development of an interactive computer base information system to serve both students and bushland management interests.
  - information as to where to obtain greater detail, such as from the other resource centres, is essential
  - pamphlets should also be available at key locations around the trail network to reinforce the general information and provide greater detail and interest (refer to Trail Hierarchy Plan)

### **5.33 Awareness**

- Problem** - the public awareness of what Stony Range offers is very limited as publicity is restricted to the voluntary efforts of the Committee members, and is generally limited to the two annual functions which attract 800 - 900 visitors each.
- Solutions**
- that Council more actively promote the opportunities available at Stony Range through press releases, activity programs and community group use of the meeting room within the Reserve.
  - that the existing building be enlarged to provide a more functional facility, thereby attracting greater use of the Reserve.
  - that the sign facing Warringah Road be upgraded to improve its impact
  - that a directional blade sign be erected at the top of the Tango Ave steps



### **5.34 Boundary Impacts**

- Problems
- adjoining developments to the south west of the site visually impact on the Reserve
  - southern boundary fencing is in a poor state of repair and requires replacement in sections
  - weed invasion from adjoining properties is occurring in the north eastern, south and south western boundaries
- Solutions
- St Lukes Grammar School should be invited to participate in a revegetation program to restore the common southern boundary. Removal of the dilapidated fence may be possible in some sections after revegetation.
  - the southern boundary fence be repaired
  - heavy planting and creation of buffer zones may be necessary in heavily infested areas, using "weedmat" or similar treatments.

### **5.35 Definition**

- Problems
- the boundary of many of the different vegetation communities or "exhibits" is not clearly defined
  - a "clash" of communities is confusing to the observer and weakens the interpretative message
- Solutions
- physically define the extent (boundary) of the distinct vegetation communities, such as "the rainforest", "primitive area" etc by clear planting definition and appropriate signs. Avoid mixing of species from differing communities

### **5.36 Nursery**

- Problem
- the Nursery is generally unavailable to the visitor as a source of interest, education and plant supply.
  - material delivery and storage for the Nursery is difficult
- Solutions
- upgrade the propagation activity of the nursery to provide the Reserve and interested public groups with endangered or rare native flora
  - the role of the Nursery in Council's Bushland Management Program could be expanded to propagate local genotype stock.
  - provide a clear roof structure between the nursery and garage to create additional shelter and work space

### 5.37

#### Furniture

- Problem - the present random collection of seats and signs is aesthetically displeasing and it reflects on the management standards of the Reserve (refer photographic examples of poor installations)
- various irrigation lines, hose cocks and litter bins are poorly sited and unsympathetically presented; they should not be strikingly visible in such a natural setting
- Solutions - all irrigation lines to be soil covered and well mulched over
- stand pipes and posts to be painted a dark neutral green
- remove all unwarranted regulatory signs and carefully design and locate information signs
- litter bins should be located only at the entry assembly area and the meeting room

## 5.4

### DEVELOPMENT PROGRAM

If the thrust of the Strategy is adopted by Council and the Committee i.e. a more proactive approach to the recreational and educational roles of the Reserve, then upgrading of certain facilities will be required to optimise the opportunities available.

A list of development works is described below and an indicative expenditure program follows.

#### Priority 1 Nursery Upgrade

- |          |  |
|----------|--|
| Need     | - the operation of the Nursery is presently constrained by poor access, and storage/delivery of materials  |
| Proposal | <ul style="list-style-type: none"><li>- rationalise the layout of the Nursery without significantly altering its present extent</li><li>- provide a clear sheet roof between the garage and potting shed to provide additional shelter</li><li>- introduce a band of tall shrub planting between the Nursery and the Rainforest Pond area to screen the Nursery.</li></ul> |

#### Priority 2 Interpretative and Directional Signs

- |          |  |
|----------|--|
| Need     | <ul style="list-style-type: none"><li>- the present directional signs at the entry point and trail junctions are totally inadequate, and do not assist with comprehension of the trail hierarchy or network.</li><li>- very little quality interpretative material is presented in loose or fixed form, temporary paper signs reflect poorly on the Reserve's standards.</li></ul> |
| Proposal | <ul style="list-style-type: none"><li>- install a quality photo engraved, colour coded trail sign system at all major trail junctions and at the entry point.</li><li>- refer trail Hierarchy Plan for locations</li></ul>   |

### **Priority 3 Trail Repairs and Rationalisation**

- Need
- the hierarchy of trails is ill defined and trails are too numerous.
  - several sections of trail are eroding due to poor surface and/or drainage.
  - disabled access is presently very limited.
- Proposal
- close to public access by subtle signage and surface treatment, eight trails shown on Trail Hierarchy Plan.
  - define the main walking loop by clear signage and well maintained treatment of stabilised materials.
  - define the secondary tracks by clear signage and lesser maintenance of loose surface materials eg. mulch/leaf litter.

### **Priority 4 Visitor Centre Upgrade**

- Need
- to provide a more attractive, comfortable Meeting Facility that caters for the needs of interest groups, volunteer workers, school groups and permanent interpretative display material.
- Proposal
- extend the existing Corkery Building (deleting the name in the process) by provision of a large glass enclosed wrap around verandah sufficient to accommodate up to 70 people (a concept plan is attached).
  - These extensions are to provide for greater meeting, display and teaching space. It is not considered appropriate or viable to provide any form of commercial concession such as a tea room or kiosk as part of this improvement.
  - provide secure separate storage spaces off the main meeting room for the Committee and volunteer groups
  - upgrade the kitchenette and toilets to a standard befitting a function space
  - use warm natural finishes such as untreated timbers and earthy tone colours so the building blends into its setting and is not visibly prominent from the “rainforest pond” area.

### **Priority 5 Entry Relocation**

- Need
- the present entry gates do not present an inviting arrival experience as they are located close to the high noise source of Pittwater Road, they are used as a service entry by vehicles and therefore do not have a pedestrian scale, they direct the visitors attention to the poorly presented meeting room rather than the focal attraction of the "rainforest pond" area.
  - the entry assembly area requires an architectural "statement" giving a sense of passing from the busy "outside world" to the "inner sanctuary"
  - the entry requires shelter for the display of interpretative materials and directional information.
- Proposal
- the existing gates to be kept closed and used only for service access to the nursery, garage and meeting room
  - a new public entrance structure to be constructed at the eastern end of the carpark on presently undeveloped land, with a strong architectural form of simple gabled roof and posts, which will act as an assembly area and house preliminary directional and interpretative information (refer to Proposed Entry Plan).
  - the remaining carpark area to be landscaped with a strong display of native cultivars (refer attached)

### **Priority 6 Boundary Works**

- Need
- the majority of the boundary fencing is reaching the end of its practical life, and some areas have been damaged by adjoining development
  - a significant noise impact from Pittwater Road traffic is evident in the western and northern areas, which degrades the internal experience
- Proposal
- that damaged and derelict sections of the boundary fencing be progressively replaced over the next ten years with black PVC coated wire mesh
  - that advice be sought on the effectiveness of reducing traffic noise penetration into the Reserve from Pittwater Road

## **6.0**

### **LIAISON AND FEEDBACK**

In preparing this Strategy Plan, many and varied opinions were received from those currently involved with the Reserve, namely Councillors, Committee Members, Council Staff, and environmental educationalists. It is clear there is general consensus on the broad roles and future directions for the Reserve and its Management. Divergences were in detail rather than in broad strategy or direction.

A list of people who provided formal input to the preparation of this Strategy Plan is attached (Appendix). A multitude of informal inputs have also been taken into consideration.

These inputs were predominantly through interview, and in some cases were received by written submission. Formal comments were also received on the Preliminary Draft Plan from Council and the Committee, prior to presentation of this Final Draft.

A precise of comments and suggestions is listed below, in the broad categories of:

#### **6.1 Role**

#### **6.2 Management**

#### **6.3 Operations**

#### **6.4 Development**

#### **6.5 Responses to Preliminary Draft Plan.**

## 6.1

### ROLE COMMENTS RECEIVED

- There is a need for greater public awareness of Stony Range as a unique Reserve.
- Relationship with related regional centres (Coastal Environment Centre and Manly Environment Centre) needs to be strengthened. Stony Range should be seen as a resource adjunct for these centres.
- Education role has not been developed. This role is unable to be fulfilled by the present Committee.
- Education role should not duplicate what is available from other Centres, but rather Stony Range should specialise i.e. bushland management, rare and endangered native plants etc.
- Nexus with Manly Dam Reserve should be investigated to enable a more efficient use of resources.
- Manly Dam Reserve should have principal environmental education role, with Stony Range acting as a specialist demonstration of Australian plant diversity, where as Manly Dam demonstrates endemic plant communities at a scale of Total Catchment Management (TCM).
- Activities such as civil weddings, outdoor art classes, photographic sessions etc. should be encouraged / promoted.
- Stony Range is to be recognised as a resource centre for information on growing Australian “native” plants, with interpretative displays, workshops, and literature on propagation, seed gathering and planting, with an emphasis on native plants in the urban environment.
- The former close relationship with the Royal Botanic Gardens should be reactivated. Exchange of plant and interpretative material is invaluable.
- Stony Range could become a meeting centre for the Shire’s “Friends of the Bush”, who could assist with displays, workshops etc regarding Bushland Management.
- The Corkery Building should be developed to be used as a display centre for the Shire’s environmental management works, reports and data bases.
- Role of Stony Range needs to be addressed in the review of the Plan of Management for Manly Dam, due to their interrelationship.
- The Reserve has ceased to be a flora reserve in the pure local sense, as plants from outside the local area have been introduced. It is now more of a mini botanic gardens with plant representatives from all over Australia.
- Use of the words “Botanic Gardens” now prescribes a standard of operation not applicable to Stony Range and therefore use of this term is not appropriate.

## 6.2

### MANAGEMENT COMMENTS RECEIVED

- There is a need for a Curator to effectively operate and promote the Reserve.
- Role of Council Gardener is limited in a natural Reserve, given their typical “horticultural” training which generally lacks a focus on native plant community management.
- Present role of Caretaker is working well, with 14 hours / week services namely gate closing and opening, cleaning, Reserve bookings and Sunday nursery watering.
- Management Committee needs to attract “fresh blood” to ensure its ongoing effectiveness.
- The voluntary worker group is aging and declining in numbers. Voluntary workers are currently not represented on the Committee. At least 2 Committee members should be elected by the volunteer groups.
- A Curator needs to be appointed with training in both Natural Resource Management and Horticulture to direct work in both Manly Dam Reserve and Stony Range. The Curator should be assisted by the Management Committee.
- Creation of the position of Curator would alleviate the need for the position of Honorary Director.
- Relations between Council’s grounds staff and the Committee has not always been satisfactory, mainly due to differences in horticultural work practices and task priorities. These differences need to be resolved. Appointment of a Curator would resolve this problem.
- The Committee should broaden its community focus to a more educative role, and away from the present day to day management role.



**OPERATIONAL COMMENTS RECEIVED**

- Clear delineation of the rainforest area is required to avoid a gradual encroachment into the adjoining dry sclerophyll communities.
- Information and direction signs need priority attention.
- Trail hierarchy requires rationalisation and needs to be clearly communicated to users.
- There are too many trails, resulting in “over development”
- Interpretative pamphlets are required at least eight stations on the trail network. Present material is inadequate graphically and contextually.
- The Sign facing the Warringah Road intersection requires redesign/renewal.
- A standard street blade direction sign to the Reserve is required at the top of the Tango Avenue Steps.
- Park furniture needs to be standardised throughout, to avoid the conglomeration of seats, tables and signs at present.
- Fencing needs repair on the southern boundary due to damage from adjoining development.
- Nursery requires rationalising to improve material storage and access.
- The reserve should only contain naturally occurring native plants (not cultivars). Native cultivars should be restricted to the carpark surrounds where their showier appearance may attract visitors.
- The nursery operations should be developed to provide a source of rare native plant material for the Shire and particularly for Manly Dam Reserve and Stony Range. This is seen as a "specialist", low volume role.
- South Western boundary area should be left entirely natural with no introduced plants, and the trail diverted to minimise access.
- The southern boundary with St. Lukes Grammar School is heavily weed invested and requires reintroduction of endemic species.
- St. Lukes Grammar School should be approached to involve students in the regeneration of this area, both sides of the boundary fence.
- The “primitive plant” area in the north - easter corner requires special attention due to impacts from weed and nutrient invasion.
- A continuous disabled / infirm access track is restricted by the steepness of the western escarpment. An improved trail route should be found through this area.

- Weed invasion is particularly severe on the immediate southern and eastern boundaries. Heavy mulching or weedmesh should be considered in these heavily infested areas. They should be treated as buffer zones and maintained as such.
- The glasshouse is presently under-utilised and could be considered for a more “commercial” use to assist with revenue raising. Security issues would need to be addressed.

**DEVELOPMENT SUGGESTIONS RECEIVED**

- Meeting Room requires extension, either by an upper floor or ground floor extension to accommodate larger groups.
- Existing building is inadequate for school groups.
- Existing building has inadequate storage facilities for voluntary workers. A dedicated store is required off the main room.
- Disabled access to all but the rainforest pond precinct is difficult. Need to improve disabled / infirm access on at least the main ring trail.
- Potential sources of Capital Assistance are Landcare Grants (C.A.L.M.), Environmental Trusts Grants (E.P.A.), and Greenspace Program (D.o.P.).
- Strong need for outdoor classroom, physically close to Meeting Room.
- Available Section 94 embellishment funds could be applied to the development of the reserve however Stony Range must compete with the other reserves in the Dee Why area for these funds.
- The present entry is focussed on the unsympathetic Corkery Building and service track. Entry should focus on the attraction of the rainforest pond area.
- The entrances area is often used for parking service vehicles and is exposed to the traffic noise of Pittwater Road. It does not create the dramatic arrival experience warranted.
- Entry point requires clear directory board and interpretative material, preferably with limited weather protection.
- Noise from Pittwater Road is detracting from the bushland experience. Consideration should be given to "sound proof" fencing to the present entry area and western boundary generally. "White" noise should be considered for the rainforest pond area (splashing water).
- Consideration should be given to a kiosk concession as a revenue generator for the Reserve.

