

SHIRE OF CHAPMAN VALLEY

LOCAL PLANNING STRATEGY

JANUARY 2008

Endorsed by the Western Australian Planning Commission
20 November 2007

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Section 1 INTRODUCTION

With the shire of Chapman Valley having to face considerable challenges in urban and rural planning centred on agricultural diversification, lifestyle opportunities, tourism and natural resource management the need had arisen to review the Shire's Local Rural Strategy, which was initially prepared in 1993 and subsequently reviewed from 2001 - 2004.

The Shire has now moved to update the Local Rural Strategy June 2004 to a Local Planning Strategy to include additional forward planning measures for the townsites of Nanson, Nabawa and Yuna, and the provision for Rural Smallholdings and Rural Residential Development based on the following considerations:

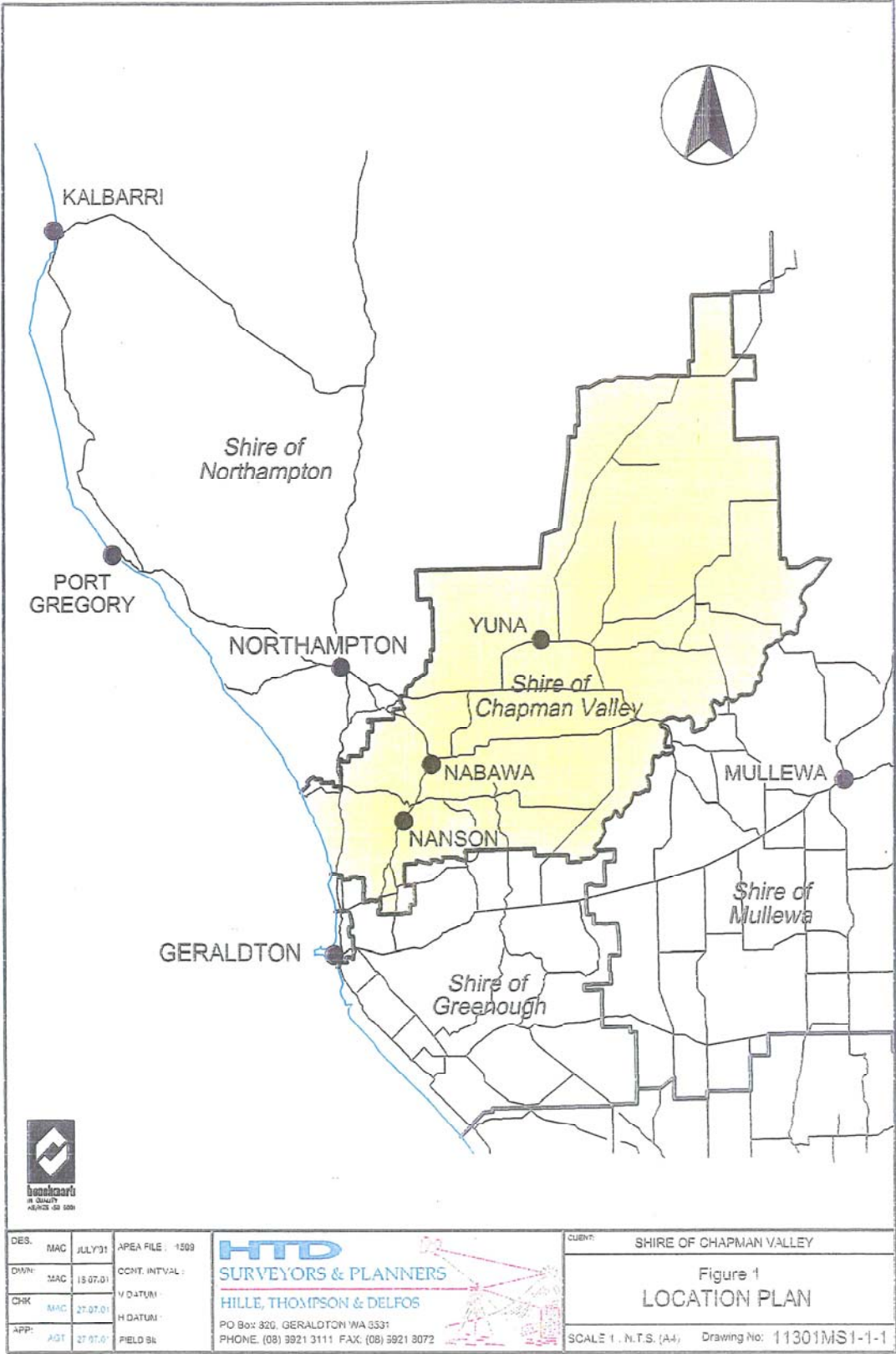
- Proximity and access to Geraldton;
- Existing settlement pattern and land-use trends;
- Opportunity to lifestyle, agricultural diversification and tourism ventures;
- Topographical and environmental constraints;
- Opportunity to preserve natural features;
- Access to existing services/infrastructure.

In this respect the strategy has been prepared pursuant to the Town Planning Regulations 1999 and in accordance with the requirements under Section 3 of the Model Scheme Text to:

- (a) supercede the Local rural Strategy June 2004 in order to satisfy the future planning needs and direction for the whole of the Shire over the next 10 - 15 years; and
- (b) provide the necessary foundation and justification for preparation of the Shire of Chapman Valley District Zoning Scheme No. 2, which has been prepared and should be read in conjunction with the Local Planning Strategy.

LIST OF FIGURES

Figure 1 - LOCATION MAP



Section 2 STATE AND REGIONAL PLANNING CONTEXT

The Local Planning Strategy has been prepared within the context of the State and Regional planning framework, with the relevant policies applicable to this Shire being used in the formation of this document.

2.1 STATE PLANNING CONTEXT

2.1.1 State Planning Strategy

The State Planning Strategy essentially provides broad strategic direction and sets the framework for land use planning across Western Australia guided on the following principles:

Environment: To protect and enhance the key natural and cultural assets of the State and deliver to all West Australians a high quality of life which is based on environmentally sustainable principles.

Community: To respond to social changes and facilitate the creation of vibrant, safe and self-reliant communities.

Economy: To actively assist in the creation of regional wealth, support the development of new industries and encourage economic activity in accordance with sustainable development principles.

Infrastructure: To facilitate strategic development by ensuring land use, transport and public utilities are mutually supportive.

Regional Development: To assist the development of regional Western Australia by taking into account the region's special assets and accommodating the individual requirements of each region.

The Local Planning Strategy for the Shire falls in line with the Mid-West Region vision statement of the State Planning Strategy which states:

"In the next three decades, the Mid-West Region will continue to diversify its economic base in the areas of agriculture, minerals development, downstream processing of commodities and tourism. Geraldton will develop as the largest regional centre north of Perth, offering a wide range of facilities and attractions."

2.1.2 State Planning Framework

Within the State Planning Framework are a number of state and regional policies, coined Statements of Planning Policy (SPP's), that provide both strategic and operational direction to appropriate land use and development controls. Those policies most relevant to the Shire of Chapman Valley are summarised as follows:

SPP2 Environment and Natural Resources

This policy defines and incorporates environmental issues and the principle of resource management into the state planning process. The objectives of the policy are:

- To integrate the wider economic, social and environmental implications of both long and short-term planning decisions and actions, while acknowledging the inherent difficulty in balancing conflicting needs;

- To protect, conserve and enhance natural resources and the environment, taking account of the natural variability of ecosystems, so that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations; and
- To promote and assist in the wise and sustainable use of natural resources.

Policy measures are defined for water resources, air quality, soil and land quality, biodiversity, agricultural land and rangelands, minerals, petroleum and basic raw materials, landscapes, and greenhouse gas emissions and energy efficiency.

The measures for implementing the policy are generally through the preparation of Local Planning Strategies, Regional and Statutory Schemes, conservation and management strategies and other relevant plans in addition to consideration of proposals through the statutory planning process.

SPP2.5 Agricultural and Rural Land Use Planning

This policy provides criteria for the identification of areas of agricultural significance and the framework for planning and development of agricultural land. The following objectives form the basis of this policy:

- The State's priority agricultural land resource should be protected.
- Rural settlement opportunities should be provided if sustainable and of benefit to the community.
- The potential for land use conflict should be minimised.
- The State's natural resources should be carefully managed.

The application of policy objectives are generally achieved through the preparation of local planning strategies, town planning scheme provisions, zoning, subdivision and development requirements or controls. This policy also provides for a range of zoning classifications, defined by land capability, lot size, service availability and possible activities and uses of the land.

In relation to this document the provisions of this policy will be adopted to guide the management and development of agricultural land through out the Shire.

SPP2.6 State Coastal Planning Policy

This policy seeks to recognise the extent of variation in character and pattern of use along the whole of the Western Australian coast, including the pressure being placed on coastal resources for a myriad of uses and the conflict and/or impact being experienced brought about by a range of competing uses.

To address this, the policy details a number of key objectives:

- protect, conserve and enhance coastal values, particularly in areas of landscape, nature conservation, indigenous and cultural significance;
- provide for public foreshore areas and access to these on the coast;

- ensure the identification of appropriate areas for the sustainable use of the coast for housing, tourism, recreation, ocean access, maritime industry, commercial and other activities; and
- ensure that the location of coastal facilities and development takes into account coastal processes including erosion, accretion, storm surge, tides, wave conditions, sea level change and biophysical criteria.

To achieve these objectives the following measures are required to be met:

- General measures including public interest; coastal foreshore reserve; coastal strategies and management plans; environment; development and settlement; and physical processes setback.
- Coastal plan requirements comprising a coastal planning strategy or foreshore management plan to support development on the coast. Plans should consider the physical environments, human environments; land capability, access to and use of the coast. The plan/s should also determine requirements to protect the above and provide appropriate guidelines for development.

To successfully implement these measures their intent needs to be applied at the local level through a local planning strategy, specific town planning scheme provisions, zoning, subdivision and development requirements to ensure the Shire's coastline is adequately protected and managed.

SPP2.7 Public Drinking Water Source Policy

This policy emphasizes the importance and need to protect the quality and quantity of ground and surface water resources within the State. The principal objective of the policy is to ensure that land use and development within public drinking water source areas (PDWSA's) is compatible with the protection and long term management of water resources as a public water supply. The policy provides a classification system for PDWSA's as listed follows:

- P1 Priority 1 Source areas: defined and managed to ensure there is no degradation of the water resources. This represents the highest level of protection where the land is generally owned by the state to ensure only low intensity and low risk land use occurs.
- P2 Priority 2 Source areas: defined to ensure that there is no increased risk of pollution to the water source. P2 areas are declared over land where low-risk development already exists however, protection of the resource is a high priority in these areas prompting only conditional development be allowed in accordance with the over-riding principals of risk management.
- P3 Priority 3 Sources areas: defined to manage the risk of pollution of the water source. These areas are declared where water supply sources need to co-exist with other land uses such as residential, commercial and light industrial development. Protection of these areas is generally by management guidelines for such land use activities.

The SPP 2.7 also recognises the role of well head and reservoir protection zones on protecting the water source from direct contamination in the immediate vicinity.

Further, the policy requires local and regional planning strategies to identify PDWSAs for inclusion in Special Control Areas for water protection within a Town Planning Scheme. The classification of such land should be in accordance with the recommendations of any land use and water management strategy or water source protection plan already prepared.

The Department of Water's Water Quality Protection Note (July 2004) will be used to determine suitable land uses within PDWSA's.

SPP3 Urban Growth and Settlement

This policy re-enforces the State Government's commitment to achieving sustainable land-use and development through-out Western Australia, detailing a range of key social, economic, and environmental objectives that establish guiding principals and considerations for:

- Creating sustainable communities;
- Managing urban growth and settlement in metropolitan and regional areas;
- Planning for livable neighbourhoods;
- Co-ordination of services and infrastructure in an efficient manner;
- Managing rural residential growth; and
- Planning for Aboriginal communities.

Given many of the objectives of this policy apply to the strategic planning direction for the Shire, particularly in relation proposed urban and rural-residential development the Planning Precincts 3, 7 and 9, the Local Planning Strategy recognises the importance of SPP3 in regard to the future growth of settlement areas in the Shire.

SPP3.1 Residential Design Codes

The Residential Design Codes of Western Australia were required to be incorporated into all relevant Town Planning Schemes in 2002 and are intended to guide all residential development in a consistent manner across the State. The Codes consist of numerous elements that relate to residential development and provide for the minimum requirements for each element with performance criteria provided to enable discretionary consideration by the local authority based on merit and differing circumstance. The codes also allow for variance by way of Town Planning Scheme amendment by local authorities, in accordance with normal scheme amendment processes.

The revised Codes reflect community requirements and expectations for a range of residential densities, housing styles and mixed-use development.

The Local Planning Strategy acknowledges the significance and importance of the Residential Design Codes to provide a range of housing alternatives in the urban areas of the Shire.

SPP4.1 State Industrial Buffer Policy

The purpose of this policy is to provide a consistent approach to the protection and preservation of industrial zones and relevant Public Purpose zones and associated

infrastructure (including transport links, coastal ports and treatment plants) through out the state, whilst seeking to ensure through the establishment of appropriate buffer areas:

- the amenity and well being of surrounding land use is not compromised or adversely impacted upon; and
- incompatible uses to the industrial development are not sited within close proximity so as to compromise the integrity and effectiveness of the industrial site or associated infrastructure.

This policy requires acknowledgement of strategic industrial areas (including buffers and supporting infrastructure) within a local planning strategy and town planning scheme and places strong emphasis on the need to a co-operative and coordinated approach between state and local government.

Given the Oakajee Industrial Estate is located in this Shire representation of the policy objectives are provided for in this document and reflected in the accompanying draft Town Planning Scheme No.2.

2.2 REGIONAL PLANNING CONTEXT

2.2.1 Geraldton Region Plan 1999

The Region Plan sets a framework for the future management, protection and coordination of regional planning for the Mid West. The purpose of the Plan is to provide a link between State and local planning and a balance between environmental, social and economic factors in affording direction to the future growth of Geraldton as the regional centre and more broadly the Mid West. Given the Shire of Chapman Valley is situated to the north/north-east of Geraldton, and the south west portion of the Shire includes the scenic Flat Top Moresby Ranges, Chapman Valley and the Oakajee Industrial Estate, it effectively provides a rounding off the greater Geraldton area as shown in the Greater Geraldton Structure Plan contained with the Geraldton Region Plan.

2.2.2 Batavia Coast Strategy 2001

This Strategy provides for an integrated approach to the planning and management of the Mid West coastline and proposes a consistent regional response to land use change, subdivision, development, and environmental repair and management. The Strategy also seeks to compliment other regional initiatives and guide local decision-making and actions undertaken within local planning and management frameworks, particularly through the preparation of more detailed Coastal Management Strategies and Plans.

The primary policy objective of the Batavia Coast Strategy is:

"to ensure that all reasonable demands along the coast for housing, tourism, recreation, commercial, industrial and other activities are provided for, while sustaining or enhancing existing coastal resources and environmental quality at an acceptable community cost."

The Strategy clearly acknowledges the importance of the future Oakajee Industrial Estate and associated Deep Water Port, and the two key recreational nodes of Buller River for day use activities and Coronation Beach for both day use and over night camping.

The Batavia Coast Strategy also recommends further policy development through review of the Shire's Coastal Management Strategy.

2.2.3 Moresby Range Management Strategy (draft)

The Geraldton Region Plan and Greater Geraldton Structure Plan 1999 acknowledge the existence of the Moresby Range Management Committee, which was established in 1996 with the aim of preparing a Strategy to:

- a) determine the extent and regional significance of the Range, and:
- b) define a system of land management for the Range.

A draft of the Strategy document is currently being prepared by the Western Australian Planning Commission. Within the Study Area, the portion of the Ranges that forms the back drop to Geraldton is identified in the Strategy as the Management Area. The Strategy focuses in particular on the Management Area in response to it being subject to the greatest development pressure and having the greatest visual significance. Once adopted in its final form the Moresby Range Management Strategy will be used by the Shire of Chapman Valley as a tool to provide additional guidance, in the making of decisions on land use and development within the Ranges.

It is also expected that the Western Australian Planning Commission will also use the Moresby Range Management Strategy once adopted as a guide for decision making on proposals that affect the Moresby Ranges at a regional level.

In the interim this document will acknowledge the intent of the Moresby Range Management Strategy through the objectives detailed in Planning Precincts 3 and 4, and promote a separate detailed planning exercise be undertaken in partnership with all relevant stakeholders for the Management Area of the Moresby Ranges depicted on the Precinct Maps as 'Management Area' to identify a range opportunities in consideration of current environmental values and constraints, including but necessarily not limited to:

- conservation,
- revegetation and rehabilitation;
- public and private tenure, access and recreation;
- complimentary and sustainable development and subdivision;
- suitable development guidelines ;
- continued agricultural practices;
- acquisition of key areas of the range for public purposes.

Therefore it is recommended this process:

- be completed using shared state and local government resources and funding;
- be guided by a steering committee represented by stakeholders;
- engage broad community input; and
- ultimately form a strategic policy position to guide future development in consideration of the broader public interest.

Within the Management Area, the preference of the State Government is to acquire key portions of the ranges for public access, however the potential for an alternative means of achieving public access through development trade-offs is recognised. This option will be investigated through detailed planning in conjunction with all relevant stakeholders prior to any rezoning amendments being initiated over key areas of the ranges.

2.2.4 Northern Geraldton District Structure Plan (draft)

The draft Northern Geraldton District Structure Plan is being prepared by the Western Australian Planning Commission in conjunction with the City of Geraldton, Shires of Greenough and Chapman Valley, and State Government agencies including the Department of Environment and Conservation and Main Roads WA to ensure a coordinated and integrated approach is taken to the future growth of urban and rural residential development within the north and eastern portions of the greater Geraldton area.

To achieve this, the draft Structure Plan takes into account the physical, environmental, social, and heritage values of the area to together with servicing and infrastructure requirements determine appropriateness of land use and housing density.

The northern part of the Structure Plan area falls within the Shire of Chapman Valley, with land west of North West Coastal Highway identified for future urban development and the area east of the highway set aside for rural residential development. Broadly this proposed change in land use is reflected in Planning Precinct No.7 of this document and the Shire's draft Town Planning Scheme No.2.

2.2.5 Oakajee Services Corridor

In 1998 the Shire of Chapman Valley formally adopted a policy regarding development adjacent to the Oakajee - Talling Peak Rail Corridor. This policy was developed in consultation with the Shires of Greenough and Mullewa, and the Department of Industry Resources and Department of Environment and Conservation.

Following the completion of the Consultative Environmental Review for the Oakajee - Narngulu Services Corridor and subsequent assessment by the Department of Environment and Conservation, the Hon. Minister for the Environment requested the Shire of Chapman Valley extend its current Policy to affect the second Service Corridor.

The proposed location of the Services Corridor is shown on the Precinct Plans contained within this Local Planning Strategy in order to protect the integrity of the corridor, prevent incompatible development adjacent to the proposed corridor, and protect future residents from unacceptable impacts arising from infrastructure within the corridor. However, the final alignment and width of the infrastructure corridor has yet to be determined and may ultimately vary from that shown in this Strategy. It is possible the alignment may alter following environmental assessment and the width of the corridor may need to be increased. Accordingly, the rezoning of land identified in Precinct 7 for future Rural Smallholding (4-40ha) in close proximity to the proposed corridor alignment (Lots 8, 9, 10 & 11 White Peak Rd) will not be initiated until the corridor width and alignment are finalised and there is a clear understanding about the potential impacts of infrastructure in the corridor.

As per the Shire of Chapman Valley adopted policy, any applications for planning consent on land adjacent to the corridor will not be determined by the Shire of Chapman Valley until such time as advice has been received from the infrastructure proponents, Department of Environment and Conservation and Department of Industry Resources. The Shire of Chapman Valley has also determined by way of policy that it will refuse any such application should any of the agencies object to the proposal, provided the objectors agree to indemnify and cover all compensation costs resulting from Shire's refusal of the application should this be necessary.

This policy position also applies to any application for a habitable building within 250 metres of the centre line of the corridor (this distance is based on the 65dB(A) noise contour line) and any application for a non-habitable building within 150 metres of the centre line (this distance is based on the 75dB(A) noise contour line).

2.2.6 *Regional Natural Resource Management Strategy – Northern Agricultural Region of Western Australia (2005)*

The Shire of Chapman Valley falls within the Northern Agricultural natural resource management (NRM) region, which is one of six NRM regions within the State. The Regional Natural Resource Management Strategy for the Northern Agricultural Region was coordinated in 2005 by the Northern Agricultural Catchments Council with the general intent of the strategy being to promote the sustainable use and management of natural resources. The strategy identifies strategies, targets and actions for the long-term management of identified natural resources, many of which are applicable to the Shire of Chapman Valley. Of particular relevance to the Shire are targets and actions relating to coastal management, sustainable tourism, protection of agricultural land, groundwater management and quality, and cultural heritage.

Resources for the implementation of the strategies and actions identified in the NRM Regional Strategy are delivered through an investment planning process, which is an ongoing process based on priorities and availability of funding from the Federal Government.

Section 3 LOCAL GOVERNMENT POLICY CONTEXT

To provide for orderly and proper planning across the municipality in accordance with local community aspirations the Shire has and continues to develop a policy framework at the local level that fits with both State and Regional Policy objectives. Summarised below are a number of current policy instruments of the Shire used to assist in directing and regulating land-use development:

3.1 LOCAL RURAL STRATEGY 2004

Local Rural Strategy, which was initially prepared in 1993 and subsequently reviewed from 2001 – 2004, has effectively provided the necessary guidance on planning matters, particularly land-use and subdivision. Given the requirement for a Local Planning Strategy to be prepared the Local Rural Strategy 2004 has been used as the basis for this document, with addition of existing townsites and identification of future general industry, light/service industry, rural smallholdings and rural residential development.

3.2 CORONATION BEACH PLANNING STUDY 2004

The Coronation Planning Study was prepared by the Shire between 2002 – 2004 to formulate a Management Plan for the improved management of the Coronation Beach Camping Reserve and surrounding coastal environs, whilst accommodating increasing recreational usage. Implementation of the Management Plan from 2004 onwards has seen:

- the area transformed into a popular 'nature based' camping and day use area with improved infrastructure and facilities to accommodate a wide range of users, and
- degradation of the area halted with significant improvement of the coastal environment.

In recognition of planning and implementation of the Management Plan the Shire in 2005 was awarded:

- The Local Government Excellence in Coastal Management (WAPC)
- Environmental Award – Coastal and Marine Category (DoE)

3.3 NANSON TOWNSCAPE PLAN (DRAFT)

The Nanson Townscape Plan is due for finalization in early 2006. The purpose of the Townscape Plan is to provide guidance for future development and enhancement of the Nanson townsite, whilst forming a solid foundation in the pursuit of state and federal grants funding for specific projects identified in the Plan. In contrast to other Streetscape or Townscape Plans, in this Plan, particular emphasis has been placed on preserving the town's environmental values, historical significance and lifestyle opportunities over and above the provision of improved recreation areas, street furniture, directional signage, road access, drainage, walk paths/trails, roadside vegetation, street lighting, public amenities, building design guidelines, and delineated public parking.

Notwithstanding the need for heritage preservation and recognition the Townscape Plan also promotes the need for improved public amenities such as children's playground, community recycling facility, public parking, fire fighting water supply and standpipe and improved river access, as well as the opportunity to establish home based cottage industries and low key tourism.

Further, the Townscape Plan acknowledges the preparation of the Nanson Historical Grounds Guided Management Plan and Nanson Foreshore Management Plan. The collective implementation of all three Plans will ensure vision of Nanson is achieved.

3.4 YUNA TOWNSCAPE PLAN (DRAFT)

The Yuna Townscape Plan is also due to be finalized in early 2006 and carries a similar purpose to the Nanson Plan. However, in contrast the vision for Yuna evolves around its structured purpose as a 'Service Center' to meet the needs of the broader farming community. This has resulted in the Plan being prepared in consideration of the following factors:

- The volume of heavy haulage traffic associated with grain storage and mining activity;
- The small townsite population of 6 — 8 people;
- The Yuna Primary School that caters for 30 — 35 children;
- The increase in passing tourist traffic, mainly during the wildflower season;
- The Yuna Tavern as the only commercial establishment;
- The need for townsite beautification;
- The provision of a reticulated town water supply.

Given the above factors the Townscape Plan proposes the establishment of a Community Park with playground, rotunda, BBQ, memorial wall and town sign, a tourist information bay, a small caravan park, access and beautification improvements to the mainstreet, and partial lawn to the town oval.

3.5 CHAPMAN VALLEY COASTAL MANAGEMENT STRATEGY (PREPARATION 2006/07)

Given the Shire's coastline is under mounting public pressure from a range of lawful and unlawful recreational uses and activities, and in time will also be exposed to considerable pressures derived from the imminent sealing of Coronation Beach Road, and a range of heavy industrial uses coupled with the establishment of a deep water port, the Shire with assistance from the Western Australian Planning Commission, Landcorp, and Department of Industry and Resources is to embark on the preparation of a Coastal Management Strategy at the beginning of 2006, that will also include the southern portion of coastline of the Shire of Northampton.

The Coastal Management Strategy will be based on the work and findings of the Batavia Coastal Strategy prepared by the Western Australian Planning Commission and result in:

- Review of the Chapman Valley Coastal Plan of 1993.
- Identification of areas of uncontrolled access and degradation.
- Understanding of the coastal processes affecting the shoreline in the Shire and its degree of stability, particularly given the designation of a future deep water port and other competing uses.
- Specific foreshore management detail for relevant sections of the coastline where upgrading, restoration, protection/management and other treatments and facilities are needed to ensure sustainable use of those areas, and identify and prioritise works based on detailed graphic design prepared to a suitable scale for implementation.
- Suitable aerial photography and based mapping or cadastral plan of an appropriate scale presenting the defined areas and identified matters and priorities.
- The community's and governments view on management needs, resources and facilities for key recreational nodes.
- Identification of processes to achieve improved ongoing management of sections of the coastline in consideration of the range of competing uses, including industry and port activities, commercial and recreational fishing, other water based recreational activities, off road vehicle use, camping, horse riding, etc

- Recommendations on dune rehabilitation/restoration works for degraded areas of the coastline to achieve long term stability of the shoreline
- Identification and summary of all other foreshore management plans for the area.

3.6 UPPER CHAPMAN RIVER INTEGRATED MANAGEMENT PLAN (PREPARATION 2006/07)

This project focuses on the Upper Catchment of the Chapman River with the first year aimed at developing an environmentally sustainable and strategic approach to assist landholders in conserving the Chapman River through Integrated Catchment Management practices. This will be achieved through conducting detailed research into the processes that threaten the Chapman River and identification of current best practice management options available to landholders. These in turn will be incorporated into the Management Plan that will guide on-ground works in the area through the remainder of this project and in the future.

The subsequent second and third years of this project will involve implementation of the recommendations set out in the Management Plan which is likely to include drainage solutions, revegetation and weed management programs, and improved stock management and control techniques.

In addition the project will also focus on a strong education component consisting of a number of programs. In this regard activities with landholders will discuss current best practice management and promote integrated catchment management. Activities targeted at school children will also increase awareness of the function of the river and catchment and the importance of correct land management practices. Activities directed at the wider community will promote the project and more broadly natural resource management within the Shire

3.7 OTHER MANAGEMENT STRATEGIES/PLANS

There are a small number of other Management Strategies applicable to the Shire. These are listed below:

- Nanson Historical Grounds Guided Development Plan (completed 2003);
- Chapman River Foreshore Management Plan (completed 2002);
- Fig Tree Crossing Management Plan (to be prepared 2006);
- Shire of Chapman Valley (Crown) Reserves Management Strategy (draft to be completed 2006);

3.8 LOCAL PLANNING POLICIES

The Shire pursuant to the required provisions of the Chapman Valley District Planning Scheme No.1 has adopted a range of local planning policies to aid in regulation and management of land use and development through out the municipality. These policies are listed below:

- Added Accommodation Units
- Group Dwellings
- Relocated Buildings
- Outbuilding
- Parking of Commercial Vehicles
- Location of Buildings on Special Rural & Rural Residential Zoned Land
- Intensive Agriculture
- Rural Industry
- Extractive Industry
- Home Occupation

- Cottage Industry
- Rural Tourist Development
- Municipal Heritage Inventory & Places Of Heritage Value
- Moresby Ranges
- Stormwater Drainage, Calder Place
- Events Application Package
- Signage Policy
- Rural Residential & Rural Smallholding

In conclusion, the Local Planning Strategy at the local level will replace the Local Rural Strategy in forming the broad policy framework that sets out the vision for the whole of the Shire, and will be used:

- to inform the Chapman Valley community of the Shire's philosophy and direction on localised land use and development proposals;
- as the foundation that underpins the direction and planning controls of the Town Planning Scheme and/or associated Council and Local Planning Policies
- as a tool to assist in the day-to-day decision making on planning matters by the Shire Council.

Section 4 ENVIRONMENT

The Shire has recently extended a commitment to become more proactive in the protection and preservation of key natural assets including, but not limited to the whole of the Chapman Valley coastline, the Flat Top Moresby Ranges, the Buller and Chapman Rivers and associated catchment areas.

To demonstrate this commitment precise environmental objectives are detailed in each Planning Precinct of this Strategy. The Shire's actions also extend to:

- the recent preparation and successful implementation of Coronation Beach Development Plan (refer to section 3. 2);
- the hosting a natural resource management officer positions to serve the northern block of the Greenough Sub-Region;
- the preparation in 2006, and subsequent implementation, of two significant natural resource management projects, being the Chapman Valley Coastal Management Strategy and Chapman River Upper Catchment Integrated Management Plan (refer to section 3. 5 and 3.6 for a summary of these projects);
- the preparation of an Upper Catchment Management Plan for the Chapman River and implementation of stated actions to restore the river environs and introduce best practice farm management and environmental systems.

The Shire of Chapman Valley is also proactive in encouraging landowners and community groups to undertake a range of on-ground restoration and environmental repair works with grants funding obtained from Commonwealth and State Government bodies.

Section 5 PHYSICAL ASSESSMENT

5.1 LOCATION

The Shire of Chapman Valley is located to the north east of Geraldton in the Mid West region and covers an area of approximately 4,007 square kilometres. The Shire has only a small amount of coastal frontage from Coronation Beach south to the fringes of Drummond Cove on the outskirts of the Geraldton urban area (refer to Figure 1).

5.2 GEOMORPHOLOGY

The Shire of Chapman Valley extends inland from the coast, across the Moresby Ranges, and an area of undulating valleys centred on the Chapman Valley before rising up onto the Victoria Plateau, and sandplain which occupies the eastern half of the Shire.

