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Parliamentary Standing Committee on Public Works

REPORT

relating to the

HOUSING DEVELOPMENT, PALMERSTON, NORTHERN TERRITORY

(First Report of 1993)



The Parliament of the Commonwealth of Australia
Parliamentary Standing Committee on Public Works

Report Relating

to the

Housing development, Palmerston, Northern Territory

(First Report of 1993)

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

(Thirtieth Committee)

Mr Colin Hollis MP (Chairman)
Mr William Leonard Taylor MP (Vice-Chairman)

Senate

Senator Bryant Robert Burns
Senator Paul Henry Calvert*
Senator John Robert Devereux

House of Representatives

Mr Ewen Colin Cameron MP
Mr Lloyd Reginald O'Neil MP
Mr Russell Neville Gorman MP
Mr Bruce Craig Scott MP

*Appointed on 24.8.90 following the retirement of Senator
Dr Glenister Sheil

Committee Secretary: Peter Roberts

Secretarial Support: Sophia Konti

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House of Representatives

Mr John Andrew Neil MP
Mr Raymond Allen Braithwaite MP
Mr Russell Neville Gorman MP
Mr Robert George Halverson OBE MP
Hon. Benjamin Charles Humphreys MP

Committee Secretary: Peter Roberts

Secretarial Support: Sophia Konti

**EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES**

No. 155 dated Wednesday, 4 November 1992

- 14 **PUBLIC WORKS - PARLIAMENTARY STANDING COMMITTEE**
- REFERENCE OF WORK - HOUSING DEVELOPMENT,
PALMERSTON, NT: Mr Beddall (Minister representing the
Minister for Administrative Services), pursuant to notice,
moved— That, in accordance with the provisions of the *Public*
Works Committee Act 1969, the following proposed work be
referred to the Parliamentary Standing Committee on Public
Works for consideration and report: Housing development,
Palmerston, NT.
Mr Beddall presented plans in connection with the proposed work.
Debate ensued.
Question - put and passed.

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

No. 7 dated Thursday, 13 May 1993

- 34 PUBLIC WORKS - PARLIAMENTARY STANDING COMMITTEE
- REFERENCE OF WORK - HOUSING DEVELOPMENT,
PALMERSTON, NT: Mrs Crosio (Parliamentary Secretary to
the Minister for the Arts and Administrative Services), for Mr
Willis (Minister representing the Minister for the Arts and
Administrative Services), pursuant to notice, moved— That, in
accordance with the provisions of the *Public Works Committee
Act 1969*, the following proposed work be referred to the
Parliamentary Standing Committee on Public Works for
consideration and report: Housing development, Palmerston,
NT.

Mrs Crosio presented plans in connection with the proposed work.
Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

HOUSING DEVELOPMENT, PALMERSTON, NORTHERN
TERRITORY

By resolution on 4 November 1992 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for a housing development at Palmerston, Northern Territory. However, with the dissolution of the House of Representatives on 8 February 1992 the reference lapsed and the previous Committee was unable to present its report, although it had completed its investigation.

Following the reappointment of the Parliamentary Standing Committee on Public Works by the 37th Parliament, the project was again referred to it by the House of Representatives on 13 May 1993. Empowered by section 24 of the *Public Works Committee Act 1969*, the present Committee agreed to consider the evidence placed before the previous Committee. The report which follows is based on an investigation conducted by the previous Committee and the evidence considered by it. The report has been endorsed by the present Committee.

THE REFERENCE

1. In January 1988 the Government established the Defence Housing Authority (DHA) as the first step towards providing a better standard and an increased choice of housing for Defence personnel and their families. At this time, DHA took over responsibility for over 23 000 houses, and has a current investment program in excess of \$270m per annum. The development at Palmerston, which is in line with the Government's commitment to increasing the Army's presence in the north, involves the construction of a residential subdivision containing the normal infrastructure services as required by the local authorities.

2. When complete, the development will provide for 210 dwellings incorporating both detached and medium density housing. DHA proposes construction of 70 houses for Service personnel and their families. The remaining 140 houses will be integrated with the Service housing and will be offered for sale to private purchasers. The project is to be undertaken in three stages at an estimated cost of \$18.4m, of which \$4.2m will be recovered from the sale of building lots, resulting in a net cost of \$14.2m.

THE PREVIOUS COMMITTEE'S INVESTIGATION

3. The Committee received a written submission from DHA and took evidence from it at a public hearing in Palmerston on 4 February 1993. The Committee also received submissions and took evidence from:

- . the Hon. M Ortmann MLA
- . the Palmerston Town Council
- . the Territory Construction Association.

4. A number of submissions were also received from other organisations and are incorporated in the Minutes of Evidence.

5. Prior to the public hearing the Committee inspected the site at Palmerston and local community facilities.

6. A list of witnesses who appeared at the public hearing is at Appendix A. The Committee's proceedings will be printed as Minutes of Evidence.

THE NEED

Present Housing in Northern Territory

7. DHA has 977 houses in Darwin located as follows:

- . housing in Darwin suburbs comprises 296 dwellings. In the main, these houses are of good quality located close to community facilities and perceived by Navy, Army and Air Force families as meeting community standards. Some 22 substandard houses will be disposed of over the next year and replaced with good quality leased houses
- . at Larrakeyah Army Barracks, DHA has 116 good quality houses occupied by both Army and Navy personnel and their families
- . DHA has 155 good quality houses at HMAS Coonawarra occupied by Navy personnel and their families

- . there are 375 houses on the RAAF Base Darwin occupied by RAAF personnel and their families. Of these, 242 are categorised by the Services as below acceptable standards in that they do not meet the minimum size requirements desired by the Services. However, in the main, they are in good condition and DHA has, co-jointly with the RAAF, initiated a study to determine the best method of improving this stock

- . housing in the town of Palmerston consists of 31 newly constructed dwellings and four houses recently spot purchased. These houses have been allocated to Army and are occupied by recently arrived 2nd Cavalry Regiment (2 Cav Regt) personnel and their families. Palmerston is located some 22 kilometres to the south-east of Darwin.

8. DHA also has 483 houses in other Northern Territory locations as follows:

. Katherine	221
. Tindal	189
. Alice Springs	56
. Other remote locations	<u>17</u>
	483

9. Of the 977 Darwin houses referred to, 875 have been constructed either by the Commonwealth or DHA, 100 have been spot purchased and two leased.

Development at Palmerston

10. The Government decision to increase the Army Presence in the North (APIN) involved a need to expand infrastructure works at Waler Barracks and to provide additional housing in the Darwin area to accommodate Army personnel and their families (10th Report of 1992 refers).

11. Provision of additional works at Waler Barracks for 2 Cav Regt was the subject of an earlier reference to the Committee (12th Report of 1989).

12. DHA has purchased a 19.4 hectare site in the Palmerston suburb of Driver known as Lot 4141. Location plans of the site are provided at Figures B-1 and B-2. The site is ideally located for Army personnel working

at Waler Barracks and is in close proximity to local schools, shopping and recreational facilities. The town of Palmerston offers good regional shopping and is within reasonable distance (22 kilometres) of the Darwin Central Business District.