## RESPONSES TO PRELIMINARY DRAFT PLAN.

## Committee Response

## Stony Range

- Management C'Tee 5.23 Prefer no nexus with either Manly Dam, but will accept if necessary
- 5.24 Unhappy about "advisory" status. The committee must have upper hand in running the Reserve.
- 5.25 Emphatic that two full time employees are required for the Reserve, even with voluntary input.
- 5.31 Path closures not agreed. Plan provided
- 5.32 Agreed
- 5.33 Agreed
- 5.34 Agreed
- 5.35 Agreed
- 5.36 Relocation of glasshouse unnecessary
- 5.37 Agreed
- 5.4 Priority 1 - Agreed  
 Priority 2 - Agreed, excepting trails  
 Priority 3 - Agreed  
 Priority 4 - Upgrade existing entry point only.  
 Provide service entry off Western boundary.  
 Priority 5 - Acoustic Fence unnecessary.  
 Priority 6 - Agreed, except for glasshouse.

## D Pierce

## Technical Services

Pittwater Road frontage requires adjustment to kerb and gutter, footpath and landscape works valued at \$15,000 - \$20,000.

## G Goodyer

## Town Planning

Entrance structure, track works, signage and fencing do not require development consent.

Development Application is required for extension to the Corkery building, propagation of plants and extension of the nursery if plants are to be used outside of the Reserve.

## J O'Connor

Communications  
Branch

Education centre will assist Council in self promotion.

A Ziller  
Community  
Resources

General Concurrence with proposals.

Corkery building should be designed to fulfil a tourism and information function, signs should be graphical rather than textural.

S Suter

Agreement with recommendations further suggestions are:

Recreation  
Planner

- i) That the Reserve needs increased promotion to encourage greater use.
- ii) role of the Manager and Groundsman as proposed should be expanded to enable program development and community service.
- iii) visitor centre
- iv) disabled access required to all facilities
- v) "positive" signs are required, rather than restrictive signs.
- vi) "natural" materials should be used.
- vii) tree planting associated with boundary works should be carried out earlier, possibly by community groups.

C Buckley  
Manager Manly  
Dam Reserve

- Reserve could function as Council's "shop front" for general horticulture advice.
- Manager should report to Branch Head. Emphasis is environmental / recreational not horticultural. Staff should be salaried staff of Environment or Community Facilities, not Corporate Services. Property Branch to provide maintenance service only.
- Two (2) days per week only required by Manager at Stony Range.
- Trail hierarchy endorsed.
- nursery should provide education and advice on all native plants.
- non - viability of commercial concessions needs explanation.

S Boaden

Information &  
Cultural Manager

- Overall endorsement of recommendations.
- Reserve management should be involved in beach and bush heritage program development.
- Stony Range should compliment the proposal Beach Culture Centre and proposal Bush Heritage Centre
- Library resource should be "open".

A. Sharp

- Supports educational role for Reserve
- Noise reduction measures necessary to Pittwater Road.
- New entry not required. Separate vehicle / pedestrian entry.
- Objects to any trail closures, agrees to a hierarchy.
- Spread of rainforest OK.
- Present furniture adequate at present.
- Disabled access adequate at present
- Access from Dee Why shops could be improved.
- Intrusive industrial development (S.W Corner) needs landscaping.
- Opening hours need extending.
- Improvement funds would be better spent on other environmental programs.



## APPENDIX i

List of contributors to the Strategy Plan.

Sam Danieli	-	Councillor
Alex Blombery	-	Committee Member
Betty Maloney	-	Committee Member
John Burton	-	Committee Member
Harry Kilby	-	Committee Member
Phil Lane	-	Committee Member
Terry Carter	-	Warringah Council
David Buckner	-	Warringah Council
Jennie Powell	-	Warringah Council
Ross Fleming	-	Warringah Council
Chris Buckley	-	Warringah Council
Sue Boaden	-	Warringah Council
Suzanne Suter	-	Warringah Council
Alison Ziller	-	Warringah Council
Geoff Goodyer	-	Warringah Council
Doug Pierce	-	Warringah Council
Judy O'Connor	-	Warringah Council
Stewart Smith	-	Coastal Environmental Centre
Robyn Brake	-	Coastal Environmental Centre
David Tribe	-	Manly Vale Public School
A E Sharp	-	Harbord Citizen

## APPENDIX ii

Reserve Manager (Stony Range / Manly Dam) Position Description.





**WARRINGAH COUNCIL**

**Position Description (P12)**

**PART 1 - Position Details**

**POSITION NUMBER:**

**DATE OF LAST REVIEW:**

**POSITION TITLE:**

**IDENTIFIED POSITIONED FOR:**

☐ Aboriginal

☐ Person from other than  
English speaking background

☐ Woman

☐ Person with a disability

**BRANCH**

**DIVISION: CONSERVATION  
ENVIRONMENTAL MANAGEMENT**

**LOCATION: STONY RANGE RES.  
MANLY DAM RES.**

**HOURS OF WORK:**

**AWARD CLASSIFICATION: Band/ Level:**

**SALARY RANGE AND  
OTHER BENEFITS:**

**ATTACH ORGANISATION CHART:**

See attached chart.

**Signature of**

**Supervisor:** .....

**Position:** ..... **Date:**.....

(Position) Park Manager (Manly Dam/Stony Range)

## **PART 2 - POSITION SPECIFICATION**

### **Objectives of the Position**

1. To protect (conserve) the Reserves flora and fauna communities from both internal and external impacts of the surrounding urban environments.
2. To enhance the environmental education role of the two Reserves through both active and passive park interpretation programs, specialising in urban bushland management.
3. To optimise the recreational and tourism opportunities offered by the Reserves, within the limits of their ecosystems.

### **Key Responsibilities**

1. Preparation and Implementation of Plans of Management inclusive of both maintenance and improvement programs.
2. Advise in the supervision of the park personnel (Park Rangers).
3. Liaison with the Advisory Committee
4. Liaison with user groups, schools and general public.
5. Promotion and organisation of educational and recreational activities.

## Essential Skill Requirements

### Authority and Accountability

1. Implementation of Council approved Management Plans and Improvement Works.
2. Direction of Park Management and public use of Reserves.
3. Responsible for efficient use of Council resources.

### Judgement and Problem Solving

1. Interpretation of policies and strategies set out in the Management Plan.
2. Anticipation of park management issues to avoid problems before they occur.  
Proactive management.

### Specialist Knowledge and Skills

1. Natural area management skills.
2. Team leadership in a supervisory capacity.
3. Environmental teaching / interpretation ability.

### Interpersonal Skills

1. Ability to build team spirit, by leading and motivating both staff and volunteer workers.
2. Ability to liaise with public and sensitivity direct appropriate park usage.

### Qualifications and Experience

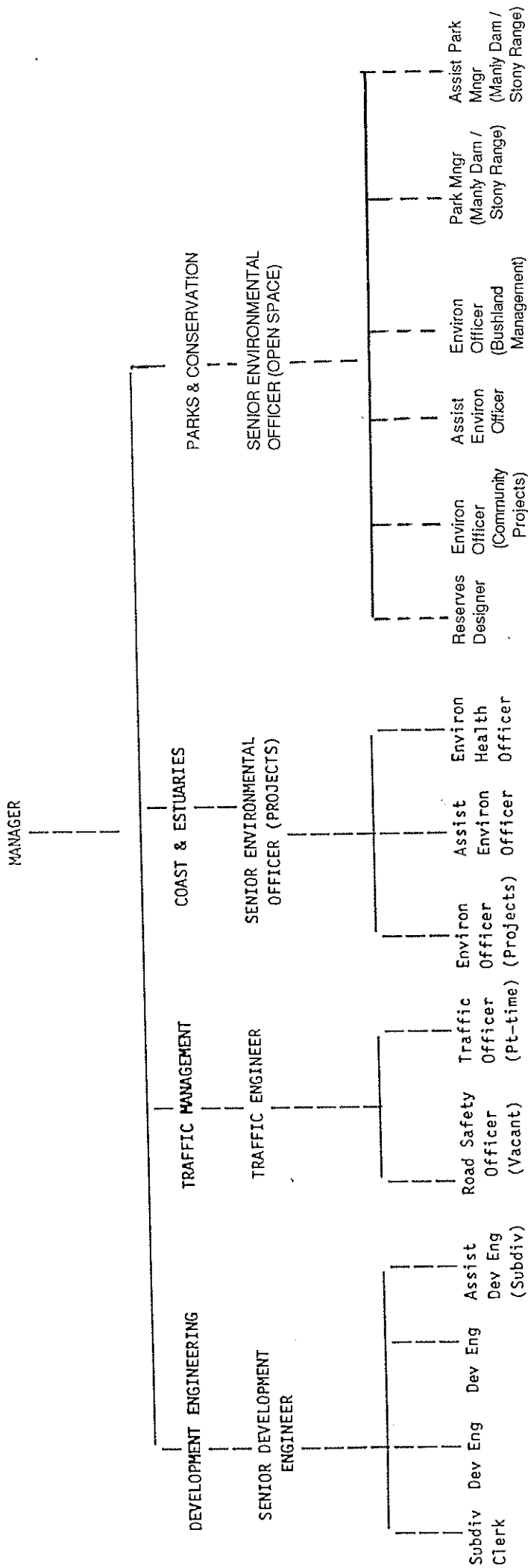
The person needs the following:-

**Essential:** Natural area management experience  
Supervisory experience  
Environmental Sciences training.

**Desirable:** Bush regenerations skills  
Park Management qualifications.  
Education / Interpretation skills.

**Director** \_\_\_\_\_ **Date:** \_\_\_\_\_

## CONSERVATION BRANCH

Functions

- \* Development Engineering
- \* Subdivision Management
- \* Driveway Level Applications
- \* House numbering
- \* Street Naming
- \* Expert Witness Service

Functions

- \* Strategic Transport Planning
- \* Traffic Management
- \* Traffic Committee
- \* Traffic Impacts of Development
- \* Data Collection
- \* Street Lighting
- \* Expert Witness Service

Functions

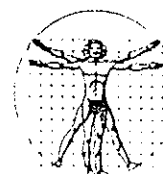
- \* Coastal Estuary Management
- \* Environ Research & Education
- \* Floodplain Management
- \* Environmental Projects
- \* Part V Applications
- \* Data Base (Water Quality etc)
- \* Water Sampling
- \* State of Environment Report
- \* Expert Witness Service

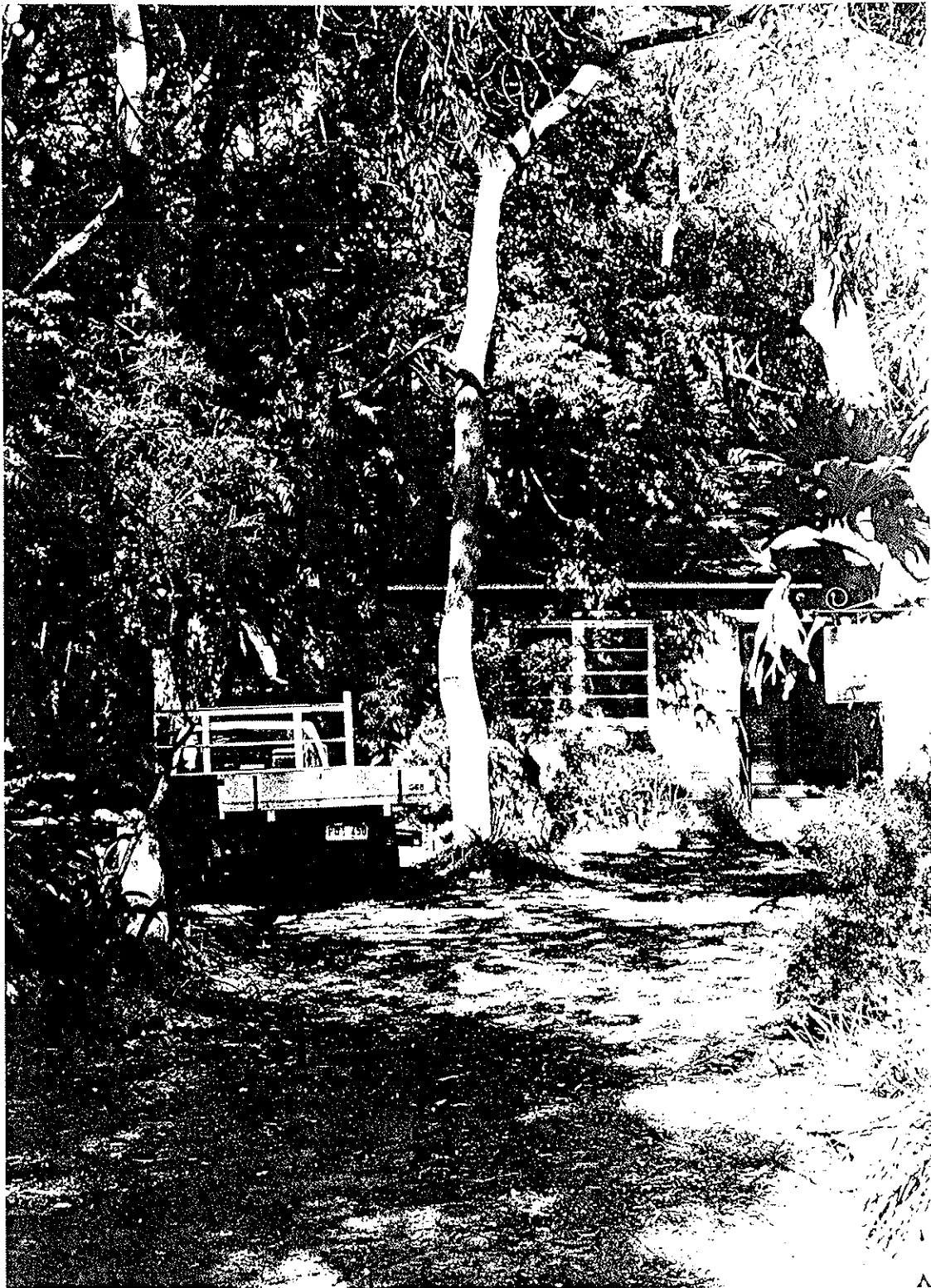
Functions

- \* Reserves Planning
- \* Reserves Design
- \* Reserves Improvements
- \* Bushland Management
- \* Bushland Regeneration
- \* Expert Witness Service
- \* Stony Range / Manly Dam Management



