

MUSEUM MASTER PLAN

Broken Hill
City Council

LINE OF LODE

DRAFT

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APPROVED BY	CD

This Stamp is for issue control during Draft Phase, and will be removed for Final Issue.

April 2024

Acknowledgement of Country

Broken Hill City Council acknowledges the traditional owners of the land, the land of the Wilyakali people and pay our respect to Elders; past, present and emerging.

Master Plan Snapshot

Broken Hill City Council has engaged Troppo Architects as the lead consultant for the development of this master plan for the Albert Kersten Mining and Minerals Museum.

The project team consists of:

- Sponsor: Broken Hill City Council
- Principal consultant: Troppo Architects
- Graphics consultant: Studio Found
- Tourism consultant: Tourism Recreation Conservation
- Digital activation: Monkeystack
- Quantity Surveyor: Chris Sale Consulting

Acknowledgements

The project Group (BHCC, TA, SF, TRC, MS, CSC) thank all the contributors and public that gave their time, access to private and public collections and attended the two day open public displays.

Naming protocols

BHCC - Broken Hill City Council

Museum - Albert Kersten Mining and Minerals Museum

TA - Troppo Architects

SF - Studio Found

TRC - Tourism Recreation Conservation

MS - Monkeystack

CSC - Chris Sales Consulting



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1 Introduction

A premier regional Minerals & Mining Museum that promotes Broken Hill's unique mining history.

The Museum will be a leading regional tourism destination for discovering, exploring, and learning about the area's rich geological history and mineral discoveries. Featuring interactive exhibits and activities that focus on science, geology, mining and minerals, visitors will gain a deep appreciation for the area's natural environment and its place in the past, present, and future. Through engaging stories and captivating displays, the Museum will inspire its guests to care for the local ecology and develop a deep connection with the region.



Introduction

Executive Summary

Broken Hill City Council engaged Troppo Architects as lead consultants with a design team of subconsultants, in May 2023, to produce the Master Plan for the Albert Kerstin Mining and Minerals Museum.

The Museum is located on the corner of Crystal Street and Bromide Street and consists of a historic building, the Old Bond Store, and late 90s Exhibition Hall addition and external courtyard area, home to a replica Miners Cottage.

The current state of the Museum is in need of building and experience upgrades, refurbishment and a modern curation of its existing minerals and mining collection.

BHCC and the design team have engaged in regular design meetings to ensure a well researched, reviewed and resolved solution to the Master Plan be achieved.

It was identified early on that Broken Hill is an incredibly historically rich area, specifically to the mining industry, which includes the discovery and production of minerals, metalurgy but also the rich social history that shaped the town.

This document is composed of five key sections designed to provide an in-depth view of the Master Plan for the Museum. The blueprint of the document is such that it guides the reader systematically through every important detail the project encompasses, thereby ensuring a comprehensive understanding of the underlying objectives and strategies.

1. Existing Building and Site Analysis

The second segment addresses the examination of existing exhibition spaces and potential areas for development, identifying the strengths, weaknesses, and areas for improvement. This section will be valuable to those interested in the logistical and infrastructural aspects of the project.

2. Background Research

This initial section serves as a base for understanding the project. It reviews the Museum's current situation and provides demographic and economic profiling. The readers are advised to start here to assimilate the foundation on which the proposed plan is to be built.

3. Future Planning Requirements

This part focuses on articulating the long-term vision of the project, including accessibility recommendations. It should be read with a future-forward perspective, considering the potential growth and development of the Museum.

4. The Master Plan

The fourth component covers a variety of the project's aspects, such as diverse design stages, costings, visitor offering development possibilities and organisational development recommendations that are up for consideration. Those interested in the varied avenues and potential directions the project can take will find this chapter particularly enlightening.

5. Organisational Plans

The final section outlines a proposed organisational strategy for the next decade, inclusive of a Business Plan with financial forecasts. This is beneficial for those who wish to understand the overall intended trajectory for the Museum and its financial implications.

The staged completion over a 10 year period has a cost estimate of [REDACTED] - inclusive for contingencies and non-direct allowances.

Engagement that informed the Master Plan

The design team underwent a project engagement focused on gathering insights from various sources to inform the design process. This included engaging with local museums, personal collections, conducting face-to-face stakeholder meetings, and community consultation sessions.

Beginning by collaborating with local museums, interacting with curators, historians, and experts in the field. This allowed the design team to gain a deeper understanding of the city's history and cultural heritage. Furthermore, the personal mineral collections were explored, learning about aesthetic and scientific considerations from passionate collectors.

Face-to-face stakeholder meetings were conducted with key individuals such as government officials, city planners, and design experts. This collaboration ensured alignment with project goals and incorporated diverse perspectives. Additionally, community feedback was sought through consultation sessions, enabling the community needs and concerns to be addressed.

Moreover, site visits across the city provided essential contextual understanding, allowing observation of existing infrastructure and unique characteristics of the Broken Hill community..

Overall, this holistic project engagement provided valuable insights, informing the human-centred design outcomes and guided the city system strategies.

What was heard

The design team heard from the community, of a desire for a holistic museum to reflect the diverse aspects of the Broken Hill story from the indigenous perspective through to pastoral development and into the fascinating geological, mining and mineral history of the region.

A recurring theme of the consultation with local Broken Hill residents was for the need to keep the rich history of the area within Broken Hill. This is because in the recent past many fine collections have been bought or moved out of the region resulting in important stories and artifacts being lost from the area.

The Museum Master Plan is seen by many as an opportunity to create a keeping place, a repository for all aspects of the Broken Hill story to be told in a modern holistic way that incorporates the social and cultural history as well as the mining and mineralogical story of the region.

Master Plan Objectives

The expected outcomes from this initiative were a cohesive and comprehensive Master Plan for the Museum site.

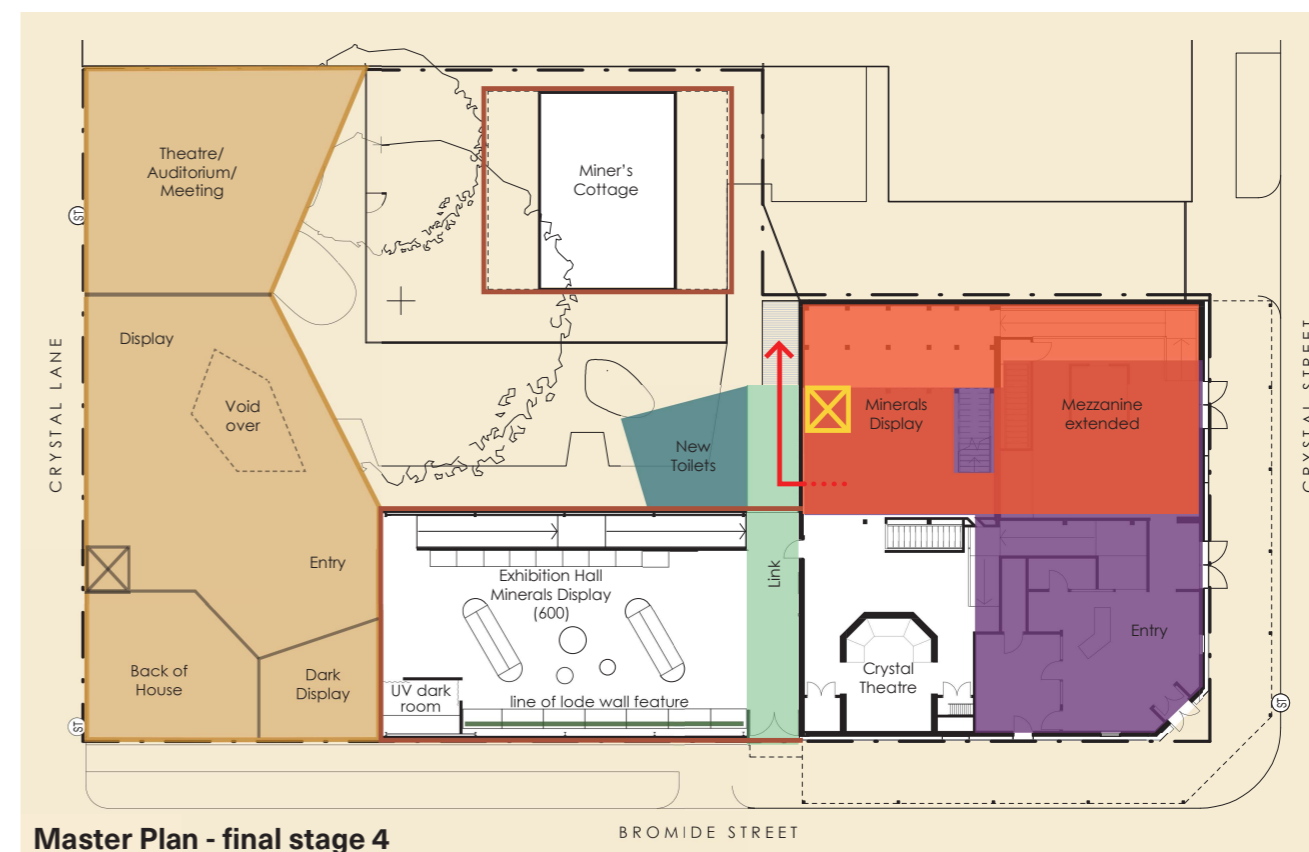
- The Master Plan includes a range of implementation plans, design stages and associated costings to determine anticipated commitment required from Council and external funding sources to realise the recommendations.
- The Master Plan can be used for future grant applications and winning philanthropic support to implement the renewal project.
- It is expected that as a result of this implementation, the Museum will bolster its position as a premier tourism experience in the region and subsequently, both boost visitation and increase revenue to support a sustainable operating model.
- The Master Plan will elevate the facility as a premier Minerals and Mining museum through a staged building development approach. Maximising collections management and enhanced interactivity, with space for more materials, collections and features, to improve visitor experiences for all demographic groups.
- The community will benefit through the re-representation of the region's relationship to resource extraction by including a narrative that fosters a sense of collaboration, camaraderie, and unity.
- The site will present a diverse understanding of the town through social history, archival documents, and significant objects – better representing the history of this town that has contributed to its national heritage listing.

The objectives include:

- Defining key objectives for a renewed Museum inclusive of all BHCC collections, analysis of current identity of the museum and recommendations for diversification (from ethnographic science toward social history).
- Analysis of current exhibition space, architectural drawings, plans, pricing and design of internal redevelopment.
- Accessibility recommendations and implementation plan to ensure full accessibility and best practice to the museum.
- Review of the Museum's current situation – to understand assets and resources, finances, strengths/weaknesses, visitor profile.
- Demographic, economic profile of the local community.
- The development of a small number of case studies to illustrate alternative approaches to the Museum's future development.
- Development of distinct development stages for the future Museum and curatorial potential.
- Stages evaluation.
- Description of the visitor experience, including indicative exhibitions (long-term and temporary).
- Organisational development requirements.
- Business Plan and financial forecasts.
- Wayfinding solutions.
- Implementation plan.

Considerations to be addressed in the Master Plan were:

- Site planning that includes the garden and outdoor precinct as integrated to the museum experience.
- Accessibility requirements of a modern museum and key recommendations.
- Key research into visitor and economic profiles and key developmental recommendations.
- Collections analysis and enhancing the facility for minerals display and storage.
- Business planning and associated revenue models.
- Implementation costings.



Key Principles

This Master Plan will give direction to a museum focused on Broken Hill's wider region, the Line of Lode, designed for maximum entrance flow, clarity, and accessibility. It will provide an immersive experience with interactive exhibits, audio-visual technology and engaging displays, as well as maximising revenue & membership opportunities.

The story-driven exhibits will include archives and documents, artefacts and displays, audio-visual experiences, and educational laboratories to help visitors gain a deeper understanding of the geology and mining industry.



Key Principles

There are eight key principles under the Master Planning process.



Precedent image of the Museum of Russian Shawls and Kerchiefs, illustrating a strong corporate identity and brand.



Maximise entrance and visitor flow, creating an inviting and welcoming space for visitors.



Precedent image of the new Australian Museum Minerals Gallery



Visualisation of proposed interactive museum displays

Identity

Create a legible, recognisable image and identity for the Museum that resonates with visitors. Create a strategic marketing campaign that will ensure that people are able to easily find and navigate the city and access the museum. Build a strong branding platform, directly appealing to potential visitors in an organised way. In doing so, position the museum as a key tourist destination in the region, as a leading Mining and Minerals Museum, helping to cement its place within the local consciousness.

Visibility

The Museum will be designed to maximise entrance visibility and visitor flow, creating an inviting and welcoming space to get visitors excited to experience the Museum's exhibits. It is also necessary to minimise exit points to prevent overcrowding and lengthy waits at entrance points. This entrance should be situated at a central position in the Museum, with prominent signage and landscaping to draw further visitors in.

Clarity

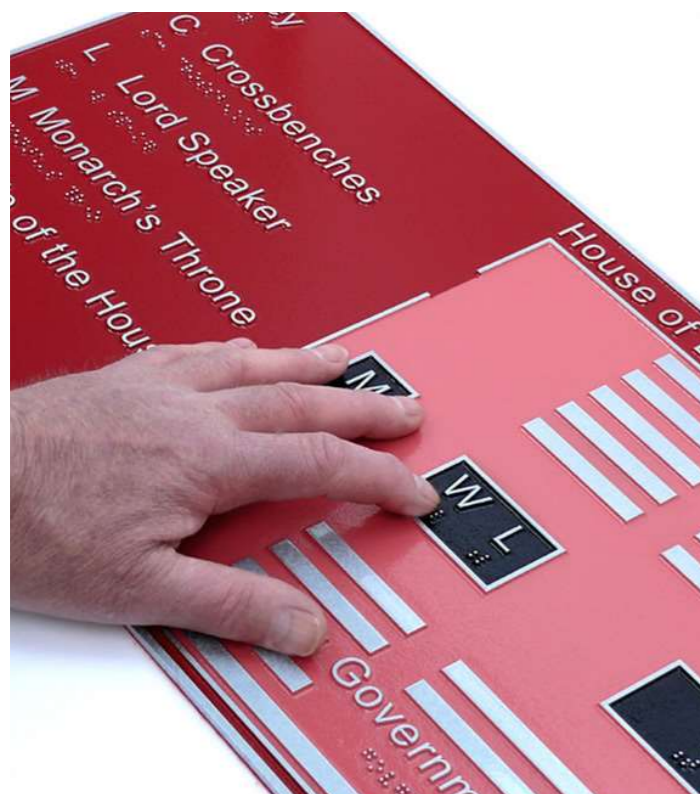
The exhibition layout will be designed to ensure a sense of clarity and ease of navigation throughout the Museum. This will involve clear signage, spatial orientation, multiple paths, and easy core routing, as well as visual markers and obvious circulation.

Experience

The Museum will be designed to create an immersive and memorable experience that is both educational and entertaining. This will be achieved through improved building site, interactive exhibits, audio-visual technology, and engaging displays that appeal to a range of visitors and interest groups.

Key Principles

There are eight key principles under the Master Planning process.



Precedent example of assessible directional and information tactiles



Precedent example of a contemporary Museum shop interior



Wolfgang Sievers famous photograph of Broken Hill Miners



Re-imagine the current collection to tell compelling narratives

Accessibility

The Museum must be designed with accessibility in mind, with features such as wheelchair accessibility, audio description, and language translation capabilities necessary to ensure a safe and enjoyable experience for all visitors.

Revenue

The Museum should be designed to maximise revenue and membership opportunities, with features such as an interactive kiosk, gift shop within the site.

Story

The contents of the Museum should be tailored to reflect Broken Hills' Line of Lode, the wider region, with engaging and informative stories to captivate visitors. Reflect Broken Hill's unique geology, mineralogy and mining history, including archives and documents, artefacts and displays, audio-visual experiences, and educational laboratories that allow visitors to gain a better understanding of the local mining industry.

Collection

Utilise the current collection to better explore all aspects of Broken Hill's unique geology, as well as the earth sciences of mineralogy and metallurgy. Additionally the collection can also be a story touch point for the social and cultural history of Broken Hill.



2 Existing Building & Site Analysis

2.01 Current building analysis

Located at the corner of Bromide and Crystal Streets Broken Hill and bounded by Crystal Lane to the rear; the site is largely rectangular and of 1300m²

The Museum site is a consolidation of buildings which includes:

- The old Bond Store: constructed in 1892 as Bond Store this building was used to securely hold goods until a duty or any excise owing on them was paid to the government.
- The Exhibition Hall: a recent addition circa 1996-98 to provide dedicated exhibition space for curated events.
- The Miners Cottage: a historic recreation moved here in 1996 from the Broken Hill Historical Society, based upon a typical dwelling of the era; currently in disrepair and closed.

The Museum is home to a large mineral collection, mining artefacts and the Miners Cottage.

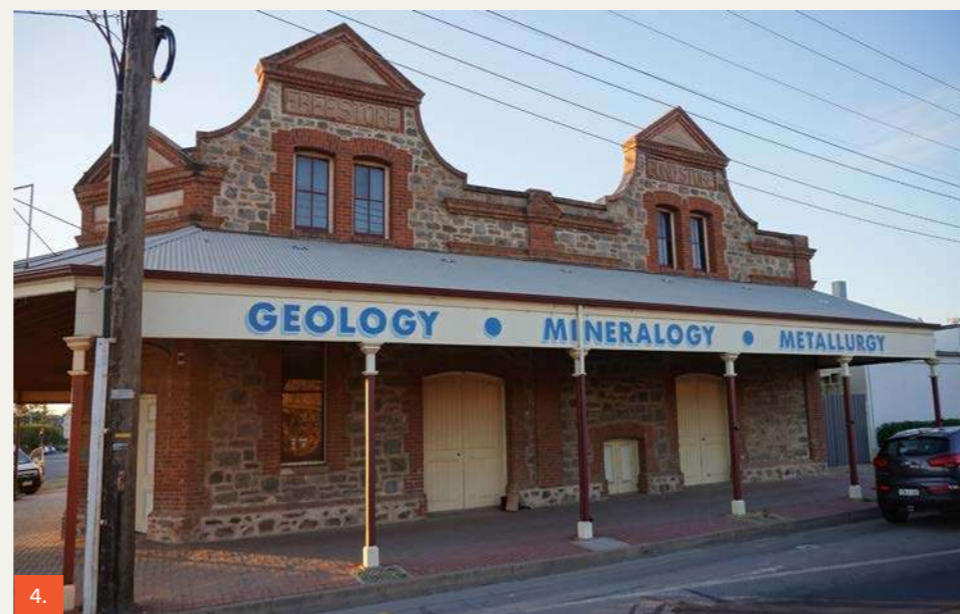
The external facade of the Bond Store appears to be in good condition, and highlights the heritage of Broken Hill.

Previous reports by structural engineers and WH&S assessment identify that there is a public safety issue with the current state of the basement in regards to poor ventilation and improper storage of some minerals.

The access to the building is currently DDA (Disability Discrimination Act) compliant but within the building there is no DDA access to the mezzanine minerals display.

The current evaporative air conditioning system requires a full upgrade throughout.

The Miners Cottage is currently closed off to the public after a dilapidation report was conducted. There is evidence of termite damage.



1. Silver Nugget, Junction Mine, Broken Hill
2. Collection display gallery
3. Entry and ticket counter
4. Museum exterior (Bond Store)
5. Crystal Theatre
6. Miners Cottage
7. Exhibition Space

Existing Site Plan

The site is on the corner of Bromide and Crystal Streets in Broken Hill. The site is oriented approximately 45 degrees to north running in a rectangular shape from southeast to north west.

The Museum site is a consolidation of buildings which includes:

- the old Government Bond Store: constructed in 1892 the building is of stone and brick construction and currently comprises 3 levels, basement, ground floor and mezzanine.
- the Exhibition Hall: a recent addition circa 1996-98 is a steel portal frame with vaulted ceilings and lightweight perimeter walls clad in corrugated cladding.
- the Miners Cottage: a historic recreation moved here in 1996 from the BHHS., Based upon a typical dwelling of the era; is light weight timber frames and clad in corrugated iron. As noted it is currently in disrepair and closed.

Primary public access is via the southern corner doors under the heritage verandah of the Bond Store building.

Secondary access to the Exhibition Hall is from Bromide Street.

The rear (north facing) yard space is largely unkept and contains several large rock samples and an exhibit.

To the north eastern part of the site is located the Miners Cottage and 2 large 'pepper trees' (spp. Schinus mole) an introduced exotic that provides welcome shade to the yard and the Miners Cottage.

The space can be considered to have the following attributes:

Positive

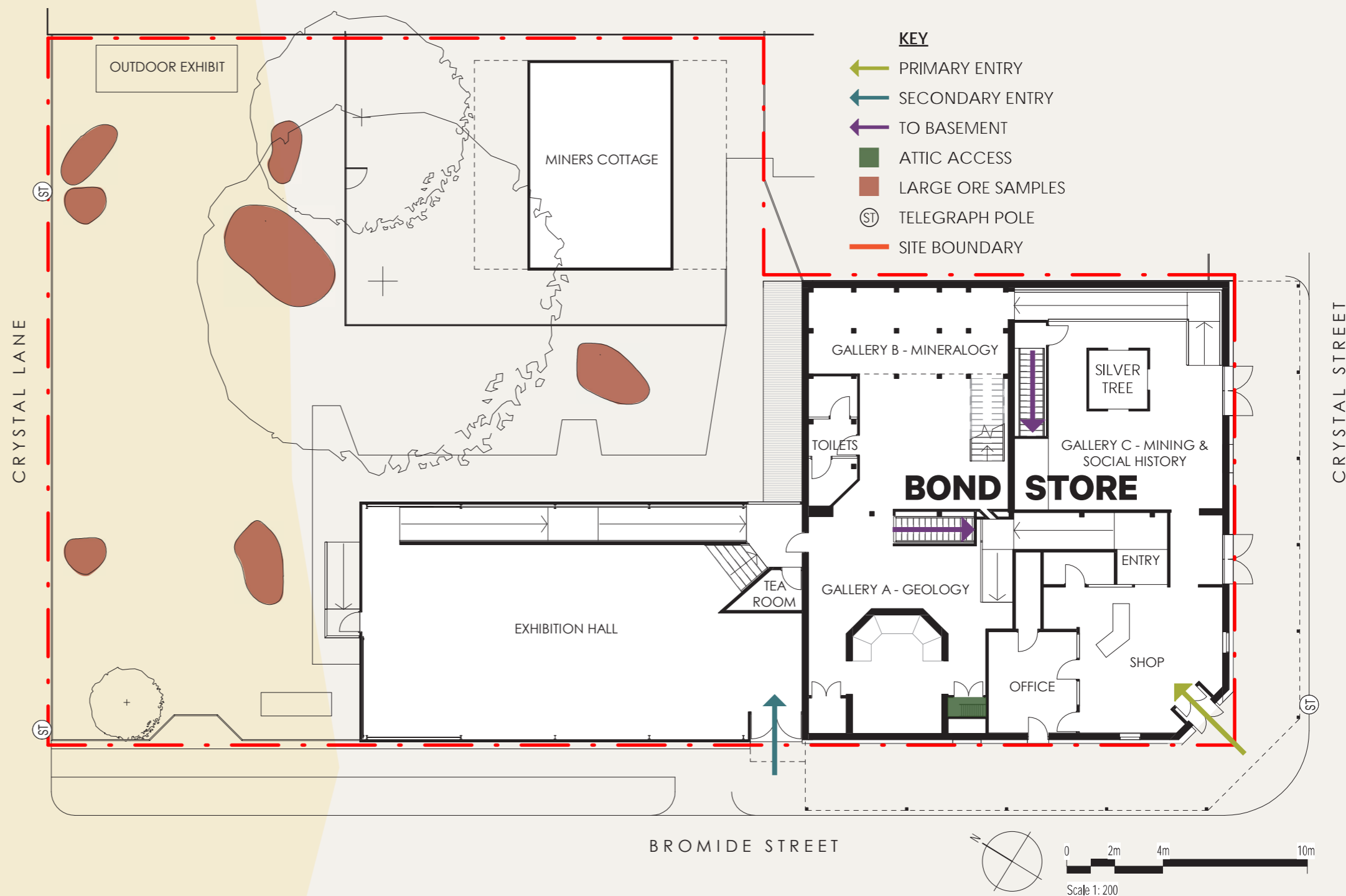
- Old Bond Store heritage value and lineage to the past
- High value construction
- Corner prominence
- Exhibition space relates to mine stope character
- Exhibition Building large open span
- Opportunities for refit to integrate into overall Museum
- Robust construction

