Ordinary Meeting

Meeting Date: Monday, 28 March, 2022
Location: Council Chambers, City Administrative Building, Bridge Road, Nowra

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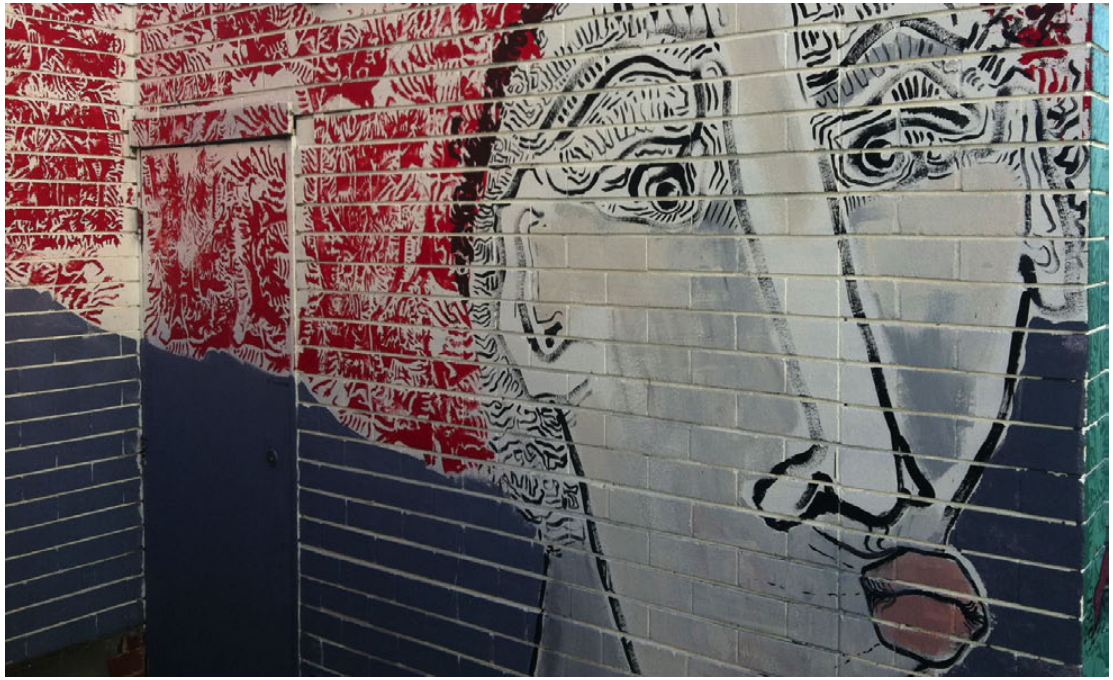

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Introduction

In Australia, contemporary public art practice has become increasingly diverse, covering activities ranging from physically integrated artworks to ephemeral digital projections and temporary installations.

Whatever the final form of the artwork might be, it should wherever possible be based on concepts that are site specific and culturally relevant to the place and the people who will use or visit the place. In this sense, public art can contribute to the place making of a location and the interpretation of a place. It can aid the understanding of history or cultural heritage, assist how people currently understand or use the space, or provide new meanings.

The successful integration of art with public space across the range of urban and natural environments can deliver a range of benefits in regards to economic development, social cohesion, urban rejuvenation and tourism.

This document provides direction and inspiration to support Council's recently adopted Public Art Policy (POL12/351).

The areas covered in this document have been guided by the direction of the project brief and include:

- Nowra/Berry
- Huskisson/Vincentia
- Sussex Inlet
- Milton/Ulladulla

Part A identifies locations, themes and opportunities guided by relevant DCPs and site specific Master Plans. It is important, however, that identified themes are not too prescriptive, allowing the community and artist a degree of artistic freedom in future works and events.

Part B provides best practice examples from regional cities in Australia and around the globe that are relevant to various themes and locations nominated in the Shoalhaven. It also provides an implementation plan outlining short, medium, and long term priorities.
Introduction

Themes and locations - General

Shoalhaven Context

The Shoalhaven region stretches from Berry in the north to North Durras in the south. It is bordered by the mountains, coastal plains and 109 magnificent beaches, and includes 49 towns and villages.