- ENTRY IS FOCUSED ON AESTHETICALLY POOR  
"CORKERY BUILDING" AND SERVICE AREA
- PITTWATER ROAD NOISE IS DISTURBING
- NO SHELTERED FACILITY FOR DIRECTION OR  
INTERPRETATION
- PROVIDE NEW ENTRY STRUCTURE AT EASTERN END  
OF CARPARK, ACCESSING DIRECTLY TO THE  
PLEASANT RAINFOREST / POND AREA
- RETAIN THIS ENTRY FOR SERVICE VEHICLES ONLY.  
GATES TO BE KEPT CLOSED AT ALL TIMES

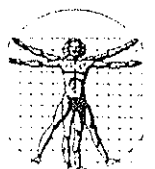




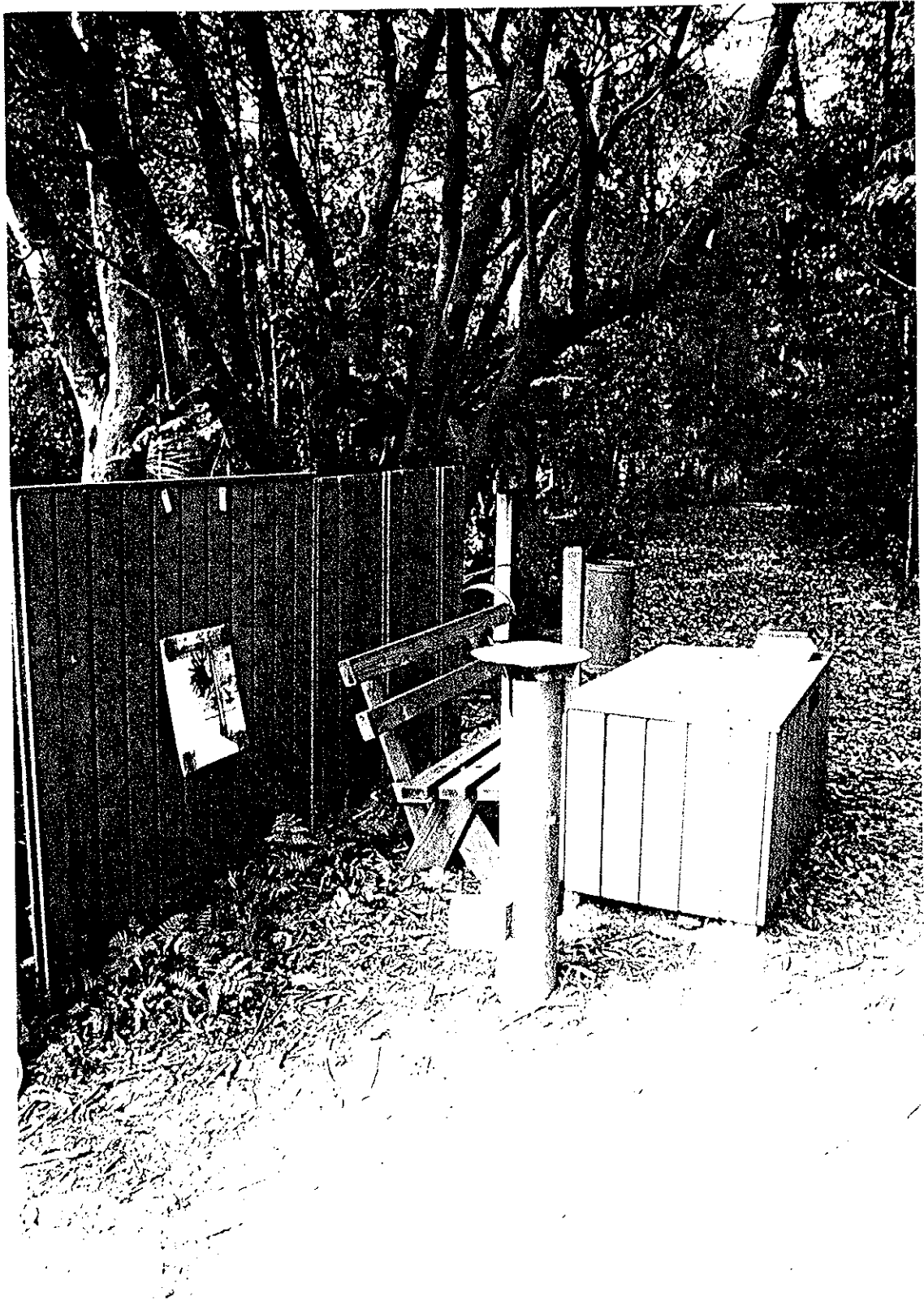
VISITOR CENTRE ENTRY IS ILL DEFINED AND OFTEN  
CLUTTERED BY SERVICE VEHICLE

ENTRY PATH TO CENTRE TO BE DEFINED BY LANDSCAPE  
TREATMENT

SERVICE VEHICLES TO BE RESTRICTED TO THE NURSERY  
TRACK AND CARPARK AREAS ONLY



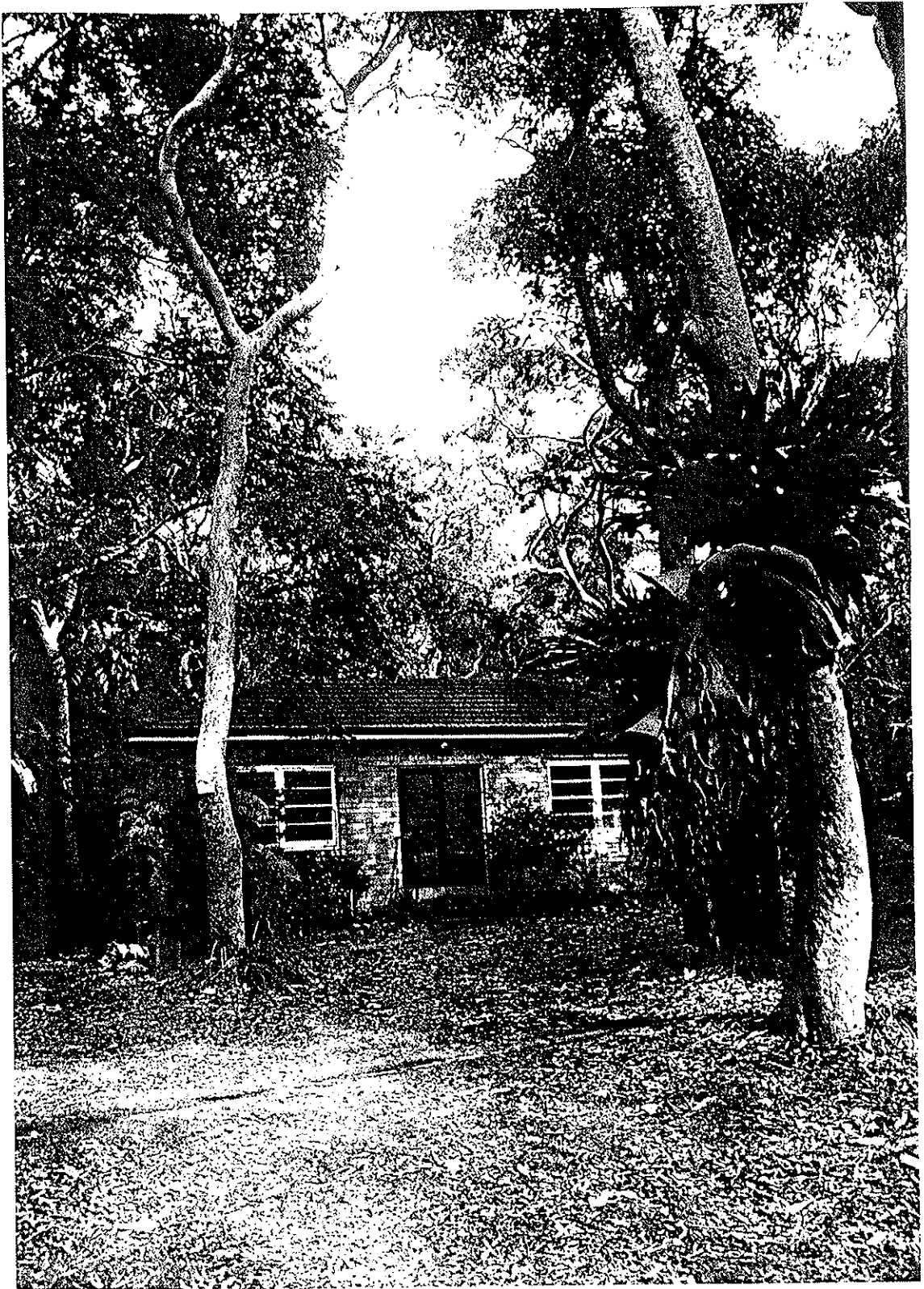




CONFUSION OF FURNITURE STYLES AND FINISH.  
POOR ARRIVAL EXPERIENCE AND INADEQUATE  
PRESENTATION.

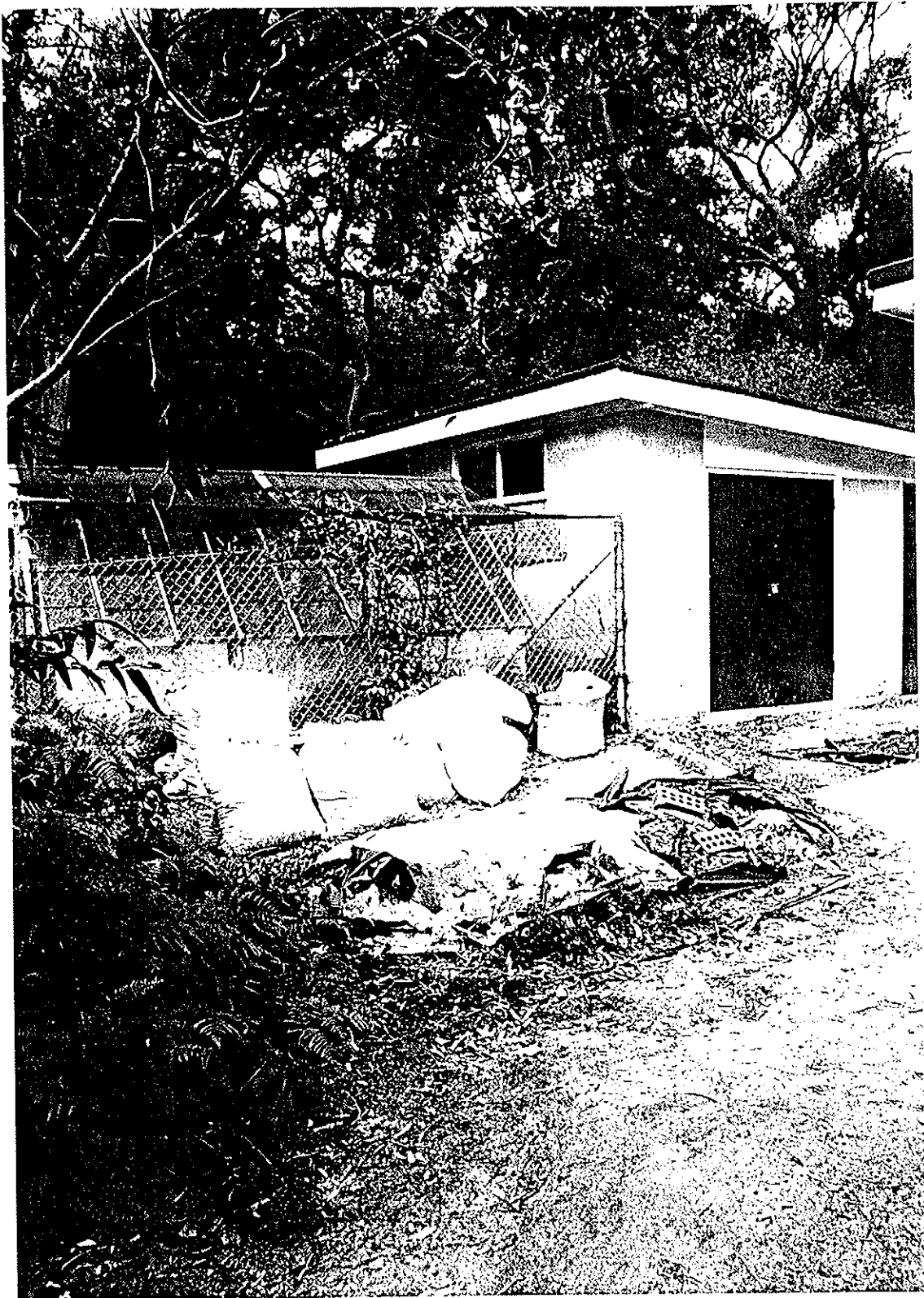
TOTALLY REDESIGN PARK ARRIVAL EXPERIENCE.  
PROVIDE DIRECTIVE AND INTERPRETATIVE  
INFORMATION.





