



# **EXECUTIVE SUMMARY**

THE HUNTER REGION IS NSW'S FASTEST GROWING CORRIDOR, WITH POPULATION IN GREATER NEWCASTLE PROJECTED TO GROW BY 21% OVER THE NEXT 20 YEARS.

The Hunter Region's population will reach 1.1 million by 2036, with a population increase of 125,000 additional people across Cessnock, Maitland, Lake Macquarie, Newcastle and Port Stephens local government areas (Greater Newcastle). The region is currently facing a shortfall in the supply of unconstrained residential land.

Stony Pinch, located in the lower Hunter Valley, presents a significant opportunity to unlock a large, strategic land holding under single ownership. Stony Pinch is located within an identified growth corridor and has access to services and infrastructure. The site is capable of accommodating 19,200 dwellings and will address the region's long-term growth challenges.

The Department of Planning and Environment (DPE) in conjunction with both Cessnock and Maitland Council have considered Stony Pinch as part of their long term strategic growth. The site is identified within a growth corridor and is in close proximity to Central and East Maitland strategic centres.

The Hunter Regional Plan 2036 emphasises the need to focus development and create compact communities that enables 95% of the population to live within 30 minutes of a strategic centre.

The recent completion of Hunter Expressway with success in providing unprecedented access between the Upper Hunter and Greater Newcastle has led to the emphasis of future planning for land along the Hunter Expressway Corridor in the Hunter Regional Plan 2036.

The site comprises 3,600 hectares and is bounded by a regional transport network. Stony Pinch is strategically placed to reduce both housing and employment pressure in the Greater Newcastle area.

Technical investigation and structure planning carried out over the last few years have indicated the potential and suitability of Stony Pinch to accommodate significant residential development. The site will positively contribute to the immediate and long-term supply of residential living opportunities across Maitland, Cessnock, and the Hunter Region.



Stony Pinch presents the potential to accommodate approximately:





330 HECTARES OF EMPLOYMENT LAND







1500 HECTARES OF PRESERVED BUSHLAND

# **CONTENTS**

**PART A** 

# PURPOSE OF THIS DOCUMENT

This document identifies the opportunities and considerations for urban development in Stony Pinch. It outlines the history of the site and considers the previous studies undertaken. Specifically, this document:

- Presents the significance of Stony Pinch in the Hunter Region;
- Seeks to have the site recognised as an area for future urban development in both the Cessnock and Maitland Urban Settlement Strategies;
- Provides the vision for Stony Pinch and a Structure Plan to Cessnock and Maitland Councils and the Department of Planning and Environment (the Department);
- Discusses the key considerations that informed the evolution of the Structure Plan which is consistent with both state and regional strategic planning policies;
- Demonstrates the holistic approach taken in the preparation of the Structure Plan to form a long-term strategy for the revitalisation of Stony Pinch;
- Identifies the staging of the 50-year project based on the consideration of mining operation, rehabilitation need, feasibility of biodiversity offset and accessibility;
- Determines the potential yield across each phase; and
- Provides information to enable DPE to advise the Consortium as to the appropriate planning approval pathway to advance the project.

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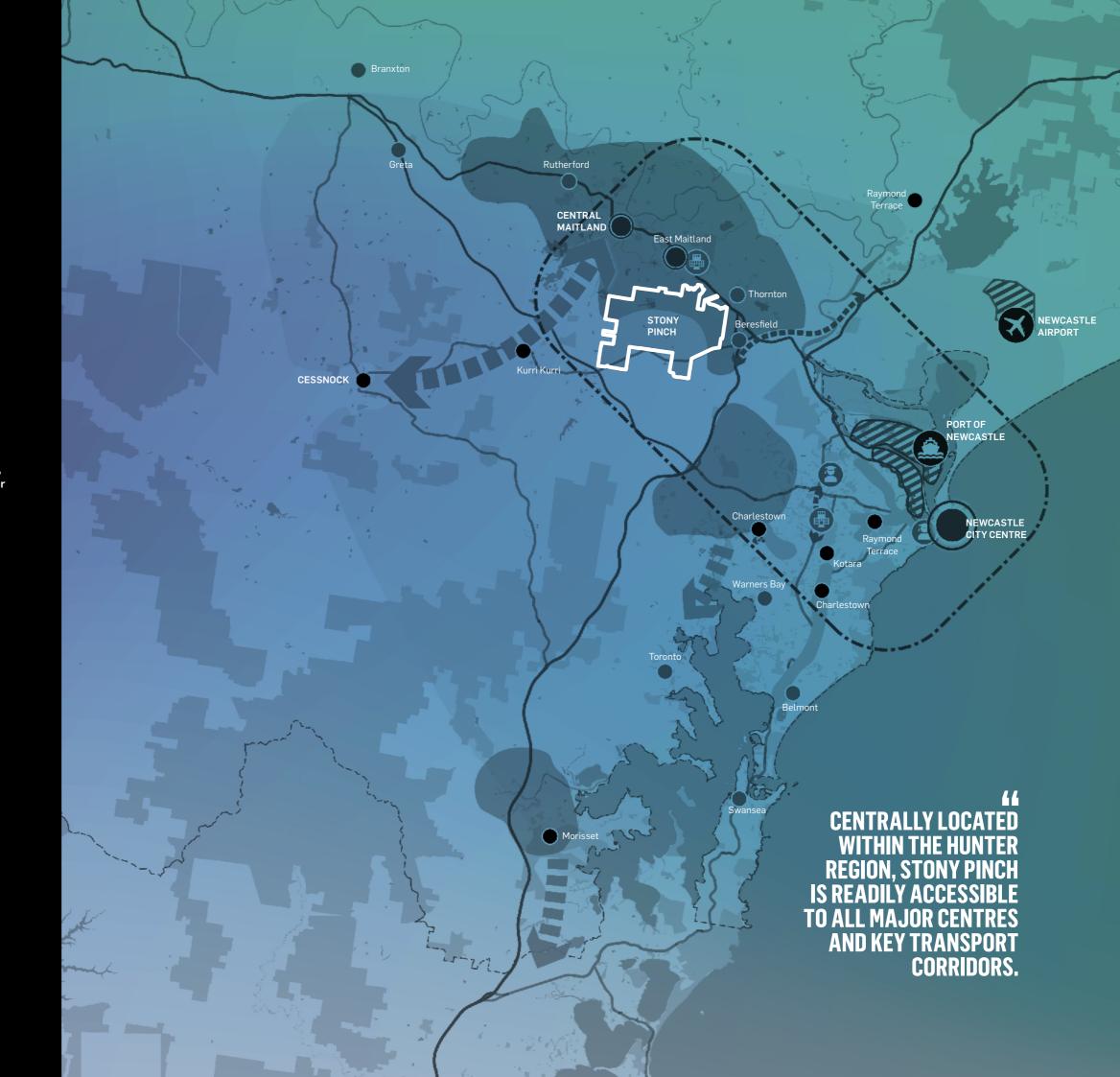
CONTEXT LIGNMENT WITH THE HUNTER REGION
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# PART A STONY PINCH

This section of the report provides a background to the story of Stony Pinch. It briefly outlines the opportunities that have influenced our approach to the Structure Plan.

Following the closure of open-cut mining activities on-site, opportunities have been foreseen to rehabilitate the site for future urban development. It has a unique topographical setting and established neighbourhoods surrounding it.

Stony Pinch at its strategic location in the Hunter Region will be a significant contributor to the urban growth in the Hunter Region.



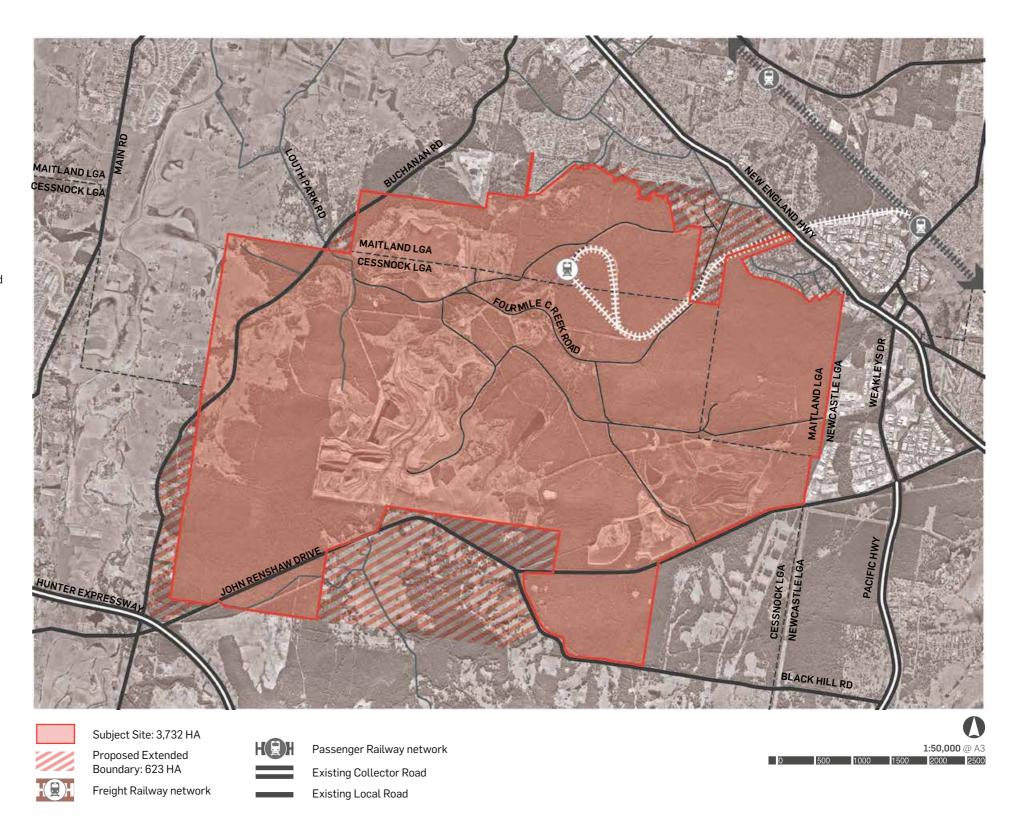
#### THE SITE

The Stony Pinch site is located within the Cessnock Local Government Area (LGA) and partly the Maitland LGA towards the northern boundary, with the eastern boundary of the site abutting the Newcastle LGA boundary. The site comprises approximately 3,600 hectares of land, currently used for open and underground mining which are in the processes of being phased out. Other uses include significant areas of rehabilitated land and temporary uses such as grazing.

#### **Extended Study Area**

The south-west end of the site boundary has been extended to the intersection of Hunter Expressway, George Booth Drive, Buchanan Road and John Renshaw Drive and there is potential to extend the boundary to the south to fully consider the accessibility provided by John Renshaw Drive. These areas are fragmented in ownership presently and requires future consultation with these landowners.

Existing urban interfaces as well as development activity within the immediate surrounds such as Black Hill Land Rezoning at the south-east of the site has been taken into consideration during the investigation of Stony Pinchs' urban capability.



 $\textbf{Figure 1} \quad \textbf{Stony Pinch Study Area with Extended Boundary}$ 

#### **LAND OWNERSHIP**

Donaldson Coal (a subsidiary company of Yancoal), Ashtonfields and the Bloomfield Group have been operating mining activities on part of the site for over 75 years, representing the three main landowner groups in Stony Pinch.

The landowners have long held agreements and leases so that they act cooperatively in utilising the mining infrastructure on the site to transport it to the Port of Newcastle for export. They are now part of a single entity known as the Stony Pinch Consortium.

The Consortium are collaborating on a shared vision facilitating the landowners to act as a co-ordinated and single entity in the planning and development of Stony Pinch

Areas are to the south of Stony Pinch area fragmented in ownership and have some limitation in terms of landform may require consultation with land owners affected.

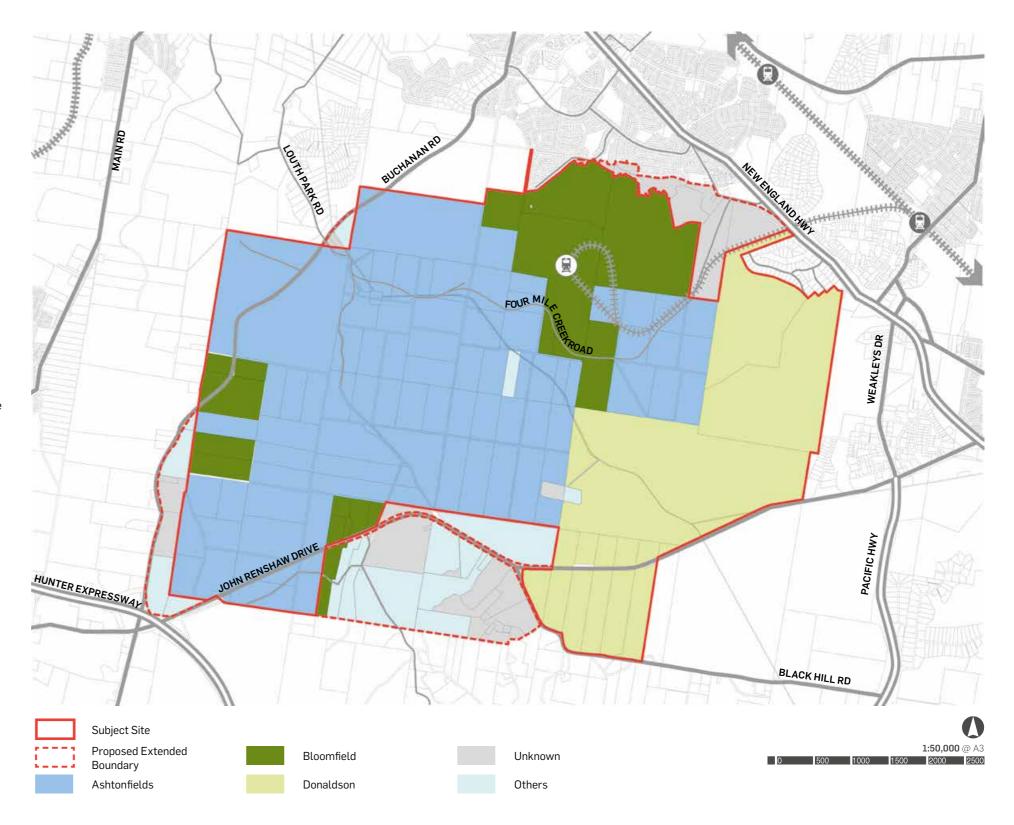


Figure 2 Site Ownership

# **ABOUT STONY PINCH**

#### **TRANSITIONAL GROWTH**

**1840S** 

#### A Rich Mining History

Stony Pinch has a long history in coal-mining operation. Some parts of Stony Pinch has been actively mined for over 150 years.

Coal mining activities on-site were initiated at Four Mile Creek by the Brown Brothers (James and Alexander Brown) in November 1842, providing majority of the coal to the Hunter River Steam Navigation Company. The Hunter Region was soon recognised as the biggest coal producer in the 1900 and in the early 20th century, coal mining became the dominant industry in Cessnock

The mining operation produces coal mostly for international export through the Port of Newcastle, directly from a rail loop on-site.

2008

#### A Single Entity

Under the agreement of Ashtonfields Pty Ltd, Donaldson Coal Pty Ltd and the Bloomfield group, Stony Pinch Consortium ("the Consortium") was formed in 2008 to collaborate on a shared vision for the planning and development of Stony Pinch.

Urbis has been engaged by the Consortium since 2010 to undertake a series of urban studies and structure planning for Stony Pinch. In March 2011, DPE recognised the need to commence studies and engage with relevant government agencies in formulating development and rehabilitation opportunities on Stony Pinch.

Since then, the Consortium:

- engaged with key state and local government stakeholders;
- undertook further studies to advance the thinking around the vision for Stony Pinch;
- refined the initial Structure Plan presented in first application in August 2010 to identify a broad plan of future conservation and urban areas
- planned for the closure of the mining operation on the site over the next decade.

Proceeding with the planning process, further investigation has been carried out to form a Structure Plan for Stony Pinch. Th plan sets out the longterm opportunities for housing and employment in the area. The Structure Plan reflects the desired outcomes of the Hunter Regional Plan and the anticipated future growth of the Hunter Region.

2017











**REGION** 

"

#### A Contributor to Hunter Region's urban growth

The phasing out of mining activities, the existing communities surrounding it, the already existing infrastructure and strategic links, as well as the rapid growth of the Hunter Region means the site possesses key qualities that enable urban development to happen for Stony Pinch.

The Hunter Regional Plan 2036 acknowledges the growing importance of the Greater Newcastle region including Cessnock and Maitland Council Area.

At its scale and location, Stony Pinch is recognised by both DPE and local councils as an area to be developed in conjunction with the region's future growth.