Service Operational Requirements in Darwin

13. In June 1992 Headquarters Australian Defence Force (HQADF) provided the following additional housing projections in support of Army's Increased Presence in the North:

Delivery date	Houses	Progressive total
January 1993	205	205
December 1993	40	245
December 1994	100	345
December 1995	140	485
December 1996	30	515
December 1997	102	617
December 1998	240	857
December 1999	105	962
December 2000	60	1022

14. DHA has provided the 205 houses required by January 1993 by means of spot purchase and construction programs.

15. The 70 houses proposed for the Palmerston development comprise 50% of the 140 houses required by December 1994.

16. Planning figures beyond December 1994 are subject to further review in consultation with HQADF to reflect changing operational requirements, the effect of Defence Regional Support Review and the Commercial Support Program.

Committee's Conclusion

17. There is a need for the Defence Housing Authority to undertake a housing development at Palmerston to provide appropriate housing to cater for the increased Army presence in the north.

THE PROPOSAL

Outline of the Proposed Development

18. The proposed development of Lot 4141 in the suburb of Driver at Palmerston will yield sites for 210 dwelling units (see Figure B-3). DHA proposes construction of approximately 70 dwellings for Service families and the remaining 140 dwelling lots are to be offered for sale to private purchasers. The DHA advised at the public hearing that it may be desirable to increase the DHA holding to 50% should private demand be low. However the DHA does not want to establish a solely Service personnel estate but wishes to integrate Service families into the general community.

19. Features of the housing to be provided to suit the local climate include:

- . elevated floors (high set)
- . site orientation to capture maximum ventilation
- . design concepts including louvre windows to permit maximum crossflow ventilation
- . cycloneproof construction
- . metal wall and roof cladding
- . solar hot water
- . ceiling fans
- . part airconditioning (living room and main sleeping area)
- . carports.

20. Whilst airconditioning is to be provided to the living room and main sleeping area, it is anticipated that, because of the tropical design features, airconditioning will only be necessary during the months of November to February.

21. House designs will provide for a range of floor areas from 115 m² to 145 m² for a three bedroom house, with an additional allowance for four bedroom houses. House sizes and bedroom types will be provided to meet Service requirements. The need for privacy will be addressed by siting and design measures, fencing/screening and landscaping.

Development Constraints

22. The development of Lot 4141 Palmerston is constrained by a number of physical and administrative features which are outlined in Figure B-4. These are:

- . the construction of Dwyer Circuit at its intersection with University Avenue and Driver Avenue requires that the alignment of Dwyer Circuit through Lot 4141 be fixed
- . the existing development of the suburb of Driver – in particular, the golf course and the existing residential development on the northern and southern ends of Dwyer Circuit – constrain adjoining land uses to low density residential development and open space
- . the topography of the site, in particular the slopes in the north-eastern section which constrain the location of development
- . the drainage requirements of the site, in particular the effects of increased runoff in relation to the Palmerston Golf Course and existing residential development
- . the requirement for a parcel of land designated for community purposes
- . the requirement for pedestrian access to the Palmerston town centre to be provided from the development and for a parcel of open space to be provided opposite Broadlands Street
- . the designation of Dwyer Circuit as a local bus route and the requirement for a bus stop to be provided within the development
- . the requirement for a cycleway to be provided, linking existing suburbs of Driver with the development.

Neighbourhood Structure

23. Residential neighbourhoods comprising approximately 3500-4000 residents who are served by local shops, primary schools and other community facilities form the basis of the design and layout of the town of Palmerston. Low density residential development characterises the existing development of these neighbourhoods, although an increasing number of medium density dwellings have been developed in recognition of the growing number of people who prefer the advantages this form of living offers.

24. In order to cater for the diversity of household structures, preferences, and the requirements of DHA, a mixture of housing types has been proposed for the development of Lot 4141. These will be structured around a number of parks and open spaces linked to the community facilities located in the town centre and at Driver.

25. A total of 114 lots are proposed. Of these, 89 are conventional lots with a minimum site area of 600 m², in accordance with the provisions of the Palmerston Town Plan. Seven lots are to be developed as parks and open space corridors. Lot 55 is to be developed for community purposes and its ownership transferred to the Palmerston Town Council.

26. Of the 15 remaining residential lots, the 13 lots zoned D2 are proposed to be developed as courtyard blocks, and the two lots zoned D3 will be developed for medium density development in the form of cluster dwellings, town houses and detached dwellings.

27. The largest of the medium density sites (Lot 108) is proposed to be developed first as 41 residential dwelling units for Defence housing. This site will feature a mixture of town houses, cluster and detached dwellings within an area of semi-private open space. This area will be extensively landscaped.

28. When completed the total subdivision will yield approximately 210 residential dwelling units.

Road Pattern

29. Considerable regard has been given to the importance of maintaining residential amenity while ensuring free flowing traffic. The development will involve completion of Dwyer Circuit. This will provide access from Driver Avenue and University Avenue, and will establish Dwyer

Circuit as a collector road for the suburb of Driver. Lorna Lim Terrace will also be completed as part of this development proposal. This road will join Dwyer Circuit. Both Dwyer Circuit and Lorna Lim Terrace have been designed as neighbourhood collector roads.

30. As Dwyer Circuit will link the proposed development with the community centre at Driver and the major collector roads of University Avenue and Driver Avenue, this road will form an important link in the road pattern of the neighbourhood of Driver. The fact that Dwyer Circuit is intended as a future bus route increases its importance to the locality. Negotiations in relation to the design of Dwyer Circuit were held with the Palmerston Town Council. (See paragraph 105).

31. The provisions of the Australian Model Code of Residential Development have been incorporated into the design concept, with roads designed according to their function in the residential road hierarchy. Minor roads in the proposal have therefore been designed as private access roads to reflect their residential nature.

32. Culs-de-sac have been employed to reduce the volume of traffic moving through the development in order to reduce the level of noise and pollution associated with vehicular movement and to improve the safety and amenity of the environment for residents.

Open Space

33. Open space is intended to form an integral part of the development proposal, ensuring safe and attractive pedestrian access throughout the development and providing the opportunity for local recreation and leisure activity. In particular, access to the golf club and the neighbourhood facilities such as the school and the shops at Driver will be provided through the open space links. Open space will also provide pedestrian linkage to the town centre.

34. Culs-de-sac will provide landscaped open space linkage to parks and other roads. The effect of this will be to improve pedestrian access and provide additional public open space to residents. In addition the open space pattern reflects the natural drainage and topographical features of the site, performing both a functional and attractive purpose within the development.

35. The importance of the drainage gully on the southern side of the site has been recognised and incorporated into the design as a buffer to existing development and an open space pedestrian link. Similarly, the bushland parks at each end of the proposed roads will have the dual purpose of providing an attractive visual and recreational element in the design and also ensuring effective drainage for the site.