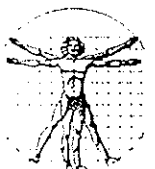
CORKERY BUILDING IS UNSYMPATHETIC, UNINVITING  
AND INADEQUATE

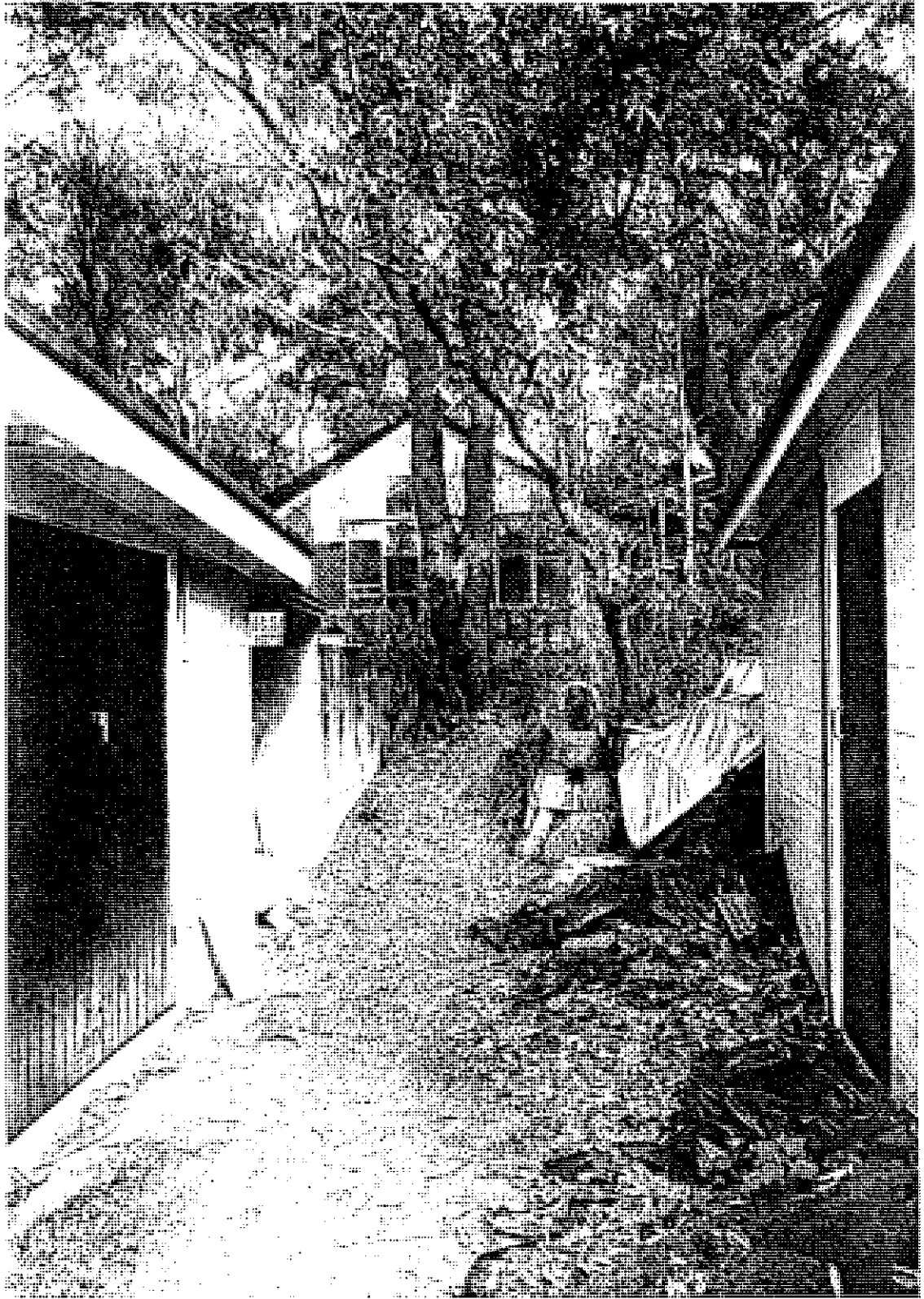
EXTEND BUILDING USING TIMBER AND GLASS AS PER  
ATTACHED SKETCH PLAN.



NURSERY MATERIALS HAVE NO EASY ACCESS TO WORK  
AREA

RELOCATE THE GLASS HOUSE NORTHWARD TO PROVIDE  
DIRECT ACCESS TO WORK AREA.





POORLY INTEGRATED BUILDING AND LACK OF COVERED  
STORAGE / WORKING AREA

PROVIDE A CONTINUOUS SKILLION ROOF BETWEEN  
GARAGE AND SHED.





CONSTRUCTION OF PSEUDO NATURAL GULLIES  
DETRACTS FROM THE WALKING EXPERIENCE

SIMPLE SPOON DRAINS BRIDGED WITH OPEN HARDWOOD  
SLABS FLUSH WITH PATH SURFACE WOULD BE LESS  
CONSPICUOUS AND MORE COMFORTABLE

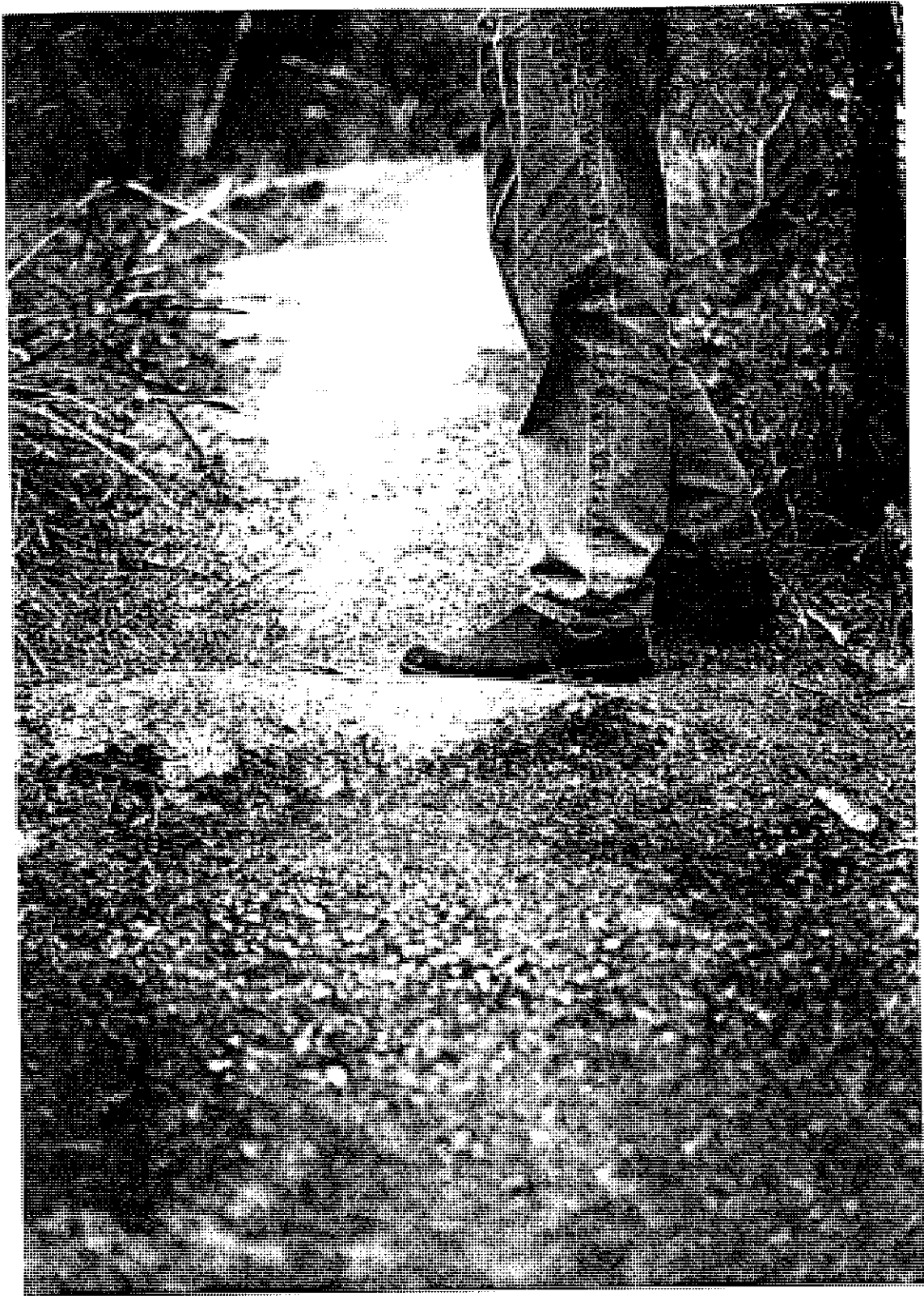






SANDSTONE STEPS AND RAMPS ARE VERY SYMPATHETIC TO THE PARK SETTING. TREATMENT SHOULD BE RESTRICTED TO THE MAIN TRAIL TO HELP DEFINE TRAIL HIERARCHY.





USE OF DRAINAGE "BUMPS" MAKES DISABLED/INFIRM  
ACCESS LESS EASY

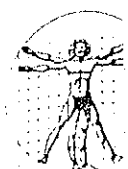
PATH DRAINAGE BETTER HANDLED BY CROSS FALLS AND  
CROWNING





ERODED TRAILS LEAD TO RISK OF INJURY AND USER  
DISCOMFORT AND DISTRACTION

STABILISE SOFT SANDSTONE SOILS AND DIRECT RUN OFF  
ACROSS PATH







USE CHANGE OF SURFACE MATERIALS ON TRAILS TO  
DEFINE TRAIL HEIRARCHY.

I.E. MAIN TRAILS OF STABILISED SOILS / SANDSTONE.  
SECONDARY TRACKS OF MULCH.  
ASSEMBLY AREAS OF GRAVEL.





A SOFT EDGE AND INFORMAL ALIGNMENT SHOULD BE  
MAINTAINED ON ALL TRAILS.





BADLY ERODED TRAIL SECTIONS NEED RECONSTRUCTION  
AS A HIGH PRIORITY



# STONY RANGE FLORA RESERVE

• VISITING HOURS •

~~MON-SUN~~ 10 am 4 pm

VISITORS ARE REQUESTED.....

- TO KEEP TO NATURE TRAILS.
- LEAVE DOGS & BIKES AT HOME.
- PUT LITTER IN BINS PROVIDED.
- DO NOT DISTURB WILDLIFE, NESTS OR DAMAGE FLOWERS, PLANTS OR ROCKS.

FOR INFORMATION PH.

9829814

POOR SIGNAGE DETRACTS FROM THE RESERVE

GRAPHICALLY INTEGRATED INFORMATION SIGNS TO BE PROVIDED AT MAIN ENTRY ALONG WITH INTERPRETATIVE MATERIAL.





## THE CARE & MANAGEMENT OF STONY RANGE FLORA & FAUNA RESERVE

His Excellency the Governor, with the advice of the Executive Council, having approved of the following regulations made by the trustees for the care and management of Reserve No. 79,601, notified 10th May, 1957, for the Promotion of the Study and the Preservation of Native Flora and Fauna, such regulations are hereby published for public information.

W. M. GOLLAN, Minister for Lands.

1. In these regulations unless inconsistent with the context or subject matter—

"permission" means permission of the trustees or person authorised by the trustees;

"reserve" means Reserve No. 79,601 for promotion of the study and the preservation of native flora and fauna.

2. The reserve shall be open to the public only on such days and at such times as the trustees shall determine and indicate by a notice exhibited in a conspicuous place near the entrance to the reserve.

3. A person shall not without permission enter the reserve except when it is open to the public.

4. The trustees may make charges for admission to the reserve and exclude the public therefrom except on payment of such charges; such charges to be indicated by a notice exhibited in a conspicuous place near the entrance to the reserve.

5. The trustees or any person authorised in that behalf by the trustees may refuse admission to any person who in their opinion would be likely to cause annoyance or inconvenience to the reserve or any person who has been found guilty of

6. A person shall not use the reserve except in accordance with the purposes for which the reserve is held by the trustees.

7. A person shall not injure or molest any flora or fauna in the reserve.

8. A person shall not remove or interfere with any rock, soil, dead wood or other material in the reserve or cause damage to any fence, structure or other improvements appertaining to the reserve.

9. A person shall not deposit rubbish of any kind in the reserve or any matter or thing likely to inflict injury on the public or the flora or fauna therein.

10. A person shall not without permission take any animal or vegetable into the reserve.

11. A person shall not take into the reserve any tool, implement, firearm or device which is capable of being used to remove, injure or destroy any tree, shrub, plant, bird or animal in the reserve or anything appertaining thereto.

12. A person shall not light any fire in the reserve except in a place specially provided for the convenience of the public.

13. A person shall not without permission enter any building

14. A person shall not without permission distribute or exhibit advertisements or notices of any kind in the reserve or on anything appertaining thereto.

15. A person shall not do any act in the reserve which would be likely to injure, endanger, obstruct, inconvenience or annoy any person therein.

16. The trustees shall not introduce into the reserve any tree, shrub or plant which is not indigenous to Australia.

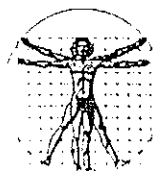
17. Nothing in these regulations shall be deemed to prevent any officer or servant of the trustees or any person authorised by the trustees from doing in pursuance of his duty any act or thing hereby prohibited.

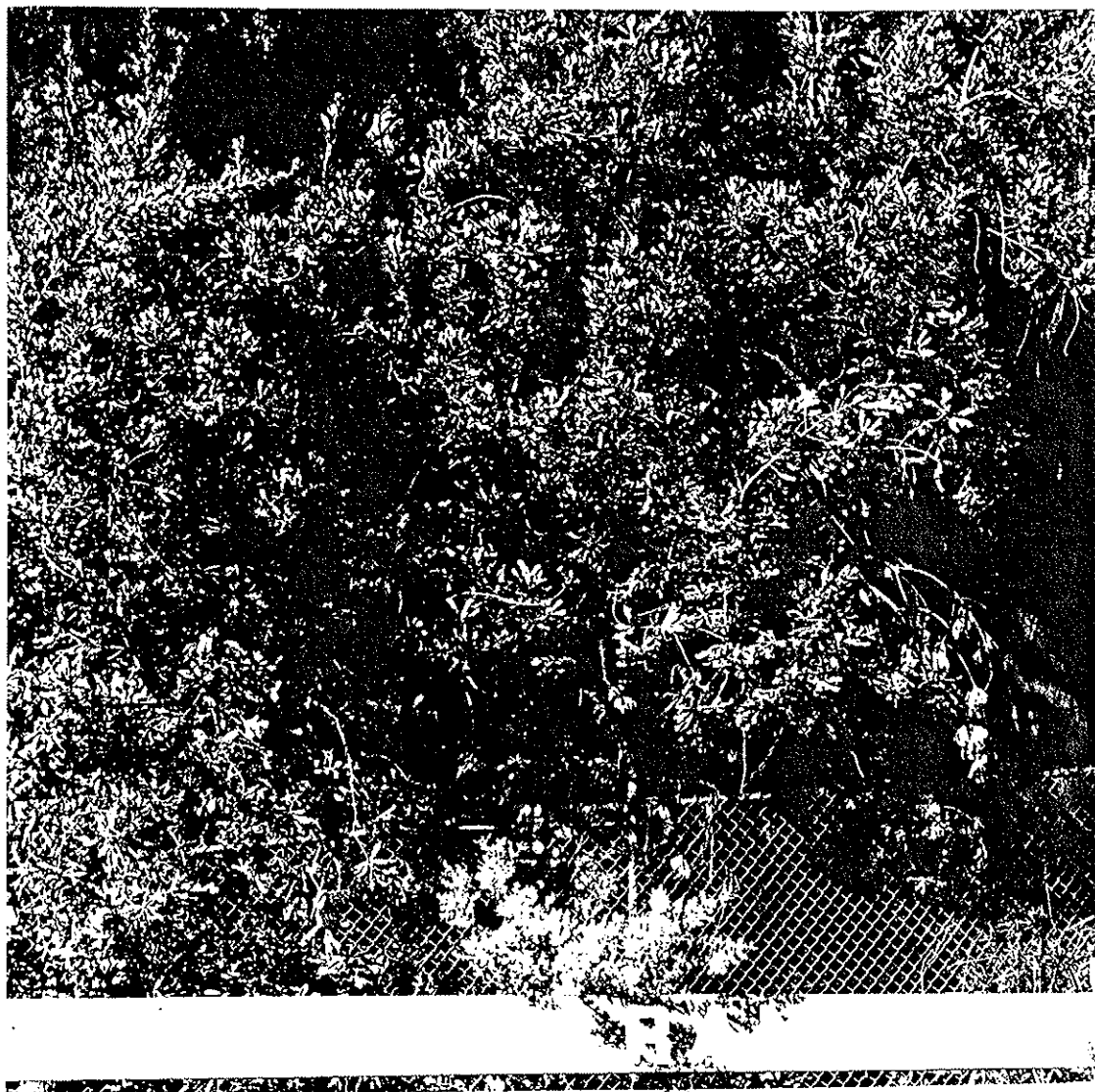
18. (a) Any trespasser or other person causing annoyance or inconvenience in the reserve may be removed forthwith by the trustees or any person authorised in that behalf by the trustees.