#### Home to a Thriving and **Connected Community**

The time has arrived to advance the future vision for Stony Pinch to deliver a co-ordinated planning and housing outcome.

The formulation of a structure plan with a long term vision will renew the conversation for the revitalisation of Stony Pinch. The plan will encourage collaboration across public and private stakeholders in the transition process to a new urban growth area.

We believe that Stony Pinch possesses latent opportunities for residential living, employment uses that have great access to regional links, infrastructure and an expansive natural environment.

#### Former Mining as Cultural Landscape

A NEW COMMUNITY

**GROWING HUNTER** 

IN THE HEART OF THE

Mining operation is already being phased out and rehabilitated areas have long been established following closure of mining sites. This presents the opportunity to immediately unlock development potential for the land at the periphery of the site that have limited constraints and provide a place-specific 'cultural landscape' underpinned by Stony Pinchs' unique mining history.

#### **STONY PINCH TODAY...**









#### AND IN THE FUTURE...



Cornwall, UK. The Eden Project, is a popular attraction that transformed a disused Kaolinite quarry into an environmental education facility.



Fitzgibbon Chase, QLD. A new residential estate designed as a vibrant, inclusive community, providing residents with a diverse range of high-quality, smartly designed and well-priced house and land packages.



Essen, Germany. Adaptive re-use of Zollverein Coal Mine Industrial Complex.



Rouse Hill Town Centre, NSW. Featuring a town square with outdoor dining and a mix of indoor and outdoor spaces



Rouse Hill Town Centre, NSW. A main street with distinct human scale qualities and street planting providing shade and amenity.

#### THE OPPORTUNITY...



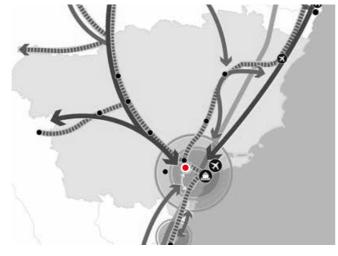
#### **CLOSURE OF MINING OPERATION**

Mining is to be phased out of Stony Pinch in the long term. It is acknowledged in the Hunter Regional Strategy that mining is a temporary land use and these already serviced areas offer opportunities for urban development, balanced with sustainable conservation outcomes. The Consortium have long established rehabilitated parcels of former mining land with a view to urban development in the future.



# CLOSE TO ESTABLISHED COMMUNITIES

Stony Pinch is surrounded by established existing residential communities to the north and north-west of the site, presenting the opportunity for the extension of the site to seamlessly integrate with these areas. These residential precincts are further supported by local centres and amenities to the north.



# STRATEGICALLY LOCATED AT THE INTERSECTION OF THE HUNTER REGION

Located within the Growth Precinct and adjacent to a growth centre, Stony Pinch is in close proximity to major centres and services linked by regional health and educational facilities.



# GOOD VEGETATION AND RIPARIAN CORRIDORS

Stony Pinch features vegetated areas that have been established as part of its post mining rehabilitation program as well as high value vegetation that have been mapped in previous studies. Riparian corridors also traverse the site, providing a truly unique natural setting from which new communities in Stony Pinch will flourish.



#### **READY INFRASTRUCTURE**

The site possess readily accessible transport links, utility services with electricity, potable water, gas and fibre optic infrastructure traversing through the site. An existing rail carriage loop and overpass already connects to established areas to the north-east and to Thornton Train Station. This can be re-conceptualised in the future to provide active linkages for the new communities at Stony Pinch.



# ABUNDANCE OF NATURAL & TOPOGRAPHICAL ADVANTAGES

Stony Pinch's varying topography provides a solid canvas from which urban development can occur. Extensive areas of level, unconstrained land bounds the site with undulating hills, ridges and highpoints which is a feature at the centre of the site. New centres and communities connected along the ridgelines maximises the opportunity to provide high amenity vantage points and views for open spaces and new dwellings.



# AGILE AND RESPONSIVE OWNERSHIP

The land is owned under one single entity that can deliver sustainable development and land management outcomes with agility over considerations such as securing sites for conservation, managing funding of conservation areas; infrastructure investment decisions, realisation of strategic goals for liveable communities, housing diversity and connectivity to amenities and jobs.



#### **CULTURAL LANDSCAPE HISTORY**

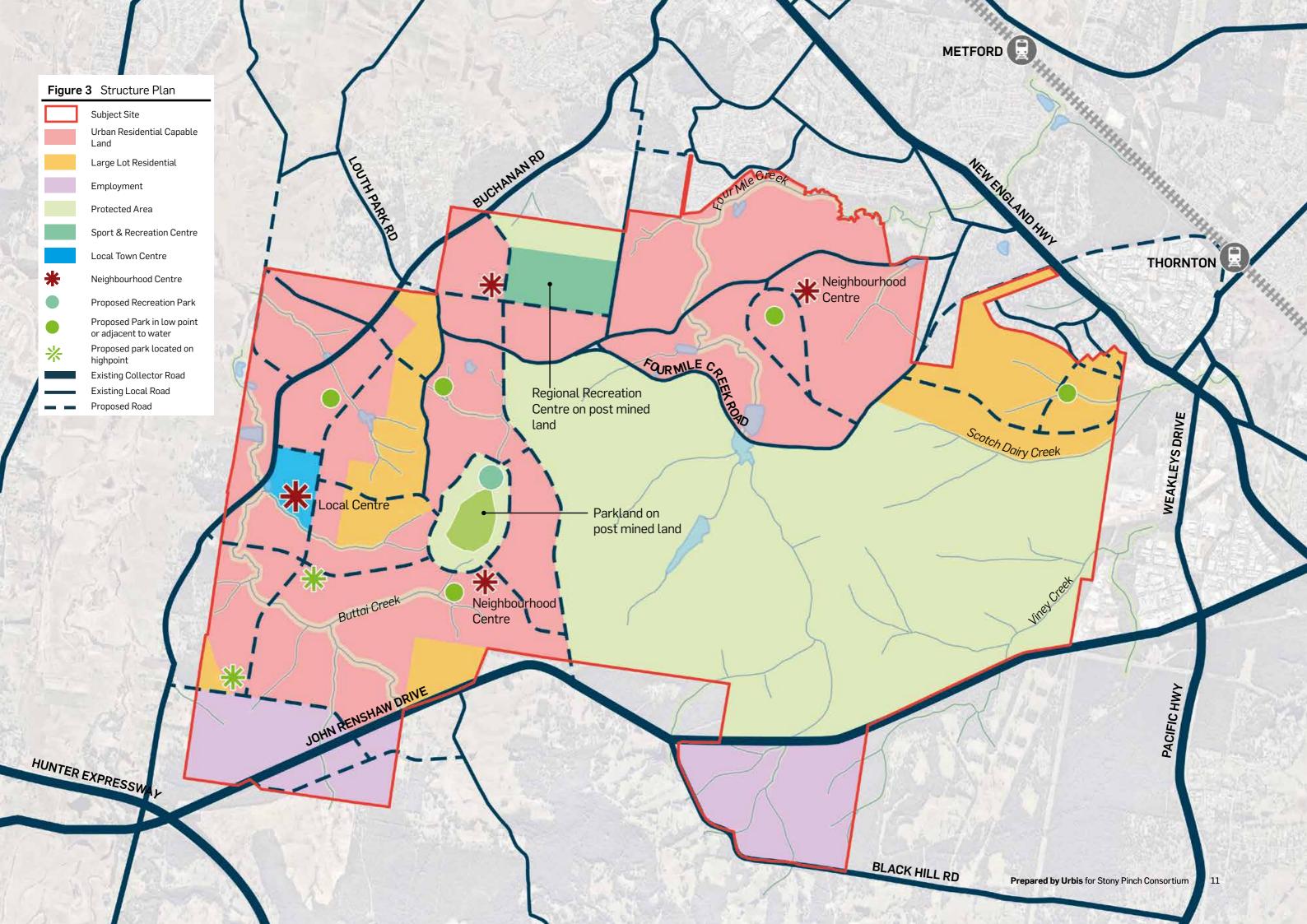
With ample natural and topographical features, Stony Pinch's history of mining has shaped the cultural identity of the Hunter over generations. This heritage of industrial and cultural value is a source of community identity and pride. Unique visual and aesthetic values are latent in disturbed or post-industrial landscapes and form the foundation to conceptualise Stony Pinch as a place rich in culture and identity from which a special character can truly emerge.

# THE VISION AND STRUCTURE PLAN

This section of the report sets the framework for the structure plan. The plan draws direct lines of sight between the contextual and physical analysis to create a structure that sets the tone and aspiration for the future of Stony Pinch. This section:

- Presents a bold long term future for Stony Pinch;
- Articulates the key principles that have underpinned the structure plan;
- Defines a series of strategies that describe key issues such as land use, movement, landscape, public realm;
- Presents a sequence of development that balances the immediate development need with the desire for a coherent long term outcome; and
- Defines the staging based on the phasing out of mining and long-term capability of the land.







#### **WHAT MAKES A GREAT** PLACE?

All great places share a number of common elements. It is these elements that underpin their attractiveness. competitiveness and sustainability. We have considered and integrated the points below into the Structure Plan for Stony Pinch.

#### Resilience & adaptability

All great places, although often the product of a singular plan, are characterised by its resilience, adaptability and flexibility. This includes a diversity of uses, precincts and people. This factor underpins another kind of success relating to the resilience of place, which in turn provides the framework for ongoing investment and adaptation that anchor the development and position it on the regional scale. We propose a blue print for the Structure Plan that encompasses a flexible approach that can accommodate changing needs and values over time.

#### Public realm

Those who appreciate the qualities of urban life appreciate that it is the public realm that makes great communities and places. Every footpath, park, and square is an opportunity to connect people, undertake exchange, enjoy the climate or participate in the life of the city. In great places, the public realm is always a fine mesh of interesting and active connections and this can be achieved for the structure of Stony Pinch

#### **Distinctiveness**

No great place is the same to any other. That is because they are responsive to the geography, climate, topography, history and culture that form their context. A highly organised gridded community can never occur on a mountain, a swirling network of streets is inefficient on a flood plain, and waterfront cities that are not outward looking fail to reach their potential. We propose structure that makes the most of the landform, aspect, landscape, and the natural assets within the context of Stony Pinch

#### Clarity of structure

The grid of New York and the Avenues of Paris are a world famous examples of a city that has a clarity of structure. In part this is to do with way finding but it is also it is a way for the city organise itself into clear areas of activity. Clear structures are also flexible structures that allow the city evolve over time. We propose a clear structure that defines the core of the Town Centre, connected by a series of significant urban connections and a central boulevard that link to more organically laid out

#### Soul and experience

Communities which evoke the senses and linger in our collective memory, are places which have their unique culture, sense of place and creative narrative. Stony Pinchs' long history in mining history of mining has shaped the cultural identity of the Hunter over generations. This heritage, industrial and cultural value is to be a source of community identity and pride. The latent visual and aesthetic values will form as the basis to conceptualise this 'place' a as a landscape rich in culture and identity from which a special character can truly emerge.

#### Natural systems

Great places are cognisant of the natural processes and systems that define their location. In the case of Stony Pinch, the dominant natural systems is the land form, riparian corridors, ridgeline and elevated areas central-west of the site. This suggests an approach to the location of a centre that capitalises on these features and draws the surrounding natural amenity into the centre.

#### Connectivity

Successful communities are well connected and permeable. Places of employment and activity are seamlessly connected to places of living. The community is connected to the surrounding landscape and street networks are connected to the public realm. In essence, everything is connected to everything else. This is not a matter of principle but rather a matter of necessity as it underpins social engagement, economic activity, and flexibility for growth and amenity for residents. We propose this level of connectivity for the Stony Pinch Structure Plan

#### **POST-MINING AND OTHER** LAND USE EXAMPLES

The following images illustrate examples of land uses that have occured following the phasing out of mining or other intensive land uses.













# STONY PINCH WILL BE A THRIVING NEW COMMUNITY INTEGRATING LIVING, RECREATION AND EMPLOYMENT WITHIN A UNIQUE SETTING. IT WILL BE CHARACTERISED BY EXPANSIVE RESERVES AND RECREATIONAL AREAS CELEBRATING THE LANDSCAPE AND HISTORY OF STONY PINCH.

Stony Pinch is set to become a regionally significant, renewal project. It will establish a new benchmark for a self-sustainable community in the next 50 years.

Stony Pinch will transform into a destination for living, integrating community, connections, business, leisure and entertainment within its unique setting surrounded by good areas of mature vegetation, passive and active areas that celebrate the mining history of the site.

The vision for Stony Pinch is to create a fully integrated community through the provision of housing diversity and employment opportunities, that are well-supported by its unrivalled accessibility to social, utility and transport infrastructure in the Hunter Region.

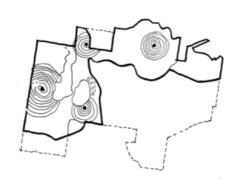
Stony Pinch will provide areas to accommodate regional recreation, sustainable energy production, employment and a large contiguous area for biodiversity conservation.

#### **KEY OBJECTIVES**



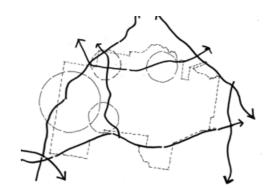
## Align with Hunter Region Strategic Growth Plans

 Support the viability of a freight rail corridor and future freight networks



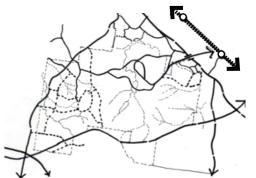
#### **Housing Diversity**

- Provide housing diversity and sufficient employment opportunities as set out in government strategic plans.
- Provide regionally significant community facilities that are family focused.
- Introduce a built form that is well-designed to compliment the existing context,



#### **Connected Communities**

- Form interconnected communities, responding to the landform and ridgeline.
- Ensure that neighbourhood precincts are distinctive and of its place, with good connections to amenities and services



## Integrated & Sustainable Transport Modes

- Provide connections to established communities and services through an integrated transport network covering roads, public transport, walking and cycling routes.
- Utilise and upgrade existing infrastructure to ensure serviceability for a growing population.



## Adaptive Reuse of Mining Areas

 Adaptively re-use mining areas and facilities by incorporating the elements in the overall structure plan



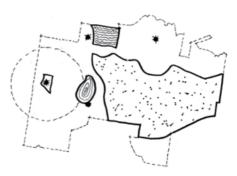
#### Manage High Value Vegetation

- Manage vegetation and protect wildlife and riparian corridors;
- Incorporate green links to riparian networks and water bodies;



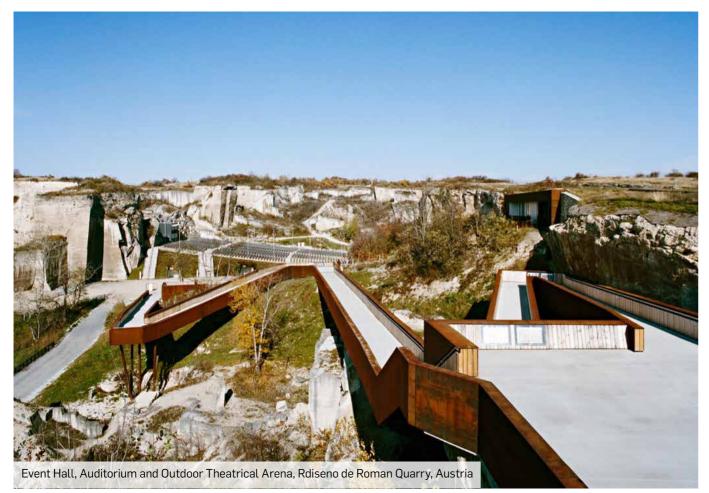
#### Mining as Cultural Landscape

- Reinforce the natural setting by providing public access, nature walks, variety of recreational areas on-site
- Revitalise the landscape with adaptive re-use of the mining land and buildings to celebrate the history and identity of the site



#### A 'Destination' Place

- Dedicate open spaces for recreation, scenic and environmental purposes to form a 'destination' for the region.
- Utilise the post-mining identity and landform to create special value and meaning into the landscape design.