- Linkage to exterior open space
- Dedicated access to Bromide Street
- Dedicated access to external open space

Negative

- Old Bond Store compartmentalised exhibits due to nature of building envelope
- underutilised due to disrepair of basement
- poor level of toilet amenities being centrally located

- requires upgrades for DDA compliance
- unable to house entire collection
- building fabric requires repair and remediation
- Exhibition Hall poor lighting control
- inadequate cooling systems requiring replacement
- unsuitable to display of mineral collection



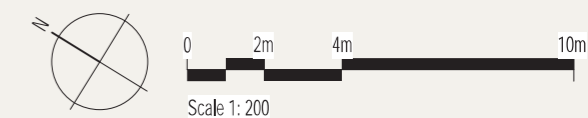
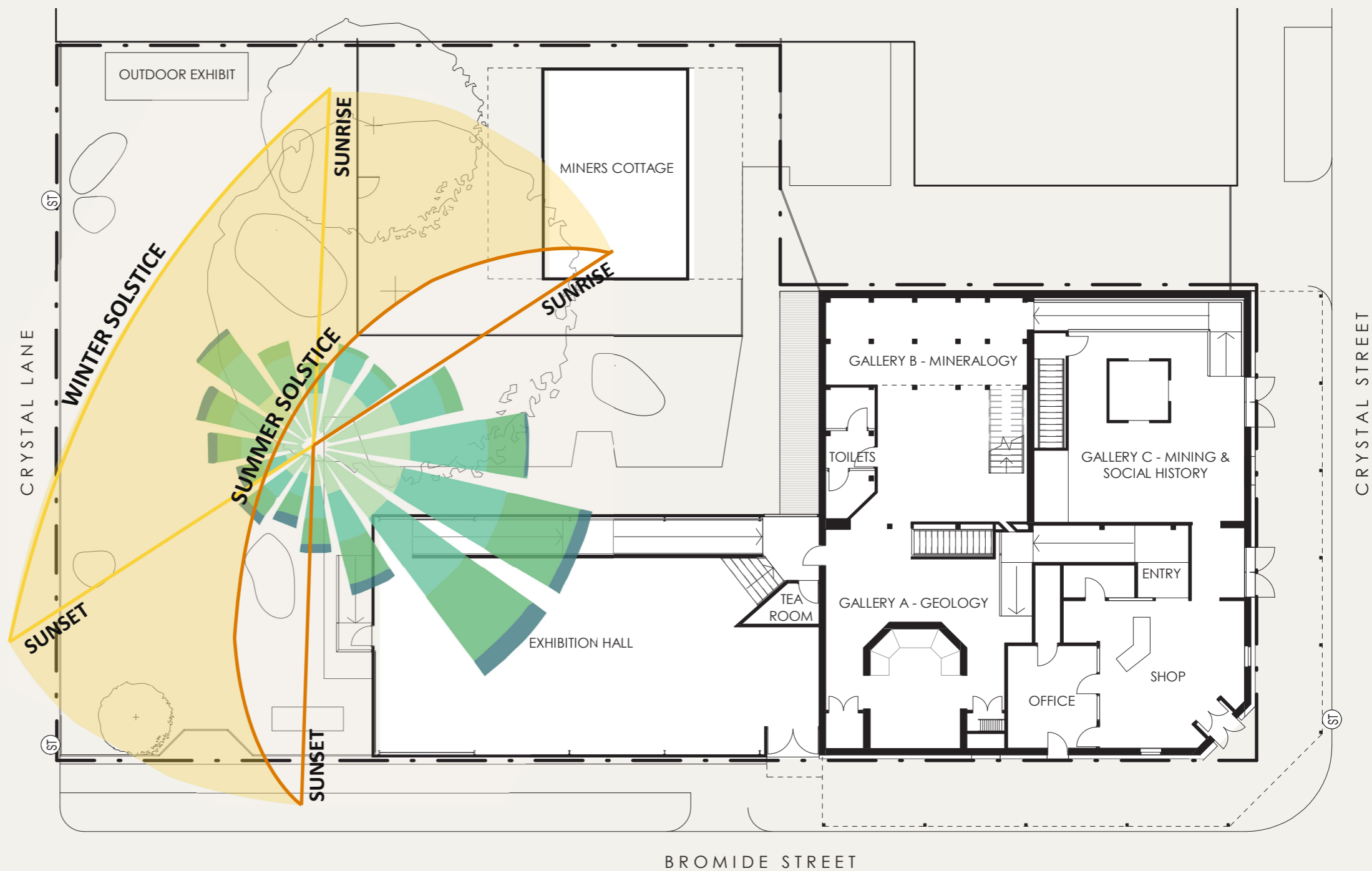
Sun - Wind - Outlook

The orientation of the site being at 45 degrees to north means that the Bromide and Crystal Lane frontages are the most exposed to the summer sun and shall require specific thermal treatment to protect the building from excessive over heating in the summer months.

The prevailing winds come from the south and often there are strong winds that follow the line of lode and become very strong coming from the south west along Crystal Street. These winds make the front entry at the corner of Bromide and Crystal Streets very exposed and signage + flags have been blown down due to the speed of the winds.

The location of the miners cottage in the middle of the site under the shade and protection of the Peppercorn Trees offers a natural courtyard microclimate opportunity for the future growth of the Museum.

This central area can become a cool oasis if protected from the North and west by any new development on the site.

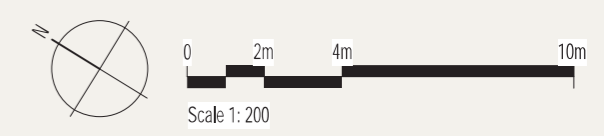
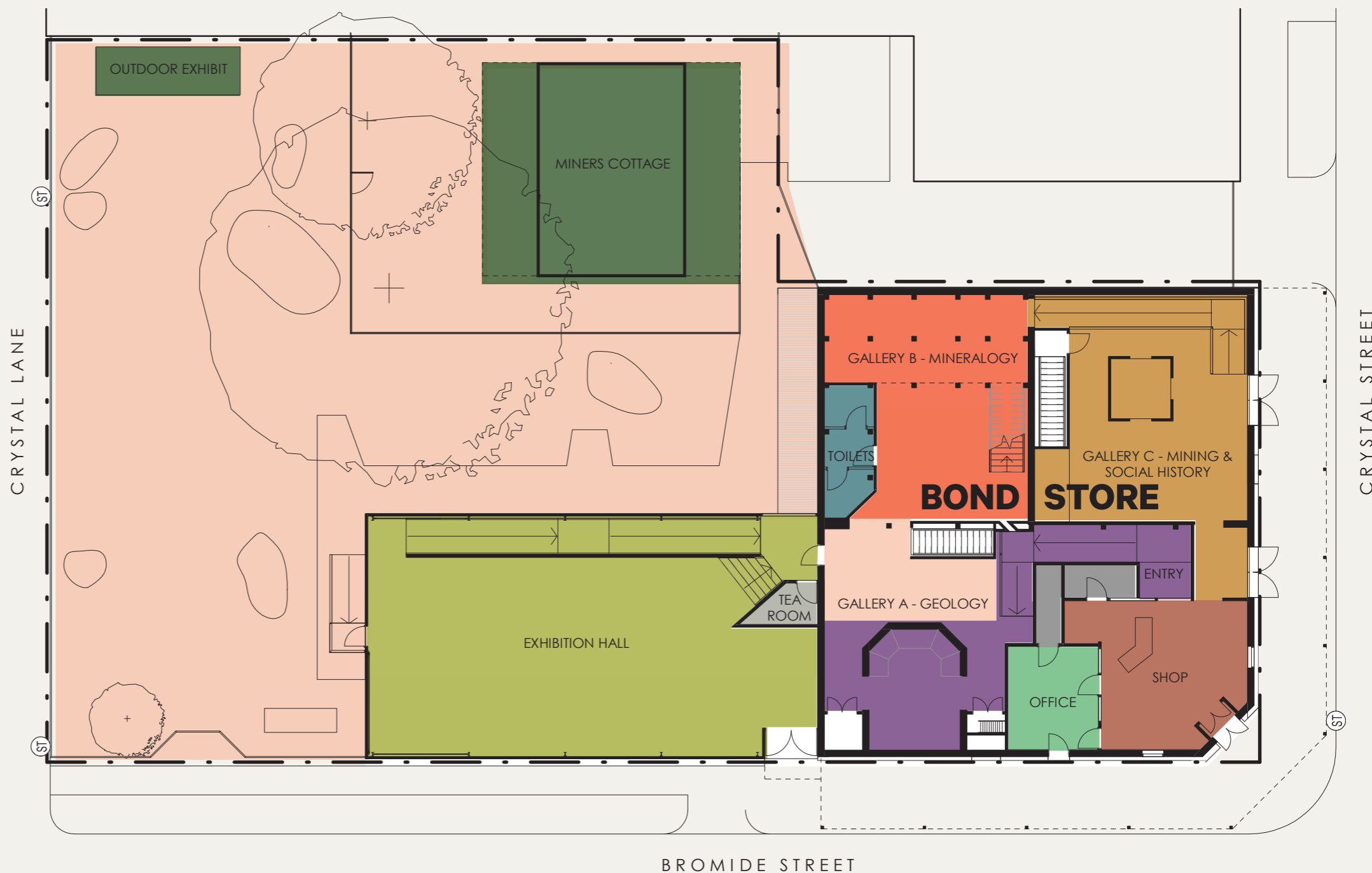


Existing use

The total site area is approximately 1300m²
 The Bond Store is approximately 400m² and
 the Exhibition hall is approximately 200m²
 leaving the rear of the site as approximately
 700m² (including the Miners cottage).

The 700m² of rear area is identified as the
 most under utilised an disjointed area of the
 site with no clear connection between the
 Miners Cottage and the Museum itself.

AREAS KEY	
 SCIENCE	- 53m ²
 MINERALS (inc Mezzanine)	- 108m ²
 MINING	- 110m ²
 SOCIAL/ EXHIBIT	- 183m ²
 HISTORY	- 79m ²
ABORIGINAL ARTIFACTS	- NIL
 STORAGE (inc Basement)*	- 238m ²
 SHOP	- 39.5m ²
 STAFF	- 22m ²
 TOILETS	- 12m ²
TOTAL USED	- 844.5m²
TOTAL SITE	- 1300m ²
 UNDERUSED	- 674m ²
OFFSITE	- est 30m ²
*2x shipping containers inc. aboriginal artifacts and historical mining equipment	



Movement & congestion

- Total Site – 1300m²
- Bond Store – 400m²
- Exhibition Hall – 200m²
- Outdoor Area – 700m² (inc Miners Cottage)

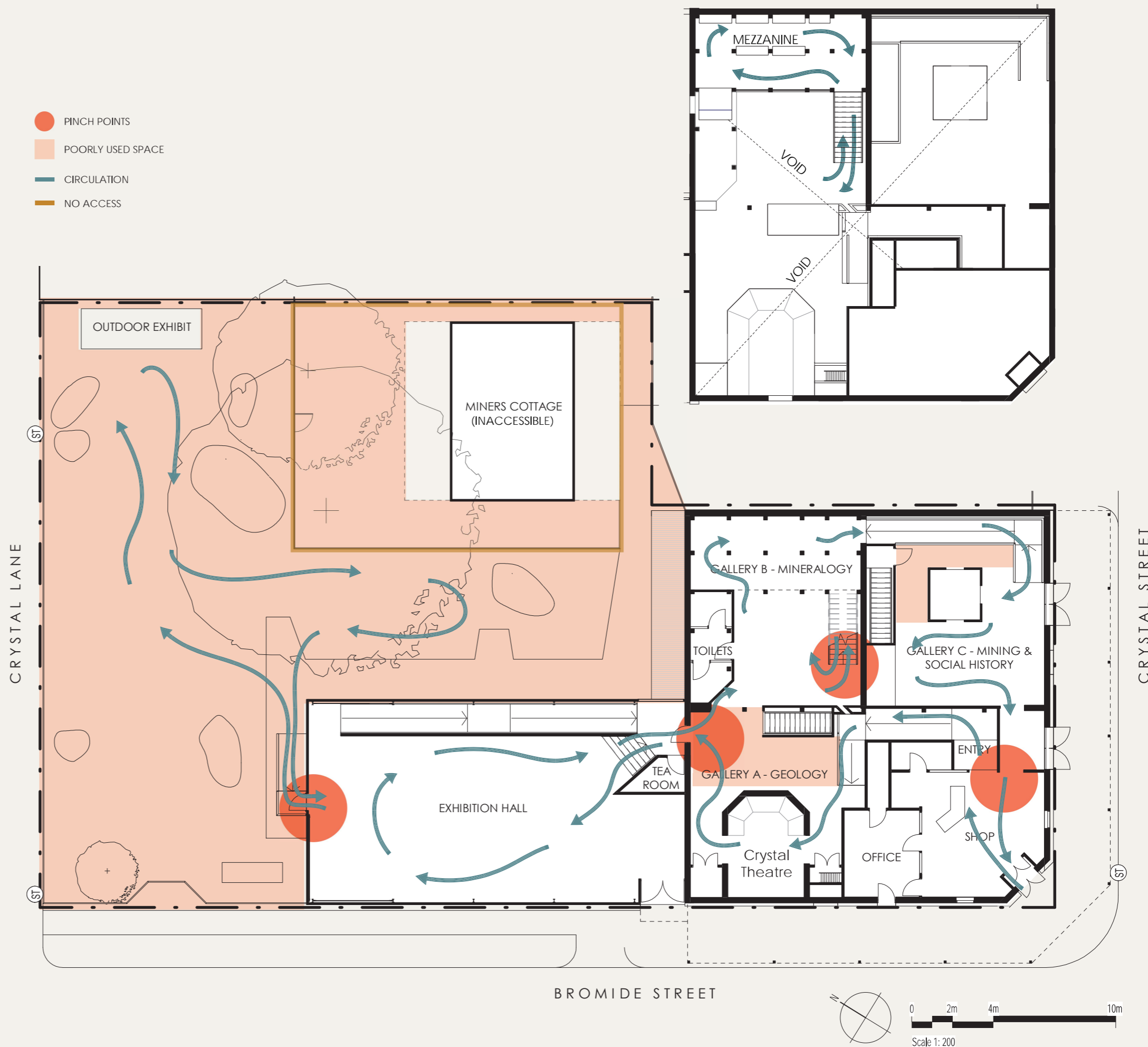
The 700m² of rear area is identified as the most under utilised and disjointed area of the site with no clear connection between the Miners Cottage and the Museum itself.

There are an assortment of bolders scattered throughout the external courtyard, but there isn't a clear story being told or an incentive to investigate. With a large external space, there is opportunity for mining equipment displays, and historical storytelling linking to the Miners Cottage, once refurbished.

There is a clear disconnect between the Bond Store and Exhibition Hall which in effect limits the movement towards the outdoor area and Miners Cottage. The mezzanine is only accessible by stairs so is currently not DDA compliant, as is the basement – currently only staff access.

Gallery A contains minimal interps display outside of the Crystal Theatre. This space is a missed opportunity for more interactive display and information points.

In Gallery C there is a squeeze point behind where the the Silver Tree is display centrally, which could be better arranged for a nicer viewng experience.



2.02 The Exhibition Space

The current exhibition space struggles to have a clear connection with the Old Bond Store minerals and mining display.

The Old Bond Store is a very dark space and as a consequence the movement between spaces and the sudden change in light levels can impact users cognition and safety.

The disparate nature of the spaces and lack of connecting displays and narratives, impacts the coherence of the Museum experience.

The current exhibition space is shared across of the Old Bond Store (ground floor and mezzanine) and the Exhibition Hall.

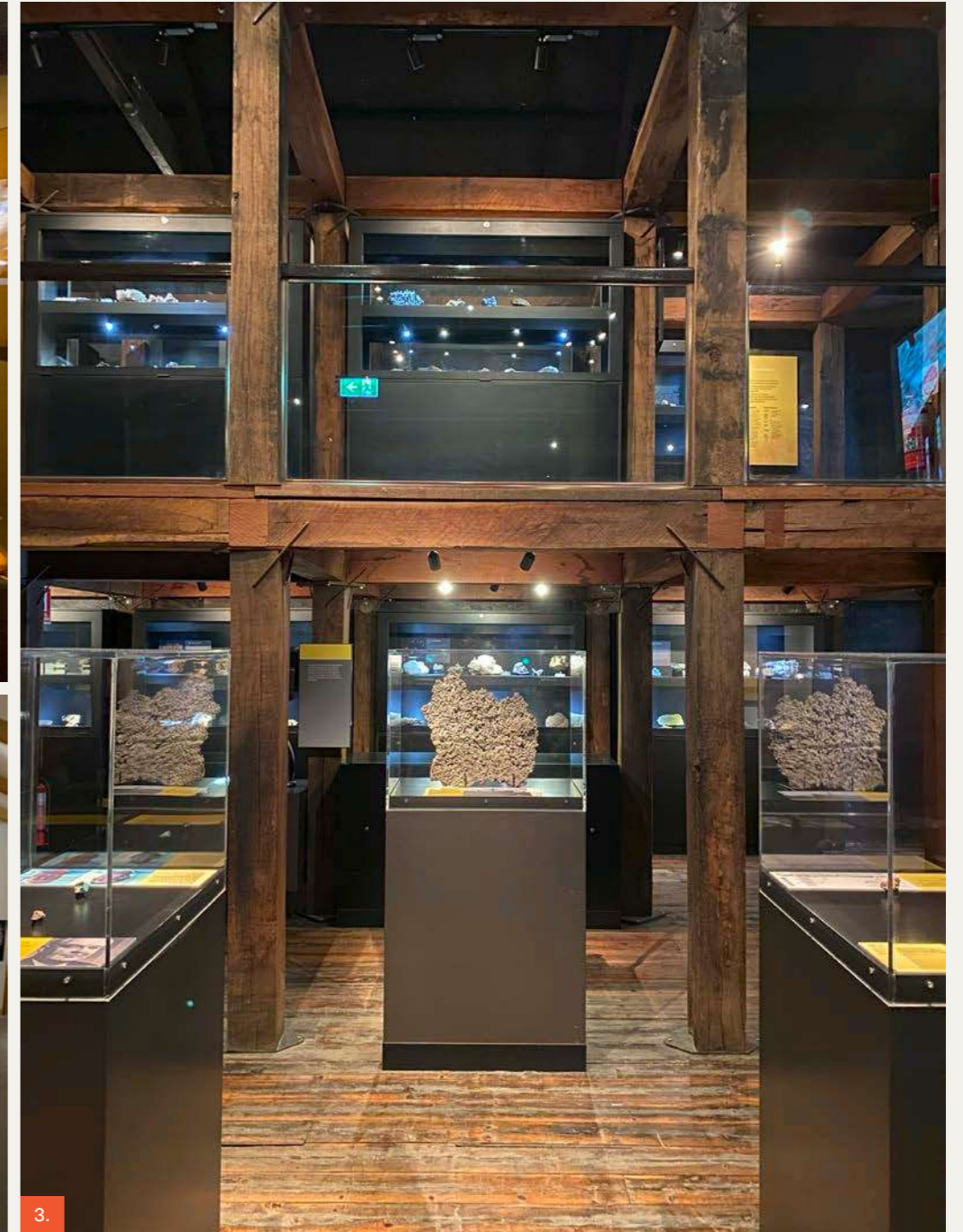
The Old Bond Store housing the Minerals and Mining display is sparsely lit and as a product of a retrofitted space the visitor flow is poor and several conflict points exist.

The Exhibition Hall has a poor connection with the Old Bond Store.

Movement from the Old Bond Store in to the Exhibition Building is abrupt and the passage from a dark to a highly lit space is considered unpleasant for the visitor.

There is no carrying narrative between the spaces which contributes to the disjointed experience.

A double door that opens to the Bromide Street frontage is not active, but is known to have been proposed at the time of building to be a new entry, reception desk and retail outlet for the Exhibition Building.



1. Display of collection samples
2. Exhibition space
3. The collection

2.03 Accessibility

Accessibility Overview

The museum must be designed with accessibility in mind, with features such as wheelchair accessibility, audio description, and language translation capabilities necessary to ensure a safe and enjoyable experience for all visitors.

Installation of ramps, widened doorways, and elevators in the building, as well as accessible toilets and other facilities are key components of the implementation strategy.

Ensuring signage is in multiple languages, utilizing assistive technology such as voice recognition, screen readers, and hearing aids to ensure that people with sensory impairments can engage with the museum are also necessary for implementation of each stage of the Master Plan.

Making the website accessible and usable with keyboard and screen readers, Incorporating audio, video, graphics, and other visual content to provide an immersive experience and make sure those with learning disabilities can access the Museums fountain of knowledge.

Design the digital platform with features such as adjustable font size, colour contrast stages, and other accessibility related settings.

Provide training to staff on how to interact with people with disabilities and ensure any volunteers are aware of the accessibility strategy.

Accessibility Strategy

The accessibility strategy for the Museum would involve taking steps at each stage of the Master Plan implementation process to ensure the physical environment and digital platform are accessible to all visitors.

Currently the main public entry to the Museum is not DDA compliant and this should be the first priority for stage one of the Master Plan implementation process.

The existing toilet facilities are not DDA compliant and this should be addressed within stage 2 of the Master Plan implementation process.

The mezzanine and basement are not accessible which is addressed via a new mine type experiential lift to be installed as part of stage 2 & 3 of the Master Plan implementation process.

DDA access to the basement will be fully complete with implementation of stage 3 of the Master Plan and the whole site should be DDA (AS1428) compliant with the implementation of stage 4 of the Master Plan.

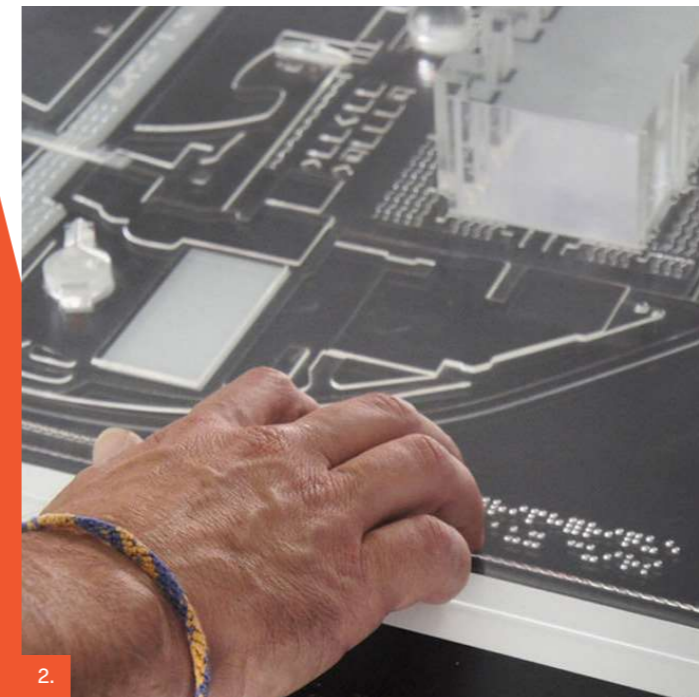
Visual Accessibility

Legibility of information, wayfinding and interpretive elements is impacted by the low light conditions within the existing spaces.

Adequate lighting for disability compliance is therefore a priority to improve exhibitions and the overall visitor experience.

A new and improved exhibition lighting system including ambient and task lighting in the Museum will enhance visitor amenity and improve accessibility.

1. Text-to-speech voice software enables the effortless conversion of written content into various languages, making these guides accessible and accommodating to a broad spectrum of visitors.
2. Tactiles and Braille to assist visually impaired visitors



2.04 Visitor site navigation

Arrival experience and site wayfinding

It is evident that the Museum can significantly benefit from a more comprehensive wayfinding system. Currently, the arrival experience within the heritage building is highly congested and diminishes the arrival experience for first time visitors.