(b) Any person committing a breach of any of these regulations shall be liable to a penalty not exceeding fifty

UNFORTUNATE "GREETING" SIGN

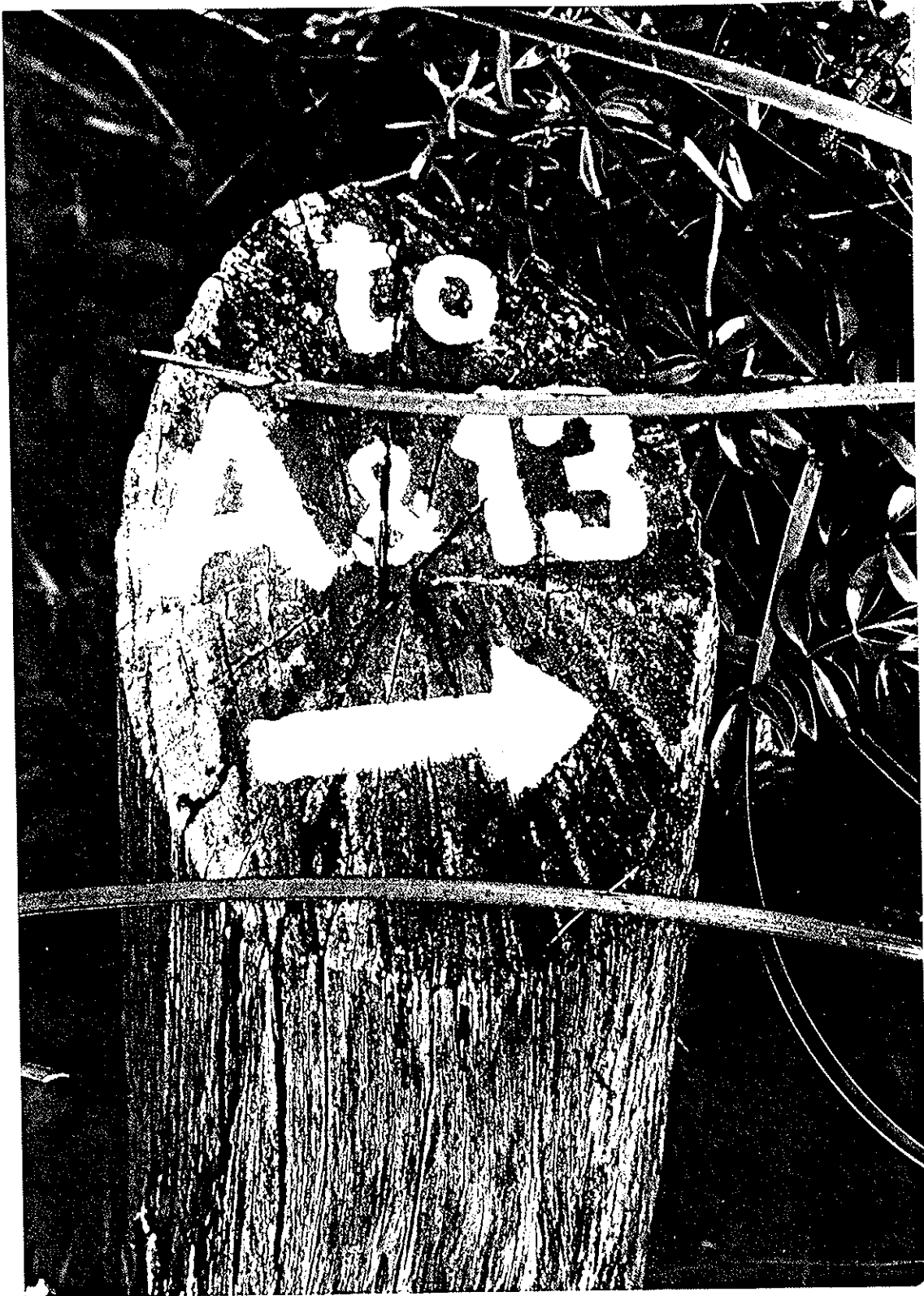
REGULATORY INFORMATION SHOULD BE IN "PLAIN ENGLISH" AND BE PRESENTED AS PART OF A GENERAL INFORMATION KIT.





ENTRY POINT SIGNAGE FROM PITTWATER ROAD IS WELL  
DESIGNED AND POSITIONED

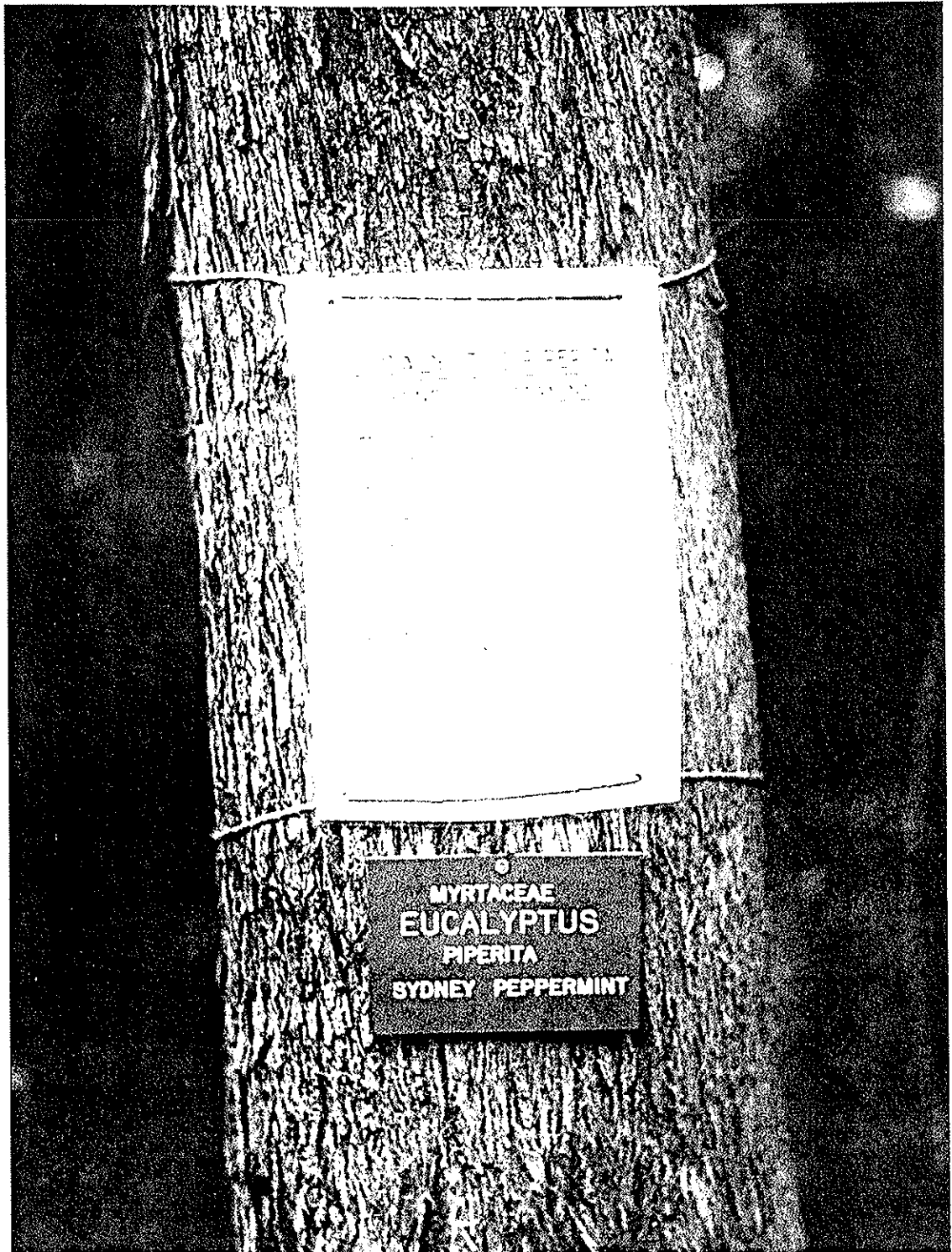




CONFUSING TRAIL IDENTIFICATION SYSTEM AND RUSTIC  
SIGNS ARE INAPPROPRIATE

PROVIDE SIMPLE TRAIL SYMBOLS ON PHOTO ENGRAVED,  
LOW MOUNTED METAL SIGNS.





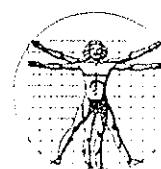
- TEMPORARY SIGNS DETRACT FROM THE INTERPRETATIVE STANDARDS REQUIRED
- SIGNS NAILED TO TREES SETS A POOR EXAMPLE TO VISITORS
- ALL INTERPRETATIVE SIGNS SHOULD BE PERMANENT AND MOUNTED INDEPENDENTLY OF THE SPECIMEN

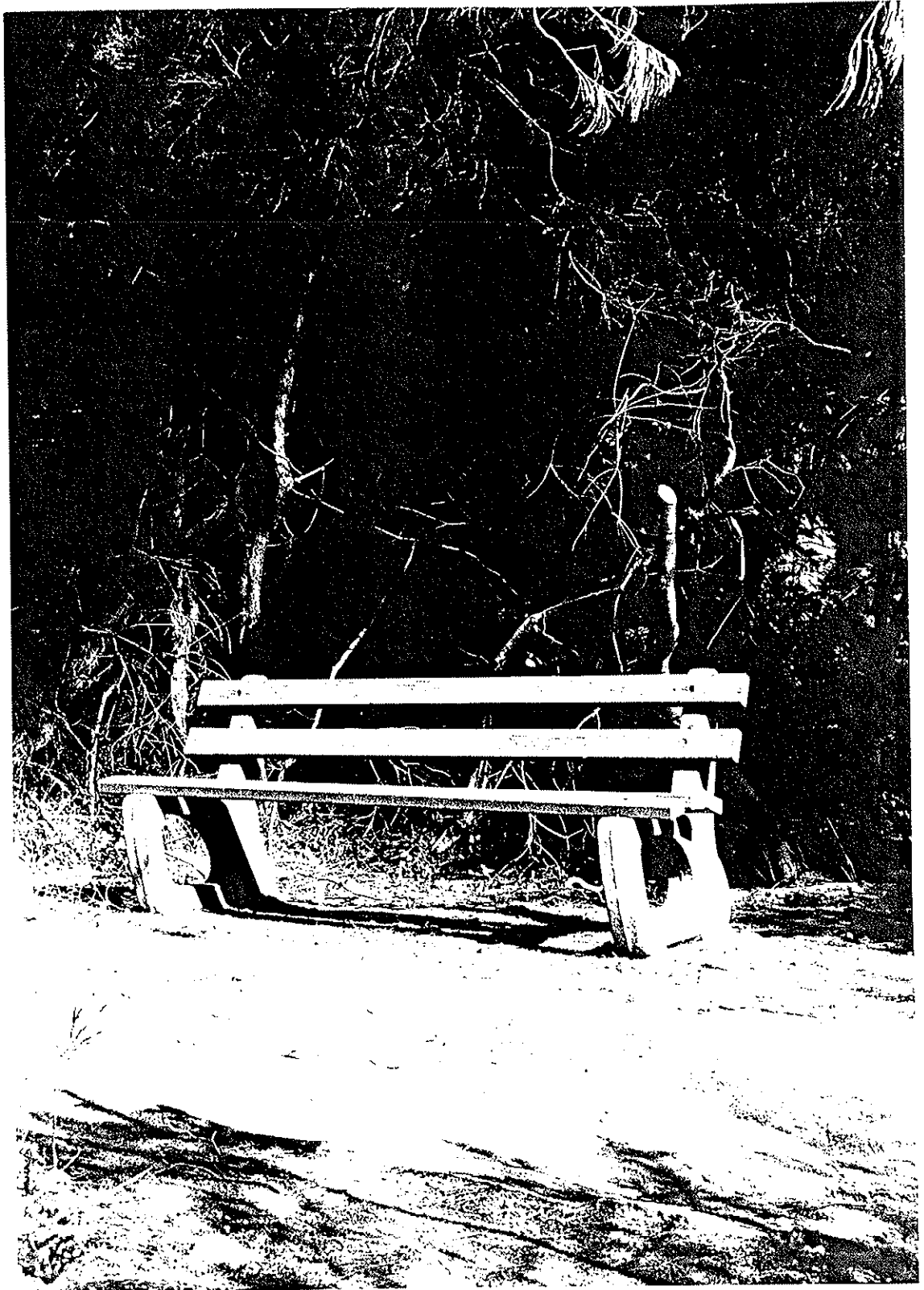






SYMPATHETIC AND COMFORTABLE SEATING.  
RELOCATEABLE TO SUIT USAGE AND SEASON.