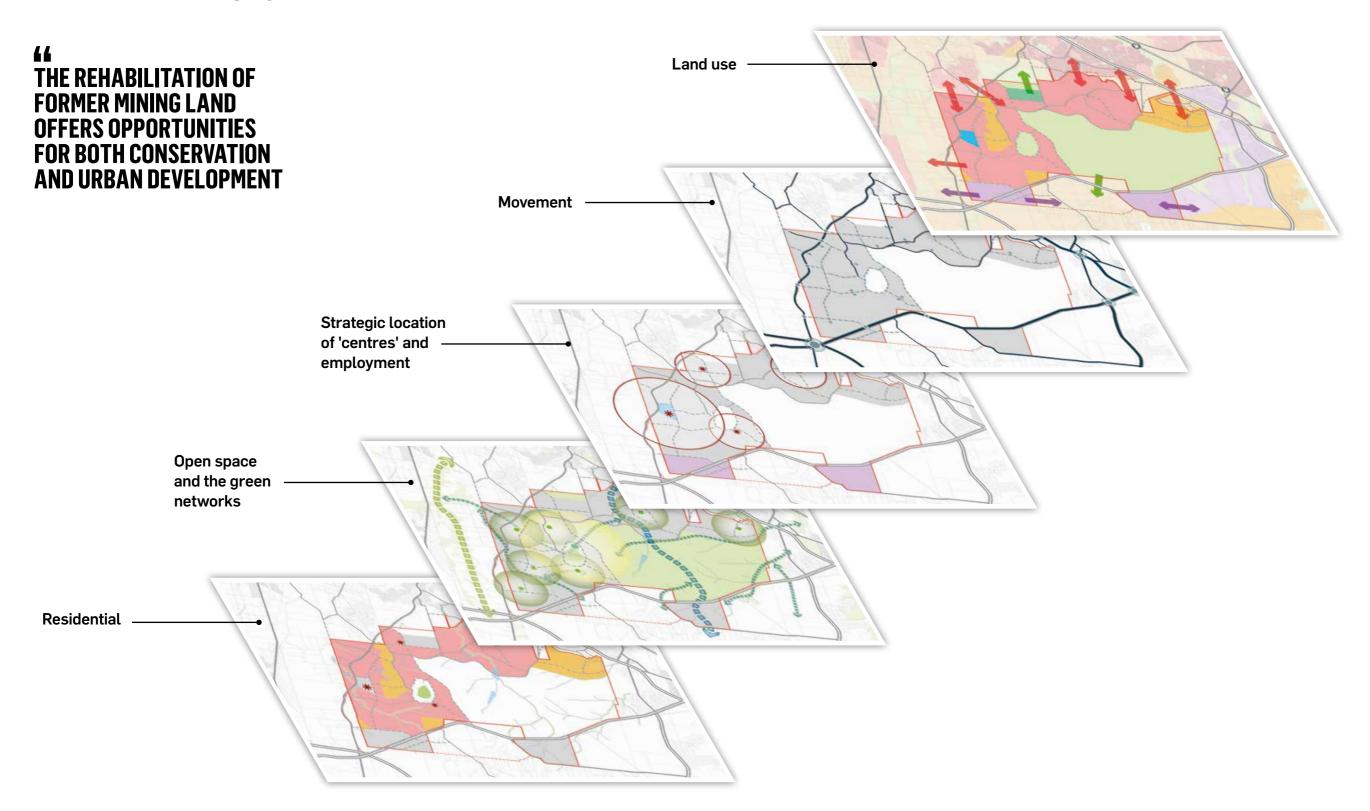








#### **A LAYERED APPROACH**



#### **LAND USE STRATEGY**

The proposed land uses have been informed by opportunities to provide direct connectivity to established urban areas and to unlock land to provide future employment opportunities. Proposed land use include:

#### **URBAN RESIDENTIAL**

Urban residential land is allocated along the northern and western edges of Stony Pinch. This is an extension of the existing urban area clustered along the New England Highway and parts of Louth Park.

#### LARGE LOT RESIDENTIAL

Rural residential land uses are designated to the northeast, south, and west of Stony Pinch. Careful consideration of the varying topography will provide the opportunity for views and vistas to the east while catering for a mix in housing density.

#### **EMPLOYMENT**

The proposal includes 310Ha of employment land on the southeast and southwest corner of Stony Pinch. This is a natural progression of the existing provision of employment land (1,300Ha) abutting the eastern side of Stony Pinch. This creates a significant and connective employment land supply for the region.

#### **VEGETATION/ BIODIVERSITY CONSERVATION**

In recognition of the need for biodiversity conservation and on-going mining operation, the central area towards the southeast of the site is reserved as a protected area. This area also presents an opportunity for further investigation to accommodate alternative recreational uses.

#### SUPPORTING LAND USE

Designated areas have been identified for local or neighbourhood centres and a regional sport and recreation precinct. The proposed location of these centres has been informed by the ability to provide good connection to transport and to maximise and reinforce visual and landscape character.

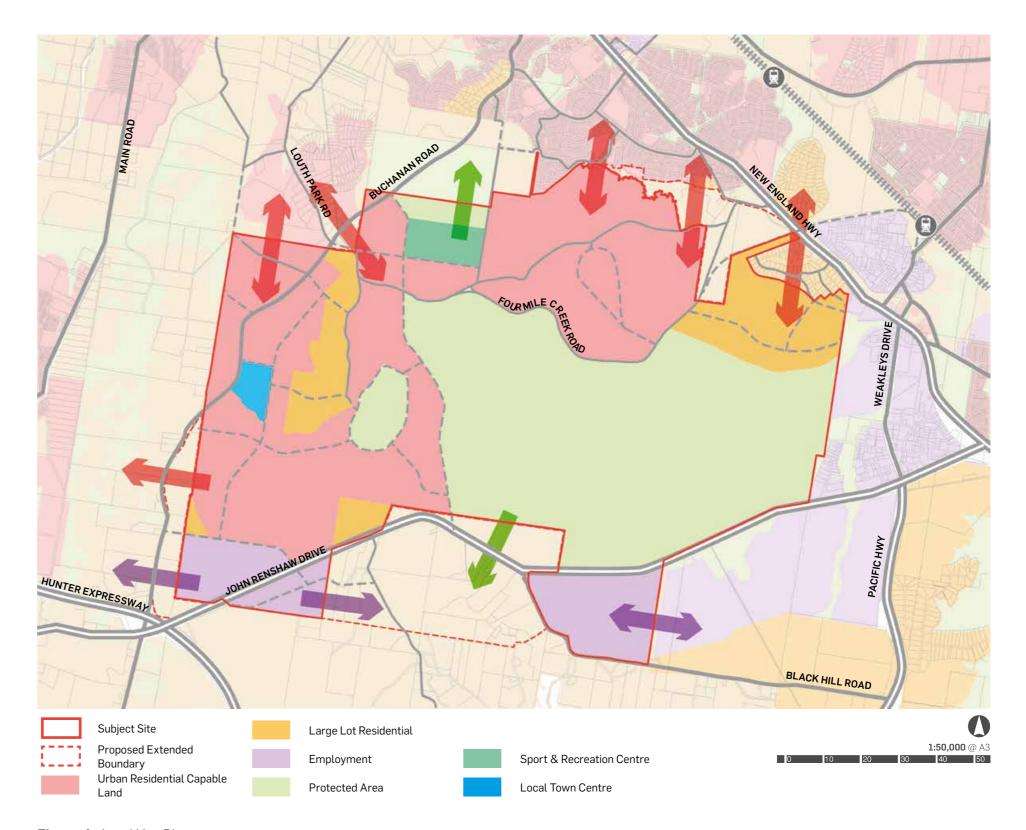


Figure 4 Land Use Plan

#### **MOVEMENT STRATEGY**

An integrated transport structure with a clear road hierarchy will establish the effective access and movement for Stony Pinch, supporting its transition from a site with one dominant function into a multi-functional, vibrant urban release area.

The movement strategy for Stony Pinch connects to well established regional transport networks at its eastern and western interfaces. This will enable the new community's ability to access essential services, amenities and employment opportunities through the provision of a variety transport choices.

#### **Road Structure and Hierarchy**

The road structure of Stony Pinch is shaped based on the existing roads onsite as well as the landform features and access to existing infrastructure network. A hierarchy is proposed in alignment with local plans to support the different functions of the structure plan. At this early stage, the proposed road network and hierarchy includes the following typologies:

#### STATE AND REGIONAL ROADS (PRINCIPAL ARTERIAL)

The Hunter Expressway, New England Highway and Pacific Highway forms as the main regional connection between Stony Pinch and the major centres including Kurri-Kurri and Newcastle via Thornton and Metford.

#### **SUB-ARTERIAL ROADS**

John Renshaw Drive, Buchanan Road and Weakleys Drive will provide movement between both state and regional roads with John Renshaw Drive and Buchanan Road connecting Hunter Expressway to New England Highway and Weakleys Drive connecting Pacific Highway and the New England Highway at two intersection points . Approximate reserve width: 24.4m

#### **COLLECTOR ROADS**

Four Mile Creek Road and Louth Park Road will form the basis for the new local street network. At the scale of Stony Pinch, a new local road will be introduced up north of the site, connecting established urban areas to the development area, from Buchanan Road to Four Mile Creek Road Approximate reserve width: 17m-20m

#### LOCAL ROADS

A series of local roads will be introduced in the structure plan to provide local access to different development precincts and public spaces. These streets are designated with consideration of the existing landform and connectivity to the existing transport network: Approximate reserve width: 17-18m

#### MINOR ROADS & LANES

Approximate reserve width: 8-15m

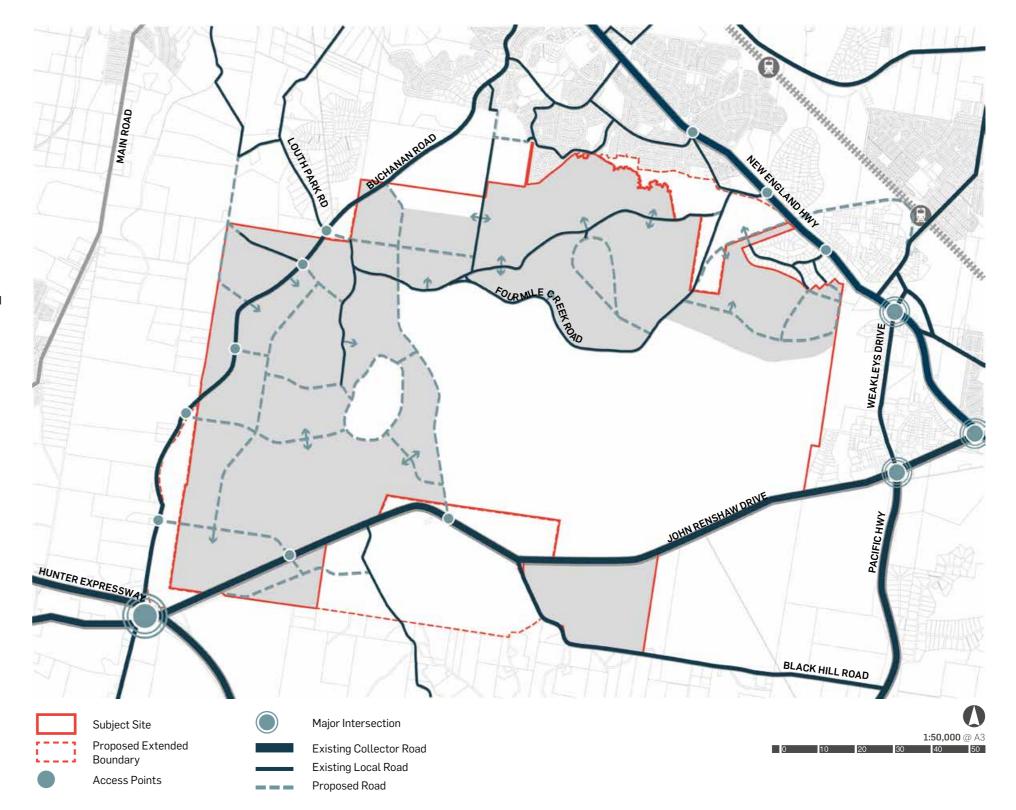


Figure 5 Road Structure and Hierarchy Plan

#### **Active transport**

Active transport mode has a pivotal role in the overall movement strategy of Stony Pinch with the vision to provide good public domain outcomes with walkable/active connections to activities and attractions

To support sustainable modes of travel, the Structure Plans identifies key linkages to enable this objective to occur.

#### **Pedestrian & Cycle Connections**

The pedestrian and cycle network aims to connect pockets of activity and recreational areas with natural features such as existing riparian corridors and green edges.

Stony Pinch envisions dedicated cycle lanes on the main roads across the site. The adaptive-reuse of the rail carriage loop and overpass will be transformed into a multi-use active link that provides direct connections to established urban areas and Thornton Railway Station.

#### **Public Transport Connections**

The existing rail system along north-east of the site forms the foundation of the public transport network in Stony Pinch. Bus routes can be facilitated along collector roads and local roads to connect passengers across different travel modes.

The local town centre, neighbourhood centres and major recreational precincts will be the main public transport nodes.



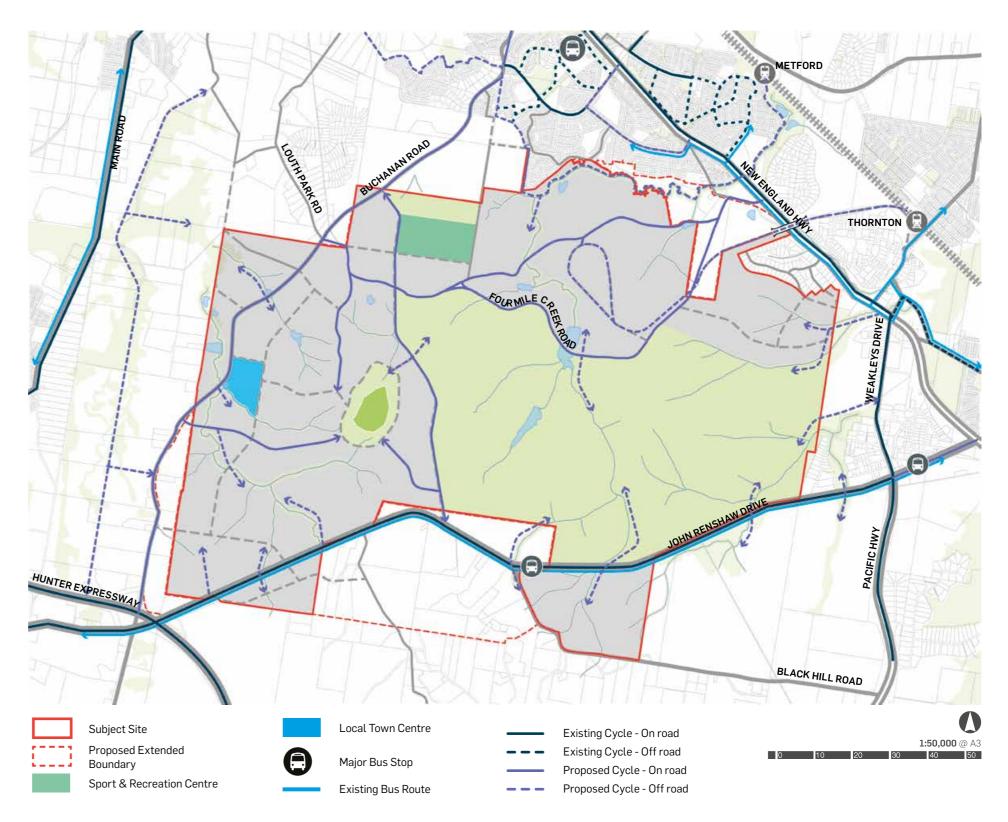


Figure 6 Active Transport Links

# LOCATION OF CENTRES AND EMPLOYMENT

Employment land is proposed along John Renshaw Drive, at the south corner of Stony Pinch with the:

- Land at southwest corner gaining direct access from the major intersection of Hunter Expressway, John Renshaw Drive and Buchanan Road; and the
- Land at southeast comer as an extension of the Black Hill Land Rezoning, gaining access from John Renshaw Drive and Black Hill Road

John Renshaw Drive traverses the proposed employment land and will provide a corridor for freight transport. Apart from providing employment that is readily accessible to regional corridors, a mix of other employment types is encouraged, such as areas adjacent to residential precincts.

The proposed local town centre and neighbourhood centres also play a pivotal role in providing employment. Centres will support retail and commercial opportunities, potential childcare facilities and community services.

The local town centre and neighbourhood centres have been strategically located as outlined below:

- Proximity to major routes that provide direct access
- Distance to existing regional centres
- Walking radius from new residential precincts within Stony Pinch
- Access to the active transport networks.

The local town centre has been located at the west end of the Stony Pinch, directly accessible from Buchanan Road, and is at a mid-point between Thronton, Metford and Kurri Kurri. The local town centre benefits from its elevated position on the ridgeline, maximising visual links to the district.