Civic Design Concept

36. It is proposed that a high standard of civic design will be employed within the development. Specific initiatives include:

- . development of a distinctive entrance statement. This will include the construction of a stone wall featuring the name of the development, landscaping treatment of the verges and paving variation at the entrance from Chung Wah Terrace
- . major intersections within the development will feature paving and landscaped roundabouts. These will serve both as entry statements and traffic control devices. Minor intersections will have paved entrance ways to create a distinctive and amenable residential environment
- . open space areas within the development will be designed to ensure they are both attractive and functional
- . T-headed culs-de-sac have been proposed in order to minimise the extent of bitumen and improve residential amenity
- . a walkway linking areas of medium density development with the future bus link will be attractively designed to provide convenient access for pedestrians.

Landscape Master Plan

37. Landscaping forms an integral part of the design concept. Landscape architects have been employed to design a unique landscaping plan for the site that serves to enhance the design features of the site and create a distinctive identity within the development.

38. Street planting will help to create an attractive residential environment throughout the site. The species to be planted along the streets within the development is the *Peltophorum plerocarpum* or 'yellow flame tree'.

39. Mass planting along the major road corridors of Chung Wah Terrace and University Avenue has been proposed to provide privacy and to define the development. Chung Wah Terrace will feature permanent irrigation and incorporate a mixture of ground covers, shrubs and canopy trees.

40. Planting that combines ground covers and shrubs with canopy trees is similarly proposed for University Avenue. The verge of University Avenue will be irrigated until plants are developed to a stage that they no longer require permanent irrigation.

41. Culs-de-sac will be landscaped to ensure pedestrian access and to maintain the high level of landscape quality.

42. A number of bushland, open space and cul-de-sac parks are proposed and will form the basis of the pedestrian open space links. The existing Eucalypt species will be complemented with the planting of a number of native tree and palm species and a range of shrubs and ground covers. Species will be selected for their suitability to the Darwin climate and also low water usage. Parks and open space links on the site are to feature additional planting.

43. The medium density development proposed at Lot 108 for the DHA will similarly have extensive landscape treatment. The centrally located swimming pool and play area will feature a vegetation treatment that utilises a selection of palm species to provide screening, shade and a distinctive tropical atmosphere. The perimeter of the site will be heavily vegetated to maintain privacy with the development.

Committee's Conclusion

44. The Committee is satisfied that the Palmerston development as proposed by the Defence Housing Authority will provide good quality housing for Service personnel.

PALMERSTON SITE

History of Palmerston Site

45. The site of the proposed housing development (Lot 4141) is located in the town of Palmerston, 22 kilometres south-east of Darwin. Palmerston was established in 1980 and currently has a population of approximately 8000. Lot 4141 is located in the northern section of the existing suburb of Driver and comprises 12.5% of this suburb. The location of the site within the suburb of Driver is shown at Figure B-2.

46. Land for the development of each of the Palmerston suburbs was sold to private developers under Crown lease terms in the early stages of the development. With the exception of Lot 4141, Driver has been fully developed for a range of residential, open space and community uses. The Crown lease for Lot 4141 was transferred to DHA on 24 January 1992.

Site Description – Town Planning

47. The development agreement between DHA and the Crown determines the consent authorities for the development and stipulates that subdivision approval must be in accordance with the Planning Act. The Planning Act states that the requirements of any statutory planning instruments be considered in the granting of consent for development. The town planning instrument that currently affects development in Palmerston is the Palmerston Town Plan 1982.

48. The proposed development has been designed to comply with these requirements and also introduces the innovative ideas of 'Greenstreet' to ensure that the proposal meets residential requirements of future private sector and Service families. The object of 'Greenstreet' is to reduce the cost of land development by taking a coordinated approach to design elements. 'Greenstreet' principles for example incorporate common trenching so that services such as power, gas and water can be laid in one trench not in individual trenches.

49. Lot 4141 is currently zoned D1, D2, D3 (Dwellings), zone O1 (Open Space) and zone S1 (Miscellaneous Special Purposes) under the Palmerston Town Plan 1982.

50. In March 1992, a zoning amendment was made to the Palmerston Town Plan to accommodate the development of a mix of residential types,

in accordance with the development concept proposed. This rezoning effectively reduced the density of housing able to be developed on the site by increasing the amount of land zoned for open space and low density residential uses (D1).

51. Approval for the subdivision of Lot 4141 into 114 lots to reflect future development of the site was granted in August 1992 and resulted in the site being subdivided into parcels as follows:

Zone	Lots	Dwellings
D1 (detached houses)	91	91
D2 (attached houses - courtyard homes)	13	58
D3 (medium density)	2	61
01 (passive and active open space)	7	n/a
S1 community purpose	<u>1</u>	<u>n/a</u>
	114	210

Landform

52. The site forms part of a side slope of the plateau which supports the town centre. The north-eastern side is the highest part of the site and the land slopes down in a south-westerly direction to a golf course. The contours vary from 44 metres Australian Height Datum to 24 metres Australian Height Datum and the slope is slightly over 5% from east to west.

53. Views of the Palmerston area and Darwin may be obtained from the higher, eastern side of the site. There are steeper slopes and gullies located in this section which form part of the scarp of the plateau.

54. Drainage treatment is particularly important for the natural gully located in the southern section of the site.

Soils

55. Land unit mapping data reveals that lithosols are the predominant soil type on the slope which the site covers. Red massive earths may occur in the higher parts of the site closer to the plateau surface and gleyed podzolics may be present in the lower drainage floors of the gullies.

56. The soil type and topography of Lot 4141 have resulted in the site being termed 'excessively drained'. Drainage therefore represents the main physical concern for development.

Vegetation

57. Most of the site was cleared in 1983 and the land left to regenerate naturally. As a consequence, all the canopy species are of a uniform height and age structure. The canopy vegetation generally comprises *Eucalyptus minniata* (Darwin woollybutt) and *Pandanus spiralis* (screw palm) *Cyca almsstrongii* (zamia palm) and spear grass are present in the understorey.

Environmental Analysis

58. Early land unit mapping in the locality describes the site as predominantly a side slope below a plateau surface, with a gentle gradient. Lithosols represent the main soil type but minor areas of moderately deep, yellow earths may also be present. Both these soil types are well drained.

59. When the town of Palmerston was developed in 1980, much of the area was cleared and so the natural plant species found on the site at present are those that have regenerated since clearing. This vegetation is considered of little environmental significance.

60. The effect of development on the drainage pattern of the locality is of importance because of the slope of the land and the existing residential development in the suburb of Driver. In recognition of this, a drainage study was undertaken in 1992 to determine the effect of development on the existing drainage regime of the locality.

Drainage Study Findings and Recommendations

61. The 'Driver Subdivision Golf Course Drainage Study' was undertaken in June 1992 to determine the impacts of drainage discharges on the golf course from the proposed development. The study found that the drains through the golf course will not be overloaded in a two year recurrence interval storm as a result of the development of Lot 4141.

62. It was also found that a number of existing culverts do not have the capacity to pass flows carried by the drains. This is the case for both developed and undeveloped catchments.

63. As the drainage system for the golf course has been in place for between five and six years, with no major operational problems, the minor increase in flows from the upstream catchment is not expected to affect the situation negatively.

64. Given the shortfall in culvert capacities, the impact of a 100 year recurrence interval storm is expected to be more extreme than for the minor event. It was concluded, however, that any damage resulting from a 100 year event should be contained in small areas and that no major upgrading action is necessary.

