Preliminary Infrastructure Planning Study for Longreach Hospital

Volume 1 of 2

July 2010

Please note:

This report contains confidential information intended for the exclusive use of Queensland Health. No confidentiality is waived or lost by mistaken transmission. Information contained within this report is valid as at the date of issue only.
**About this study**

The Preliminary Infrastructure Planning Study for the Longreach Hospital was commissioned by Queensland Health through the Project Services Department of Public Works on 24 March 2010. This study, undertaken by Woodhead Pty Ltd, investigates future infrastructure for Longreach Hospital based on the options endorsed by Queensland Health’s Integrated Policy and Planning Executive Committee on 15 March 2010.

This Preliminary Infrastructure Planning Study undertaken from early April to mid June 2010 and was prepared by Woodhead Pty Ltd and sub-consultants under the direction of Queensland Health’s Planning and Coordination Branch. Every effort has been made by Woodhead Pty Ltd and sub-consultants to investigate and document in sufficient detail, and within the timeframe, the infrastructure issues, gaps and requirements by Queensland Health in relation to the Longreach Hospital’s future service provision.

**Assumptions**

Several assumptions were made during the preparation of this study. The study has been prepared on the basis of available information provided with regards to the condition of existing buildings, the level of service to be provided within the new development based on service profile information provided by Queensland Health, bed numbers based on information provided by Queensland Health and information provided in sub-consultant’s reports.
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1 Executive summary

This study has been prepared on behalf of Queensland Health to assess the condition of Charleville Hospital to provide the future service requirements through to 2021/22 and beyond. The study provides three options for the future development of Charleville Hospital Option 1 establishes the minimum requirements to allow the facilities to continue running in their current form (Status Quo), Option 2 provides a redevelopment option for the current site (Brownfield) and Option 3 proposes a major redevelopment or new build scheme (Greenfield).

For the preparation of this study assessments were made on the infrastructure of Charleville Hospital, including the condition of existing buildings, presence of asbestos, condition of building services, building life, compliance with relevant current codes and standards and site constraints. In identifying risks associated with infrastructure, mitigation strategies that may be in place at an operational level were not incorporated within the risk identification and assessment.

In preparing this study, inspections were carried out by structural and civil engineers, building surveyors, architects, hydraulic engineers, electronic engineers, mechanical engineers and electrical engineers. The assessments provided by the nominated professionals were used to assess the condition of the current facilities and develop the options for redevelopment.

The Longreach Hospital site currently consists of several existing buildings including the Main Hospital Building constructed circa 1943, general administration building and staff accommodation. Issues with the current site infrastructure include compliance with current standards, provisions for persons with a disability, asbestos and the condition of buildings.

Option 1: ‘Status Quo’ aims to address serious risks or infrastructure issues to allow the current services to continue to be provided. Option 1 will not resolve the level 3 service requirements nor achieve full compliance of the facility to current standards. Broadly Option 1 will provide one common services building which will ensure the health services remain operational. Other improvements include provision of new staff housing, upgrade of access points to provide appropriate disabled access, improvement to plant rooms and some improvement to fire protection. Option 1 is estimated to cost $11.555 million (Category 2 cost estimate at June 2010).

Option 2 seeks to further address the risks and delivery of health services whilst maximising use of existing infrastructure. The option incorporates a significant percentage of new build as well as refurbishment of the existing building. Option 2 retains a two level building with continued reliance on vertical circulation for access to operating theatres and wards. Improvements to staff accommodation are also included in Option 2. Option 2 is estimated to cost $72.035 million (Category 2 cost estimate at June 2010).

Option 3 allows for a predominantly new build facility but maintains the existing facility to house non clinical facilities such as administration and maintain the heritage of the site. The advantage of this option is minimum disruption to ongoing services during construction as well as achieving full compliance with current standards and potential for in-built flexibility within the design.

As with Options 1 and 2 improvement and additions to staff accommodation is included within this option. Option 3 is estimated to cost $80.650 million (Category 2 cost estimate at June 2010).
Options analysis has been incorporated within the study which reviews the benefits and risks of each option. It is important to note that Option 1 will not meet the level 3 services nor will it achieve full compliance to current standards. Option 2 and 3 provide viable solutions to address non compliance and future health services needs. Option 3 is considered to have less whole-of-life building costs given the significant proportion of new build, it will also present less risk in the long term due to the removal of reliance on vertical circulation.
2 Introduction

The Queensland Health Infrastructure Renewal Project for Rural and Remote Areas aims to define a rural model of health service delivery at specific service hubs across Queensland. Queensland Health have identified 12 rural health service hubs from where core health services will be provided - including service support to their associated health service partners (spokes).

Intrinsic to the Infrastructure Renewal Project for Rural and Remote Areas is the assessment of existing infrastructure, and identification of any subsequent infrastructure refurbishment or redevelopment requirements to adequately support identified rural health services.

The Preliminary Infrastructure Planning Study assesses the condition of the buildings and building services and the impacts on the delivery of health services for rural and remote Hospital sites in a number of ways including:

- Inefficient and outmoded layouts.
- Lack of compliance with current building codes, accreditation and safety standards.
- Workplace health and safety issues.
- Staff recruitment and retention issues as a result of the work environment and staff accommodation.
- Inability to provide the required health services due to the age and quality of facilities.

As part of the study, Options have been developed to address identified risks associated with the condition of the infrastructure and gaps in service delivery resulting from inadequate or non-existent infrastructure.

2.1 Objective

The key objectives of the study are to:

- Provide a brief review of the adequacy of existing infrastructure arrangements and facilities as it relates to the core service requirements.
- Identify Options for the future development of infrastructure to meet the core service requirements.
- Develop concept plans and Options costing including:
  - provision of a cost effective and efficient concept plan
  - identification of the capital cost impacts of the preferred Option.
- Undertake broad analysis across all Options to assist Queensland Health determine a preferred Option.
3 Study context

3.1 Locality

Longreach is a town located in central western Queensland west of Rockhampton. The town is named after the 'long reach' of the Thomson River on which it is situated and was gazetted a town in 1887. In 1892, the railway reached the town, and the population began to grow. It is the administrative centre of the Longreach Local Government Area.

Longreach Hospital falls within the Central West Queensland Health Service District of Queensland Health. There are twelve other hospitals in the District within proximity of Longreach, key facilities include: Winton at 179km to the north and approximately 2 hours drive, Aramac at 127km to the east approximately 1.5 hours drive, Blackall at 214km to the south approximately 2.5 hour drive and finally Boulia at 542km to the west approximately 6.5 hours drive.

3.2 Longreach Hospital site

The current Hospital site off the Landsborough Highway, at Jabiru Street, is occupied by the Main Hospital Building. The site is bounded by Rosella Street to the north, Jabiru Street to the east, Plover Street and the Landsborough Highway to the south and Cassowary Street to the west.

The Executive Administration and Population Health buildings are remotely located at Eagle Street, and Community Health Building is located at Duck Street in Longreach.

The current site is north east of the centre of town and other amenities and west of Longreach Airport. It has all necessary service connections. The site is large with a large amount of vacant space around the existing buildings allowing ample room for redevelopment. It is generally flat and on a slight rise above the adjacent suburbs. Most of the existing structures are located on the higher parts of the site. The site is sparsely vegetated and it is not anticipated that any tree clearing issues would exist for any redevelopment approach.