Three neighbourhood centres have been allocated across the site with each having access to recreational opportunities to act as a focal point within each residential precinct



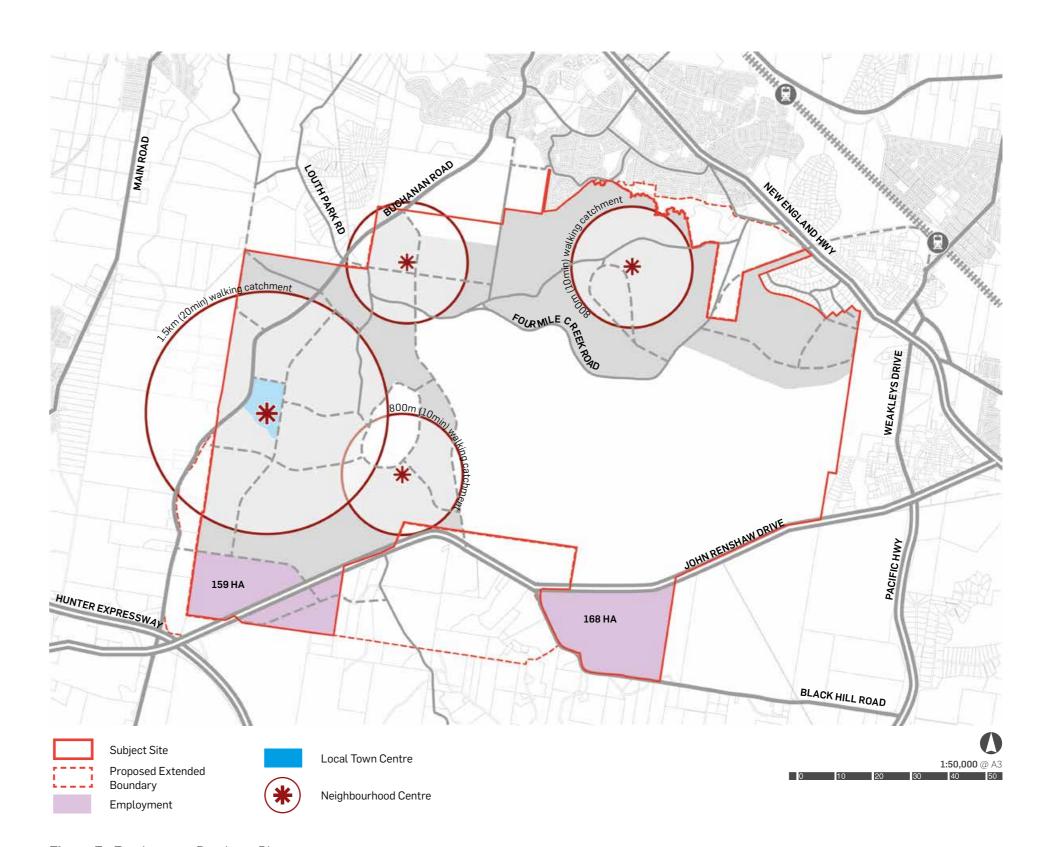


Figure 7 Employment Precincts Plan

#### **EMPLOYMENT & ACTIVITY CENTRES PRECEDENT**

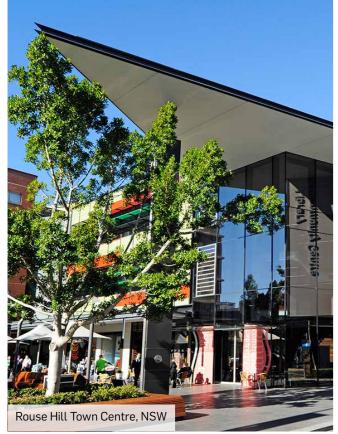
The following images illustrate examples of an active precinct that encourages a mix of uses including cafe, retail and commercial at small to medium scale; supported by active frontages and a public plaza.















# THE STRUCTURE PLAN ESTABLISHES THE OPPORTUNITY FOR A HOLISTIC APPROACH TO THE STAGED REHABILITATION OF POST-MINING LAND, BIODIVERSITY CONSERVATION AND MANAGEMENT OF URBAN GROWTH.

# OPEN SPACE, GREEN NETWORKS AND WATERWAYS

The open space strategy aims to maintain an area of contiguous high value land, enabling the protection of wildlife corridors and future habitat.

Vegetation to be conserved to the centre and south-west portion of the site form an extension to the Watagan Corridor.

The following sets out a guideline to maximise the desired vegetation outcomes for Stony Pinch:

- Maintain a large contiguous area of future vegetation conservation.
- Integrate open space throughout development to complement and enhance the green networks within Stony Pinch.
- Provide for pocket parks to reinforce the unique setting of Stony Pinch.
- Preserve riparian vegetation by maintaining buffers along riparian corridor.
- Develop a long-term staging plan for progressive revegetation or stabilisation on post-mining land.
- Provide active recreational uses on designated open spaces including outdoor/indoor facilities that are childfriendly or family oriented, and walking trails along the green networks and waterways
- Ensure the design of public domain reflects the landscape and history of the site and has good passive surveillance.





53 HECTARES OF RECREATION

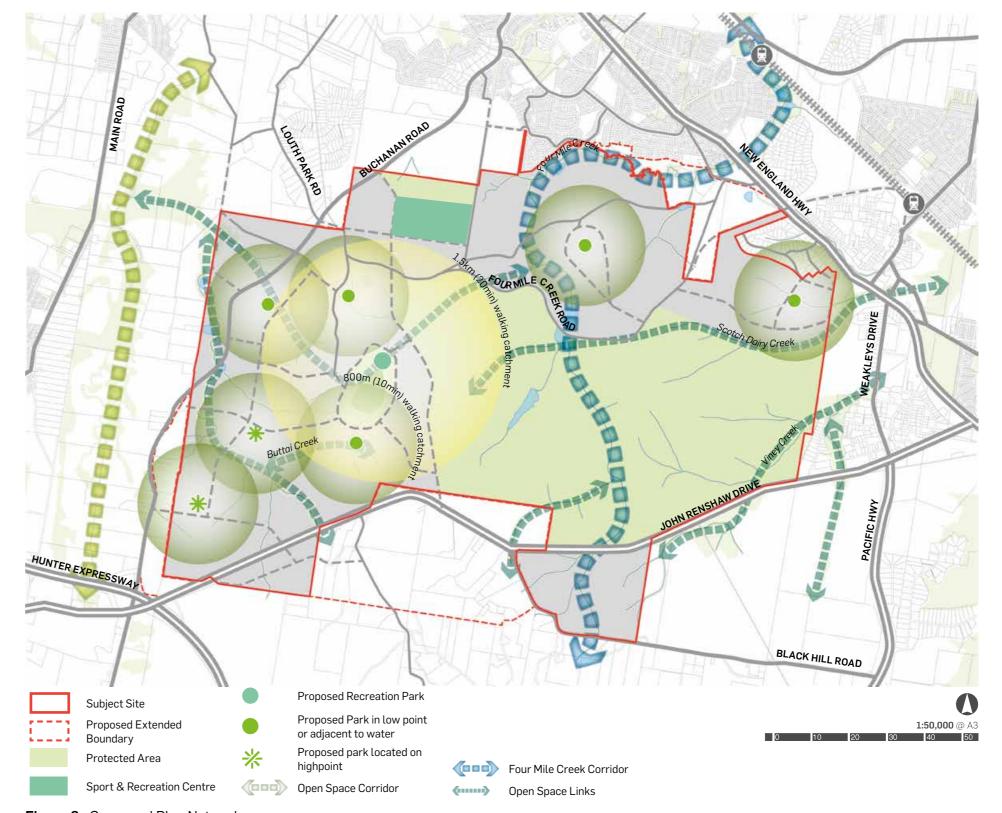


Figure 8 Green and Blue Network

#### **PUBLIC DOMAIN & OPEN SPACE PRECEDENT**

The following images illustrate examples of an active public domain and recreational space that provides active recreational uses, good passive surveillance, and a place-based landscape design that reflects the landscape and history of the site.



Ballast Point Park, Birchgrove NSW. This 2.6-hectare park offers Sydneysiders and visitors walking paths, access for cyclists and green picnic spots with incredible views of Sydney Harbour Bridge. One of the park's most interesting features is the way the site's history has been brought to life for visitors through design, art and poetry.





Zhangjiajie Glass Bridge, China. The bridge, built as an attraction for tourists, is glassbottomed and is transparent.





#### **RESIDENTIAL**

The residential precincts are located to ensure good connections to key transport corridors such as New England Highway, Buchanan Road, John Renshaw Drive and the Hunter Expressway. These precincts have been located adjacent to established urban areas or where high amenity uses can be co-located with new town centres. Proposed housing typologies enable diversity in housing choice to ensure market responsiveness as well as flexibility of needs over time.

#### **URBAN RESIDENTIAL**

- It is envisaged that there will be a variety of housing types within the urban residential precincts that will include medium density housing at approximately 18 dwellings per hectare
- The built form is predominantly small-lot housing forms with some multi-dwelling housing and potentially residential flat buildings, shop-top housing located close to major roads, local centre and public transport
- Generally located within walking catchment of centres, corridors and has direct access to public transport
- The precinct is designed to provide activation of the public domain with urban streetscape and some suburban streetscape and provide good transitions to rural residential or recreational spaces

#### **RURAL RESIDENTIAL**

- Adjacent to established residential precincts such as those with Rural Residential characteristic, proposed housing types are typically 5 dwellings per hectare with an average lot size of 2000 sq.m
- Ensure sufficient private open space opportunities to enable planting and landscape features.



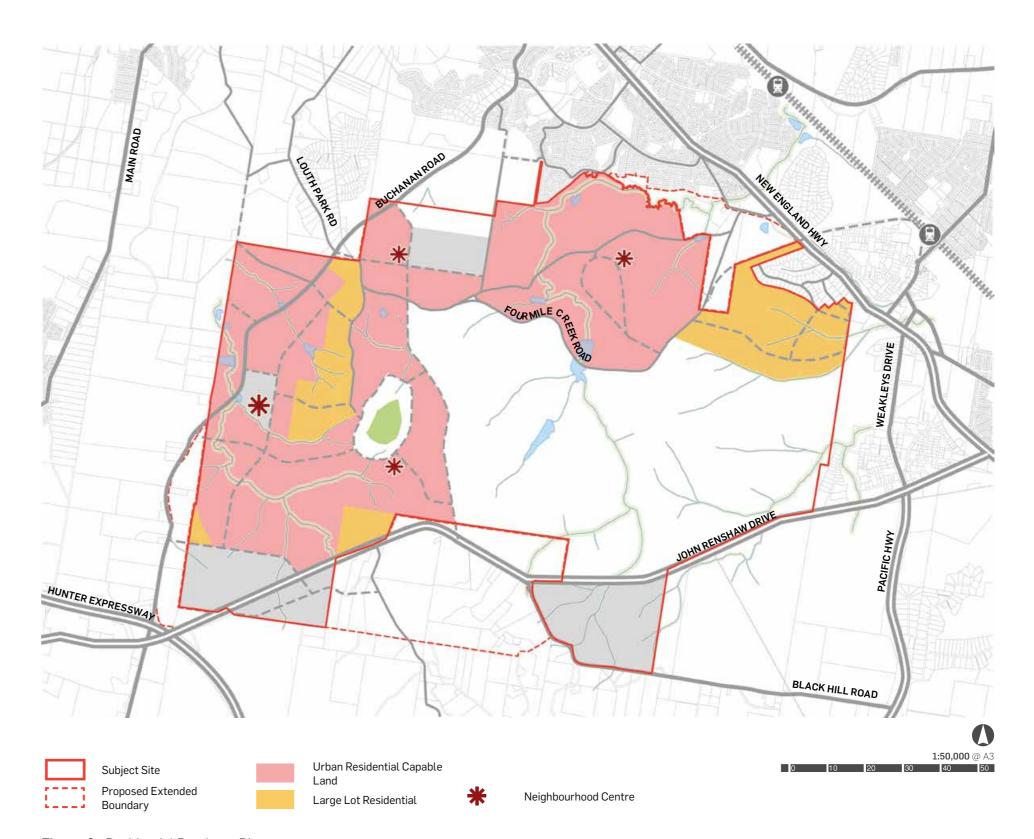


Figure 9 Residential Precincts Plan

#### **HOUSING DIVERSITY PRECEDENT**

The following images illustrate examples of a mix housing types that are designed in accordance with it's context and well-supported by an activation of the public domain through provision of communal green space.











#### **STAGING AND TIME FRAMES**

This broad staging plan responds to the phasing out of the mining operations across the site. The staging has been developed based on a set of criteria including the transition out of mining activities, access to major infrastructure roads, utility services, proximity to existing residential or employment land and the feasibility of biodiversity offset.

The purpose of this staging plan is to:

- Demonstrate that the release of residential land will occur in a staged manner, according to the cessation of mining activity on-site.
- Demonstrate that future development will need to incorporate biodiversity plans, where biodiversity offset will be planned and sequenced throughout the development phases.
- Demonstrate the broad potential yields for housing and employment that will contribute significantly to the supply of zoned land in the region.
- Identify Stage 1 of the development project for Stony Pinch, which will be able to commence the planning approval process immediately as it is not affected by mining operations.
- Stage 2 and 3 will be developed as mining operations cease.

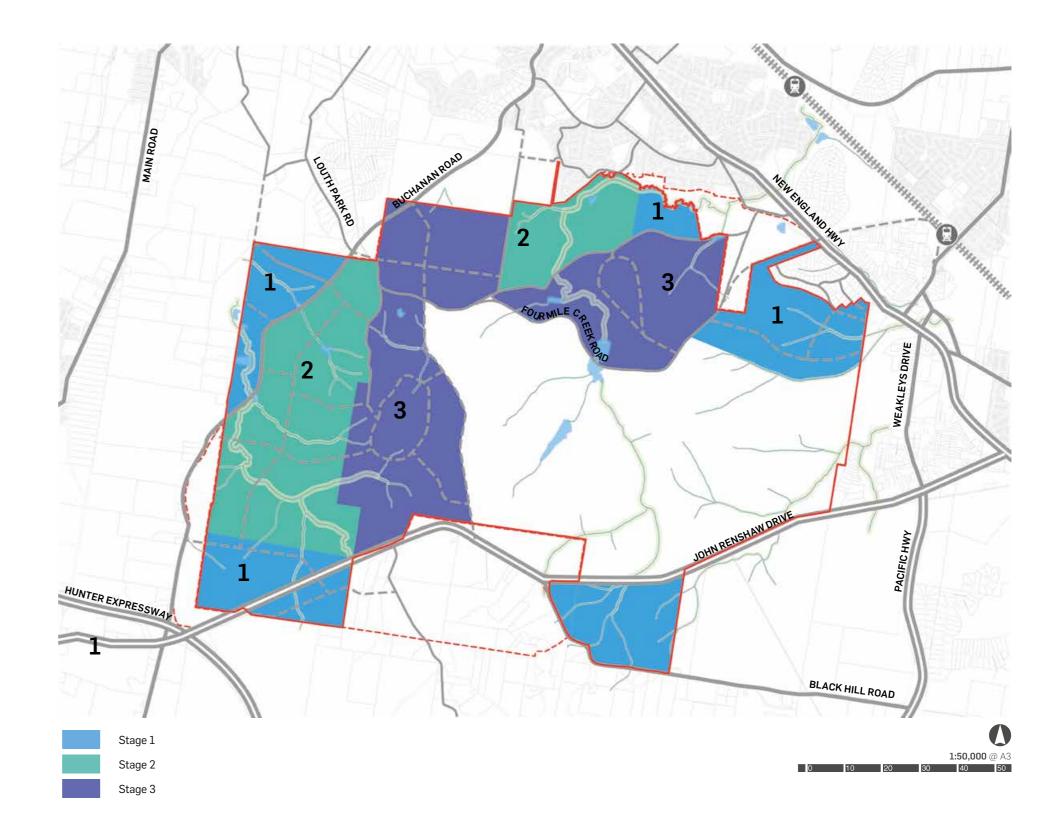
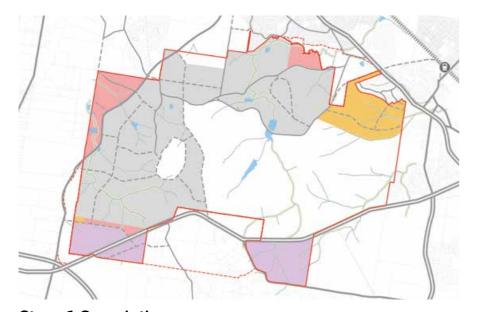