The Victoria Plateau which, extends east from approximately Nobla - Durawah, broadly undulates between 240 to 280 metres in elevation but rises slightly to the east and north. The plateau is an ancient landscape feature, formed as a result of marine incursions across the area west of the Darling Fault which lies east of the Shire. The plateau was uplifted in the mid to late Tertiary period perhaps 50 million years ago, which resulted in the western edge being dissected and eroded. Several faults mark the western edge of the current plateau and may have been instrumental in determining its western boundary.

A series of yellow dunes is developed on the Victoria Plateau. Little surface drainage occurs apart from the Greenough River which has been deeply incised into the plateau. Old drainage lines are marked by broad shallow valley floors with slow drainage salt pans and playas.

Erosion cut through Jurassic sediments of the plateau in the western half of the Shire, leaving remnants of the Victoria plateau as flat topped hills mesas and buttes that form the Moresby Ranges. Valleys and undulating topography centred on the Chapman River and tributaries cut down to granite basement and formed the typical country of the Nabawa area.

Coastal dunes of lithified Tamala limestone and the more recent and still active Quindalup Dunes hug the coast. Two small streams, the Oakajee and Buller, cut through the coastal dunes to exit to the ocean.

5.3 GEOLOGY

The Chapman Valley Shire straddles Proterozoic granitic basement in the west and the northern end of the Perth Basin in the east.

The Proterozoic crops out as a high point, the Northampton Block, which is centred under the Moresby Ranges and Chapman Valley. The Proterozoic basement dips gently east and west, intersected by a series of faults. The major fault to the east of the Shire is the Urella Fault which runs north west near Noondamurra. Down faulting on the Urella Fault created the Perth Basin which was filled by shallow water marine sediments of the Permian and Jurassic age east of Nabawa. These become thicker to the east, but lie buried under the flat Victoria Plateau. Major faults along the Nobla - Durawah line separate the granitic Northampton Block from the sediments in the east of the Shire.

Permian and Jurassic basin sediments also occur to the west of the Northampton Block. Uplift of the Victoria Plateau and subsequent erosion has exposed the Jurassic sediments as mesa remnants of the Moresby Ranges.

The valleys are ancient and were active 220 million years ago when they were filled by Jurassic sediments. In recent times these early valleys have been reopened by the erosion of the Jurassic sediments to form flat topped hills capped by horizontally bedded sandstones with undulating lower slopes and rounded hills developed on eroded granitic rocks.

Proterozoic basement granite rocks outcrop on the lower valley slopes of the Chapman River and Moresby Ranges and as residual rounded highs of a former landscape.

From Tertiary times, some 35 million years ago, until near the present, prolonged deep weathering resulted in the formation of ferricrete as laterite duricrust and gravels on the soils of the Victoria Plateau together with calcrete in the east. Associated with the deep soil development was the formation of widespread dune sands particularly during the late Tertiary and Pleistocene periods in response to arid conditions during the Pleistocene glacial episode.

The ferricretes are now preserved as the laterite capping and associated sands that are widespread throughout the Shire. The resistance of the laterite to weathering ensured its preservation as capped mesas and plateau.

Episodes of aridity in the last 1 million years moved large quantities of yellow goethite stained sand into parallel sand ridges that are best developed to the east.

In the late Tertiary and Pleistocene periods in the last 10 million years, coastal features were formed on the edge of the continent. Headlands were eroded and several sequences of coastal dunes deposited. Beach sands along the coast, which have a high percentage of calcium carbonate, are derived from marine organisms. Two main coastal dune systems are present, of which the older more inland has been lithified to form the Tamala Limestone, fringed by the more recent white calcareous beaches and dunes of Quindalup type.

5.4 LAND UNITS

The Shire of Chapman Valley can be divided into a number of geomorphic regions. These form land systems that are distinctive in landform, climate and land uses, but can be further subdivided on the basis of localised conditions (refer to Figure 2).

5.4.1 Victoria Plateau (*Yuna Sandplain, Marrah Sandplain, Bindoo Sandplain*)

The Victoria Plateau extends across central, eastern and northern parts of the Shire, east from Nolba - Durawah. The surface averages 260 metres in elevation, varying from low broad ridges with yellow longitudinal dunes down to broad valleys with sluggish or no surface drainage. Laterite and calcrete relict soil formations are present across the plateau intermingled with, and regularly covered by, longitudinal dunes with a north south orientation in the north but more irregular to the east.

Runoff is minimal because of the sandy nature of the plateau surface with much precipitation either evaporating or adding to the shallow groundwater systems.

Several ancient broad valleys occur through the area, centred around Whelara - Yuna, Durawah, Wandana in the east and Dartmoor in the north with several other smaller units. These predominantly run north south and are characterised by recent sands and alluvial clays and loams. Reduced permeability of the valley sediments and sluggish drainage has resulted in saline soils and the development of salt pans and playas, particularly around and south of Yuna. Wandina Creek in the east provides the only significant relief by dissecting down through the Plateau to form a series of breakaway country.

5.4.2 Chapman Valley (Chapman Valley, Chapman East)

The Chapman Valley is centred on the Chapman River which drains from the Victoria Plateau around Yuna as well as the undulating dissected areas to the west. The unit consists of the valley slopes of the Chapman River and its tributaries. Hills and valley slopes are generally broad and rounded with a relief range of about 100 metres. Valleys are controlled by the underlying geology with a rectangular grid of north west and north east orientations. The north east trend is however predominant and reflected by the direction of the Chapman River north of Nabawa.

The valleys are formed by erosion of the relatively soft Jurassic valley fill sediments leaving mesa remnants and exposed valleys developed on weathered underlying granite basement. Minor recent alluvium has been deposited as sandy valley fill.

Water varies from fresh to saline and normally originates as numerous small soaks and seepages where the contact between the overlying sandstones and the basement granites are exposed.

5.4.3 Moresby Ranges

The Moresby Range is the remnant of the Victoria Plateau along the western portion of the Shire, between the Chapman River and the North West Coastal Highway.

The range consists of remnant horizontally bedded Jurassic and earlier Triassic sediments overlying and filling valleys of an earlier undulating surface of granitic basement rocks.

Flat topped hills and mesas, often capped by laterite duricrust, predominate with a sharp breakaway grading down through steep slopes of sedimentary rocks to more rounded and broad valley floors on basement granite.

Water resources are small and variable from fresh to saline, and are normally restricted to the limited areas where contact with the underlying granite is exposed.

5.4.4 Coastal System

The Coastal System lies parallel to, but inland from the existing coast. It consists of two main phases of coastal dunes. The oldest is the Tamala dune system which is lithified to limestone (calcarene), with overlying yellow sands. These extend inland for 4 kilometres with elevations of the dunes ranging up to 60 metres. Superimposed on the Tamala Dunes are the current calcareous dunes of the Quindalup system which are deposited along the 500 metre coastal edge. Generally the dunes are stable but are susceptible to erosion and the Quindalup dunes can become mobile.

Normally the two stream lines of the Buller and Oakajee Rivers are barred at the coast by beach sand. They flow seasonally or intermittently following heavy rainfall during winter or cyclonic events when they break through the bar to the sea.

5.5 SOILS

For a soil to have good agricultural capability it should hold water and nutrients, be easy to work without compaction, have low tendencies to become acidic with the addition of fertilisers, be resistant to soil erosion and not develop non wet-ability. Such a soil rarely exists, although some of the loams in central parts are excellent soils having very good properties. In most cases however the best features of the soils need to be utilised and the bad features managed to prevent degradation.

In general sands are almost pure silica sand with reduced water holding and low nutrient retention capability. Yellow sands are coated with varieties of iron oxide (goethite) which has potential to bind nutrients such as metal ions and phosphate. Yellow earthy sand contains a small percentage of clay which increases its nutrient and water holding capability and reduces its erosion potential. Leached white sands have the lowest capability, are easily eroded by wind and normally should not be cleared for agriculture.

The presence of gravel within the sands greatly increases its potential for nutrient retention and thus its agricultural capability. The depth to the gravel is important because if it is too shallow the roots of the crops will not be able to penetrate sufficiently to grow into the spring. If the depth is too great the roots will not be able to reach the nutrients stored on the gravel. The ideal depth is 300 to 800 mm depending on the crop planted.

Much of the eastern portion of the Shire is covered by yellow sands with intervening valley red loams. Around the Chapman Valley are sandy clay duplexes and loams, developed on weathered granite with yellow and white sands along the coast.

Soils are further described under each land system.

5.5.1 Yuna Sandplain

The soils of the Yuna Sandplain are dominated by low ridges of yellow quartz sand of the Binnu soil series. These tend to be neutral to weakly acidic in trend. The intervening low lying broad valleys of the Dartmoor soil series are occupied by deep red, gradational sandy loams and loams. The sandy soils have low natural organic matter and when lacking in adequate vegetation cover are highly susceptible to wind erosion.

5.5.2 Marrah Sandplain

The soils of the Marrah Sandplain are dominated by low ridges of deep yellow quartz sand with red gradational sandy loams and loams to grey clays on the floors of drainage lines. The sandy soils have low natural organic matter and when lacking in adequate vegetation cover are highly susceptible to wind erosion.

5.5.3 Bindoo Sandplain

The soils of the Bindoo Sandplain are more variable. Low ridges of yellow quartz sand of the Binnu and Eradu soil series make up approximately half the area and tend to be occupy the northern and western edges. These tend to be neutral to weakly acidic in trend. Intervening low lying broad valleys are occupied by soils of the Dartmoor series

which are deep red, gradational sandy loams and loams. Breakaway country in the Bindoo Road area has hard setting and shallow rocky duplex soils that are frequently uncleared.

The sandy ridge soils have low inherent organic matter and are highly susceptible to wind erosion when lacking in adequate vegetation cover. The steeper soils of the breakaway country are susceptible to water erosion and sheet erosion which, through grazing, has removed much of the topsoil or resulted in little topsoil development. The valley floors are saline in places due to rapid evaporation of shallow brackish groundwater.

5.5.4 Chapman East

The soils of the Chapman East System vary depending on their position in the landscape. Red stony loam over clay duplex soils of the Northampton and Sugarloaf series cover the majority of the system with Casuarina series of sand gravel and laterite on the plateau remnants in the north-west.

The valley floors are narrow and contain colluvial with smaller amounts of alluvial red loams.

5.5.5 Chapman Valley

The soils of the Chapman Valley System vary depending on their position in the landscape. Red stony loam over clay duplex soils of the Northampton soil series are most common, developed on granite basement. These grade into gradational reddish brown sands and loam duplexes on the lower slopes. Gravelly duplex and sands of the Moresby soil series top the plateau remnants.

Well drained gradational red sands and loams of alluvial origin cover the floor of the larger valleys.

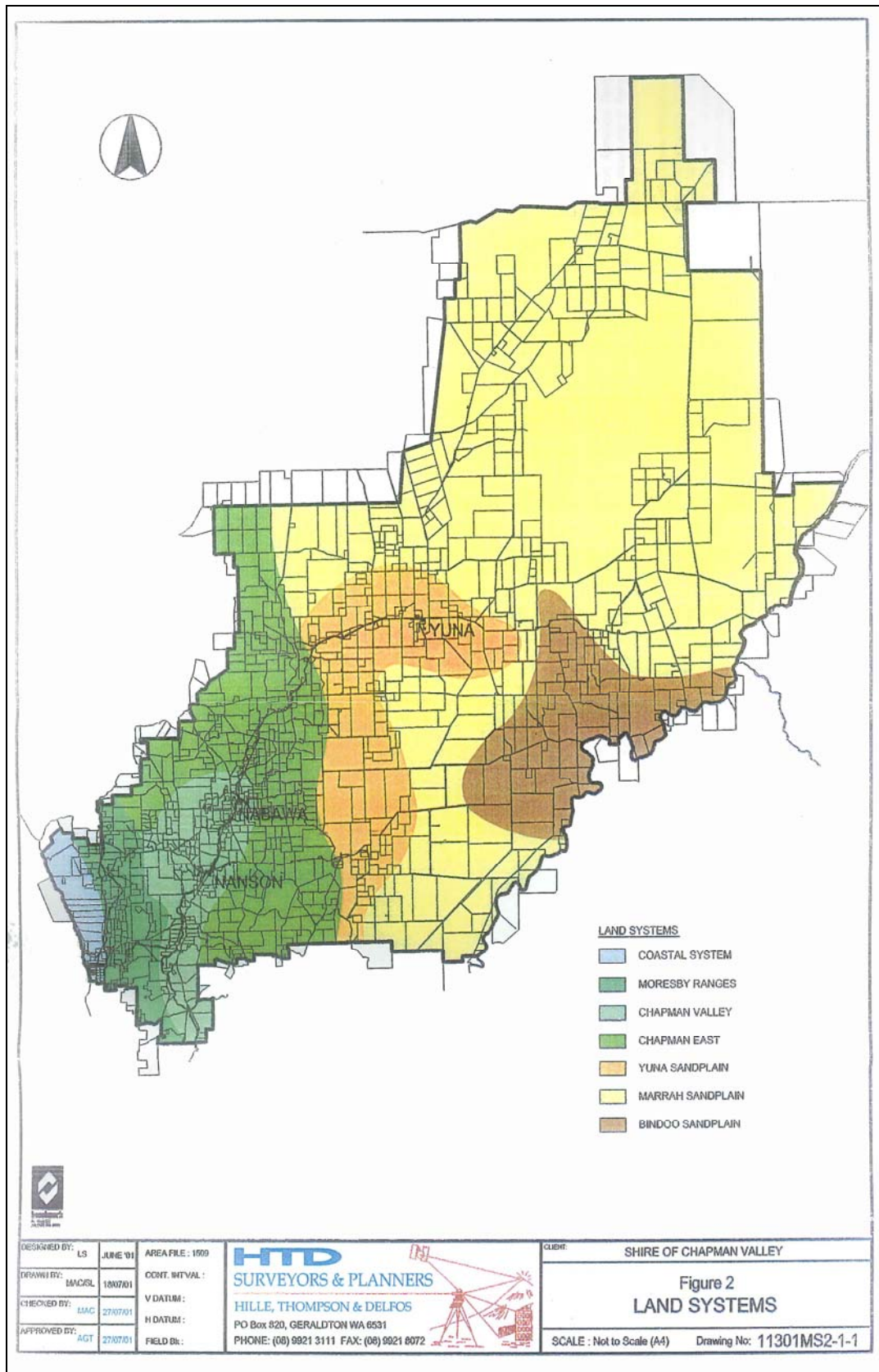
5.5.6 Moresby Ranges

Soils range from sandy laterite soils on the mesa tops down through reddish brown to brown sandy or gravelly loam with reddish brown to yellowish brown loam duplexes on slopes, becoming more sandy on the valley floors. Some yellow sand plain remnants occur on remnant Victoria Plateau in the north with sandy laterite developed on mesa remnants in the south.

5.5.7 Coastal System

The soils across the coastal system are sands. Siliceous yellow sands that become brown near limestone cover the Tamala Dunes with white calcareous and siliceous sands on the Quindalup Dunes.

Figure 2 - LAND SYSTEMS



5.6 CLIMATE

The climate is Mediterranean with warm to hot dry summers and mild moist winters. Temperatures rise and rainfall decreases inland. Cloud cover also decreases away from the coast.

Coastal areas are noted for their windy conditions, with summer winds being mainly from the northeast to south in the morning and south to south west in the afternoon. Winter winds are lighter with a predominance of northeast in the morning but a more general northwest to southwest distribution in the afternoon. Summer winds are more consistent and stronger, particularly the afternoon sea breezes which exceed 30 km/h for over 30% of the time on summer afternoons on the coast (Geraldton). Strong winds are recorded on average on 51 days at Northampton with gales on 3 days on average each year. The Moresby Ranges tend to moderate winds inland.

The presence of the warm south flowing Leeuwin Current increases coastal moisture and the activity of the winter cold fronts, the dominant and most reliable source of precipitation. Frontal activity normally occurs from May to October with the best rains from May to August. The growing season is over 4 months on the coast decreasing to 3 months in the north east.

Frosts are uncommon but potentially occur from June to September with an average of two per year inland from the coast.

Occasional cyclonic events in late summer occur when warm sea temperatures allow tropical cyclones to move further down the coast. These or the resulting rain bearing depressions can cause heavy rainfall and flood events. Local thunderstorms can result in local flooding.

The impact of greenhouse effects are simulations at this stage but may lead to slightly lower overall average rainfall and more storms. A worst case scenario is a 300 mm sea level rise within the next 35 years which could affect design of coastal features at Oakajee and Buller and Coronation Beach.

Full climate data is recorded at Geraldton, Nokanena (Northampton) and Nabawa.

Average maximum temperatures at Nabawa are just over 34 °C in the hottest months, January - February with winter maxima ranging from near 19 °C. Summer temperatures can be expected to be slightly lower on the coast and higher inland. In summer 14.4 days on average exceed 40 °C at Nabawa.

Average rainfall varies from approximately 450 mm on the coast, rising to over 500 mm on the Moresby Ranges and falling to less than 275 mm in the north east.

Annual evaporation exceeds rainfall in all months except June and July. At Nabawa annual evaporation is 1935 mm rising to perhaps 2700 mm in the east and 2400 in the north (Northampton 2409 mm), and reducing towards the coast. At Nabawa the 9.00 am average relative humidity ranges from 55% in summer to 86% in winter.

Of particular note is the rainfall reliability. In some years inland areas receive good rains in late summer/autumn from storms and tropical lows and less rainfall during the winter growing season, whereas in other years most rain falls in winter. Rainfall can also be patchy with a storm providing good rain in one locality but missing a property only a short distance away.

Table 1 - Climatic Data for NABAWA

Event	Jan	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Total
Av Max °C	34.1	34.2	32.1	28.3	23.3	19.7	18.5	19.3	22.0	25.0	28.9	31.0	-
Av Min °C	17.7	18.3	17.0	14.4	11.1	9.0	7.5	7.5	8.2	10.0	13.3	15.8	-
Rain mm	6.9	11.9	14.9	22.4	65.1	101.2	94.7	64.6	35.8	21.3	10.4	5.9	455
Raindays	1.7	2.1	2.7	4.9	9.6	18.2	18.3	17.1	8.7	6.0	3.3	1.8	79
Mean Day Evap mm	11.5	7.7	8.1	5.3	3.4	2.1	2.2	2.3	3.2	5.4	6.7	9.9	-
Humidity % 9.00 am	55	62	69	73	81	86	86	83	77	70	67	62	-

5.7 HYDROLOGY

Water is generally restricted across the Chapman Valley Shire because of reduced rainfall inland from the coast, very permeable soils in the eastern half and infrequent flows in coastal and central streams, many of which have elevated salt levels.

Groundwater is available over parts of the Chapman Valley Shire although this is often brackish to saline. Recharge has increased since clearing and in most areas water tables are rising.

There are some locations where there is insufficient data on quality, recharge and volumes may indicate apparent availability of good supplies of groundwater. This information should be viewed with caution, as not all supplies will be sustainable with increased use.

In spite of the restrictions there are some locations where quality and quantity is good and these areas have potential for increased use.

5.7.1 Surface Water

Much of the sandplains in the eastern half have little surface drainage because of the porous nature of the sand plain and underlying Mesozoic sediments. There is however surface water in the south east in the Bindoo Road area, where recharge following clearing is causing rising water tables that are fresh to brackish. The western sandplain around and to the south of Yuna has broad, slow saline drainage channels.

Surface streams flow in the hill and valley country centred on the Chapman Valley and the Moresby Ranges, although these are seasonal and reflect the amount of precipitation received. The flows are often fresh following large rainfall events grading through brackish or even saline flows as the flow volumes drop. Hard setting soils in these areas can lead to rapid and high levels of runoff in significant rainfall events, for example from rain bearing tropical depressions and summer storms which are capable of dumping large amounts of precipitation over a short period of time. These conditions lead to flood situations and cause the major flood events in the Chapman River.

The two coastal streams of the Oakajee and Buller are small and only flow in response to seasonal or storm events.

Stream salinities vary from near fresh to fresh depending on the rate of flow, although some streams have fresh water pools throughout the year.

5.7.2 *Flooding*

Despite the stream courses being almost creek like, in flood times the flows can be significant and there is the capacity to flood areas adjacent to their channels. This is the case with the Chapman River which has the potential to flood the valley flood plains along its course for a few days after heavy rain. The worst floods normally come from decaying cyclones that dump large volumes of rainfall in the catchment within a short period of time, although flooding from winter frontal systems also occurs.

Little data is available on flood levels apart from historical, anecdotal and local knowledge. There is however flood data for the Chapman River downstream from the Shire where it has the potential to impact on the outskirts of Geraldton. Monitoring stations at Utakarra and in the 1970's at Narra Tarra provide data on flow and flood frequencies but not data on the extent of flooding at Nabawa for example.

In 1996 the Chapman River flooded, with a further flood in 1999, which was higher at the gauging station at Utakarra. From discussions with local residents in Nabawa and Nanson the 1971 flood was higher. Local people pointed out where both floods rose to on their dwellings.

The main flood risk is within the Nabawa townsite where three small creeks join the Chapman River. These creeks have deceptively large catchments and can bring significant volumes of water down the banks and up across the town. Flooding of houses in Nabawa occurred as recently as 1996 and 1999, however, the highest levels achieved was in 1971, which by measurement from local knowledge, was 600 mm above the 1999 flood. Most of the town was subjected to the flood fringe but some of the lower dwellings were within the floodway.

Actual flood elevations have not been determined for Nabawa or Nanson, although in 1971 the level edge was across the lawn at the Shire offices on the eastern side of Chapman Valley Road. Some 0.6 km downstream from the Shire Offices the flood level reached 150 mm above front door floor level of an existing dwelling with the front of the house located in the established floodway. Chapman Valley Road was also flooded between this dwelling and the Shire office building.

Further downstream the bed of the Chapman River is restricted to the narrow flood plain and this should be taken into account when decisions are made on land use and the construction of dwellings. At Nanson no dwellings along the Chapman Valley Road flooded in 1999 or 1971.

There is some suggestion that the trees in the river artificially raise flood levels. Whilst there may be some truth to this it is acknowledged the trees significantly reduce the scouring capacity of the river. However, in the case of Nabawa local knowledge and field interpretation suggest that flood levels are related to the behaviour and timing of the flood flows in the three local creeks and the Chapman River.

It must be assumed that all flood plains have a high potential for flooding and thus the location of development should be conservative in both the Nabawa and Nanson townsites, with a site assessment needed for particular developments.

There is also potential for minor flash flooding associated with localised storms in the Moresby Ranges and the Chapman Valley area when surface water rushes down normally dry drainage lines.

5.7.3 Rivers and Wetlands

There are few wetlands within the Shire apart from pools associated with the river systems. Perhaps the most notable are pools along the Greenough River, which serves as the southern boundary of the eastern portion of the Shire. Similar pools also occur along the Chapman River and along the smaller creeks. Wetlands associated with reeds and River Gums occur around soaks on the valley sides and floors. The 1998 State of the Environment Report lists the Chapman and Greenough Rivers as having fringing vegetation in very poor condition with most of the streamside vegetation being cleared.

Wetlands provide habitats for a wide variety and number of fauna, and small soaks may provide an oasis for frogs, fish, water birds and small fauna. Therefore wetland protection needs to be carefully considered before any clearing or other changes are made. If small wet sites are to be developed, it is often possible to incorporate a manufactured wetland or to leave the majority of the existing wetland vegetation and only modify a small area. Valley wetlands are being impacted on by rising water tables and water that is becoming more saline.

Pools on water courses and their related vegetation should remain intact.

5.7.4 Groundwater

Shallow ground water is available across the Shire in variable amounts and qualities. In no location are there substantially large volumes of water of low salinity, although there are many localised areas where potable water is available or where there are larger volumes of stock quality water. Recharge across the Shire is from precipitation, which decreases markedly towards the east. Shallow groundwater volumes have been increasing over parts of the Shire where catchments have been cleared and the water use of the agriculture species is less than the original indigenous vegetation.

5.7.5 Shallow Groundwater Systems

Shallow aquifers are generally sandy soils, deep sands and small alluvial valley fills. There are two main types, those that are forced to the surface as seepages and soaks and those that remain buried beneath deep sands, overlying sediments or soils.

There are many seepages and soaks in the central and western half of the Shire, particularly the areas on granite basement such as the Chapman Valley, Moresby Ranges and Mount Erin - Naraling regions. These occur where sediments and soils are recharged and the aquifer is forced to the surface by underlying clay soils and granite outcrops, generally in the base of valleys. The water quality varies from fresh to brackish.

Seepages and shallow groundwater also occur in the base of broad valleys in the East Yuna - North Eradu region where deep sands overly clayey Mesozoic sediments. Groundwater in this area is rising due to reduced transpiration since clearing. In some areas there is significant potable and brackish groundwater such as the Bindoo Road area, although in others the groundwater has a higher salt content.

Small shallow aquifers are present across the majority of the Shire and are currently accessed for stockwater by bore and windmill. Many of these sources are insufficient for intensification of land uses. The quantity of the water resources is not always obvious from surface examination. Some resources which appear small are in fact large enough to supply a viable horticulture operation. On the other hand there are many sources that appear to range from small to significant resources which have so little volume or recharge that they are unlikely to be used for more than a stock or hobby activity.

A suitable water supply will be needed for expansion of settlement in the Chapman Valley, particularly at Nabawa and Yuna. Water supply has always been a problem for the Yuna townsite, however, this matter should be resolved in 2005 with a potable water supply being provided as part of the Yuna Farmlands Water Scheme project.

Shallow ground water is also available in the Tamala Limestone of the Coastal System but the quality and quantity is variable. Water is generally suitable for stock but is not a potable source. Small quantities of potable water are present in some locations of the Quindalup Dunes but are very restricted in area and any water frequently consists of only a thin lens of fresh water perched over saline water. Over pumping of the resource quickly depletes it and turns the supply salty.

Shallow aquifers have a high potential to be contaminated by fertiliser and pesticides.

5.7.6 Deep Groundwater Systems

Deeper groundwater sources are available in selected parts of the Shire although in general water will be limited in most areas. There are only a few areas where good supplies of water are more widely available with all other areas having patchy, restricted water supplies with quality varying from good to brackish or saline. The majority of these resources have had little research and further work is required to define the extent, quality and recharge rates of the aquifers.

Deep groundwater is available from some beds in the Palaeozoic and Mesozoic sediments east of the Nobla - Durawah fault lines. Water in most of these sediments is generally saline, with a number of sediments are shales which act as aquacludes. However sediments such as the Tumblagooda Sandstone that outcrops and sub-crops to the east of the Nobla -Durawah fault lines contain good supplies of fresh water. The water probably originates from direct recharge of the sediments or from the overlying sandplains in the area of higher rainfall. To date there has been insufficient research undertaken to determine the availability and sustainability of these resources. It is likely that there is sufficient water for horticulture and other farm diversification.

The most significant water source is the Nabawa Sandplain. This is an area of sandplain developed on a Jurassic valley fill sequence, and is approximately bounded by the Northampton Nabawa Road in the north, The Chapman River in the east, the Nabawa Yetna Road in the south and Skeleton Gully in the west. The aquifer ranges up to 20 metres thick, flowing to the south. The Western Australian Geological Survey tested this resource by drilling in 1995 and established significant volumes of water but the quality averaged 1,000 to 3,000 mg/L which is stock quality and not potable. The edges where recharge is faster are fresher probably due to the effects of clearing. Recharge is estimated to be 1 to 2.6% of annual precipitation. Further research of this resource is required.

There is also the potential for fractured zone aquifers within the granite basement rocks of western areas underlain by this basement. These types of aquifers are difficult to locate but are used for the town supply of Northampton for example. Fractured zones may extend to 100 metres depth and have been known to produce in excess of 500 kL/day but seldom exceed 30 kL/day. Recharge occurs from precipitation and downward leaking from overlying aquifers. Quality is normally fresh on the higher elevations but becomes more saline lower down the landscape. The Water and Rivers Commission list recharge as 0.05% of rainfall, (Panasiewicz 1997) but discussions with Panasiewicz indicate that these figures are too conservative based on the volumes extracted from the Northampton borefield.

Valley fill aquifers, where sandy sediments have filled the ancient valleys, occur in some locations centred around the Chapman Valley and the dissected country. Recharge of these aquifers is probably direct from precipitation. Some valley fill aquifers have confining layers leading to artesian properties. Quality and quantity varies and in most cases recharge considerations will be required to determine sustainability.

5.7.7 Notes and Conclusions

There are a number of issues that need to be taken into account when considering water supply in the Shire of Chapman Valley.

- Water supplies across the Shire of Chapman Valley are generally small and suitable for stock purposes.
- There are some larger water resources in all but the eastern parts of the Shire that are capable of supplying sufficient water for farm diversification or more intensive land uses.
- Water resources west of the Nobla - Durawah fault lines are generally small, patchy and at a shallow depth. There are some larger supplies that have the potential for use in farm diversification and horticulture. Surface expressions of water in this area do not always relate to the size and sustainability of the resource.
- The Tumblagooda Sandstone, which outcrops and subcrops east of the Nobla - Durawah fault lines, has apparent potential to supply good volumes of water but further research is required.
- Water sources are generally localised and occur on particular properties.
- The Rights in Water and Irrigation Act (1914) vests terrestrial water resources in the Crown. There may be issues linked to an unused resource on one property that a neighbour would like access to.
- The Shire is covered by the Gascoyne Groundwater Area which requires licensing to drill and draw for all bores.
- Water use by annual crops in the broad acre farming areas is insufficient to reduce increased recharge, leading to rising water tables and increased salinity of the groundwater.
- Although a potable water supply for the Yuna townsite has always been a problem, this matter should be resolved in 2005 with water being provided as part of the Yuna Farmlands Water Scheme project.

5.8 CATCHMENT HEALTH

Catchments are smaller and more localised than in other parts of the state, however to ensure sustainability an integrated catchment approach should be considered.

This can be generalised into balancing sufficient and deep rooted vegetation in catchments to prevent soil erosion and yet at the same time using agricultural activity in a manner that does not lead to salinity or unacceptable rising water tables.

The main areas requiring catchment management are those of the Chapman Valley and Moresby Range systems where there is localised potential for nutrient and herbicide/pesticide to move down catchments during storm events when soil and dung can readily be washed away. This material is normally deposited in pools in streams leading to eutrophication and the potential killing of wild life.

Other aspects of catchment health is the soil cover which can be lost following clearing. Runoff from heavy rainfall events has generally increased the amount of sediment added to rivers since clearing. The 1998 State of Environment Report lists the Chapman and Greenough Rivers as having high sediment loads.

Sandy soils near the coast and inland are highly susceptible to wind erosion while the steeper sloping soils of the Chapman and Moresby Systems are subject to water erosion. Increasing salinity due to rising water tables is an increasing problem in the Marrah, Yuna and Durawah areas where sluggish drainage is common along broad valleys and recharge remains high. Further east salinity affects the valleys of the Bindoo area. Other eastern areas have too little rainfall or deep sandy soils for salinity to be a significant impact at this stage.