3.3 Longreach Hospital building history

The main Hospital building was constructed in 1939 as a base building by the US Army. It is of a typical Art Deco architecture in one of its simplest forms with minimal decorative motif at the front porch and entry portals at the entry driveway. It is a partly symmetrical building with an addition local flair of continuous external balcony at the upper level. Other major auxiliary buildings include the Old Nurses’ Quarters, the Allied Health Building and Staff Quarters.

3.4 Existing built environment

The Longreach Hospital is a collection of various buildings built in different periods however Building 1 as indicated on the plan below (refer Diagram 1) is considered the main Hospital facility with an array of various surrounding buildings.

In addition to the report below, a photographic survey of the buildings at Longreach Hospital is contained in Volume 2, Appendix 11 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.
The Longreach Hospital is broken into many departments over numerous buildings across the site. A general overview of each building is provided below:

### 3.4.1 Main Hospital site buildings

#### 1 - Main Hospital building

The Main Hospital Building is a two storey concrete framed building originally constructed in 1943. Extensions and alterations have been carried out to the building over time with the most recent works installing a lift in 2010.

#### 2 - Administration/Allied Health building

The Administration Building is a single storey concrete and steel framed structure with structural documentation dated May 1982. The building was constructed as part of the Hospital redevelopment in the early 1980's. The majority of administration and allied health functions are carried out from this building.
3 - Laundry
The laundry is a single storey structure with structural documentation dated June 1984. The building was constructed as part of the Hospital redevelopment in the early 1980’s.

4 - Ambulance entry
The ambulance entry is a single storey concrete and steel framed structure with documentation dated June 1982. The ambulance entry was constructed as part of the Hospital redevelopment in the early 1980’s.

5 - Stores
The stores are a series of steel framed sheds with some office and covered area extensions. The structures are estimated to be more than 30 years old but appear fit for purpose and serviceable for the medium term.

6 - Old Nurses' quarters
The old Nurses’ quarters consist of the original single storey elevated timber framed structure and a number of similar extensions. The original building is estimated to be over 60 years old with the most recent extension over 30 years old. Portions of the building are currently occupied but the staff accommodation section is unused.

7 - Expectant mother’s accommodation
The expectant mothers’ accommodation consists of an elevated, pre-fabricated single storey structure. The building was occupied at the time of inspection. The facility has only recently been provided and appears fit for purpose.

8 - Staff accommodation
The staff accommodation consists of five similar elevated, pre-fabricated single storey structures. The buildings are approximately 10 years old. The buildings were occupied at the time of inspection. The buildings appear fit for purpose and are in very good condition.

9 - Staff accommodation - duplex
The staff accommodation (duplex) consists of an elevated single storey structure. The building is approximately 15 years old and is the primary accommodation for on site staff.

10 - Morgue
The Morgue is a single storey masonry structure estimated to be 30 years old. The building space is inadequate to provide the current level of service.

13 - Disused tennis court
The disused tennis courts have been allocated to provide onsite accommodation for student nursing staff.

3.4.2 Off site buildings
Community and District Health buildings
The Community and District Health buildings are two elevated single storey structures linked by an enclosed section. The two elevated buildings are estimated to be around 50 years old and provide the main Community Health facilities for the Longreach Hospital site.
3.5 Longreach Hospital maintenance issues

Due to the age of the facilities maintenance is an ongoing issue for Longreach Hospital. Following consultation with the Central West Health Service District staff several maintenance issues were raised as detailed below.

3.5.1 Buildings

Maintenance issues are experienced in three buildings: the main building due to the presence of asbestos, Old Nurses’ Quarters and the Community Health Building in town due to the age and dilapidation of the buildings.

3.5.2 Landscape

While there are no major maintenance issues noted by the District Maintenance Officer, it is worth recording that water is a problem for maintaining the Hospital grounds in a manner reflecting the importance of the Hospital in community life.

3.5.3 Normal waste

Waste disposal is through the local town waste disposal system. No problems have come to light with this service.

3.5.4 Chemical waste

Related wastes disposal is covered by Regwaste. However this is usually cytotoxic waste only and requires the Hospital to self transport to Longreach on a needs basis. Storage required for one month period.

Clinical waste is transported in yellow 240 litre wheelie bins and deposited in a designated section of the landfill site, as Longreach is a scheduled area under the Environmental Protection Regulations 2008.

3.5.5 Insects

The major insect problem encountered in this part of inland Queensland is the locust swarm. As most of the buildings do not use natural ventilation, there are few insect screens fitted to doors and windows; windows and doors are rarely left open. Insect seals to external doors are recommended. It is expected that the new automatic entrance doors to the main building will cause problems with insects in the future. Termite damage has not been recorded on this site and the Hospital has a regular insect and vermin control program.

3.5.6 Asbestos

The presence of asbestos is confirmed in a wide range of materials and buildings at Longreach Hospital. Maintenance and larger scale work is hampered by asbestos containing materials.

A survey of the site to identify asbestos was undertaken in September 2006. In March 2007, areas identified as needing urgent remediation were treated by either removing the asbestos or sealing off the effected area.

3.6 Longreach Hospital development proposals

The Hospital is about to undergo an upgrade of air handling units and chillers. Extra smoke doors are to be installed.

The disused tennis courts are to be used as a site for two five bedroom medical student quarters.
3.7 Site constraints

The Hospital and future development of the existing fabric and infrastructure are constrained by the presence of large quantities of asbestos within the buildings internal fabric and the age of the current building.

3.7.1 Heritage issues

The Information Kit for the Infrastructure Renewal Project for Rural and Remote Projects prepared by Queensland Health notes no heritage listed facilities on the site. The main building being a pre-war 1946 building is subject to demolition control per Sustainable Planning Act 2009.

3.7.2 Town planning/designation issues

The Information Kit for the Infrastructure Renewal Project for Rural and Remote Projects prepared by Queensland Health notes that the site is not designated for community infrastructure. The implication is that any proposal for development or redevelopment on the site will require Town Planning advice to consider if a ‘Material Change of Use’ will occur as a result of proposed development – if so fees will be incurred. If a ‘Material Change of Use’ is deemed to occur, planning approval through the Local Authority may be required. Alternatively the site can be designated for Community Infrastructure or in the case of workers or staff accommodation can proceed through the public housing exemption process under Chapter 9 of the Sustainable Planning Act 2009.

3.8 Consultation

Consultation was undertaken with the nominated sub-consultants, the Central West Health Service District staff and Queensland Health. The consultation process was used to inform options for redevelopment set out in this study.
4 Health services

4.1 Design and functionality of Longreach Hospital

The current Longreach Hospital provides key healthcare services for the local rural community as set out below. The current facilities however suffer from compromised departmental functionality issues including:

- non compliant surgical facilities to *Australasian Health Facility Guidelines 2009* standards
- non compliant medical ward spaces to *Australasian Health Facility Guidelines 2009* standards including en-suites to patient rooms
- non compliant sanitary facilities to *Australian Standard 1428.1/2 for disabled building users*
- poor inter-departmental relationships and related staffing issues based on current Evidence based design research.

