

INTRAPAC

THE FORMER LILYDALE QUARRY

SUSTAINABILITY FRAMEWORK

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The Former Lilydale Quarry Sustainability Framework

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1 FORMER LILYDALE QUARRY SUSTAINABILITY FRAMEWORK

1.1 PURPOSE OF THIS REPORT

The redevelopment of the Former Lilydale Quarry presents the opportunity to create a place that proactively responds to both known and unknown macro scale shifts in technologies and economies and create a thriving and sustainable destination.

To support this opportunity – an outcome focused Sustainability Framework is proposed to the planning amendment application. This framework is principle based and intentionally flexible in adoption to enable the evolution of the Former Lilydale Quarry throughout its stages of development.

1.2 INTENT OF DELIVERING BEYOND BUSINESS AS USUAL SUSTAINABILITY

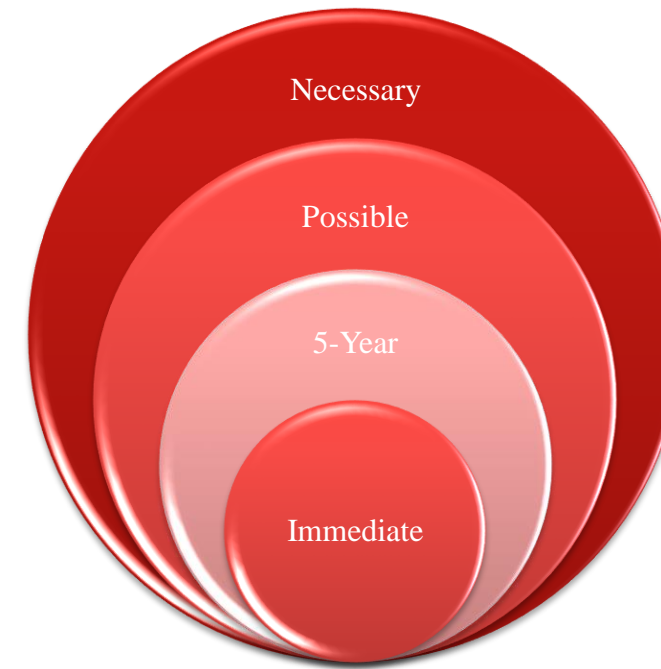
The development is built around a proposed Transit Oriented Development (TOD) leveraging access to public transport to foster a connected, highly walkable and human centric place with reduced car usage and travel times. The proximity of the Former Lilydale Quarry to a potential train station supports higher density zones reliant on a planning process able to support diverse development typologies as well as funding support for the station and local community backing. A strong sustainability vision articulated as part of the planning scheme amendment is considered a key element to obtaining the social licence to successfully deliver this strategy.

At an international, national and state level, policies and legislation such as the Paris Agreement 2015 and the Victorian Government Climate Change Act 2017 are shifting transport, utilities and infrastructure requirements for climate resilient communities. Given the timeframes for delivering the Former Lilydale Quarry redevelopment, a forward-thinking approach is intended to anticipate planning changes as well as shifting market expectations as later stages of this precinct are delivered.

Intrapac is committed to providing innovative, sustainable and community-centric developments. Enshrining this into a planning process is intended to support this outcome.

1.3 WHY A FRAMEWORK APPROACH

Through the planning work completed to date on behalf of Intrapac, it was agreed that the design works for the Former Lilydale Quarry should be:



- **Immediate** – meet the needs and requirements of current best practice sustainability considerations
- Near sighted –incorporate approaches that will enable existing and emerging strategies (**5 year outlook**)
- Far sighted and able to easily adapt to future economies and technologies considered in the **possible** life of the redevelopment
- Resilient and adopt the **necessary** flexibility to accommodate to changes in lifestyles, environments and technologies that are yet unknown

1.4 THE SUSTAINABILITY FRAMEWORK

This Framework is structured around a visioning exercised undertaken to consider what the Former Lilydale Quarry will look like in 2035 when redevelopment activities may be reaching their final stages. This visioning has informed this outcome-based framework that will provide both flexibility and focus to the sustainability objectives against which development options can be evaluated.