The Moresby Ranges and Chapman Valley have generally only small areas of saline soils due to the shallow basement and high recharge.

Soil acidification is becoming an increasing problem through the use of lupins and nitrogenous fertiliser.

5.9 VEGETATION

The vegetation in the Mid West of Western Australia has a high species richness and endemism. The remnant vegetation plant communities within the Shire are no exception. Climatic changes during the Pleistocene ice ages resulted in local isolation, increases in speciation and thus high species richness.

The most complete vegetation study of the area was prepared by J S Beard (1976) who categorised the vegetation into a number of systems which reflect the topography and underlying soils. The vegetation of the Shire is thus; Greenough System on the coast, Northampton System centred on the Moresby Ranges and the Chapman Valley, Kalbarri System extending north south along the eastern side of the Chapman River Valley, and the Yuna System in the east and north east.

5.9.1 Sandplains

Sandplains cover the Victoria Plateau in the eastern half of the Shire of Chapman Valley, covering all areas east of the Chapman River. These are deep yellow sands that are dominated by Acacia-Casuarina Thicket of the Kalbarri and Yuna Systems. The sandplains are predominantly covered by scrub heath that exhibits composition changes from west to east in responses to soil changes and reducing rainfall. The more

westerly species (Kalbarri System) are typified by the taller *Banksia attenuata*, *B. prionotes*, *B. menziesii*, *B. ashbyi*, *Adenanthos cygnorum*, *Actinostrobos arenarius*, *Eucalyptus obtusiflora*, *E. eudesmiodes*, *E. jucunda*, *E. oldfieldii*, *Grevillea leucopteris*, *G. eriostachya*, *G. biformis*, and *Xylomelum angustifolium* give way to other species and are restricted to the taller sand ridges. The large remainder of the sand plain (Yuna System) in the east is covered by lower scrub heath of generally less than 1 metre. Depressions and small valleys in the south east contain taller *Acacia acuminata* and *Eucalyptus loxophleba*.

River courses such as the Greenough are typified by *Eucalyptus camaldulensis*, *Casuarina obesa*, *Melaleuca raphiophylla* and *Acacia rostellifera*.

Whilst there are large areas of sand plain cleared for agriculture, large tracts in the Wandana, Yuna and Dartmoor areas remain uncleared. In cleared areas, remnant vegetation is often restricted to rocky uplands sand ridges or roadsides.

5.9.2 Chapman Valley and Moresby Ranges

Most of the lower slopes of these areas has been cleared and grazed for many years and little remnant vegetation remains apart from scattered trees, and *Eucalyptus camaldulensis* along drainage lines. The extent of remnant vegetation increases in the west where steeper slopes and mesa tops of the Moresby Ranges are unsuitable for agriculture.

Indigenous vegetation is Acacia-Hakea Scrub typified by *Acacia rostellifera*, *A. acuminata*, *A. tetragonophylla*, *Allocasuarina campestris*, *Melaleuca uncinata*, *M. scabra*, *M. uncinata*, *M. megacephala*, *Hakea trifurcata*, *H. preissii*, *H. pycnoneura*, *Acacia saligna*, *Grevillea pinaster*, *Jacksonia sternbergiana* and *Gastrolobium spinosum*. The lower valleys and stream lines contain *Eucalyptus loxophleba*, *Acacia acuminata*, *Casuarina obesa* and *Eucalyptus camaldulensis*, with *Melaleuca raphiophylla* on water courses.

Typical species of the sandy areas on the mesa tops are *Banksia attenuata*, *B. prionotes*, *B. menziesii*, *Adenanthos cygnorum*, *Actinostrobos arenarius*, *Grevillea leucopteris* and *Xylomelum angustifolium* which give way to other species such as *Allocasuarina campestris*, *M. megacephala* and *Calothamnus quadrifidus*. Stream lines carry *Eucalyptus camaldulensis*, *Casuarina obesa*, *Melaleuca raphiophylla*, *Acacia rostellifera* and *Jacksonia cupulifera*.

The remnant plant communities contain a number of Priority and Rare species and are regarded as being significant with generally high conservation value. They also add significantly to the tourist resource.

5.9.3 Coastal System

Remnant vegetation existing on limestone rich Tamala dune ridges is Acacia-Melaleuca Thicket dominated by species such as *Acacia rostellifera*, *A. xanthina*, *Calothamnus quadrifidus*, *Dryandra sessilis*, *Melaleuca cardiophylla* with *M. lanceolata* and *M. raphiophylla* in wetter less exposed sites. Acacia-Banksia Scrub or Low Woodland occurs on deeper yellow sands with *Acacia rostellifera* and *Banksia prionotes*, *B. attenuata*, *B. menziesii* and *Eucalyptus obtusiflora* being common. Much of these soils is already cleared.

The younger Quindalup Dunes closer to the coast are covered by Acacia-Melaleuca Thicket with coastal species such as *Olearia axillaris* adjacent to the ocean. These dunes are dominated by species *Acacia rostellifera*, *A. xanthina*, *Calothamnus quadrifidus*, *Dryandra sessilis*, *Melaleuca cardiophylla* with *M. lanceolata* and *M. raphiophylla* in swales. These younger dunes remain uncleared in many locations because of their general unsuitability for agriculture.

5.10 FAUNA

Existing remnant vegetation provides important habitats for a number of indigenous mammals, such as the Western Grey Kangaroo, Red Kangaroo, Honey Possum, Dunnart, Echidna and Brush Wallaby.

The level of threat posed to many species is unknown but where habitat is degraded or degrading then some fauna species are likely to be threatened in the long term.

The 1998 State of the Environment lists between 2 and 3 fauna taxa as being extinct from the Geraldton Sandplain, which includes the Shire of Chapman Valley. It also lists over 8 taxa as under threat. This includes over 8 of the terrestrial mammal species and bird species present in the Shire.

5.11 PROTECTION OF BIODIVERSITY

Biodiversity includes the flora, fauna and inter-related communities. Restoration, protection and management of indigenous vegetation are vital to the preservation of biodiversity whilst at the same time ensuring good representation of all communities within reserves.

5.11.1 Reserves and National Parks

Major reserves and remnant vegetation within the Chapman Valley Shire are in the east and north east and the steeper slopes and mesa tops of the Moresby Ranges. The East Yuna and Wandana Reserves are the most notable and are included in System 5. Protection measures are planned for the Moresby Ranges, which were also recognised in System 5. Here vegetation communities are significant and contain a number of Rare and Priority species. Some land has been acquired by Government and other land may be taken up as the opportunities are presented.

There is merit in retaining strips of indigenous vegetation as wind and wildlife belts between cleared arable land, and consideration should be given to preserving additional areas of remnant vegetation, with Government now tending to a "No Clearing Policy".

Much of the vegetation of the coastal dunes is intact. There is potential for this to be reserved to protect the fragile soils and potentially mobile sand.

5.11.2 Vegetation Remnants and Corridors

Roadside vegetation is well preserved in some locations and as all main roads in the Shire are existing or potential tourist roads it is essential that this vegetation be retained and managed, and reference should be made to Council's Roadside Vegetation Policy.

Roadsides and stream lines provide vegetation corridors for fauna and can be used to link patches of remnant vegetation. Vegetation is also present along the main water courses although in many areas this has been significantly altered by the grazing and

removal of understorey species. Where possible land holders should be encouraged to plant local species in vegetation buffers, windbreaks and wildlife corridors.

5.11.3 Threats to the Indigenous Flora

Remnant vegetation is under attack from weeds, dieback diseases, grazing, rural tree decline, development and land clearing. Guidelines and policies are recommended to reduce the potential threats. Frequently the threat is the slow decline of remnant vegetation rather than one act of clearing which would require permission. The end result is however the same.

The threats to the indigenous flora also impact on fauna that are dependant on the various plant species. Dead vegetation and trees are often ignored or cleared but they provide habitats and often the only nesting sites for many bird species such as cockatoos.

5.11.4 Dieback and Vegetation Decline

Dieback disease is normally associated with the fungus *Phytophthora cinnamomi*. However, there are other species of *Phytophthora* and fungus that are implicated in the dieback of indigenous vegetation such as *Armillaria*, stem canker *Cryptodiaporthe* and rusts. Many of the indigenous species in the Shire are susceptible to one or more of these fungal species although reduced rainfall will assist in reducing the threat. If disease is allowed to gain a hold the structure of the indigenous communities vegetation will be irreparably altered. The dominant plant families of the *Proteaceae*, *Myrtaceae* and *Epacridaceae* are particularly susceptible to fungal diseases. However dieback is not normally a problem in calcareous coastal sands, and in vegetation receiving less than 600 mm, which includes all of the Shire. It is normally restricted to localised moist areas.

Fungal diseases are normally spread by vehicles and the public through the movement of soil and plant materials.

5.11.5 Fire

If inappropriate fire management of reserved or remnant vegetation is repeated often enough it has the potential to alter the species composition by burning young plants before they have had a chance to flower and set seed.

Fire management plans may be investigated for reserved land and roadsides as the opportunities are presented.

5.11.6 Weeds

Weeds are a threat to remnant vegetation in areas which are being cropped. Pasture species or weeds introduced through pasture and animal production are commonly excellent colonisers of cleared or disturbed areas. They can be spread by wind, stock, the movement of vegetation, soils, vehicles and people. Particularly susceptible is roadside vegetation where there are large edge effects.

5.12 MINERALS

Copper and lead have been produced from just west of Nabawa since the 1860's and there is some potential for further production. The Shire contains a variety of basic raw materials of hard rock, limestone, sand and gravel but proximity to markets and alternative resources outside the Shire will inhibit local production.

Excavations developed in an environmentally acceptable manner will ensure lower development costs within the Shire as well as minimal impact on the environment. Excavations for basic raw materials take up very small areas when compared to the area occupied by roads, houses or agriculture. They are temporary land uses with the land being returned to potential productive use at the completion of excavation. Without their ready availability, development could be restricted.

5.12.1 *Base Metals*

Base metals copper and lead and related minerals such as silver and zinc have been mined from Narra Tarra/Protheroe, just west of Nabawa since the 1860's. Copper was mined between 1863 and 1866 and again from 1870 with lead being produced from 1914. Mining continued until 1959 and there has been some recent interest.

Mineralisation is either hydrothermal fissure veins or tectonic breccia fillings associated with north easterly fractures parallel to a suite of dolerite dykes. It is possible with advances in exploration and mining techniques that further deposits may be identified in the Nabawa - Northampton area or the mines re-opened.

5.12.2 *Fill and Concrete Sand*

Sand has been excavated from a variety of land units over the years, mostly for fill and concrete sand. Quartz sand is available in sandplain areas and on sandplain remnants in the west, such as the existing Nabawa tip site. Sand is also available from the Coastal system.

5.12.3 *Silica Sand*

Leached white silica sand has export potential as a source of pure silica. Leached sand needs to be very pure, white and close to ports. With the possible development of the Oakajee port and increased prices there may be greater potential for this resource. Fine sand, which is preferred for export only, requires washing, but coarse sands also have specialty markets.

5.12.4 *Gravel*

Laterite gravel is present on mesa tops and on the plateau remnants. However these areas also frequently remain covered by remnant vegetation. There is a current trend to produce road making materials by crushing laterite (ferricrete duricrust) using portable crushing equipment. Consideration should be given for the protection of strategic gravel sources by the planning process.

5.12.5 Limestone

Tamala Limestone is used as road base, road sub-base, armour rock for breakwaters and groynes as well as cement manufacture if the grade is high enough. Generally limestone will not be of high enough grade for cement manufacture. Resource areas have been identified for the possible development of Oakajee Harbour facility and these will be able to meet demand.

Limestone with high levels of calcium carbonate can be crushed for use as agricultural lime which is required to combat soil acidity caused by cropping with legumes such as lupins and nitrogenous fertiliser use. Limesand dunes which are cheaper to process may be available in the recent Quindalup sands but their use may need to be balanced against conservation issues. Over 80% calcium carbonate is required to be viable.

5.12.6 Hardrock

Hardrock is used for aggregates, road bases, armour stone and highway seal coats. At this stage, with low development pressure, potential hardrock resources are satisfied by the large quarries to the south of the Shire. With the large start up costs it is unlikely for another quarry to be opened in the Shire of Chapman Valley.

5.12.7 Clay

Clay is locally available as part of the weathered granite soils and possibly local sedimentary clays. Currently the market for brick making clays is satisfied and this is likely to continue in the foreseeable future. Attapulgit/palygorskite is extracted from Lake Nerramayne to the north east. Attapulgit has good market potential as an industrial absorbent and is currently processed in Geraldton. Similar deposits are not currently known within the Shire but may occur under shallow sands and associated broad drainage lines in the east and north east.

5.12.8 Coal

Coal occurs in the Irwin River Coal Measures to the south east and there is potential for similar geological formations beneath the superficial cover to the east of the major faults, east of Nobla where the Permian rocks have been poorly investigated.

5.12.9 Salt

There is potential for salt and evaporite minerals farming from evaporation ponds based on saline groundwater in the east.

Section 6 SOCIAL AND ECONOMIC ASSESSMENT

6.1 HISTORY

The Chapman Valley region was settled in two distinct eras. Initially the discovery of minerals and good grazing land attracted people to the district. The discovery of a rich lode of galena in the bed of the Murchison River in 1848, followed by lead and copper deposits further south resulted in an influx of miners into the district. At the same time the enormous grazing potential of the land thereabouts was acknowledged and thus the first pastoral leases were taken up in the 1850's. The second distinct era of settlement in Chapman Valley began at the turn of the 1900's when the government began purchasing the large pastoral leases for closer settlement. This policy brought many new settlers into the area.

When the discovery of minerals was announced to the public there was a large influx of miners into what became known as the Northampton Mineral District. Although there were several mines in Chapman Valley, the Narra Tarra lead and copper mines were the most significant and attracted many people to the region. However, the mining industry often fluctuated in its intensity mainly due to changes on the world market. As a consequence the mines were often closed down for long periods. While some miners left the area many decided to settle locally with their families.

The Chapman Valley district was originally comprised of five large pastoral leases. Although many of the people who worked on the stations eventually established their own properties in the area, the major change in the settlement pattern for the area came in 1896 with the passing of the Agricultural Purchase Land Act. This Act resulted in pastoral land throughout the State being divided into smaller freehold farms and purchased for agricultural purposes. Closer settlement resulted in a significant inflow of people into the region who took up blocks which varied in size from 3 to 600 acres.

The construction of the first Government railway in the State from Geraldton to Northampton Railway in 1879 and then the Wokarina-Naraling branch line in 1910 had a significant impact on the pattern of settlement in the Chapman Valley area. The main townsites of Howatharra, Nanson, Nabawa, Naraling, Rockwell and Yuna were all located along the railway lines.

The closure of the Wokarina-Yuna branch railway line in 1956 and the Geraldton-Northampton line in 1957, followed by the gradual decline in the agricultural industry after the boom years in the 1960's resulted in a slow but steady flow of people away from Chapman Valley.

More recent years have witnessed the emergence of numerous hobby farms, such as yabby and marron farms as well as the further growth and consolidation of market gardening and intensive agricultural activities, particularly in the Howatharra area where the soil is rich and generally close to a good water supply. The continued diversification in crop cultivation has resulted in very successful lupin crops. People are choosing to retire in the area and tourism activities such as farm stays and vineyards are emerging.

Source: Shire of Chapman Valley Municipal Inventory

6.2 POPULATION

For the census year of 2001 the Shire of Chapman Valley recorded a population of 876. The composition of population by age and sex in 2003 shows that for all ages below 50 years, there are more males than females in the population. This then changes between the ages of 50 to 59 with higher numbers of females to males.

There are comparatively high numbers of children aged between 5 and 19 and people aged between 45 and 60. This indicates that a high proportion of older families in the Shire.

There are relatively fewer people aged 20 to 29 and this can be contributed in part to tertiary students moving to the Perth metropolitan area. Once the tertiary education has been completed students generally return to the area as is demonstrated by the rise in population aged 30 to 34 onwards.

Notably there is also a significant decline in population from the age of 65 onwards. This can be attributed to the lack of aged care facilities in the Shire.

Table 2 - POPULATION BY AGE & SEX 2003

Age	Male	Female	Total
0 – 4	30	27	57
5 – 9	50	24	74
10 – 14	34	27	61
15 – 19	25	21	46
20 – 24	29	15	44
25 - 29	27	16	43
30 – 34	34	34	68
35 – 39	30	31	61
40 – 44	36	31	67
45 – 49	48	37	85
50 – 54	38	47	85
55 – 59	31	49	80
60 – 64	36	19	55
65 – 69	20	11	31
70 – 74	8	9	17
75 - 79	7	2	9
80 - 84	4	1	5
85 +	1	4	5
TOTAL	488	405	893

Table 3 - POPULATION GROWTH RATE

1999	2000	2001	2002	2003	Annual Average Growth Rate 1999 – 2003
873	872	876	884	893	1.0%

Source: Australian Bureau of Statistics, Shire of Chapman Valley A Profile of the Local Government Area, 2004

However, notwithstanding the above, the Shire of Chapman Valley in the last two years has experienced a marginal change in growth and demographics mainly attributed to a surge in the housing market and residential land prices. This has brought about increased subdivision within the Shire, mainly in the south-west corner where some 215 one to three hectare lots have been created. This together with an expected change in zoning for most of the 'General Farming' land south of the Buller River and west of the Moresby Ranges to accommodate future urban or rural residential development, and the possibility of future development within the Oakajee Industrial Estate, will likely see the current level of growth continue over a sustained period. With this in mind the Shire is currently working with the Landcorp and the Department of

Industry and Resources to secure formal public access to the coast via the Buller River mouth, and the developer of the Parkfalls subdivision to provide extended public facilities and amenities to meet the needs of the local community.

6.3 EMPLOYMENT

The total labour force in 1996 was 428 climbing to 465 in 2001, comprising of 426 employed and 39 unemployed. Agriculture, Forestry and Fishing was by far the largest employment category of the labour force in 2001 with 209 employed in this industry sector as opposed to the next highest being Retail Trade with 32 employed, followed closely by Education and Health at 27 and 24 respectively.

Whilst most if not all of the employment in the above-mentioned industries are static or have declined in recent years, there is an optimistic view that an increase in employment in other sectors of the Shire such as building, tourism and industry, mainly driven by the resources sector, will likely fuel future growth.

Table 4 - EMPLOYMENT BY INDUSTRY 2001

Industry	Persons	Percentage
Agriculture, Forestry and Fishing	209	48.9
Mining	3	0.8
Manufacturing	15	3.5
Electricity, Gas and Water Supply	-	-
Construction	21	4.9
Wholesale Trade	15	3.5
Retail Trade	32	7.5
Accommodation, Cafes and Restaurants	14	3.2
Transport and Storage	8	1.8
Communication Services	3	0.8
Finance and Insurance	3	0.8
Property and Business Services	18	4.2
Government Administration Defence	13	3.0
Education	27	6.3
Health and Community Services	24	5.6
Cultural and Recreational	3	0.8
Personal and Other Services	8	1.8
Non-classifiable and Not stated	11	2.6
TOTAL	427	100

Source: Australian Bureau of Statistics, Shire of Chapman
Valley A Profile of the Local Government Area,
2004

6.4 ECONOMIC SECTORS

Agriculture is the dominant employment category within the Shire of Chapman Valley. Although not reflected in the statistics aquaculture, viticulture and tourism are increasingly adding to the economy of the Shire.

6.4.1 Agriculture Statistical Overview 2000/01 (most recent figures available)

- The Shire of Chapman Valley contains 115 farms which cover an area of 326,500 ha (approx.85% of the Shire). The average farm size is 2,834 ha.
- The Shire of Chapman Valley in 2000/01 had a gross value of agricultural products (GVAP) of \$56.2 million, a decrease of \$4.6 million from 1996/97.
- Wheat is the major commodity proportioning 57% of the GVAP, followed by lupins 21%, wool 10%, sheep 5%, barley 4% and other commodities comprising the remaining 3%.
- Chapman Valley makes up 10% of the Northern Agricultural SRD Region's total lupin production. The Northern Agricultural SRD Region along with the Shire of Chapman Valley consists of the Shires of Dalwallinu, Mullewa, Northampton, Moora, Perenjori, Victoria Plains, Dandaragan, Gingin, Mingenew, Morawa, Three Springs, Coorow, Greenough, Carnamah and Irwin.

Table 5 - GROSS VALUE OF AGRICULTURAL PRODUCTS 2000/01

Agricultural Industry	Value of farm production	Total area of production
Intensive animal products		
Apiculture	-	-
Intensive meat	\$240,000	6 ha
Eggs	-	-
Pasture animal products		
Wool	\$4,653,000	72,502 ha
Milk	-	-
Grazing meat	\$3,152,000	76,674 ha
Other	-	-
Crops – broadscale		
Cereal crops for grain	\$30,806,000	100,900 ha
Grain legumes and oilseeds	\$10,954,000	54,400 ha
Hay/pastures	\$245,000	549 ha
Crops – horticulture		
Nurseries, turf and cut flowers	\$114,000	4 ha
Vegetables	\$25,000	3 ha
Fruit	-	-
Grapes	-	8 ha

Source: Agriculture WA Agstats, 2001

6.4.2 Tourism

Although no tourist statistics were available for tourism this economic component is becoming an important part of the Shire's economy.

Coronation Beach is popular with both locals and interstate/overseas visitors alike and is considered to be one of the finest windsurfing locations in the world. It is regarded as being a tourism asset of regional significance. At present Coronation Beach is a nature based camping area that also experiences significant levels of day use activity. The Shire has provided limited quality facilities and carries out daily management duties and inspections.

The popular Drummond Cove Holiday Park located at the southern boundary of the Shire on the northern fringe of the Geraldton urban area, is another example of tourism growth within the Shire.

In addition to the above wildflowers, heritage trail, the Chapman Valley Historical Museum in Nanson, the Moresby Ranges, a number of vineyards and wine tasting facilities are all important tourism features within the Shire.

6.4.3 Industry

Whilst currently there is no general or heavy industry established within the Shire, the acquisition of land by the State Government at Oakajee, and subsequent rezoning of this area to accommodate general and heavy/strategic industry, as well as a deep water port, clearly indicates the potential for future economic growth and prosperity within the municipality resulting in considerable benefits to the whole Mid West region.

6.5 INFRASTRUCTURE

6.5.1 Water, Power and Sewer

Water

The Water Corporation provides scheme water for the towns of Nabawa and Yuna, and portions of urban area located in the far southwest corner of the Shire. There is no reticulated supply of water available or proposed for the Nanson townsite.

At present the Nabawa townsite is serviced by two bores south of the town which are identified as an 'important drinking water source'.

The Yuna townsite, whilst historically supplied from a ground water bore west of town and supplemented by the need to tank potable water during the summer months, is serviced by a permanent reticulated water supply from the Allanooka bore field via the Yuna Farmlands Water Scheme completed in October 2006 and commissioned and January 2007.

Sewerage

As there is no reticulated sewerage infrastructure within the Shire, the issue of effluent disposal will be a strong consideration for any future development in the townsites and around the far south west corner of the Shire for low density development.

Power

The generation, transmission and distribution of electrical power throughout the Shire is provided and maintained by Western Power.

Telecommunications

The whole of the Shire is serviced by conventional reticulated land-line telecommunications and television/radio transmission from the Waggrakine tower located on top of the Moresby Ranges. However, provision of mobile and broad-band telecommunications is sadly lacking across most of the Shire and deemed to be severely inadequate. To address this situation the Shire is working with local community

groups to lobby Telstra and the Commonwealth Government to improve the level of telecommunications.

6.5.2 Community Services

Both the Nabawa and Yuna townsites contain most of the community facilities within the Shire.

Nabawa is the main administration centre and contains most of the municipal buildings and facilities. This includes the shire offices and depot, library services, tennis courts, football/cricket oval, indoor basketball stadium, community hall and a public primary school.

Yuna, being essentially a service centre for the broader agricultural community, also has a primary school, semi public swimming pool, recreation hall, tennis courts, and shire depot.

Additionally, a golf course is located some 4 kilometres west of the Yuna townsite with another golf club approximately 6 kilometres south of the Nabawa town. A rifle range and showground facilities are also positioned south of Nabawa.

On the coast in the far north-west corner of the Shire a popular nature based camping and recreation reserve exists catering for a variety of users from windsurfers to round Australia campers and caravaners. The Shire is also working with key stakeholders and government agencies to improve the level of access and facilities along the Chapman Valley coastline and within the far south west corner of the Shire to accommodate the projected increase in population growth.

The closest medical and health services are located to the north in Northampton, with a wider range available in Geraldton to the south.

6.6 HERITAGE PLACES

The Heritage Council of WA maintains a data base of information on places in Western Australia. Appendix A shows the places in the Shire with a heritage listing. The listings used can be explained as follows:

6.6.1 Register of Heritage Places

In Western Australia, places included on the Register are given legal protection under the Heritage of Western Australia Act 1990. Registration of a place is official recognition by the community of its cultural significance to the heritage of Western Australia. Places are entered on the advice of the Heritage Council and the Minister for Heritage. Development controls apply under the Act and conservation incentives are available to owners. Should a development or subdivision be proposed for a registered place, it would need to be referred to the Heritage Council for approval and advice.

6.6.2 Heritage Council of WA Assessment Program

When a place is on the Heritage Council's Assessment Program, it means that the Heritage Council has an interest in the place and that it will be assessed and considered for inclusion on the State Register of Heritage Places. Under Sections 10 and 11 of the

Heritage of Western Australia Act (1990), local government authorities are required to co-operate with the Heritage Council in protecting the cultural heritage significance of places on the Assessment Program.

6.6.3 Heritage Council of WA Assessment Program (Below Threshold)

If a place is considered to be "below threshold" it means that the place has been assessed by the Heritage Council and determined to be of insufficient heritage significance to warrant entry on the Register of Heritage Places.

6.6.4 Municipal Inventory

Local Governments maintain a Municipal Inventory (as required by the Heritage of Western Australia Act 1990) which is a list of places considered by the local community to have heritage value. Local Governments have the ability to protect heritage places by including them in Town Planning Schemes, which would mean the impact of developments or changes would be considered before those changes would be allowed to occur.

6.6.5 Classified by the National Trust

The National Trust does not have any legal powers to enforce preservation and conservation. The Trust does play an important role in developing public opinion as well as supporting and encouraging the conservation of our heritage places. The identification or classification of places by the National Trust or local historical societies, does not constitute legal recognition of their significance.

6.6.6 Register of the National Estate

The Australian Heritage Commission is a federal government body established under the Australian Heritage Commission Act (1975). At a national level, the AHC has compiled a Register of the National Estate. While only places owned by the Commonwealth are legally protected, the Register of the National Estate provides recognition of aboriginal, natural and historic places, and encourages their protection.

6.6.7 Statewide Hotel Survey

The Statewide Hotel Survey is a heritage study published by the National Trust. It is a thematic history and inventory of extant hotels in Western Australia and identifies those factors which influenced the nature of the built fabric of hotels. In this way the thematic history provides a context in which to examine the value of individual hotel buildings constructed between 1829 and 1939.

6.6.8 Statewide War Memorial Survey

This survey is an inventory of war memorials in Western Australia, with the main focus being on public or civic memorials. Information about some private memorials, such as those erected by church parishes and school communities, is also included. The survey was prepared by Heritage Consultant, Oline Richards, in 1996.

6.7 ABORIGINAL SITES

The Aboriginal Sites Register is maintained and administered by the Department of Indigenous Affairs. Sites may exist that are not yet entered into the Register system, or are on the Register and no longer exist. The Aboriginal Heritage Act 1972 protects all Aboriginal sites in Western Australia whether they are known to the Aboriginal Affairs Department / Aboriginal Cultural Material Committee or not. On-going consultation with relevant Aboriginal communities and/or Native Title Claimants is required to identify any additional sites that may exist.

A Register of Aboriginal Sites is shown in Appendix B.

Section 7 STRATEGY

7.1 CONTEXT

This Local Planning Strategy is intended to replace the existing Local Rural Strategy produced in 2004 with the clear intent of successfully achieving the aims of the Local Planning Strategy. In this regard the respective Planning Precincts and associated Plans provide the strategic basis for zoning, land-use and development provisions within the draft Town Planning Scheme No.2.

7.2 PURPOSE AND AIMS

The overall purpose of the Planning Strategy is to provide planning direction for the Shire of Chapman Valley for the next 10 – 15 years. The Local Planning Strategy is a simple, user-friendly, flexible and effective framework for rural planning and urban design. The planning aims of the Strategy are detailed as follows:

1 Community

- 1.1 Maintain and promote the 'rural character' and distinctive 'rural lifestyle' of the Shire.
- 1.2 Ensure natural and cultural heritage is protected.
- 1.3 Build a sense of community through the design of accessible settlements.
- 1.4 Provide a range of lifestyle and housing opportunities.
- 1.5 Protect land from being developed and/or used for certain nuclear activities which may result in environmental harm or be detrimental to the amenity, health or safety of the public or the aesthetic appearance of the Shire.

2. Economic

- 2.1 Protect and preserve the physical resources upon which the agricultural industry is based and manage these resources in a sustainable manner.
- 2.2 Facilitate land use planning for the growth of the tourism industry, which is sensitive to environmental constraints.
- 2.3 Make allowance for the needs of new industries and technologies.
- 2.4 Support and further develop the existing townsites within the Shire focused on specific purpose and associated strengths.
- 2.5 Ensure the protection of basic raw materials and valuable mineral deposits.

3. Environmental

- 3.1 Ensure that water resources are conserved and their quality protected.
- 3.2 Ensure that land, soil and biodiversity is safeguarded and that degradation does not occur.
- 3.3 Minimise the clearing of vegetation and maximise retention and replanting of native vegetation to link areas of remnant bushland with roadside vegetation and nature reserves.
- 3.4 Ensure significant environmental features are protected, conserved and/or nature enhanced.
- 3.5 Recognise, maintain and promote the natural beauty, landscape values and recreational opportunities of the Shire.
- 3.6 Continue to encourage activities in relevant Precincts that protect the 'clean and green' status of agricultural produce derived from this Shire.
- 3.7 Ensure appropriate fire protection and management is implemented in accordance with the Western Australian Planning Commission Policy DC 3.7 and associated Planning for Bushfire Protection document.

4 Infrastructure

- 4.1 Ensure the efficient, progressive development and servicing of urban land.
- 4.2 Ensure waste management facilities are appropriately secured and managed in accordance with licence conditions and the environment.
- 4.3 Promote the development and optimal use of key strategic infrastructure (especially roads).
- 4.4 Promote the use of renewable energy resources in the Shire in appropriate locations taking into account visual and social amenity.