4.1.1 Current service provision of Longreach Hospital

The Hospital lies within the eastern half of Queensland Health’s Central West Health Service District and provides a range of services to the town of Longreach and its rural environs. The services currently provided by Longreach Hospital include:

**Hospital**

- Accident and Emergency
- Medical Services
- Surgical Services
- Midwifery Services
- Paediatric Services

**Allied Health Services**

- Podiatrist (two days a month)
- Physiotherapist, Social Worker
- Occupational Therapist
- Radiographer
- Speech Therapist
- Dietician
- Pharmacist
- Oral Health (visiting)

**Visiting Specialists**

- Psychiatrist - Adult Mental Health (1 week a month)
- Obstetrics and Gynaecologist (1 day a month)
- Ophthalmologist (1 week every 4 weeks)
- Ear, Nose and Throat Specialist (4 days every 4 months)
- Audiology (4 days every 4 months)
- Orthopaedics (4 days every 4 months)
- Paediatric Team including Paediatrician and Child Psychiatrist (4 days every 3 months)
- Dermatologist (3 days every 3 months)
- Dental Surgeon (2 days every 6 months)
- Radiologist (2 days every 6 months)
- Gastroenterologist (5 days every 2 months)
- Respiratory Physician (2 days every 3 months)
- Palliative Care Specialist (2 days every 3 months)

**Community Health Services**
- Mobile Women's Health Nurse
- Breast Care Nurse, Child Health
- School Based Youth Health Nurses
- Mental Health (including child and youth mental health)
- Alcohol, Tobacco and Other Drugs Service
- Healthy Lifestyle Coordinator
- Aged Care and Rehabilitation
- Chronic Disease Management Coordinator
- Cardiac Rehabilitation Coordinator

### 4.2 Future health services

Longreach Hospital is anticipated to provide a core level of services based on the *Clinical Services Capability Framework V3*. As a primary hub service, the facility will provide a minimum suite of Level 3 services in key areas including emergency, medical, surgical and birthing.

Bed requirements for Longreach Hospital are based on projected activity levels for services at the Hospital, and calculated using endorsed Queensland Health planning benchmarks. Longreach Hospital activity includes all residents accessing services at the Hospital.

Bed requirements were calculated using the Queensland Health recommended occupancy rates for rural facilities. Occupancy rates are a measure of bed utilization in relation to total bed capacity of a service, ward or Hospital. Bed projections identify the number of beds needed to support projected activity, and may not correspond with physical beds or the configuration of beds for different services as this is determined by the District see Table 1.

Note that the count of beds for admitted care in Table 1 does not include Category B Emergency Department treatment spaces, which are used either predominantly or exclusively for non-admitted patients. Emergency Department treatment spaces are shown in Table 2.
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The following table shows current and future bed requirements for Longreach Hospital. They are categorised according to definitions in the Review of the More Beds of Hospital Strategy including overnight beds (medical/surgical beds, maternity and paediatric beds), same day beds and bed alternatives. Two sets of projections are shown:

1. Queensland Health endorsed statewide bed planning occupancy rates.
2. Seventy percent occupancy rate, as rural hospitals usually manage inpatient services at lower annual occupancy rates than metropolitan services, to accommodate peaks in occupancy when specialists visit.

Table 1: Current and future bed requirements for Longreach Hospital (bed projections)

<table>
<thead>
<tr>
<th>Item</th>
<th>Current</th>
<th>Projection 1: Endorsed Occupancy Rate</th>
<th>Projection 2: 70% Occupancy Rate</th>
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<td>Category A: Beds</td>
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<td>Rate</td>
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<tr>
<td><strong>Overnight Beds</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- medical and surgical (incl. palliative)</td>
<td>85%</td>
<td>6.7</td>
<td>6.8</td>
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<tr>
<td>- paediatric</td>
<td>75%</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>- maternity</td>
<td>75%</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>- mental health - acute</td>
<td>75%</td>
<td>0.8</td>
<td>0.8</td>
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<tr>
<td>- sub- and non-acute (GEM) (in medical beds)</td>
<td>90%</td>
<td>0.7</td>
<td>0.7</td>
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<tr>
<td>- Emergency Department short stay ICU/ICU/HDU</td>
<td>- N/A</td>
<td>- N/A</td>
<td>- N/A</td>
</tr>
<tr>
<td>- Non-Emergency ICU/ICU/HDU</td>
<td>- N/A</td>
<td>- N/A</td>
<td>- N/A</td>
</tr>
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<td><strong>Total overnight beds</strong></td>
<td>31.0</td>
<td>9.8</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>Total multi-purpose beds</strong></td>
<td>9.8</td>
<td>9.9</td>
<td>10.2</td>
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<td><strong>A2. Same Day Beds</strong></td>
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<tr>
<td>- medical (including obstetrics, paediatrics and oncology / chemotherapy)</td>
<td>4.8</td>
<td>5.0</td>
<td>5.9</td>
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<tr>
<td>- surgical (including obstetrics and paediatrics surgery)</td>
<td>5.9</td>
<td>6.4</td>
<td>7.5</td>
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<tr>
<td>- mental health</td>
<td>- N/A</td>
<td>- N/A</td>
<td>- N/A</td>
</tr>
<tr>
<td>- sub- and non-acute</td>
<td>- N/A</td>
<td>- N/A</td>
<td>- N/A</td>
</tr>
<tr>
<td><strong>Total same day beds</strong></td>
<td>10.7</td>
<td>11.4</td>
<td>12.1</td>
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<td><strong>A3. Bed Alternatives</strong></td>
<td></td>
<td></td>
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<tr>
<td>- Stage 2 recovery bays (chairs)</td>
<td>8.8</td>
<td>No change</td>
<td>No change</td>
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<tr>
<td>- Antenatal Day Assessment Unit chairs</td>
<td>0 (currently use maternity beds for day assessment - assume level of initial, does not warrant antenatal assessment chairs)</td>
<td>No change</td>
<td>No change</td>
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<td>- Chemotherapy chairs / trolleys (data will show levels of activity for chemo, but District needs to inform numbers of chairs required according to numbers of chemo cases scheduled for visiting oncologist)</td>
<td>0 chairs (no visiting oncologist)</td>
<td>No change</td>
<td>No change</td>
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<tr>
<td>- Renal Dialysis chairs / trolleys (self care) (renal dialysis benchmarks currently being finalised TBA).</td>
<td>0 (currently 0 activity)</td>
<td>No change</td>
<td>No change</td>
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<tr>
<td>- Emergency Department chairs / trolleys (For admitted patients that require a brief period of observation. Not counted in overnight beds and not considered as short stay beds)</td>
<td>Part of ED treatment space numbers – refer category B below.</td>
<td>Part of ED treatment space numbers – see category B below.</td>
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<td><strong>Total bed alternatives</strong></td>
<td>8.0</td>
<td>8.0</td>
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<td><strong>Totals for Category A</strong></td>
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<td>- A1 Overnight beds</td>
<td>31.0</td>
<td>9.8</td>
<td>9.9</td>
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<tr>
<td>- A2 Same day beds</td>
<td>10.7</td>
<td>11.4</td>
<td>13.1</td>
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<tr>
<td>- A3 Bed alternatives</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
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<tr>
<td><strong>Total beds</strong></td>
<td>49.7</td>
<td>29.2</td>
<td>31.8</td>
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Source: Queensland Health
Table 1: Current and future bed requirements for Longreach Hospital (bed projections)