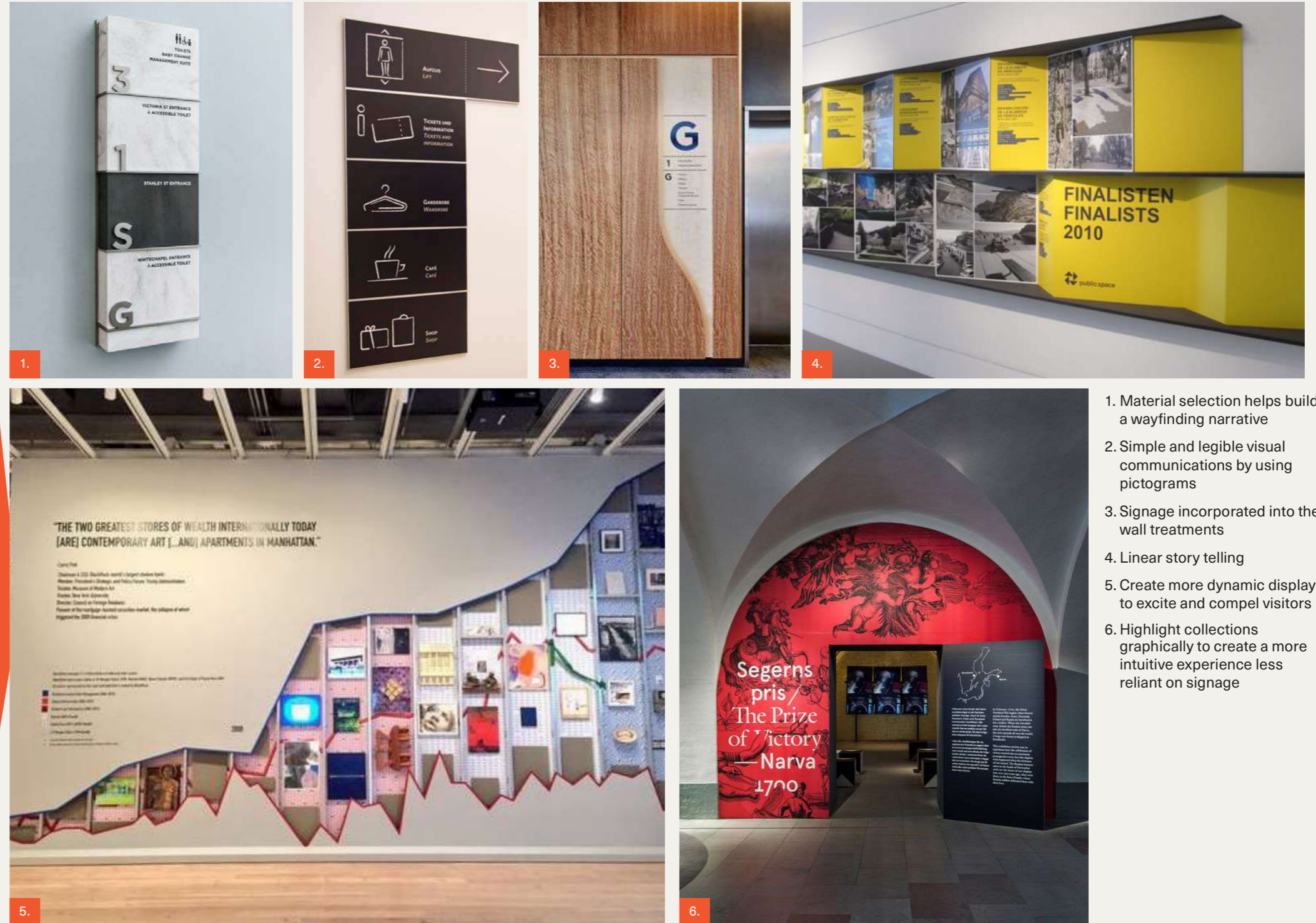
Internally, the layout has had to adapt to the heritage building configuration and as a consequence inhibits intuitive visitor movement pathways. The narrative between displays and collections is disparate, causing confusion regarding the sequence or connection between exhibits.

The identification of basic amenities such as toilets needs considerable improvement. Inconsistent signage further adds to the site navigation difficulties. Improving site mapping for visitors would alleviate some of the current navigation issues.

We recommend a more coherent wayfinding system that articulates a clear relationship with the unique collection. Crafting a logical progression between exhibits will enormously enhance the visitor experience and comprehension of the centre.

Considerable effort should also be devoted to creating a more inviting and seamless arrival experience. This first touchpoint sets the mood and initial perceptions of the visitors.

In summary, a more insightful, intuitive and meaningful navigation story is a necessity. By refining signage, optimising visitor flow and prioritising visitor experience, the Museum can substantially improve its accessibility, influence and charm.



1. Material selection helps build a wayfinding narrative
2. Simple and legible visual communications by using pictograms
3. Signage incorporated into the wall treatments
4. Linear story telling
5. Create more dynamic displays to excite and compel visitors
6. Highlight collections graphically to create a more intuitive experience less reliant on signage

3 Background Research

3.01 Strategic Context

There are a number of State and local strategies that provide context for an investment in the redevelopment of the Museum and associated tourism experiences.

NSW Visitor Economy Strategy

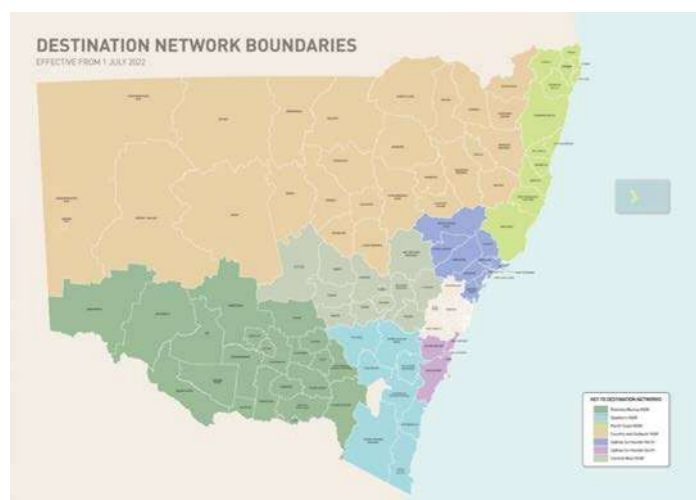
The Visitor Economy Strategy 2030 acknowledges regional NSW as a key to the future of the NSW visitor economy.

The NSW statewide target for 2030 is \$65 billion in total visitor expenditure. The goal is for Regional NSW to contribute \$25 billion in overnight visitor expenditure to this target.

The NSW Government supports the growth of the state's tourism and events sector through Destination NSW. Destination NSW's role is to market Sydney and NSW as one of the world's premiere tourism and major events destinations.

It supports regional tourism through:

- Destination Networks.
Responsible for developing visitor experiences, marketing, coordinating services to industry, local tourism organisations and councils, and administering Destination Management Plans.
- Regional Flagship Events Program.
- Regional Visitor Economy Fund.



<https://www.destinationnsw.com.au/our-industry/destination-networks>

Country and Outback NSW Destination Management

The Country and Outback NSW Destination Management Plan identified the main opportunities and challenges for the region many of which are directly relevant to Broken Hill.

The Country and Outback NSW region Destination Network comprises 25 local government areas organised into three main sub-regions:

- Outback NSW.
- New England.
- North-West and Great Central Plans.

Within this region, Broken Hill sits within the subregion of Outback NSW.

The Destination Network's mission is to: facilitate the development, enhancement and promotion of world-class visitor experiences and events that create meaningful connections between the region, its communities, characters and businesses with visitors.

Broken Hill Economic Development Strategy

The 2022 – 2027 plan outlines the city's economic focus for the past 20 years has been to broaden the economic structure and to focus on the visitor economy and promote Broken Hill as a liveable city that offers an immersive cultural visitor experience and enviable lifestyle.

Pillar four of the plan is to grow the visitor economy. The plan states that Broken Hill's visitor economy has continued to grow during the past decade with an increase in domestic visitor numbers, the introduction of two new nationally recognised festivals and an increased interest in the city and region as a film and television destination.

There is an identified need to strategically promote the region's existing and unique offering, improve the visitor experience and explore new avenues,

such as self-determined Aboriginal cultural tourism, participatory creative learning, promotion of the city as an icon of the Australian heritage and modern art scene and outback nature-based experiences.

Broken Hill Advocacy Strategy

This 2022 strategy lists the following visitor economy related advocacy priority projects:

- Broken Hill Regional Airport Redevelopment.
- CBD Revitalisation – including new Library and Archives Stage Two E.P. O'Neill Memorial Park Upgrade.
- Opening of Imperial Lake Sustainability and Nature Park.
- Rail link from Broken Hill to Melbourne and second service from Broken Hill to Sydney.
- Tourism transport road links.

Tourism is listed as an opportunity with the following assets:

- Australia's First Heritage Listed city branding.
- Tourism governing body is established with representation from all stakeholders and a sustainable funding model.
- Nature-based, 'eco' and adventure tourism.
- Silver to Sea Way Stage 2.
- Opening of Imperial Lake Sustainability and Nature Park.
- World Heritage Listing Broken Hill Trades Hall.
- Events and conferences.
- Cultural and Indigenous tourism.

Far West Regional Economic Development Strategy (REDS)

The REDS strategy (that incorporates Broken Hill, Central Darling and Unincorporated NSW) aims to leverage the Region's endowments, such as: mineral resources, agricultural land and the landscapes and abundance of space to support festivals, events and camping experiences, along with cultural heritage (First Nations and European).

One strategy of the plan is to: Grow the arts and recreation, film and television, and visitor economy sectors by capitalising on the region's heritage, cultural, seasonal and natural endowments.

The plan identifies tourism as an industry specialisation and as a comparative advantage for the Far West region, based on employment concentrations in industry sectors.

BHCC Delivery Program 2022-2026

The Master Plan is a key supporting feature to enhance strategic objectives under the delivery program from the Museum, including links (amongst others) to the following strategies:

- Strategy 1.3.1 to support public programs at the Museum
- Action 2.4.2.3 leads on from the Master Plan to develop a business plan for this facility.
- Action 2.4.4.4 leads on from the Master Plan to enhance operations at the Museum to support the visitor economy.

3.02 Review of the Museum’s current situation

Country Outback Destination Network

The Country Outback NSW visitor economy delivers 6.9% of the region’s jobs, supports 5,487 businesses and directly delivers 3.6% (over \$1 billion) of the region’s Gross Value Add. This has grown every year since 2010-11 at an average of 5.3% pa.

In the year ended December 2022 visitors stayed an average of 3.2 nights and averaged a spend of \$194 per night.

The main purpose of visits to the region was holiday (35%) followed by Visiting friends and relatives (27%). Most (53%) of visitors were from Regional NSW.



Extract from Country Outback Destination Network, Destination NSW

Visitation to Broken Hill

Visitation to Broken Hill pre Covid was 229,000 (year ending Dec 2019) with an average length of stay of three nights. This had recovered to 253,000 for the year ending June 2023.

International visitor numbers are small (7,400 for year ending Dec 2019) and recent figures show a recovery to these levels after a significant decline from 2020-2022.

Half of visitors to Broken Hill travel for a holiday (99,000), with 34% travelling for business (67,000) and 14.9% visiting friends and relatives (29,000).

Council collates visitor numbers for entry to the Visitor Centre on Bromide St in Broken Hill. This shows 82,707 for the year ending June 2023, with numbers recovering after a low of 48,159 during Covid but not yet reaching pre-Covid levels of around 100,000.

Visitation at Albert Kersten Mining and Minerals Museum

Visitor statistics are collected by staff at the Museum for each entry.

These show annual visitor number are in the range 7,000 to 8,000, representing about 10% of the visitors at the Visitor Centre.

For the year ending June 2023, visits were at 8,732, up against previous years for which data is available.

The numbers show a seasonal fluctuation favouring winter with up to 1,813 in a peak month and a low of 382 (ignoring Covid affected months). This averages to a high of 60 people a day to a low of 12 per day.

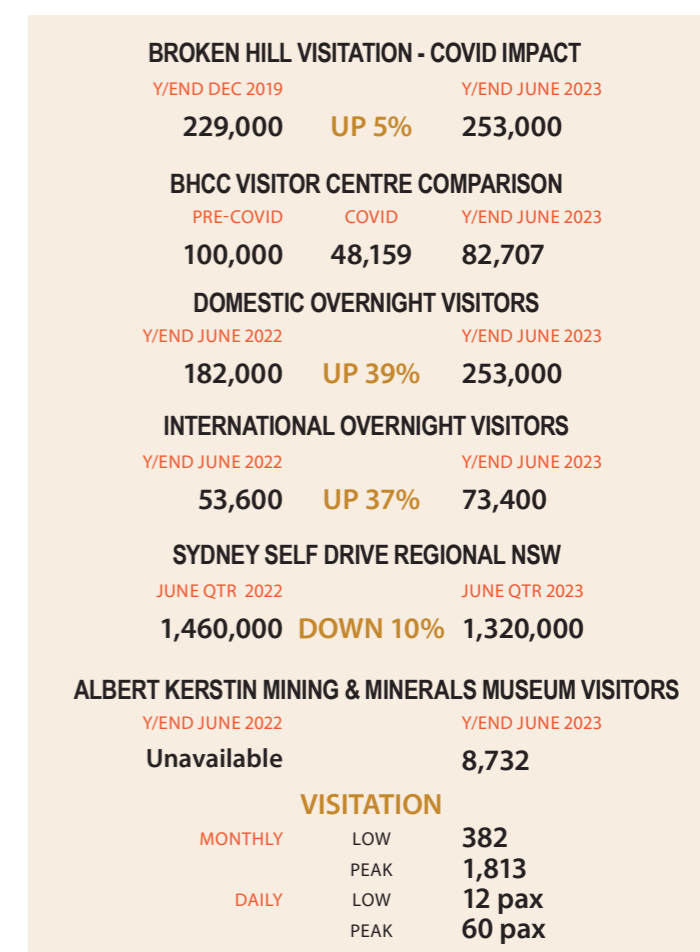
Broken Hill Local Government Area Tourism Monitor

Updated to the Year ending June 2023

Key Points For Year Ending June 2023

- An estimated 253,000 domestic overnight visitors spent at least one night in the Broken Hill Local Government Area in the year ending June 2023. This represents a new record for a year end June period.
- This estimate is 39% higher than the year ending June 2022 -a statistically significant change using a standard test.
- Broken Hill’s percentage YOY change is similar that of the NSW Reference Area and broadly similar to the SA reference area.
- All comparison areas apart from Wentworth experienced strong to very strong year-on-year growth (caution -low sample size & at least moderate sample error -treat as indicative).
- The Sydney self drive holiday market recovery monitor (far right) shows a decline in trips to 1.32m to destinations within Regional NSW. This is below the June quarter in 2022 (1.46m) and the June quarter in 2019 (1.44m).
- International visitors spent an estimated 73,400 nights in the Broken Hill Local Government Area in the year ending June 2023
- This is 37% above the visitor nights volume in the year ending June 2019
- A year-on-year (YOY) percentage change has not been calculated given the previous years’ estimate included non-IVS data

- The NSW Reference area recorded an increase in their visitor nights volume but the SA reference area remained similar to the previous year end period.
- The Broken Hill index rose to 130 -one of the highest scores in the index
- This movement in the index is clearly favourable compared to both the NSW and SA Reference areas which remained well below the index start point.
- The recovery in visitor nights for Regional NSW shows China nights significance increasing despite the decrease in visitor numbers significance.



Data from Broken Hill Visitor Centre visitor data

3.03 Visitor economy

Regional strengths and challenges

The Country and Outback NSW Destination Management Plan identified the main opportunities and challenges for the region many of which are directly relevant to Broken Hill.

These are summarised in the SWOT (strengths, weaknesses, opportunities, and threats) analysis diagram displayed here.

Main Opportunities & Challenges

The following SWOT were identified during the destination management planning process to inform the development of the Country and Outback NSW DMP.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> Outstanding natural assets, spectacular night sky and expansive horizon reinforce the sense of freedom and open space Rich history and heritage Fascinating combination or laying of geological and cultural influences on a timeless landscape Broken Hill (30% of visitors to the NSW Outback visit Broken Hill) Taronga Western Plains Zoo (attracts 250,000 people p.a. to the Great Western Plains region) Tamworth Country Music Festival (50,000 people over 10 days) 	<ul style="list-style-type: none"> Domestic overnight average spend in both the New England North West and Outback NSW sub-regions is lower than the NSW regional average (\$171) Average night stay in Greater Western Plains (2.4 nights) and New England North West (2.9 nights) is lower than NSW regional average (3.2 nights) Limited collaboration between stakeholders in the visitor economy Fragmented tourism community Road access and quality of the road network as well as intra-region transport options Use of digital technology by industry (especially online, e-commerce and to support visitor servicing) below market and visitor expectations Quality of interpretation and way-finding signage varies greatly
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> For the Greater Western Plains and New England North West hubs, VFR is a strong a motivator for travel – on par with holidays Tapping into the Odyssey travel trend and the renewed interest in road trips - landscape-scale, experiential itineraries that link destinations through trails and touring routes (over 95% of visitors drive to the network area) Growing demand for private air charters Events, particularly (but not exclusively) outdoor events or those that take advantage of the landscape setting, including the night skies Adopting new technology and integrating it into all relevant areas of the visitor economy from visitor services through to workforce support and interpretation Aboriginal Cultural tourism, including: <ul style="list-style-type: none"> » More personalised, immersive and transformative experiences » New model for encouraging Aboriginal cultural tourism Ruralisation of tourism, which is resulting in increased demand within domestic markets for travel to regional Australia – links to increasing interest in agri-tourism Sustainability and eco-tourism, including active transport and to support e-vehicles 	<ul style="list-style-type: none"> The shift from transactional to transformative travel Digital transformation required to future-proof the visitor economy and meet the expectations of contemporary markets/travellers Major infrastructure projects competing with leisure markets for occupancy and access Domestic market demand likely to soften with the opening of international borders Increasing cost of fuel and cost of living pressures (including inflation) impact domestic demand for discretionary holiday expenditure, especially for road trips and odyssey travel Regulatory barriers to agri-tourism and eco-tourism both at the state-wide and LGA levels Improved connectivity relating to digital and communication technology Attracting and retaining talent in a highly competitive workforce environment

SWOT Analysis table

Enablers

The planning process also identified several enablers relevant to the Museum, including:

- Greater support is required for businesses (especially small to medium-sized enterprises), new market entrants and industry development, including a more holistic, whole-of government approach to building capability and capacity.
- Given limited resources, new or emerging opportunities could result from additional funding received through State or Commonwealth Governments' grant programs. However, a challenge is identifying the resources to apply to this task, especially to ensure that robust feasibility and return on investment analysis and appropriate master planning can be undertaken to attract investment.

3.03 Visitor economy

Target Markets

The Country and Outback NSW destination management planning process identified the following main visitor markets and growth development opportunities.

Domestic Overnight Visitor Market

The domestic overnight visitor market is the critical market for sustainable success in terms of both volume of visitors and value of visitors.

While day visitors are also an important segment, they definitely contribute far fewer dollars to the visitor economy. Overnight visitors to Outback NSW region provide 73% of visitors and 90% of all visitor expenditure.

Source Markets

Tracking visitor flows is made complex by the sheer size of the Country and Outback NSW area including:

- A high volume of visitors reside within the network area
- Inter-state visitors tend to visit towns on the edges of the network area more than the interior.
- International visitors comprise less than 1% of visitors across the whole network area. While the number of international visitors is low, the international market may still offer opportunities to target the Free & Independent Travellers (FIT) market; a segment that pre-COVID represented 83% of all international visitor arrivals to NSW.

The following table provides the source markets as an average over eight years from 2012 to 2019 using Tourism Research Australia (TRA) data. This data is more consistent than 2020 and 2021, when interstate travel was restricted.

Drive Tourism

Major highways intersect the network area, carrying visitors through multiple LGAs and hubs. With over 95% of visitors driving to and through the network area, this is a critically important segment for the Country and Outback NSW region.

The importance of understanding the drive tourism or touring market and their needs and aspirations is critical. A key insight is that these markets are seeking more experiential itineraries compared to visitors who stop somewhere as part of 'point to point' travel.

The growing interest and demand for drive tourism is not restricted to older demographics. Younger generations, including Millennials are taking the opportunity of more flexible work arrangements and a desire to explore Australia by road.

A key to success in drive tourism is experience-led itineraries and touring routes that showcase opportunities to slow-down and spend longer in the destination.

Age and Lifestyle Segments

Lifecycle segments identified in TRA data shows three key segments across the network: Baby Boomer couples, Gen X families and Gen X couples.

Gen X are eager to experience new places and are especially drawn to cultural experiences. Expedia Group Media Solutions found that 71% like to explore off-the-beaten-path activities and seek local recommendations.

Millennials continue to travel more domestically than previous generations of their age. The Covid-19 pandemic increased the interest of this market in road trips and regional holidays.

Cultural and Heritage Tourism

Australia's cultural and heritage offerings act as a critical demand driver within the visitor economy.

Cultural tourists stay longer and spend more - visitors generate higher yield on average, spending more (24% more for international visitors and 56% more for domestic visitors) and stay longer (37% longer) when they incorporate cultural activities into their visit.

Along with population growth and overall growth in domestic tourism, the numbers of Australians engaging with the arts while exploring their own country is growing. In 2019 in NSW, there were:

- 4.1 million visitors (up 3.1% year on year) art and cultural visitors in the state.
- Staying 83.1 million nights.
- Spending \$14.3 billion (up 2.4% year on year).
- The average length of stay for an arts overnight trip was 3.8 nights, slightly longer than for other domestic trips.
- Holiday travel was the largest driver, accounting for 61% of overnight trips. Visiting friends and relatives was the second largest category (26% of trips).
- Almost 30% of visitor nights were in the home of a friend or relative.
- The most popular arts and cultural activities were attending museums and art galleries, accounting for 51% of visitors.
- Arts and culture visitors had a propensity for social activities, such as: eating out at a café or restaurant – 83% of visitors; visiting friends or relatives – 42% and going sightseeing – 47%.
- There have been increases across all arts activities: visiting museums and art galleries; attending performing arts; visiting art or craft workshops or studios; attending festivals; and experiencing First Nations arts and craft — more domestic visitors attend the arts than organised sport, amusement parks or wineries.

Who are the cultural and heritage visitors?

Destination NSW's definition of an art and cultural visitor is a visitor who participates in at least one of the following activities:

- Attend theatre, concerts or other performing arts
- Attend festivals, fairs, or cultural events
- Visit museum or art galleries
- Visit art, craft workshops or studios; visit historical heritage buildings, sites or monuments
- Experience Aboriginal art, craft and cultural display
- Visit an Aboriginal site or community
- Attend Aboriginal performance.

Nationally, domestic arts and cultural visitors are similar in profile to the average domestic visitor.

At a regional level, domestic overnight art and cultural visitors spent approximately \$171 million in 2019. They stay an average of 4 nights in the region.

3.03 Visitor economy

Regional museums and galleries are popular

When visitors go into regional Australia, about 43% go to galleries, concerts, or museums — that compares to around 13% who are visiting wineries or organised sports events.

Research conducted by Museums and Galleries NSW in 2015 shows that visitors already comprise 40% of regional museum audiences – a significant audience segment with the potential for growth.

International visitors

Globally, heritage tourism has become one of the largest and fastest growing tourism sectors, with the United Nations World Tourism Organisation estimating that more than 50% of tourists worldwide are now motivated by a desire to experience a country's culture and heritage.

Pre covid, international arts and cultural tourism to Australia was growing. Over the last five years, it had grown at a higher rate than overall international tourism.

There is strong and growing potential for the arts and cultural to help drive regional tourism in the future. Research shows that international arts visitors are more likely to visit regional Australia than international visitors overall. Arts and cultural visitors are more likely to travel outside capital cities (42%) than overall visitors (34%). This trend is growing – since 2013 there has been a 41% increase in international arts and cultural tourists visiting regional areas, while total international tourists visiting regional areas increased by 37%.

Investment

Investment in the Arts, Recreation and Business Services space remains a priority for the attraction and retention of domestic and international visitors.

These projects complement existing attractions, both natural and man-made, or draw new tourists into less visited areas. They are important in the development of tourism communities, to regional dispersal efforts, as arts and cultural visitors seek new and interesting experiences.

In 2018–19, arts, cultural and museum infrastructure overtook sporting infrastructure to become a prominent source of investment in the pipeline, reaching \$5.7 billion.

Growth in visitors seeking cultural and authentic experiences has helped to drive investment in this area.