OUTDATED URBAN STREET FURNITURE IS  
UNSYMPATHETIC TO BUSHLAND SETTING.

REPLACE ALL SUCH FURNITURE WITH STURDY,  
COMFORTABLE TIMBER SEATS AND BENCHES.

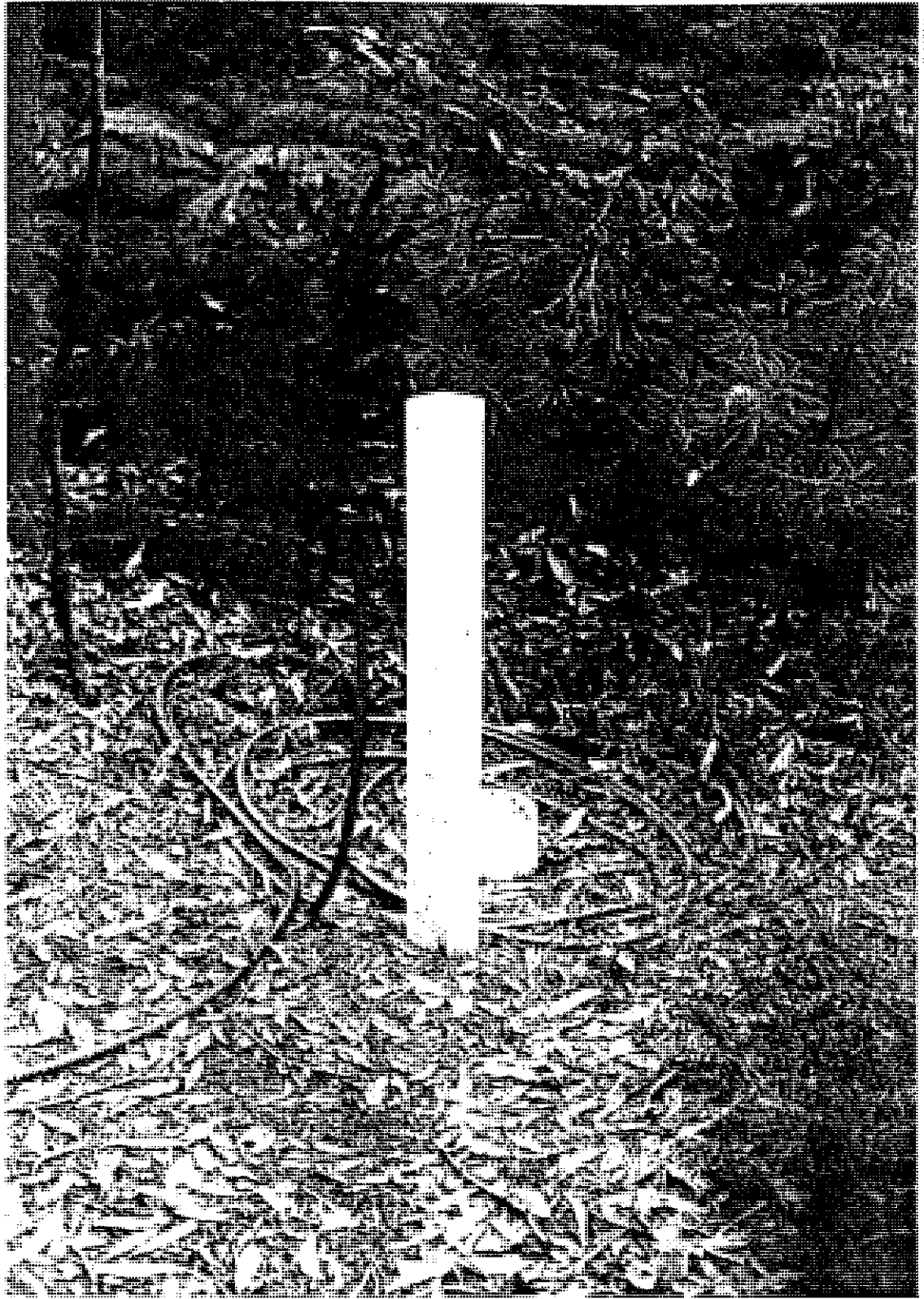




EXPOSED SERVICE LINES DETRACT FROM THE  
"NATURALNESS" OF THE SETTING.

BURY ALL SERVICE LINES AND JUDICIOUSLY LOCATE  
ABOVE GROUND SPRINKLER HEADS.

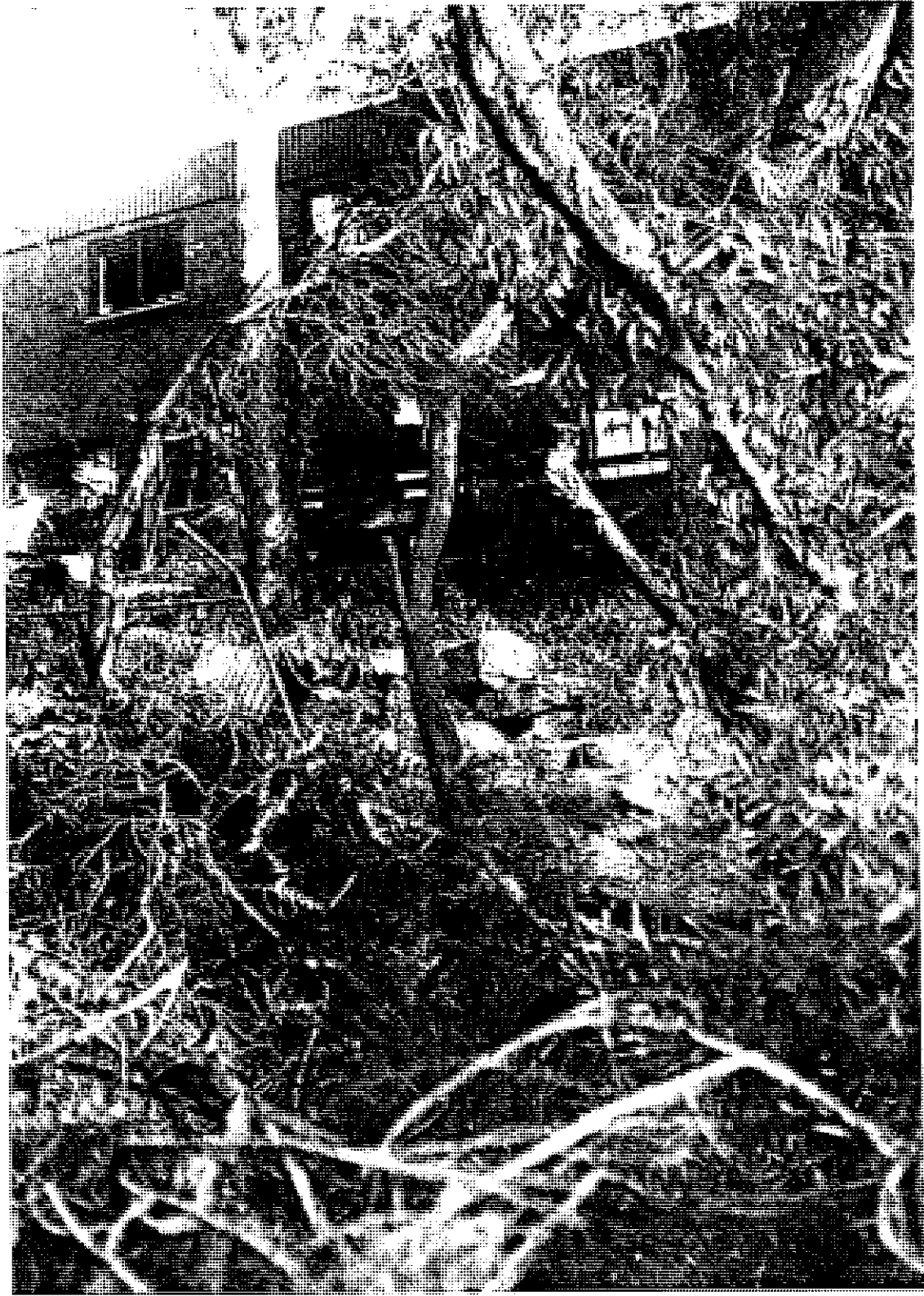




UNSYMPATHETIC TREATMENT OF UTILITIES DETRACTS  
FROM THE PLANT DISPLAYS.

REPAINT ALL UTILITIES IN NEUTRAL GREEN/GREY.  
LONG TERM INSTALL CONCEALED QUICK COUPLING  
VALUES.





INTRUSIVE DEVELOPMENT AND DAMAGED BOUNDARY

REPAIR FENCE. REMOVE FALLEN TREES AND LITTER.  
REPLANT DISTURBED EMBANKMENT AREA WITH ACACIA  
LONGIFOLIA AND MIXED EUCALYPTUS SP.





ST LUKES SCHOOL BOUNDARY IS EXPOSED AND  
REMNANT VEGETATION IS SENILE

INTENSE SCREEN PLANTING ON BOTH SIDES OF  
BOUNDARY IS REQUIRED. THIS COULD BE ACHIEVED AS  
SCHOOL ENVIRONMENT PROJECT WITH STUDENT  
INVOLVEMENT.

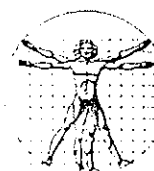






MAJOR WEED INVASION IS OCCURRING ALONG THE  
SOUTHERN BOUNDARY

ACTIVE CO-OPERATION OF NEIGHBOURS IS REQUIRED TO  
ACHIEVE ERADICATION



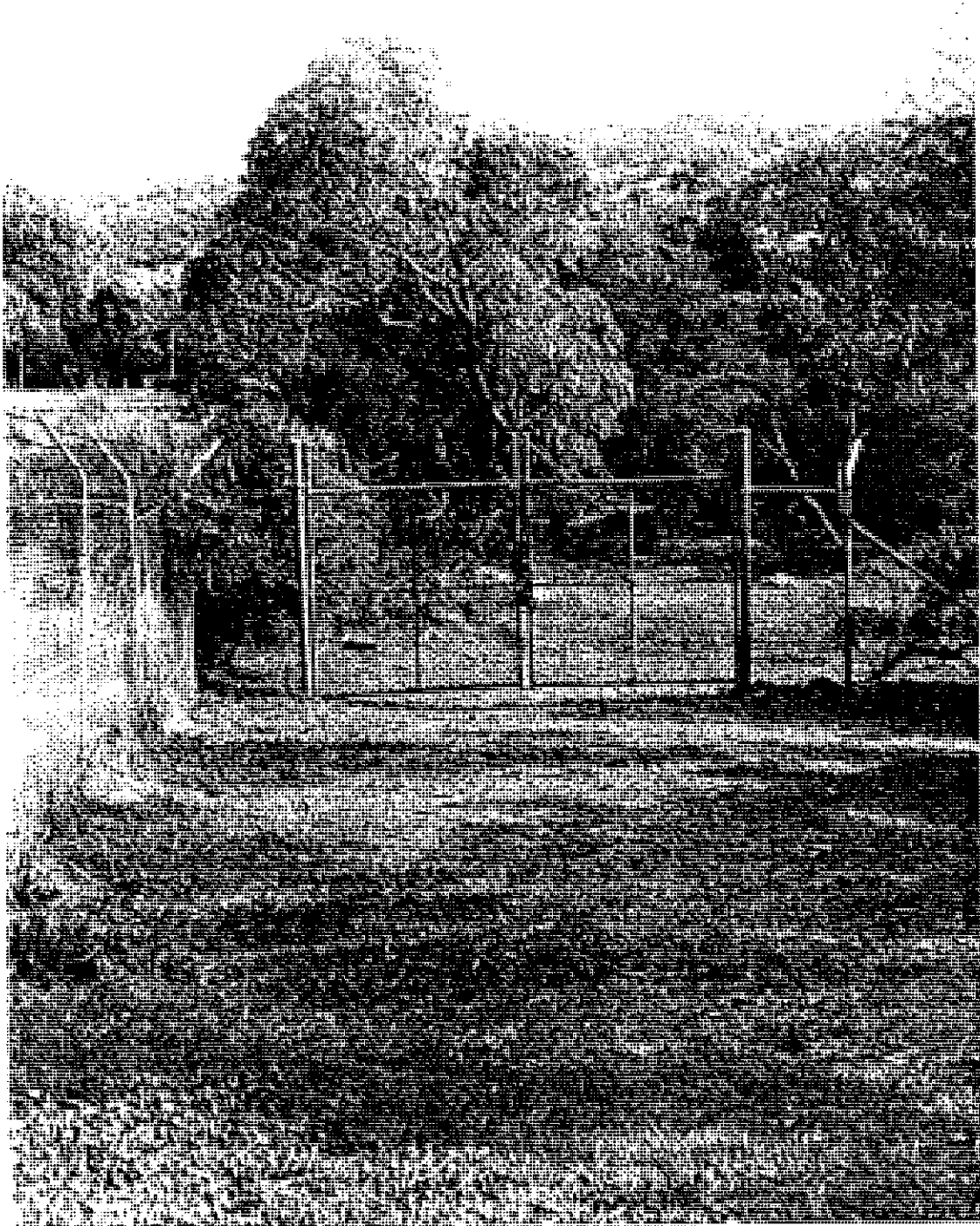


S. W. BOUNDARY DEVELOPMENT BELOW THE  
FLANNEL FLOWER AREA IS VISUALLY INTRUSIVE.  
PRESENT SCREENING INADEQUATE.

INCREASE INDIGENOUS PLANTING WITHIN 5 METRE ZONE  
OF BOUNDARY, DO NOT PLANT INTO UPPER SLOPES.  
WEED CONTROL REQUIRED AT BOUNDARY EDGE.