65. The proposed development should not have an impact on the adjoining golf course drainage. In the event of a 100 year recurrence some minor local flooding could occur within the rough areas of the golf course but should not affect the fairways.

Committee's Conclusion

66. The site within the suburb of Driver is suitable for the proposed Defence Housing Authority housing development at Palmerston.

COMMUNITY FACILITIES

General

67. The location of the proposed development site, within close proximity to the Palmerston town centre, is advantageous in terms of the provision of community facilities. As Palmerston is a relatively new town, it enjoys the benefits of carefully planned facilities and a planned urban environment which is sensitive to residents' needs.

68. The community facilities that are currently available in Palmerston and in the wider Darwin region are considered by DHA to be acceptable in meeting the needs of the residents of the development. A number of community facilities proposed for the Palmerston area in the future will reinforce the suitability of the site in this regard. Figures B-5 and B-6 show the range and location of community facilities available in the locality and in the wider Darwin region.

Road System

69. The site is located adjacent to the Palmerston town centre and is separated from the centre by Chung Wah Terrace. Chung Wah Terrace is a major distributor road which defines the eastern extent to the town and also links other suburbs in Palmerston. University Avenue also borders Lot 4141 and links the site to the main arterial road of the region, the Stuart Highway.

70. Plans for the future development of the Darwin region indicate that in addition to the Stuart Highway, Tiger Brennan Drive is to be extended to Palmerston from Darwin as an arterial road. This will ensure quick and efficient access to the Darwin CBD.

Public Transport

71. The Darwin Bus Service provides a public bus service for Palmerston and Darwin residents. The nearest bus route to the site is currently along Driver Avenue. This service links the other suburbs of Palmerston and the town centre via local collector roads. Public bus routes also link Palmerston to Casuarina and Darwin.

72. It is proposed that the local Palmerston bus route will be changed to utilise Dwyer Circuit after its construction, thus providing a direct public transport link from the site to the other suburbs and the town centre.

Shopping

73. Palmerston town centre is the location of the major shopping facilities in Palmerston and is within walking distance of the site. A large supermarket and a range of other specialty shops are located in the town centre. These shops will provide a convenient shopping facility for future residents of Lot 4141. The Committee was advised that a major retail development is proposed for the town centre comprising a major retail store and 35 to 50 specialty shops.

74. In addition to the shopping facilities provided in the town centre, each suburb of Palmerston has local convenience shops.

75. The major regional shopping centre for the northern suburbs of Darwin is located at Casuarina, approximately 20 kilometres from Driver.

Many Palmerston residents utilise these shops on an occasional basis as an alternative shopping venue.

Educational Establishments

76. Palmerston is well served by community facilities, which includes educational establishments. Neighbourhood centres located within each of its four suburbs contain a primary school, preschool and child-care centre.

77. Driver Primary School is located approximately 800 metres from the proposed development. Driver High School also located in Driver caters for both junior and senior school levels and services all four suburbs of Palmerston.

78. The northern suburbs campus of the Northern Territory University is located approximately 20 kilometres away at Casuarina. Some university functions are also administered from and located at the Myilly Point Campus of the University, situated near the Darwin city centre.

79. The Northern Territory University also incorporates the Institute of Technical and Further Education. The Northern Territory Open College has a regional office located in Palmerston and provides recreational and skills development courses. Several private schools and many government primary and high schools are located throughout the wider Darwin region.

80. A TAFE college has been planned along University Avenue which will be in close proximity to the proposed development.

Health Facilities

81. Three medical centres are located within 800 metres of Lot 4141 and provide general practitioner, dental and specialist medical practitioner services.

82. The Royal Darwin Public Hospital and Darwin Private Hospital are located at Casuarina.

83. St John Ambulance services operate in the Darwin and Palmerston region.

Public Open Space and Recreation

84. The site is located in an area well serviced by community recreation and sporting facilities and public open space areas.

85. A bicycle pathway system links the parkland and open space reserves throughout Palmerston. Palmerston Golf Course, a nine hole private course and club, borders Lot 4141.

86. Driver High School and Driver Primary School have facilities which are administered by the respective school councils and are available for public use. These facilities include sporting ovals, community halls, function rooms, cricket nets, netball, tennis, basketball and volleyball courts, a gymnasium, stage and theatre.

87. A private olympic size swimming pool and leisure centre is located within two kilometres of the site in the neighbouring suburb of Moulden.

88. The public recreation reserve of Marlows Lagoon is located two kilometres from the site. Surrounding the lagoon is a landscaped open space area with barbeque facilities, playground equipment, public conveniences and covered seating. A BMX track is situated north of the lagoon.

89. An equestrian centre, motorcrosse club and pistol shooting club are situated south of the lagoon. Land has also been allocated in this area for future sporting requirements. Other sporting fields and facilities have been planned for a new suburb and include plans for an indoor sports stadium.

90. Access to water-based activities may be gained from the Elizabeth River, a major tributary of the Darwin Harbour. A public boat ramp is located approximately five kilometres south of the site.

91. The Palmerston Library is located in the civic centre and is within walking distance of Lot 4141.

COST ESTIMATE

92. The proposed development at Palmerston is estimated to cost \$18.4m with revenue from the sale of dwelling lots amounting to \$4.2m.

93. Details of the cost estimate are as follows:

	\$m
· Site purchase	.575
· Subdivision development	4.310
· Construction of 70 houses for DHA	<u>13.509</u>
TOTAL	18.394
· Sale of 140 dwelling sites	<u>4.229</u>
NET PROJECT COST	14.165

APPROVING AUTHORITIES

94. As Palmerston Town Council is the consent authority for the approval of roads under the requirements of the development agreement, and is also represented on the Northern Territory Planning Authority from whom consent is required under the provisions of the Planning Act, the proposed development has been designed in accordance with the provisions of the Palmerston Town Plan.

95. Authorities from whom consent is required are stated in the development agreement and are as follows:

Roads: Palmerston Town Council
Sewerage: Power and Water Authority
Electrical Services: Power and Water Authority
Telephone: Telecom
All other development works: The Director, Development and Construction Branch, Planning and Development Group, Department of Lands and Housing.

96. Throughout the approval process DHA has met the requirements of the Palmerston Town Plan, the Palmerston Town Council and the relevant service authorities.

Response from Authorities

97. Both rezoning and subdivision consents have been obtained for this parcel of land from the Northern Territory Planning Authority.

98. As part of the subdivision approval process, the application was circulated to a number of relevant service authorities for comment. A summary of their comments is as follows:

Power and Water Authority

99. The Power and Water Authority advised that town water is available to the site from mains located on the periphery of Lot 4141 and that in order to balance pressures, multiple connections will be required.

100. Sewage reticulation is able to be gravity fed to the existing sewerage system and a five metre wide sewer easement is required over the existing trunk sewer that crosses part of Lot 4141.

101. The Power and Water Authority has no objection to the subdivision proposal provided all water and sewerage designs are approved by that Authority.