7.3 STRUCTURE

The Shire of Chapman Valley Local Planning Strategy incorporates the following Precincts:

Precinct No 1	YUNA EAST
Precinct No 2	EAST CHAPMAN
Precinct No 3	CHAPMAN VALLEY
Precinct No 4	MORESBY RANGES
Precinct No 5	HOWATHARRA WEST
Precinct No 6	OAKAJEE INDUSTRIAL INVESTIGATION AREA
Precinct No 7	SOUTH WEST
Precinct No 8	YUNA TOWNSITE
Precinct No 9	NABAWA TOWNSITE
Precinct No 10	NANSON TOWNSITE

Each Precinct has the following components:

- **Precinct Vision** which is the overall intention for the Precinct;
- **Precinct Overview** which broadly describes the physical and social attributes of the Precinct and highlights some of the opportunities and constraints within the Precinct;
- **Precinct Objectives** which describe the Community, Economic, Environmental and Infrastructure objectives of the Precinct; and
- **Precinct Strategies** which are the Land Use and Subdivision action statements to achieve the objectives for the Precinct.

The Planning Precincts in this document are primarily based on those Precincts identified in the Local Rural Strategy (LRS), with the exception of Precincts 8, 9 and 10 that represent the respective townsites of Yuna, Nabawa and Nanson. Given the approach taken in regard to the identification of rural Precinct boundaries in the LRS was based on soil types of an area together with rural character rather than cadastral lines, and there being no need or reason for change to this approach, the same precincts 1 – 7 have been adopted as cadastral lines do not take into account many of the aspects of the land such as topography, soil type, vegetation, water, prevailing trend/s in land-use etc. Therefore, it is designed that these Precinct boundaries be flexible to allow for consideration of these attributes rather than being a hard and fast line of separation that bares no relevance to land suitability for change in land-use or subdivision. On this basis some discretion can be applied to land traversed or adjacent to precinct boundaries where assessment and determination can be guided by the objectives and prescriptive criteria from the adjoining precinct depending on the nature and merits of the relevant proposal.

However, to qualify the level of flexibility with Precinct boundaries the following variances need to be understood:

1. Change in Land Use

A change in land-use may be accommodated on land where the Precinct boundary either traverses or is adjacent to the subject property;

2. Subdivision of Agricultural Land

Subdivision of agricultural land based on minimum lot sizes specified under the neighbouring Planning Precinct will only be considered if the Precinct boundary traverses the subject property;

3. Townsite Development

Townsite development may only be entertained within the respective townsite Precinct 8, 9 and 10 boundaries, and are not deemed to be flexible.

7.4 MINIMUM LOT SIZES FOR SUBDIVISION OF RURAL LAND

The Western Australian Planning Commission (WAPC) Policy DC 3.4 "Subdivision of Rural Land" and Statement of Planning Policy No 2.5 "Agricultural and Rural Land Use Planning" indicate that there is a general presumption against subdivision of rural land unless it is specifically provided for in a Local Planning Strategy. Criteria for lot sizes in agricultural areas has therefore been included in the Subdivision/Amalgamation sections of each rural Precinct to provide certainty in this regard.

In Precinct No 1 – Yuna East, 400 hectares was chosen as the minimum lot size for subdivision for extensive agricultural uses as it represented the prevailing lot size for the Precinct. As the rural land is used almost exclusively for cropping and grazing purposes in this Precinct it is felt that the 400 hectare lot size ensures the continued use of the land for these rural purposes.

In Precincts 2 – East Chapman, 3 – Chapman Valley and 5 – Howatharra West, 250 hectares was chosen as the minimum lot size for subdivision for extensive agricultural uses as it represented the prevailing lot size for Precinct 2 – East Chapman. This lot size is based on the study prepared by Agrarian Management (included in Appendix F of the Preliminary Report of the Shire's Local Rural Strategy – September 2001) stated, that based on land sales data, the average block size sold prior to 1999 was 230 hectares. Again retention of this lot size in these Precincts will ensure the continued use of rural land for extensive agricultural uses.

Since 1999 the only sales recorded have been between 40 and 70 hectares. This trend towards smaller block sizes driven by the need of smaller landowners to sell land to realise investments or for larger farms to sell off small parcels of land as part of debt restructure strategies. In Precinct No 2 the Local Planning Strategy accommodates subdivision of smaller lots down to 80 hectares, but only on the basis that the land is suited to intensive agricultural uses. The minimum lot size of 80 hectares is consistent with Statement of Planning Policy No 2.5 which states that 80 hectares should be minimum lot size for long-term sustainable, intensive agricultural uses where no other lot size can be validated.

The study prepared by Agrarian Management to investigate the affect of farm size on the profitability of land uses in the Chapman Valley Shire states that minimum lot sizes between 60 to 100 hectares is a practicable figure for broad acre farming. A lot size of 60 – 100 hectares is considerably less than the area that has been proven to be necessary for sustainable broadacre farming in these Precincts in the past, and therefore has not been adopted for lots intended for extensive agricultural use. However, even though there can be no certainty of the actual use of the land, 80 hectares is considered a suitable lot size to accommodate intensive

agricultural uses, provided that land suitability for the intended use (or a range of potential uses), can be proven.

7.5 RURAL RESIDENTIAL AND RURAL SMALLHOLDING

The Local Planning Strategy allows for subdivision of land for rural residential (1 – 4 hectares) and rural smallholdings (4 to 40 hectares) based on a graduation of lot sizes around the Nanson and Nabawa townsites.

Should, during the life of this Strategy it becomes evident that the area identified for Rural Smallholding (20-40ha) is proven insufficient (refer to Figure 3), then the area identified as 'Possible Future (long-term) Rural Smallholdings (20-40ha will be considered for rezoning. However as a guide rezoning will not be initiated over that area until at least 70% of the area proposed for Rural Smallholdings (20-40ha) has been rezoned and subdivided to full potential or as otherwise determined between the Shire Council and the Western Australian Planning Commission.

An exception to the above is the area of land in Planning Precinct No.7 to the east of North West Coastal highway as shown by a darker shade in Figure 4. This area is currently made up of 11 'General Farming' zone lots ranging in size from 20.7 hectares to 11.5 hectares. The Shire in acknowledging this land has not been identified in the Greater Geraldton Structure Plan for future rural residential development argues that:

- the omission of the change in land use from general farming to rural residential was an oversight;
- the respective lots are not of a sufficient size to be agriculturally viable and are not productively farmed;
- the subject land will in time be surrounded by urban and rural residential development that will form the rounding off of the Greater Geraldton area;
- the land is adequately serviced by reticulated water, power, telephone, and has sufficient bitumen road frontage to Richards Road;
- the retention of the current zoning will likely present further land-use conflict issues as has recently been experienced;
- the subject land offers expansive coastal, range and city views and has good access to a range community services and facilities;
- the majority of landowners have expressed a desire to subdivide consistent with the prevailing settlement pattern for the area.

In consideration of the above, the subject land is proposed to be rezoned to 'Rural Residential' or 'Special Residential' in the Shire's draft Town Planning Scheme No.2 and accordingly is identified the same in the draft Northern Geraldton District Structure Plan.

It is however acknowledged that Lots 8, 9, 10 & 11 White Peak Road are not to be rezoned to Rural Smallholdings until such time as the Oakajee Infrastructure Corridor is finalized through the Wokatherra Pass. The Council is mindful the corridor alignment, as yet to be determined, could have implications for the future development of Lots 8, 9, 10 & 11.

Additionally, all rezoning proposals for land within or abutting the Moresby Ranges Management Area will need to be consistent with the draft Moresby Ranges Management Strategy, inclusive of a visual impact assessment in terms of the Ranges. The Council and the Western Australian Planning Commission will not support any development proposals that may compromise the principal objectives of the Moresby Ranges Management Strategy or any subsequent detailed Management Plan.

However, notwithstanding the above-mentioned considerations, the expressed purpose for both forms of land use (rural residential and rural smallholdings) is to meet the needs of local

demand for lifestyle and hobby farm opportunities that can potentially be coupled with one of more of the following:

- a home business;
- an intensive agricultural pursuit;
- a cottage industry use;
- a tourism development or use; or
- a rural pursuit.

In rezoning and subdividing land for rural residential or rural smallholdings within the Shire the Council acknowledges the need to have regard for relevant provisions detailed in the Western Australian Planning Commission's (WAPC) Statement of Planning Policy No 2.5 (SPP 2.5) and Rural Subdivision Policy DC 3.4.

Specifically, Figures 3 and 4 have been prepared in consideration of the criteria set out in Appendix 2 of SPP 2.5 with it argued that selected future rural residential and in particular rural smallholdings areas will:

- a) not compromise 'priority' agricultural areas, but more over will provide extended opportunities for agricultural diversification broadly based on array of intensive and incidental uses as mentioned above;
- b) achieve consistency with existing settlement patterns in consideration of prevailing lots sizes emerging land-use trends for those area designated;
- c) not conflict with future expansion of existing urban areas due the demographic nature and physical features of the Shire (refer to Planning Precincts 7 – 10)
- d) be located in close proximity to regional services in Geraldton and provide additional economic support and social benefit to the existing townsites of Nanson and Nabawa;
- e) have access to essential infrastructure and servicing without additional burden (financial or otherwise) being placed on the Shire's resources;
- f) maximize use of the existing local road network;
- g) not require access onto major traffic routes that would compromise safety and/or place additional burden on Main Roads WA;
- h) not adversely affect or compromise the visual amenity, nor detract from the scenic, landscape or conservation values of the local areas, including the Flat Top Moresby Ranges;
- i) not present a heightened risk of bush fire, nor hinder the implementation of appropriate fire management and protection measures in the respective areas;
- j) not impact on nor interfere with extraction basic raw materials, but more so will:
 - assist with improved access to and management of natural features, such as the Chapman and Buller Rivers and associated tributaries; and
 - promote measures for environmental repair, including protection of remnant vegetation and establishment of wildlife corridors;
- k) allow for the supply of affordable land in close proximity to services that provides for a rural lifestyle coupled with the potential to generate an income. Presently rural residential and special rural land within the Shire is only available in 1-2 and 40 hectare parcels, with little land available above the 2 hectare lot size.

Further, land aligned along Chapman Valley Road, identified under Appendix 4 of SPP 2.5 (page 1024) as "Potential/Developing Area", is ideally suited to the development of rural smallholdings to accommodate a variety of intensive uses. This position is supported by the information provided in the background section of Planning Precinct No.3.

In considering an application to rezone and subdivide land for either rural residential or rural smallholdings development, a proposal will need to broadly address the following requirements prior to the initiation of a scheme amendment:

- Proximity and access to services and infrastructure (roads, water, power, telecommunications and community/social);
- Prevailing lot sizes and existing settlement pattern;
- Current land-use trends;
- Market demand;
- Topographical and environmental constraints of the local area;
- Significant natural features and conservation measures;
- Fire risk;
- Proximity and access

In supporting an amendment strong emphasis will be placed on environmental protection and repair through the use of natural resource management practices.

In preparing amendment documentation the following information will also be required:

- Purpose of amendment;
- Land affected by amendment;
- Existing ownership/land tenure;
- A description of existing and proposed zonings;
- A description of existing land-use and services;
- A description of locality in terms of land-use, physical characteristics, zonings, lot sizes, development pressures;
- Evidence of market demand;
- Relationship to relevant documents including but not limited to existing structure plan, Western Australian Planning Commission Statement of Planning Policy No 2.5 and other SPPs, the Local Planning Strategy, draft Moresby Ranges Management Strategy, Geraldton Region Plan 1999, etc;
- A locality plan;
- A site plan (prepared to appropriate scale);
- A physical description (vegetation, landform/topography/natural features, etc) and related mapping;
- A detailed land capability, suitability and hydrology assessment (soils types, hydrology, geo technical data);
- A description of specific land management measures (including re-vegetation, stocking rates, exclusion areas, river/coastal foreshores, other water courses, access and building sites, bushfire prevention/protection, etc);
- An environmental assessment of the subject area;
- A Subdivision Guide Plan and associated explanation (to include rationale for lot sizes and layout, access arrangements, building sites, protection areas, etc).
- A description of servicing requirements (including road access, power, telecommunications, water, effluent disposal, fencing, drainage, etc);
- Concluding comments supporting the merits of the proposal.

In some circumstances a detailed structure plan, if not already prepared, may be required prior to a rezoning proposal being initiated. This will mainly apply to areas around the townsites of Nanson and Nabawa in Planning Precinct 3, and within the designated areas in Planning Precinct 7 – refer to Figure 4. In the rezoning of land that abuts the Chapman or Buller Rivers a foreshore widening or dedication of the river to form a crown reserve may be required to enhance conservation values and increase opportunity for public access in some areas.

When lodging a rezoning proposal reference to should also be made to the following Appendices located at the back of this document:

- *Appendix A — GUIDELINES FOR PREPARATION AND ASSESSMENT OF PROPOSALS*
- *Appendix B - CRITERIA FOR SUITABILITY OF LAND FOR "RURAL SMALLHOLDINGS" AND "RURAL RESIDENTIAL"*

Figure 3 - RURAL RESIDENTIAL & RURAL SMALLHOLDING (PRECINCT 3)

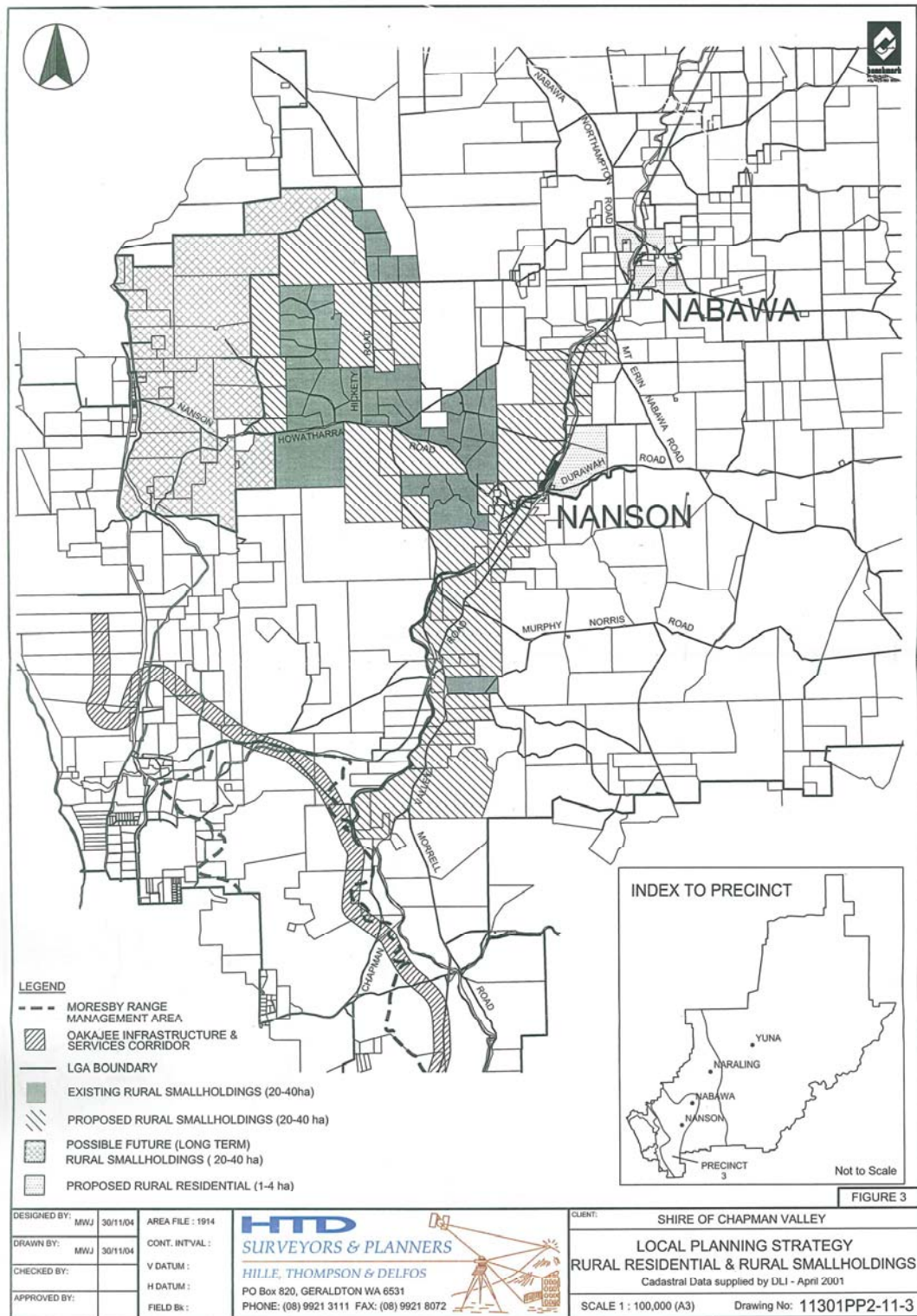
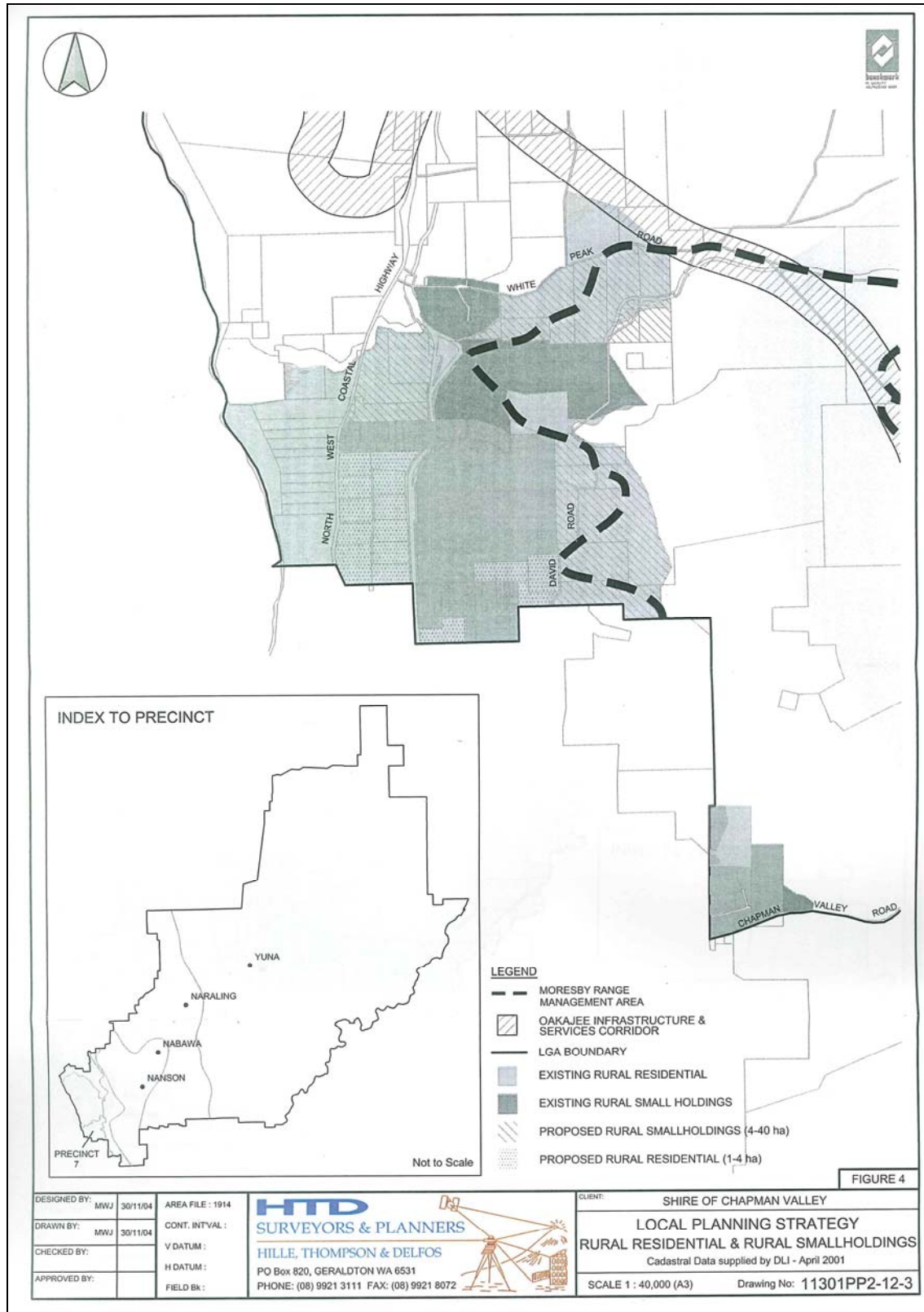


Figure 4 - RURAL RESIDENTIAL & RURAL SMALLHOLDING (PRECINCT 7)



7.6 PRECINCT NO 1– YUNA EAST

Precinct 1 VISION

Land predominantly used for broadacre agricultural production, with opportunities for diversification in appropriate areas by ensuring the long-term protection of existing agricultural resources.

Precinct 1 OVERVIEW

The Precinct embraces the sandplain country of the Victoria Plateau. It extends across central, eastern and northern parts of the Shire. The surface averages 260m in elevation, varying from low broad ridges with yellow longitudinal dunes down to broad valleys with sluggish or no surface drainage. The surface drops to 180m at the Greenough River.

Low ridges of yellow quartz sand dominate the soils of the Yuna sandplain. These tend to be neutral to weakly acidic in trend, highly susceptible to wind erosion and can be moderately non-wetting. The intervening low lying broad valleys are occupied by deep red, gradational sandy loam^y and loam^s. The red loamy-clayey soils of the drainage lines can be hard setting and have elevated salinity levels and some more loamy soils can be subject to traffic hardpans. The soils in the East Yuna locality are more variable with the breakaway country in the Bindoo Road area having hard setting and shallow rocky duplex soils that in part remain uncleared.

Runoff is minimal because of the sandy nature of the plateau surface with much rainfall either being used by the plants or infiltrating the soils. Rainfall averages from 400mm per annum in the west dropping to less than 300mm in the northeast areas, which are at or near the limit of broadacre agriculture. Water from recharge is increasing, leading to rising water tables and increased salinity on the broad valley floors particularly in the higher rainfall areas of the west and south. This is leading to a loss of wetland vegetation. The current regime of annual cropping is incapable of utilising sufficient water to prevent increased recharge and rising water tables.

Most water is restricted to small supplies of stock water obtained from shallow aquifers by windmill. Dams and windmills are used on seepages on clayey soils where shallow basement sediments force groundwater to the surface. The Tumblagooda Sandstone which outcrops and sub-crops to the east of the Nobla-Durawah fault line contains supplies of fresh water, however insufficient research has as yet been undertaken to determine the availability and sustainability of this resource but they may have the potential for a range of diversified agricultural land uses. In the southeast large quantities of brackish water can occur along the valley floors and lower slopes and may be suitable for aquaculture.

Given the spasmodic rainfall to the east together with recharge and brackish ground water issues the Yuna community successful sought a State Government grant matched with financial contribution and in-kind labour to establish in conjunction with the Water Corporation a 5 million dollar and 230 kilometre drought proof water pipeline scheme known as the 'Yuna Farmlands Water Scheme'. The water is to be supplied from the Allanooka Bore Field with the pipeline commencing at Witcherina in the Shire of Greenough to the south before working its way north along Valentine Road in the Shire of Chapman Valley to Yuna, then branching east and further north to terminate in the Shire of Northampton. The Scheme will provide a daily water supply to some 60 farms through 125 water connection points. Whilst the volume of water is restricted by a daily allowance both supply and quality is guaranteed at the meter to ensure those farms in the marginal agricultural areas can continue to operate during drought conditions.

Most of the western and southern portion of the Precinct is cleared, but towards the northeast the cleared soils centre on the loamy drainage lines because of their better moisture retention. Breakaway country in the southeast remains largely un-cleared, although nearby sloping duplex soils are cleared. Large areas of remnant sandplain heathland remain as the Wandana Nature Reserve and as two areas of vacant Crown land in the west.

The natural heathland contains few trees which can expose the sandy soils to wind erosion. Trees to act as windbreaks have been planted in some parts and susceptible sand ridges have been either replanted or allowed to naturally regenerate. However on other sites wind erosion of the sandy soils has occurred and sand drifts against fence lines are common. There are opportunities for environmental repair, protection and preservation of areas of significant vegetation and landform.

This Precinct contains a vast majority of the broadacre farming areas of the Shire. Agriculture is the major land use in the Shire and should be protected. It is important in a regional context because of the significant contribution made to agricultural production, and in a local context, agriculture is the major employer and contributor to the local economy. The area is a significant cereal producing area, and continued broadacre agriculture can be sustained.

Limited low-key tourism potential exists for wildflowers and ventures associated with landscape features (such as the breakaway country at East Yuna Nature Reserve and the Greenough River at Noodamurra Pool). There are experimentation and expansion opportunities for alternative crop rotations and stock varieties, however there is minimal infrastructure and suitably formed road networks for farm diversification/intensification that relies on this road network. Most of the local road network consists of gravel formed and paved roads with the exception of Chapman Valley Road, Yuna Tenindewa Road, Balla Whellarra Road, Dartmoor Road, Wandana Road and Wandin Road constructed to bitumen seal standard.

There has been little evident pressure for subdivision within the Precinct other than boundary relocations for farm management purposes.

Precinct 1 OBJECTIVES

1.1 Community Objectives

- 1.1.1 Discourage the fragmentation of rural landholdings detrimental to agricultural production in the long term through the provision of subdivision policy and introduction of minimum lot sizes.
- 1.1.2 Encourage the protection and restoration of places and buildings of heritage/historical significance.

1.2 Economic Objectives

- 1.2.1 Protect the capacity of the land for agricultural production and promote continued sustainable productivity.
- 1.2.2 Facilitate agricultural diversification in appropriate areas where there will be no detrimental impacts to the surrounding land.
- 1.2.3 Support limited low-key tourist uses and development associated with wildflowers and natural scenic features on suitably constructed roads.
- 1.2.4 Support the extraction of basic raw materials (except radioactive materials or minerals), pursuant to the provisions of the Mining Act 1978 and conducted in accordance with the 'Mining Code of Conduct' and 'Farmer Mining Guide'.

1.3 Environmental Objectives

- 1.3.1 Encourage re-vegetation and retention of existing vegetation in order to minimise soil erosion and salinity levels through the promotion of natural resource management measures.
- 1.3.2 Encourage protection of wind eroded areas and soils, and promote activities to reduce recharge of the shallow groundwater.
- 1.3.3 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental controls.
- 1.3.4 Protect the rural amenity and character of the area from incompatible land use/development through the preparation of specific local planning policies and management controls.
- 1.3.5 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements.
- 1.3.6 Encourage conservation of biodiversity and farm sustainability through the promotion of 'best practice' farming techniques.

1.4 Infrastructure Objectives

- 1.4.1 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.
- 1.4.2 Identify, support and facilitate the efficient and co-ordinated use of existing road linkages.

Precinct 1 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D

To enable Council to make informed decisions on certain land use and subdivision proposals, supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council staff should be consulted regarding these requirements prior to lodging such proposals for formal approval.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

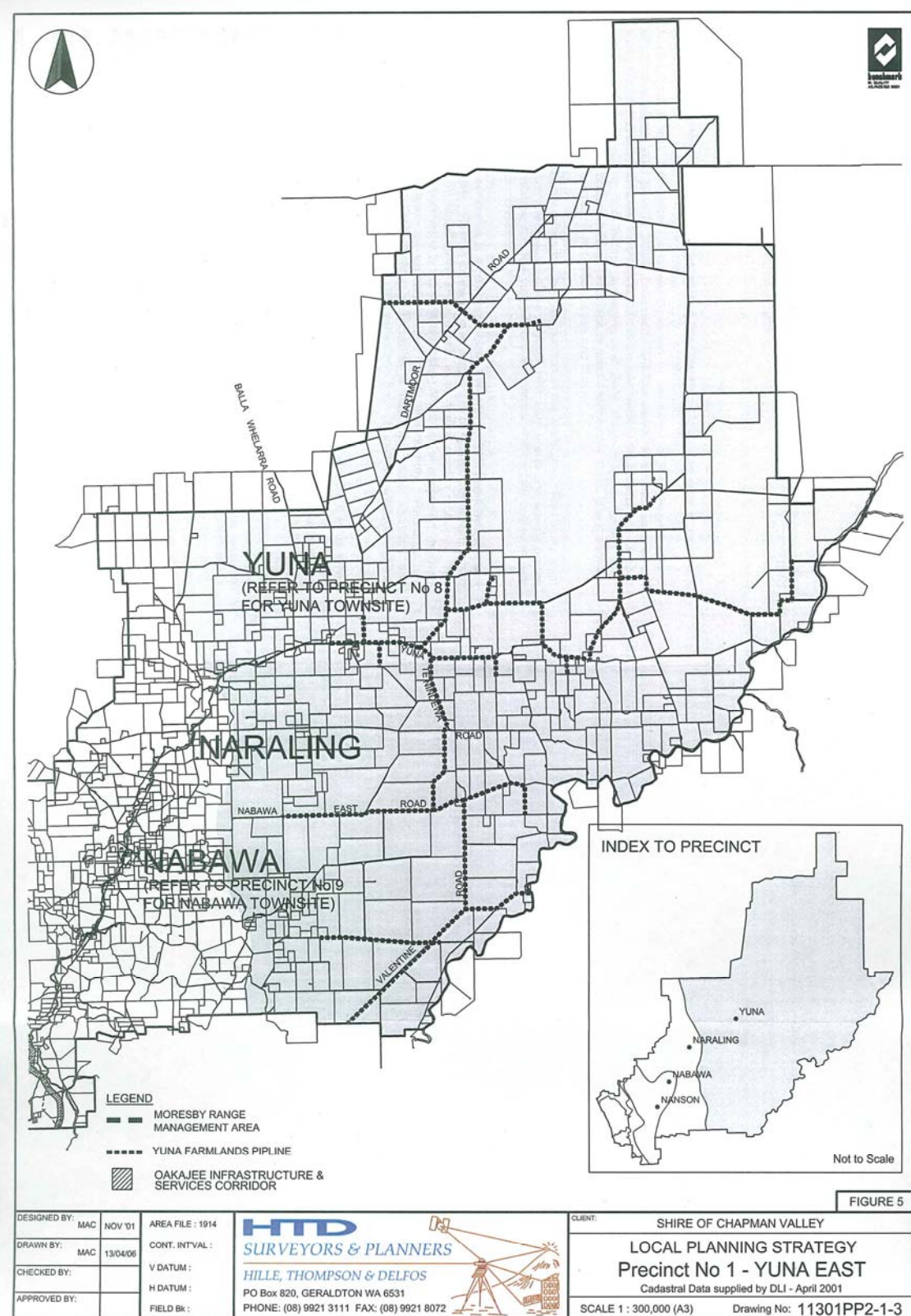
- Broad-acre Agriculture
- Rural Industry
- Tourism (low-key)
- Conservation
- Heritage Protection/Restoration
- Extractive Industry/Mining (except Nuclear Activity)

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For extensive agricultural uses including grazing and/or cropping where the lots proposed are not less than 400 hectares.
- b) In exceptional circumstances where lots proposed are less than 400 hectares and are suitable for extensive agricultural uses including grazing and/or cropping, subject to the compliance with the relevant provisions of WAPC Policy DC 3.4 — *Subdivision of Rural Land*.
- c) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- d) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger land holding (eg grain storage facility, abattoir, chicken/egg farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- e) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance criteria for conservation lots outlined in WAPC Policy DC 3.4.