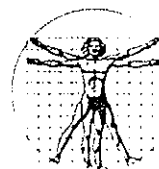


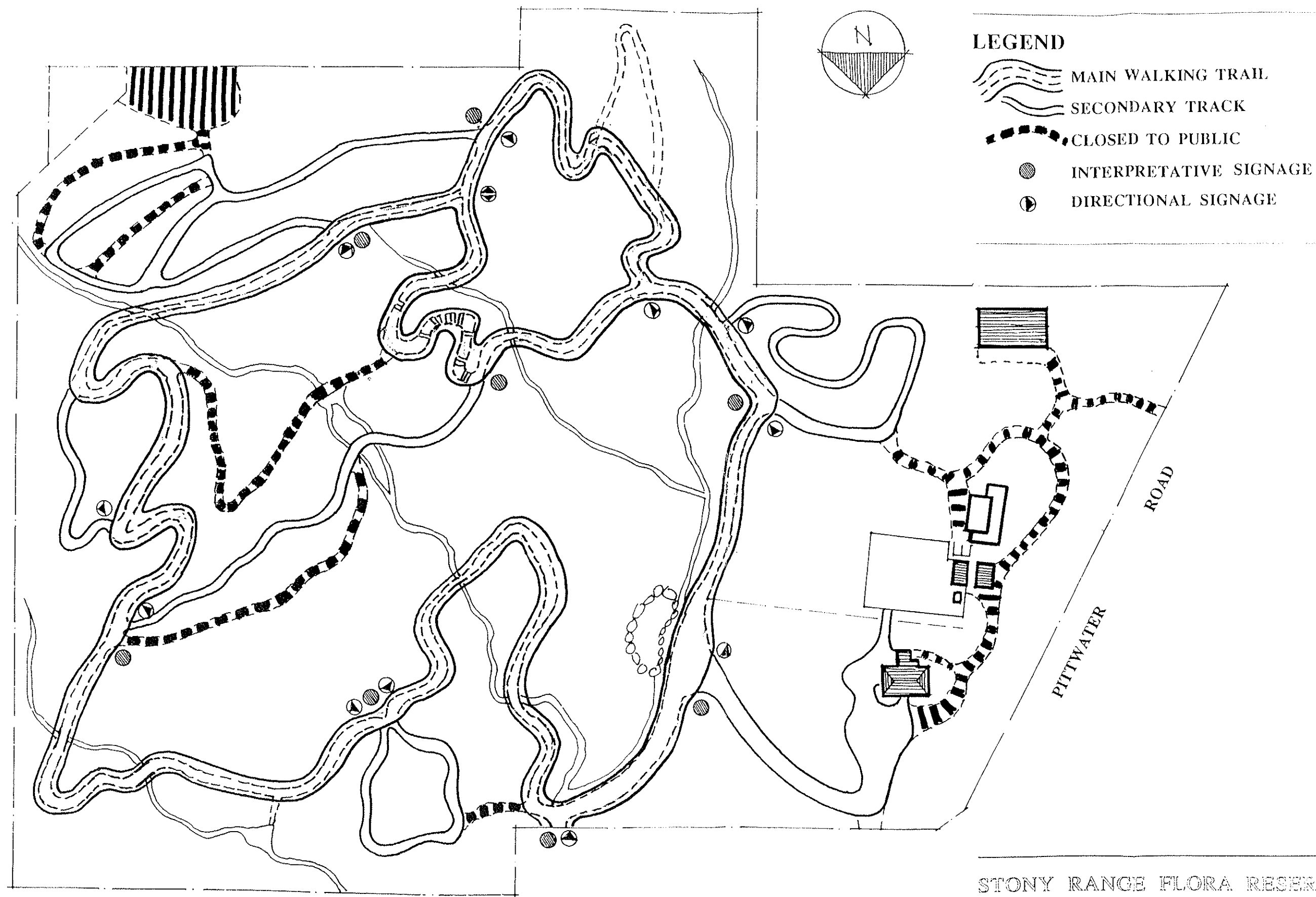


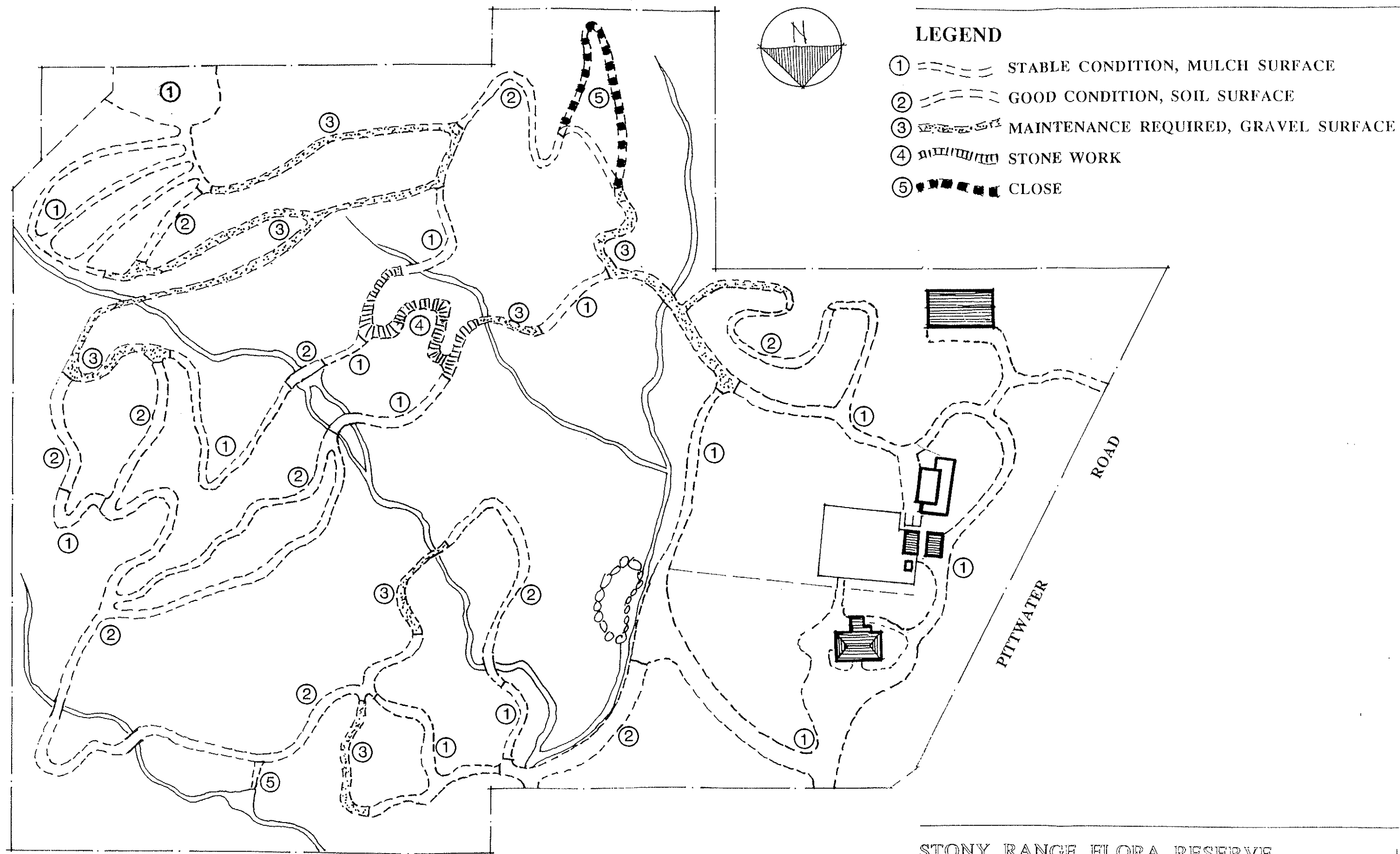


POOR VISUAL PRESENTATION OF REAR SERVICE ENTRY

REVEGETATE BOUNDARY WITH ST LUKES SCHOOL AND  
ZONE BETWEEN FENCE AND ROADWAY. MAINTAIN GRASS  
ACCESS WAY. PAINT GATES AND FENCING BLACK.