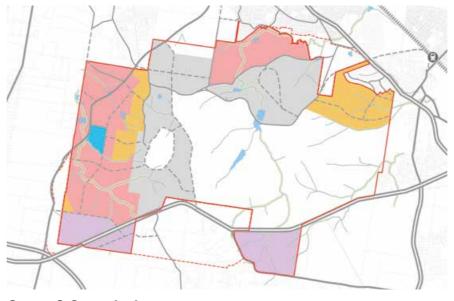
Figure 10 Structure Plan Staging

# INDICATIVE DEVELOPMENT YIELD



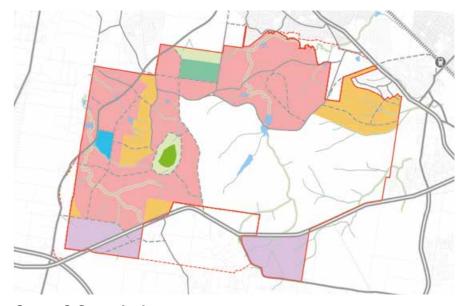
Stage 1 Completion

STAGE 1 DEVELOPMENT AREA	743 HA
EMPLOYMENT LAND	327 HA
RESIDENTIAL YIELD	3,320 DWELLINGS



Stage 2 Completion

STAGE 2 DEVELOPMENT AREA	710 HA
TOWN CENTRE	28 HA
RESIDENTIAL YIELD	7,170 DWELLINGS



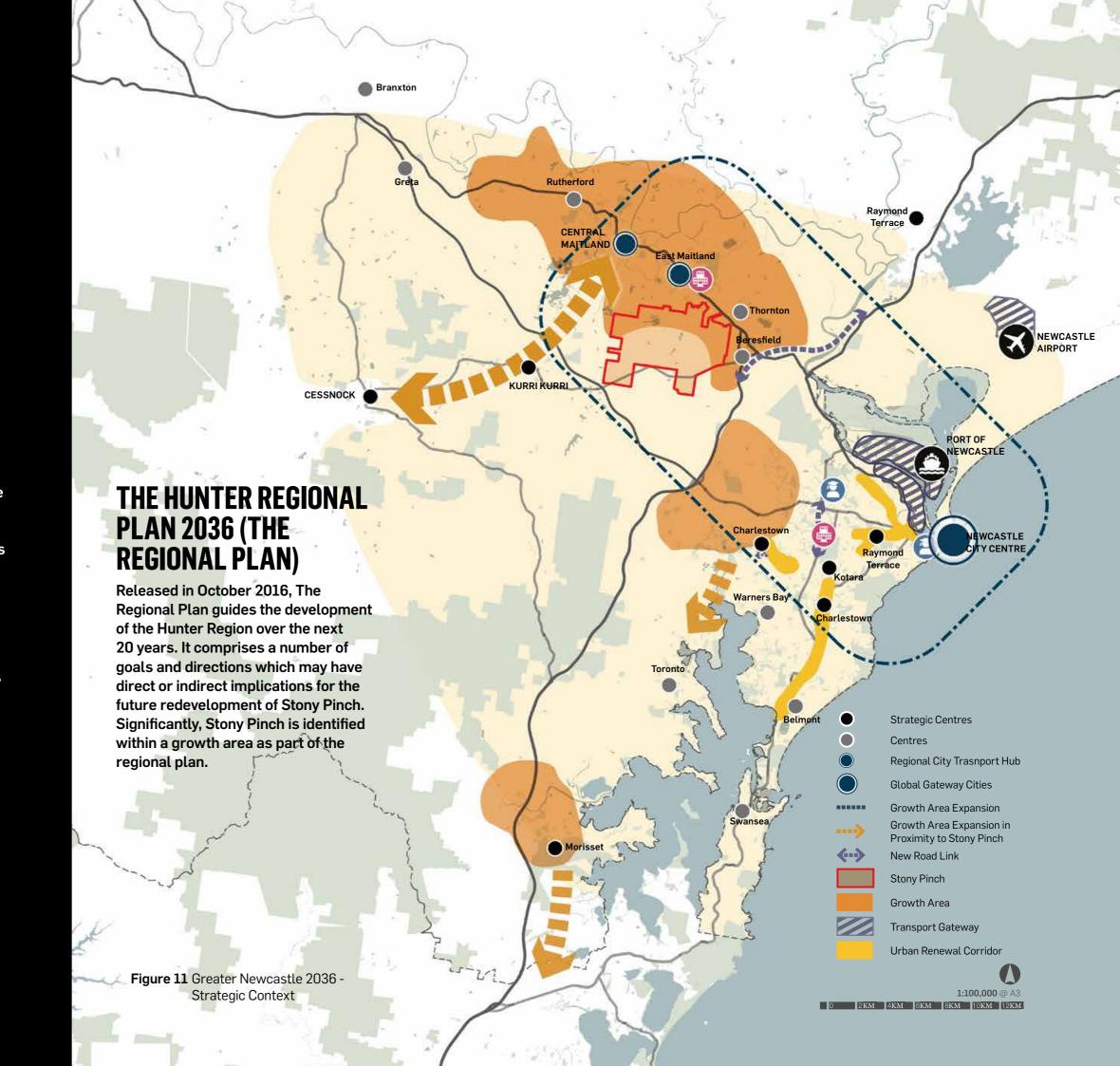
Stage 3 Completion

STAGE 3 DEVELOPMENT AREA	828 HA
REGIONAL RECREATION CENTRE	53 HA
CULTURAL LANDSCAPE	62 HA
RESIDENTIAL YIELD	8,750 DWELLINGS
Urban Residential Yield I arge Lot Residential Yield  I arge Lot Residential Yield	8,550 Dwellings

# PART B. PROJECT POSITIONING & CONTEXT

This section of the submission analyses the key strategic planning policies relevant to the site and the optimisation of its future use. The strategic policy reviewed focusses on the opportunities to address existing and likely future investments in transport infrastructure and policy directions.

Following the strategic positioning, this section of the report also seeks to provide an understanding of the key considerations that have influenced our approach to the Structure Plan.



# ALIGNMENT WITH THE HUNTER REGION



THE LEADING REGIONAL ECONOMY IN AUSTRALIA



Stony Pinch has a key role to play in maintaining the ongoing economic role of the lower hunter area. The proposal represents a transition from the mining industry to a mix of land-uses including 330 hectares of employment land. The proposal demonstrates that former mining sites have a significant role to play in the future of the Hunter Region. Successful international precedents of this transition are included in the preceding pages.



## Direction 4: Enhance interregional linkages to support economic growth

The plan aims to effectively manage the land uses surrounding important transport corridors to maintain efficiencies in the network, particularly the national freight network, and to allow for future growth.

The south – western portion of Stony Pinch is strategically located adjacent to the intersection of John Renshaw Drive, Buchanan Road and the Hunter Expressway. The plan proposes to utilise the efficiencies of this location through the rezoning of this area to facilitate light industrial land for employment purposes. The Department is currently preparing the Draft Hunter Expressway Strategy which will provide further guidance on the envisaged future lands uses around this node. The proposed structure plan builds on synergies arising from this key location and proposes compatible land uses adjacent to the intersection. Stony Pinch will have an instrumental role to play in utilising the government's strategic investment in the Hunter Expressway.

# Direction 5: Transform the productivity of

# the Upper Hunter The Plan recognises the transition that is occurring globally as we move from a coal and fossil fuel based energy source to

as we move from a coal and fossil fuel based energy source to alternative energy production mechanisms.

The restructuring of the industry has had a direct impact on the subject site. The proposed vision for the site is innovative and a change in land use which will be effective in supporting the ongoing economic stability of the region. Although the site is not strictly located within the Upper Hunter Region, the desired outcome of this direction is directly linked to the site. Further technical studies will form part of the detailed master planning of the site and will inform the considerations around the current mining use. The Structure Plan considers buffer zones from the current mining operation which will cease in 2028. The staging of the plan has also been developed around these considerations.



## Direction 13 – Plan for greater land use compatibility

The plan aims to provide for ongoing land use compatibility by protecting potential natural resources.

The subject site is unique and progressive in nature as the proposed structure plan seeks to reuse a heavily disturbed site for the purposes of urban development. The site is identified within a growth corridor and strategically located adjacent to Central and East Maitland Strategic Centres, and within close proximity of Cessnock and Kurri Kurri. Staging of the structure plan is proposed and acknowledges that the proposal is a long term vision for the Hunter Region. The staging reflects on the current and ongoing use of the land as an active mine site. Buffers have been identified and will be reviewed as the mining of the site nears completion

## GOAL 2

#### A BIODIVERSITY-RICH NATURAL ENVIRONMENT

#### GOAL 3 THRIVING COMMUNITIES

# THE NATURAL ENVIRONMENT SUSTAINS IMPORTANT TERRESTRIAL AND AQUATIC ECOLOGICAL SYSTEMS AND GOOD HABITAT CONNECTIONS, INCLUDING PART OF A NATIONAL CORRIDOR EXTENDING FROM VICTORIA TO FAR NORTH QUEENSLAND.

The Stony Pinch site is unique. The site comprises a large portion of existing vegetation coupled with rehabilitation land which is a direct result of the mining occurring on-site. Extensive ecological mapping of the site occurred during previous investigations of the area. As noted earlier in this submission, due to uncertainties in the recent changes to the biodiversity legislation, this matter has been identified for further investigation at detailed master planning phase.



## Direction 14: Protect and connect natural areas

The Structure Plan incorporates the key directions outlined in the plan to provide a natural connection to the Watagans to Stockton Link facilitating habitat connections.

The plan recognises that biodiversity offsets have a role to play in the region and this will form a key consideration for the future development of Stony Pinch. The plan maintains a substantial and contiguous parcel of conservation land, recognising the unique biodiversity within Stony Pinch.

## Direction 15: Sustain water quality and security

The Structure Plan protects and maintains the existing Four Mile Creek and the vegetation surrounding it. Rehabilitation plans are in place in accordance with the mining operation and approvals on-site. The proposal includes a number of possibilities for future recreational areas, including lakes and natural watercourses. The plan maintains a substantial and contiguous parcel of conservation land along with a number of riparian corridors that occur within it.

## Direction 17: Create healthy built environments through good design

Precinct planning can establish a framework to achieve more intensified housing in certain places, attracting new housing development or creating mixed use economic investment through renewal.

The Structure Plan establishes the ability for urban development that enables intensification for housing as well as providing mixed-use development.

# Direction 18: Enhance access to recreational facilities and connect open spaces

The vision for Stony Pinch proposes an innovative, well thought out and logical approach to land use planning.

The structure plan identifies local centres, large recreational areas and the potential for a variety of housing typologies on large lot and urban residential allotments. The vision incorporates cycle-ways, walkways and potential recreational waterways, all of which will contribute to a healthy lifestyle and the future well-being of the residents of Stony Pinch. Further detailed master planning will inform the identified stages of the structure plan

## GOAL 4

#### **GREATER HOUSING CHOICE AND JOBS**

AN ADDITIONAL 70,000 DWELLINGS WILL BE NEEDED IN THE REGION BY 2036. PROVIDING THE LAND AND THE INFRASTRUCTURE TO MEET THIS DEMAND IS CENTRAL TO THE PLAN.

# THE PROPOSAL WILL BE INSTRUMENTAL IN THE PROVISION OF MUCH NEEDED ADDITIONAL HOUSING IN THE HUNTER REGION







#### Direction 21: Create a compact settlement

The subject site is located within the Maitland growth corridor and identified within a growth area. The site is also within 7 km of Central Maitland and 5 km of East Maitland, both of which are identified as strategic centres. The direction states that Councils should identify medium to longer term development opportunities through their local strategies. The subject proposal endeavours to have Stony Pinch recognised within both the Cessnock and Maitland Urban Settlement Strategies.

The proposed centres in Stony Pinch are organised along a connected series of neighbourhoods to enable active and walk-able transport modes. Intensification of housing will be centres around these activity nodes.

#### Direction 22: Promote housing diversity

The regional plan aims to encourage housing diversity to provide for studios, one-bedroom and two-bedroom dwellings to cater for anticipated changes in household sizes. Stony Pinch will provide a variety of housing typologies, ranging from rural-residential to urban development centred around local centres

## Direction 25: Monitor housing and employment supply and demand

The regional plan aims to establish and implement an Urban Development Programme to monitor housing supply and take up rates in the region.

The Consortium fully supports this approach. The vision for the site proposes a staged methodology to the release of urban land and development of the site which will account for the completion of the current mining operations on-site. An informed and rational approach to land release based on current data is supported by the Consortium.

# Direction 26: Deliver infrastructure to support growth and communities

The regional plan supports the staged delivery of infrastructure to the area.

The Consortium supports the Departments aim to encourage better collaboration between the sequencing of strategic planning between infrastructure providers. This will be instrumental to the delivery of the vision for Stony Pinch. While utilities are provided through out the site, further investigation into surrounding road networks and future transport upgrades will be required at the detailed master planning phase of the project.

# **KEY CONSIDERATIONS**

This section of the report sets out the key considerations that have influenced our approach to the Structure Plan.

The key considerations investigated include:

- Local Context
- Mining Operation
- Existing Vegetation
- Transport Infrastructure
- Utility Infrastructure
- Landform and Topography
- Riparian Corridors and Flood Prone Land

#### **SURROUNDING USES & EMERGING DEVELOPMENTS**

Stony Pinch is currently zoned as Rural Landscape (RU2). Land uses surrounding the site include established urban areas with other areas already in transition to support urban land capability. A variety of land uses surround the site including:

#### North

An established residential neighbourhood, adjacent to the study area and adjoining the New England Highway is zoned General Residential (R1) with local centre zone (B2) located at the core of the cluster.

The Department recently issued a Gateway Determination supporting the rezoning of approximately 18.7ha to General Residential (R1) to accommodate approx. 100 dwellings on Mount Vincent Road. The detailed proposal is currently under assessment with Maitland Council.

#### North-west

Comprises an established residential neighbourhood zoned Large Lot Residential (R5), with an average lot size of 2,000 sam.

#### North-east

A business development precinct (B5) has been zoned along north-east of the site, in close proximity to Thornton major centre.

#### East

Comprises a combination of Large Lot Residential (R5) land, Light Industrial (IN2) Land and Environmental Management (E3) and Environmental Living Land (E4).

#### South

Largely characterised by Rural Landscape (RU2) zoned land. Recent approval of the Black Hill Lands planning proposal (directly adjoining the site) included rezoning of RU2 land to accommodate;

- 195.6ha of Light Industrial land (IN2)
- 64 hectares of Environmental Living land (E4)

#### West

Land directly to the west of the site is characterised as Rural Landscape (RU2) which transitions to Environmental Management (E3) and further to Low Density Residential (R2) land.

Further to the west of the site, land at Hydro, Kurri Kurri is currently under assessment by the Maitland and Cessnock Councils.

The Department issued a Gateway Determination supporting the rezoning of the former Norsk Hydro Aluminium Smelter and associated land. It is estimated that the site will accommodate 127.7ha for residential purposes which will provide for subdivision into 1,485 residential allotments. Approximately 267ha of industrial land and 39ha of business zoned lands are also proposed.

The established nature of the existing residential zones to the north and north-west of the site provide opportunity for the extension of the site to seamlessly integrate with these areas. These residential precincts are further supported by local centres to north.

The approval of the Black Hill land rezoning to southeast of the site has further supported the urban development opportunities in Stony Pinch. This approval along with the existing employment industrial land located along the eastern site boundary support the potential to expand employment land towards southwest of the site along John Renshaw Drive.



Established neighbourhoods immediately adjacent to the north at Ashtonfields.



Large lot residential on Parish Drive at Thornton, north-east of Stony Pinch.



Established employment lands to the east at Beresfield

#### **LOCAL CONTEXT**

Stony Pinch is surrounded by a well-established road network that provide direct connections across the Hunter Region and greater NSW.

The site also has exceptional access to major public transport network, particular rail service with Metford Station, Thornton Station and Beresfield Station all located within 10km radius of the site. Being surrounded by regional centres.

Stony Pinch is in close proximity to established urban areas that provide a range of facilities and services including:

- TAFE NSW Maitland, Hunter Valley Grammar School, Metford Public School, Thornton Public School
- Maitland Private Hospital
- Metford Community Baptist Church
- Stockland Green Hills Shopping Centre, Thornton Shopping Centre
- Thornton Business Park
- Metford Recreation Reserve and Beresfield Golf Course.
- Mount Vincent Land Fill Site

#### Accessibility

The opening of Hunter Expressway (M15) in 2014 further supports the strategic location of Stony Pinch. The corridor bypasses the site to the southwest and provides a vital connection to Newcastle and the Upper Hunter. The Hunter Expressway, as an alternative inter-regional road, has greatly improved the traffic conditions around Stony Pinch, particularly along Newcastle Highway. The Hunter Regional Plan identifies the need for further investigation into land uses around the Expressway. Stony Pinch is strategically located to facilitate additional growth with direct access to the Expressway.

Stony Pinch is bounded by a well-established road network that provides the site with a strong regional connection. There are several critical road corridors in vicinity of the site including:

- New England Highway Hexham to East Maitland
- Pacific Highway Hexham to Sandgate
- M1 Pacific Motorway Sydney to Brisbane
- Hunter Expressway F3 to Branxton
- John Renshaw Drive Beresfield to Kurri Kurri

Specifically, three major intersections adjoin the site to the southwest and east. These intersections connect Stony Pinch to the critical road corridors (above) via the on-site connector roads. These include Weakleys Drive, Four Mile Creek Road and Buchanan Road.