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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency bays (observation areas) for Triage Categories 1–3</td>
<td>1 resuscitation cubicle with two trolley spaces for Triage Category 1–3</td>
<td>1 resuscitation cubicle with two trolley spaces for Triage Category 1</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Consultation rooms for Triage Categories 4–6 (excludes treatment, plaster and eye rooms)</td>
<td>3 consultation rooms used for both ED and Outpatients</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Total emergency treatment spaces</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Category C: Operating/Intervention Rooms

<table>
<thead>
<tr>
<th>Item</th>
<th>Current number</th>
<th>2011/12</th>
<th>2016/17</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Imaging</td>
<td>1 x-ray room</td>
<td>1 ultrasound room if currently none</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Operating Theatre – major (1100 overnight surgical separations per theatre)</td>
<td>1 major theatre</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Operating Theatre – minor (1900 same day surgical separations per theatre)</td>
<td>0</td>
<td>If minor surgical needs are expected to increase, or if District believes that unmet needs could be met by engagement of extra surgeons, then a minor Operating Theatre may be required</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Stage 1 recovery (less than 4 theatres)</td>
<td>1 recovery bays</td>
<td>2 recovery bays</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Requires 2 recovery bays per Operating Theatre</td>
<td>No change</td>
<td>No change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment procedure rooms/delivery suites (250 births per year &lt; 300 separations) + antenatal consultation room</td>
<td>1 delivery suite</td>
<td>2 delivery suites (extra delivery suite can be used as antenatal consultation room when not in use)</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Maternity / women’s health / gynaecology consultation rooms + antenatal consultation room</td>
<td>TBD by District</td>
<td>2 consultation rooms</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Well Baby nursery cots (1 nursery cot per 3 obstetric beds)</td>
<td>2 cot spaces + 1 resuscitation bay/cot for back transfers/low-risk qualified babies</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

Category D: Consultation/Treatment/Procedure Rooms

<table>
<thead>
<tr>
<th>Item</th>
<th>Current number</th>
<th>2011/12</th>
<th>2016/17</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multipurpose consultation rooms (ambulatory care), includes specialist and general practice, excludes Emergency Department activity</td>
<td>0 (currently use ED consultation rooms)</td>
<td>6 (based on current Outpatient activity)</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Allied health areas</td>
<td>(data not available)</td>
<td>(data not available)</td>
<td>(data not available)</td>
<td>(data not available)</td>
</tr>
<tr>
<td>Investigation rooms</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total consultation/treatment/procedure rooms</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Data source: A/H data using medium series projections and Queensland Health Admitted Patient Data Collection (April 2010)
*Definitions applied from More beds for hospitals – need reference
*Victorian Benchmarks applied – need reference

Source: Queensland Health
Table 2 shows Emergency Department treatment spaces required at Longreach Hospital. In rural hospitals a core number of Emergency Department treatment spaces are required regardless of the level of activity, despite the majority of Emergency Department presentations being Triage Categories 4 – 5. Rural hospitals must have the capacity to manage patients presenting in all Triage Categories. This means that the range of treatment spaces essential for emergency patient care may be in excess of the activity-based requirements.

In rural facilities, treatment spaces can be used for a number of purposes. To reflect this, the left-hand column of the table identifies a core set of Emergency Department treatment spaces are required for rural and remote hub hospitals with associated benchmarks to be applied. The right-hand column shows current requirements for Biloela Hospital based on the core set of Emergency Department treatment spaces required.

### Table 2: Emergency Department treatment spaces required at Longreach Hospital

<table>
<thead>
<tr>
<th>Treatment spaces required for rural and remote hub hospitals</th>
<th>Existing spaces at Longreach Hospital</th>
<th>Needs met?</th>
<th>Current treatment spaces required by Longreach Hospital</th>
</tr>
</thead>
</table>
| Triage room/desk  
Requires clear view of waiting area (to categorise triage patients) | 1 triage room (not a room, no privacy) | 0          | 1 triage room/desk with clear view of waiting area |
| Central staff desk/computer space  
Requires clear view of Emergency treatment spaces | 0 | 0 | 1 central staff desk/computer space, with clear view of emergency treatment spaces |
| Emergency treatment spaces including: | | | |
| • resuscitation space  
(1 resuscitation space required per 500 Triage Category 1 presentations) | 1 resuscitation cubicle with two trolley spaces for Triage Categories 1–3 | 0 | 1 resuscitation space with two trolley spaces for Triage Category 1, with clear view from central staff desk required |
| • isolation and decontamination  
(1 room per 10,000 attendances  
- to be subtracted from total treatment places) | 0 | 0 | 1 isolation/decontamination room required |
| • psychiatric treatment space, requires 2 entry/exit doors  
(multipurpose room able to be used for mental health purposes) | 0 | 0 | 1 psychiatric treatment space (could use multipurpose room that meets mental health guidelines) |
| • consult/treatment room  
• examination room  
• multipurpose room  
• procedure and interview room  
(with telehealth facilities available) | 2 doctor consultation rooms  
1 eye room | 0 | 1 quiet/grieving room (can also be used as an interview room) required |
|  |  |  | 1 procedural/treatment space required |
| **Total emergency treatment spaces**  
(1 emergency treatment space per 1,000 ED presentations (all ages)  
- allocated from total spaces for CSSF Levels 1–3) | 5 | ☑ | 4* (5,474/1,300 AECM ED presentations Triage Categories 1–5) |
| Plaster room | 1 | ☑ | 1 plaster room |
| Paediatric spaces  
(No requirement for a separate paediatric area until there are > 10,000 presentations) | 0 | ☑ | 0 Does not require a paediatric treatment space |
| Clean and dirty rooms, utility rooms, and patient, public and staff toilet/bathroom facilities | ? | ? | As per requirements in the Australasian Health Facilities Guidelines5 |
| Waiting room chairs  
(3 seats per patient treatment space) | 10 by District | ? | 12 waiting room chairs (4 Emergency treatment spaces x 3) |

*Based on CSSF v3.0 Emergency Care Centre requirements  
Australian College of Emergency Medicine (ACEM) benchmarks applied  
Data source: aM projections and Queensland Health Admitted Patient Data Collection (April 2010)

*For patients requiring a brief period of observation, excludes short stay ward beds and ED treatment bays for non-admitted patients (More Beds definition)

Source: Queensland Health
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4.3 Infrastructure gaps

The following information summarises the deficiencies in the existing infrastructure in meeting the projected service demand as highlighted in Section 4.2. Further detail on infrastructure gaps are incorporated in Volume 2, Appendix 16 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

In assessing and identifying infrastructure gaps the Australasian Health Facility Guidelines 2009 have been utilised to determine non compliance.

4.3.1 Emergency Department services

The Emergency Department is acutely deficient in a number of critical infrastructure spaces and requirements including:

- no dedicated isolation/decontamination room, staff station or procedural room
- non compliance of consultation and observation rooms
- lacking key department infrastructure including dirty utility, clean utility, equipment storage, hand wash bays and facilities for people with a disability
- significantly lacking in required department adjacencies including co-located ambulance services, operating facilities and adequate emergency entrance.