Figure 5 - PLANNING PRECINCT 1 - YUNA EAST



Precinct 2 VISION

Utilising opportunities for agricultural diversification whilst ensuring the continued sustainable production from broadacre agriculture.

Precinct 2 OVERVIEW

The East Chapman Precinct lies to the east of the Chapman Valley and west of the major geological faults along the Nobla-Durawah line, which marks the eastern edge of the Northampton Block. The system is largely dissected by tributaries of the Chapman River, which have cut the soils down to granite basement. Shallow alluvial sediments occur on the valley floors and some sandplain remnants remain in the northwest in the Hickety and Dindiloa localities. Elevations drop from hilltops averaging near 240m down to the numerous small valleys that drain to the Chapman River. Drainage is good and the only areas of wet soils are associated with seepages on the lower valley slopes and floors.

The soils of the Precinct vary depending on their position in the landscape. Red stony loam over clay duplex soils cover the majority of the Precinct with sand gravel and laterite on the plateau remnants in the northwest. The valley floors are narrow and contain colluvium with smaller amounts of alluvial red loams.

Water erosion of the steeper slopes is a notable problem, primarily brought about by excessive clearing over a period of time. Rainfall for the area averages 375 to 425mm per annum, which can also result in significant runoff during storm events exacerbating erosion problems. The shallow basement forces groundwater to the surface creating soaks and seepages on the lower slopes and valley floors, these are variable in their quality and quantity. Recharge has increased following clearing and shallow groundwater is becoming more abundant and groundwater levels are gradually rising. Quality varies from fresh to brackish, with some saline areas.

Many seepages have restricted supplies suitable only for stock water but there are some areas where water is sustainable for more intensive land uses. Significant supplies of brackish groundwater are possible under the plateau remnants in the Hickety and Dindiloa localities. These occasional seepages/soaks and brackish groundwater could be suitable for aquaculture.

The most significant water source in the Precinct is the Nabawa Sandplain. This is an area of sandplain developed on a Jurassic valley fill sequence to the northwest of Nabawa. The aquifer ranges up to 20m thick, flowing, to the south. Whilst the edges are fresher the resource has potential and needs further research. There is potential for fractured zone aquifers within the granite basement rocks although their location and recharge are difficult to determine. Valley fill aquifers, where sandy sediments have filled the ancient valleys, occur in some locations centred around the Chapman Valley and the dissected country. Quality and quantity of water in these aquifers varies and in most cases recharge considerations will be required to determine sustainability. Some waters supplies with sufficient fresh water have potential for additional farm diversification into more intensive pursuits and there are opportunities for the experimentation and expansion of alternative crop rotations and stock varieties.

Most of the Precinct is cleared, although parts of the plateau remnants, and steeper slopes in the northwest, remain uncleared but grazed. There is potential for environmental repair, protection and preservation of areas of significant vegetation and landform.

Land uses are broad-acre cereal cultivation in rotation. Sheep, and increasingly cattle, are used in grazing rotation with annual cropping. The area is a significant cereal producing area, and continued broad-acre agriculture can be sustained. Farm diversification is slowly occurring with the development of a number of small horticulture and viticulture enterprises. This has the potential for limited low-key tourism linked to local industries, farm stays and farm diversification in close proximity to established tourist routes where a suitable level of infrastructure exists. The lack of suitably formed road networks is the major constraint to farm diversification. Most of the local road network consists of gravel formed and paved roads with the exception of Chapman Valley Road, Nabawa Northampton Road and Durawah Road constructed to bitumen seal standard.

The Precinct contains the existing disused townsite of Naraling and there has been no development within the townsite for a number of years. There are infrastructure and servicing constraints associated with any development of the townsite lots. Presently the only building that still remains is the Historic Naraling Church/Hall constructed in 1928. Whilst the building, constructed of local stone and corrugated iron, is not used the Shire has agreed to accept transfer and responsibility for the building from the Anglican Church with the view to undertaking restoration works with assistance from local community groups to preserve the heritage values of the town. However, given the lack of services and infrastructure, and that some lots are privately owned with most being Unallocated Crown Land (UCL) the Council has sought to rezone the townsite lots to 'General Farming' zone for ease of leasing and grazing in the interests of fire control and improved management.

There has been little evident pressure for subdivision other than boundary rationalisations for farm management purposes. Eastern parts of the Moresby Ranges are evident in the south and this area is subject to current planning associated with the Moresby Range Management Strategy.

Precinct 2 OBJECTIVES

2.1 Community Objectives

- 2.1.1 Discourage the fragmentation of rural landholdings through the provision of subdivision policy and the introduction of minimum lot sizes.
- 2.1.2 Discourage the development of the Naraling townsite due to the lack of appropriate services and infrastructure.
- 2.1.3 Encourage the protection and restoration of places and buildings of heritage/historical significance.

2.2 Economic Objectives

- 2.2.1 Protect the capacity of the land for agricultural production and promote continued sustainable agricultural production.
- 2.2.2 Facilitate agricultural diversification in appropriate areas where there will be no detrimental impact to the surrounding land.
- 2.2.3 Encourage the experimentation and growth of newer crops and animal varieties through farm diversification and support value adding to this diversified farm produce. This could include links to tourism.
- 2.2.4 Promote opportunities for processing and value adding to agricultural produce.
- 2.2.5 Support the extraction of basic raw materials (except radioactive materials or minerals), pursuant to the provisions of the Mining Act 1978 and conducted in accordance with the 'Mining Code of Conduct' and 'Farmer Mining Guide'

2.3 Environmental Objectives

- 2.3.1 Encourage re-vegetation and retention of existing vegetation in order to minimise soil erosion and salinity levels through the promotion of natural resource management measures and techniques.
- 2.3.2 Encourage protection of wind eroded areas and soils, and promote activities to reduce recharge of the shallow groundwater.
- 2.3.3 Ensure that development does not adversely impact on river systems and groundwater resources through the appropriate planning and management controls.
- 2.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental and planning controls.
- 2.3.5 Protect the rural amenity and character of the area from incompatible land use/development, again through the implementation of appropriate environmental and planning controls.
- 2.3.6 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.
- 2.3.7 Encourage conservation of biodiversity and farm sustainability through the promotion of 'best practice' farming techniques.

2.4 Infrastructure Objectives

- 2.4.1 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.
- 2.4.2 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 2 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to Other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals, supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

- Broad-acre Agriculture
- Intensive Agriculture (subject to adequate water)
- Rural Industry

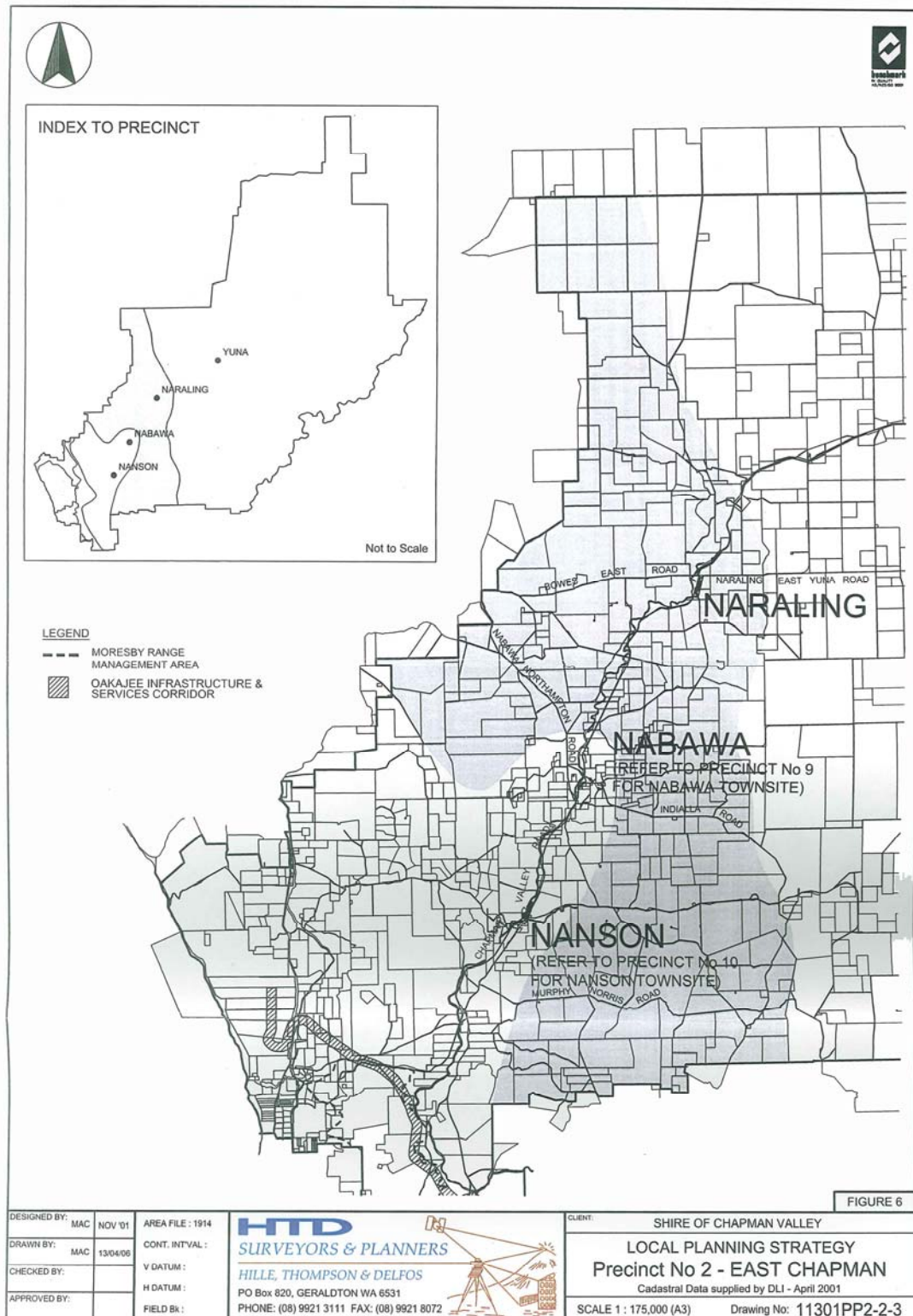
- Tourism (low-key)
- Conservation
- Heritage Protection/Restoration
- Extractive Industry/Mining (except Nuclear Activity)

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For extensive agricultural uses including grazing and/or cropping where the lots proposed are not less than 250 hectares.
- b) In exceptional circumstances where lots proposed are less than 250 hectares and are suitable for extensive agricultural uses including grazing and/or cropping, subject to the compliance with the relevant provisions of WAPC Policy DC 3.4 – *Subdivision of Rural Land*.
- c) For intensive agricultural uses where there is confirmation of suitable soil suitability and adequate water supply for the intended use and the lots proposed are not less than 80 hectares.
- d) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- e) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger land holding (eg grain storage facility, abattoir, chicken/egg farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- f) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy DC 3.4.

Figure 6 - PLANNING PRECINCT 2 - CHAPMAN EAST



7.8 PRECINCT NO 3 - CHAPMAN VALLEY

Precinct 3 VISION

A diverse range of rural pursuits and incidental tourist developments that compliment the sustainable use of agricultural resources.

Precinct 3 OVERVIEW

This Precinct is primarily centred on the Chapman River east of the Moresby Ranges where much of the area consists of the valley slopes and broad rounded hills ranging up to 100m, resulting in a high level of natural and landscape value. Some of the hills remain topped by plateau remnants of mesozoic sediments, with the remainder of the land systems underlain by granite basement.

Soils within the Precinct are variable consisting of red stony loam over clay duplex soils, most common on the granite basements, with minor deposits of alluvium formed as sand fill at the base of the larger valley floors. This is coupled with well drained gradual red sands and loams, which are not suited to the construction of clay lined dams. Most of the lower slopes consist of gradational red brown sands and loam duplexes fading to gravel duplex and sand toward the higher slopes and mesa tops.

Water erosion of the steeper slopes is a notable problem, primarily brought about by excessive clearing over a period of time. Rainfall for the area averages 400 to 450mm per annum, which can also result in significant runoff during storm events exacerbating erosion problems. Groundwater throughout the Precinct varies in quality and quantity, ranging from small brackish soaks suitable for stock purposes to large supplies of fresh water suited to more intensive agricultural pursuits and farm diversification. Most of the groundwater within the Precinct originates from recharge, however there are some valley fill aquifers randomly located within the Chapman Valley area.

A majority of Precinct 3 consists of cleared pasture actively farmed for the production of broadacre crops mixed with grazing. However a trend toward farming diversification has started to emerge with the development of small aquaculture, horticulture and viticulture enterprises, particularly in areas where a known sustainable fresh water supply has been identified. Coupled with areas of high land capability, opportunities currently exist for the experimentation and expansion of alternative crop rotations, the introduction of stock varieties and the development of intensive pursuits, as mentioned above.

Further opportunity exists for limited low-key tourist development linked with local industries, farm stays and farm diversification in close proximity to established tourist routes where a suitable level of infrastructure exists. Most of the local road network within the Chapman Valley consists of gravel formed and paved roads, with the exception of Chapman Valley Road, Northampton Nabawa Road, Morrell Road, Chapman Road East, Narra Tarra Moonyoonooka Road and Durawah Road constructed to bitumen seal standard. Heritage trails are also evident along the Chapman Valley Road and Nanson Howatharra Road with the potential to be developed further for tourism purposes.

The Council has identified a need for General Industry zoned land in close proximity to the Nabawa townsite with good access. This in turn would facilitate opportunity for economic and population growth in the district associated with existing agricultural uses and activities.

In recent years a number of properties in the heart of the valley area have been rezoned to "Special Rural" and subdivided into 40 hectare allotments. Many of these lots have been purchased for intensive uses or lifestyle opportunities.

Precinct 3 OBJECTIVES

3.1 Community Objectives

- 3.1.1 Ensure that the rezoning and subdivision of rural land into Rural Smallholdings maximises and reflects the agricultural potential of the land, and can accommodate a range of agricultural pursuits coupled with lifestyle opportunity.
- 3.1.4 Encourage the protection and restoration of places and buildings of heritage/historical significance.
- 3.1.5 Encourage the rezoning and subdivision of land into Rural Smallholdings and Rural Residential lots in accordance with Section 3.5 and Figure 3.

3.2 Economic Objectives

- 3.2.1 Facilitate agricultural diversification in appropriate areas where there will be no detrimental impact to the surrounding land.
- 3.2.2 Encourage the experimentation and growth of newer crops and animal varieties through farm diversification and support value adding to this diversified farm produce. This could include links to tourism in accordance with Council Policy.
- 3.2.3 Promote opportunities for processing and value adding to agricultural produce.
- 3.2.4 Ensure that rural residential development maximises the use of existing services and infrastructure.
- 3.2.5 Support the extraction of basic raw materials (except radioactive materials or minerals), pursuant to the provisions of the Mining Act 1978 and conducted in accordance with the 'Mining Code of Conduct' and 'Farmer Mining Guide'

3.3 Environmental Objectives

- 3.3.1 Encourage revegetation and retention of existing vegetation in order to minimise soil erosion and salinity levels.
- 3.3.2 Protect and enhance existing catchments, botanical linkages and vegetation/wildlife corridors, with particular emphasis on the Chapman River.
- 3.3.3 Ensure development does not adversely impact on river systems, associated catchment areas and groundwater resources through the provision/submission of detailed/supporting research, information and analysis.
- 3.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental and planning controls.
- 3.3.5 Protect the rural amenity and character of the area from incompatible land use/development, again through the implementation of appropriate environmental and planning controls.
- 3.3.6 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.
- 3.3.7 Encourage conservation of biodiversity and farm sustainability based on natural resource management practices.
- 3.3.8 Give due consideration to the requirements/recommendations of the Moresby Range Management Strategy once it is formally adopted with particular emphasis direct toward Management Area A.
- 3.3.9 Promote a detailed planning exercise be undertaken in partnership with all relevant stakeholders for Area A of the Moresby Ranges, depicted on the Precinct Maps as 'Special Investigation Area - Conservation and Development',

to identify a range opportunities in consideration of current environmental values and constraints.

3.4 Infrastructure Objectives

- 3.4.1 Enhance the standards of servicing and infrastructure around the Nanson and Nabawa townsites.
- 3.4.2 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use, rezoning, development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.
- 3.4.3 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 3 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals, supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

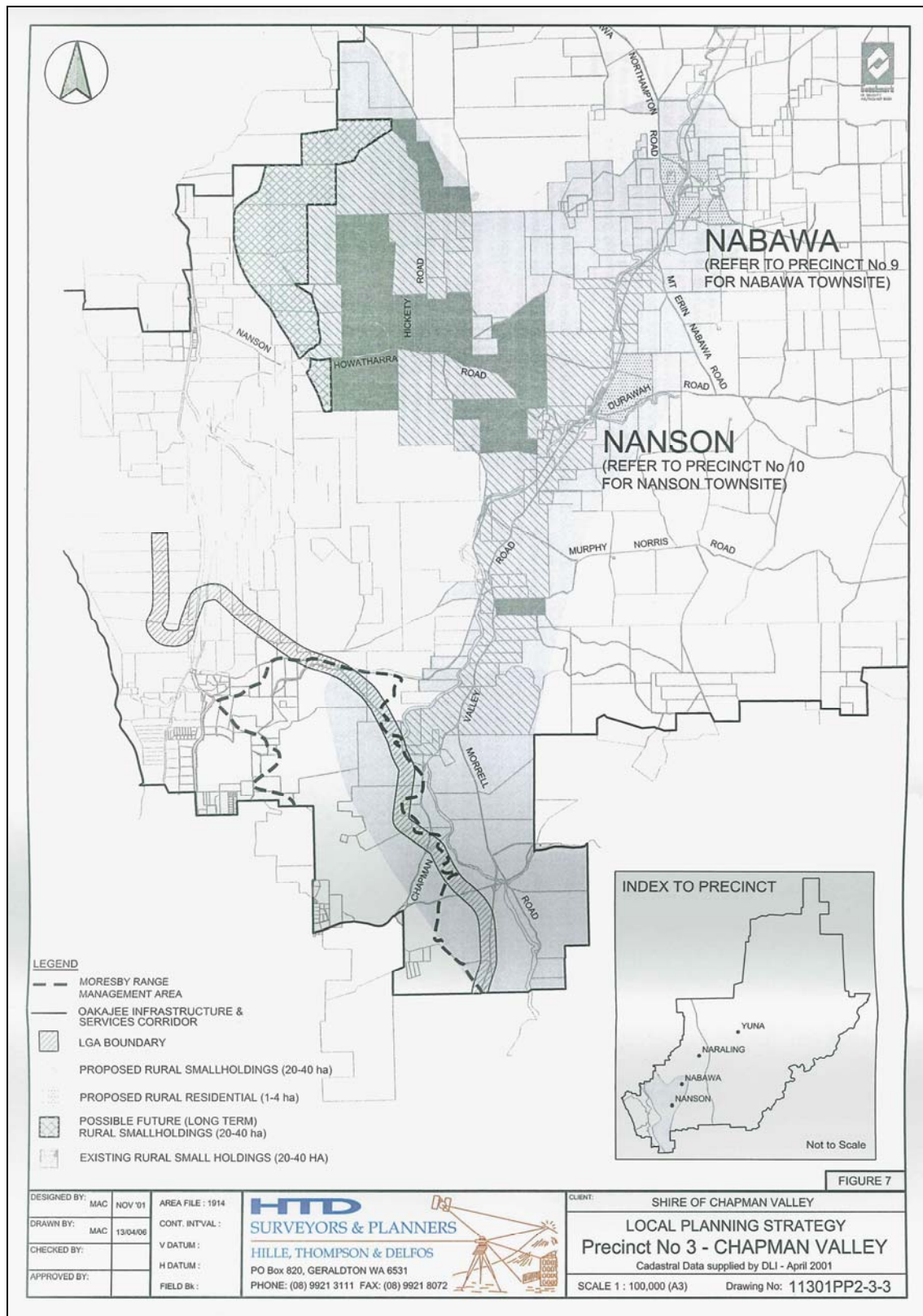
- Broad-acre Agriculture
- Intensive Agriculture
- General Industry (adjacent to the Nabawa Townsite)
- Rural Residential (1 – 4 hectares) with potable reticulated scheme water around the Nanson and Nabawa townsites
- Rural Smallholdings (20 – 40 hectares)
- Rural Industry
- Cottage Industry
- Tourism (low-key & incidental)
- Conservation
- Heritage Protection/Restoration
- Extractive Industry/Mining (except Nuclear Activity)

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For extensive agricultural uses including grazing and/or cropping where the lots proposed are not less than 250 hectares.
- b) In exceptional circumstances where lots proposed are less than 250 hectares and are suitable for extensive agricultural uses including grazing and/or cropping, subject to the compliance with the relevant provisions of WAPC Policy DC 3.4 — *Subdivision of Rural Land*.
- c) For intensive agricultural uses where there is confirmation of suitable soil suitability and adequate water supply for the intended use and the lots proposed are not less than 80 hectares.
- d) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- e) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger land holding (eg grain storage facility, abattoir, chicken/egg farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- f) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy 3.4.
- g) For lifestyle/hobby farm purposes as per Figure 3 where the subject land has been appropriately rezoned to "Rural Residential" (1 — 4 hectares) or "Rural Smallholdings" (20 - 40 hectares).
- h) Subdivision associated with an established project of tourist significance.

Figure 7 - PLANNING PRECINCT 3 - CHAPMAN VALLEY



Precinct 4 VISION

The Moresby Ranges are visually and environmentally preserved as a landscape feature, natural resource and a recreational and tourist resource for the general population, whilst recognising the rights of existing landowners.

Precinct 4 OVERVIEW

This Precinct embraces the majority of the Moresby Range system. The Moresby Range, being a remnant of the Victoria Plateau typified by mesa tops of lateritised Mesozoic sediments with steep breakaway slopes and steep sided valley slopes, is contained within Special Control Area No.2 of the Shire's draft Town Planning Scheme No.2. The purpose of Special Control Area 2, effectively the Precinct boundary, is to protect the Moresby Ranges and associated valleys from development and/or subdivision that will detrimentally affect the landscape values of the area, including preventing development that may lead to problems of erosion. This is due to elevation of the ranges being 200m dropping to below 100m in the valleys, resulting in a high level of natural and landscape values and exceptional ocean and rural landscape views.

Soils range from sandy laterite soils on the mesa tops, down through reddish brown to brown sandy or gravelly loam with reddish brown to yellowish brown loam duplexes on slopes, becoming more sandy on the valley floors. Some yellow sand plain remnants occur in the north with sandy laterite developed on mesa remnants in the south. The soils are frequently of lower quality on the steeper and upper slopes.

Water erosion of the steeper slopes has eroded topsoil and caused gullies in places. Rainfall averages 450 to over 500mm per annum, which can also result in significant runoff during storm events exacerbating erosion problems. Water resources throughout the Precinct are small and variable from fresh to brackish, and are normally restricted to the limited areas where contact with the underlying granite is exposed. Seepages develop at these points, with water quantity varying from small supplies only suitable for stock, to brackish groundwater that could be suitable for aquaculture, to larger fresh supplies possibly suitable for additional farm diversification into more intensive pursuits.

Much of the mesa tops and steep slopes remain uncleared. The remnant vegetation on the Moresby Ranges has high conservation values with a number of Rare and Priority plant species occurring. Most of the lower slopes are cleared, although the mesa tops and breakaway slopes generally remain covered by remnant vegetation which may or may not have been grazed. There is potential for environmental repair, protection and preservation of areas of significant vegetation and landform.

Land uses are commonly lifestyle and small farming activities with some broadacre cereal/sheep rotation on larger holdings which can be sustained. Limited farm diversification is occurring and this has the potential for low-key tourism linked to local industries, farm stays and landscape values in close proximity to established tourist routes. The most limiting factor is that the area has limited accessibility. The local road network consists of gravel formed and paved roads with the exception of Chapman Valley Road constructed to bitumen seal standard.

The Moresby Ranges have been identified in numerous planning studies as having high conservation value in addition some areas have agricultural, landscape, tourism and recreational values. The Precinct is subject to current planning associated with the Moresby Range Management Strategy.

Areas and sites of significance for fauna, flora or habitat conservation, located on private lands are not intended for acquisition by Council. Rather the general aim is in every way possible to encourage and make it easier for landowners to protect and manage the conservation values present. The value of the Moresby Ranges lies in its landscape qualities and remnant vegetation. The protection of these resources should override any pressure for development, however it is considered that the objectives of protection/management for conservation, and those of development do not necessarily have to be in conflict.

Precinct 4 OBJECTIVES

4.1 Community Objectives

- 4.1.1 Maintain the existing cadastral pattern, except where subdivision can be supported on environmental and conservation grounds in accordance with current Planning Policy.
- 4.1.2 Encourage the protection and restoration of places and buildings of heritage/historical significance.

4.2 Economic Objectives

- 4.2.1 Promote sustainable agricultural production in suitable areas with due regard of the high conservation values and visual amenity of the Moresby Ranges.
- 4.2.2 Encourage agricultural diversification in appropriate areas where there will be no detrimental impact to the surrounding land.
- 4.2.3 Promote low-key tourist related land use/development associated with the conservation values and scenic qualities of the Moresby Ranges. To be assessed in conjunction with related strategies and policies.

4.3 Environmental Objectives

- 4.3.1 Protect the scenic values and visual amenity of the Moresby Ranges while encouraging suitable tourist development.
- 4.3.2 Encourage revegetation and retention of existing vegetation in order to minimise soil erosion.
- 4.3.3 Protect and enhance existing catchments, botanical linkages and vegetation/wildlife corridors.
- 4.3.4 Promote sound land management practices in consideration of the high conservation values of the area.
- 4.3.5 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental and planning controls.
- 4.3.6 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.
- 4.3.7 Encourage conservation of biodiversity and farm sustainability.
- 4.3.8 Promote a detailed planning exercise be undertaken in partnership with all relevant stakeholders for Area A of the Moresby Ranges, depicted on the Precinct Maps as 'Special Investigation Area – Conservation and Development', to identify a range opportunities in consideration of current environmental values and constraints.

4A Infrastructure Objectives

- 4.4.1 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land

use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.

- 4.4.2 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 4 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

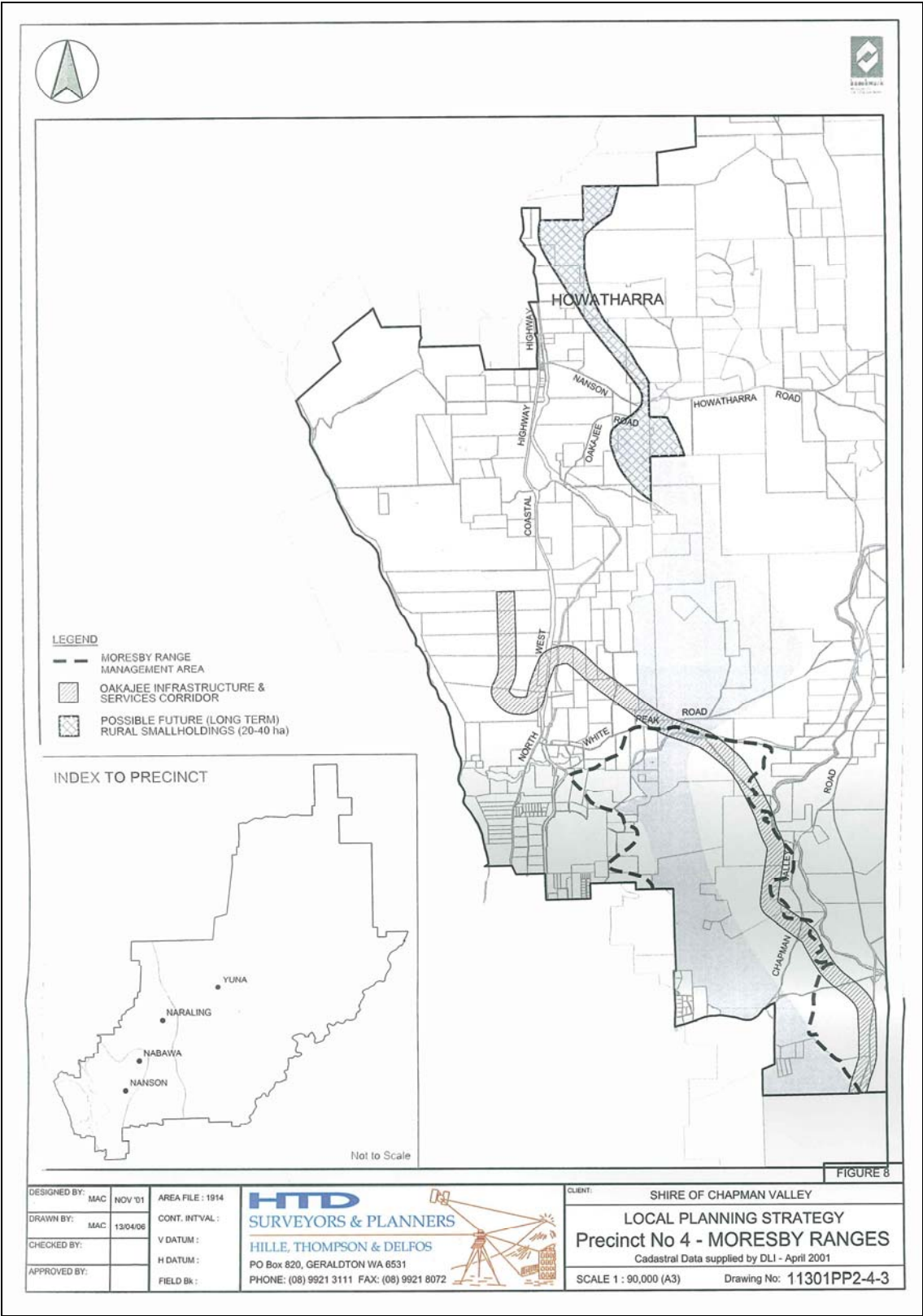
- Broadacre Agriculture
- Tourism (low-key, incidental & eco-tourism)
- Conservation
- Heritage Protection/Restoration
- Rural Smallholdings (20 – 40 hectares)

Subdivision/ Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- b) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger land holding (eg grain storage facility, abattoir, chicken/egg farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- c) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy DC 3.4 and the Moresby Ranges Management Strategy (once released).
- d) Subdivision associated with an established project of tourist significance.
- e) For lifestyle and hobby farm purposes as per Figure 3 where the subject land has been appropriately rezoned to "Rural Smallholding" (20 – 40 hectares).