102. The Power and Water Authority, Power Division has no objection to the proposal and advised that the developer is required to provide reticulation to each lot in accordance with the Authority's electrical power and construction standards, at the developer's expense.

Palmerston Town Council

103. During consultation with the Palmerston Town Council in relation to road widths, the Council expressed concern that the width of pavement proposed for Dwyer Circuit is too narrow and that roundabouts will impede traffic flow along this route.

104. Palmerston Town Council would prefer a width of 11 metres along the length of Dwyer Circuit. A compromise solution has been proposed that involves the construction of Dwyer Circuit with two widths - 11 metres with eight metre wide 'neck downs' located along its length.

Darwin Bus Service

105. Darwin Bus Service was consulted at the request of the Palmerston Town Council, as the Council was concerned about the future location of the bus route through Driver and its impact on Dwyer Circuit. Darwin Bus Service advised that Dwyer Circuit, when completed, is to become a part of the local bus route and so a bus stop has been provided within the road reserve of Dwyer Circuit.

106. The Bus Service advised that an eight metre wide pavement width for Dwyer Circuit and the proposed roundabouts were able to be negotiated safely by the buses expected to be travelling the route.

Department of Transport and Works

107. The Department of Transport and Works advised it has no control over the internal roads of the proposal and has no jurisdiction over either Chung Wah Terrace or University Avenue.

108. The department also advised that there was no objection in principle to the proposed subdivision and that there were no requirements for reserves or easements over the land.

CONSTRUCTION PROGRAM

109. Following parliamentary approval construction is planned to commence in July 1993 with completion planned for December 1994.

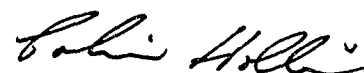
Committee's Recommendation

110. The Committee recommends construction of the Defence Housing Authority development at Palmerston, Northern Territory at an estimated cost of \$18.4m.

CONCLUSIONS AND RECOMMENDATION

111. The conclusions and recommendation of the Committee and the paragraph in the report to which each refers are set out below.

	Paragraph
1. There is a need for the Defence Housing Authority to undertake a housing development at Palmerston to provide appropriate housing to cater for the increased Army presence in the north.	17
2. The Committee is satisfied that the Palmerston development as proposed by the Defence Housing Authority will provide good quality housing for Service personnel.	44
3. The site within the suburb of Driver is suitable for the proposed Defence Housing Authority housing development at Palmerston.	66
4. The Committee recommends construction of the Defence Housing Authority development at Palmerston, Northern Territory at an estimated cost of \$18.4m.	110



Colin Hollis
Chairman
13 May 1993

APPENDIX A

WITNESSES

BALDY, Mr Kelvin Bruce, Director, Peddle Thorp WKM Pty Ltd, Architects, Beagle House, 38 Mitchell Street, Darwin, Northern Territory 0800

BENNETT, Mr Stephen Charles, Town Clerk, Palmerston Town Council, 2 Chung Wah Avenue, Palmerston, Northern Territory 0830

D'ROZARIO, Ms June, Director, June D'Rozario & Associates Pty Ltd, 5 Shepherd Street, Darwin, Northern Territory 0800

DIFLO, Mr Kevin Patrick, Mayor, Palmerston Town Council, 2 Chung Wah Avenue, Palmerston, Northern Territory 0830

DUNKLEY, Mr Ross Blake, Director/Senior Engineer, Sleeman Dunkley Treacy Maunsell Consulting Civil Engineers, PO Box 1252, Darwin, Northern Territory 0801

FANNING, Mr Peter Gerard, Business Services Manager, Territory Construction Association, 191 Stuart Highway, Parap, Northern Territory 0820

FLETCHER, Mr Peter Anthony, Capital Projects Manager, Defence Housing Authority, 3/10 Parap Place, Parap, Northern Territory 0820

HETHERINGTON, Mr Michael Stewart Burr, General Manager Regional Operations, Defence Housing Authority, 2 Brisbane Avenue, Barton, Australian Capital Territory 2600

KIRKBY-JONES, Mr William James, Managing Director, Defence Housing Authority, 2 Brisbane Avenue, Barton, Australian Capital Territory 2600

MOELLER, Mr David James, Engineering Manager, Delfin Property Group, 155 Brebner Street, West Lakes, South Australia 5021

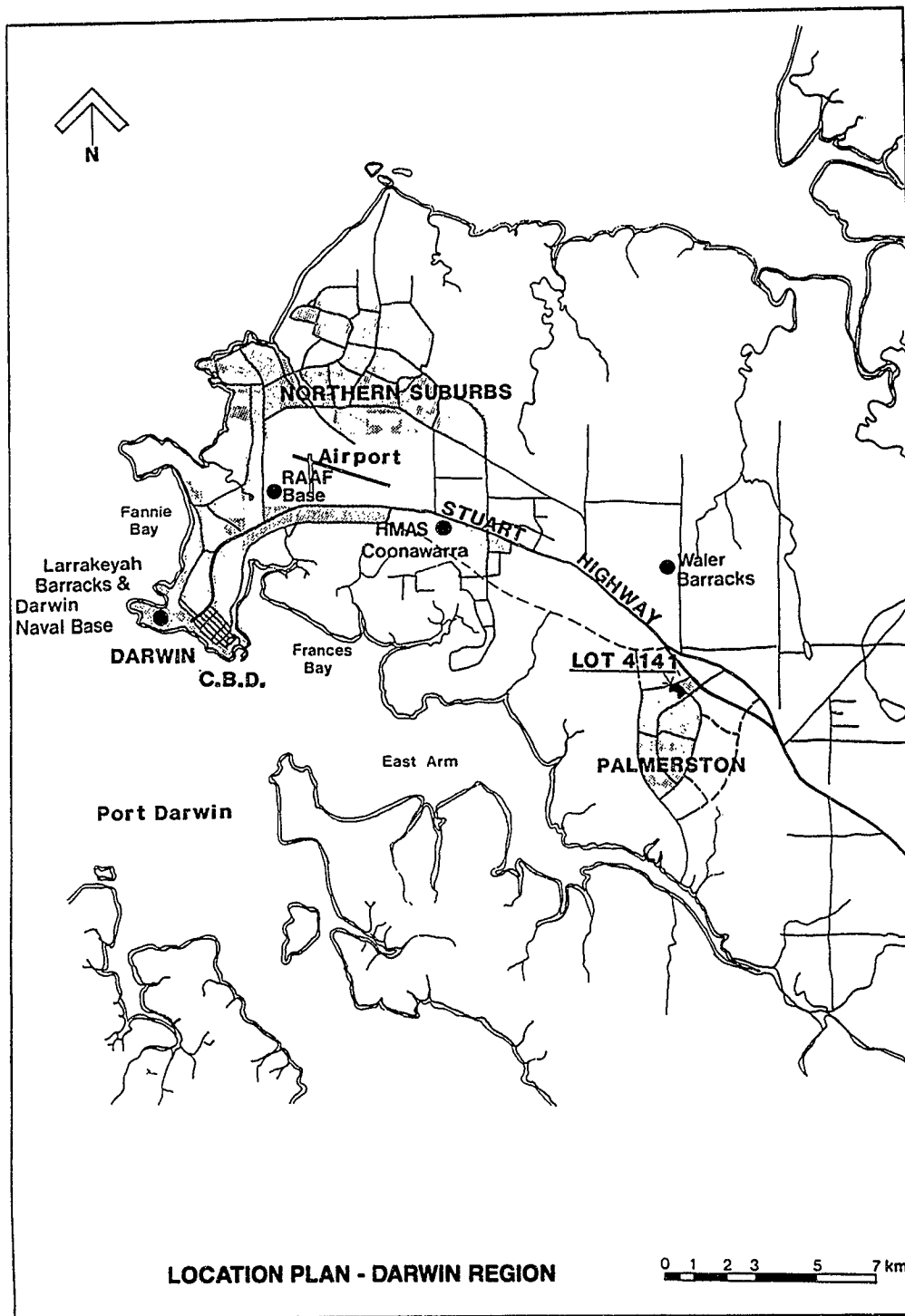
ORTMANN, Hon. Maxwell Henry, MLA, Northern Territory
Government, Tenth floor, NT House, Mitchell Street, Darwin,
Northern Territory 0800