4.3.2 Inpatient / Medical services

Infrastructure deficiencies include:

- non compliance of general overnight beds (used for medical and surgical), maternity ward and maternity beds and same day beds with no dedicated en-suite facilities
- lacking key department infrastructure including clean utility, patient lounge, clean linen bay, disposal hold, general storage and hand wash bays to AFHG standards

4.3.3 Maternity Services

Infrastructure deficiencies include:

- lack of key associated services and storage to delivery suites
- no consultation rooms currently provided in Maternity Department.

4.3.4 Surgical/Peri Operative

The current facility lacks key departmental infrastructure, including: holding bays, anesthetic induction room, scrub, clean up and set up room.

4.3.5 Clinical support services

Infrastructure deficiencies include:

- Currently no dedicated Pathology Department within facility
- Inadequate staff areas and associated facilities including WC and change areas
5 Inspection reports

5.1 Method
The site inspection for the Longreach Hospital was conducted on 15-16 April 2010. It involved the assessment of the structural and civil conditions by Cardno Alexander Browne (Cardno), the services assessment (hydraulic, electronic, electrical, and mechanical) by Cushway Blackford and Associates, the building surveyor’s assessment by Philip Chun and Associates (Philip Chun) and the architectural assessment by Woodhead Pty Ltd.

5.2 Exclusions
A visual inspection included all buildings on each site. Some areas were off limits due to staff and patient movements including parts of the staff accommodation. Drawings were limited to the Main Hospital Building, the Allied Health Building and the adjacent laundry.

5.3 Overlap
There is some overlap between building specialist reports where the same problem has been identified by different specialists. This occurs where the architect has identified issues pertaining to other consultants’ reports – Building Code of Australia 2009, structural and services.

5.4 Current site and infrastructure condition
During the inspections carried out by the various specialist sub-consultants key existing infrastructure issues were identified by the various disciplines including:

5.4.1 Structural survey report
Key issues raised from the structural survey report in Volume 2, Appendix 3 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

Items to be considered from a structural perspective for any upgrade to the existing structural shell would include the following:

- remaining durable life of concrete elements of the structure
- compliance with earthquake requirements
- compliance with wind loading requirements
- compliance with fire rating requirements.

The cost of structural upgrade to fully comply with current Building Code of Australia 2009 requirements is likely to exceed the cost of replacement buildings.

5.4.2 Building surveyor report
Key issues raised from the building surveyor’s report in Volume 2, Appendix 4 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

The inspection revealed the critical factor to be addressed is the potential fire/life safety risks. The need for smoke/fire separating construction for patients who are incapable of walking or are bedridden is critical, given that fire risk increases and decreases dependent upon; construction outcomes (fire/smoke separation), fire safety installations and equipment.
Further the existing fire hydrant system requires explanation in regard to fire hydrant design standards relevant to the risk and fire fighter operations including rescue.

5.4.3 Hydraulic engineer report
Key issues raised from the hydraulic engineers report in Volume 2, Appendix 5 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

The hydraulic services within the Longreach Hospital buildings are generally in poor condition, especially the Main Hospital Building which contains some of the original installation.

The main items of concern are generally:

- general age of the hydraulic services and the increased required maintenance
- lack of potable water backup
- lack of fire hydrant pumps and booster
- temperature control of the reticulated hot water.

5.4.4 Electrical engineer report
Key issues raised from the electrical engineers report in Volume 2, Appendix 7 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

Generally the electrical services installation at the Longreach Hospital site is in fair condition and is currently functional. However there are a number of issues:

- site main switchboard is old and likely to require replacing as part of any major works proposed for the Hospital
- site main switchboard has been altered a number of times and has limited spare capacity available
- low voltage reticulation system is old and would require replacing as part of any major works
- building distribution boards have limited spare capacity and do not comply with current regulations
- compliance with the requirements of the Building Code of Australia 2009 Section J6 would need to be addressed
- control of the standby generator should be upgraded to include remote monitoring, etc
- extent of the emergency and exit lighting installation would need to be verified for compliance with current requirements of the Building Code of Australia 2009.

5.4.5 Mechanical engineer report
Key issues raised from the mechanical engineers report in Volume 2, Appendix 8 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.

The existing mechanical services installation appears to be generally functional at the present time, however, there are a number of issues which should be addressed:

- existing chiller plant is at the end of its serviceable life
- existing mechanical services switchboard should be replaced
- there is no building management system for the control of the mechanical services
- existing internally insulated ductwork should be replaced
- there does not appear to be sufficient access panels or provision for cleaning of air handling ductwork as generally required for Hospital installations, and it is likely that duct cleaning has been minimal
some of the existing air handling plant is around 25 years old and is near the end of its serviceable life.

5.5 Building viability
The Hospital was constructed in 1943. The original main Hospital building is now around 67 years old. The remaining building structures on the Hospital site are in excess of 25 years old. It is unlikely the structures on the Hospital site comply with current building or structural codes.

A brief summary of major building conditions at Longreach Hospital follows.

- original main building – fair
- administration – good
- new staff accommodation – excellent
- old nurses' quarters – extremely poor
- laundry - poor

Also refer to in Volume 2, Appendix 13 of the Preliminary Infrastructure Planning Study for the Longreach Hospital.
6 Current risks

6.1 Building life

The estimated remaining life of the current site infrastructure cannot be accurately determined from the information provided by Queensland Health and the nominated sub-consultants, however condition of the buildings based on structural surveys are listed below:

- Main Hospital Building – it is expected that a major refurbishment of the building would require structural upgrading or restoration of structural elements. It is unlikely the structure could be made compliant to current standards (fair condition but not suitable for major upgrade without extensive structural works).
- Administration Building - the building was considered to be in good structural condition although unlikely to conform to current structural requirements within the *Building Code of Australia 2009*.
- Laundry facilities - the building was considered to be in poor to fair structural condition, however is fit for purpose and once structural cracking is repaired the building would be serviceable for the medium term. The building is unlikely to conform to current structural requirements within the *Building Code of Australia 2009*.
- Old Nurses' Quarters - the building is generally in very poor condition with asbestos throughout. We consider the building has exceeded its useful life.

Following building surveys and assessment, several risks were found to be associated with the deterioration of the buildings and site works. The associated risks include security, fire, health and safety and disadvantages to building patrons with a disability.

6.2 Compromised patient care due to infrastructure conditions

The following compromises are present in the current facility:

- Facilities were deemed to be difficult to transverse and departmental functional relationships inadequate, leading to adverse patient interdepartmental transfers, increased risk of patient incidents and increased risks to infection control.
- Inadequate bed and disabled access to rooms due to door sizes and corridor widths.
- Minimum nursing working zones and room functional dimensions deemed insufficient based on current standards.
- Poor access to Emergency Department via ambulance entrance.
- Patient rooms lack en-suite facilities and adequate associated amenities.