Potential audience focus for the Outback NSW Regions

There are three major focus areas relevant for Broken Hill and the Museum:

- Visitors in both day and overnight markets comprise Gen X (working families and couples born between 1965 and 1980) along with Baby Boomer retirees (55+ couples).
- Nature-based and Aboriginal cultural tourism are important drivers of interest for Outback NSW.
- A number of special interests are particularly relevant to Outback NSW, including four-wheel driving, photography and birdwatching. Outdoor events have also provided a major draw-card, such as the Mundi Mundi Bash in Broken Hill.

Future market growth opportunities

There are several market segments where significant growth is expected to continue both within Australia and around the world, including:

- The continuing rise in the numbers of contemporary female travelers, who are more likely to have a higher disposable income and to travel either on their own or in small groups of friends. They are also key influencers in family travel. This market is seeking new experiences that immerse them into the destination and the local culture.
- The continuing evolution of the fifty-five plus (55+) market. More people are choosing to travel earlier than retirement to enjoy the more active or immersive experiences that destinations have to offer. Globally, the 55+ market has the highest disposable income and are seeking new destinations to add to their bucket-list. They are as equally excited about an Australian holiday as they are about an overseas trip. This market is largely misunderstood; they want to engage and be part of the 'local scene'. They are also much more active and want to be perceived as being 'young at heart.' Domestically, they are also looking for short break escapes and often choose to travel outside of peak periods to avoid the crowds.

- Digital Nomads and the flexible working revolution. This market is growing rapidly. While connectivity (for ease of remote working) is important, they are also seeking experiences and activities to enjoy while they are in the region. They want to feel like a local for the time they are in the destination. Accommodation stages that cater to their needs are an important consideration. Importantly, digital nomads are not all about long-term travel and not confined to a single demographic or generation. Short breaks (more than just a long weekend) and school holidays are also an opportunity to attract digital nomads and their families.

Referenced Materials:

- Broken Hill Visitor Centre visitor data
- Broken Hill Visitor Monitor
- Tourism Research Australia data
- Broken Hill Economic Development Strategy
- Broken Hill Cultural Plan
- Broken Hill Advocacy Strategy
- Far West Regional Economic Development Strategy
- Country and Outback NSW Destination Management Plan
- NSW Visitor Economy Strategy

3.03 Visitor economy

What this means for the Museum?

The Museum currently attracts just a fraction of the visitors to Broken Hill. Given the broader market trends and evolving expectations there is considerable potential to make the Museum a must-do experience for these existing visitors.

Important relevant trends in the market include a greater proportion of digitally savvy Gen X and Millennial's and the increasing numbers of culture and heritage tourists.

The Museum hosts an internationally significant collection of mineral specimens that is directly relevant, or even central to, the Broken Hill experience.

Investing in improving the scope and quality of the collection to ensure high quality samples of all Broken Hill specific minerals as a minimum will ensure the collection maintains its standing.

Improving the quality of the displays and information about the specimens will enhance the visitor experience and is essential to maintain the relevance of the collection and maintain visitation.

The level of investment and sophistication of the presentation and interpretation of the display will determine the uptake of the museum experience by existing visitors. Investment in a world-class experience may attract additional visitors to Broken Hill.

Currently there is no entry fee for the Museum, and revenue comes from retail sales and venue hire for the exhibition hall. Dependent on the nature of the new interpretive experiences, there could be an "icon" experience which is a paid for value add, while the main display remains free. Other initiatives such as "membership" or other ongoing relationship arrangements may be attractive for collectors and create ongoing revenues.

The Museum's location in a heritage listed city is also important for its success. Along with more than 20 other museums, galleries and displays spread across the city, the Museum contributes to the telling of the Broken Hill story.

The building and site upgrades proposed by the Master Plan allow for a modern, mining and minerals specific museum, with an improvement to the collection display and interaction for all visitors.

The quality of these other collections also impacts on the overall reputation of the destination. Improved coordination, marketing and support for the full range of these visitor experiences would contribute to the role and success of the Museum.

Of particular significance in this respect is the Miner's Memorial and visitor facility on the line of lode. This prominent feature in the city is an attractant that is currently underutilised. Development and presentation of this site is critical to the future of Broken Hill as a destination.

A coordinated program of Memorial events, visitor information, orientation and wayfinding, and sound and light experiences has the potential to significantly enhance Broken Hill's reputation as an event and heritage destination. Such initiatives would also enhance visitation to individual attractions such as the Museum.



Images of rainbow minerals display - Natural History Museum in Washington USA

3.04 Stakeholder consultation and aspirations

The consultant team undertook two trips of three days of site and stakeholder visits that encompassed the diverse and considerable public and private museums and collections across the BHCC LGA including:

- Line of Lode visit with Janette Thompson
- Silverton courthouse museum
- Jewish Museum
- Mosque Museum
- Bushy White Mining Museum
- Pro Hart Gallery
- Railway Museum
- Trevor Dart’s personal mineral collection
- BHCC Shipping containers with archival museum collections
- Jamieson House old mine managers house
- Imperial Lakes Broken Hill Land Care

Community consultation Sessions

On the 24th & 25th August 2023 community consultation took place at the Museum.

Attendees included 26 individuals including 2 x Indigenous community members over the two days.

Overview of feedback:

- Existing site is fine for smaller collection
- Alternative sites for a bigger experience would be good
- Night sky pollution needs to be avoided
- Use new technology to attract and improve the experience
- Designated bus parking required
- Accessible footpaths to building
- Dedicated storage and warehousing required to correctly preserve artefacts

- New extension as a local and regional landmark building
- Seating required inside and outside
- Upgrade the security of the displays
- Focus on current site housing geology, minerals and chemistry mining process, look at potential sites for social history
- Miners Cottage to be retained and restored
- Albert Kersten name to be retained
- Pepper tree not a keepsake
- Upgrade security fencing
- Some sort of exhibition space required for the town still
- Aboriginal history needs to be incorporated
- Interactive elements good for family experience
- Better display of artefacts and minerals needed

Overall response:

- If doing geology, minerals, mining & social then more space required than existing site
- Miners cottage to stay – if moved to Jamieson House there’s nothing happening there for who knows how long.
- Maintaining existing entry
- Important for the science to not be diluted to make way for additional content
- Stage 3 & 4 preferable



Images from the Community Stakeholder sessions.

3.05 Stakeholder consultation and aspirations

Mayor and councillor presentation

Tropo presented an overview of the Master Plan to the Mayor, Deputy Mayor, Councillors and Council's Executive Leadership Team on Thursday 7th March 2024.

Questions:

- Elevator as mine shaft experience important. Can this be included in Stage 1 instead of Stage 2?
- If the elevator doesn't go to basement in initial stage can a visual effects simulation be included?
- Operational costs - extra employees?
- How many visitors at \$15 per entry fee per day is the revenue generation calculated with?

Overall response:

- The elevator is important, resembling a mine shaft cage - a big drawcard
- The lift experience will encourage child visitation which in hand increases adult visitation
- Spending ██████ in Stage 1 should increase revenue - council aware of pressure the current museum is under to keep facility
- Need to make sure there is revenue generation in Stage 1
- The completion of Stage 4 delivers a Museum that people will pay money to visit
- Opportunity for photo sales
- Potential for Museum to become a full day experience for children/ tourists when Broken Hill becomes more reliant on tourism, post mining
- An economic analysis & full business case would be good to explore

Stage 2 Lift (2 levels) ██████
 Stage 3 Lift (3 levels) ██████



A Master Plan for the Museum

A premier Mining and Minerals Museum that promotes Broken Hill's unique mining history.

A destination for:

- discovering
- exploring
- learning

Focused on:

- building upgrades & developments
- enhancing visitor experience
- a world class facility for minerals & mining

Featuring:

- enhancing collection space & displays
- interactive exhibits
- a focus on minerals & local mining history

A world class specialised minerals & mining museum

Museum of WA - minerals collection

3.06 Precedents

Australian Museum Making Minerals

Location: Sydney, NSW Australia

Collection Size: >5,000 specimens

Online Catalogue: No

Admission: Free

Highlights & Lessons for the Museum:

- The museum, which serves as home to the Australian Museum's extensive mineral collection, innovatively repurposes a heritage building.
- The design of the display areas capitalizes on the lofty heights of the available spaces, consequently creating bright, naturally lit alcoves that contrast beautifully with more secluded, darker spaces.
- The basement display systems provide lessons on the effective use of task lighting to cultivate a confined, atmospheric ambiance.



3.06 Precedents

Australian Fossil and Minerals Museum

Location: Bathurst, NSW

Collection Size: >5,000 specimens

Online Catalogue: Yes

Admission: Priced and various discounts

Highlights & Lessons for the Museum:

- The centre is nationally recognised as a beacon of excellence in the tourism, cultural, and educational sectors, and it has received numerous local, state, and national accolades.
- It showcases stunning crystals from over 100 Australian mining sites and offers a display of spectacular and noteworthy mineral specimens from around the world, including diamonds, sapphires, rubies, emeralds, and other gems.
- It's a hotspot for families due to its key dinosaur exhibits.
- However, the centre has a limited offering of digital and interactive experiences.
- The exhibition is housed in a school building which, relatively speaking, is smaller than the Albert Kersten Mining and Minerals Museum.



3.06 Precedents

Stockman's Hall of Fame and Outback Heritage Centre

Location: Longreach, QLD

Average Revenue per Visitor: \$27

Total Visitors: 45,000

Highlights & Lessons for the Museum:

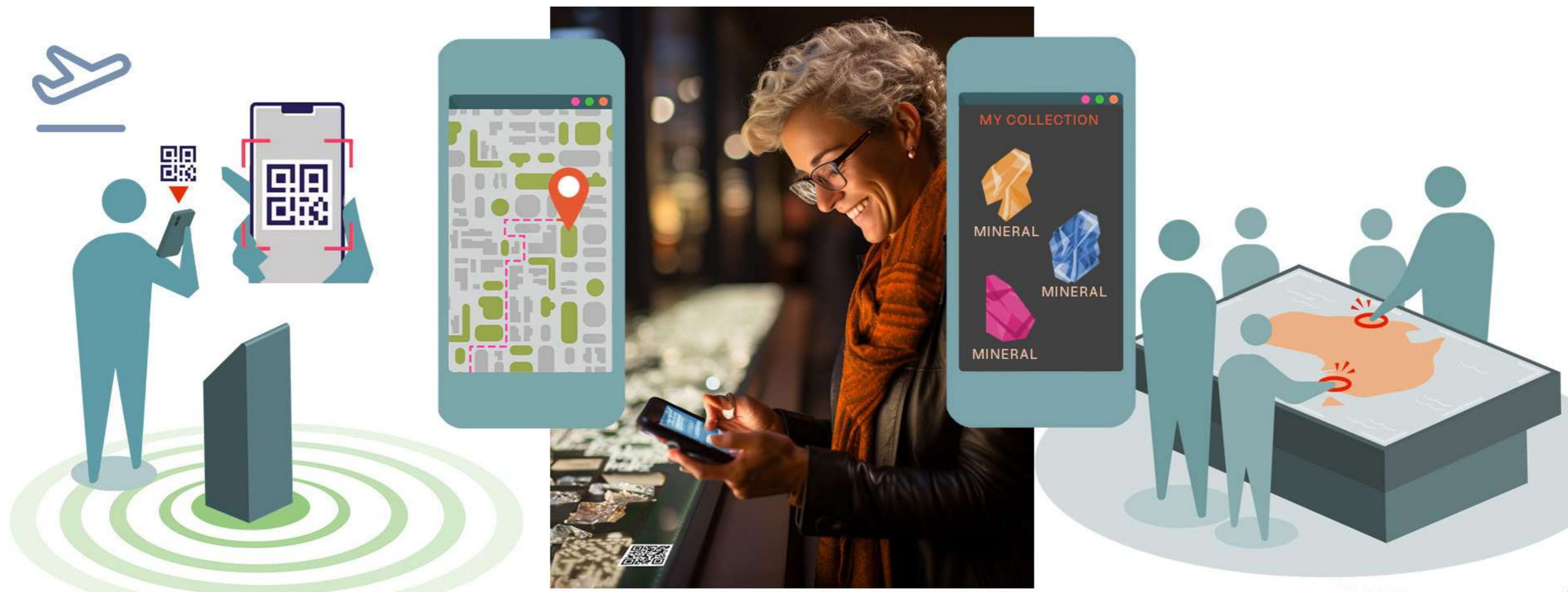
- Regional attractions have the potential to operate independently of local government support if they are able to establish a loyal base through memberships and donations.
- The Australian Stockman's Hall of Fame and Outback Heritage Centre, situated in Longreach, Queensland since its opening in 1988, is acknowledged as Australia's preeminent outback heritage institution.
- Interestingly, the Centre operates without continuous governmental assistance. Operations and maintenance are sustained through various streams such as admissions, souvenir sales, catering, membership subscriptions, sponsorships, and donations.
- Notable features of the Centre include the Stockman's Life live show, a cinema, café, museum galleries, and a retail shop.
- As a public company, limited by guarantee, the museum is recognised as a Deductible Gift Recipient and charity. Governance is provided by the Board, which is required to consist of no fewer than seven, but no more than ten directors. The exact number of staff members has not been disclosed, but estimates suggest the figure revolves around 20 full-time equivalents (FTEs).
- Interactive technologies play a key role in enhancing the visitor experience, embodied by the Centre's state-of-the-art self-guided audio tour.



A photograph of a person with long hair, seen from behind, walking through a museum gallery. The person is wearing a dark jacket and carrying a bag. They are walking on a wooden floor towards a display case containing various artifacts. The gallery has dark walls and spotlights. The image is partially obscured by a large, irregular, dark shape on the left side of the page.

4 Future Planning Requirements

4.01 Museum visitor scenario



ARRIVE AIRPORT + MUSEUM

A visitor finds information about the Museum and activates map directions by scanning a QR code at an airport display (printed or digital). They arrive and see an inviting facade, designed to align with the theme of minerals and mining in Broken Hill. It's hot outside, but as they enter, they are met with cool, dry air. The visitor catches their first glimpse of the exhibition space.

DISCOVER DISPLAY + AR

The two level exhibition space is filled with brightly lit glass-topped display cases, highlighting mineral samples and other collection content in contrast to lower lighting, and background sounds of mining. Samples have a QR code that leads to the Museum website with more information about the specimen and a link to view the mineral as a supersized Augmented Reality (AR) object. Visitors can digitally collect content that interests them to create a Line of Experience 'to do list' in the wider Broken Hill township that encompasses existing and new interpretive trails.

INTERACT MICROSCOPE / TABLETOP INTERACTIVE LIFT

In the centre of the room is a tabletop interactive with real microscopes connected. A child and their grandparent tap the touchscreen and investigate the microscope, and see one of the screens on the internal walls displaying a magnified mineral surrounded by additional information.

4.01 Museum visitor scenario



REVEAL

PROJECTION WALL

The visitor enters the exhibition hall. They see a large wall with a painted mural of the Line of Lode. They move their hand across the wall and the painted text comes alive with a projected video showing a driller in operation. They go through a light trap, entering a smaller enclosed black room containing minerals glowing under UV light.

REMINISCE

HISTORY + SMALL INTERACTIVES

The visitor continues and the space opens into a larger hall filled with some mineral specimens, displays of mining and the display of Broken Hill's rich social history. There are physical objects with interpretive displays and a mix of small screen interactives delivering captured visual and oral histories of the objects and their place and providence. The visitor sees some physical interactives that they can turn, pull and roll to operate demonstrations of the mining process.

REFLECT

MINERS COTTAGE

They take the exit into the internal courtyard, which provides an outside area for kids to make some noise and stretch their legs, and some shade to take a moment. There is a complete restored miner's cottage in this space. They walk down the central corridor and view each room. At the press of a button, a narration describes the room alongside sounds of life and objects highlighted by lighting.

4.02 Key Strategies and Frameworks

There are a number of supporting strategies, frameworks and planning outcomes that will need to be developed to support and inform the future development of the Museum. Listed below are the key Spatial, Experience and Interpretive frameworks that are foundational to the development of a world class museum experience.

An holistic approach that considers the spatial opportunities, circulation and exhibits will inform the user experience outcomes by creating a cohesive labyrinth of interactive exhibits and captivating stories. Every step of the journey will offer a unique learning experience that highlights the geology and area's mineral heritage.

Wayfinding elements and clear directionality will be essential to ensure visitors can traverse easily and have a fluid journey through the museum. Comfortable temperature, strategic lighting, and digital elements that bring exhibits to life will further enhance the user experience.

Additionally, these strategies will help to define and inform the particular infrastructure elements needed for the Museum including the physical and digital components from lighting, displays, signage, furnishings, facilities, access, content and artifacts.

Visitor Experience Framework

An external and internal interpretation system of physical and digital elements that connects back to the museum can be a great way to create a hub and spoke experience for visitors. By connecting points of interest around the city to the main museum, visitors can learn more about local history and explore the city in-depth, while still having the museum as the main hub and point of reference. To develop such an external system, elements such as outdoor sculptures, markers, informational plaques, and digital maps should be used.

These elements should contain detailed information about the city's history and culture, while also providing directions back to the museum at the end of each 'spoke'. Digital elements such as augmented reality (AR) apps, interactive elements, QR codes, and audio tours could also be used to enhance the visitor experience. These elements should be developed in for wide accessibility to cater to as many audiences as possible. Finally, feedback from visitors should be collected to help improve the experience and ensure the system is accessible and engaging.

Wayfinding Signage strategy (physical and digital)

Wayfinding is an important part of any museum experience and helps visitors orient themselves and find their way around. It is particularly important in large museums with multiple rooms and galleries, where visitors may become easily disoriented. Articulating pathways and entrances, landmarks, exhibits, and other important points of interest can provide visitors with a better understanding of the layout of the museum.

Good wayfinding can create a smooth and stress-free experience, which encourages visitors to interact with the exhibits and explore the museum more fully. Wayfinding signage should be clear and visible so that visitors can quickly orient themselves without getting overwhelmed. Signage should be consistently placed throughout the museum, and the language should be kept simple.

Wayfinding should also be designed to be accessible for visitors with disabilities, such as those with vision impairments. In addition, digital wayfinding tools such as maps and interactive

displays can be used to supplement traditional signage and enhance the visitor experience.

Interpretation and Storytelling Framework

Developing a narrative and story telling framework is critical to creating a coherent approach to the Museum. It will guide the design of the museum spaces, inform the curatorial future of the collections and identifying the key artefacts, objects and minerals needed to enrich the key themes.

Suggested narrative themes:

- Geology, Mining, Use.
- In the ground, From the ground, In the World
- Geology, Community, History
- People, Place and Product (Prosperity)

The Interpretation and Storytelling Framework at the Museum will use creative, immersive storytelling and experiential learning to engage visitors and foster understanding and appreciation of the area's mineral heritage. The interactive exhibits and activities will highlight natural science topics and the area's unique geological history.

Additionally, special programs and presentations will offer insights into the lives of miners and the broader mining industry. Through dynamic visual displays and captivating stories of our past, present, and future, visitors will be immersed in a transformative journey that will leave a lingering impact.

Minerals will be presented and interacted with in a variety of ways at the Museum. Hands-on exhibits will allow visitors to explore, touch, and feel minerals themselves. Interactive touch screen displays will enable visitors to learn more about each mineral in-depth. Audio-visual components, such as 3D-mapping and virtual reality, will bring minerals to life for a more immersive experience.

Displays will be supplemented with captivating stories of Broken Hill's mineral discovery and the lives of miners, providing an in-depth understanding of the area's unique geological history. Through the combination of interactive elements and storytelling, visitors will be provided with an unforgettable and transformative journey.

The new design of the Museum will create a unique landmark that is both aesthetically striking and functional. The design will strive to use the latest technologies and design features, such as large panoramic windows and rooftop terraces that create a direct relationship with the surrounding landscape and the City.

Inside the museum, the creative and interactive displays will be enhanced with strategic lighting and temperature control measures to create a comfortable and inviting experience. Additionally, digital elements such as 3D mapping and virtual reality will draw visitors in and provide an immersive journey unlike any other. Through the combination of architectural design features and interactive elements, the Broken Hill Minerals Museum will become a standout landmark and provide visitors with an unforgettable and compelling experience.

Interpretive Spatial Plan

At the Museum, the goal is to create a captivating visitor experience that leaves a lasting impact. To accomplish this, development of an interactive exhibition strategy that considers visitor demographics, best practice for sample displays, and the use of digital elements such as 3D mapping, virtual reality, and augmented/virtual reality.

Understanding the spatial requirements balancing the physical elements and digital experiences will be key to informing the Interpretive Spatial Plan.

The exhibits will feature hands-on activations to allow visitors to explore, touch, and feel minerals. Interactive touchscreens will offer visitors in-depth information and insight into the area's geological history. Audio-visual components, such as 3D-mapping and virtual reality, will bring minerals to life and enable visitors to experience things firsthand.

By leveraging a combination of creative storytelling, interactive elements, and digital displays, the Museum will become a world-class destination and a must-see for all.

4.03 Museum Digital & AV infrastructure

The following digital and AV solutions have been defined to underpin the physical components of the Museum redevelopment:

Digital Interactive & Experimental Foundation

1. A Web Based (Platform Neutral) Content Repository

To centrally store images, text, sound, augmented reality objects and other digital media from a variety of sources, in various formats across multiple topics - geology, mining, social history. A Content Repository will provide a scalable, centralised and resilient database to allow integrations with digital labelling, interactives, Augmented Reality (AR) trails and online resources such as the website.

2. Coordinated AV Solution

A programmable AV control system and multi-use lighting, directional speakers and motion sensors to deliver a coordinated ambient narrative throughout the centre. This technology can also serve a dual purpose for the delivery of any messaging that is required throughout the day e.g. We are closing in 15 minutes.

3. Hub And Spoke Interactives

It is suggested that any significant screen-based interactives act as a 'hub', connected to more traditional AV components (e.g. lighting), surrounded by an exhibition of physical specimen 'spokes'. This provides an elevation of the items' story so that people want to find out more, traffic management in the space promoting continual, repeatable discovery and limited bottlenecks so that 'everyone has a turn'.

4. Museum Website

A responsive desktop and mobile website to provide a central, accessible and scalable resource to add to the visitor experience. The website should be a place to enable visitor acquisition marketing, general

visitor information, ticketing, retail and e-commerce functions, and also be the point of access to the content from the QR codes displayed within the Centre's interpretive signage. With the visitor providing login details, the website can act as the Lines of Experience visitor trail planner with contextual walking and driving activities that extend from the Museum collection to the wider Broken Hill township.

5. Bring Your Own Device (BYOD) Visitor Trails - Lines of Experience

Throughout the Museum, it is suggested that there be additional content for items in the collection that can be accessed by the scanning of a QR code. These digital items are collected under a visitor login to the website and form a collection of items and topics that are of interest to the visitor.

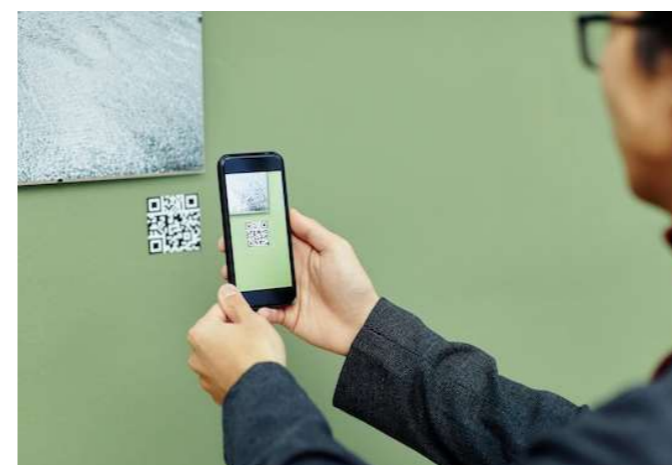
Through the interface, the visitor is asked to provide a little more detail. How long do you have to complete your trail? Are you walking or driving? How many people are you visiting with? Any kids?

These items can be organised into topics like geology, mining, social history - with the system offering to place them into a linear Line of Experience map that can be followed.

The visitor then ventures out into Broken Hill where they are assisted, guided and engaged with elements that are delivered through the mobile digital experience platform.