The following Sustainability Objectives are nominated to deliver the 2035 vision for the Former Lilydale Quarry:

1. Low environmental impact and climate positive place with secure, emissions-free energy

Greenhouse gas emissions associated with the Former Lilydale Quarry will be minimised through energy efficient design, construction and operation of building including the use of renewable energy generation, energy storage and significant reductions in private car use. Integrated smart

management of energy within precincts and larger sites will improve energy efficiency outcomes for the Former Lilydale Quarry.

Opportunities for advanced resource recovery (such as energy from waste) will be investigated with Council as the authority, as will local, place-based waste solutions. Building design guidelines will support increased rates of recycling and diversion from land fill through best practice design and operation. Recycling will be maximised and waste to landfill reduced. Waste management systems will divert organic waste from landfills.

Construction and demolition waste recycling opportunities will be maximised through reuse and recovery of building materials.

2. Water neutral place with secure, safe, potable water

Utilising stormwater and recycled water, the Former Lilydale Quarry will have a secure water supply that supports public realm trees and vegetation as well as private gardens. All residences will be able to access non-potable water through a third-pipe network. Stormwater detention and retention will be encouraged within buildings and landscapes will be designed to incorporate water sensitive urban design principles to improve water quality and manage flooding.

3. Climate safe place to heat, flood & sea-level

As a climate resilient community – the Former Lilydale Quarry will be safe and functional in extreme weather events as a result of a changing climate such as flooding, drought and heat waves. The Former Lilydale Quarry will utilise tree canopies and external shading to facilitate localised cooling and minimise disruptions to commuting and business activities in extreme heat events.

4. Amenable, Liveable & Healthy place

At the Former Lilydale Quarry, people will be connected through integrated walking and cycling paths that link to public transport nodes that will make choosing sustainable and healthy transport options easy. Digital high-speed data networks will also enhance connectivity enabling the community to easily work from home or nearby work share zones. A central neighbourhood activity centre will be located near the train station and provide the community with services and spaces so they can access their daily needs without the need to commute in a personal vehicle.

The Former Lilydale Quarry will enhance commercial and creative industries in the Yarra Ranges municipal district including attracting innovative enterprises to service the neighbourhood due to the flexibility inbuilt into its infrastructure and masterplan.

5. Habitat that enhances local biodiversity and human joy

Biodiversity will be enhanced within public spaces creating habitat opportunities for indigenous flora and fauna. This will be achieved through appropriate landscape design including in streets and parks as well as other public realm spaces where the community can interact and experience the joy of local fauna. Habitat corridors and green links into surrounding areas with biodiverse environments such as Lillydale Lake and the Dandenong Ranges will further enhance these outcomes.

6. Frictionless, affordable access and mobility

Transportation at the Former Lilydale Quarry will be multi layered with walking and cycling as the preferred method for daily activities. In 2035, personal cars will not be required by many who choose to live here as residents instead use public transport and participate in shared vehicle arrangements. The urban realm will seamlessly transition from a motor vehicle-centric space – creating opportunities for community spaces and business activities.

7. Community engagement and relationship to surroundings – creating a “Human Habitat”

The Former Lilydale Quarry will be a community for people of all ages and backgrounds. It will provide a range of dwelling options to cater for varying lifestyles including family living and affordable housing. Public Domain provisions such as recreation zones, Urban Agriculture, community garden and active transport pathways will bind the community.

Residents of the Former Lilydale Quarry will be a part of the community – with strong connections paths into the Lilydale town centre where they will work, shop and participate in public life.