6.3 Fire risks

The following fire risks are present in the current facility:

- Current facility deemed to be non compliant in respect to fire compartmentation and separation.
- Limited provision of fire safety equipment including access to fire hose reels and fire fighting equipment. Fire hydrants non compliant with *Australian Standard* 1428.1. Comparison between the existing building fire safety provisions and the *Building Code of Australia 2009* found basic fire concepts and elements not in keeping with current fire safety provisions, notably:
  - fire hydrant and fire hose reel systems
  - appropriate levels of smoke and fire compartmentation and separation, especially the internal open connecting stair shaft
- people with disabilities i.e. patients, visitors and staff
- evacuation
- exit signage, alarm and detection
- lift accessibility (new lift may provide so).

- Smoke and fire doors not evident during Building Code of Australia 2009 survey.
- Lack of enclosed and protected internal vertical escape routes.

6.4 Risk of accidents
The following accident risks are present in the current facility:

- irregular stair tread depths to building entrances and escape routes
- lack of handrails to entrances and patient areas leading to increased risk of patient and visitor falls
- inadequate provision of non slip surfaces in patient and staff areas
- non illuminated and inadequate escape route signage.

6.5 Infection control risks
The following infection control risks are present in the current facility:

- lack of clinical hand wash facilities within clinical zones
- size of patient rooms and increased risk due to compromised bed centres
- percentage of single rooms to allow for isolation and control of spread of infection
- lack of dedicated en-suite facilities
- insufficient departmental support facilities including clean and dirty utilities, disposal holds, and sanitization facilities
- inadequate waste management facilities
- presence of asbestos.

6.6 Health and safety risks
The following health and safety risks are present in the current facility:

- irregular stair tread depths to building entrances and escape routes
- lack of handrails to entrances and patient areas
- presence of asbestos

6.7 Security risks
The following security risks are present in the current facility:

- access to balconies and raised external areas
- lack of adequate lighting to external areas, entrances, and parking.

6.8 Disadvantages to persons with a disability
The following disadvantages to persons with a disability are present in the current facility:

- access to and around the facility non complaint with Australian Standard 1428.1/2 including door sizes, corridor widths and clearance zones to clinical spaces
• current lift facility non complaint for disabled access and provides insufficient turning circle distances
• height of signage non complaint for disabled facility users
• lack of tactile surface indicators at building entrances.

6.9 Risks raised by District review
• hot water reticulation system is in poor condition
• central suction unit is in poor condition with no back up
• Central Sterilising Unit located in Longreach for entire Central West Health Service District including oral health with no back up
• non compliant fire hydrant system
• no isolation rooms
• only one mental health safe room located in the ward area
• separation between the Operating Theatre and birthing room which are located on different floors
• overcrowding and excessive heat in pathology rooms
• limited consultation rooms
• limited training rooms/meeting rooms.
7 Options

7.1 Staff accommodation

Queensland Health provides housing to staff who deliver essential services to rural, remote and regional centres. Longreach Hospital currently utilises 24 units of accommodation to provide appropriate, safe and secure housing for rural and remote staff.

The provision of appropriate, safe and secure staff housing in rural areas is broadly acknowledged as a vital element in the ongoing attraction and retention of staff and the provision of safe and sustainable health services.

In relation to the Longreach Hospital site, the provision of appropriate housing has been flagged as an essential element to ensure the ongoing viability of the health service.

As a result, all Options (Options 1-3) detailed below include the provision of an additional 11 housing units of accommodation. Housing accommodation for Longreach Hospital includes:

- 11 new units of accommodation to be built on site, consisting of 10 one bed (with ensuites) self contained units and 1 three bed unit of accommodation.
- demolition of the Old Nurses’ Quarters.

The footprint allowance and costing for the additional 11 units (including the replacement of substandard accommodation) has been based on accepted standards for Queensland Health staff housing (recently constructed at Roma Hospital).
7.2 Option 1 – Status quo (minimum requirements)

7.2.1 Scope of this option

This option will not allow for compliance with the required service levels or most Building Code of Australia 2009/Australian Standards, including Australasian Health Facility Guidelines 2009. In saying so, consideration should be made to the condition of the existing Nurses’ Quarters, laundry and main building. The Nurses’ Quarters and laundry have been evaluated as in poor condition and at the end of their usable life. The main building, on the other hand, is considered to be in a fair condition from most aspects but its structural life would not be suitable for refurbishment without substantial investment.

The provision of a second lift in order to ease the issues of vertical movement has been considered within this option.

The Community Health Building in town is also considered to be in poor condition and the services are moved to site in this option as well as Options 2 and 3. Access issues to the main entrances are amended to suit current standards while the main fire issues cannot be addressed without major disruption and investment.

The disadvantage of this option is that clinical services remain on level 1 with very limited scope to adjust the layout to modern and current healthcare standards and good practice models.

The description below details the points targeted in order to improve the existing condition and extend the possibility of use of the existing building fabric in the short term.

- Compliance with service Level 3 will not be pursued in this option. This implies that all services within the current facilities will not achieve the required Level 3 service plan.
- Compliance with Australasian Health Facility Guidelines 2009 components (e.g. elements of a unit), room activity spaces and areas have been identified in schedule of existing accommodation and representative plans (refer Volume 2, Appendix 13 and 14 of the Preliminary Infrastructure Planning Study for the Longreach Hospital). The upgrade of services to meet current Australasian Health Facility Guidelines 2009 standards for room size, departmental and room adjacencies and functional room activity spaces would imply major redevelopment within the existing envelopes from the wards to the Emergency Department. These will not and cannot be addressed in Option 1.
- Existing condition of buildings means that the following buildings can no longer provide adequate facilities for a healthcare facility and must be replaced:
  - nurses’ quarters
  - laundry building
  - Community Health Building deemed to be in poor condition. This elevated timber framed single storey building is considered to have exceeded its useful life. Need for the services to be located on site plus the current condition of building fabric make the relocation of services to the main Hospital site an essential component of Option 1.
  - If any existing building is to be altered in more than 50 percent of its footprint, compliance with current standards is mandatory.
- Fire resistance and stability:
  - No fire compartments indentified within the main buildings. This cannot be addressed without major intervention.
  - Visual inspection identified that doors generally do not conform to standards. This would prove difficult to address without major intervention.
- The switch room located on site was deemed not to comply to the required 120/120/120 fire rated construction due to penetrations and type of construction of the walls and roof. This issue must be resolved within Option 1.

- **Access and egress:**
  - The old staff accommodation building was found to be non compliant for escape travel distances, door swings and external landings.
  - Fire isolated exits deemed non compliant, particularly internal stairs. To allow for safe building operation this must be rectified in Option 1.
  - Access to plant rooms non compliant. Compliant access ladder/stairs to *Building Code of Australia 2009* and *Australian Standard 1657* standards must be provided in Option 1.

- **Construction of exits:**
  - Riser and going of access steps to front entrance do not comply. Front access steps must be replaced or rectified as part of Option 1.
  - Handrails not present in current facility. Option 1 will require the installation of handrails to a minimum of one side of every passage way wherever possible dependent on corridor clear widths.
  - Maintenance required to door hardware. Option 1 will repair or replace all non compliant door hardware.

- **Access to buildings:**
  - Access to all existing buildings was deemed not to be suitable for a person with disabilities. This will need to be addressed in all existing buildings in accordance with *Australian Standard 1428.1* in Option 1.
  - Existing passenger lift deemed insufficient and non compliant for the use of disabled persons. Consideration will need to be made as to the viability of replacing the lift and fire rated shaft during Option 1.