Glossary

Term	Definition
Platform Neutral	Platform neutral means the software or content should run/display properly on any type of computer, cell phone or other device.
Content repository	A content repository or content store is a database of digital content with an associated set of data management, search and access methods allowing application-independent access to the content, rather like a digital library, but with the ability to store and modify content in addition to searching and retrieving.
AV	Audio Visual
AR	Augmented Reality
BYOD	Bring your own device





5 The Master Plan

5.01 A staged approach

The following section should be read in sequence to understand the staged transformation of the current site to reach the preferred outcome.

Stage 1 - Essential building and facilities upgrades

Stage 2 - DDA compliance and improved visitor experience

Stage 3 - Expanded experience including basement

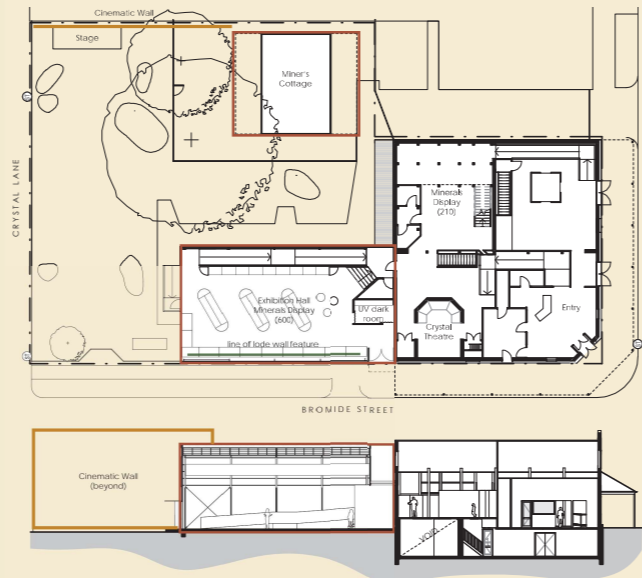
Stage 4 - New northern pavilion

These stages are projected to be completed over a 10 year period.

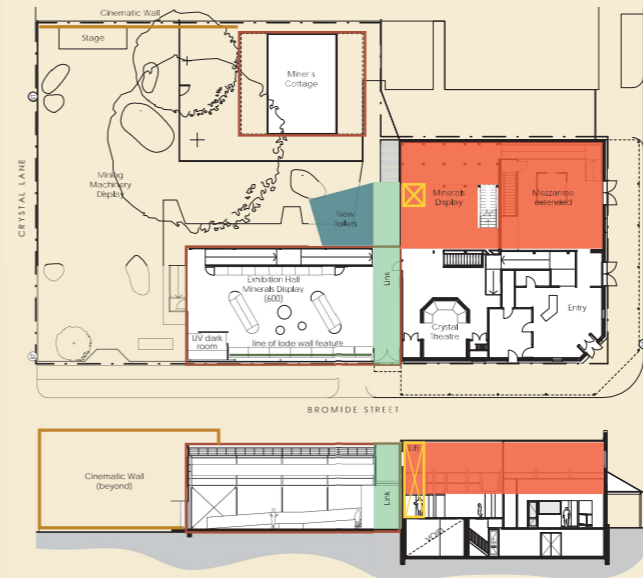
Stage 4 retains the Miners Cottage, the Exhibition Hall, the Heritage structure of the Bond Store and provides the extra space needed to transform the existing facility into a 21st century area capable of narrating the social, mining and geological history of the region.

Given each of the stages progresses from one to the next, it may be possible for Council to fund each stage of the development at different timeframes, with the overall ambition being the completion of the northwestern two-level addition on the Crystal Lane - Bromide Street frontage of the site.

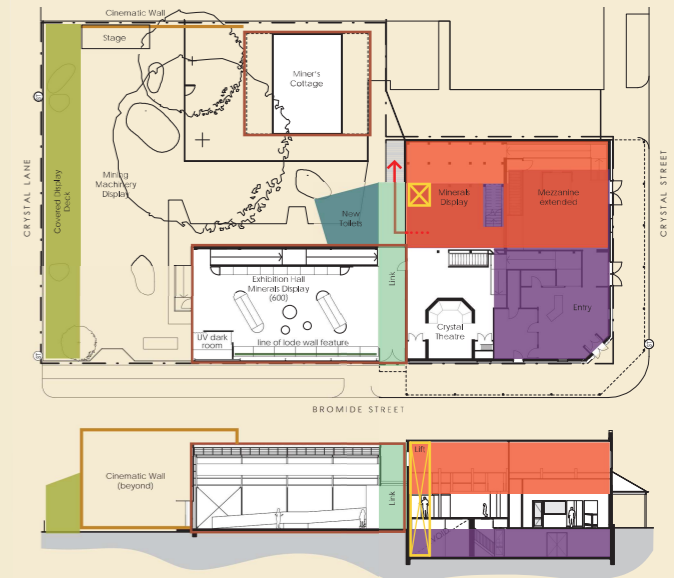
Despite this it would be preferable to deliver the upgrade as one project as this would considerably reduce project management, design and documentation costs and bring forward the growth in visitor participation and flow-on benefits for the Broken Hill economy.



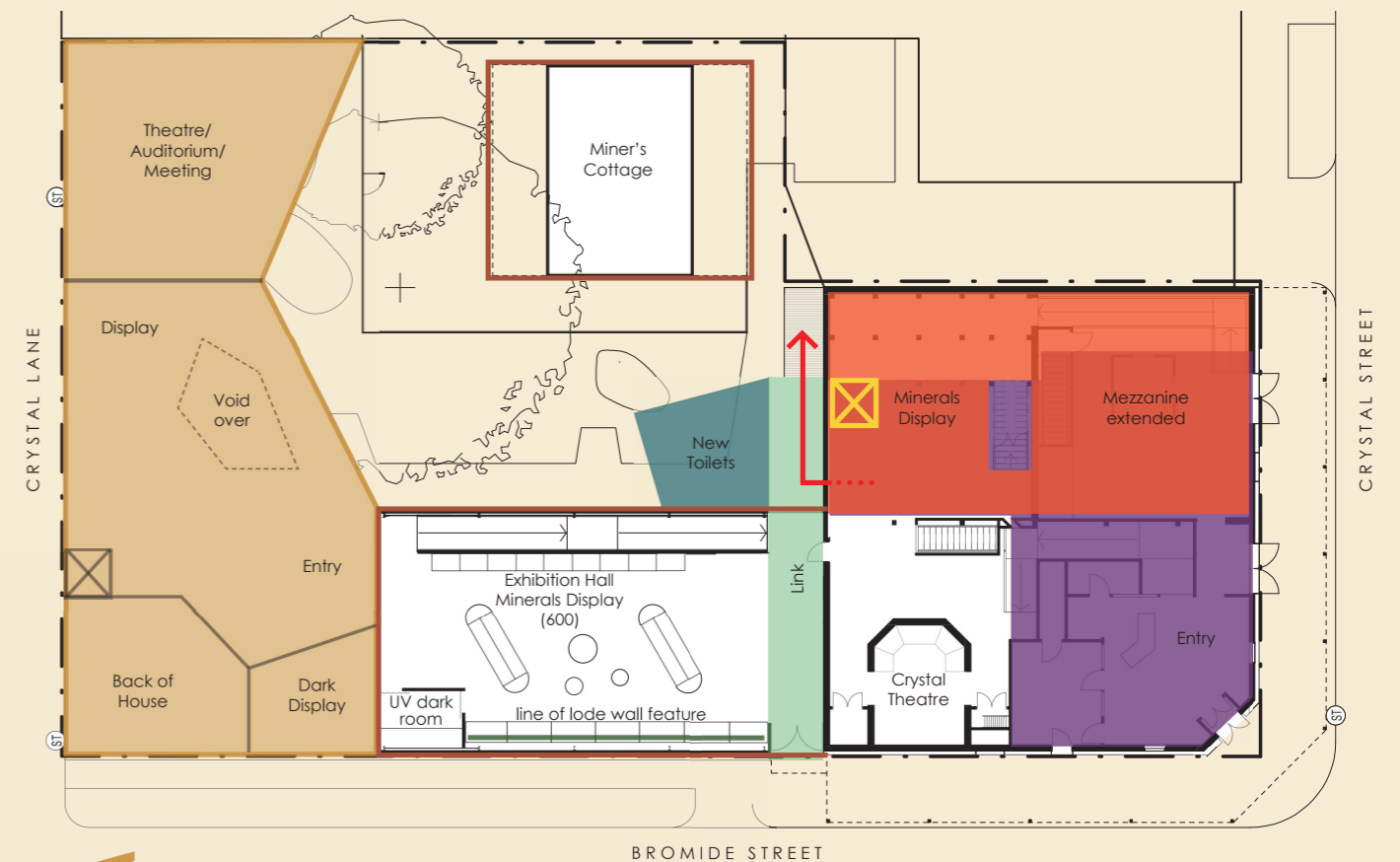
Stage 1



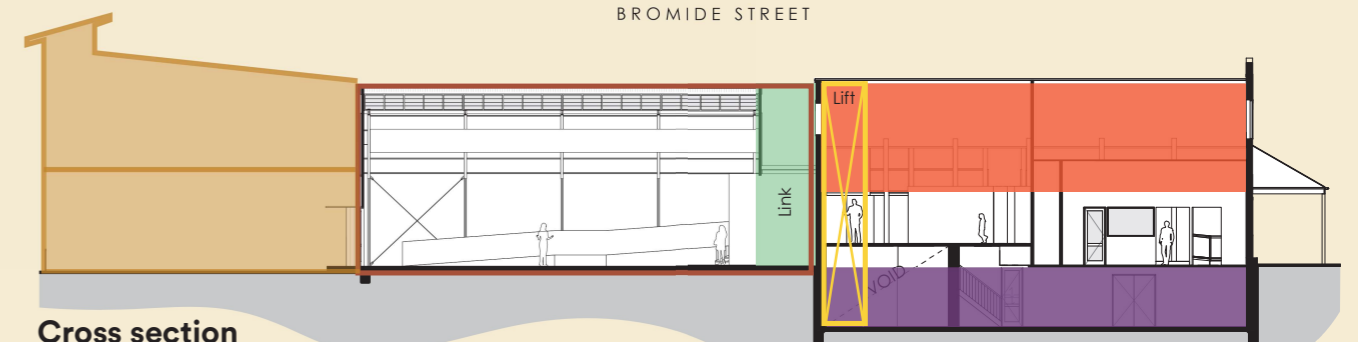
Stage 2



Stage 3



Stage 4



Cross section

Stage 4

5.02 Stage 1

ESSENTIAL BUILDING & FACILITIES UPGRADES

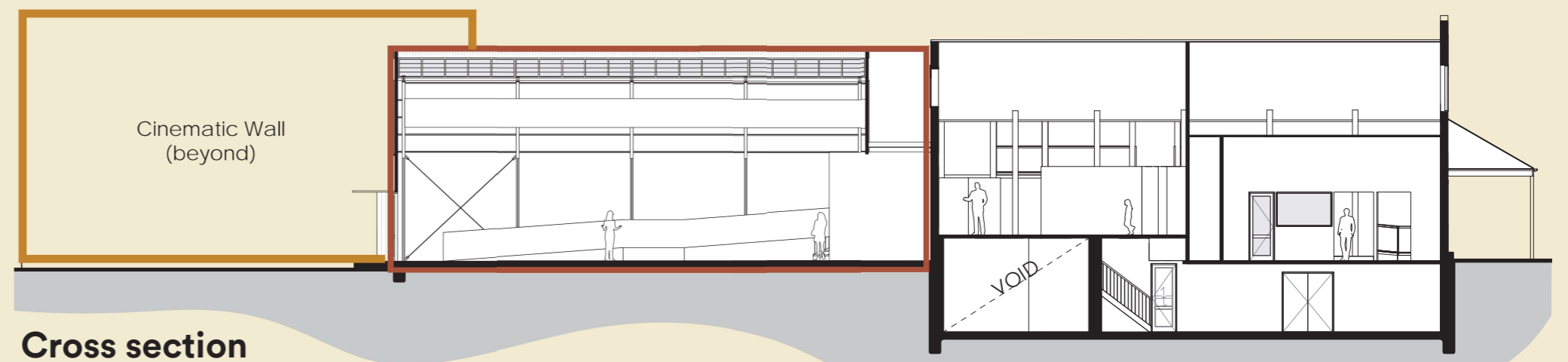
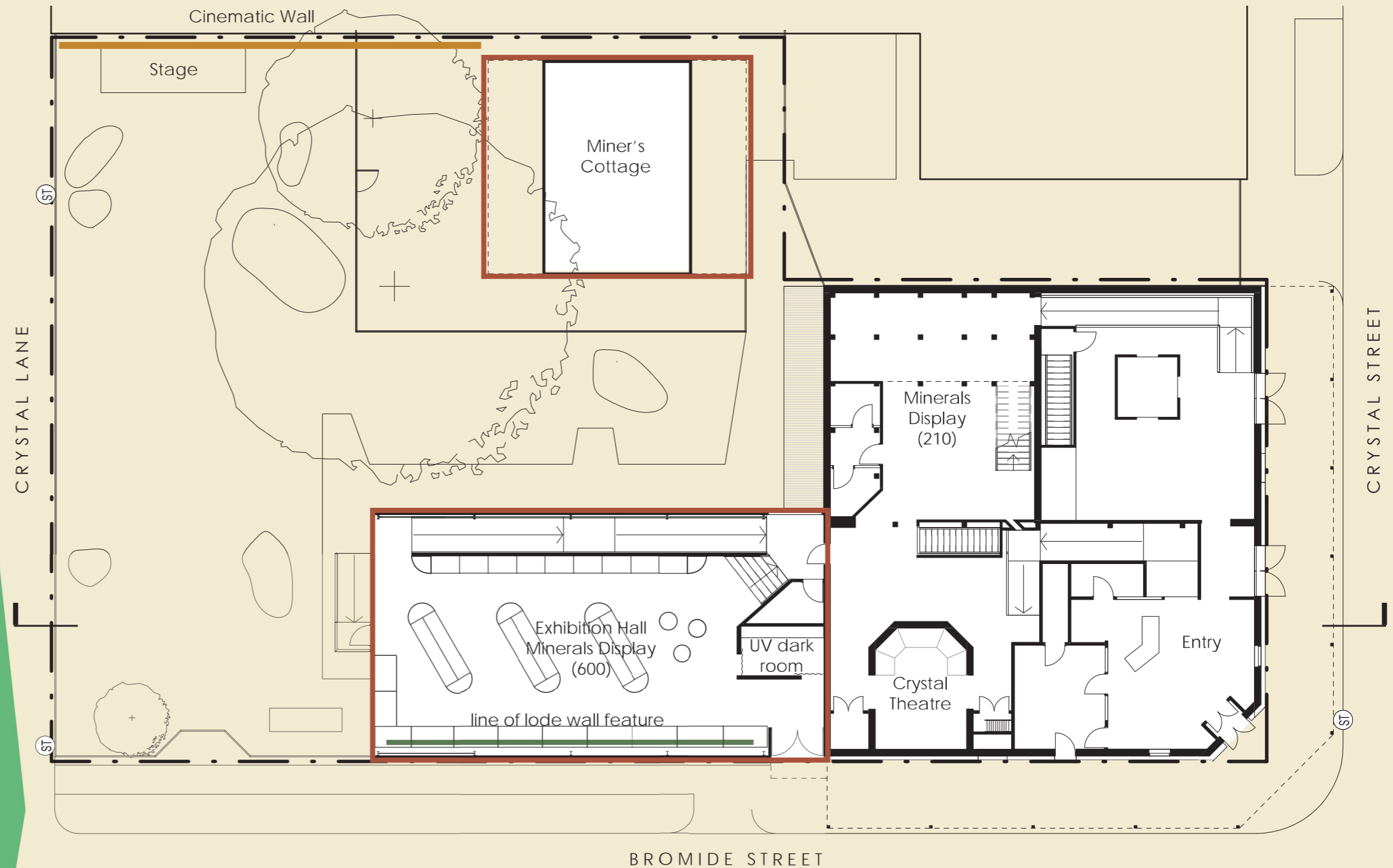
Working within the existing buildings foot print. Museum is retained for dedicated focus on Geology and Mineralogical mining history / artefacts. No social history exhibitory

- Working within the existing building foot prints
- Exhibition Hall refurbished for enhanced connection with the Old Bond Store
- Miners cottage retained & refurbished (currently closed due to dilapidation)
- Removal of existing evaporative air conditioning
- New reverse cycle air conditioning
- New floor coverings
- Complete repainting of facilities across site
- 'Crystal Theatre' audio visual experience retained
- Dedicated focus on geology and mineralogical mining history and artefacts
- Improved appreciation of the collection and educational benefits
- Renewed wayfinding within the building
- New display cabinets to achieve 600 minerals on display. (currently 210 minerals on display)
- Include section of the line of lode on west wall of the exhibition hall
- Fluorescent display in a dark room with fabric curtains to display glowing minerals
- Outdoor exhibit stage upgraded
- Outdoor cinematic wall

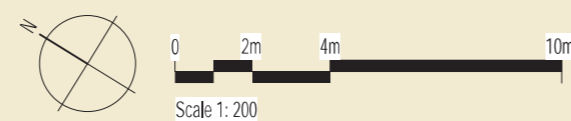
This stage would enhance the experience for the existing visitor cohort. There would be improved appreciation of the collection and educational benefits from this refurbish.

Duration – 2.5 years

Cost –



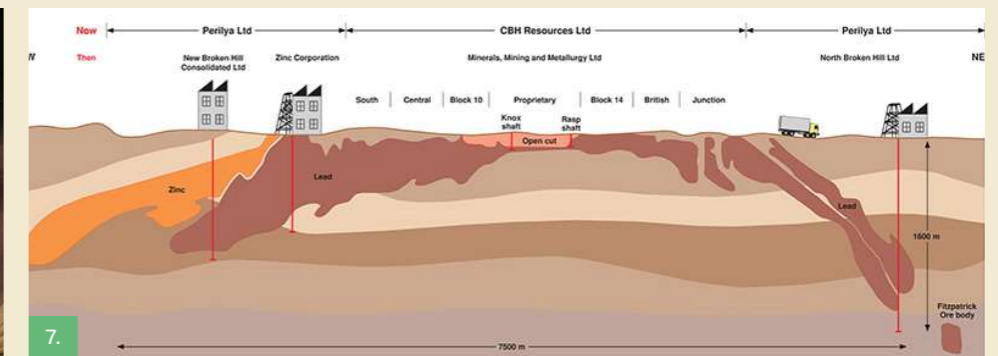
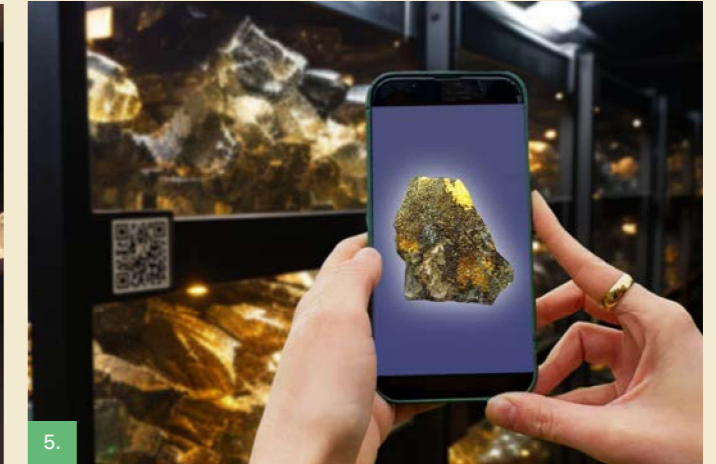
Cross section



5.02 Stage 1 Experience

- BYOD (Bring Your Own Device) accessible digital labelling to selected minerals and objects throughout the Museum.
- Traditional AV (lights and sound) provide an ambient narrative throughout the Museum and Miner's Cottage (Sounds of work and life, timed spotlights, gobos of mineral structures on walls and floors).
- Possibility of sound & light show (cinematic wall).
- Improved visitor experience within Exhibition Hall and connection to Old Bond Store.
- Returned and enhanced experience of Miners cottage.
- High level of overall amenity through improved building fabric and services.
- Dedicated audience appeal through dedicated and improved collection display and interaction.
- Extended experience with upgrade of outdoor exhibit and cinematic wall.
- Availability of visual and physical display activities open to user pay additional experiences to assist revenue.

1. Interactive digital mineral display
2. Movement triggered projections
3. Minerals reacting under UV light
4. Feature displays using light to enhance the mineral collection
5. QR codes to access additional mineral or collection information, stories and other content
6. Transform the Miners Cottage into a social history experience using light, sound and projections
7. Interactive Line of Lode digital wall projection
8. Projection of digital content on to surfaces - cinematic wall



5.03 Stage 2

DDA COMPLIANCE & IMPROVED VISITOR EXPERIENCE

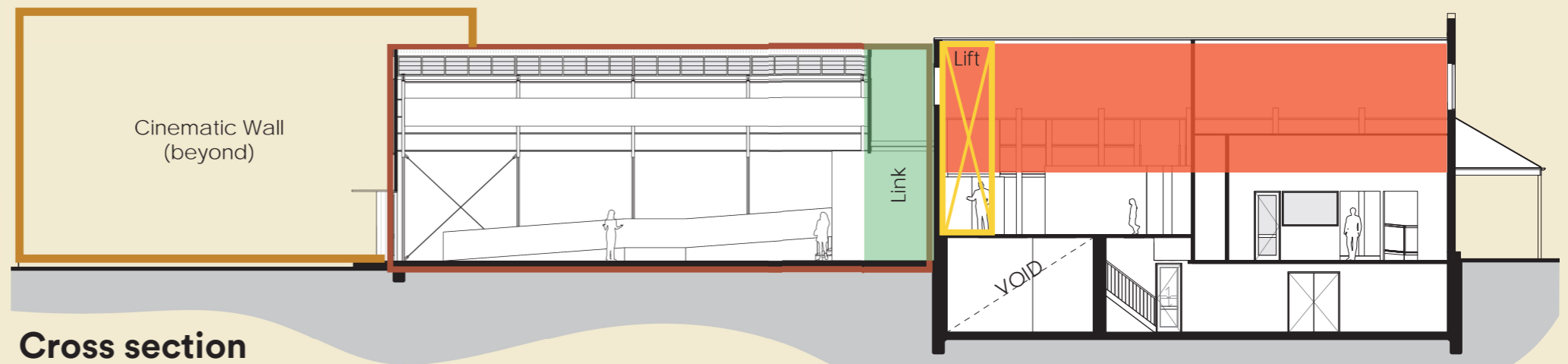
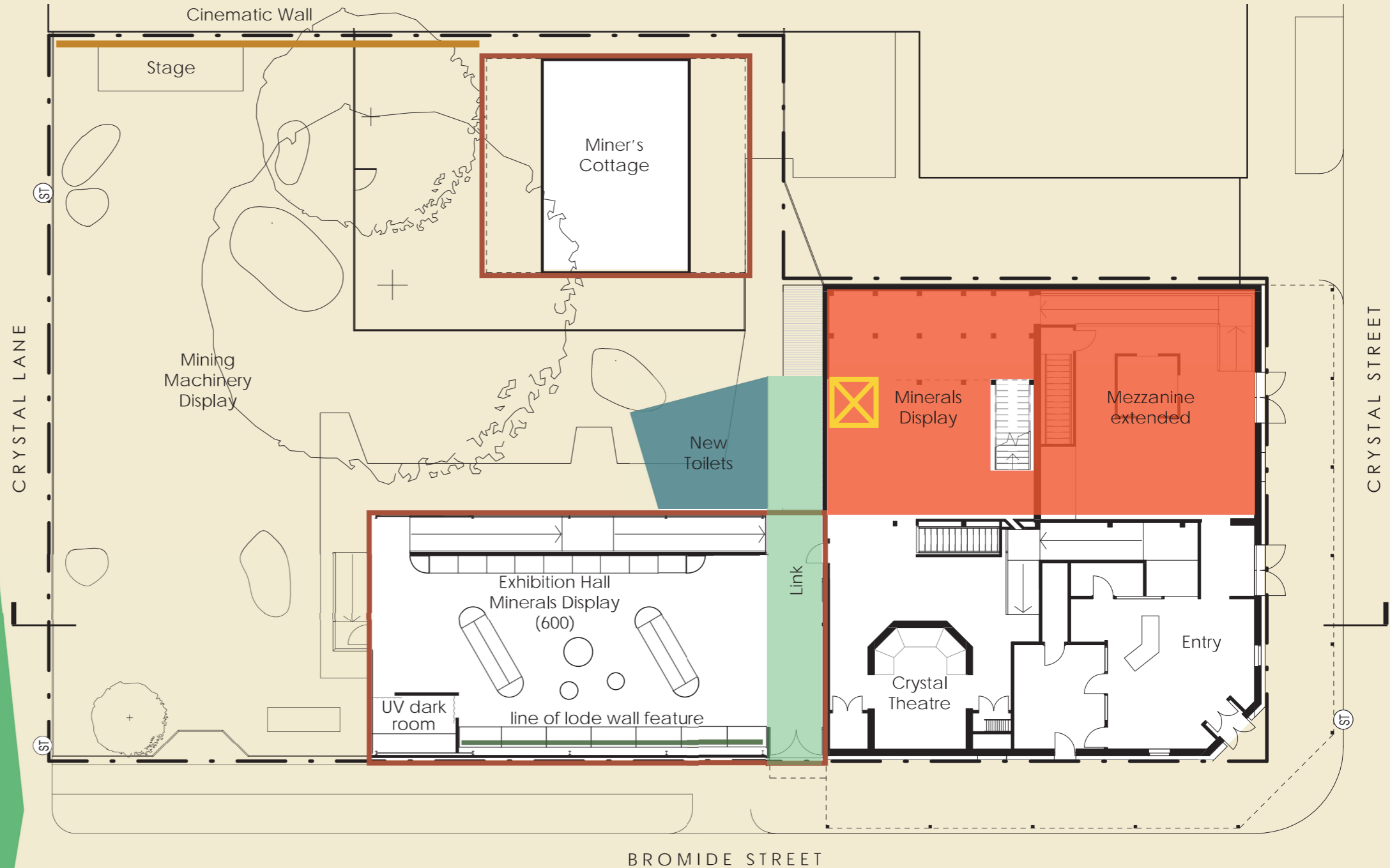
Stage 1, plus provide a fully complying Museum Experience but still only for Geology and Minerology.