2 SUSTAINABILITY IN THE PLANNING SCHEME AMENDMENT

2.1 SUSTAINABILITY IN THE YARRA RANGES SHIRE

The Sustainability Framework for the Former Lilydale Quarry redevelopment supports many of the objectives laid out in the Yarra Ranges Planning Scheme and municipal strategic plans including:

- The Planning Policy Framework
 - 13.01 - Climate Change Impacts
 - 14.02 - Water
 - 15.02 - Sustainable Development
 - 18.02 - Movement Networks
 - 19.02 - Community Infrastructure
 - 19.03 - Development Infrastructure
- The Local Planning Policy Framework
 - 21.09 - Environment – Objectives Strategies and Implementation
 - 52.06 - Carparking
 - 56.03 – Liveable and Sustainable Communities
 - 56.07 – Integrated Water Management
 - 56.08 - Site Management
- The Yarra Ranges Council Plan (2015-2020)
- Yarra Ranges Community Safety Plan 2013-2018
- Yarra Ranges Climate and Energy Future Plan
- Yarra Ranges 2012-2022 Economic Development Strategy

Within the Yarra Ranges Planning Scheme – Sustainability is referenced in Section 21.09-3 which requires submissions for a planning permit for new buildings and works to enable the Council to evaluate effects of environmental and amenity effects of the proposed development.

The State and local policy and planning controls are well aligned with the Sustainability Framework objectives for the Former Lilydale Quarry.

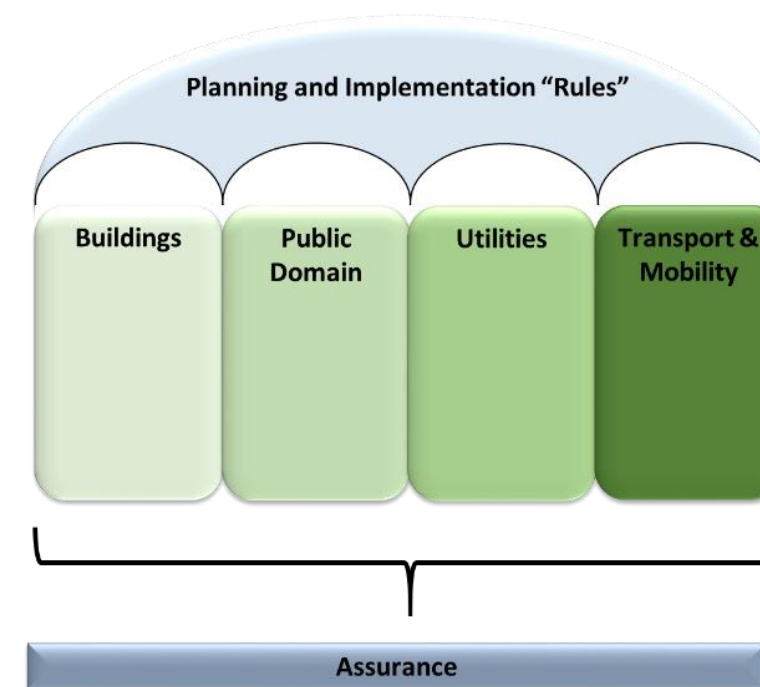
2.2 SUSTAINABILITY IN OTHER PLANNING SCHEMES

Many Metropolitan Councils are adopting Environmentally Sustainable Development policies into their Planning Schemes - such as Yarra City Council, Stonnington City Council, Cardinia Shire Council and Knox City Council. The basis of these policies is that environmentally sustainable design should be considered as part of the planning approval process to maximise opportunities and reduce difficulties and costs associated with retro-fitting at a later time. These policies target a level of best practice in the built environment and utilise 3rd party tools to establish this level such as Green Star, BESS, STORM and MUSIC.

For larger developments including multiple dwellings, these planning schemes require the completion of a Sustainability Management Plan (SMP) which provides a detailed assessment of the development against the 3rd party sustainability rating tool utilised including a description of how the development will achieve these performance outcomes. Once approved as part of the planning phase – the Council may then call on evidence of the application of this plan throughout all stages of the development cycle.

2.3 SUSTAINABILITY PLANNING PROCESS FOR THE FORMER LILYDALE QUARRY

Implementing the Sustainability Framework for the Former Lilydale Quarry requires the planning process to support a rapidly changing commercial and technological environment. Any amendment to the planning scheme should fulfil an immediate definition of best practice sustainability whilst enabling flexibility as to how this is addressed and demonstrated. To be realised, the Sustainability Framework requires an integrated response across the masterplan of the Former Lilydale Quarry to adequately address all areas of influence.