Figure 8 - PLANNING PRECINCT 4 - MORESBY RANGES



7.10 PRECINCT NO 5– HOWATHARRA

Precinct 5 VISION

Low to medium-key tourist development and activities coexist with agricultural practices undertaken in the Precinct in accordance with rural, landscape and conservation functions.

Precinct 5 OVERVIEW

This Precinct covers the northern coastal part of the Shire not required for the Oakajee Industrial area. It extends north from Coronation Beach Road, east to the footslopes of the Moresby Ranges and west to the coastline. The Coastal system lies parallel to, but up to 4km inland from the existing coast and consists of limestone, yellow sands and younger white dunes close to the coast. The Precinct contains basic raw materials (such as limestone, silica sand and possibly lime sand).

Elevation drops from 100m down to the coast with soils consisting of sands. Siliceous yellow sands that become brown near limestone with white calcareous and siliceous sands on the coastal dunes. The high susceptibility to degradation of the coastal dunes limits their potential generally to conservation. The dunes are susceptible to erosion and can become mobile when soils are damaged

Rainfall is 450 to 475mm per annum with the steeper slopes being susceptible to water erosion. There is little or no surface drainage apart from the intermittent streamlines and the water table depths vary but commonly bores are 40 to 80m deep. Salinity levels also vary with the freshest water occurring near the foothills. Salt levels are commonly in excess of 1,500 mg/L, which constrains land use.

With the exception of the coastal edge the majority of the land is cleared and there is potential for environmental repair, protection and preservation of areas of significant vegetation and landform especially along the coast.

The inland yellow sands have generally been used for grazing and continued broadacre agriculture on larger holdings can be sustained. The Precinct has a high level of natural and landscape values which have the potential for low to medium-key tourism linked to local industries, farm stays and landscape values in close proximity to established tourist routes and the coast. There is limited accessibility along the base of the Moresby Ranges and major roads within the Precinct are Nanson Howatharra Road, Oakajee Road, North West Coastal Highway (constructed to bitumen seal standard) and Coronation Beach Road which is currently being upgraded to bitumen seal standard.

The Precinct contains the townsite of Howatharra to the north and there has been little development within the townsite for a number of years. There are infrastructure and servicing constraints associated with any development. With the possible development of the Oakajee Industrial area there may be a demand for growth of the Howatharra townsite.

The Precinct contains the popular tourist recreation site of Coronation Beach, which is subject to further planning and management initiatives by the Shire. There is potential for a tourism node at Coronation Beach provided development is sympathetically managed.

There is interest in establishing a wind farm within close proximity to the coast and this has recently been granted planning approval from the Shire.

Precinct 5 OBJECTIVES

5.1 Community Objectives

- 5.1.1 Support the coordinated development of a recreation and tourist node at Coronation Beach.
- 5.1.2 Encourage the protection and restoration of places and buildings of heritage/historical significance.

5.2 Economic Objectives

- 5.2.1 Promote sustainable agricultural production in suitable areas with due regard to the high conservation values and visual amenity of the western slopes of the Moresby Ranges.
- 5.2.2 Promote tourist related uses/development and encourage agricultural diversification in appropriate areas where there will be no detrimental impact to the surrounding land and existing uses.
- 5.2.3 Encourage the experimentation and growth of newer crops and animal varieties through farm diversification and support value adding to this diversified farm produce. This could include links to tourism in accordance with Council policy.
- 5.2.4 Encourage sustainable land use/development (ie wind farms) in appropriate areas where there will be no detrimental impact on the surrounding land uses or environmental values of the area.
- 5.2.5 Support the extraction of basic raw materials (except radioactive materials or minerals), pursuant to the provisions of the Mining Act 1978 and conducted in accordance with the 'Mining Code of Conduct' and 'Farmer Mining Guide'

5.3 Environmental Objectives

- 5.3.1 Protect the scenic values and visual amenity of the western portion of the Moresby Ranges.
- 5.3.2 Encourage revegetation and retention of existing vegetation in order to minimise soil erosion and to stabilise existing landforms along the coast and the western portion of the Moresby Ranges based on natural resource management measures.
- 5.3.3 Ensure that land use and development adjacent to and in proximity to coastal and river areas incorporate appropriate environmental protection measures.
- 5.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental controls.
- 5.3.5 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.
- 5.3.6 Encourage conservation of biodiversity and farm sustainability.

5.4 Infrastructure Objectives

- 5.4.1 Enhance the standards of servicing and infrastructure in and around the Howatharra townsite.
- 5.4.2 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.
- 5.4.3 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precincts 5 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

- Broad-acre Agriculture
- Intensive Agriculture
- Rural Industry
- Tourism (low to medium-key & eco-tourism)
- Conservation
- Heritage Protection/Restoration
- Extractive Industry/Mining (except Nuclear Activity)
- Rural Smallholdings (20 – 40 hectares)

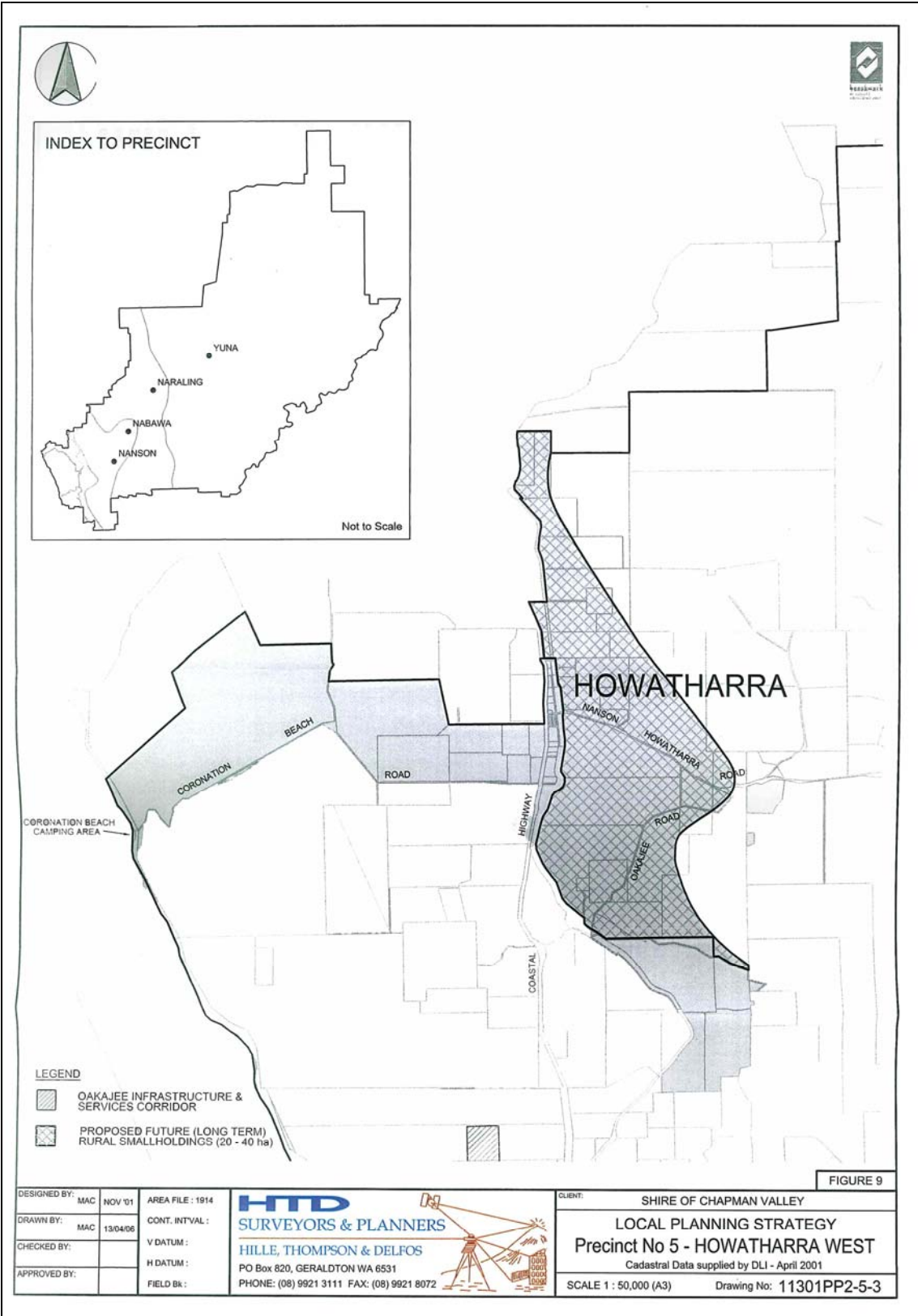
Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For extensive agricultural uses including grazing and/or cropping where the lots proposed are not less than 250 hectares.
- b) In exceptional circumstances where lots proposed are less than 250 hectares and are suitable for extensive agricultural uses including grazing and/or cropping, subject to the compliance with the relevant provisions of WAPC Policy DC 3.4 – *Subdivision of Rural Land*.
- c) For intensive agricultural uses where there is confirmation of suitable soil suitability and adequate water supply for the intended use and the lots proposed are not less than 80 hectares.
- d) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- e) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy DC 3.4.
- f) Subdivision associated with an established project of tourist significance.
- g) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger land holding (eg grain storage facility, abattoir, chicken/egg

- farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- h) For lifestyle and hobby farm purposes as per Figure 3 where the subject land has been appropriately rezoned to "Rural Smallholding" (20 — 40 hectares).

Figure 9 - PLANNING PRECINCT 65 - HOWATHARRA



7.11 PRECINCT NO 6 – OAKAJEE INDUSTRIAL INVESTIGATION AREA

Precinct 6 VISION

Large-scale regional and significant industry that is developed in the Precinct is protected by a buffer of compatible uses.

Precinct 6 OVERVIEW

This Precinct includes the Oakajee Industrial Investigation Area and associated buffer areas, formally identified in the draft Town Planning Scheme No.2 as Special Control Area No.1. The purpose of Special Control Area 1, effectively the Precinct boundary, is to:

- (a) Provide for appropriate environmental and planning controls pertaining to the development of an industrial estate housing industries of strategic economic value to the State and Region, and which require separation from sensitive land-uses; and
- (b) Provide for a buffer surrounding the industrial estate within which land-uses incompatible with the purpose of the industrial estate are not permitted.

Although the land within this Precinct is set aside, and accordingly is zoned, to accommodate an array heavy industrial uses and/or a deep water port, considerable uncertainty exists with regard to the type of industry/s that may be sited at Oakajee, the configuration of a deep water port and associated access corridors, and the specific timing of any development.

Nevertheless, the State Government is insistent this Precinct must be preserved for its intended purpose irrespective of the timing of development, and that all other uses, including coastal recreation, must be subservient to the long term integrity of the industrial estate, port site and buffer area. In this regard uses within the industrial, and in particular, the buffer area must carry a relatively high level of compatibility with industry as well as the specific zoning objectives.

To this end, the use as a future strategic industrial area, and associated buffer, precludes many other uses although continued broad-acre agriculture on larger land holdings and the strategic placement and stockpiling of raw or manufactured materials (other than hazardous materials) could be sustained subject to environmental and visual considerations. Further, there may be some opportunities for tourism associated with development (ie guided tours) that could be entertained.

Additionally, coastal management and access to specific recreational nodes, such as Buller River, will require serious consideration, extensive community consultation, and a co-ordinated and co-operative approach to addressing coastal issues prior to any significant development occurring within the Oakajee Industrial Estate.

Precinct 6 OBJECTIVES

6.1 Community Objectives

- 6.1.1 Encourage the protection and restoration of places and buildings of heritage/historical significance.
- 6.1.2 Ensure coastal management and access issues are adequately addressed, and key recreational nodes are provided and maintained in a co-ordinated and co-operative approach with key stakeholders.

6.2 Economic Objectives

- 6.2.1 Ensure the function of the Precinct as a future strategic industrial area is maintained through appropriate planning controls and measures.
- 6.2.2 Identify and protect suitable areas containing basic raw materials resources.
- 6.2.3 Facilitate employment and wealth generation through development associated with industry and a deep water port.
- 6.2.4 Support sustainable land use/development (ie wind farms) in the industrial buffer area where the use and objectives of the Industrial Estate will not be compromised and there will be no detrimental impact on the environmental values of the locality.
- 6.2.5 Support the extraction of basic raw materials (except radioactive materials or minerals), pursuant to the provisions of the Mining Act 1978 and conducted in accordance with the 'Mining Code of Conduct' and 'Farmer Mining Guide'

6.3 Environmental Objectives

- 6.3.1 Encourage re-vegetation and retention of existing vegetation in order to minimise soil erosion and to stabilise existing landforms along the coast and within the western foot slopes of the Moresby Ranges.
- 6.3.2 Protect and enhance the visual amenity in areas of visual prominence, again through appropriate planning controls and measures.
- 6.3.3 Ensure that land use and development adjacent to and in proximity to coastal and river areas incorporate appropriate environmental measures.
- 6.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are minimised through appropriate environmental controls.
- 6.3.5 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.

6.4 Infrastructure Objectives

- 6.4.1 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council & State Government resources.
- 6.4.2 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 6 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

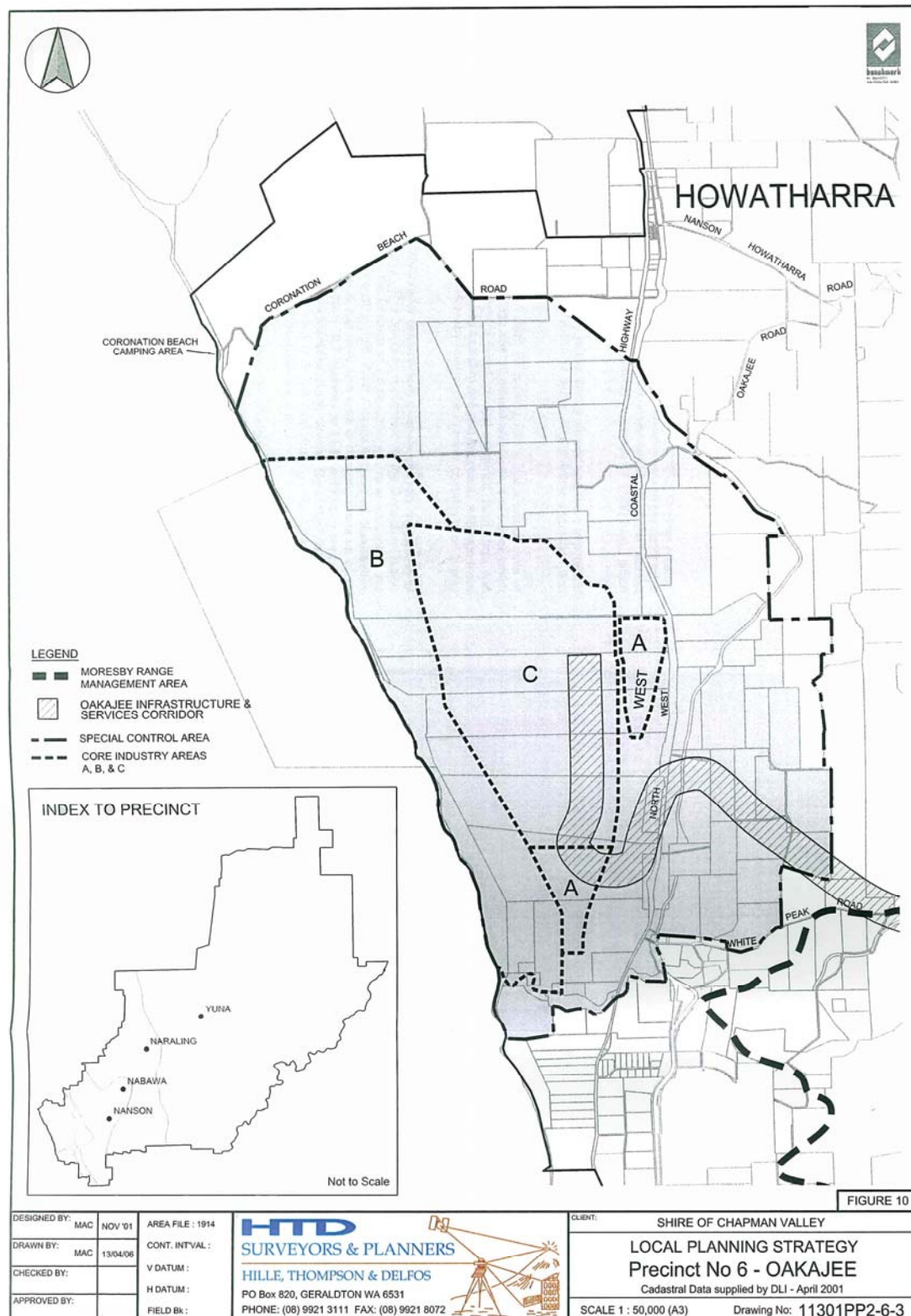
- Broad-acre Agriculture
- Intensive Agriculture
- Rural Industry
- Extractive Industry
- Heavy Industry within the industrial estate
- Conservation
- Heritage Protection/Restoration
- Extractive Industry/Mining (except Nuclear Activity)

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- b) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy DC 3.4.
- c) Subdivision for an industrial purpose in accordance with approved structure planning.

Figure 10 - PLANNING PRECINCT 6 - OAKAJEE INDUSTRIAL INVESTIGATION AREA



7.12 PRECINCT NO 7 – SOUTH WEST

Precinct 7 VISION

The planned expansion of the south west area of the Shire, whilst taking into consideration the plans and policies of other local and regional government authorities.

Precinct 7 OVERVIEW

This Precinct covers the southwestern portion of Shire that abuts the urban and rural residential fringes of other local government authorities. It contains limited basic raw materials (such as limestone and silica sand).

Rainfall is 450 to 475mm per annum with the steeper slopes being susceptible to water erosion. There is little or no surface drainage apart from the intermittent streamlines and the water table depths vary but commonly bores are 40 to 80m deep. Salinity levels also vary with the freshest water occurring near the foothills. Salt levels are commonly in excess of 1,500 mg/L, which constrains land use.

With the exception of the coastal edge the majority of the land is cleared and there is potential for environmental repair, protection and preservation of areas of significant vegetation and landform especially along the coast.

The inland yellow sands have generally been used for grazing with minor small pockets of horticulture in the south. The Precinct has a high level of natural and landscape values which have the potential for low to medium-key tourism linked to local industries, farm stays and landscape values in close proximity to established tourist routes and the coast. Although there is limited accessibility along the base of the Moresby Ranges the Precinct contains good quality gravel and mostly bitumen seal roads.

This Precinct is under the greatest pressure for development given its location and access to infrastructure, especially reticulated water. This has been recognised by the Geraldton Region Plan, which has identified the majority of the Precinct as future urban and rural residential. An exception to this is the area of land to the east of North West Coastal highway as discussed in Section 7.5 and shown by a darker shade in Figure 4. This area is currently made up of 11 'General Farming' zone lots ranging in size from 20.7 hectares to 11.5 hectares in area. The Shire in acknowledging this land has not been identified in the Greater Geraldton Structure Plan proposes this land be set aside and rezoned to 'Rural Residential' in the Shire's draft Town Planning Scheme No.2 for the reasons outline in Section 7.5.

With developments of this nature already existing there is potential for future employment opportunities as part of urban expansion and new planning philosophies.

This Precinct extends north to Buller River (a popular tourist recreation site), which is normally barred at the coast by beach sand, but seasonally flows following heavy rainfall. There is potential for a 'day use only' tourism node at the mouth of the Buller River provided development is sympathetically managed and access issues can be resolved.

Precinct 7 OBJECTIVES

7.1 Community Objectives

- 7.1.1 Support the planned expansion of urban with potable reticulated scheme water as identified on the Greater Geraldton Structure Plan 1999 with due regard to land capability/suitability, demand and servicing.
- 7.1.2 Encourage the rezoning and subdivision of land into Rural Smallholdings and Rural Residential lots in accordance with Figure 4 as a rounding off the greater northern Geraldton area.
- 7.1.3 Support the coordinated development of a day use site at the Buller River mouth for day use activities, as identified in the Batavia Coast Strategy.
- 7.1.4 Encourage the protection and restoration of places and buildings of heritage/historical significance.

7.2 Economic Objectives

- 7.2.1 Accommodate urban growth sympathetic to rural lifestyle based on appropriate structure planning.
- 7.2.2 Promote tourist related uses/development and encourage agricultural diversification in appropriate areas where there will be no detrimental impact to the surrounding land and existing uses.
- 7.2.3 Ensure that Urban and Rural Residential development are adequately serviced by existing services and infrastructure that includes connection to a potable scheme water supply.

7.3 Environmental Objectives

- 7.3.1 Encourage re-vegetation and retention of existing vegetation in order to minimise soil erosion and to stabilise existing landforms along the coast and the western portion of the Moresby Ranges.
- 7.3.2 Protect and enhance the visual amenity in areas of visual prominence.
- 7.3.3 Ensure that land use and development adjacent to and in proximity to coastal and river areas incorporate appropriate environmental protection based on natural resource management measures.
- 7.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental controls.
- 7.3.5 Ensure fire prevention measures are implemented and maintained in accordance with statutory requirements as a minimum.

7.4 Infrastructure Objectives

- 7.4.1 Enhance the standards of servicing and infrastructure commensurate with urban development standards (ie bitumen sealed roads, reticulated water, underground power etc).
- 7.4.2 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.
- 7.4.3 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 7 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

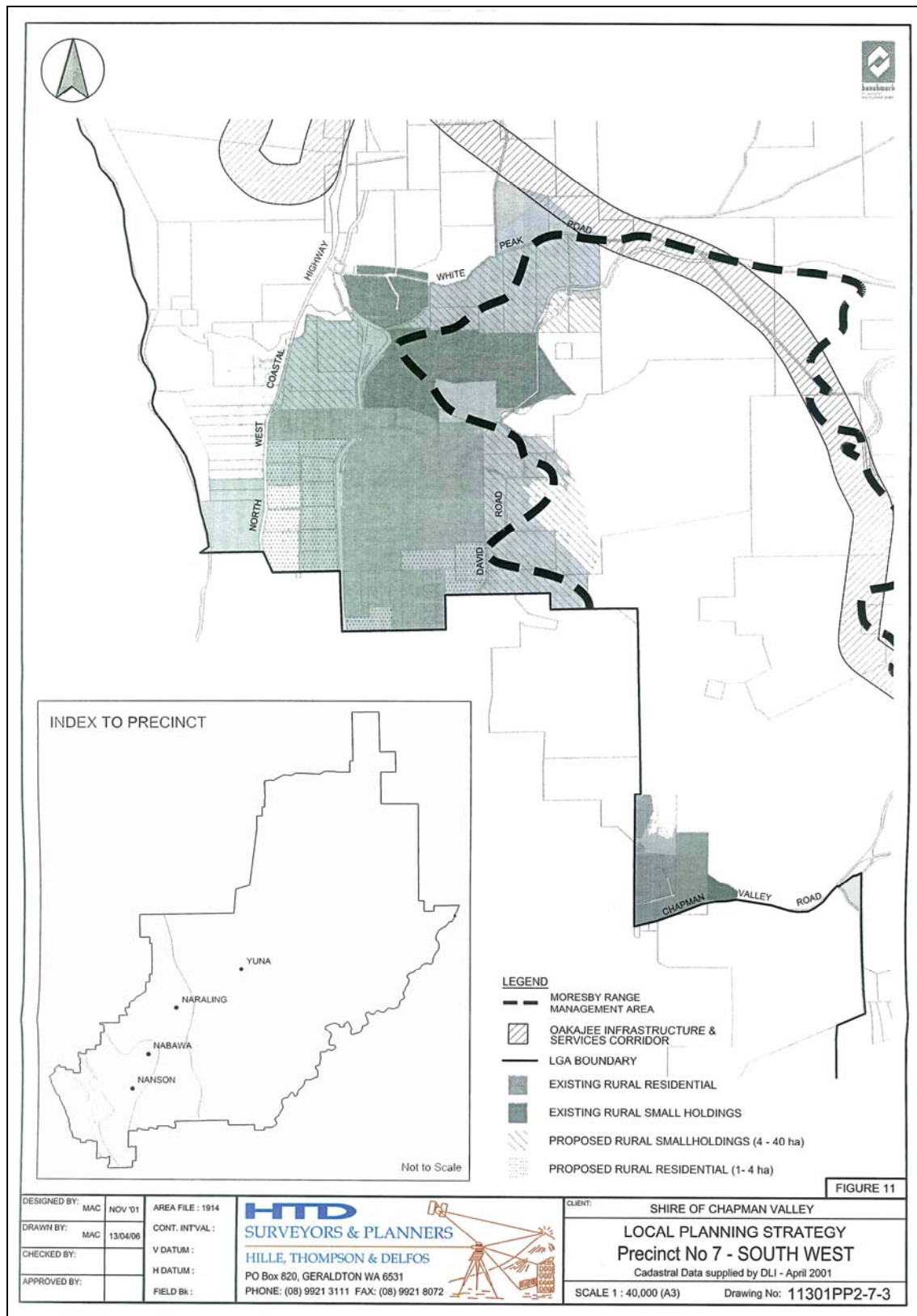
- Broad-acre Agriculture
- Intensive Agriculture
- Urban (including residential development west of NWCH)
- Rural Residential with potable reticulated scheme water
- Rural Smallholdings
- Tourism (Low — Medium Key)
- Conservation
- Heritage Protection/Restoration
- Commercial following structure planning and rezoning

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- b) Where an established and sustainable rural industry or agricultural pursuit is to be excised from the larger landholding (eg grain storage facility, abattoir, chicken/egg farm, winery, marron farm etc) PROVIDED impact/conflict issues with surrounding land use/development are addressed (eg buffers).
- c) Where it is demonstrated that there is a substantial, sustainable and beneficial gain in environmental repair, protection and preservation of land for conservation purposes in accordance with criteria for conservation lots outlined in WAPC Policy DC 3.4.
- d) For lifestyle/hobby farm purposes south of the Oakajee buffer where detailed structure planning has been prepared and the land has been suitably rezoned to "Rural) Smallholdings".
- e) For urban and rural residential purposes in accordance with the Greater Geraldton Structure Plan 1999 development subject to structure planning, a potable reticulated scheme water supply, detailed land capability/suitability assessment and appropriate rezoning.
- f) Subdivision associated with an established project of tourist significance.

Figure 11 - PLANNING PRECINCT 7 - SOUTH WEST



Precinct 8 VISION

The consolidation and enhancement of the Yuna townsite as a service centre for the broader agricultural area.

This Precinct covers the townsite of Yuna, some 80 kilometres north-east of Geraldton on the Chapman Valley Road in the heart of an established, yet marginal broad-acre farming area.

The town is fundamentally a service centre for the broader farming community which for many years has experienced decline in population, consistent with many other wheat belt towns of a similar nature. Presently, the town's population consists of 6 permanent residents, although an additional 12 – 14 itinerant CBH workers reside in the townsite during the busy period of harvest, being the beginning of October through to the end of December. Whilst only small in resident numbers, Yuna receives strong support from the surrounding rural community and in recent times has experienced a modest increase in passing tourist traffic during the wildflower season - July through to October.

Physically the town is elongated and immediately bordered by Crown Land (Reserve & UCL) to the south, with broad-acre farm land adjoining to the north, east and west. Yuna is sited on relatively level sand plain country within broader Planning Precinct No.1, and straddles Chapman Valley Road encompassing a small mix of uses either side of the road. The facilities located within the town consists of a primary school, general store/tavern/post office, church, community hall, CWA building, public library, tennis courts, and public swimming pool within the primary school grounds. Also centrally located within the townsite are CBH grain storage facilities, with additional storage bins located some 2 kilometres east of the town. The local landfill site is also located some two kilometres east of the town on the southern side of Chapman Valley Road opposite the CBH bins.

The current infrastructure and essential servicing in the townsite is viewed as inadequate with only basic telecommunications, over head power and reticulated water being provided. Water is presently sourced from a bore west of town or a dam within the townsite, both of which are supplemented by the carting of water during summer months. This however is expected to change with a permanent reticulated supply to be provided via an extension to the approved Yuna Farmlands Water Scheme scheduled to come on stream in April 2006. This in turn will allow for the improvement of communal facilities and town beautification works to be undertaken. Of the local road network, Chapman Valley Road is the only bitumen sealed road within the townsite, which carries significant heavy haulage traffic between the grain storage facilities and from the Hudson Resources mine located further north, with all other roads in the town constructed to a gravel paved standard.

With the expected improvement in water supply and increase in tourist traffic the local community with assistance from the Shire has also commenced preparation of a Townscape Plan for the Yuna townsite. This plan seeks to identify improvements and address current issues, including:

- Better traffic management between the existing CBH facilities,
- A range beautification works around the townsite and along Chapman Valley Road;
- The provision of additional facilities such as children's playground area, memorial wall, and lawned recreation area, a small caravan park/camping ground area, a suitable tourist information bay and associated rest area.

In consideration of the nature of Yuna a service centre, with declining residential growth, it is clear that no demand exists for additional residential subdivision or rural lifestyle opportunities for the foreseeable future, however, there is likely to be a need for appropriately zoned land to accommodate light industry uses. The other prominent change in zoning within the townsite is the proposed rezoning of the CBH grain silos to 'General Industry' zone. This is intended to provide a greater level of consistency between the zoning and current land-use which more a tuned to an industrial activity. A proposed change in zoning for a small number of lots on the northern side of Chapman Valley Road to 'Town Centre' zone has been brought about by the need for greater flexibility with use given the lack of demand for residential zoned land.

Precinct 8 OBJECTIVES

8.1 Community Objectives

- 8.1.1 Support the planned consolidation of the Yuna townsite as the principal 'Service Centre' for the broader farming community.
- 8.1.2 Provide enhanced facilities and community infrastructure within the town to meet community needs.
- 8.1.3 Encourage participation and input to achieve ownership and maintain strong relationships between key stakeholders, particularly the broader farming community and CBH.
- 8.1.4 Encourage the protection and restoration of places and buildings of heritage/historical significance.

8.2 Economic Objectives

- 8.2.1 Encourage tourist related uses/development within the townsite to generate an increase in tourist interest/traffic for the area.
- 8.2.2 Consolidate the existing townsite and address land capability (in particular saline affected areas) and servicing constraints.
- 8.2.3 Promote the development of the Yuna townsite as a 'Service Centre' in recognition of its importance to the broader farming community.
- 8.2.2 Improve serviceability, and provisions thereof, to the betterment of the surrounding broad-acre agricultural activities.