- Provide universal access and facilities for visitors
- Non-compliant internal washroom amenities removed
- New washroom established externally, but adjacent to existing building, with complying unisex disabled, ambulant male and female facilities
- Extension of stope mezzanine experience to increase the area of exhibition space
- Miners lift experience across two levels from mezzanine to ground floor
- Basement retained for staff access only
- New basement storage facilities for mineral and geological samples
- Link between the Bond Store and Exhibition Hall designed to create more coherent connection between spaces and displays

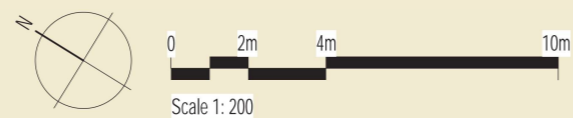
This stage would enhance the experience for the existing visitor cohort and provide universal access and facilities for those visitors. This may increase the number of visitors to the museum.

Duration – 2.5 years

Cost –



Cross section

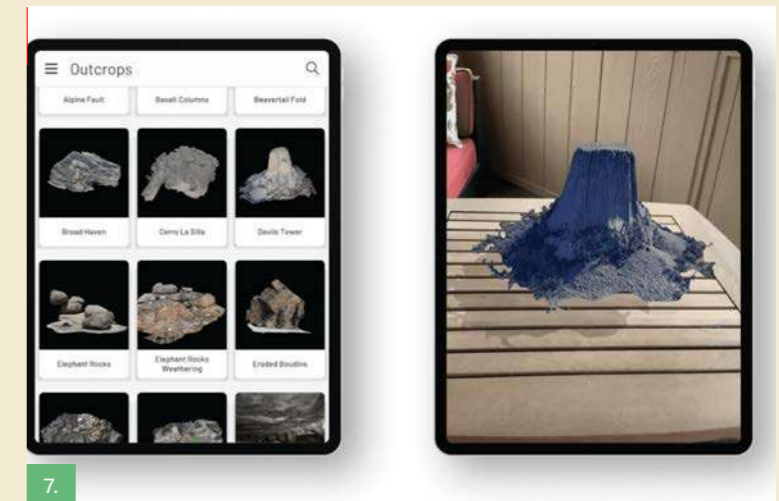


5.03 Stage 2 Experience

- BYOD (Bring Your Own Device) accessible digital labelling and upscaled augmented reality of selected minerals and objects throughout the Museum. Content served from the Content Repository.
- Traditional AV (lights and sound) provide an ambient narrative throughout the Museum and Miner's Cottage (Sounds of work and life, timed spotlights, gobos of mineral structures on walls and floors).
- Projected overlay animation of the Line of Lode section on the west wall of the exhibition hall.
- Enhanced visitor experience with upgrade of universal access and facilities appealing to a wider audience.
- Greater internal display area opportunities with removal of non-compliant wash rooms and increased stope mezzanine area.
- Feature miners lift experience as draw card to visitor experience and take away.
- Improved access across multiple building levels.



1. Museum walls and floor surfaces to be opportunities for mineral inspired colours and textures
2. Improve the lighting and presentation of the collection displays
3. Feature displays become part of the experience
4. Incorporate light and audi visual elements to enhance the visitor Museum experience
5. Include mining machinery in the outdoor spaces to tell the mining story
6. Upgrade to minerals storage
7. BYOD digital experience to enhance the physical displays, could include Augmented Reality component



5.04 Stage 3

EXPANDED EXPERIENCE

Provide a fully complying Museum Experience but still only for Minerals and Geology.

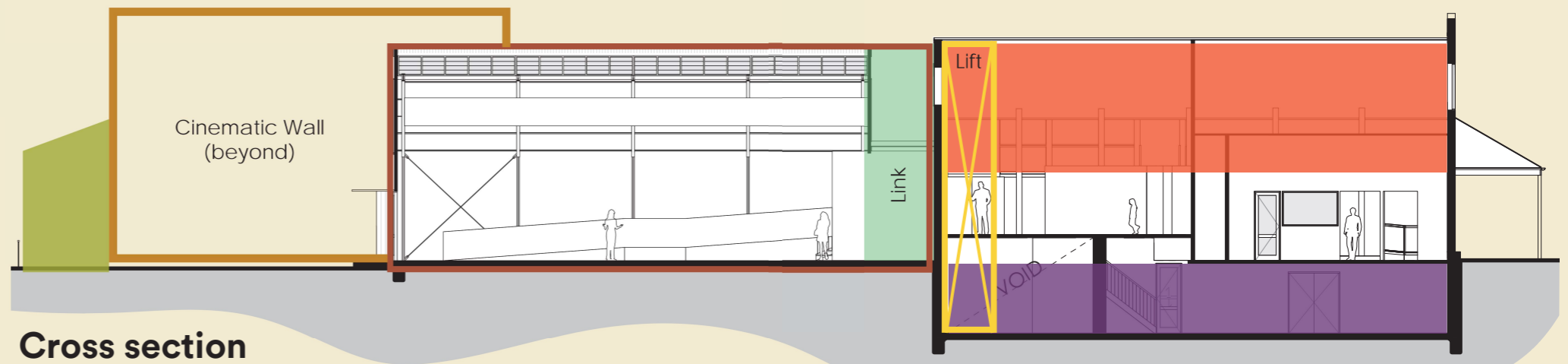
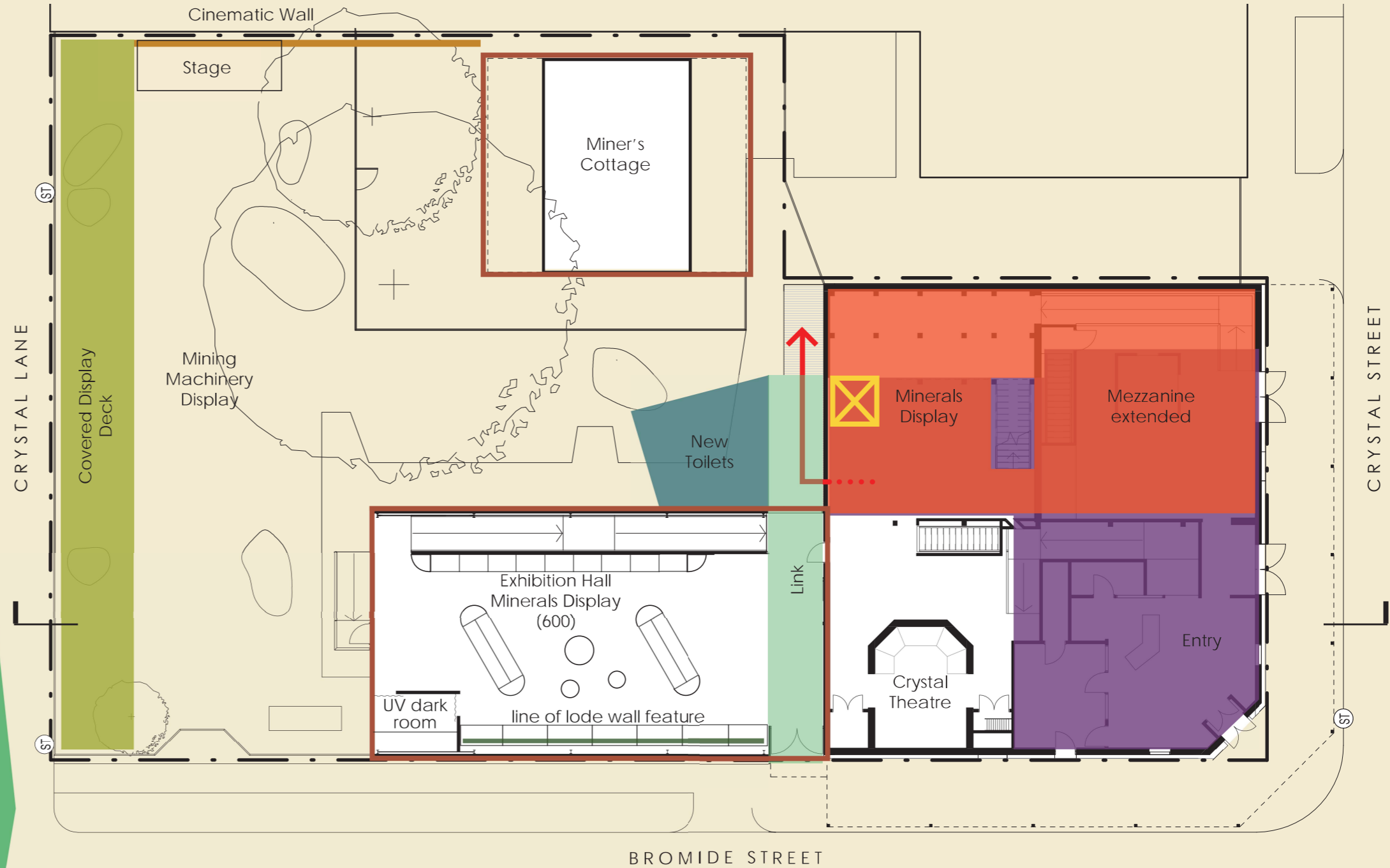
New basement experience.

- Miners lift experience expanded across three levels from mezzanine to basement
- Basement experience inclusive of new/ acquired collections
- Basement access via new code compliant stairs
- Emergency exit from Basement via rear stairs to the outside yard
- External mining machinery display upgrade leading to the Miners cottage
- Covered display deck for external exhibits
- UV dark room relocated to Northwest corner of Exhibition Hall

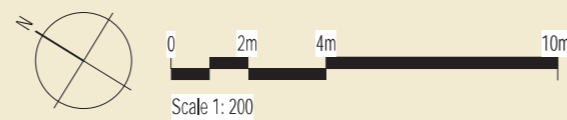
This stage further enhances the experience for the existing visitor cohort. Providing the opportunity to explore the building further and present additional specimens and artefacts may keep visitors on site for longer.

Duration – 2.5 years

Cost –



Cross section



5.04 Stage 3 Experience

- BYOD (Bring Your Own Device) accessible digital labelling and upscaled augmented reality of selected minerals and objects throughout the Museum including external mining machinery.
- Traditional AV (lights and sound) provide an ambient narrative throughout the Museum and Miner's Cottage (Sounds of work and life, timed spotlights, gobos of mineral structures on walls and floors).
- Projected overlay animation of the Line of Lode section on the west wall of the exhibition hall.
- New interactive within Crystal Theatre area, small screen-based interactives for Bushy Whites collection and LED panels installed on internal lift floor/ceiling for the Miner's lift experience.
- Feature miners lift journey over 3 levels.
- Expansive basement experience with added collection display.
- External mining machinery display.
- External covered deck area and display for increased interpretive experience.

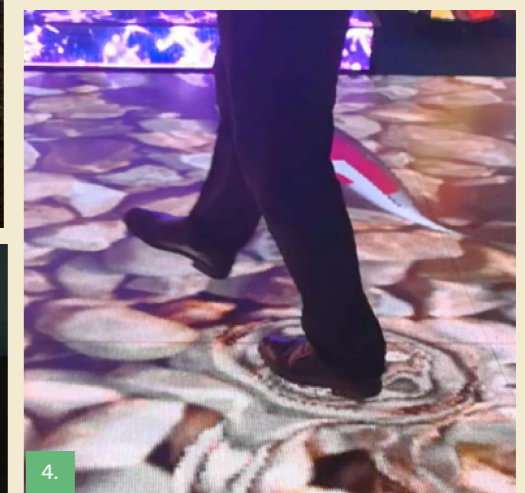
1. Improve the lighting and presentation of the collection displays
2. Introduce interactive digital touch screens with mineral specific activities and information
3. Update the Crystal Theatre experience
4. Incorporate light and audi visual elements to enhance the visitor Museum experience
5. Create a basement experience that tells the subterranean mining story
6. Turn the lift access to basement into a mine shaft experience



1.



2.



4.



3.



5.



6.

5.05 Stage 4 Museum

NEW NORTHERN PAVILION

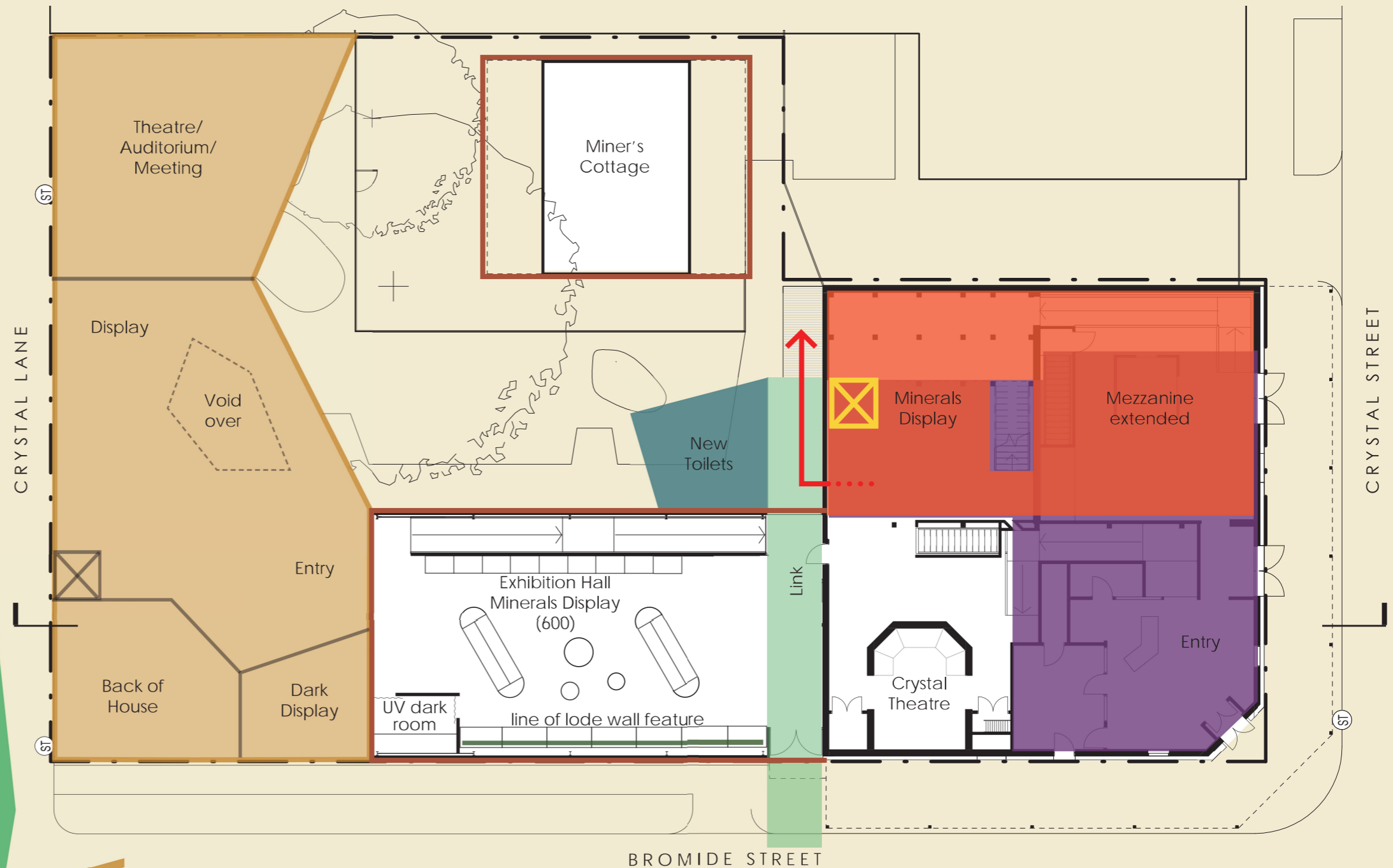
Stage 4 Stage 3, plus provide a fully complying Museum Experience for Minerals & Geology with Social & Cultural history new basement experience. Provide a fully complying modern Museum Experience covering social, mining and geological history.

- Entrance upgrade to be more visible
- New northern pavilion extension
- Curated over two levels providing substantial additional exhibition space for the mining and social history of Broken Hill
- Opportunity for renewed substantive presence to the Museum
- Opportunity for architectural form to provide an easily identifiable landmark for the Museum

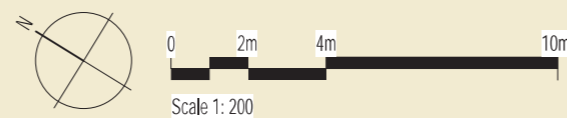
Expanding the scope of the exhibitions would attract additional visitors interested in the social and mining heritage of Broken Hill. These visitors currently explore other museums in the city for this information and experiences. This stage would create a single attraction for presenting all aspects of the heritage of the city. The displays would need to encourage visitors interested in a greater level of understanding to also visit other museums and sites in the city.

Duration – 2.5 years

Cost –



Cross section



5.05 Stage 4 - Integrated Experience

- BYOD (Bring Your Own Device) accessible digital labelling and upscaled augmented reality of selected minerals and objects throughout the Museum including external mining machinery. Addition of Social history information layer.
- Traditional AV (lights and sound), projectors and sensors provide a narrative that encompasses mining and social history with idle and play states throughout the Museum and Miner's Cottage.
- Interactive projection on the Line of Lode section on the west wall of the exhibition hall.
- Removal of Crystal Theatre and installation of reimagined large screen, multi user interactive.
- Installation of small screen-based interactives for Bushy Whites collection, LED panels installed on internal lift floor/ceiling for the Miner's lift experience and throughout the new northern addition, including digital and practical accessible science experiences.
- Enhanced visibility with renewed Bromide Street entry for visitation.
- Expansive new Northern Pavilion building curated over 2 levels.
- Additional mining and social history exhibition space.
- External sheltered courtyard amenity with event attraction.



1.



2.



3.



4.



5.

1. Provide interactive experiences for children
2. Include audio tours for visitors
3. Provide new displays for social history of mining in Broken Hill
4. Create a new prominent entrance to the museum on Bromide Street
5. Provide engaging digital activities that groups and families can use
6. Provide more engaging displays and stories for visitors
7. Consider all abilities when designing interactive displays and activities



6.



7.

5.06 Value Add

Interpretive experiences & place identity

- Develop a coordinated program of sound and light experiences and memorial events to enhance Broken Hill's reputation as an event and cultural heritage destination.
- These new off-site initiatives will attract new visitors to Broken Hill and encourage longer stay times.
- There is a positive net benefit from a coordinated investment in the Museum upgrade and these linked off-site experiences.
- This coordinated approach will place the Museum as the central hub, providing a focussed coherence to the other museums and collections across Broken Hill.

1. Create a regular memorial ceremony to honour lost miners
2. Feature laser light display across the face of the Line of Load (use technologies to minimise light pollution)
3. Create an interpretive node on top of the Line of Lode to tell the Indigenous, geological, colonial and settler story
4. Interpretive Node precedent
5. Museum collection satellite display



5.07

Key Recommendations

Based on the careful analysis and stages considered, the following recommendations are proposed for the development of a 21st-century modern museum on the existing site:

1. The Master Plan be adopted to address the current critical issues in relation to the subpar condition and non-statutory compliance of the Museum.
2. All four stages must be implemented to achieve the goal of modernising the existing museum - upgrading to a world class speciality specific Mineral and Mining Museum. Preceding stage establishes the approach for the pursuant stages; proceeding with stages two and three forms the core strategy for the development. The completed Master Plan involves the construction of a two-level addition to the Crystal Lane/ Bromide frontage of the current site. This expansion will offer the necessary area to accomplish the ultimate vision of an integrative social, mining, and mineralogy museum for Broken Hill.
3. Subsequent to adoption of the Master Plan, a comprehensive project brief is to be undertaken to outline BHCC goals ahead of implementation of Stage 1.
4. Council to consider a feasibility study to progress to the additional value add option of this master plan, upon completion of the final stage of the master plan development.
5. To support and guide future growth, council consider the development of several supporting strategies, plans, and framework outcomes, which include - Visitor Experience Framework, Wayfinding Signage Strategy (both physical and digital), Interpretation, storytelling Framework, and an Interpretive Spatial Plan.
6. Upon achieving council approval for the Master Plan and beginning the detailed concept design process, it is imperative that a comprehensive brief outlining specific goals and objectives be completed for each stage of work. This should foremostly bear in mind the principal vision of achieving full implementation to at least Stage 4.

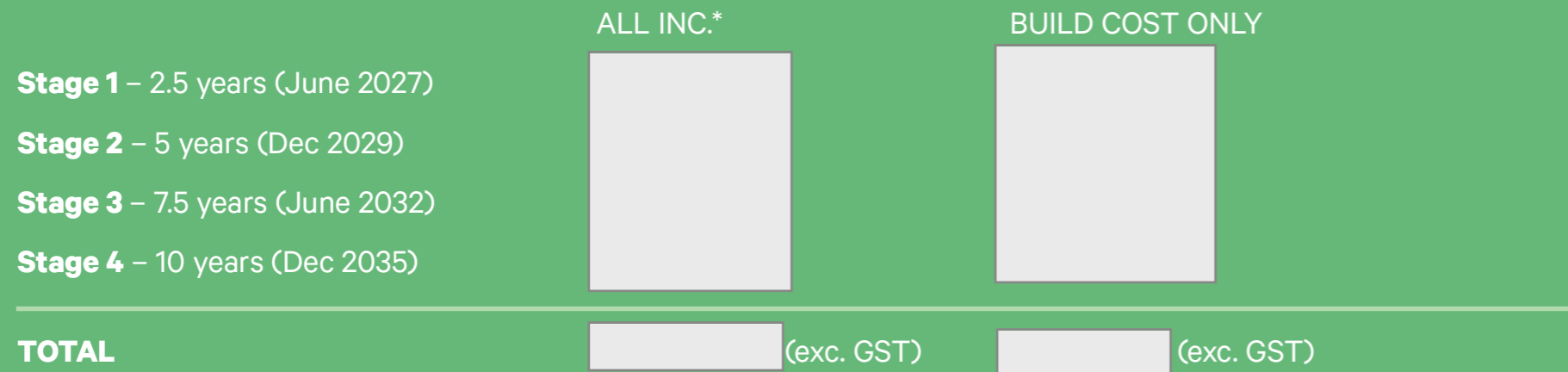
Through these prescribed recommendations, the aim is to achieve the overarching vision of creating an all-embracing, to rehabilitate the facility as a modern, world class mining and mineralogy museum that promotes the local geology and history of Broken Hill with its rich mining history. The museum will connect Broken Hill to the geology of the region and the world.