Assurance processes will provide YRSC with a level of certainty of the delivery against the Sustainability Framework. Any assurance process adopted should enable the provision of information and provide decision guidelines which will assist in the assessment of whether development meets or moves towards objectives as outlined in the Sustainability Framework. In recommending an assurance process –linking this to any specific 3rd party rating has the potential to drive outcomes that are not in the best interest of the Former Lilydale Quarry considering the time frame for the staging of the project.

On this basis, it is proposed to adopt a 3rd Party, contemporary sustainability rating scheme which provides assurance that best practice sustainability has been implemented. An appropriate rating scheme will be nominated at the time that each Precinct Plan is prepared.

2.4 IMPLEMENTATION AND DETERMINATION

Schedule 1 to the Comprehensive Development Zone (CDZ1) requires the preparation of a Sustainability Management Plan (SMP) for each Precinct before a planning permit can be granted. This is the preferred mode of demonstrating compliance with the Sustainability Framework. The content of this SMP could be workshopped as part of an interactive process with Council – however this should be linked back to the objectives nominated within the Former Lilydale Quarry Sustainability Framework.

In determining an application, the Council should consider the extent to which the development meets the objectives of the Sustainability Framework from the design stage through to construction and operation.



The SMP would be provided by an appropriately qualified party defined by a minimum level of 5 years' experience within Sustainable Design.

2.5 DETERMINING MINIMUM SUSTAINABILITY REQUIREMENTS

As part of the process to draft each Precinct Plan – a strategy for meeting each of the Former Lilydale Quarry's sustainability strategies will be described and incorporated into the Precinct SMP. This will

be accompanied by a set of *Sustainability Guidelines* which mandate a minimum level of compliance for buildings and sites to meet.

This process will permit review and definition of best practice against the Sustainability Framework at the time the Precinct Plan is drafted. This is intended to support the different development typologies across the Former Lilydale Quarry and also to consider changes to lifestyles, environments and technologies.

2.6 SUSTAINABILITY FRAMEWORK OBJECTIVES AND OVERARCHING STRATEGIES

The Sustainability Framework for the Former Lilydale Quarry nominates a series of seven key objectives. To support the achievement of these objectives, a set of overarching strategies will form the basis of the Precinct Sustainability Management Plan content as summarised in Table 2-1.

Table 2-1 Sustainability Objectives and Overarching Strategies

Sustainability Objective	Precinct Sustainability Strategies (to be detailed in SMP)
Objective 1 – Low environmental impact and climate positive place with secure, emissions-free energy	Strategy 1a – Utilise renewable energy and emission free energy Strategy 1b – Incorporate energy efficiency measures into buildings and site infrastructure Strategy 1c– Apply resource recovery practices through the delivery and operation of the Former Lilydale Quarry Strategy 1d– Reduce amenity and emission impacts of waste collection
Objective 2 - Water neutral place with secure, safe, potable water	Strategy 2a– Provide an integrated and secure water system
Objective 3 – Climate safe place to heat, flood & sea-level	Strategy 3a– Reduce the urban heat island effect at the Former Lilydale Quarry Strategy 3b– Incorporate climate change resilience measures
Objective 4 – Amenable, liveable & healthy place	Strategy 4a– Provide active transport infrastructure Strategy 4b– Provide digital infrastructure Strategy 4c– Provide a distribution of high-quality public spaces
Objective 5 – Habitat that enhances local biodiversity and human joy	Strategy 5a – Support and enhance biodiversity within the Lilydale region and for the residents of the Former Lilydale Quarry

Sustainability Objective	Precinct Sustainability Strategies (to be detailed in SMP)
Objective 6 – Frictionless, affordable access and mobility	Strategy 6a– Reduce reliance on personal motor vehicles
Objective 7 – Community engagement and relationship to surroundings – creating a “Human Habitat”	Strategy 7a- Provide precinct social infrastructure for a diverse community