8.3 Environmental Objectives

- 8.3.1 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental controls and improved heavy haulage traffic management.
- 8.3.2 Ensure fire prevention measures are implemented and maintained in and around the townsite in accordance with statutory requirements.
- 8.3.3 Promote re-vegetation and townsite beautification once a permanent reticulated water supply is available.
- 8.3.4 Address emerging environmental issues, such as saline affected areas, through natural resource management techniques.

8.4 Infrastructure Objectives

- 8.4.1 Enhance the standards of servicing and infrastructure to adequately support the needs of townsite residents and the broader farming community (ie bitumen sealed roads, reticulated water, underground power, recreation, social, and educational facilities etc).
- 8.4.2 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 8 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

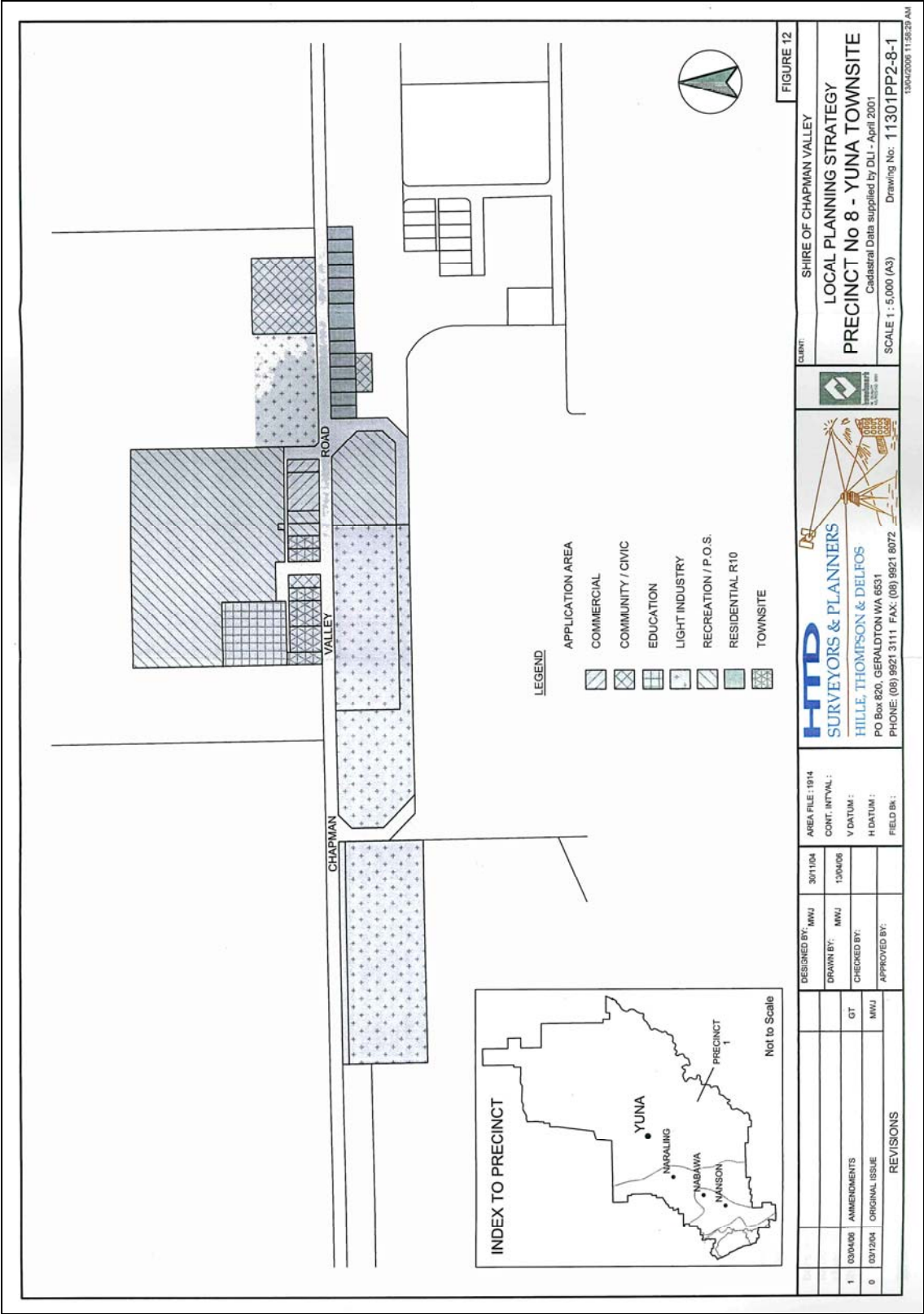
- Light Industry
- General Industry
- Residential (not subdivision)
- Tourism (Low Key)
- Heritage Protection/Restoration
- Commercial

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) To address anomalies where buildings have historically or inadvertently been sited across lot boundaries.
- b) For the amalgamation of two or more lots where clear benefit can be demonstrated without detriment to a neighbouring landowner or the environment.

Figure 12 - PLANNING PRECINCT 8 - YUNA



Precinct 9 VISION

The planned expansion of the Nabawa townsite as the administration centre for the Shire with the provision of light industry and rural residential opportunities.

Precinct 9 OVERVIEW

This Precinct involves the townsite of Nabawa, which is located approximately 33 kilometres north-east of Geraldton on the Chapman Valley Road and some 25 kilometres south-east of Northampton. The town is bounded by the Chapman River to the west, and completely surrounded by broad-acre farm land. The western side of the town is subject to occasional flooding during extremely wet winters as a result of build up of debris and silt that washes down stream from the upper catchment area. The last flood occurred in 1997 with the water crossing Chapman Valley Road. Within the townsite most of the remnant vegetation is located in the river reserve, with much of the vacant land remaining as undulating pasture farmed for broad-acre purposes.

Nabawa is considered the 'Hub' of the Shire. On the southern entry to town is the Shire administration offices and main works depot. The residential layout within the town consists of two distinct areas, the first being the original settlement based on quarter acre allotments fronting both sides of Chapman Valley Road, which adjoins the Shire buildings to the southern end of town. Adjoining to the east of the residential area, again on Chapman Valley Road, is the district community and sporting facilities including football/cricket oval, indoor basketball stadium, tennis courts and multi-purpose community hall. The second residential area is located to the east of the town where the Shire in 1996 proceeded to rezone this land to 'Residential R10' and subdivide an initial 17 lots in order to stimulate population and economic growth for the area with little success. To this day the balance of this land remains as one lot with the Council unlikely to subdivide further due to market demand, or lack thereof.

The Shire Council is however of the view that provision should be made for light industrial and commercial zoned land within the town to support further growth and employment opportunities. This in turn could generate demand for further subdivision of residential land in the future, although there appears to be a greater demand for large lot sizes within and immediately surrounding the Nabawa townsite providing for affordable rural lifestyle opportunities, as is evident from the level of enquiry received by the Shire and the lack of demand for medium density residential land. However, any future subdivision and/or development will need to consider the impact on the town water supply. In this regard the water supply is identified as Special Control Area No.3 detailed in draft Town Planning Scheme No.2 Maps. The purpose of Special Control Area No.3 is to protect the public drinking water supplies from contamination as a result of agricultural, commercial, industrial and/or residential use and development.

Presently there are only 25 houses established within the townsite, some of which are vacant, resulting in the population of Nabawa barely exceeding 60 people.

Servicing within the town includes telecommunications, power and a reticulated potable water supply. Approximately half of the local road network is constructed to a bitumen seal standard with the balance being gravel paved. The town water supply is sourced from an underground bore field located to the south of the town boundary, which is capable of servicing a further 20 to 30 dwellings additional to the existing development. Being the only source of potable water clear identification is required to protect the quality of this supply. Effluent disposal is achieved through conventional on-site methods, such as septic tank and leach drain systems.

As with the Yuna townsite there is no opportunity to establish an industrial use within or in close proximity to the Nabawa townsite, which in recent times has been viewed as an impediment to growth of the town and the Shire in general. This has prompted the identification of land both within and just outside the townsite boundary for the expressed purpose of providing for light and general industry over the next 10 – 15 years. Both parcels front Chapman Valley Road and have been strategically located in consideration minimal land-use conflict, convenience to services, good line of sight for access purposes and environmental soundness. Another parcel of land, also fronting the northern side of Chapman Valley Road within the townsite (opposite the existing sports grounds) has been identified for rezoning to Development' zone. This is to provide flexibility across a range of urban uses than generally do not generate land-use conflict with each other, yet may afford a greater opportunity for economic growth.

Precinct 9 OBJECTIVES

9.1 Community Objectives

- 9.1.1 Support the development and expansion of the Nabawa townsite as the administration centre for the Shire with extended emphasis on the provision of light industrial and rural residential land based on adequate services being available.
- 9.1.2 Continue to provide for the needs of the broader Chapman Valley community with a range of recreation, social, and civic facilities and services.
- 9.1.3 Encourage the protection and restoration of places and buildings of heritage/historical significance.

9.2 Economic Objectives

- 9.2.1 Accommodate urban growth with a focus on larger lots for affordable rural lifestyle opportunities.
- 9.2.2 Promote commercial, light industrial and tourist related uses/development to support economic growth.
- 9.2.3 Ensure urban and rural residential development can proceed through the provision of appropriate services and infrastructure.

9.3 Environmental Objectives

- 9.3.1 Encourage protection and retention of existing vegetation along the Chapman River in order to reduce soil erosion, achieve bank stabilization, and maintain adequate flow and water quality.
- 9.3.2 Implement townscape beautification initiatives in consideration of the existing rural landscape and visual amenity of the area.
- 9.3.3 Ensure that land use and development incorporates appropriate environmental protection measures, particularly in relation to light industry uses.
- 9.3.4 Ensure that land use conflicts (ie noise, dust, odour, spray drift, vermin etc) are avoided through appropriate environmental controls.
- 9.3.5 Ensure fire prevention measures are implemented and maintained.

9.4 Infrastructure Objectives

- 9.4.1 Enhance the standards of servicing and infrastructure commensurate with urban development standards (ie bitumen sealed roads, reticulated water, underground power etc).
- 9.4.2 Ensure adequate levels of servicing and infrastructure, as determined by Council, exist or will be provided when supporting proposals for a change in land use/development or subdivision, to avoid burden (financial or otherwise) on the Council's resources.

- 9.4.3 Further support the provision of multi-use sporting and recreational facilities to meet the needs of the broader Chapman Valley community.
- 9.4.3 Identify, support and facilitate the efficient and coordinated use of existing road linkages.

Precinct 9 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council MAY support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

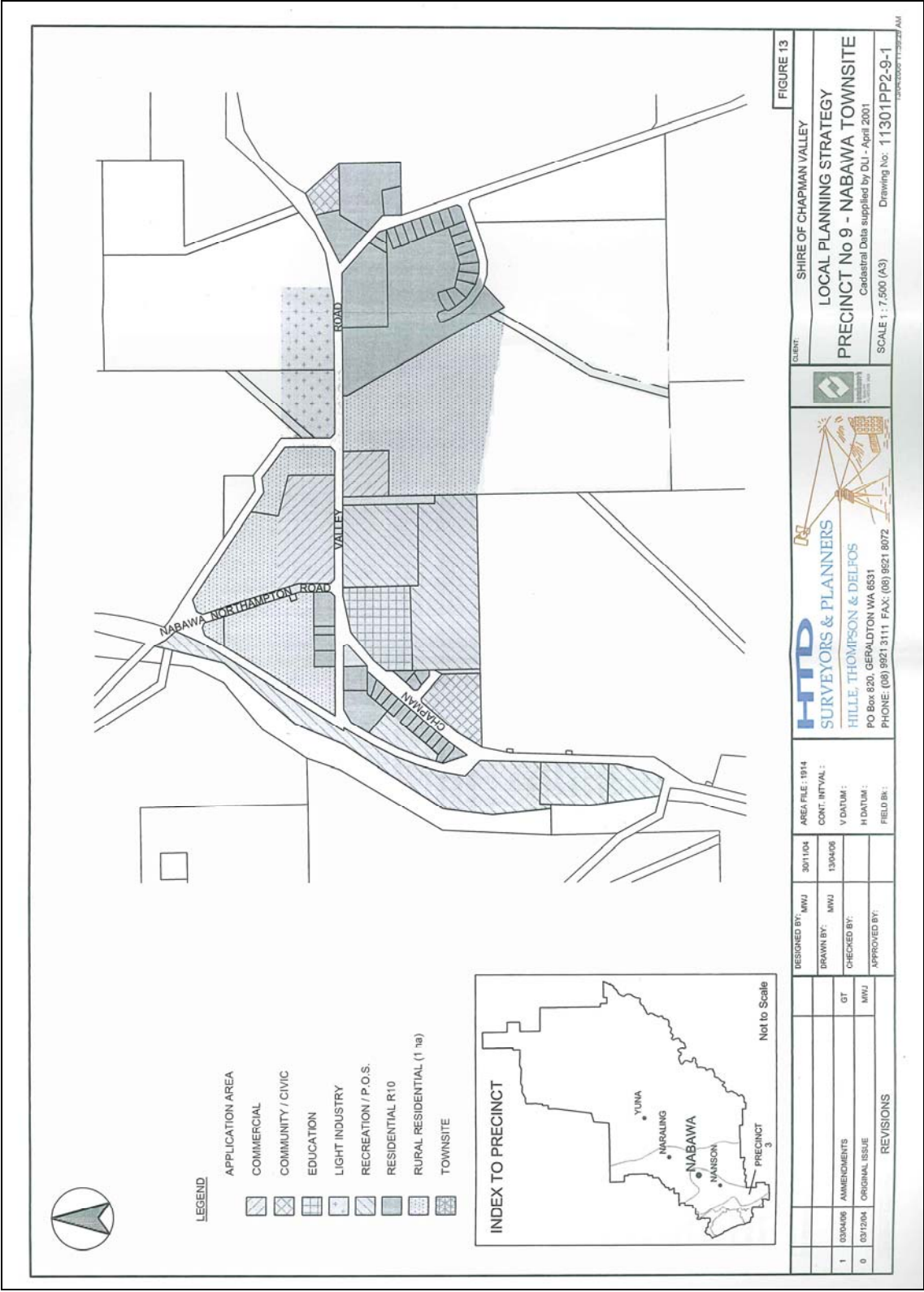
- Broad-acre Agriculture
- Light Industry
- Urban
- Rural Residential with potable reticulated scheme water
- Tourism (Low – Medium Key)
- River Conservation/Restoration
- Heritage Protection/Restoration
- Commercial

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) For the relocation of lot boundaries that achieves improvements in environmental conditions and/or land management practices without adversely affecting the existing use of the land.
- b) For urban, light industry and rural residential purposes subject to structure planning, a potable reticulated scheme water supply, detailed land capability/suitability assessment and appropriate rezoning.
- c) Subdivision associated with an established project of tourist significance.

Figure 13 - PLANNING PRECINCT 9 - NABAWA



7.15 PRECINCT NO 10 – NANSON

Precinct 10 VISION

Consolidation of the historic rural townsite whilst preserving the local history and heritage values and promoting a range of cottage industries and tourism opportunities.

Precinct 10 OVERVIEW

This Precinct consists of the small historic townsite of Nanson located on the eastern bank of the Chapman River and adjoining the Durawah Creek, some 25 kilometres north-east of Geraldton on the Chapman Valley Road.

Nanson is traditionally a railway siding dating back to the turn of the century servicing the Chapman Valley district in the early production of wheat and sheep in the area, and forming an important link for mining of lead and copper from the nearby Protheroe Mine. Being the first town in the Shire the Nanson townsite was gazetted in 1904 and became home to the Upper Chapman Roads Board in 1913. To this day Nanson, being a small village with a resident population of approximately 38 people in total, is based on the historic settlement pattern affording a relaxed lifestyle opportunity for the local residents.

Amongst many of the historic buildings and sites in Nanson of specific importance is the Old Roads Board Building built in 1913 and Old Railway Bridge constructed in 1910. The Roads Board Building, listed on the state heritage register, is regularly used as the public hall and meeting room by the local residents and Chapman Valley Historical Society. The Old Railway Bridge, currently being assessed for state heritage listing, is integral to the development of walk trails around the river bank leading to a proposed public picnic area, providing access across the Durawah Creek. Both structures are in need of restoration works to preserve their usefulness and historic significance. The Chapman Valley Museum is also sited with the townsite providing a comprehensive history of the Shire.

Physically the town is bordered by the Chapman River to the west and Chapman Valley Road to the east with a considerable amount of mature vegetation aligned along the banks of the River and within the southern portion of the gazetted townsite. Much of the land to the north, east and west adjoining the town is cleared pasture used for broadacre farming. Although the Durawah Creek traverses the townsite area, it effectively forms the southern boundary for the main residential precinct, with the land to the south of the creek and east of the Chapman River being predominantly vegetated. Located amongst this vegetated area are two church buildings that also carry historical significance for the area. The most prominent is 'Our Lady of Fatima' church designed by Monsignor John Hawes and built in 1938. Over the past 10 years further tree planting has been undertaken by the local residents, both within crown land parallel to Chapman Valley Road and along the eastern bank of the Chapman River to achieve greater stability, reduced erosion and scouring, enhanced water flow and improve wildlife habitat. The internal road network based on a conventional grid pattern is constructed to a compacted gravel standard.

Presently, the Nanson townsite is constrained by periodic flooding from the Chapman River and a lack of appropriate servicing and infrastructure through the absence of a reticulated potable water supply and effluent disposal system. The risk of fire is also an issue of concern for local residents with the townsite having been threatened by two substantial bush fires in the past 10 years. Rainfall for the town averages 400 to 450mm per annum as the primary source of water for domestic use.

Much of the land in the northern portion of the townsite falls within the existing settlement pattern of quarter acre allotments, but remains Unallocated Crown Land (UCL) due to the lack of servicing and close proximity to the River.

As a result of recent consultation with the local community through the preparation of a Townscape Plan it was determined that:

- the existing UCL to the north should not be developed for residential purposes but more so be amalgamated with the existing foreshore reserve for recreational purposes;
- no further subdivision should be entertained within the existing townsite due to current constraints, unique lifestyle and historical significance;
- consolidation and preservation of the townsite including historic attributes should be of the up most importance, with the view to providing rural residential and rural smallholding development around the townsite, subject to adequate servicing being achieved;
- tourism and cottage industry opportunities should be promoted to enhance the economic well being of the Nanson area.

To this end, the future planning for Nanson needs to be structured around conserving the heritage values (including broad design guidelines for future development), improved servicing and infrastructure requirements, restoring the river environs and promoting economic and social well being through the provision of cottage industry and low-key tourist opportunities, with the view to rezoning the residential land from 'General Farming' to 'Townsite' to achieve these outcomes.

Precinct 10 OBJECTIVES

10.1 Community Objectives

- 10.1.1 Provide additional recreation facilities to meet the needs of the local community.
- 10.1.2 Promote the protection and restoration of places and buildings of heritage/historical significance.
- 10.1.3 Introduce design guidelines based on existing architectural style, colours and materials.
- 10.1.4 Encourage interaction and participation amongst local residents to improve the social fabric of the Nanson community

10.2 Economic Objectives

- 10.2.1 Consolidate the existing residential area of the Nanson townsite with regard to land capability (in particular flooding) and servicing constraints.
- 10.2.2 Promote the development of the Nanson townsite as a 'Rural Hamlet' in recognition of its historical significance by encouraging the establishment of cottage industries and associated incidental tourism.

10.3 Environmental Objectives

- 10.3.1 Promote the restoration and rehabilitation works for long term health and preservation of the Chapman River.
- 10.3.2 Ensure land use conflicts (ie noise, dust, odour, vermin etc) are avoided through appropriate environmental controls.
- 10.3.3 Ensure fire prevention measures are implemented and maintained to reduce the risk of bush fire.
- 10.3.4 Promote recycling of household waste.

10.4 Infrastructure Objectives

- 10.4.1 Enhance the standards of servicing and infrastructure commensurate with urban development standards in consideration of the character of the Nanson townsite (ie bitumen sealed roads, reticulated water, underground power, reticulated sewerage, community standpipe etc).
- 10.4.2 Provide social infrastructure in order to achieve many of the objectives outlined above.

Precinct 10 STRATEGIES

Consideration will be given to the objectives of the precinct when determining land use and subdivision proposals.

Council **MAY** support other land uses and/or subdivision proposals not listed within this Precinct by reference to the Precinct objectives and the provisions in Councils Town Planning Scheme and policies. Council may refer the proposal to other relevant Authorities for comment. Guidelines for preparation and assessment of proposals are contained in Appendix D.

To enable Council to make informed decisions on certain land use and subdivision proposals supporting information detailing the capability and suitability of the land for the proposed use may be required including a survey of the site. Council should be consulted regarding these requirements prior to lodging such proposals.

Land Uses

The list below outlines the types of land uses considered appropriate within the Precinct subject to compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

- Tourism (Low Key)
- Cottage Industry
- River Conservation/Restoration
- Heritage Protection/Restoration
- Urban (but not subdivision)

Subdivision/Amalgamation

Council may support the subdivision/amalgamation of land within this Precinct, having due regard to the objectives of the Precinct, in the following circumstances:

- a) The correction of anomalies pertinent to buildings that have historically been sited across lot boundaries.
- b) The amalgamation of two or more lots where clear benefit can be demonstrated without detriment to a neighbouring landowner or the environment.

Figure 14 - PLANNING PRECINCT 10 - NANSON

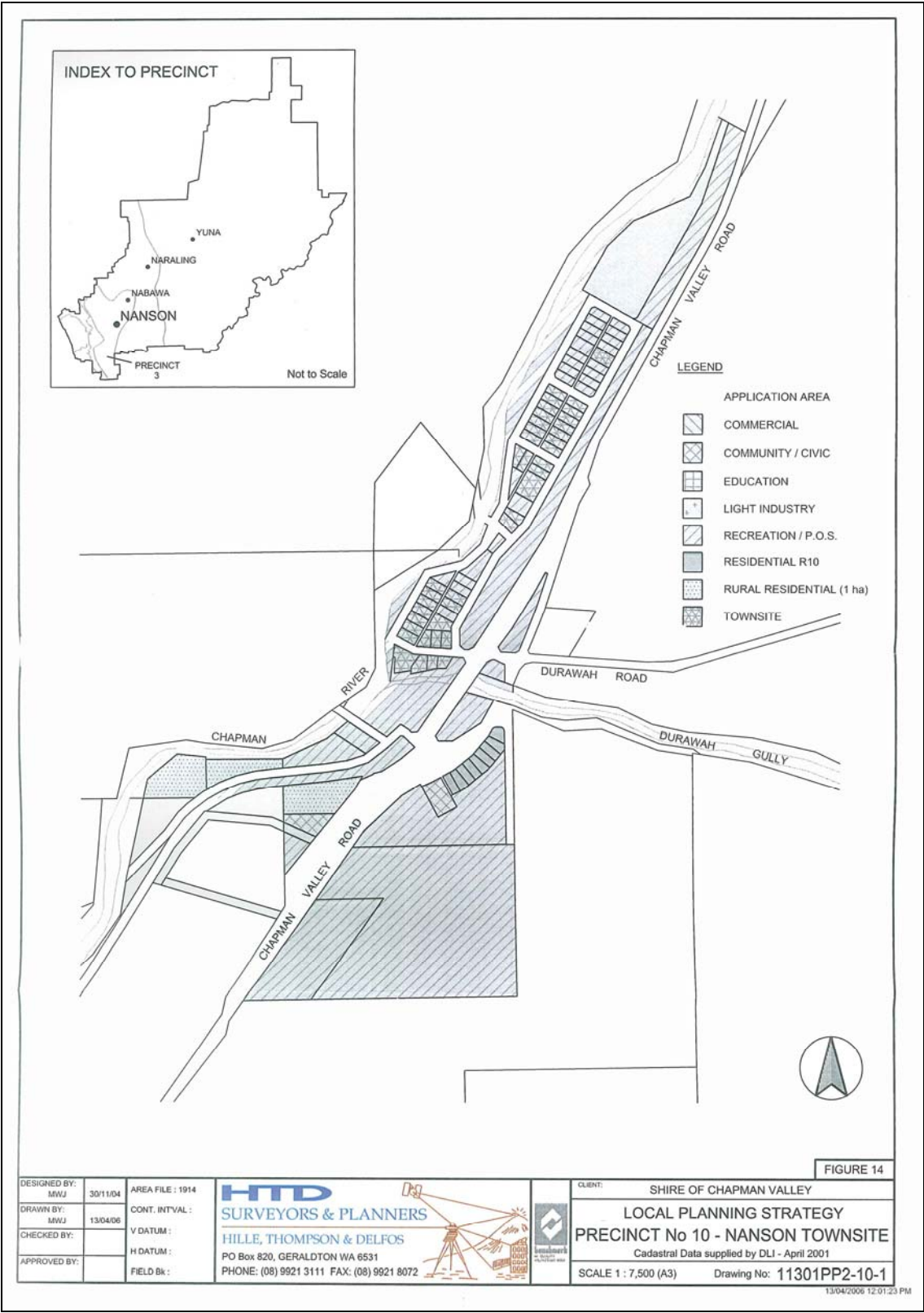
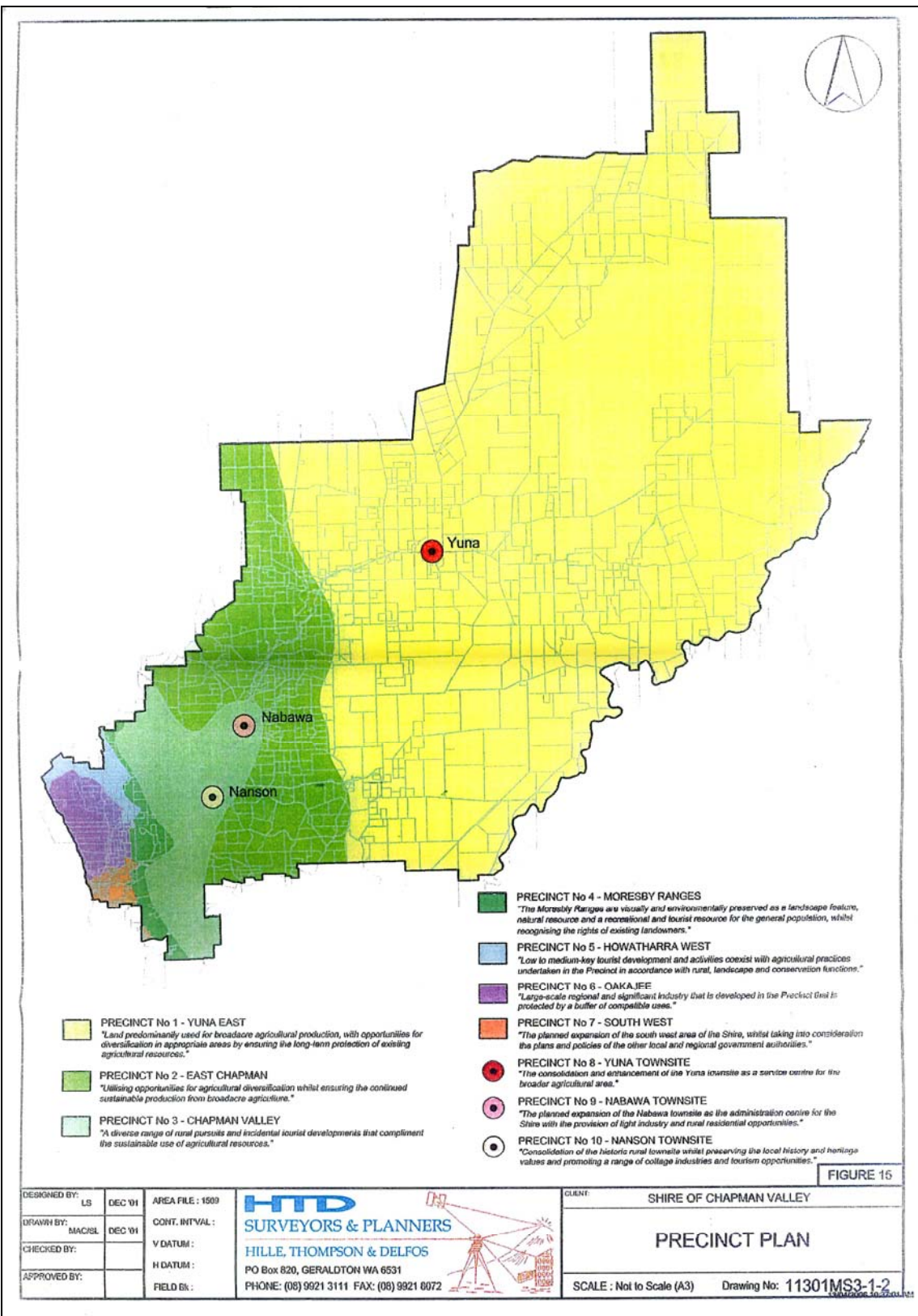


Figure 15 - PRECINCT PLAN



Section 8 IMPLEMENTATION, MONITORING AND REVIEW

The Local Planning Strategy is a strategic planning instrument to be used in conjunction with the statutory framework of the Town Planning Scheme to guide and assist the Council, State Government Agencies and community in understanding the strategic planning direction set and guide decisions to be made in relation land-use and development issues across the whole Shire (including rezoning and subdivision of land) over the next 10 - 15 years.

During this period it is inevitable that many land use issues and pressures affecting the Shire will change requiring regular review of the Strategy, associated planning policies and the municipal Town Planning Scheme. Such reviews should be undertaken at least every 5 years to coincide with review of the Town Planning Scheme, with local planning policies to be reviewed every 12 months. This will then ensure the strategic vision for the Shire is maintained or changed to meet the needs of the Chapman Valley community and provide consistency with neighboring local authorities and State Government planning policy.


Any review, amendment or modification of the Local Planning Strategy will follow a formal procedure in accordance with State Government legislation and policy. The process will include advertising, community consultation and final endorsement from the Council and WA Planning Commission.

ADOPTION

ADVERTISING

The Shire of Chapman Valley Local Planning Strategy certified for advertising on 1 November 2005.

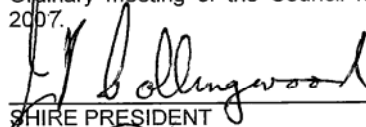
Signed for and on behalf of the Western Australian Planning Commission.



an officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)

-5 MAR 2008
Date _____

ADOPTED


The Shire of Chapman Valley hereby adopts the Local Planning Strategy, at the Ordinary meeting of the Council held on the NINETEENTH day of DECEMBER 2007.