5.08

Timeline & Cost Estimate

Master Plan Stage Completion:

If project begins in 2025



*Includes for contingencies & non direct allowances of [Bracket]

Note: these timeline estimates are dependent on funding opportunitites and allowance.
 The cost estimates by CSC excludes escalation due to unknown timeframe.
 CSC recommend including escalation at 4.5% per annum in the interim should project feasibility be undertaken.

Refer to Appendix 2 for Cost Estimate Breakdown

6 Organisational Plans

6.01 Organisational development requirements

Summary

Operation of the Museum shall remain under the control of BHCC, however the degree of independence and accountability of the entity as a business may vary dependent on the governance model. Stages vary from a fully integrated part of Council operations, through a business account within the operational budget, to a separate entity owned by Council.

Financial forecasts

Currently the Museum is managed within the overall operational budget of BHCC.

Revenue, staff and some operational costs, and goods for sale are separately accounted for in Council's budget and financial reporting.

The current budget shows the Museum as a cost centre with an income and expense budget.

If the Museum was to be treated as a separate business, further analysis would be required to determine what other management and operational overheads are currently expended but accounted against other programs of Council.

Once the governance arrangements, scope of the project and staging of implementation is adopted by Council a full financial analysis and budget for the Museum could be prepared.

Based on the assumed development of Stage 4 the potential revenue for the Museum could average \$15 per visitor and this would generate about \$5.1m over 10 years. This pricing has been included in the cost benefit analysis as the "shadow price", or value a visitor would place on the experience.

This benefit value was estimated at \$15 - a price a visitor would be prepared to pay to visit the upgraded Museum. Note that the \$15 average price assumes an adult price would be higher but the average revenue per visitor would be lower because of child, group and other concession pricing.

When calculating the overall benefit value of the project three factors are considered:

1. The increase in regional income as a result of increased visitation arising from the development
2. The increase in wages paid to additional employees AND
3. The consumer value of the experience.

The latter factor would normally be reflected in the price people pay to enter the Museum, however, because the entry to the Museum is free, a "shadow price" is used to make sure the benefit value that customers experience from the upgraded facility is taken into account in determining the overall cost benefit of the project.

Museum Operations and staffing

Currently the Museum employs the equivalent of 1.5 Full Time Equivalent (FTE) staff and for implementation of Stage 1 and 2 we envisage this FTE requirement to stay the same.

Once Stage 3 is implemented we envisage an additional FTE staffing shall be required to help manage the additional visitor numbers.

When Stage 4 is implemented, BHCC shall need to revisit visitation numbers and operational requirements to determine if and how many additional FTE or part time staff are required. It is likely additional staffing or specialist contract support will be required to operate and maintain the additional interactive and digital displays and maintain the larger facility.

The cost benefit analysis has assumed 4.5 FTE across the Museum Stages 1 to 4 plus Stage 6.

Cost Benefit Analysis

An analysis of the regional economic benefits arising from the recommended investment in upgrading and extending the Museum, and other associated initiatives, shows there is a net benefit from the proposal when considered over 10 years.

The analysis is based on the direct and indirect expenditure in both the development and operational phases of the project. These include:

- Direct and indirect capital expenditure during the development phase.
- Direct and flow on employment and expenditure during the development phase.
- Direct employment and flow on benefits during the operational phase.
- Direct and indirect benefits from increased visitor expenditure resulting from increased length of stay and additional visits to Broken Hill.

The analysis shows the Museum redevelopment and expansion combined with the off-site initiatives will create a positive cost benefit ratio of 1.1 when calculated at a discount rate of 7%.

Current financial arrangements for the Museum are embedded in Council accounting and it is difficult to analyse the museum operations independent of management and other cross subsidies from other parts of the Council budget.

The assumptions used in the analysis are detailed in the Appendix and include:

Activity	Capital	Staffing FTE	Visitation
Museum refurbishment and expansion		1.5 existing 3.0 post development	Increase from 7% existing Broken Hill visitors to 30% 2% increase in non-business visitors
Line of Load projections		0.5 operations and maintenance	5% increase in non-business visitors
Digital trail		nil	10% of Museum visitors participate
Memorial family events	nil	1.0 event management	20 events per annum, 10 additional visitors per event

6.02 Cost Benefit Analysis

Executive Summary

The report provides an economic impact analysis of the redevelopment of the Museum in Broken Hill. The analysis covers the upgrade and extension of the Museum as well as associated initiatives to improve visitor experiences in the City.

Centre Visitors

- Current Visitors: were estimated at 8,960 or 7% of the non-business visitors to Broken Hill.
- Future Visitors: the target for the redeveloped Museum is 20%-30% of the non-business visitors to Broken Hill. For the economic impact analysis we have used the 30% target or 38,400 visitors. In the modelling this is reached in Year 6 of operations.
- Memorial events: 20 annual events would bring 200 overnight visitors to Broken Hill (10 per event)

Spending in Region

- Visitor Spending: spending in the region was estimated for the projected visitors to the Museum. Total spending (in constant \$2023 prices) increases from \$13.410 million in year 1 to \$22.351 million from year 6 onwards.

Centre Employees

- Employees increase (from 1.5 positions to 4.5) to deliver the new mix of activities and programs. Total salaries were estimated at \$285,000 (in constant \$2023 prices).

Construction Phase Impacts

- Construction activity was modelled, and estimates were developed for: onsite construction jobs in the region; professional jobs ; jobs generated in the supply of materials and equipment ; and indirect/induced jobs.
- Jobs: 27.3 direct jobs (FTE) would be generated during the construction period, comprising: 19.2 onsite construction jobs; 3.5 professional jobs; and 4.7 jobs in the materials and equipment

supply sectors. When the multiplier effects of spending are taken into account, total jobs (direct and indirect) associated the project are 33.9 FTE (6.6 indirect/induced jobs).

- Regional Income: the increase in regional income generated by the full project is \$12.247 million (\$9.798 million direct and \$2.449 million indirect/induced).¹

Operations Phase Impacts

- The spending by Museum visitors will generate jobs and a boost to regional income in Broken Hill. The spending of centre employees will also have an impact.
- The 4.5 centre employees will generate another 0.8 FTE indirect/induced jobs by their spending in the region.
- Visitors to the Museum and their spending in the region would generate a total 60.2 FTE jobs in Broken Hill in year 1 increasing to 98.0 jobs in year 10. Overnight visitors are the major source of these jobs.
- Total jobs generated (direct & indirect/induced) including employees are 65.5 FTE in year 1 increasing to 103.3 in year 10.
- Total regional income generated by the operations of the Museum increases from \$5.092 million in year 1 to \$8.154 million in year 10 for a total of \$72.530 million over the 10 year period.
- Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated, income tax and GST on spending, are both treated as leakages from the region.

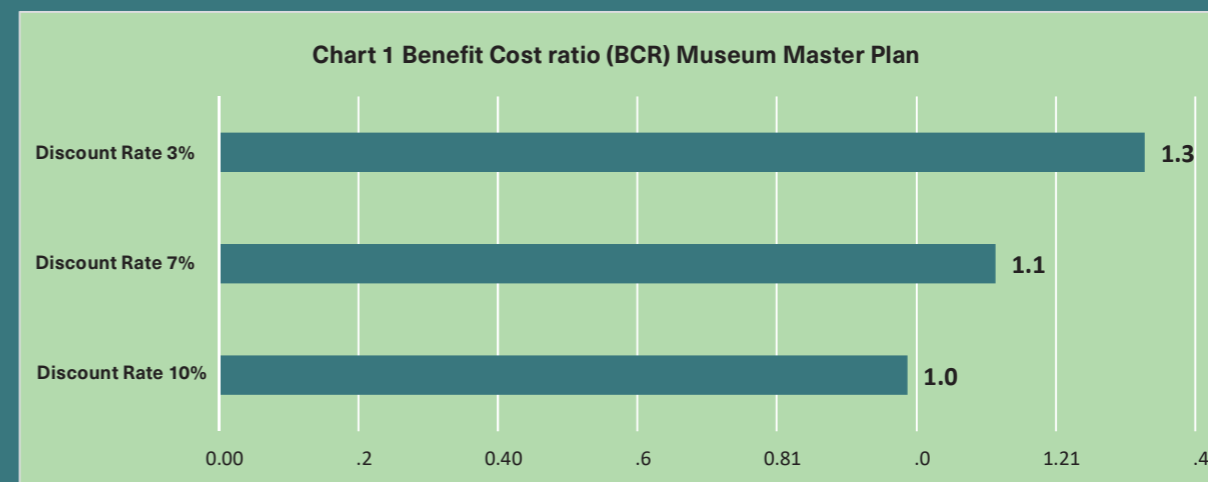
¹ Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated, income tax and GST on spending, are both treated as leakages from the region.

Measuring the Impacts

- For the economic impacts of the redevelopment we need to measure the increases (jobs and regional income) over the current levels of activity. The estimated current visitor level is 8,690 annual visitors.
- This level was used to estimate current spending in the region and the jobs and regional income generated. This was compared with the estimates for the redeveloped centre.
- Jobs : the increase in total jobs on current activity levels is 40.5 FTE jobs in year 1 increasing to 78.3 FTE jobs in year 10.
- Regional income: The increase in regional income on current activity levels is \$3.140 million in year 1 increasing to \$6.202 million in year 10. The total over 10 years used in the cost benefit analysis is \$53.007 million.

Benefit Cost Analysis (Benefits and costs are in constant \$2023 prices)

- Benefits: the benefits used in the analysis comprise: increase in regional income compared with the current situation; consumer value of a visit; and increase in employee wages & salaries. For the increase in regional income it is assumed that 60% of the increased visitors to the Centre are new to the region. Measure benefits total \$38.777 million.
- Project Costs: Total project costs over 10 years are [redacted] 10-year asset maintenance \$2.3 million.
- Benefit Cost Ratios (BCR): The project delivers Benefit Cost Ratios (BCR) of 1 or above. These are 1.3 for a 3% discount rate 1.1 for a 7% discount rate 1.1 for a 7% discount rate.



Source: MCA modelling & analysis November 2023

6.03 Implementation plans

Development and operation of the Museum would be led by Broken Hill City Council (BHCC) with funding from Council and State and Commonwealth sources.

The Master Plan sets out the spatial planning and visitor experience staging and objectives for the business.

Capital works implementation

The Master Plan is designed to allow each of the stages as outlined in section 4 to build upon each other. For example, once Stage 1 is implemented and complete, that is the stepping stone for the implementation of Stage 2, and Stage 3 can build on Stage 2 etc.

Implementation of both Stage 1 and 2 would be required to achieve compliance with the Disability Discrimination Act 1992. All subsequent stages would maintain and enhance compliance.

The timing of future development and implementation of the Master Plan will be subject to decision-making by Council and grant funding secured for capital works from State and Commonwealth Governments. It would be preferable to complete the whole project including Stage 1 to 4 plus Stage 6 as this would enhance overall project management efficiency and avoid disruption and potential disruption of earlier stages during later works.

For this reason the cost benefit analysis has been undertaken for the full scope of Stages 1 to 4 plus value add experiences.

The Digital trail and Memorial events could be commenced earlier potentially from within Council operational and minor works allocations. These “early wins” could improve visitor experiences and generate additional visitation.

Depending on the grant sources available from time to time it may be necessary to separately fund Stages 1 to 4 over time, however this will lead to additional project costs as project overheads will be repeated. Ensuring project

staff retain an understanding of the eventual project scope and goals will be essential to ensuring the overall Master plan vision is realised and the full benefits are achieved.

It may be appropriate to progress the proposal via a staged development application to seek approval for the full development while delivering it in stages. This may require independent planning assessment due to the need for heritage approvals at State and Commonwealth levels and because BHCC is the owner and proponent for the development.

Implementation of the Master Plan shall require a parallel Museum curation and collection strategy that is enmeshed with an overall display strategy so that as each stage is implemented in contributes to the vision and implementation of the Masster plan.

Museum curation and collection strategy

A comprehensive curation and collections strategy is required to determine the future direction for the Museum including:

- Determining what is the goal and purpose of the collection – much of this work has been commenced.
- Cataloguing and curation of the existing collection – this process is underway.
- Determining which items should be on permanent display and which are held for special themed exhibitions.
- Which items are surplus to needs and can be sold or otherwise disposed of.
- What is “missing” from the collection and should be purchased or otherwise sourced, including from donations and bequests.
- Determining the “best” way to present each specimen and other items from the collection.
- Building the “permanent” collection and a program of special exhibitions, including partnering with other institutions to share or host travelling displays.

Much of the Museum’s current collection and the other objects and artifacts are held in storage and considerable work is required to progressively “populate” the upgraded and expanded facility as it evolves.

Museum Thematic Display Strategy

With the implementation of the first stage of the Master Plan, new display cabinets and display style will be required that will form the foundation for the theme of the Museum for at least the next 10 years.

This type of thematic display needs to be undertaken by experienced museum specialists to ensure the new displays allow for and underpin future stages so they are consistent and do not become redundant. All displays need to contribute to the overall mining, minerals and social history focus for the future.

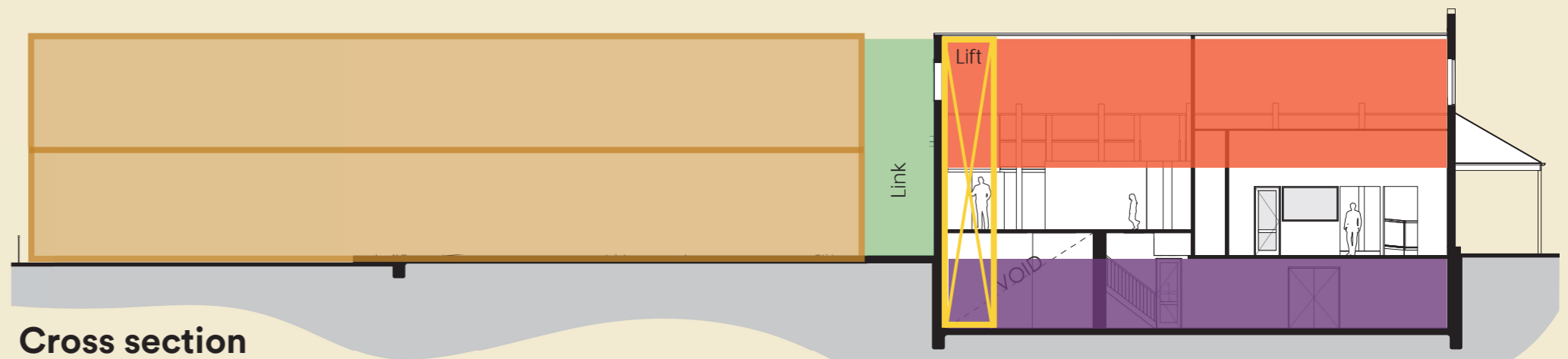
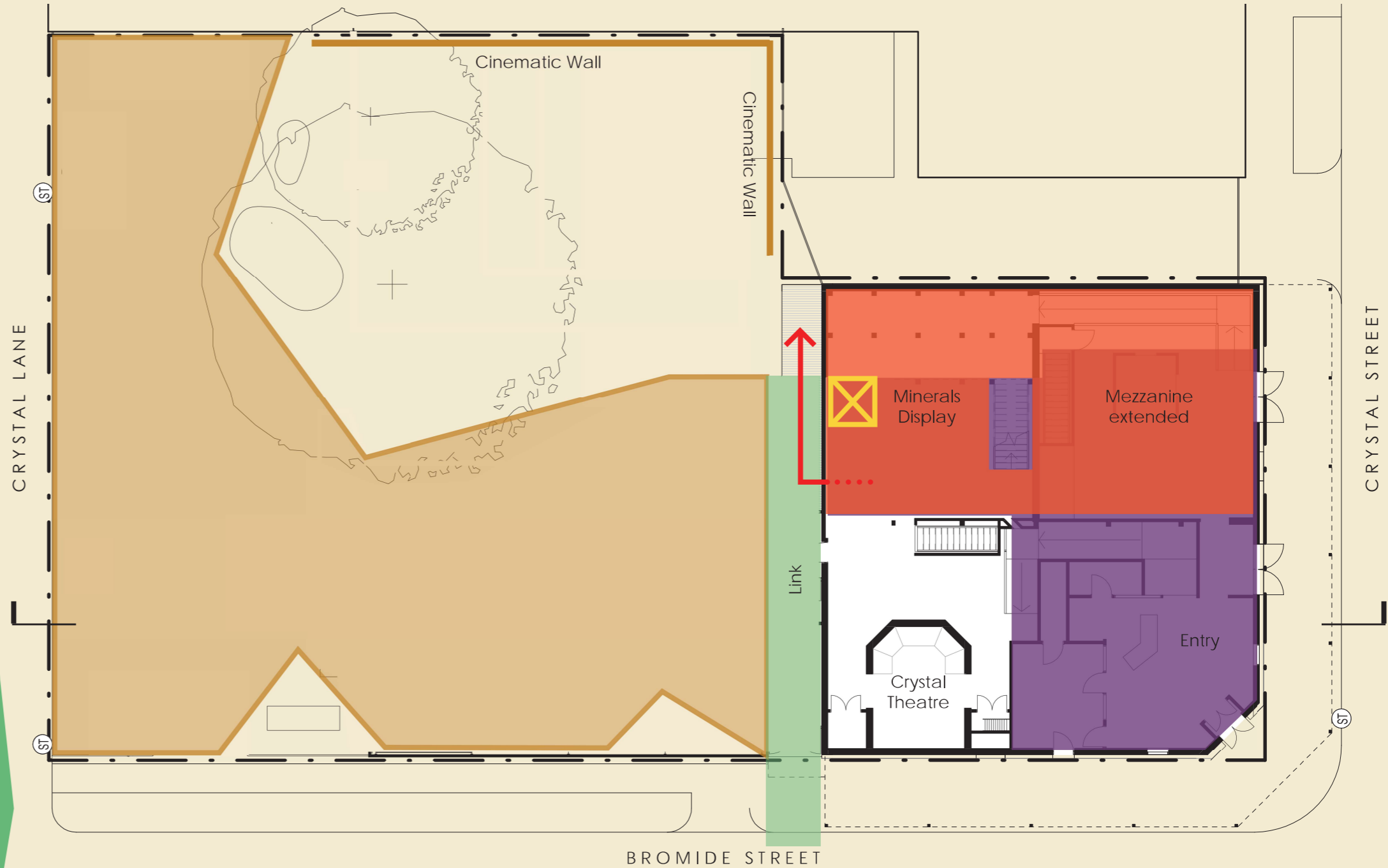
7 Appendix

1. Master Plan Additional Option
2. Economic Impact Analysis
3. Master Plan Estimate

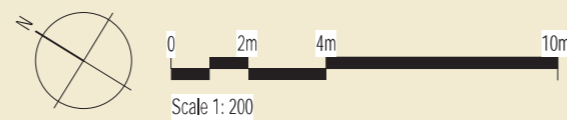
Option New Holistic Geo + Social + Mining Museum

As for Stage 4, plus provide a fully complying Museum Experience for Minerals & Geology with Social & Cultural history new basement experience provide a fully complying modern Museum Experience covering social, mining and geological history

- Miners Cottage is removed and relocated at Jamieson House.
- Non-compliant internal washroom amenities removed.
- New washroom established externally, but adjacent to existing building, with complying unisex disabled, ambulant male and female facilities.
- Extension of stope mezzanine experience to increase the area of exhibition space.
- Basement retained for staff access only, with new storage facilities for mineral and geological samples.
- Miners lift experience across 3 levels from mezzanine to basement.
- Basement experience inclusive of new/ acquired collections (eg Bushy Whites).
- Basement access via new code compliant stairs.
- Emergency exit from Basement via rear stairs to the outside yard.
- Exhibition hall demolished.
- New purpose built, multi level museum to the north of site with focus on mining and social history of Broken Hill. Orientated on courtyard to outdoor day and night activities and experiences.



Cross section



Option Experience

- BYOD (Bring Your Own Device) accessible digital labelling and upscaled augmented reality of selected minerals and objects throughout the Museum including external mining machinery. Addition of Social history information layer and Lines of Experience geo-caching wallet. Content served from the Content Repository.
- Traditional AV (lights and sound), projectors and sensors provide a narrative that encompasses mining and social history with idle and play states throughout the Museum.
- Removal of Crystal Theatre and installation of reimagined large screen, multi user interactive.
- Installation of small screen-based interactives for Bushy Whites collection, LED panels installed on internal lift floor/ceiling for the Miner's lift experience and various interactives throughout the new northern addition, including digital and practical accessible science experiences



1.



2.



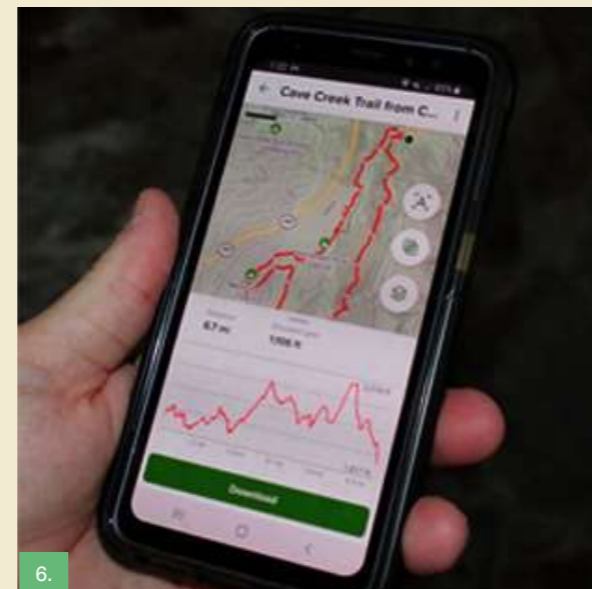
3.



4.



5.



6.



7.

1. Create exhibits and interactive experiences that have a scientific underpinning
2. Create an applications that extend beyond the Museum that supports a 'Hub and Spoke' model, with the Museum being the Hub
3. Incorporate social history layer to the Museum
4. Provide interactive experiences for children
5. Consider any new extension to be of architectural significance to create an iconic Museum identity
6. Provide additional digital assets for deep diving visitors to access
7. Include audio visual elements to create a more compelling experience

Broken Hill GeoCentre

Economic Impact Analysis

MCa <Michael Connell & Assocs.>

November 2023

Executive Summary

The report provides an economic impact analysis of the redevelopment of the GeoCentre in Broken Hill. The analysis covers the upgrade and extension of the Museum as well as associated initiatives to improve visitor experiences in the City.

Centre Visitors

- Current Visitors: were estimated at 8,960 or 7% of the non-business visitors to Broken Hill.
- Future Visitors: the target for the redeveloped GeoCentre is 20%-30% of the non-business visitors to Broken Hill. For the economic impact analysis we have used the 30% target or 38,400 visitors. In the modelling this is reached in Year 6 of operations.
- Memorial events: 20 annual events would bring 200 overnight visitors to Broken Hill (10 per event)

Spending in Region

- Visitor Spending: spending in the region was estimated for the projected visitors to the GeoCentre. Total spending (in constant \$2023 prices) increases from \$13.410 million in year 1 to \$22.351 million from year 6 onwards.

Centre Employees

- Employees increase (from 1.5 positions to 4.5) to deliver the new mix of activities and programs. Total salaries were estimated at \$285,000 (in constant \$2023 prices).

Construction Phase Impacts

- Construction activity was modelled, and estimates were developed for: onsite construction jobs in the region; professional jobs ; jobs generated in the supply of materials and equipment ; and indirect/induced jobs.
- Jobs: 27.3 direct jobs (FTE) would be generated during the construction period, comprising: 19.2 onsite construction jobs; 3.5 professional jobs; and 4.7 jobs in the materials and equipment supply sectors. When the multiplier effects of spending are taken into account, total jobs (direct and indirect) associated the project are 33.9 FTE (6.6 indirect/induced jobs).
- Regional Income: the increase in regional income generated by the full project is \$12.247 million (\$9.798 million direct and \$2.449 million indirect/induced).¹

Operations Phase Impacts

- The spending by GeoCentre visitors will generate jobs and a boost to regional income in Broken Hill. The spending of centre employees will also have an impact.
- The 4.5 centre employees will generate another 0.8 FTE indirect/induced jobs by their spending in the region.
- Visitors to the GeoCentre and their spending in the region would generate a total 60.2 FTE jobs in Broken Hill in year 1 increasing to 98.0 jobs in year 10. Overnight visitors are the major source of these jobs.
- Total jobs generated (direct & indirect/induced) including employees are 65.5 FTE in year 1 increasing to 103.3 in year 10.
- Total regional income generated by the operations of the Geocentre increases from \$5.092 million in year 1 to \$8.154 million in year 10 for a total of \$72.530 million over the 10 year period.