- **Disabled facilities:**
  - Accessible car park spaces of minimum 3.2m clear and associated signage not provided. Spaces to be provided in Option 1.
  - Inadequate signage to public toilets, location and height. Replacement of signage undertaken in Option 1.
  - No tactile indicators evident within and around facility. Tactile indicators to be provided in Option 1 in accordance with *Australian Standard 1428.21*.

- **Services and equipment:**
  - Fire hydrants non compliant due to booster system assembly, location, flow and pressure, and hydrant valve locations. Upgraded in Option 1.
  - Fire hose reels non compliant. All fire hose reels to be installed in accordance with *Australian Standard 2441* in Option 1.
  - Signage to portable fire fighting equipment non compliant. All signage to be relocated or installed at 2m above finished floor level in Option 1.

- **General exit lighting** will be rectified to ensure it is illuminated at all times and type of signage upgraded in accordance with *Australian Standard 2293.1* in Option 1.

- **Sanitary provision** did not comply with *Australian Standard 1428.1* but this issue will not be addressed in Option 1.

- **Energy efficiency** is not achieved in the existing buildings due to their construction date and condition. A real assessment needs to be undertaken to see if there is any scope of improvement beyond addressing the mechanical components. This would mean major works that cannot be considered in Option 1. Alternative power sources are not included in this Option 1.

- A decision whether to remove the asbestos from site is required. The recommendation in this Option 1 is to address the issue and remove. The implications are the temporary decanting of services, patients and associated costs.
- No structural upgrade is considered in this Option. The buildings with critical life span are demolished. Any structural refurbishment works would incur high cost implications.
- Surfaces to wet areas both for staff and patients to be upgraded to non slip surface materials will be addressed in Option 1
- Infection control risks need to be addressed in Option 1 with a limited scope. Compliance with Australasian Health Facility Guidelines 2009 within bedrooms and the addition of en-suites will not be achieved. Clinical hand washing facilities identified in the risks section will be added as the only item within the infection control list. Serious consideration to this point is required. The works as a consequence would be significant and would call for an Option 2 scenario.
- Signage to improve wayfinding is required to improve patient flows and diminish stress in the patient experience of the service.
- Staff accommodation to be demolished and replaced by the units recommended in the schedule of accommodation and staff accommodation (refer Volume 2, Appendix 13 and 14 of the Preliminary Infrastructure Planning Study for the Longreach Hospital).
- Community Health Building to be moved to site. No data has been received on capacity required or demands for future provision. This will need to be addressed in detail to allow accurate assessment of cost and service provision.

7.2.2 Capital cost
Option 1 costs are based on the upgrading of existing building fabric including upgrades to fire safety, building access and essential upgrades to mechanical and electric services to allow for the continued provision of healthcare service. Category 2 cost estimates based of the aforementioned and including consultant fees and contingency allow for an estimated cost of $11.555 million.

7.2.3 Whole-of-life costs
Option 1 will address all key infrastructure issues and all works undertaken will improve the current facility. However, Option 1 continues to utilise the majority of the existing aged assets with minimal refurbishment. It can be expected that the running and maintenance costs of the current facilities will continue to increase into the future.

7.2.4 Advantages
The key advantage to the Status Quo option is lower cost.

7.2.5 Disadvantages
The key disadvantages to the Status Quo option includes:
- poor condition of current facilities
- presence of asbestos within ceilings, floors, walls and associated risks
- fragmented Hospital services
- inadequate Interdepartmental functional relationships.
Diagram 2: Longreach Hospital Option 1 demolition plan (scale 1:1000)

Key:
- good - fit for purpose
- good - extensive structural work required
- good - extensive work to achieve standards
- Fair condition
- Poor condition - demolition
- Outside project scope

Existing Site
Condition - demolition
(scale 1:1000)

Longreach Hospital
Existing condition - demolition

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7.3 Option 2 – Refurbishment or expansion at existing site

7.3.1 Scope of this Option

This option will require major refurbishment and investment in order to become feasible. The poor condition of the existing main building, presence of asbestos and the poor structural condition of this building all indicate that retaining clinical services in this building is not the most cost effective solution.

Although the option will bring the facility closer to compliance with standards, full compliance will still not be achieved.

The ground floor can be re-planned in order to provide a new, clear ambulance entrance with external space for ambulances and pedestrians. The first floor will still house the operating room suite and Central Sterilising Service Department while the wards expand to comply with the required Level 3 services. This together with an expansion to the Operating Theatre is the main feature of the Level 1 in this option.

Decanting and staging in this option will present a challenge due to the asbestos and scope of intervention in the existing facilities.

This option allows for expansion of the existing buildings while preserving available space on the site for a significant new building (Option 3).

Key elements of work include:

- The buildings considered to be in poor condition are demolished. These include the Old Nurses’ Quarters and laundry.
- The main building is strengthened in order to house the expanded services. These include Emergency Department, Outpatient Department, pharmacy, imaging, medical records, staff areas, kitchen and Morgue on the ground level.
- The main entrance remains unaltered with an improved front of house and vertical circulation. Vertical circulation is achieved by the addition of a lift adjacent to the existing lift. This implies the re-planning of level 1 in this area.
- The main kitchen services are upgraded and the laundry is moved together with the Morgue to the main building area.
- The staff entrance and area are upgraded. Outpatient and Emergency Departments are re-planned and enlarged. Emergency Department ambulance entrance is clearly identified and compliant.
- Pathology is incorporated into the current Allied Health Building. This building as mentioned in the Option 1 description is in need of significant refurbishment to become compliant with current regulations. The remainder of this building is transformed to administration offices.
- Allied Health is moved to a new block as part of the level 1 ward extension. This block is provided with vertical circulation in order to facilitate patient and staff flow.
- The level 1 ward extension creates areas of shelter in the ground level for Outpatients Department and allied health.
- Expansion areas are highlighted in the plans, allowing for future growth/demand to be accommodated within the site.
7.3.2 Capital cost

Option 2 costs are based on the provision of refurbishment and expansion of existing infrastructure to meet the future service requirements of Longreach Hospital. Option 2 provides approximately 3358m$^2$ of refurbishment of existing fabric and 4316m$^2$ of new build fabric. Category 2 cost estimates based of the aforementioned areas and including furniture, fittings and equipment, consultant fees and contingency allow for an estimated cost of $72.035 million.

7.3.3 Whole-of-life costs

All new build stock will be designed and built to maximise opportunities of performance in energy, water, waste, etc while attending to the detail design in order to minimise maintenance requirements and guaranteeing the lasting qualities of the fabric and systems. While considering refurbishment, although the pursuit of quality and performance is the main objective it must be mentioned that the maintenance cost and issues due to the overall aging of buildings and systems not replaced will have an impact in recurring costs as well as continued maintenance.

Option 2 maximises use of existing infrastructure and incorporates extension and some significant refurbishment. It can be expected that significant maintenance issues and costs will be reduced and effectively the operational life of the facilities will be extended over the short to medium term.

7.3.4 Advantages

- improved interdepartmental functional relationships
- expanded Hospital servicers to meet future demand
- removal of asbestos
- reuse of existing infrastructure
- community health facilities relocated on site in relation to main Hospital facilities.