SYKES, Mr Robert Percy, Project Engineer, Sleeman Dunkley
Treacy Maunsell Consulting Civil Engineers, PO Box 1252,
Darwin, Northern Territory 0801

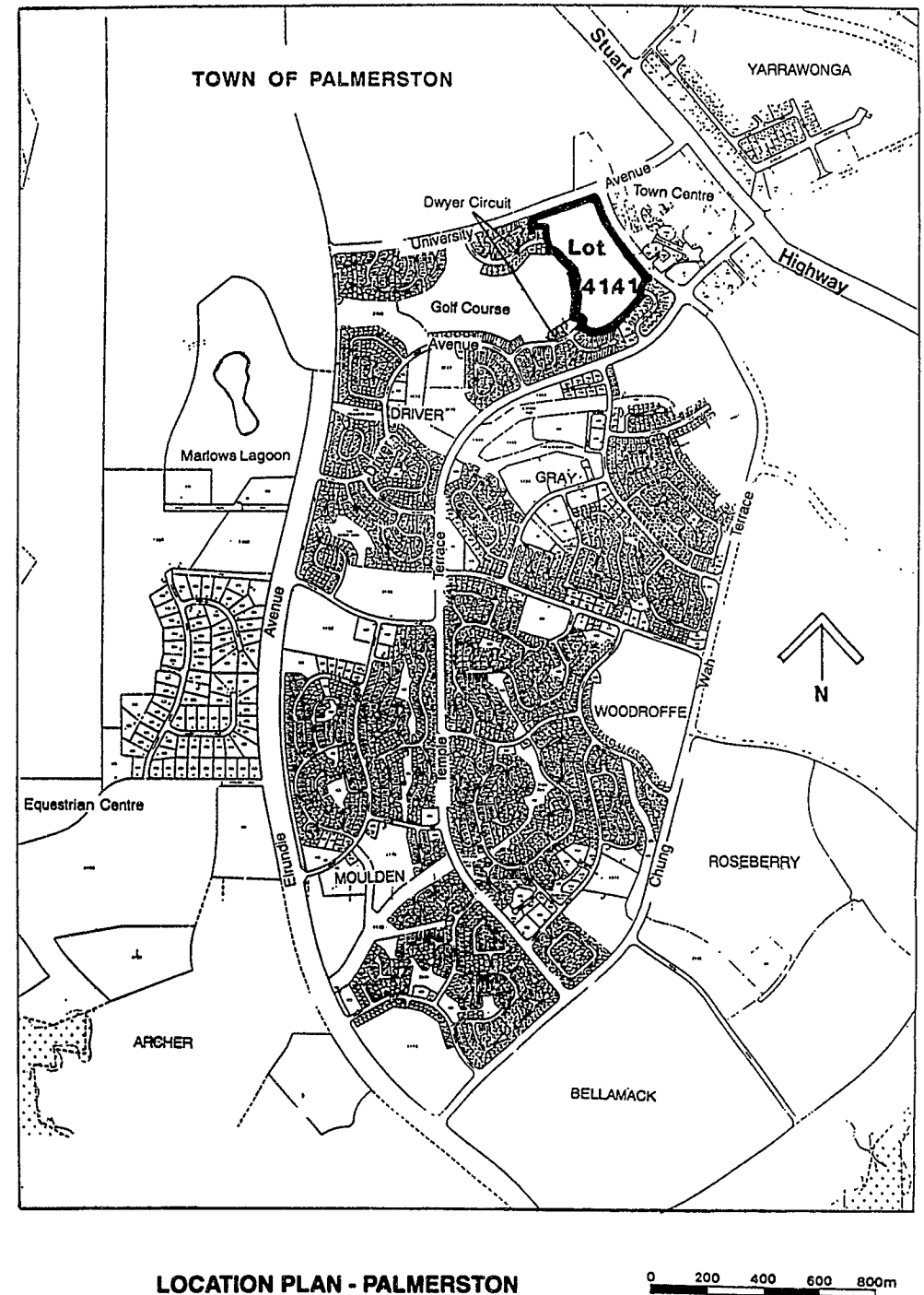
APPENDIX B

PROJECT DRAWINGS

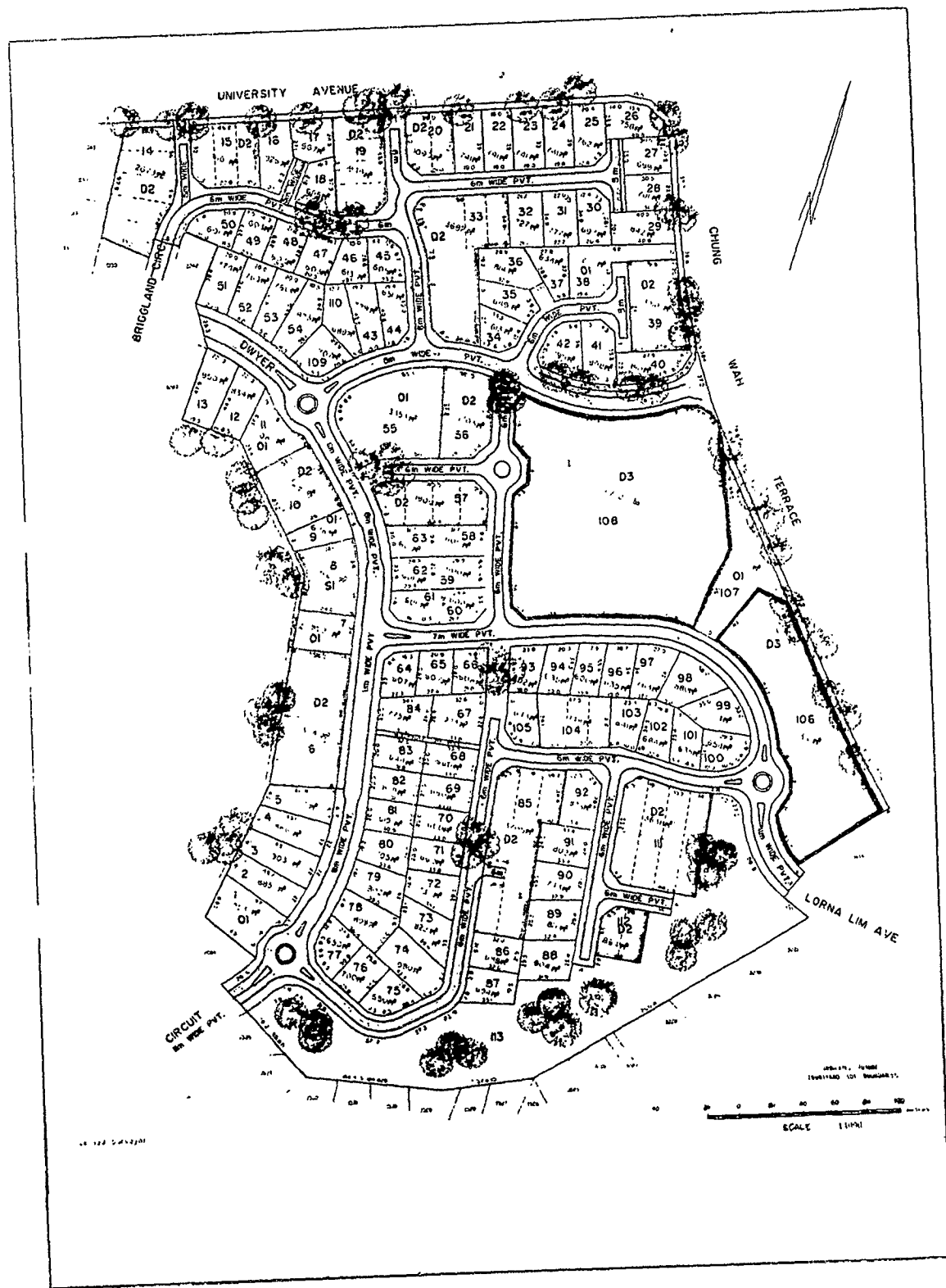
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Location Plan – Darwin Region	B-1
Location Plan – Palmerston	B-2
Subdivision Drawing/Development Concept	B-3
Development Constraints	B-4
Community Facilities Infrastructure – Palmerston	B-5
Major Community Facilities – Darwin Region	B-6