#### **KEY FINDING**

- Stony Pinch interfaces with established urban areas at Ashtonfield, including residential neighbourhoods to the north, north -west and north-east.
- Key employment land interfaces include the established areas at Beresfield, east of Stony Pinch

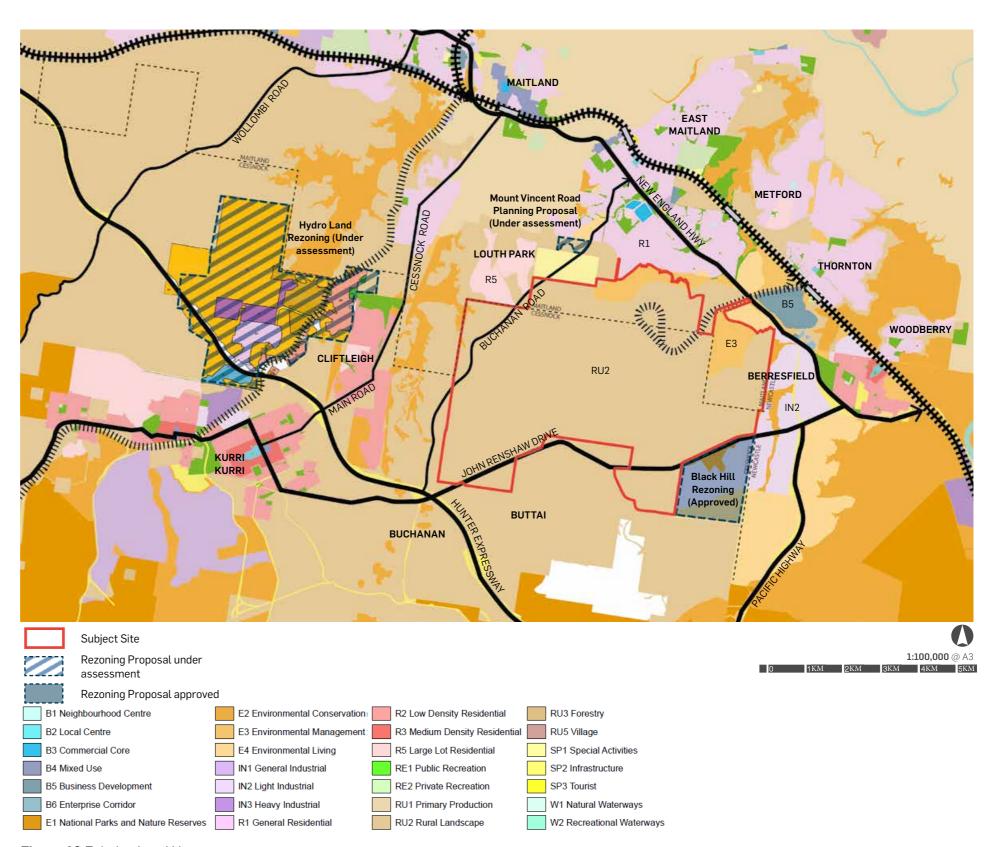


Figure 12 Existing Land Uses

#### **MINING OPERATION**

Coal mining operation on-site has evolved in recent years, particularly, the closure of Donaldson open-cut mine in April 2013. This has been instrumental in the realisation of opportunities for urban land release to occur incrementally in the long-term. Former mining areas, including Donaldson open-cut mine have been rehabilitated.

Despite currently being in 'care and maintenance', the Abel Underground Mine leases are expected to continue till 31 December 2030, which may result in the need to use Bloomfield surface facilities, conveyor, and emplacement disposal area (tailings), as well as the Donaldson Portal for Abel Box Cut, tailings and the Big Kahuna Dam.

The Bloomfield open-cut mine continues operating onsite. This involves the use of surface facilities including the conveyor belt and tailings dam. The existing tailing emplacement area (north of the study area) will potentially be reused through rehabilitation, for recreational uses, trails, wetlands and sporting fields for future development.

In line with Able Mine operation, the Bloomfield open-cut mine is seeking approval to extend operations until 31 December 2030. The existing tailing emplacement area (north of the study area) will potentially be reused through rehabilitation, for recreational uses, trails, wetlands and sporting fields for future development.

#### **KEY FINDINGS**

- Mining will be phased out by 2038
- There are immediate opportunities for urban development where mining does not occur to the north, north-west and north-east of the site, adjacent to already established residential neighbourhoods.

Under the circumstances where Abel Mine remains in operation, this north tailing area will be relocated to the south of Stony Pinch, and function as the final void for Bloomfield Open-Cut Mine. The final location of the pit is illustrated in the adjacent mining buffer diagrams.

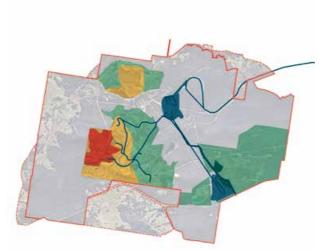
#### **Planned Mining Operations**

Following the cessation of mining operation, the area of Abel Mine could be retained as a protected area bounded by biodiversity corridor and the final void at Bloomfield open-cut mine can be rehabilitated and re-used as an open space for recreational purposes.

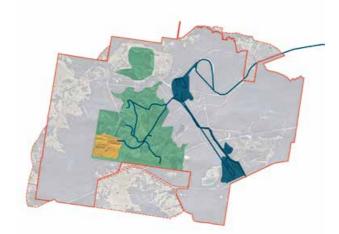
The changes in the mining activity onsite have resulted in a substantial reduction in the total areas required for mining. Accordingly, the phasing out of open-cut mining across the site will release large areas of the site available for new development to occur incrementally over time. As acknowledged in the Hunter Regional Strategy, mining is a transitional land use, and former mining land offers opportunities for both conservation and development after rehabilitation. The plan recognises the need to maintain the economic viability of the region on the completion of mining operations such as Stony Pinch.

Future development should consider the ecological impacts and cost of clearing land for offsetting during the rehabilitation phase. It is therefore vital for the structure plan to recognise the planned mining operation on-site and support the mining operation to phase out strategically over the next 10 years.

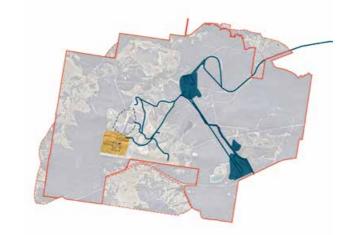




Mining Buffer 2017-2025



Mining Buffer 2025-2028

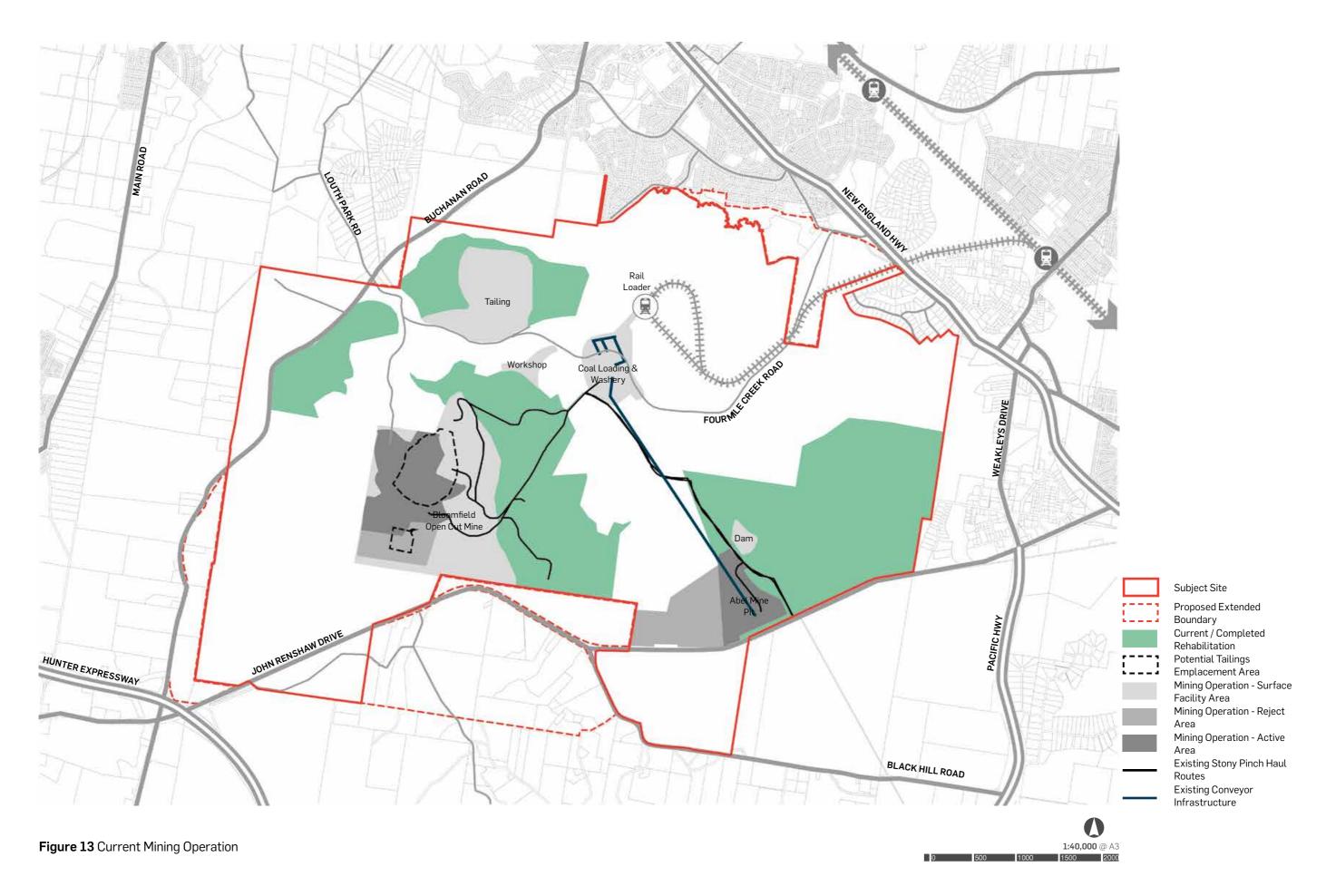


Mining Buffer 2028-2038









#### **EXISTING VEGETATION**

Stony Pinch is adjacent to the Watagan Corridor, identified in the Hunter Regional Plan, and, north of other areas conserved for biodiversity including Black Hill Offset Area, Minmi/Link Road Offset Area and Sugarloaf State Conservation Area.

The site contains approximately 2,100Ha of vegetation of which around 1,400 is rehabilitated or cleared land. Past ecological studies have recorded the biodiversity characteristics on-site. The site has inherent biodiversity values with a number of threatened species and endangered ecological communities known to occur within the area.

The Biodiversity Conservation Act, 2016 (BC Act) commenced on the 25 August 2017, however, some key components of the new biodiversity reforms have not yet been released. Accordingly, the structure plan relies upon the survey data collected prior to the commencement of the new legislation. It is acknowledged that further technical input will be required. The Consortium will review these key elements when the outstanding aspects of the legislation are released. Of critical importance for the subject site, the following documents are outstanding from the Office of Environment and Heritage

- Guidance on the treatment of Mine Rehabilitation and deferred credit arrangements
- Credit Calculator
- Test of Significance Guidelines
- Ancillary Offset Rules

It is recognised that a number of threaten ecological communities have been identified on the site. However due to the uncertainties pertaining to the test of significance relating to these communities, further investigation will be required at the detailed master planning phase of the proposal.

Notwithstanding the above, Stony Pinch has a mixture of areas undergoing rehabilitation, areas of remnant native vegetation and existing approved disturbance areas (e.g. mines, water storage dams, roads, rail and power lines). Furthermore, the site is located within a disturbed landscape with residential and industrial land located immediately to the east and farmland to the west and south.

This has led to the formulation of a strategy that emphasises the need for a contiguous area for vegetation conservation that creates an undisturbed wildlife corridor and future habitat.

In relation to the structure plan, Stony Pinch will:

- Adopt a staged approach to the development with progressive re-vegetation of post-mining landforms and enhancement of habitat in offset areas
- Manage post-mining rehabilitation to maximise habitat for flora and fauna including strategies to include habitat complexity and integrate the rehabilitation with surrounding native vegetation
- Reduce potential fragmentation of existing native vegetation
- Maximise opportunities to facilitate vegetation corridors though the site connecting to the wider Hunter Region
- Investigation options to maximise the conservation of significant vegetation



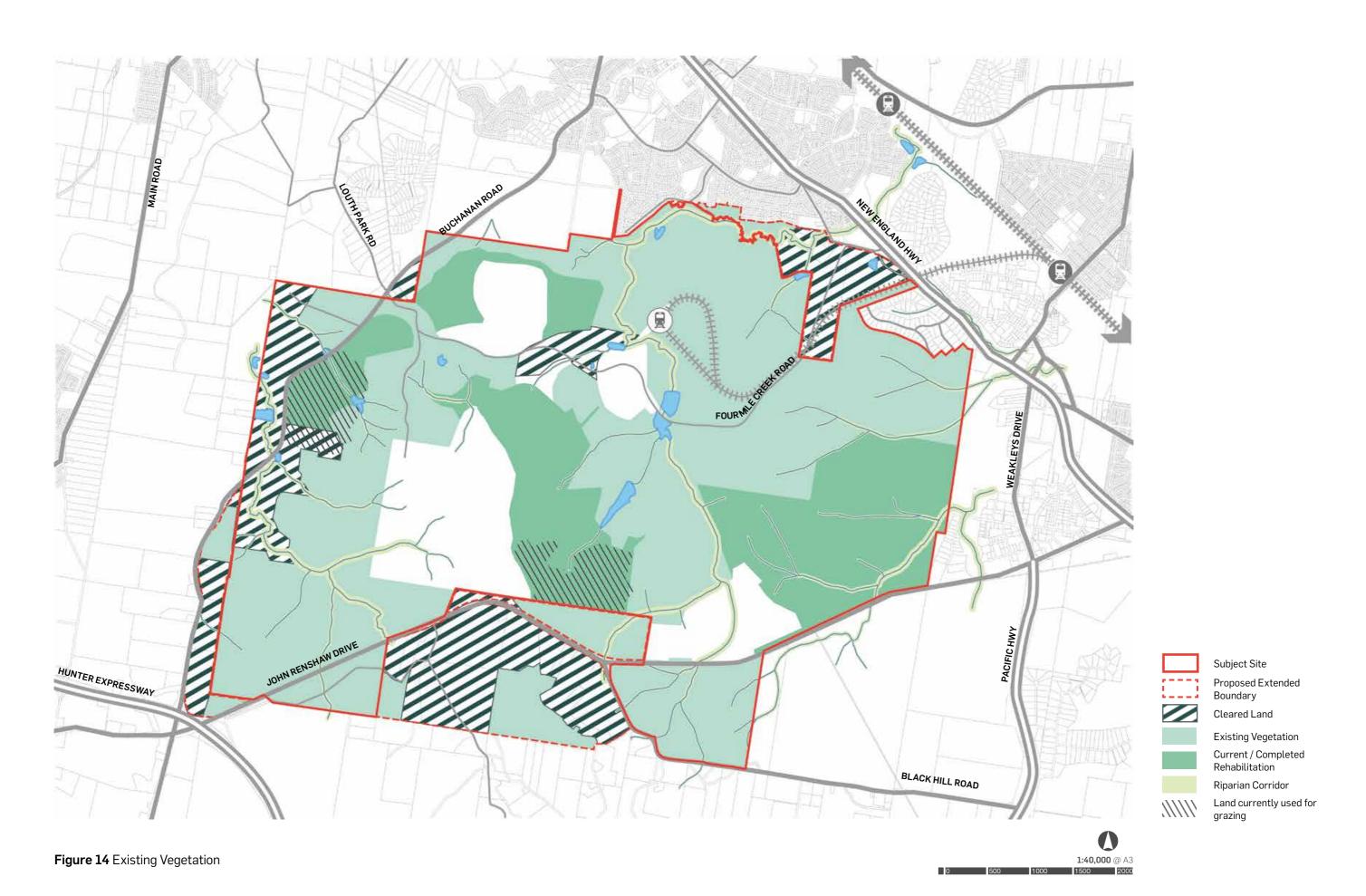
Image showing areas of mining operations/haulage route, rehabilitated land and grazing land beyond.





#### **KEY FINDINGS**

- There are significant areas of rehabilitated land including areas of cleared land for grazing as well as well vegetated areas that may contain high value vegetation.
- Following the commencement of the Biodiversity Conservation Act, 2016, The Consortium will review key technical selement when the outstanding aspects of the legislation are released



# TRANSPORT INFRASTRUCTURE

Centrally located within the Hunter Region, Stony Pinch is situated within the Newcastle/Maitland Global Gateway City as identified by the Draft Regional NSW Services & Infrastructure Plan. The site is well-supported by a range of regionally and nationally significant transport infrastructure.