SHIRE PRESIDENT


CHIEF EXECUTIVE OFFICER

ENDORSEMENT

Endorsed by the Western Australian Planning Commission on 20 November 2007.


an officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)

-5 MAR 2008
Date _____

GLOSSARY OF KEY TERMS

AGRICULTURE EXTENSIVE (BROADACRE)

Primarily premises that are used for the raising of stock or crops but does not include intensive agriculture or intensive animal husbandry.

Diversification is also a common rural activity which is conducted as a part of broadacre farming, as agriculture responds to the diverse and changing needs of the market place a greater mix of agricultural land uses are developing. Diversification is a strategy that aims at increasing and protecting net present income from climatic, environmental and commodity price changes. It involves the creation of mixed ventures rather than pursuing one single enterprise.

AGRICULTURE INTENSIVE

Premises used for trade or commercial purposes, including outbuildings and earthworks associated with the following:

- The production of grapes, vegetables, flowers, exotic or native plants, or fruits or nuts.
- The establishment and operation of plant and fruit nurseries.
- The development of land for irrigated fodder production and irrigated pasture (including turf farms).
- Aquaculture.

AMENITY

All those factors which combine to form the character of an area and include the present and likely future amenity.

AREA OF AGRICULTURAL SIGNIFICANCE

An identified area containing productive agricultural land that is suitable for the sustainable operation of a key or specialised agricultural use that is of significant economic or social value to the State or a particular region.

AQUACULTURE

Farming of fresh or saltwater fish, molluscs, crustaceans or plants, usually for commercial purpose.

CATCHMENT

The area of land which intercepts rainfall and contributes the collected water to surface water (stream, rivers, wetlands) or groundwater.

COMMERCIAL

Land and buildings primarily used for:

- The display and hire or sale of goods on a wholesale or retail basis; or
- For a person or group of people offering a professional service.

CONSERVATION

The careful management of the natural resources and environment so to avoid, or at the very least, minimise change.

DEGRADATION

The state or process of increase in salinity level in soil or water.

ECOTOURISM

Ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation. *Ecotourism Australia Association*.

HERITAGE PROTECTION/RESTORATION

The preservation and restoration of sites and buildings of historical significance to the local community.

HOBBY FARM

The partial or entire use of a small landholding for rural activities that provide an agricultural interest and/or additional income for the owner of the land.

INDUSTRY COTTAGE

An activity producing arts and crafts goods which does not fall within the definition of a "home occupation"

INDUSTRY EXTRACTIVE

Involves the extraction, quarrying or removal of sand, gravel, clay, hard rock, stone or similar material from the land and includes the treatment and storage of those materials, or the manufacture of products from those materials on, or adjacent to, the land from which the materials are extracted.

INDUSTRY HEAVY

Land and buildings used for:

- The handling, treating and processing of raw materials; or
- The production and manufacturing of materials and goods,

Which involves substantial capital investment and offers significant employment opportunities.

INDUSTRY LIGHT

An industry in which:

- The processes carried on, the machinery used, and the goods and commodities carried to and from the premises do not cause any injury to or adversely affect the amenity of the locality.
- The establishment or conduct of which does not, or will not, impose an undue load on any existing or proposed service for the supply or provision of essential services.

INDUSTRY RURAL

An industry handling, treating, processing or packing rural products, or a workshop servicing plant or equipment used for rural purposes.

INDUSTRY SERVICE

- An industry – light carried out from premises which may have a retail shop front and from which goods manufactured on the premises may be sold, or
- Premises having a retail shop front and used as a depot for receiving goods to be serviced.

LAND CAPABILITY

A documented assessment of land to determine its natural capability to sustain a specified land use without resulting in significant on-site or off-site degradation or damage to the land resources. Land resources defined broadly include geology, soils, landform, hydrology, vegetation and climate.

LAND SUITABILITY

The fitness of a given type of land for a specified land use having regard to land capability which includes physical and environmental factors together with social and economic factors.

PRECINCT

A definable area where particular planning policies, guidelines or standards apply.

REMNANT VEGETATION

The parts of natural vegetation still existing after major change to the environment.

RURAL PURSUIT

Land used for any of the purposes set out hereunder including buildings and earthworks associated with the following:

- The rearing or agistment of animals.
- The stabling, agistment or training of horses.
- The growing of trees, plants, shrubs, or flowers for replanting in domestic, commercial or industrial gardens.
- The sale of produce grown solely on the lot.

But does not include extensive or intensive agriculture.

RURAL RESIDENTIAL

Land used for residential purposes in a rural setting which provides for alternative residential lifestyle and which seeks to preserve the amenity of such areas and control land use impacts. The objective is to provide for planned and managed residential use in a rural setting. Lot sizes may range from 1 to 4 hectares.

RURAL SMALLHOLDINGS

Land used for minor rural pursuits, hobby farming, conservation and alternative residential lifestyle purposes where supplementary incomes from rural and ancillary activities may be achieved. This land use seeks to preserve and enhance landscape quality, environmental and conservation attributes. Lot sizes may range from 4 to 40 hectares.

TOURISM (LOW-KEY)

Means a range of tourist uses/development consistent with the rural ethos of the Shire, such as; farm-stay, bed & breakfast, chalets, experiential uses, tearoom/cafe etc.

TOURISM (MEDIUM-KEY)

A range of tourist uses/development consistent with the rural ethos of the Shire such as; caravan park, motel restaurant, conference centre etc.

TOURISM (INCIDENTAL)

Means a tourist use/development that is directly related to the predominant use of the land (eg cellar door sales).

URBAN

Land used for services the development of a village or town for the purpose of residential housing and associated services and facilities.

Appendix A GUIDELINES FOR PREPARATION AND ASSESSMENT OF PROPOSALS

The following guidelines are designed to assist proponents in the preparation of proposals, and the Council in the consideration of those proposals. They are intended to be 'check lists' for land use and/or subdivision proposals not listed within the Precinct concerned.

Not all proposals will need to be assessed to the same level depending on their nature and size, but for each proposal all aspects should at least be considered even if it is simply to say there is no or insignificant potential impact, or not applicable.

Council may refer the proposal to other relevant Authorities and will have due regard to the objectives of the Precinct and compliance with the provisions of the Town Planning Scheme and specific policies of the Council.

1 COMMUNITY

- 1.1 Will measures be required to protect/preserve natural and/or historic features?
- 1.2 Are there any heritage or potential aboriginal issues that may impact on the proposal?
- 1.3 Are there any significant man-made or topographical features that may enable departure from the recommended minimum lot sizes?
- 1.4 Have measures been taken to address visual impact/amenity?

2 ECONOMIC

- 2.1 Will the proposal inhibit the existing or likely future activities of adjoining properties?
- 2.2 Are there any sensitive or incompatible nearby land uses, and if so how is it proposed to address impact/conflict issues?
- 2.3 Does the proposal increase the need for buffers from existing nearby developments?
- 2.4 Does land capability/suitability assessment support the proposal?
- 2.5 What are the likely future requirements and expansion potential?
- 2.6 Will there be a benefit to the local economy in terms of employment, wealth, tourism etc?

3 ENVIRONMENTAL

- 3.1 Are measures needed to repair/rehabilitate disturbed and/or eroded areas?
- 3.2 What measures are to be taken to address fire management?
- 3.3 Is there any remnant vegetation that should be preserved or is revegetation required?
- 3.4 What are the impacts, in terms of light, noise, odour etc, of the proposal?
- 3.5 Will the proposal impact on productive agricultural land, important natural resources, or areas of environmental sensitivity?
- 3.6 Is the land at risk of land or water degradation with regards to flooding, soil erosion, salinity or any other form of environmental degradation?

4 INFRASTRUCTURE

- 4.1 Is there suitable access/proximity to services and infrastructure to accommodate the proposal (or have alternative arrangements been made for the upgrading of such)?
- 4.2 Is there a sustainable water supply to support the proposal?

**Appendix B CRITERIA FOR SUITABILITY OF LAND FOR "RURAL SMALLHOLDINGS"
AND "RURAL RESIDENTIAL"**

The following criteria should be used to determine the suitability of land to accommodate rural smallholdings and rural residential subdivision:

- Be accessible to urban services and employment opportunities;
- Be based on an assessment of the demand for, and availability of, road access, reticulated water (where required), electricity, telecommunications and basic community services;
- Be contiguous to similar development wherever possible and not result in unplanned and isolated developments throughout agricultural areas;
- Incorporate buffers to protect significant agricultural land;
- Avoid individual lot access on to highways and major roads;
- Avoid areas with prospects for mining or extraction of basic raw materials; and
- Avoid areas that are environmentally sensitive.
- Avoid significant agricultural land and incorporate appropriate buffers to protect significant land.
- Avoid land at risk of land or water degradation with regards to flooding, soil erosion, salinity or any other form of environmental degradation.
- Avoid impact on scenic landscape, conservation and heritage attributes.
- Avoid important natural resources, areas of high bush fire risk or environmental sensitivity.
- Be of fair to high land capability to sustain the proposed land use.
- Any required drainage works shall not have a detrimental impact on adjoining land.

Appendix C REGISTER OF HERITAGE SITES

(List extracted from the Shire of Chapman Valley Municipal Heritage Inventory)

SHIRE OF CHAPMAN VALLEY
PLACES WITH A HERITAGE LISTING

PLACE NO	PLACE NAME	ADDRESS	LISTING TYPE	DATE OF ENTRY ON THE REGISTER OF HERITAGE PLACES
473	Our Lady of Fatima Church (RC)	Geraldton-Yuna Rd Nanson	Classified by the National Trust	00/00/00
473	Our Lady of Fatima Church (RC)	Geraldton-Yuna Rd Nanson	Municipal Inventory	00/00/00
473	Our Lady of Fatima Church (RC)	Geraldton-Yuna Rd Nanson	Municipal Inventory	00/00/00
473	Our Lady of Fatima Church (RC)	Geraldton-Yuna Rd Nanson	HCWA Assesst Program	00/00/00
474	Road Board Office (fmr), Nanson	East Tce Nanson	Register of the National Estate	2/09/97
474	Road Board Office (fmr), Nanson	East Tce Nanson	Municipal Inventory	2/09/97
474	Road Board Office (fmr), Nanson	East Tce Nanson	Classified by the National Trust	2/09/97
475	The Coffee Pot and Waggrakine Well	Geraldton-Yuna Rd Waggrakine	HCWA Assesst Program	00/00/00
475	The Coffee Pot and Waggrakine Well	Geraldton-Yuna Rd Waggrakine	Municipal Inventory	00/00/00
476	Yuna CWA Hall	Geraldton-Yuna Rd Yuna	Municipal Inventory	00/00/00
477	Naraling Church	Geraldton-Yuna Rd Naraling	HCWA Assesst Program	00/00/00
477	Naraling Church	Geraldton-Yuna Rd Naraling	Municipal Inventory	00/00/00
3406	McDonald Homestead	Nanson		00/00/00
3407	Hanlons Staging Post (Ruins)	Geraldton-Yuna Rd, 1 mile E of Moresby Range Chapman Valley	HCWA Assesst (Below Threshold)	00/00/00
6352	Narra Tarra Homestead and Outbuildings	East Chapman Rd (fmr) Howatharra	Municipal Inventory	00/00/00
6352	Narra Tarra Homestead and Outbuildings	East Chapman Rd (fmr) Howatharra	HCWA Assesst Program	00/00/00
6353	Narra Tarra Cemetery	Off East Chapman Rd Howatharra	Municipal Inventory	00/00/00
6353	Narra Tarra Cemetery	Off East Chapman Rd Howatharra	HCWA Assesst Program	00/00/00
6354	White Peak Homestead	White Peak Road Howatharra	Municipal Inventory	00/00/00
6355	White Peak Quarry	North West Coastal Highway Howatharra	Municipal Inventory	00/00/00
6356	Lime Kiln - Brick Lined	Adjacent to Oakajee River Howatharra	Municipal Inventory	00/00/00
6356	Lime Kiln - Brick Lined	Adjacent to Oakajee River Howatharra	HCWA Assesst Program	00/00/00
6357	Lime Kiln - Stone Walled	Adjacent to Oakajee River Howatharra	Municipal Inventory	00/00/00
6357	Lime Kiln - Stone Walled	Adjacent to Oakajee River Howatharra	HCWA Assesst Program	00/00/00
6358	Chinaman House - Stone Ruins	Adjacent to Oakajee River Howatharra	Municipal Inventory	00/00/00

SHIRE OF CHAPMAN VALLEY
PLACES WITH A HERITAGE LISTING

6384	Chapman Valley Shire Offices	Geraldton-Yuna Road Nabawa	Municipal Inventory	00/00/00
6385	Chapman Valley Primary School	Geraldton-Yuna Road Nabawa	Municipal Inventory	00/00/00
6386	The Mining Arms Hotel	Northampton-Nabawa Rd Nabawa	Municipal Inventory	00/00/00
6386	The Mining Arms Hotel	Northampton-Nabawa Rd Nabawa	Statewide Hotel Survey	00/00/00
6386	The Mining Arms Hotel	Northampton-Nabawa Rd Nabawa	HCWA Assesst Program	00/00/00
6387	Residence - Stone & Iron	Nabawa-Northampton Road Nabawa	Municipal Inventory	00/00/00
6388	Head Teachers Residence	Indialla Road Nabawa	Municipal Inventory	00/00/00
6389	Chapman Valley Experimental Farm - Shearing Shed	Nabawa-Northampton Road Nabawa	Municipal Inventory	00/00/00
6390	Dindiloo School Site	McNaught/Mazzuchelli Roads Nabawa	Municipal Inventory	00/00/00
6391	Residence - Stone & Iron Ruins	McNaught/Mazzuchelli Roads Nolba	Municipal Inventory	00/00/00
6392	Addika - Stone Ruins of Barn	Nabawa-Northampton Road Nabawa	Municipal Inventory	00/00/00
6393	Naraling Streetscape	Geraldton-Yuna Road Naraling	Municipal Inventory	00/00/00
6394	Naraling Church Hall	Geraldton-Yuna Rd Naraling	HCWA Assesst Program	00/00/00
6394	Naraling Church Hall	Geraldton-Yuna Rd Naraling	Municipal Inventory	00/00/00
6395	Naraling Exchange/Post Office/Store	Geraldton-Yuna Rd Naraling	Municipal Inventory	00/00/00
6396	Naraling Post Office - Ruins	Geraldton-Yuna Road Naraling	Municipal Inventory	00/00/00
6397	Residence - Cement Block & Iron	Geraldton-Yuna Road Naraling	Municipal Inventory	00/00/00
6398	Nolba Post Office/Exchange & Outbuildings	Nolba Road Nolba	Municipal Inventory	00/00/00
6399	Plough and Harrow Hotel Site	Geraldton-Yuna Road, Rockwell Nolba	Municipal Inventory	00/00/00
6400	Rockwell Townsite	Geraldton-Yuna Road, Rockwell Nolba	Municipal Inventory	00/00/00
6401	Sunderland Farmhouse	Balla Whelarra Road, Yuna Nolba	Municipal Inventory	00/00/00
6402	Annan - Stone farmhouse ruins	Balla Whelarra Road, Yuna Nolba	Municipal Inventory	00/00/00
6403	Roskams Homestead	Balla Whelarra Road, Yuna Nolba	Municipal Inventory	00/00/00
6404	Whelarra Dam	Geraldton-Yuna Road, Yuna Nolba	Municipal Inventory	00/00/00

SHIRE OF CHAPMAN VALLEY
PLACES WITH A HERITAGE LISTING

6405	Yuna Old Townsite	Ballia Whelarra Road, Yuna Nolba	Municipal Inventory	00/00/00
6406	Yuna Townsite	Geraldton-Yuna Road Yuna	Municipal Inventory	00/00/00
6407	Yuna CBH Silos	Geraldton-Yuna Rd Yuna	Municipal Inventory	00/00/00
6408	Yuna School	Geraldton-Yuna Road Yuna	Municipal Inventory	00/00/00
6409	Yuna Memorial Hall	off the Geraldton-Yuna Rd Yuna	Municipal Inventory	00/00/00
6410	Yuna Tavern	Geraldton-Yuna Road Yuna	Municipal Inventory	00/00/00
6411	Our Lady Queen of Peace Roman Catholic Church	Geraldton-Yuna Road Yuna	Municipal Inventory	00/00/00
6412	St Bartholemew's Anglican Church	Geraldton-Yuna Road Nabawa	Municipal Inventory	00/00/00
7096	Nabawa Honour Roll	Shire Office Nabawa	Statewide War Memorial	00/00/00
15681	Yuna War Memorial, Yuna School grounds	Geraldton-Yuna Rd Yuna	Statewide War Memorial Survey	00/00/00

Appendix D REGISTER OF ABORIGINAL SITES
(Important Information from the Department of Indigenous Affairs)



Register of Aboriginal Sites

Page 1
RPGSR V1.57

Report run on: May 10, 2001 11:24 AM

Reference No: AU-RPGSR-24966#

Selection Criteria		Legend			
Query By Theme Theme Type: Sites Within a LGA Area Parameter: CHAPMAN VALLEY 57 Site Records Found		Status I Interim Register P Permanent Register S Stored Data	Access C Closed O Open V Vulnerable	Site Types C Ceremonial RP Repository / cache S Man-Made Structure T Modified Tree E Engraving ART Artefact HIST Historical	M Mythological BUR Skeletal material/Burial F Fish Trap P Painting Q Quarry MD Midden / Scatter G Grinding patches / grooves
		Restriction F Female Access Only M Male Access Only N No Gender Restrictions	Reliability R Reliable U Unreliable		

Map coordinates (Latitude / Easting & Longitude / Northing) are based on the GDA94 datum. Coordinates are indicative locations and may not necessarily represent the true centre of sites, especially if access to specific site information is tagged as "Closed" or "Vulnerable". The metric grid on Site Search Maps are for a specific MGA zone, and does not cater for MGA metric coordinates for a different MGA zone.

Site Id	Status	Access	Restriction	Latitude/ Easting	Longitude/ Northing	Reliability	Site Type	Site Name	Informants	Site No
436	P	O	N	28°29'57"S	114°36'2"E	U	P	WOODS FARM PAINTINGS		S02941
		MGA Zone	50	265139 mE	6845152 mN					
438	P	O	N	28°37'48"S	114°36'24"E	U	ART, MD	BULLER RIVER MOUTH- NORTH		S02943
		MGA Zone	50	266030 mE	6830656 mN					
439	P	O	N	28°32'49"S	114°36'5"E	U	ART	ROYCE FARM PADDOCK 01		S02944
		MGA Zone	50	265338 mE	6839851 mN					
440	P	O	N	28°32'46"S	114°36'22"E	U	Q, ART	ROYCE FARM QUARRY		S02945
		MGA Zone	50	265788 mE	6839951 mN					
441	P	O	N	28°32'21"S	114°37'27"E	U	ART	ROYCE FARM PADDOCK 02		S02946
		MGA Zone	50	267538 mE	6840751 mN					
443	P	O	N	28°37'54"S	114°37'35"E	U	ART	FORTH FARM COMPLEX		S02948
		MGA Zone	50	267956 mE	6830525 mN					
444	P	O	N	28°32'57"S	114°37'30"E	U	BUR, ART	ROYCE FARM BURIAL	Date: 15/06/1992 Primary: [**Contact details have been suppressed**]	S02949
		MGA Zone	50	267638 mE	6839651 mN					
445	P	O	N	28°39'1"S	114°37'55"E	U	ART	HEMSLEY FARM		S02950
		MGA Zone	50	268538 mE	6828451 mN					
4433	I	O	N	28°33'30"S	114°38'6"E	U	ART	OAKAJEE SPRINGS SCATTER		S02815
		MGA Zone	50	268638 mE	6838651 mN					



Register of Aboriginal Sites

Page 2
RPGSR V1.57

Report run on: May 10, 2001 11:24 AM

Reference No: AU-RPGSR-24966#

Site Id	Status	Access	Restriction	Latitude/ Easting	Longitude/ Northing	Reliability	Site Type	Site Name	Informants	Site No
4464	I	O	N	28°27'45"S	114°46'30"E	U	ART	NABAWA		S02780
		MGA Zone	50	282138 mE	6849551 mN					
4531	I	C	N	28°35'48"S	114°35'39"E	U	BUR, ART	BULLER RIVER NORTH.	Date: 27/03/1990 Primary: ["Contact details have been suppressed"] Or ["Contact details have been suppressed"] Or ["Contact details have been suppressed"]	S02592
		MGA Zone	50	264741 mE	6834332 mN					
4532	P	C	N	28°35'48"S	114°35'39"E	U	BUR	BULLER RIVER NORTH REBURIAL	Date: 27/03/1990 Primary: ["Contact details have been suppressed"] Or ["Contact details have been suppressed"] Or ["Contact details have been suppressed"]	S02593
		MGA Zone	50	264741 mE	6834332 mN					
4633	I	O	N	28°33'10"S	114°54'3"E	R	ART	DURAWAH SPRING		S02369
		MGA Zone	50	294638 mE	6839751 mN					
4893	I	O	N	28°32'23"S	114°35'44"E	R	ART	OAKAJEE RIVER 01		S01721
		MGA Zone	50	264738 mE	6840651 mN					
4894	I	O	N	28°32'33"S	114°36'2"E	R	ART	OAKAJEE RIVER 02		S01722
		MGA Zone	50	265238 mE	6840351 mN					
4895	I	O	N	28°34'19"S	114°35'5"E	R	ART	OAKAJEE RIVER 03		S01723
		MGA Zone	50	263758 mE	6837051 mN					
4896	I	O	N	28°34'16"S	114°35'19"E	R	ART	OAKAJEE RIVER 04		S01724
		MGA Zone	50	264138 mE	6837151 mN					
4897	I	O	N	28°34'16"S	114°35'30"E	R	ART	OAKAJEE RIVER 05		S01725
		MGA Zone	50	264438 mE	6837151 mN					
4898	I	O	N	28°34'11"S	114°35'30"E	R	ART	OAKAJEE RIVER 06		S01726
		MGA Zone	50	264438 mE	6837301 mN					
4899	I	O	N	28°34'4"S	114°35'34"E	R	ART	OAKAJEE RIVER 07		S01727
		MGA Zone	50	264538 mE	6837531 mN					
4900	I	O	N	28°34'13"S	114°35'49"E	R	ART	OAKAJEE RIVER 08		S01728
		MGA Zone	50	264938 mE	6837251 mN					
4901	I	O	N	28°34'7"S	114°35'56"E	R	ART	OAKAJEE RIVER 09		S01729
		MGA Zone	50	265138 mE	6837451 mN					



Register of Aboriginal Sites

Page 3
RPGSR V1.57

Report run on: May 10, 2001 11:24 AM

Reference No: AU-RPGSR-24966#

Site Id	Status	Access	Restriction	Latitude/ Easting	Longitude/ Northing	Reliability	Site Type	Site Name	Informants	Site No
4902	I	O	N	28°34'15"S	114°35'60"E	R	ART	OAKAJEE RIVER 10		S01730
		MGA Zone	50	265238 mE	6837201 mN					
4903	I	O	N	28°34'14"S	114°36'15"E	R	ART	OAKAJEE RIVER 11		S01731
		MGA Zone	50	265638 mE	6837251 mN					
4904	I	O	N	28°34'11"S	114°36'15"E	R	ART	OAKAJEE RIVER 12		S01732
		MGA Zone	50	265638 mE	6837351 mN					
4905	I	O	N	28°33'55"S	114°36'26"E	R	ART	OAKAJEE RIVER 13		S01733
		MGA Zone	50	265938 mE	6837851 mN					
4906	I	O	N	28°34'3"S	114°36'28"E	R	ART	OAKAJEE RIVER 14		S01734
		MGA Zone	50	265988 mE	6837591 mN					
4907	I	O	N	28°34'3"S	114°36'37"E	R	ART	OAKAJEE RIVER 15		S01735
		MGA Zone	50	266238 mE	6837601 mN					
4908	I	O	N	28°33'35"S	114°36'39"E	R	ART	OAKAJEE RIVER 16		S01736
		MGA Zone	50	266288 mE	6838451 mN					
4909	I	O	N	28°34'21"S	114°36'51"E	R	ART	OAKAJEE RIVER 17		S01737
		MGA Zone	50	266638 mE	6837051 mN					
5159	I	O	N	28°26'51"S	115°13'36"E	U		NOONDAMURRA POOL		S01496
		MGA Zone	50	326339 mE	6851951 mN					
5206	I	O	N	28°18'11"S	115°5'43"E	U	ART	NATGAS 115		S01254
		MGA Zone	50	313239 mE	6867751 mN					
5208	I	O	N	28°21'34"S	115°7'34"E	U	ART	NATGAS 117		S01256
		MGA Zone	50	316339 mE	6861551 mN					
5209	I	O	N	28°21'41"S	115°7'41"E	U	ART	NATGAS 118		S01257
		MGA Zone	50	316539 mE	6861351 mN					
5465	I	C	N	28°38'18"S	114°36'9"E	U	BUR	DRUMMONDS COVE		S00668
		MGA Zone	50	265628 mE	6829732 mN					
5478	I	O	N	28°9'16"S	115°7'17"E	U	ART	GAS PIPELINE 76		S00790
		MGA Zone	50	315539 mE	6884252 mN					



Register of Aboriginal Sites

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RPGSR V1.57

Report run on: May 10, 2001 11:24 AM

Reference No: AU-RPGSR-24966#

Site Id	Status	Access	Restriction	Latitude/ Easting	Longitude/ Northing	Reliability	Site Type	Site Name	Informants	Site No
5479	I	O	N	28°8'53"S	115°6'56"E	U	ART	GAS PIPELINE 77		S00791
		MGA Zone	50	314939 mE	6884952 mN					
5560	I	C	N	28°30'2"S	114°35'58"E	U	BUR	NORTHAMPTON		S00005
		MGA Zone	50	265042 mE	6844997 mN					
5562	I	O	N	28°38'55"S	114°37'59"E	U	E	GERALDTON		S00007
		MGA Zone	50	268638 mE	6828651 mN					
5663	P	O	N	28°25'1"S	115°6'46"E	U	BUR, ART	YUNA		S00485
		MGA Zone	50	315139 mE	6855152 mN					
15015	I	O	N	28°37'57"S	114°36'19"E	R	ART	SOUTH OAKAJEE 1		S03037
		MGA Zone	50	265908 mE	6830386 mN					
15016	P	O	N	28°35'48"S	114°35'31"E	R	ART	SOUTH OAKAJEE 2		S03038
		MGA Zone	50	264523 mE	6834321 mN					
15857	I	O	N	28°37'59"S	114°36'21"E	R		BULLER RIVER AREA	Date: 25/03/1999 Primary: [**Contact details have been suppressed**] And [**Contact details have been suppressed**]	
		MGA Zone	50	265939 mE	6830328 mN					
15858	P	O	N	28°37'21"S	114°36'18"E	R	BUR	BULLER RIVER	Date: 25/03/1999 Primary: [**Contact details have been suppressed**] And [**Contact details have been suppressed**]	
		MGA Zone	50	265842 mE	6831488 mN					
15859	P	O	N	28°33'12"S	114°34'17"E	R		CORONATION BEACH AREA	Date: 25/03/1999 Primary: [**Contact details have been suppressed**] And [**Contact details have been suppressed**]	
		MGA Zone	50	262410 mE	6839083 mN					
16121	P	O	N	28°36'0"S	114°36'30"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 08	Date: 15/09/1999 Primary: [**Contact details have been suppressed**]	
		MGA Zone	50	266115 mE	6833990 mN					
16122	P	O	N	28°35'57"S	114°36'29"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 09	Date: 15/09/1999 Primary: [**Contact details have been suppressed**]	
		MGA Zone	50	266095 mE	6834094 mN					
16124	P	O	N	28°35'53"S	114°36'56"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 11	Date: 15/09/1999 Primary: [**Contact details have been suppressed**]	
		MGA Zone	50	266829 mE	6834211 mN					
16125	P	O	N	28°36'10"S	114°36'42"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 12	Date: 15/09/1999 Primary: [**Contact details have been suppressed**]	
		MGA Zone	50	266467 mE	6833694 mN					



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RPGSR V1.57

Report run on: Mon 10. 2001 11:24 AM

Reference No: AU-RPGSR-24966#

Site Id	Status	Access	Restriction	Latitude/ Easting	Longitude/ Northing	Reliability	Site Type	Site Name	Informants	Site No
16126	P	O	N	28°36'11"S	114°37'3"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 13	Date: 15/09/1999 Primary: ["Contact details have been suppressed"]	
		MGA Zone	50	267015 mE	6833669 mN					
16130	P	O	N	28°36'4"S	114°36'5"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 17	Date: 15/09/1999 Primary: ["Contact details have been suppressed"]	
		MGA Zone	50	265459 mE	6833853 mN					
16131	P	O	N	28°36'4"S	114°36'7"E	R	ART	OAKAJEE INDUSTRIAL ESTATE 18	Date: 15/09/1999 Primary: ["Contact details have been suppressed"]	
		MGA Zone	50	265489 mE	6833853 mN					
16133	P	O	N	28°36'3"S	114°37'53"E	R	ART	OAKAJEE BUFFER ZONE 02	Date: 15/09/1999 Primary: ["Contact details have been suppressed"]	
		MGA Zone	50	268383 mE	6833936 mN					
16136	P	O	N	28°34'40"S	114°37'22"E	R	ART	OAKAJEE BUFFER ZONE 05		
		MGA Zone	50	267498 mE	6836491 mN					
16139	P	O	N	28°38'14"S	114°36'38"E	R	ART	OAKAJEE BUFFER ZONE 08		
		MGA Zone	50	266423 mE	6829061 mN					
16140	P	O	N	28°34'1"S	114°35'41"E	R	ART	DEEP WATER PORT 01		
		MGA Zone	50	264714 mE	6837616 mN					
18075	I	O	N	28°25'55"S	115°6'52"E	R	ART	Pipeline Corridor 86 (PC-86)	Date: 01/03/2001 Primary: ["Contact details have been suppressed"]	
		MGA Zone	50	315339 mE	6853504 mN					

WESTERN AUSTRALIA

Aboriginal Sites Register

Site Search Overview Map

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Sites may exist that are not yet entered into the Register system, or are on the Register and no longer exist. The Aboriginal Heritage Act 1972 protects all Aboriginal site in Western Australia whether they are known to the Aboriginal Affairs Dept / Aboriginal Cultural Material Committee or not. On-going consultation with relevant Aboriginal communities is required to identify any additional sites that may exist.

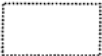
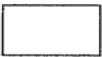
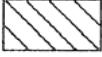
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Legend

-  Selection Area (User Polygon, LGA, Land Claim, ...)
-  Site Search Map
-  Selected Sites



ABORIGINAL AFFAIRS DEPARTMENT



Site Search Map

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7 0 7 14 21 28 35 Kilometers