B-1

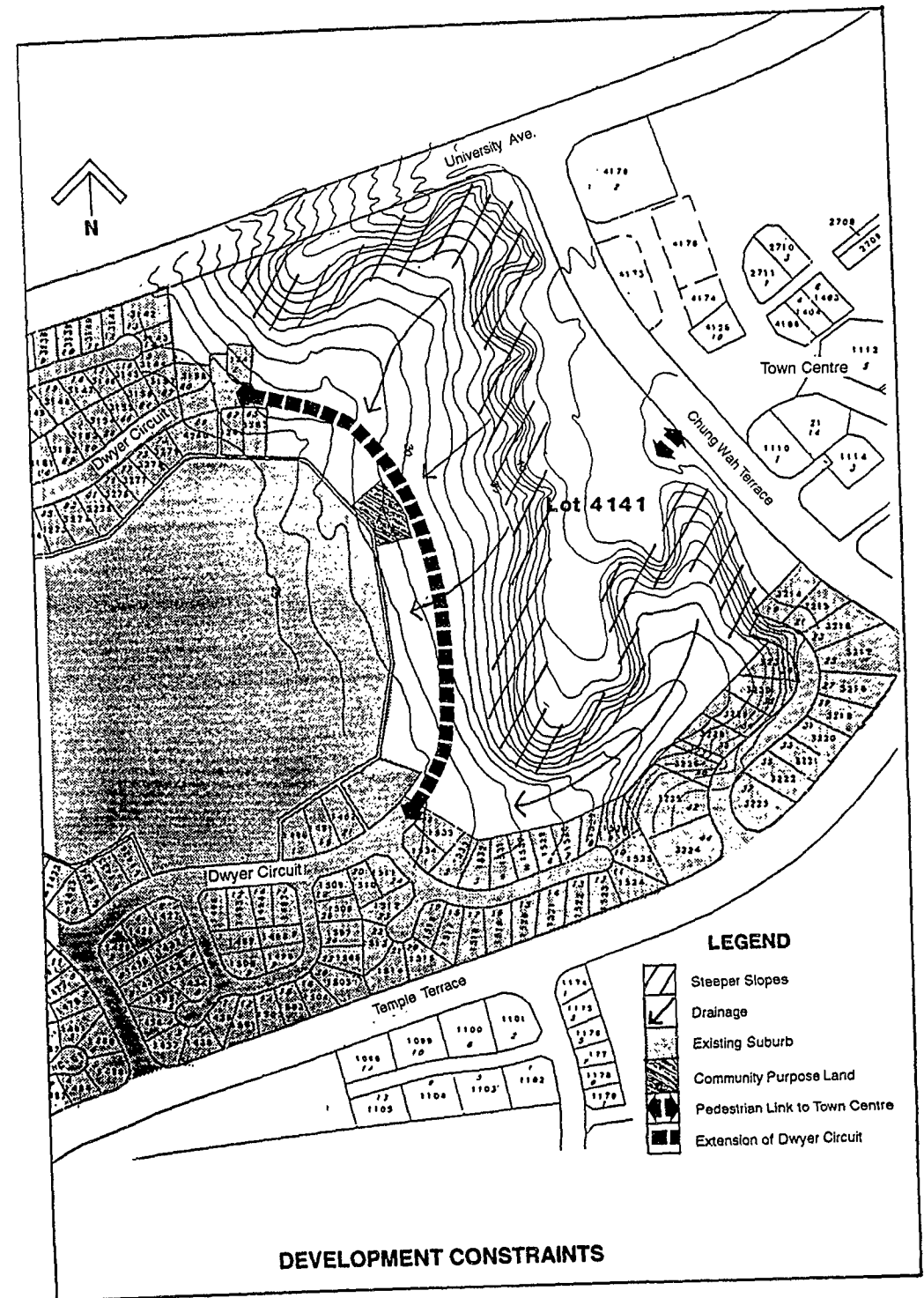


B-2



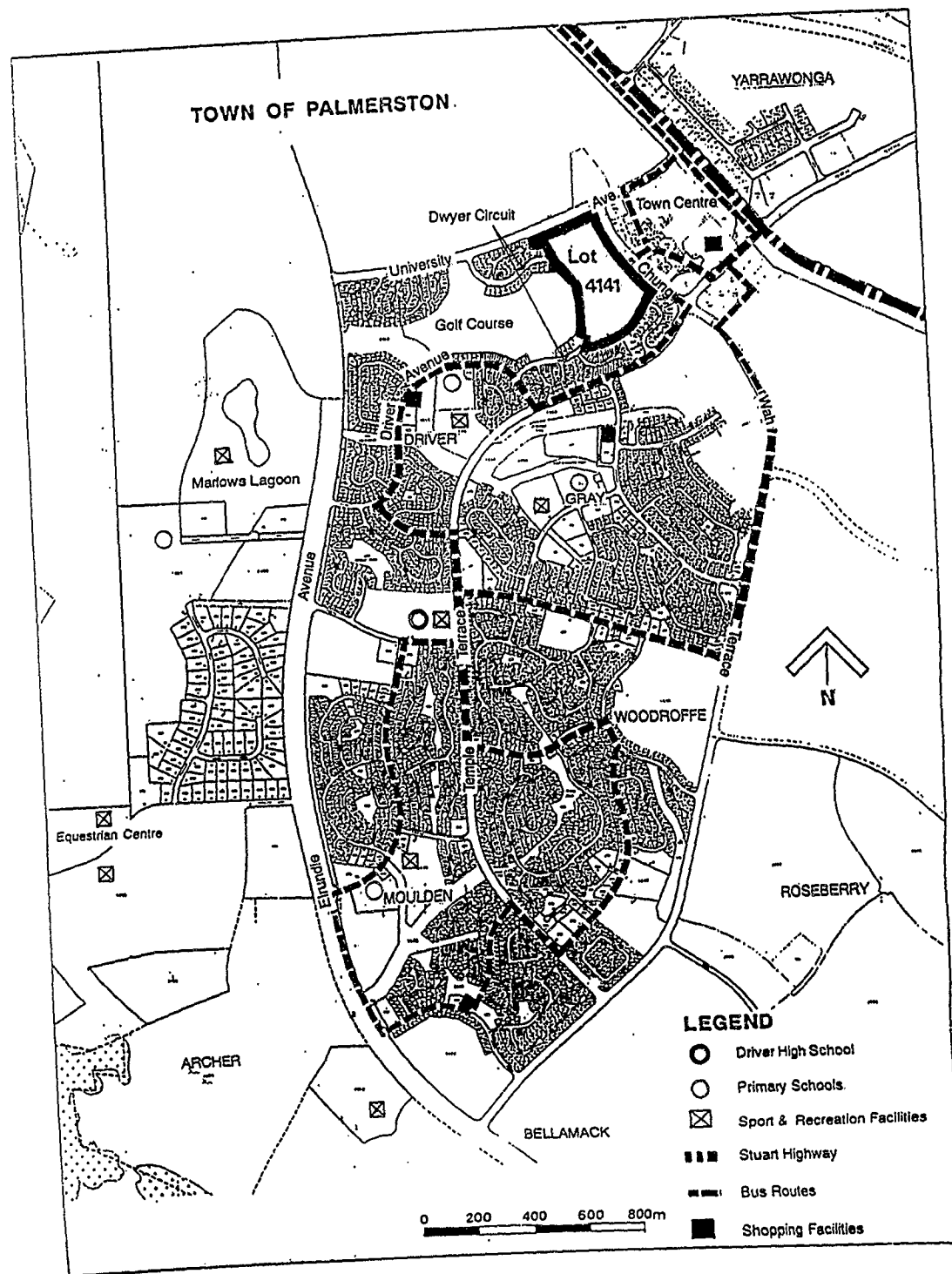
SUBDIVISION DRAWING / DEVELOPMENT CONCEPT

R-2