Recent strategic policies released by the State Government and the roads and transport authorities focus on the prioritisation of growth in the area that will further support the region's road connectivity and freight corridor.

Prioritisation of growth in the Hunter Region is identified as a key initiative for the NSW Government within the Hunter Regional Strategy. This is further supported by the recent release of the Draft Future Transport Strategy 2056 (the draft strategy) and the Draft Regional NSW Services & Infrastructure Plan (the draft Services and Infrastructure Plan).

The draft strategy is the 2017 update of the NSW Long Term Transport Master Plan. It is a 40 year vision for mobility in NSW being developed with the Greater Sydney Commission, the Department of Planning and Environment, and Infrastructure NSW. The draft Services and Infrastructure Plan was released in tandem with the draft strategy and focuses on key infrastructure required to facilitate the regional areas of NSW, including the Hunter Region.

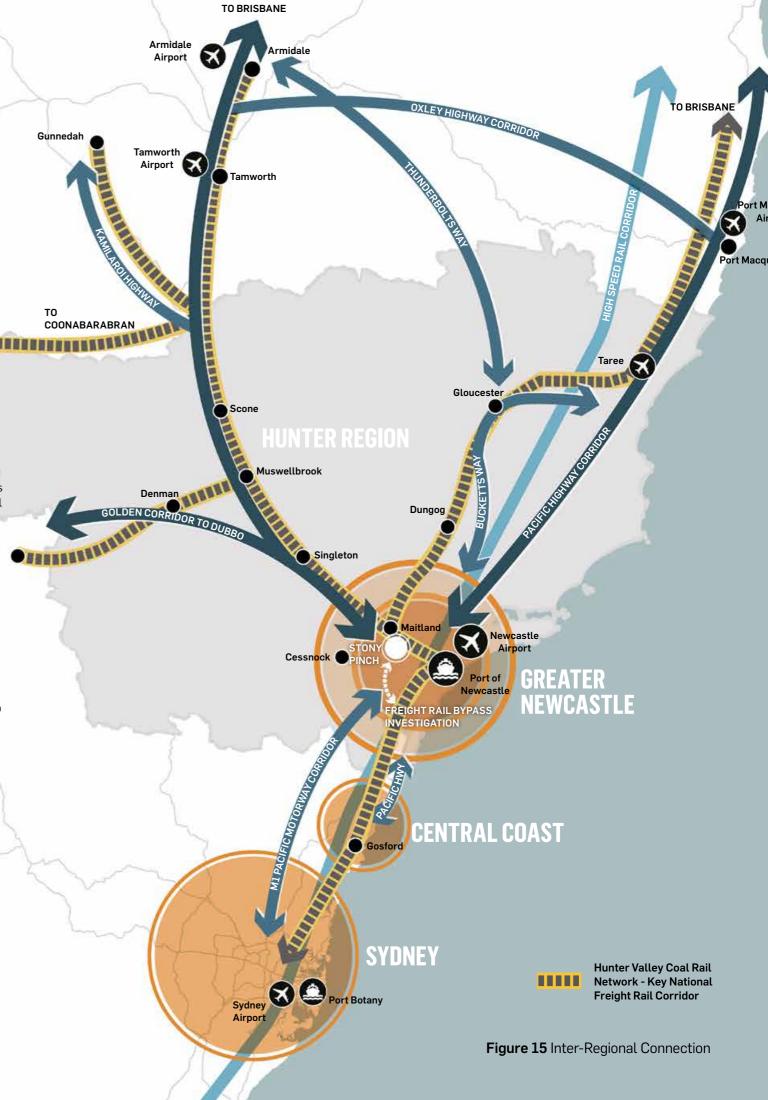
Both policies emphasise the importance of regional centres. The draft Services and Infrastructure Plan classifies Maitland and East Maitland as transport hubs providing a critical connection to Newcastle City. The release of the Draft Newcastle Metropolitan Strategy and the Draft Hunter Expressway Strategy are also imminent.

Key initiatives for investigation included in the draft Services and Infrastructure Plan relating to Stony Pinch include:

- Recognition of the Maitland Newcastle Global Gateway City
- Recognition of the Lower Hunter Freight Corridor as an International Gateway and the need to reserve this corridor
- Protected freight through movements, reinforcing key links to the Port and Airport serving Maitland-Newcastle Global Gateway City
- Corridor protection for Higher Speed Connections along the east coast
- Funding for road network improvements that support regional centres that are experiencing strong population growth
- Maitland recognised as a transport hub
- Reinforce the '30 minute City'

#### The Global Gateway City

The draft Services and Infrastructure Plan identifies Newcastle/Maitland as a Global Gateway City. Maitland, as a transport hub, will support connectivity and critical linkages to employment within Newcastle. This will serve to strengthen the role of Newcastle as regional centre. Stony Pinch, located in close proximity to Maitland, will have an important role to play, contribute housing and employment to this growing strategic centre



# Regional Freight corridor

The Rebuilding NSW Plan announced in June 2014 presented great potential for Stony Pinch to support regional freight connectivity. The significance of freight transport to the NSW economy has led the NSW government to reserve \$400million for rail freight and \$2 billion for a Regional Road Freight Corridor Program. It is anticipated that the amount of freight travelling in NSW will have doubled in growth by 2031.

This is again reflected in the draft Regional NSW Services and Infrastructure Plan which includes initiatives for the protection of the Lower Hunter Freight Corridor. This is consistent with the Greater Sydney Region Plan which identifies a freight rail line for investigation. The line will run from north to south along the western edge of Sydney and provides a direct freight rail connection from Hunter Valley to the south of Sydney and the southern tablelands.

Stony Pinch includes approximately 310ha of industrial land which is ideally positioned to facilitate the development and growth of freight transport in the region.

Infrastructure NSW has also identified the M1 Pacific Motorway Extension to Raymond Terrace as a Priority Initiative in the near term and the Lower Hunter Freight Corridor Construction as a longer term, for national connectivity

### **Rail Connections**

The Australian Government's investigation into a high-speed rail network for national connectivity, further reinforces the exceptional strategic location of Stony Pinch. The Service and infrastructure Plan identifies a high speed corridor protection area extending from northern NSW to Canberra, passing in close proximity to the site. A potential station location has been identified within a 15-20km radius of Stony Pinch on the 'Twelve Mile Creek to Sydney Corridor', although this route has not been confirmed and is still under investigation.

In short- term, the plan identifies the need for improved efficiencies and faster services on the existing passenger rail services from Newcastle to Sydney and from Newcastle to Maitland.

### **Public Transport**

The plan aims to support the vision of a concentrated population living within 30 minutes of Newcastle City. The Service and infrastructure Plan targets an expanded public transport network which supports travel from East Maitland and Metford to Newcastle City within 30 minutes by 2036. Stony Pinch is located within this catchment area and can facilitate public transport links throughout the site.

The existing rail network on-site is utilised for coal haulage, yet, Stony Pinch is in close proximity to the existing passenger rail service accessible at Thornton or Metford Station. The existing bus transport system provides 85% of local public transport services, however, there are limited road priority measures (NSW DoT 1996, Hunter Development Corporation 2009). Stony Pinch has the potential to form a transport structure and system that will connect to and provide through routes for the existing public transport network. The site will offer direct access to key activity hubs, transport interchanges and employment centres (consider routes that service Maitland, Newcastle, Cardiff, Black Hill and Williamtown).

#### Walkability and Cycle network

The unique natural and disturbed setting of Stony Pinch presents an opportunity to provide walking and cycling routes aligned with riparian corridors and green links throughout the site. These can connect to existing amenities such as mountain biking and trail walking activities located on the south-east interface of the site.

The existing rail carriage loop on the northern portion of the site provides ready infrastructure with good connections to established the urban areas of Ashtonfield and Thornton Railway Station.

By the integration of this form of connection into the public transport network, Stony Pinch will introduce an active transport system, connecting with the greater region to enhance amenity and the connectivity of the site.

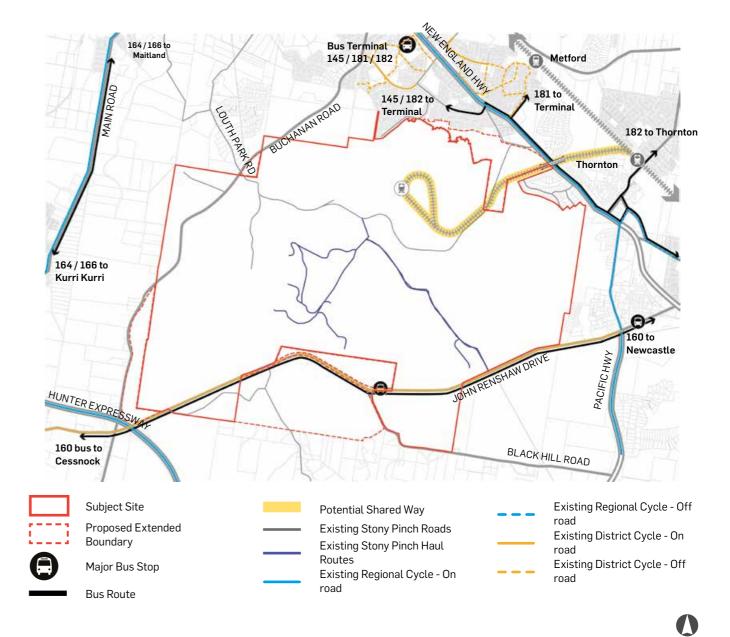


Figure 16 Transport and Movement Analysis

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# **UTILITY INFRASTRUCTURE**

Stony Pinch is readily accessible to range of utility services including water, power/electricity and gas. This will be ungraded to ensure effective service for urban development to occur along with the increased population in the area.

#### Water Infrastructure

Based on the civil infrastructure study, Stony Pinch has sufficient trunk water infrastructure and ample supply to service future development without significant upgrading.

The site currently accommodates the trunk water pipelines from Stony Pinch Reservoir to Thornton and Buttai Reservoir and the water pipeline from the Buttai Reservoir to Kurri Kurri and Maitland. Other existing services include the potable water source off the Trunk Gravity Main in Tarro and pump station in

In line with the standard requirements of Hunter Water (HW), potential upgrades required to facilitate future development includes:

- The upgrade on the booster pump stations and local reservoirs to supply water to properties on land with elevation higher than 70m
- Establish reduced pressure zones for properties on land with an elevation below 34m to prevent water pressure exceeding the maximum normal operating pressure of 60, head
- Contribute to the costs of replacing HWC's above ground trunck water mains with buried pipelines to prevent accidental damage or vandalism and maintain system security

#### Electricity

Electricity transmission lines currently traverse the site and existing zone substations within the vicinity of the site include

- East Maitland to the North;
- Cameron Park to the East; and
- Kurri Kurri to the southwest of the site

Adequate power will be available to service the ongoing mining operation and future urban land uses. However, existing zone substations will not have the full capacity to service development over such large geographical area. Stony Pinch will be required to accommodate new zone substations to support future development.

#### Telecommunications

Telstra and Optus have fibre optic cabling servicing the site, which provide the access to the Public Switched Telephone Network (PSTN). Telstra holds the obligation to provide open trenches to future developers to enable the installation of telecommunications cables.

#### Gas

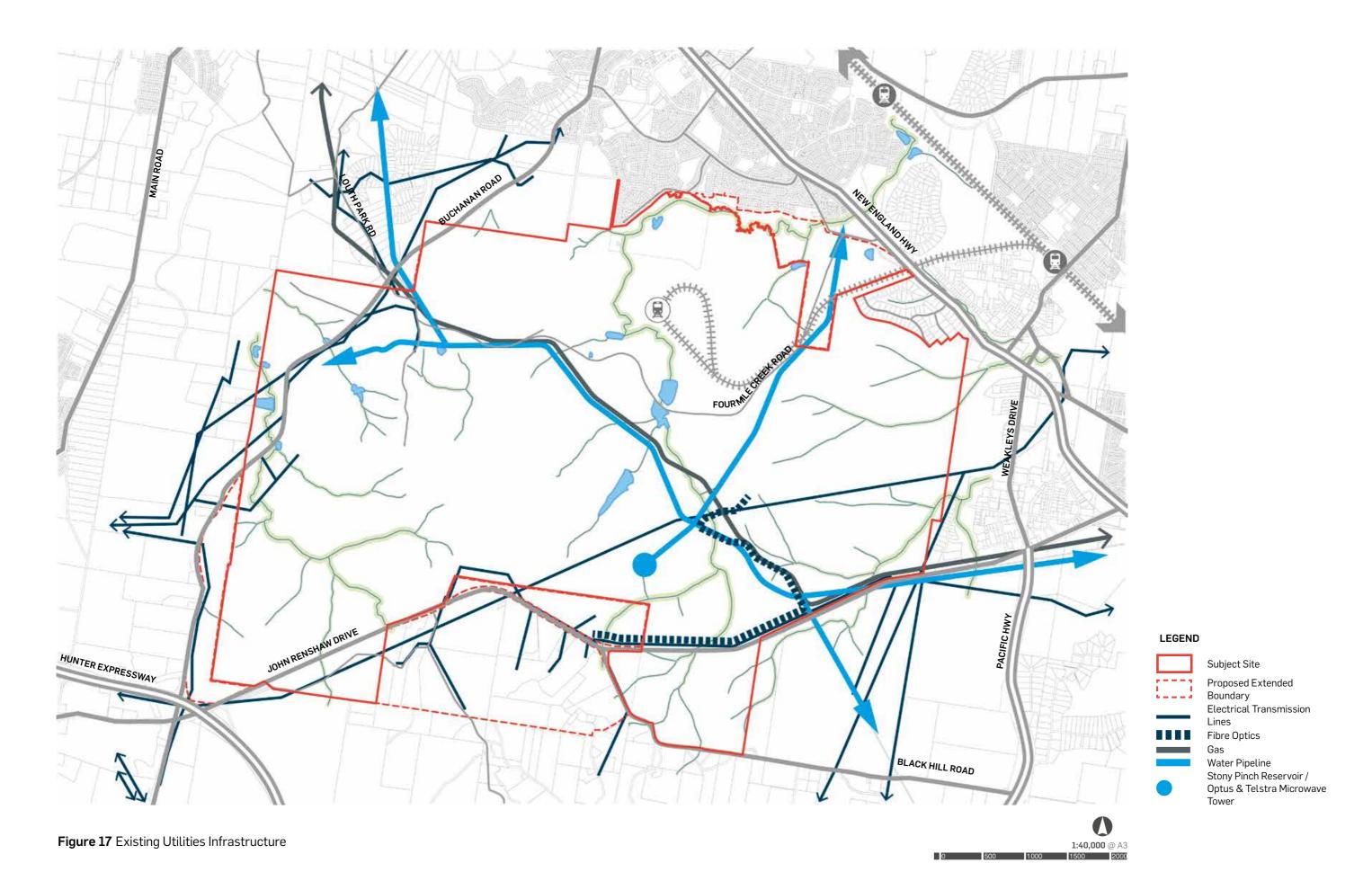
There is reticulated gas infrastructure in the adjoining suburbs of Stony Pinch, primarily at Thornton, Ashtonfield and Metford to the north. The main Sydney to Newcastle gas supply follows the F3 alignment, with the closest point located southeast of the site at Hexham. In future, Stony Pinch will require connection from this nearby supply.

#### Infrastructure Shortage

The only infrastructure resource not currently established on-site is public wastewater infrastructure. New infrastructure for the collection and treatment of wastewater will be required to service future development. Given the scale and timeframe, there are range of viable options to service the future development in Stony Pinch, which will be further investigated in the next phase of the planning process.

# **KEY FINDINGS**

 Stony Pinch already maintain existing utilities infrastructure that traverse across the site which will be upgraded once urban development occur.



Prepared by Urbis for Stony Pinch Consortium 41

# **LANDFORM AND TOPOGRAPHY**

Stony Pinch is located on an elevated, undulating landform with good amenity views, looking northwest towards the Great Dividing Range and east to the ocean. This terrain is both natural and disturbed from the mining operation which will allow for a variety of landscape specific responses when urban development occurs. Other key observations include:

- Existing roads and haulage routes within the site typically follow the ridge-lines;
- High Points within mining areas are expected to be backfilled to a level suitable to cater for development and landscape;
- The site is divided by Four Mile Creek occurring at the centre of the site bisecting it east and west;
- The western portion of the site is undulating and comprises a ridge-line that runs north-south. An existing road follows this ridge-line originating from Louth Park Road
- High Points occur along this ridge-line. Good amenity views north-west towards the range and north-east to the ocean

# **KEY FINDINGS**

- Stony Pinchs' varying landform, both natural and man-made provides good amenity views westwards to the range and the ocean to the east.
- Existing roads and routes traversing Stony Pinch, respond to gradients and landform.