7.3.5 Disadvantages

- re-use of existing buildings and remaining life span of current infrastructure
- cost of upgrading existing infrastructure to meet current standards
- Hospital services located on two floors therefore impacting on cost of construction due to single phasing.
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7.4 Option 3 – significant redevelopment

7.4.1 Scope of this Option

This Option has the main advantage of being a completely new facility. It enables full compliance with the current standards and the opportunity to revisit models of care/operational policies in a deeper way in order to provide the most suitable physical space to house and promote.

The existing main building is retained due to the character and the history it represents for the site and community. In doing so the services allocated within are those with minimum clinical need in an attempt to minimize the refurbishment impact. The staging of this Option is simpler than Option 2 for the new build can be done while the original building is still in use.

Key elements of work include:

- This option complies with the requirements of standards and area stated in the schedule of accommodation Level 3.
- The existing main building is refurbished to house community health services on the ground floor and the administration offices on level 1.
- The main entrance is relocated to Plover Street. The stores and Morgue have a separate entrance area while emergency and the main entrance have a drop off zone. These areas are protected by canopies.
- The main building develops in a courtyard mode allowing for increased exposure to landscape and natural light.
- The Outpatient Department and wards are located adjacent to each other in order to enhance the synergies expressed by the users to achieve efficiencies in staffing levels. Consideration though must be made to the increased size of the wards and distances this brings as a consequence.
- Operating theatres are adjacent to Imaging and easily accessible from the Emergency Department. Most important of all they are at ground level.
- The entire facility is developed on one level eliminating the inconveniences of vertical travel for patients, public and staff. Risks during patient transfer are diminished in this way.
- Staff and visitor areas are increased. Disabled parking is provided to comply with legislation as are bike racks to promote cycling.
- Services are concentrated and have direct access to the main areas of the Hospital. The provision of a central energy plant is suggested with the opportunity to explore renewable sources of energy.
- Staff accommodation is developed around the existing staff buildings. In a similar fashion, the expectant mothers’ buildings are expanded

7.4.2 Capital cost

Option 3 costs are based on the provision of new build facilities to meet the future service requirements of Longreach Hospital. Option 3 provides approximately 6590m² of new build fabric and approximately 1084m² of refurbishment of existing building stock. Category 2 cost estimates based of the aforementioned areas and including furniture, fittings and equipment, consultant fees and contingency allow for an estimated cost of $80.650 million.

7.4.3 Whole-of-life costs

All new build stock will be designed and built to maximise opportunities of performance in energy, water, waste, etc while attending to the detail design in order to minimise maintenance requirements and guaranteeing the lasting qualities of the fabric and systems.
Option 3 incorporates significant new build components. This option would effectively extend the operational life of the facility with an anticipated improved performance in the running and maintenance costs.

7.4.4 Advantages

- optimized interdepartmental functional relationships
- compliance with Part J and Queensland Health Energy Efficiency Guidelines
- improved site access.

7.4.5 Disadvantages

- may prove to be the most costly solution due to single phased build
- disconnection between Imaging Department and Emergency Department.
Diagram 6: Longreach Hospital Option 3 greenfield ground floor (scale 1:500)

Longreach Hospital
Option 3 Green Field

Scale 1:500
8 Options analysis

Table 3: Option 1 analysis

<table>
<thead>
<tr>
<th>Option features</th>
<th></th>
</tr>
</thead>
</table>
| Rationale                       | • Minimum impact  
                                  | • Minimum cost                                                  |
| Benefits                         | • Temporary solution to future clinical service requirement     |
| Risks                            | • Departmental functional inadequacies  
                                  | • Staff morale/recruitment and retention                        |
| Assumptions                     | • Current services can be maintained in current facilities      |
| Criticality                     | • Asbestos removal from current facilities  
                                  | • Short term solution to providing future clinical services     |
| Resource implications            | • Risks to staff retention/recruitment and morale  
                                  | • Heavy resourcing due to fragmented services                   |
| Cost                            | • Overall indicative cost of Option 1 $11,555,000               |

Table 4: Option 2 analysis

<table>
<thead>
<tr>
<th>Option features</th>
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</thead>
</table>
| Rationale                       | • Reuse and adaption of current facilities/infrastructure  
                                  | • New build construction  
                                  | • Improved departmental functions and way finding             |
| Benefits                         | • Maximised use of retainable existing infrastructure  
                                  | • Low level use of inadequate current infrastructure           |
| Risks                            | • Asbestos removal  
                                  | • Perpetuation of two storey clinical service model  
                                  | • Building Code of Australia 2009, Australasian Health Facility 
                                  | Guidelines 2009 and Disability Discrimination Act (1992) 
                                  | compliance                                                   |
| Assumptions                     | • Construction phasing due to asbestos removal  
                                  | • Two level building service modal is acceptable              |
| Criticality                     | • Asbestos removal from current facilities                      |
| Resource implications            | • New staff accommodation  
                                  | • Improved staff morale/recruitment and retention              |
| Cost                            | • Overall indicative cost of Option 2 $72,035,000                |
Table 5: Option 3 analysis

| Option features | • Retention and redevelopment of existing faculties  
|                | • New site layout  
|                | • Optimisation of interdepartmental adjacencies  
| Rationale      | • Avoidance of inherent problems of decanting departments during construction  
| Benefits       | • New build facility to current standards and regulations  
|                | • Optimised departmental functionality  
|                | • Improved building life expectancy  
| Risks          | • Cost of providing new facilities  
| Assumptions    | • N/A  
| Criticality    | • N/A  
| Resource implications | • New staff accommodation  
|                | • Improved staff morale/recruitment and retention  
| Cost           | • Overall indicative cost of Option 3 $80,650,000  

Table 6: Construction analysis table

<table>
<thead>
<tr>
<th>SITE</th>
<th>DEPARTMENT</th>
<th>AREA M2 (WITH CIRC)</th>
<th>OPTION 2</th>
<th>OPTION 3</th>
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<tbody>
<tr>
<td>Charleville</td>
<td>Front of house reception</td>
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<td>New Build</td>
</tr>
<tr>
<td></td>
<td>ED / OPD</td>
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<td>New Build</td>
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<td></td>
<td>Inpatient / Medical Services</td>
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<td>Refurb</td>
<td>New Build</td>
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<tr>
<td></td>
<td>maternity</td>
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<td>New Build</td>
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<td></td>
<td>Surgical</td>
<td>405</td>
<td>60R/40N</td>
<td>New Build</td>
</tr>
<tr>
<td></td>
<td>Peri Oprative</td>
<td>180.9</td>
<td>60R/40N</td>
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<tr>
<td></td>
<td>CSSD</td>
<td>123.2</td>
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<tr>
<td></td>
<td>Rehab Allied Health</td>
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<td>Refurb</td>
<td>Refurb</td>
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<td>Pathology</td>
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<td>Mortuary</td>
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<td></td>
<td>Kitchen</td>
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<tr>
<td></td>
<td>Staff Accom Shared</td>
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<td>Staff Accom</td>
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<td>70R/30N</td>
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<td>Refurb</td>
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<td>External Accommodation</td>
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<td>50R/50N</td>
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<td></td>
<td>Communication</td>
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<td></td>
<td>Total Area</td>
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