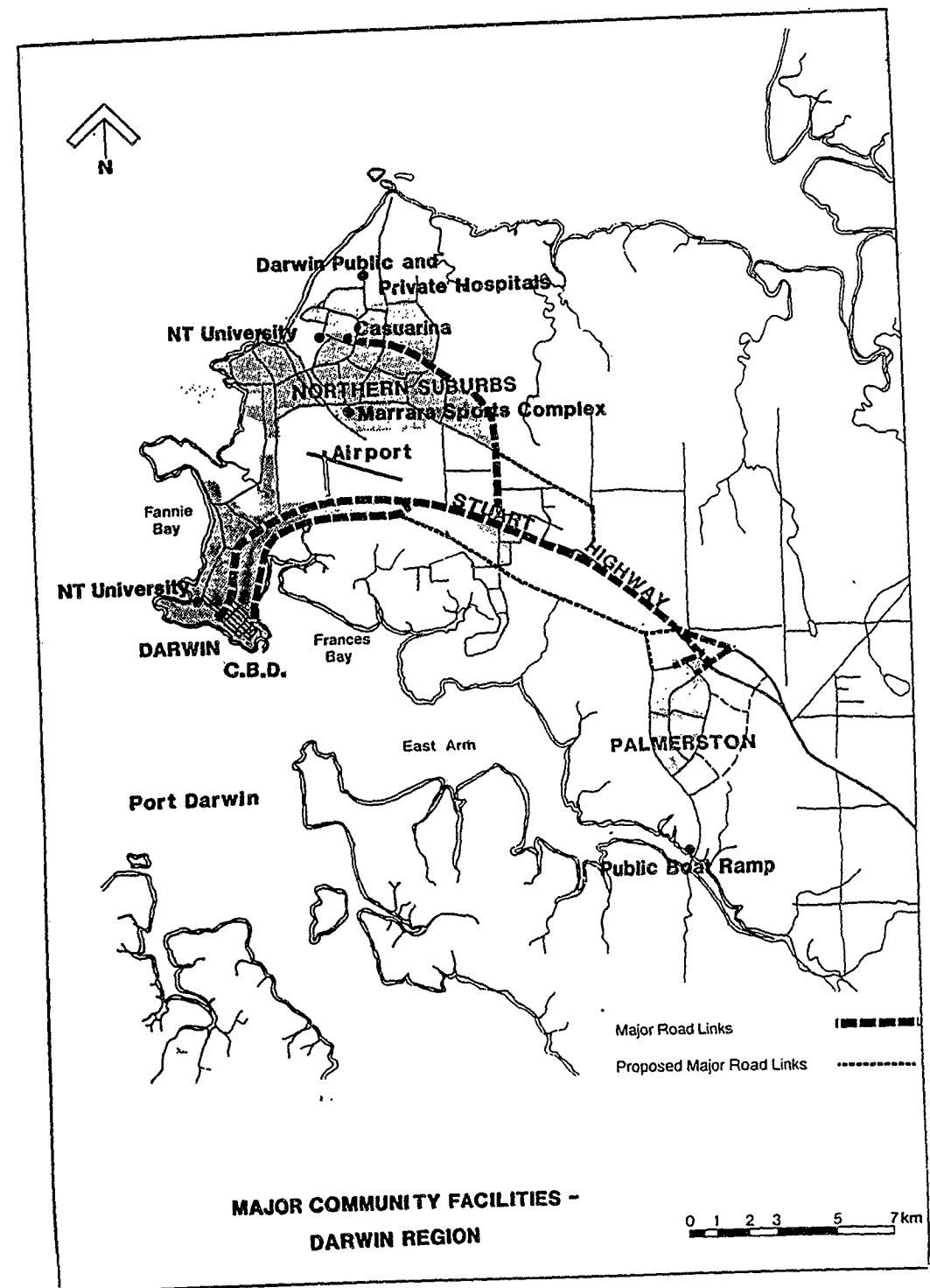
DEVELOPMENT CONSTRAINTS

B-4



COMMUNITY FACILITIES INFRASTRUCTURE - PALMERSTON

B-5



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