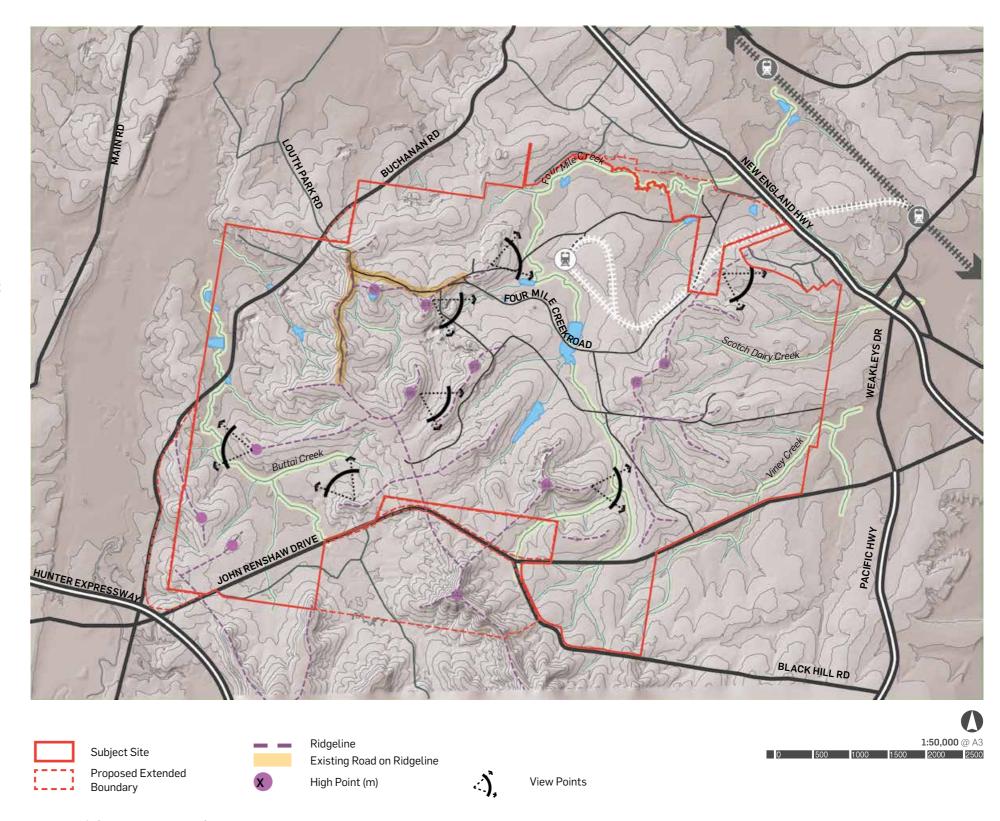


Figure 18 Stony Pinch Landform

# **SLOPE ANALYSIS**

There are areas of steep slopes along the north-west and south-east axis, where Bloomfield open-cut mine and Abel Underground Mine is located.

The study area is characterised by elevated flat land east of Four Mile Creek towards the north-east portion of the site. Topography is undulating with most of the slopes below 15% which are suitable for urban development. Areas with steep slopes above 18% are confined to the central-west portion of the site.

Standard subdivision will be constrained on these slopes but larger lot subdivision could occur on steeper sites. Additionally, current mining areas could be backfilled to suit development and landscape.

Steeper slopes over 20% are confined to riparian corridors or creeks with slopes over 20% that can provide important natural values for tourists and residents.

# **KEY FINDINGS**

- Steep land above 18% occur in Stony Pinch and have limited urban capability apart from larger lot types where these steep areas could be managed.
- Existing roads and routes traversing Stony Pinch, respond to gradients and landform.

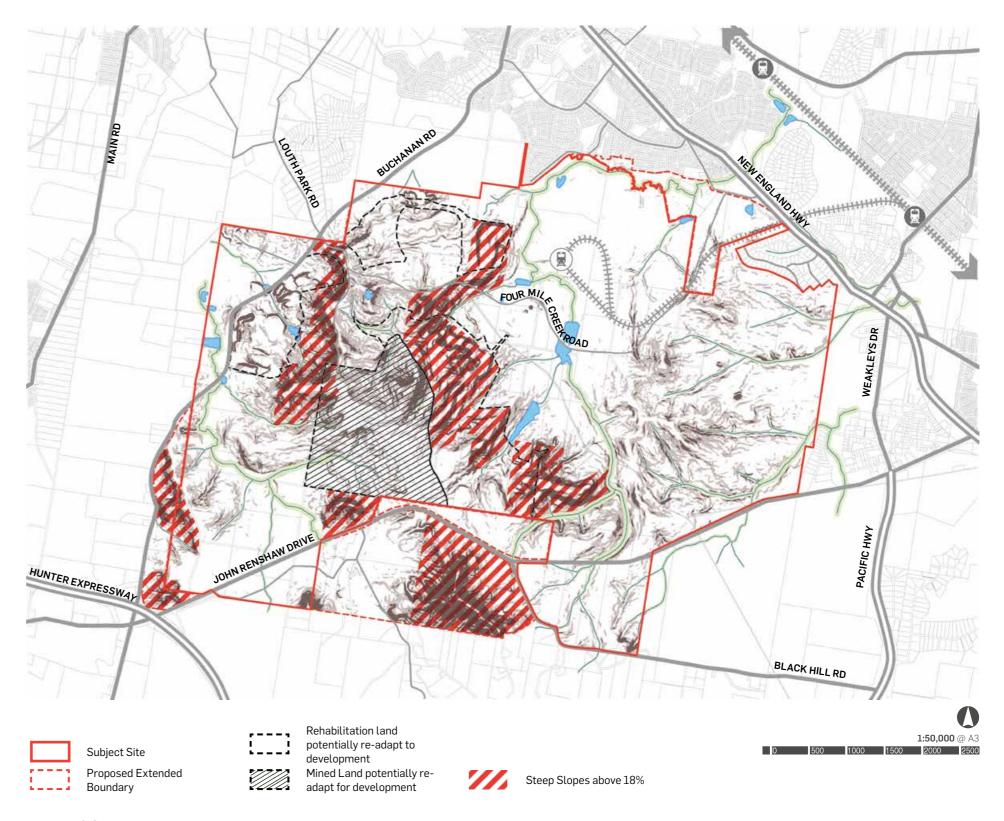


Figure 19 Stony Pinch Topography

# RIPARIAN CORRIDORS AND FLOODING

The study area is located within the catchments of Four Mile Creek and Buttai Creek. Stony Pinch has range of waterways with Four Mile Creek as the most significant travelling along the north-south axis of the site.

The majority of watercourses within Stony Pinch are confined to the valley systems carved into the surrounding landscape. Four Mile Creek, Buttai Creek and Viney Creek are classified as 3rd order streams, with a total riparian corridor width of 90m in parts within largely vegetated areas.

Scotch Dairy Creek is classified as a 2nd order stream with a total corridor width of  $50\,\mathrm{m}$  to the east of the site.

Urban capability within the riparian corridors of third order streams may still be suitable for urban development with appropriate mitigation works. Riparian corridors of fourth order streams and above are not considered suitable for urban development and should be protected.

Stony Pinch benefits from its elevated position and is generally not affected by flood constraints, as illustrated in the 1 to 100 Flood Map which largely affects land north of the site

# **KEY FINDINGS**

- Stony Pinch is not affected by 1 in 100 Flood Constraint.
- Third and second order streams are present in Stony Pinch with 90m wide and 50m wide corridors in parts respectively and within largely vegetated areas.

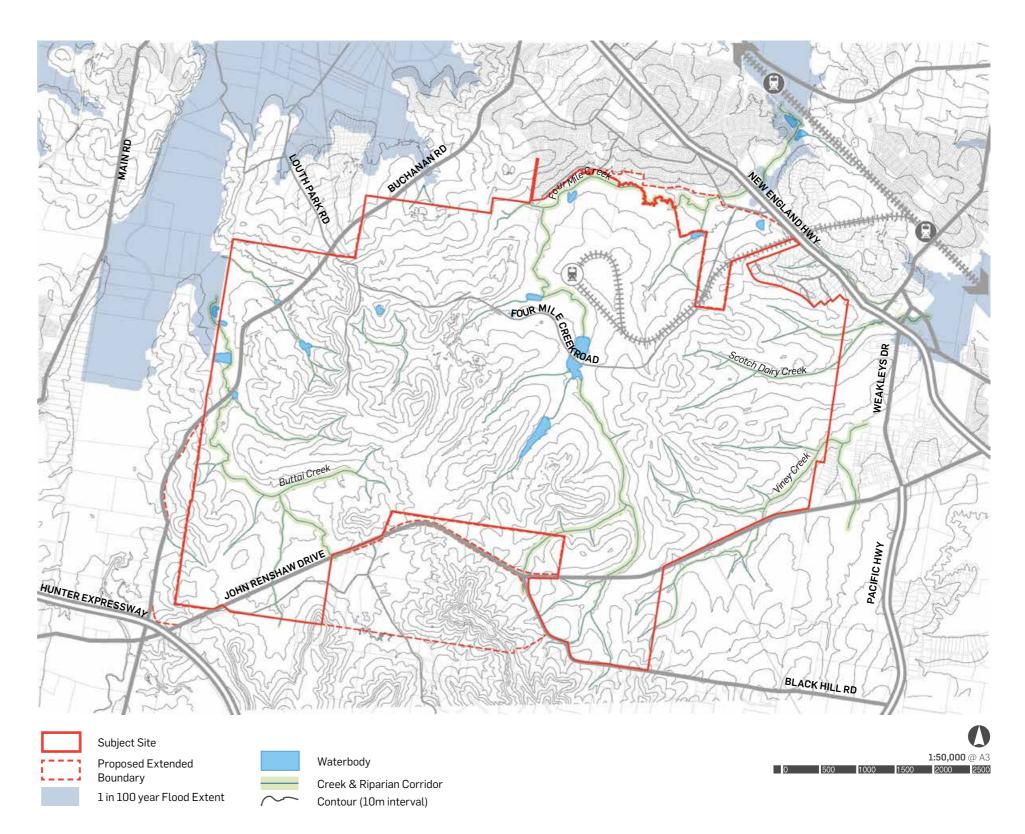


Figure 20 Riparian Corridors and Flooding

# SUMMARY OF KEY CONSIDERATIONS

- Stony Pinch is at the intersection of regionally significant transport corridors such as the Hunter Expressway, The New England Highway, John Renshaw Drive and the Great Northern Railway. These provide greater connections with key initiatives in the area already under investigation.
- Stony Pinch already maintains existing roads, haulage routes and a rail carriage loop within the site that can be re-adapted infrastructure to service urban development in future.
- Existing utilities infrastructure already traverse and service the site which will be upgraded once urban development occurs.
- Stony Pinch interfaces with established urban areas at Ashtonfield, including residential neighbourhoods to the north, north -west and north-east.
- Key employment land interfaces include the established areas at Beresfield, east of Stony Pinch.
- Mining will be phased out by 2038
- There are immediate opportunities for urban development where mining does not occur to the north, north-west and north-east of the site, adjacent to already established residential neighbourhoods.
- There are significant areas of rehabilitated land including areas of cleared land for grazing as well as well vegetated areas that may contain high value vegetation.
- Following the commencement of the Biodiversity Conservation Act, 2016, The Consortium will review key technical elements when the outstanding aspects of the legislation are released
- Stony Pinch's varying landform, both natural and man-made provide good amenity views westwards to the range and the ocean to the east.
- Existing roads and routes traversing Stony Pinch, respond to gradients and landform.
- Steep land above 18% occur in Stony Pinch and have limited urban capability apart from larger lot types where these steep areas could be managed.
- Existing roads and routes traversing Stony Pinch, respond to gradients and landform.
- Stony Pinch is not affected by 1 in 100 Flood Constraint.
- Third and second order streams are present in Stony Pinch with 90m wide and 50m corridors in parts respectively and within largely vegetated areas.

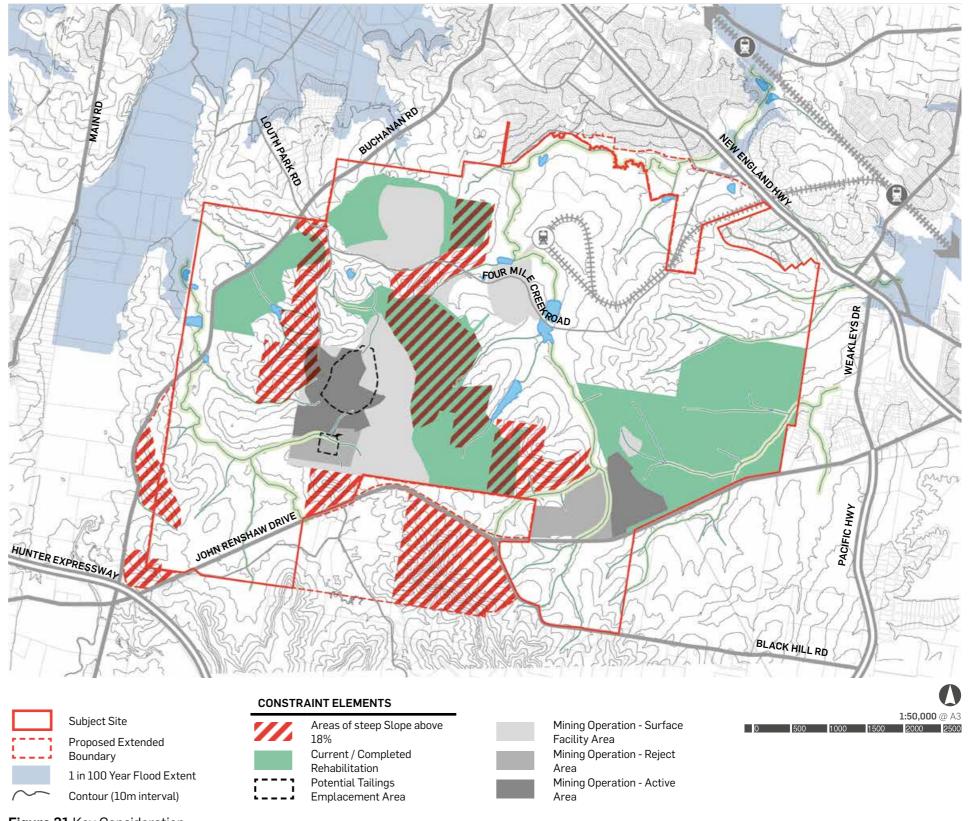


Figure 21 Key Consideration

# PART C. **NEXT STEPS**



## **Recognition in Settlement Strategies**

Consultation with Maitland and Cessnock Councils will occur to inform the recognition of Stony Pinch as an urban release area in both the Cessnock and Maitland Urban Settlement Strategies.

The preparation of an Urban Settlement Strategy for each Council area is a direction from the Hunter Regional Plan. The strategies will inform ongoing strategic land use planning in both Council areas. This in turn will inform the sequential development of Stony Pinch in conjunction with the desired outcomes of the relevant settlement strategy.



## Input into Hunter Expressway

- The Consortium understands that the Department are currently in the process of finalising the Draft Hunter Expressway Strategy and the Greater Newcastle Metropolitan Strategy.
- This strategy will further inform the future land-uses surrounding the Hunter Expressway and the lower Hunter Region. The close proximity of Stony Pinch to the expressway will be a key consideration in the future growth of the area. The Consortium will consult closely with the Department to ensure that the future vision for the site aligns with the desired outcomes of the strategies.

# PHASE 3



### Stakeholder Consultation

Stakeholder consultation is critical in reaching a successful outcome for the site.

- Ongoing consultation will occur with both Cessnock and Maitland Councils
- Consultation with the Department to inform recognition of the site as an urban release area within the Hunter Expressway Strategy and the Greater Newcastle Metropolitan Plan. The Consortium proposes to meet and engage with senior staff within the Department to advance the consideration of the project through a formal planning
- Commencement of stakeholder engagement with key public authorities including infrastructure providers such as Hunter Water, the Office of Environment and Heritage, The Mine Subsidence Board and RMS
- Finalisation and agreement of an appropriate planning process to allow for the future development of the site with both Council and the Department
- Preparation and submission of a formal proposal for the commencement of Stage 1 of the structure plan



### **Detailed Master Planning**

The Consortium recognises the need to engage further technical consultants to resolve the constraints of the site. Detailed master planning will commence based on the identified staged approach to the structure plan. Preparation of detailed technical studies will be undertaken to support comprehensive master planning of the first stages of the structure plan.

There will be continued engagement with relevant government and agency stakeholder as part of the detailed master planning





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