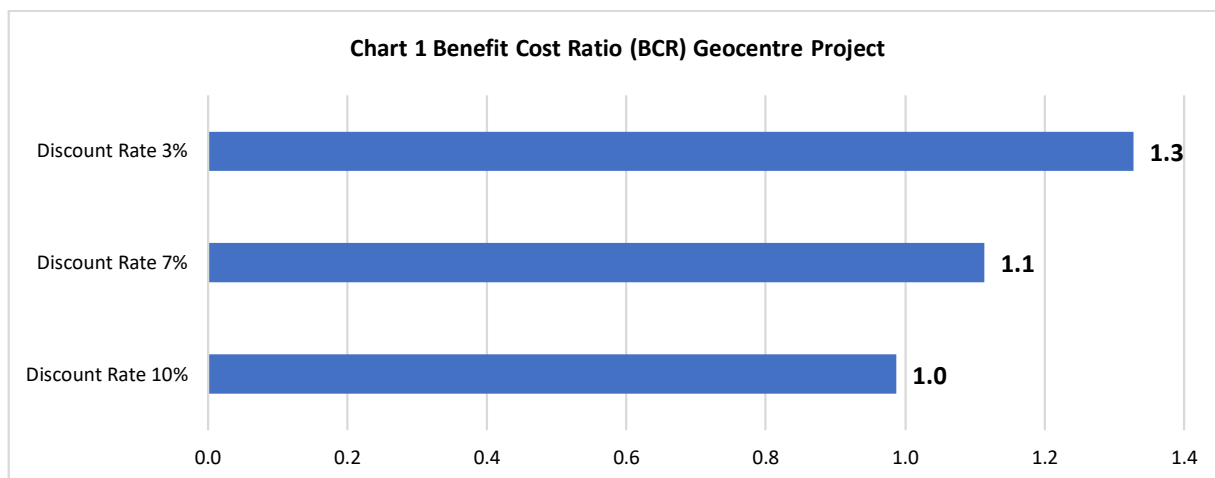
¹ Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated, income tax and GST on spending, are both treated as leakages from the region.

Measuring the Impacts

- For the economic impacts of the redevelopment we need to measure the increases (jobs and regional income) over the current levels of activity. The estimated current visitor level is 8,690 annual visitors.
- This level was used to estimate current spending in the region and the jobs and regional income generated. This was compared with the estimates for the redeveloped centre.
- Jobs : the increase in total jobs on current activity levels is 40.5 FTE jobs in year 1 increasing to 78.3 FTE jobs in year 10.
- Regional income: The increase in regional income on current activity levels is \$3.140 million in year 1 increasing to \$6.202 million in year 10. The total over 10 years used in the cost benefit analysis is \$53.007 million.

Benefit Cost Analysis ²

- Benefits: the benefits used in the analysis comprise: increase in regional income compared with the current situation; consumer value of a visit; and increase in employee wages & salaries. For the increase in regional income it is assumed that 60% of the increased visitors to the Centre are new to the region. Measure benefits total \$38.777 million.
- Project Costs: Total project costs over 10 years are [redacted] & 10-year asset maintenance \$2.3 million).
- Benefit Cost Ratios (BCR): The project delivers Benefit Cost Ratios (BCR) of 1 or above. These are 1.3 for a 3% discount rate 1.1 for a 7% discount rate.



Source: MCa modelling & analysis November 2023

² Benefits and costs are in constant \$2023 prices.

1. Introduction

The report provides an economic impact analysis of the redevelopment of the Geocentre in Broken Hill. It covers: projections of the increase in visitors to the Centre and their spending in the region; the economic impacts on Broken Hill; and a benefit/cost analysis of the project. An economic assessment was also made of the construction phase of the redevelopment.

2. Centre Visitors

Current Visitors

Current visitors were estimated at 8,960 or 7% of the non-business visitors to Broken Hill. It was assumed that these visitors match the mix of overall visitors to Broken Hill (TRA LGA Profile 2019)

Table 1 Geocentre – Current Visitors (no.)

Geocentre – Current Visitors	Visitors No	Share %
Day visitors	969	10.8%
Overnight visitors Internationals	242	2.7%
Overnight visitors Domestic	7,749	86.5%
Total Geocentre Visitors	8,960	100.0%

Source: TRC estimates November 2023

Future Visitors

The target for the redeveloped Geocentre is 20%-30% of the non-business visitors to Broken Hill. These non-business visitors comprise 128,000 persons (99,000 holiday makers and 29,000 visiting friends and relatives - VFR). For the impact analysis we have used the 30% target. This target of 38,400 would be achieved over time, and we have assumed that it would be reached in Year 6 of the new operations.

Table 2 Projected Visitors – Geocentre (10 years)

Geocentre	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Projected Visitors										
Visitors - Geo Centre (Target = 30% holiday & VFR)	23,040	26,880	30,720	32,640	34,560	38,400	38,400	38,400	38,400	38,400
% of Target	60%	70%	80%	85%	90%	100%	100%	100%	100%	100%
Current Visitors	8960	8960	8960	8960	8960	8960	8960	8960	8960	8960
Increase on Current Visits	14,080	17,920	21,760	23,680	25,600	29,440	29,440	29,440	29,440	29,440

Source: MCa modelling & analysis November 2023

The mix of centre visitors was based on Tourism Research Australia data.³ Based on this around 86% of people coming to Broken Hill LGA are overnight visitors.

Table 3 Projected Visitors by Type (10years)

Geocentre	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Visitor Mix										
Visitors - Geo Centre (Target = 30% holiday & VFR)	23,040	26,880	30,720	32,640	34,560	38,400	38,400	38,400	38,400	38,400
Day visitors (10.8%)	2,491	2,906	3,321	3,529	3,736	4,151	4,151	4,151	4,151	4,151
Overnight visitors Internationals (2.7%)	623	726	830	882	934	1,038	1,038	1,038	1,038	1,038
Overnight visitors Domestic (86.5%)	19,926	23,248	26,569	28,229	29,890	33,211	33,211	33,211	33,211	33,211

Source: MCa modelling & analysis November 2023. Based on TRA Local Government Area Profile , Broken Hill 2019

³ TRA Local Government Area Profile, Broken Hill 2019

Memorial Events: The other visitor category was people coming for the Memorial Events. It was assumed that 20 events would be held annually with an average of 10 visitors per event. All would be overnight visitors stay for 2 nights. Using the TRA spending estimates for overnight stay (\$216 per night) these visitors would account for spending of \$86,400 (in current \$2023 prices).

3. Visitor Spending

Visitor spending was estimated for persons attending the GeoCentre based on the following assumptions. As visitors to the centre increase, total annual spending (in constant \$2023 prices) in the region increases from \$13.410 million in year 1 to \$22.351 million from year 6 onwards.

Table 4 Visitor Spending Modelling - Assumptions

Spending Assumptions	Average stay days	Average spend. per day/night	Source
Spending Day Visitors	1	\$65	MCa assumption
Spending - Internationals	9	\$60	TRA 2019 data
Spending - domestic Overnights	3	\$216	TRA 2019 data

Table 5 Visitor Spending Estimates – Annual (\$2023 prices)

Visitor Type Spending <\$2023 prices>	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Day Visitors	\$161,903	\$188,886	\$215,870	\$229,362	\$242,854	\$269,838	\$269,838	\$269,838	\$269,838	\$269,838
Internationals o/n	\$336,259	\$392,303	\$448,346	\$476,368	\$504,389	\$560,432	\$560,432	\$560,432	\$560,432	\$560,432
Domestic Overnights	\$12,912,363	\$15,064,424	\$17,216,484	\$18,292,515	\$19,368,545	\$21,520,605	\$21,520,605	\$21,520,605	\$21,520,605	\$21,520,605
Total Spending in Region	\$13,410,525	\$15,645,613	\$17,880,701	\$18,998,244	\$20,115,788	\$22,350,876	\$22,350,876	\$22,350,876	\$22,350,876	\$22,350,876
Total O/N spending (includes Memorial Events)	\$13,335,023	\$15,543,126	\$17,751,230	\$18,855,282	\$19,959,334	\$22,167,438	\$22,167,438	\$22,167,438	\$22,167,438	\$22,167,438

Source: MCa modelling & analysis November 2023

4. Centre Employees

The redeveloped centre requires additional employees to deliver the new mix of activities and programs. The following shows the positions and estimated salary costs. The number of positions increase from 1.5 to 4.5 jobs. Total salaries were estimated at \$285,000 (in constant \$2023 prices).

Table 6 Geocentre Future Employees

Employees	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Front house (existing)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Front of House (new)	1	1	1	1	1	1	1	1	1	1
Maintenance & Cleaning (new)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Line of Load - Operations (new)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Memorial Events (new)	1	1	1	1	1	1	1	1	1	1
Total Employees	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Total Salaries (\$2023 prices)	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000

Source: TRC & MCa estimates November 2023

5. Economic Impacts - Construction Phase

5.1 Construction Costs

Total costs for the project are [] including all design and construction costs.⁴

5.2 Economic Impacts

Construction activity was modelled, and estimates were developed for: onsite construction jobs in the region; professional jobs and the jobs generated in the supply of materials and equipment to the project. The number of indirect/induced jobs generated through the spending of construction, professional and material supply employees was also estimated.

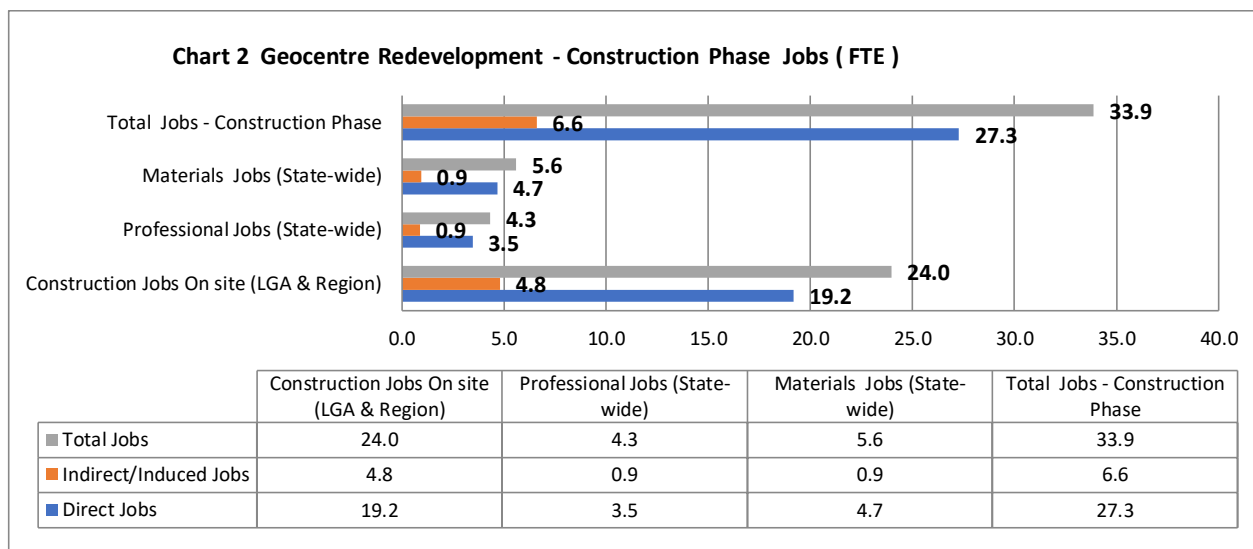
Jobs

A total of 27.3 direct jobs (FTE) would be generated during the construction period. These comprises 19.2 onsite construction jobs; 3.5 professional jobs ; and 4.7 jobs in the materials and equipment supply sectors. Construction jobs are likely to be held by residents of Broken LGA and the broader region and the professional and materials/equipment supply jobs would be spread across New South Wales. When the multiplier effects of spending are taken into account, total jobs (direct and indirect) associated the project total 33.9 FTE (6.6 indirect/induced jobs).

Table 7 Construction Phase Jobs (FTE no.)

Construction Phase Jobs	Direct Jobs FTE	Indirect/Induced Jobs FTE	Total Jobs FTE
Construction Jobs on site (LGA & Region)	19.2	4.8	24.0
Professional Jobs (State-wide)	3.5	0.9	4.3
Materials Jobs (State-wide)	4.7	0.9	5.6
Total Jobs - Construction Phase	27.3	6.6	33.9

Source: MCa modelling & analysis November 2023



Source: MCa modelling & analysis November 2023

Regional Income

The increase in regional income generated by the full project is \$12.247 million (\$9.798 million direct and \$2.449 million indirect/induced).⁵

⁴ Source TRC estimated November 2023

⁵ Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated income tax and GST on spending, are both treated as leakages from the region.

6. Economic Impacts Operations

The spending by GeoCentre visitors will generate jobs and a boost to regional income in Broken Hill. The spending of centre employees will also have an impact.

6.1 Jobs Generated

Centre Employees

The 4.5 centre employees will generate another 0.8 FTE indirect/induced jobs by their spending in the region.

Table 8 Employment Impacts – Centre Employees

Centre Employees Jobs FTE	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Direct – Centre Jobs	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Indirect /Induced Jobs	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total Jobs	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

Visitor Spending in Region

Visitors to the GeoCentre and their spending in the region would generate a total 60.2 FTE jobs in Broken Hill in year 1 increasing to 98.0 jobs in year 10. Overnight visitors are the major source of these jobs.

Table 9 Employment Impacts – Visitors to Geocentre

Jobs (FTE) Generated by Visitor Spending	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Day Visitors										
Direct Jobs	0.6	0.7	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0
Indirect /Induced Jobs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Jobs	0.6	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1
Overnight Visitors										
Direct Jobs	53.4	62.2	69.3	73.7	76.1	84.5	82.6	82.6	87.9	87.9
Indirect /Induced Jobs	6.2	7.1	7.1	7.5	7.6	8.4	8.0	8.0	9.1	9.1
Total Jobs	59.6	69.3	76.4	81.2	83.7	93.0	90.6	90.6	97.0	97.0
Total Jobs All Visitors										
Direct Jobs	54.0	62.9	70.1	74.5	76.9	85.5	83.5	83.5	88.8	88.8
Indirect /Induced Jobs	6.2	7.2	7.1	7.6	7.7	8.5	8.1	8.1	9.2	9.2
Total All Jobs - Tourists	60.2	70.1	77.2	82.0	84.6	94.0	91.6	91.6	98.0	98.0

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

Employment Impacts – Total Jobs

Total jobs generated (direct & indirect/induced), including employees are 65.5 FTE in year 1 increasing to 103.3 in year 10.

Table 10 Employment Impacts – All Jobs Generated

Total ALL Jobs (FTE)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Employees - Total Jobs	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Tourist Visitors - Total Jobs	60.2	70.1	77.2	82.0	84.6	94.0	91.6	91.6	98.0	98.0
Total Jobs	65.5	75.4	82.5	87.3	89.9	99.3	96.9	96.9	103.3	103.3

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

Of the jobs generated most were direct jobs in the Centre and in tourist related services (accommodation, food & beverage, retail and other visitor services) and balance were indirect/induced jobs in other sectors. Direct jobs totalled 58.5 FTE in year 1 and 93.3 FTE in year 10 and indirect/induced jobs 7.0 and 10.0.

Table 11 Jobs Generated by Geocentre Visitors

Total ALL Jobs (FTE)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Direct Jobs	58.5	67.4	74.6	79.0	81.4	90.0	88.0	88.0	93.3	93.3
Indirect/Induced Jobs	7.0	7.9	7.9	8.4	8.5	9.3	8.9	8.9	10.0	10.0
Total Jobs	65.5	75.4	82.5	87.3	89.9	99.3	96.9	96.9	103.3	103.3

Source: MCa modelling & analysis November 2023.

6.2 Regional Income

Total regional income generated by the operations of the Geocentre increases from \$5.092 million in year 1 to \$8.154 million in year 10 for a total of \$72.530 million over the 10 year period.

Table 12 Total Regional Generated by Geocentre (\$m constant 2023 prices)

Regional Income	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Total 10 Years
Employees	\$0.349	\$0.349	\$0.349	\$0.349	\$0.350	\$0.350	\$0.350	\$0.350	\$0.351	\$0.351	\$3.497
Tourist Visitors	\$4.744	\$5.522	\$6.240	\$6.628	\$7.001	\$7.775	\$7.759	\$7.759	\$7.803	\$7.803	\$69.033
Total Regional Income	\$5.092	\$5.871	\$6.589	\$6.977	\$7.350	\$8.125	\$8.109	\$8.109	\$8.154	\$8.154	\$72.530

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

7. Change on Current Activity

For the economic impacts of the redevelopment we need to measure the increases over the current levels of activity. The estimated current visitor level is 8,690 annual visitors. This level was used to estimate current spending in the region and the jobs and regional income generated in the region. This was compared with the estimates for the redeveloped centre.

7.1 Comparison - Jobs

The increase in total jobs on current activity levels is 40.5 FTE jobs in year 1 increasing to 78.3 FTE jobs in year 10.

Table 13 Comparison Employment Impacts – All Jobs Generated

Total ALL Jobs (FTE)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Redeveloped Centre										
Employees - Total Jobs	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Tourist Visitors - Total Jobs	60.2	70.1	77.2	82.0	84.6	94.0	91.6	91.6	98.0	98.0
Total Jobs – Redeveloped Centre	65.5	75.4	82.5	87.3	89.9	99.3	96.9	96.9	103.3	103.3
Current Activity										
Employees - Total Jobs	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Tourist Visitors - Total Jobs	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
Total Jobs – Current Activity	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Increase in Jobs										
Employees - Total Jobs	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Tourist Visitors - Total Jobs	36.9	46.8	54.0	58.8	61.3	70.7	68.3	68.3	74.8	74.8
Total Jobs	40.5	50.3	57.5	62.3	64.9	74.2	71.8	71.8	78.3	78.3

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

7.2 Comparison - Regional Income

The increase in regional income on current activity levels is \$3.140 million in year 1 increasing to \$6.202 million in year 10. The total over 10 years used in the cost benefit analysis is \$53.007 million.

Table 14 Comparison Regional Income Impacts

Total Regional Income (\$2023 prices)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Total 10 Years
Redeveloped Centre											
Direct Regional Income	\$4.541	\$5.246	\$5.950	\$6.303	\$6.655	\$7.360	\$7.360	\$7.360	\$7.360	\$7.360	\$65.494
Indirect /Induced Income	\$0.552	\$0.625	\$0.639	\$0.675	\$0.695	\$0.765	\$0.749	\$0.749	\$0.794	\$0.794	\$7.037
Total Regional Income	\$5.092	\$5.871	\$6.589	\$6.977	\$7.350	\$8.125	\$8.109	\$8.109	\$8.154	\$8.154	\$72.530
Current Activity											
Direct Regional Income	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$1.742	\$17.419
Indirect /Induced Income	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$0.210	\$2.103
Total Regional Income	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$1.952	\$19.523
Increase in Regional Income											
Direct Regional Income	\$2.799	\$3.504	\$4.208	\$4.561	\$4.913	\$5.618	\$5.618	\$5.618	\$5.618	\$5.618	\$48.074
Indirect /Induced Income	\$0.341	\$0.415	\$0.428	\$0.464	\$0.485	\$0.555	\$0.539	\$0.539	\$0.583	\$0.584	\$4.933
Total Regional Income	\$3.140	\$3.918	\$4.637	\$5.025	\$5.398	\$6.173	\$6.157	\$6.157	\$6.201	\$6.202	\$53.007

Source: MCa modelling & analysis November 2023. May be some differences due to rounding.

8. Benefit Cost Analysis

8.1 Benefits

The benefits used in the analysis comprise: the increase in regional income compared with the current situation; the consumer value of the visit; and the increase in wages & salaries associated with the increase in employees. For the increase in regional income it is assumed that 60% of the increased visitors to the Centre are new to the region. Benefits total \$38.777 million.

Table 15 Measured Benefits of Redevelopment Centre

Benefit	Description	Benefit Value – 10 Years <Constant \$2023 prices>
Regional Income	Increase in regional income generated spending of visitors. Assumed 60% of additional visitors are new visitors to the region.	\$31,804,480
Consumer Value of experience	There are no entry charges so a shadow price of \$15 per person has been used. It reflects what a visitor might be willing to pay for the experience.	\$5,097,600
Gallery workforce	Increase in wages & salaries paid to additional employees	\$1,875,000
Note : all benefits are based on the increase above current visitor levels	Total Benefits	\$38,777,080

Source: MCa modelling & analysis November 2023.

8.2 Project Costs

Total project costs over 10 years are [redacted] & 10 year asset maintenance \$2.300 million).

Table 16 Project Costs (\$2023 prices)

Project Costs	Description	Benefit Value – 10 Years <Constant \$2023 prices>
Capital Cost	Estimated cost of design, development and construction ..	[redacted]
Asset Maintenance Costs	Assumed to be [redacted] Cost =\$230,000 per year & \$2.300 million for 10 years.	\$2,300,000
	Total Cost	[redacted]

Source: TRC capital cost estimate & MCa estimates , November 2023.

8.3 Benefit/Cost

The following table show the benefits and costs associated with the redeveloped Geocentre.

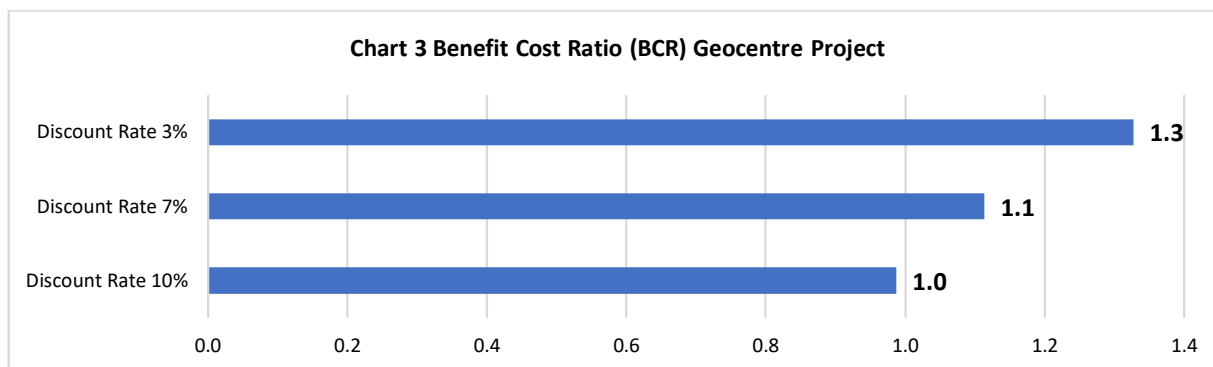
- The measured benefits total \$38.777 million (\$2023prices).
- The project costs total [redacted]

In line with NSW Government requirements, 3 discount rates are used (3%,7%,10%). The project delivers Benefit Cost Ratios (BCR) of 1 or above. The Project has a Benefit Cost Ratio (BCR) of 1.3 for a 3% discount rate and the suggested 7% discount rate for a larger project yields a BCR of 1.1.

Table 17 Benefit /Cost Analysis – Geocentre

Geocentre Project	Discount Rate	Discount Rate	Discount Rate
Regional Cost Benefit (\$2023 prices)	3%	7%	10%
Period : 10 Years			
Project Costs			
Capital Costs 2023(\$)			
Costs - Maintenance (10 years)			
Total Costs			
Project Benefits			
Direct Benefits (10 years)			
Consumer Value (users)	\$5,097,600	\$5,097,600	\$5,097,600
Regional Income Increase	\$ 31,804,480	\$ 31,804,480	\$ 31,804,480
Centre Employees Income	\$1,875,000	\$1,875,000	\$1,875,000
Total Benefits (\$2023 prices)	\$38,777,080	\$38,777,080	\$38,777,080
Total Benefits (\$) Present Value	\$33,578,066	\$28,165,698	\$24,965,812
Benefits & Costs			
Net Present Value (\$) Total Benefits	\$8,278,066	\$2,865,698	-\$334,188
NPV/Cost	0.3	0.1	0.0
Benefit Cost Ratio (BCR)	1.3	1.1	1.0

Source: MCA modelling & analysis November 2023



Source: MCA modelling & analysis November 2023

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