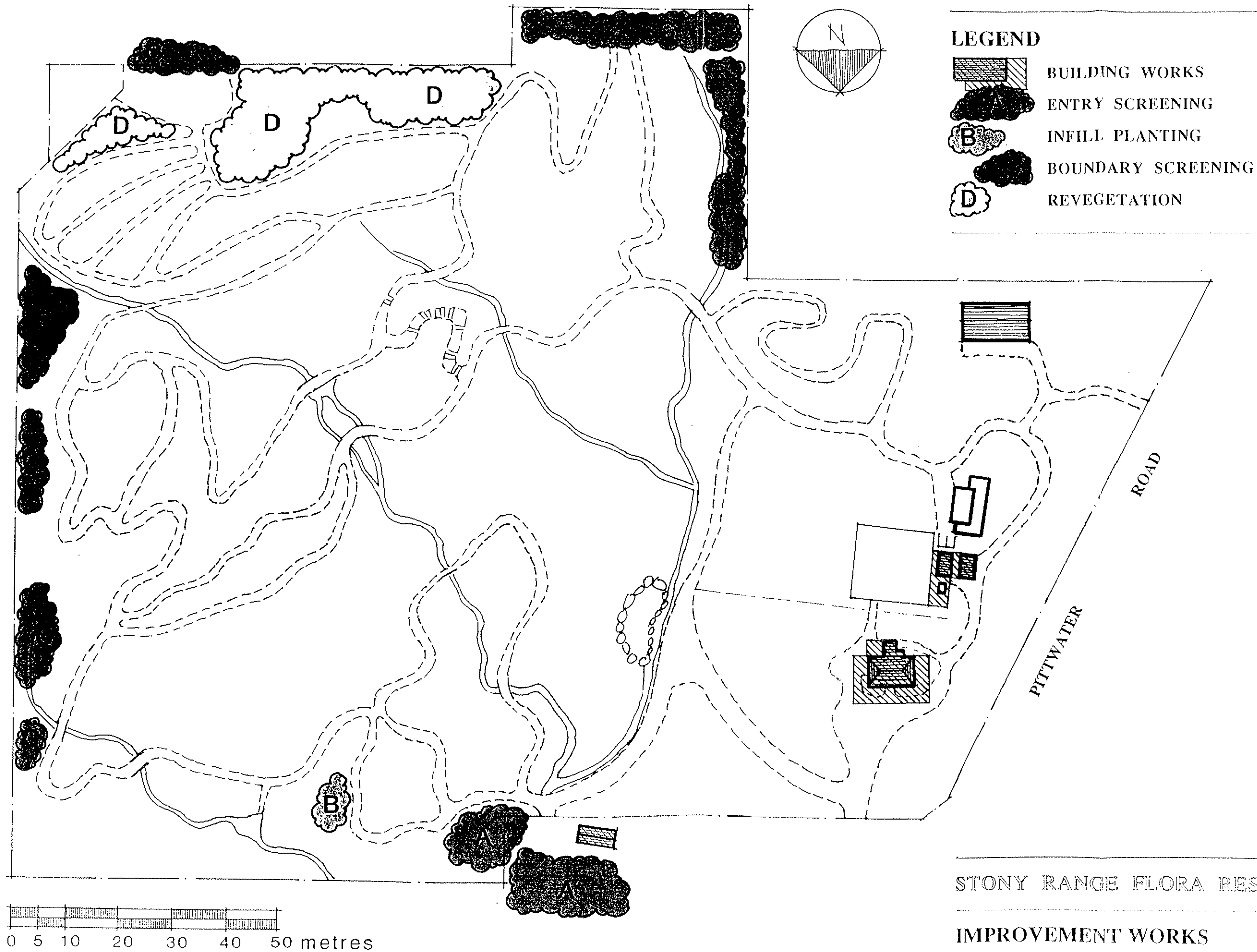






0 5 10 20 30 40 50 metres



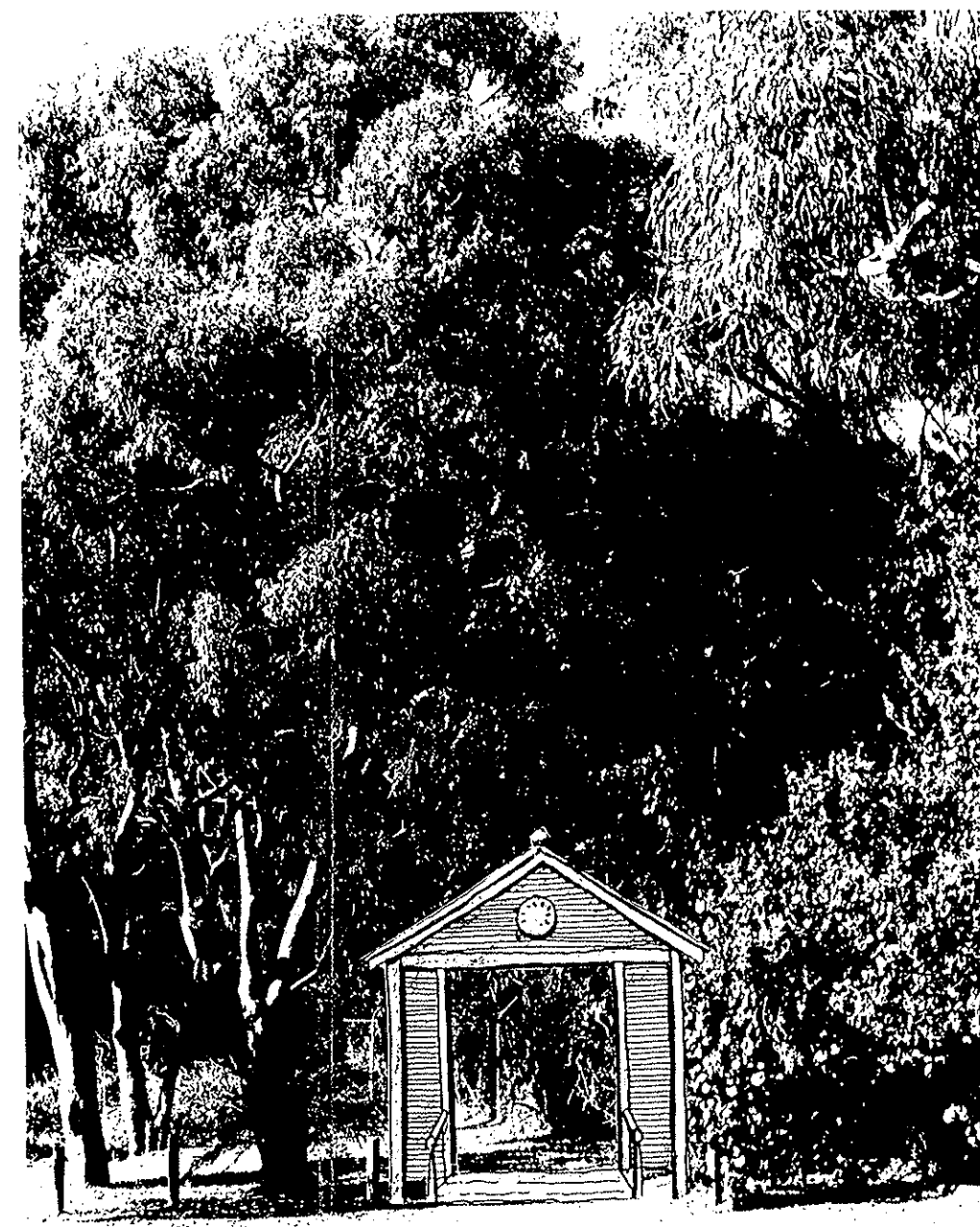
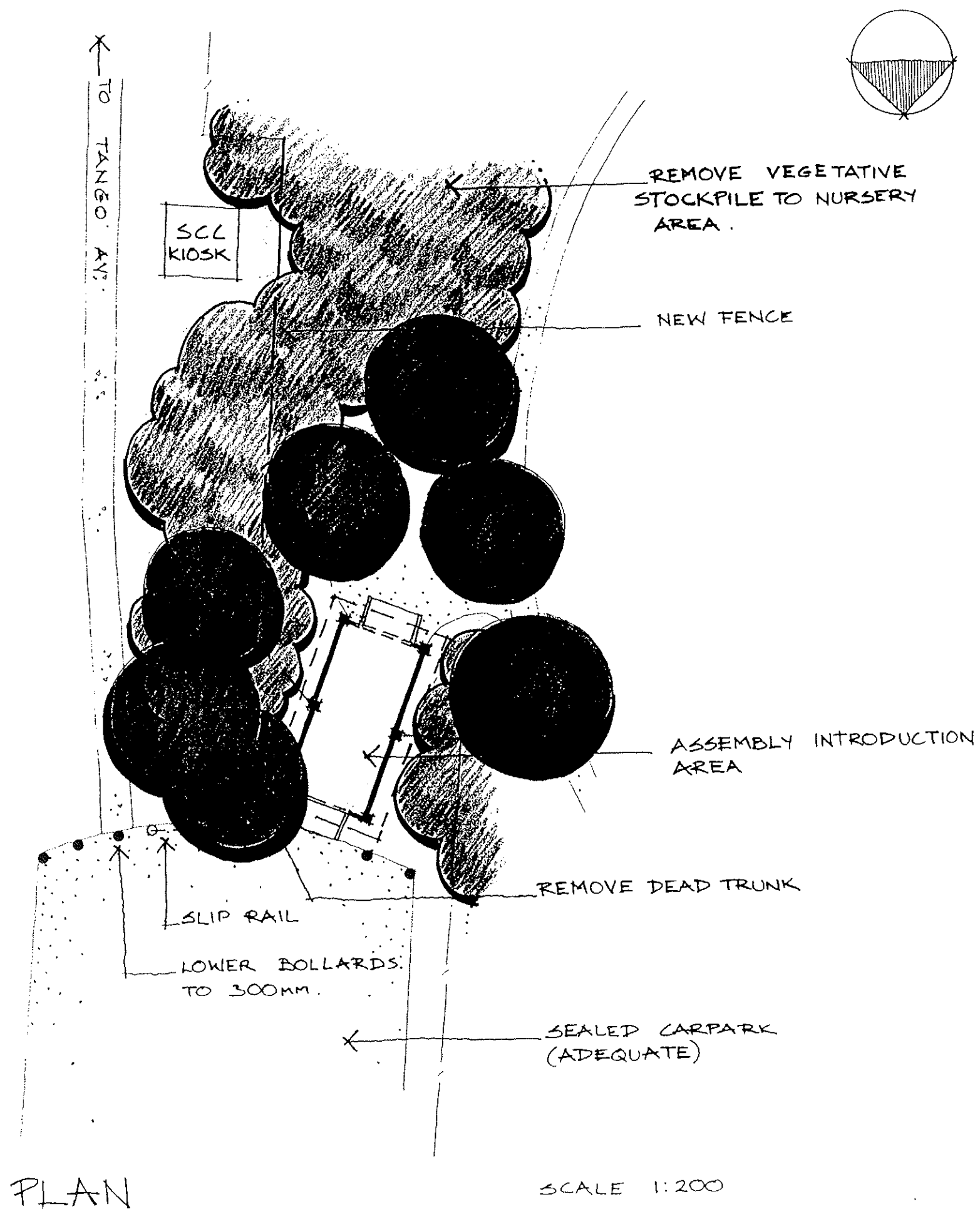


STONY RANGE FLORA RESERVE

IMPROVEMENT WORKS

WOODHEAD FIRTH LEE





SKETCH

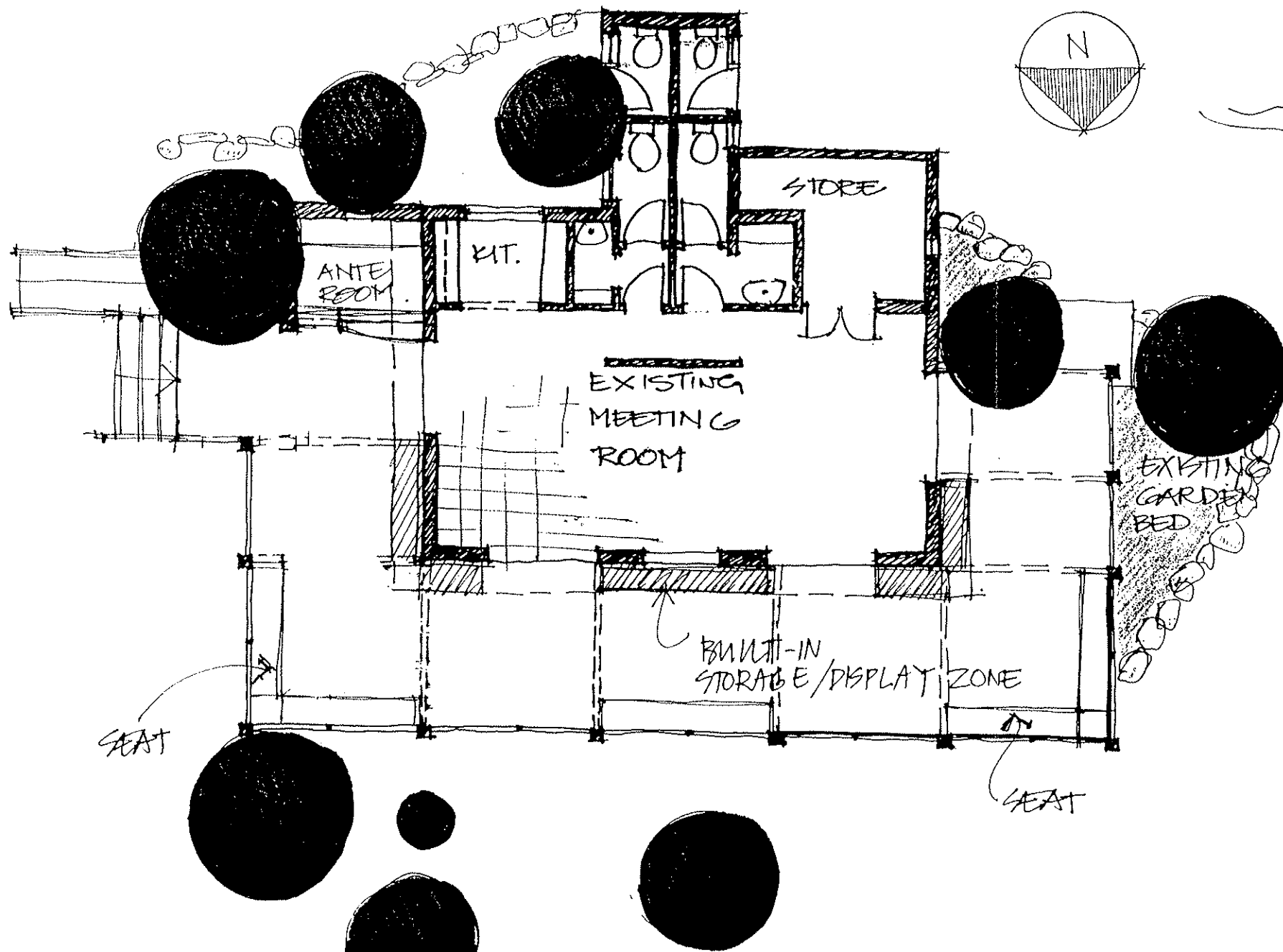
STONY RANGE FLORA RESERVE

PROPOSED ENTRY

WOODHEAD FIRTH LEE

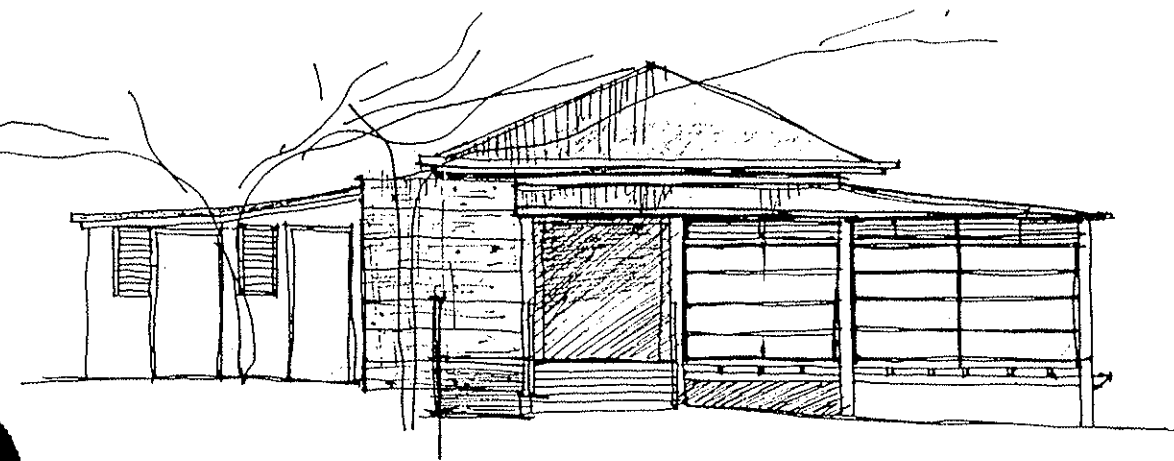


WOODHEAD FIRTH LEE



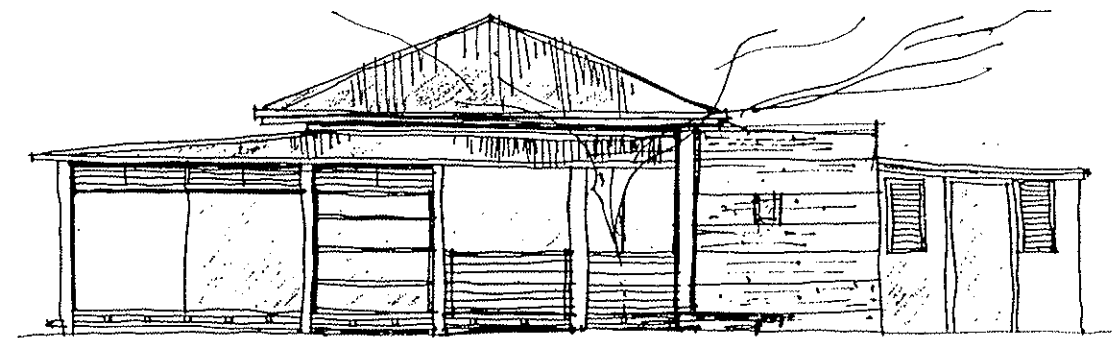
FLOOR PLAN

SCALE 1:100



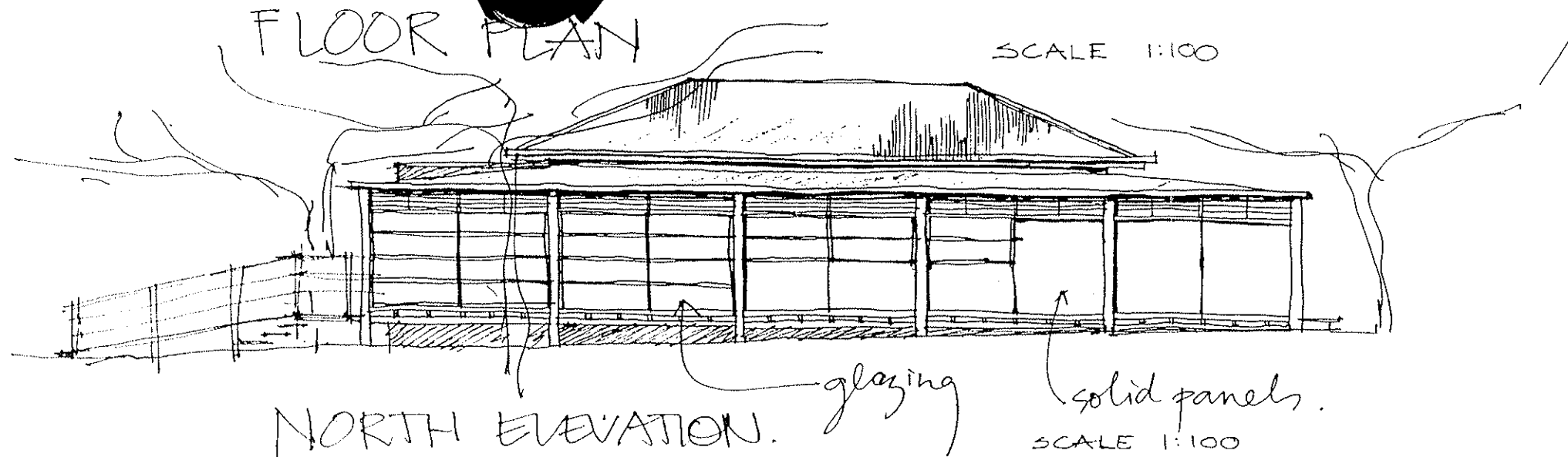
WEST ELEVATION.

SCALE 1:100



EAST ELEVATION.

SCALE 1:100



NORTH ELEVATION.

SCALE 1:100

STONY RANGE FLORA RESERVE

VISITOR CENTRE UPGRADE

WOODHEAD FIRTH LEE