The regions beautiful natural environment plays a central role in the quality of life of the local community. It's temperate coastal climate, rich array of native flora and fauna, many natural attractions and its thriving commercial and retail sectors make the Shoalhaven an appealing place to live and work.

The Shoalhaven is home to a range of artistic and cultural institutions including Shoalhaven City Arts Centre, Arthur Boyd's Bundanon & Riversdale properties, Shoalhaven Entertainment Centre, Lady Denham heritage museum, Fleet Air Museum as well as local and community museums and galleries.

There are currently pockets of active art communities who have contributed to providing public art installations and events within their own public spaces. The aim is to provide a more unified vision for public art in the Shoalhaven whilst still reflecting the unique culture of it's various towns and villages.

SHOALHAVEN GATEWAYS

There is current and planned works to upgrade the Princes Hwy which runs through the Shoalhaven. This will have a significant impact on the entries to many of the towns. In the short term, Berry will be bypassed and the Berry to Bomaderry Hwy will be upgraded. In the long term, there are plans to bypass the Nowra Urban Area along with Milton and Ulladulla.

There is an opportunity to incorporate gateway public art as each town's entry experience is impacted. Not only would these public art elements act as a gateway, they would also function in a practical way as a design cue to slow driver's down as they enter urban areas. Gateway elements could include stand alone installations with night lighting, but also be incorporated on road infrastructure such as overpasses or attenuation barriers.

The two railway stations of the Shoalhaven: Berry and Bomaderry could also benefit from public art markers. In particular a public art element at Bomaderry train station (other than existing internal mural) would encourage public transport use, improve the first impression many travellers have of the Shoalhaven, create a more memorable meeting place, and instill local ownership and pride.

CL22.143 - Attachment 2

Themes and locations - Nowra

Analysis

Being the largest coastal urban centre between Wollongong and the Victorian border, Nowra functions as the business and administrative 'capital' of the Shoalhaven. Nowra is also a centre for education, shopping, health, entertainment, and culture for residents of the Nowra urban area and surrounding villages.

Despite it's regional significance and location on the beautiful Shoalhaven River, Nowra is yet to establish a cohesive character or identity. This in part can be attributed to the town being dissected by the Princes Hwy and also how development has tended to turn its back on much of its natural beauty. With a few exceptions, public art in Nowra has been comparably rare. An active public art strategy would provide an opportunity to increase community pride, reflect and recognise local history and culture and increase local engagement. In this sense, public art in the Nowra CBD is seen as a priority over other areas covered in this document.

An opportunity exists for public art implementation to align with the recently developed Nowra CBD Master Plan, which outlines a strategic direction to revitalise the Nowra CBD over the next 25 years to improve the 'quality and attractiveness of the public domain as a catalyst to encourage development'. The Public Domain Framework Strategy in the CBD Master Plan outlines proposed gateways, greenlinks and public open spaces. It also suggests specific areas for open space and laneway revitalisation and streetscape improvement.

Themes

There are numerous traditional 'themes' that could inform public art in Nowra relating to history, nature, indigenous culture, industry and rural setting. More importantly however, future public art within Nowra's urban area should reflect Contemporary Nowra's emerging identity as a centre for food, knowledge, family, health and wellbeing. This would have a significant impact in defining Nowra's identity and culture and engaging the community. It is envisaged that public art would be bolder and more prominent than other Shoalhaven locations. It would be interactive, fun, cater for night and day activities, and be more cutting edge in terms of function, themes and technology. There is also an opportunity to be inspired by Nowras natural setting on the Shoalhaven River. This could include kinetic and dynamic installations of 'Living Art' that interpret natural elements.

Locations

ACTIVATION OF URBAN SPACES

Junction Court and Egans Lane (subject to future development) should provide public art that attracts people, in particular children. The type of artwork installed should be interactive with a playful element; art that encourages children and families to engage and connect with one another.

STREETSCAPES

Public art elements should be integrated into Junction and Berry St to enrich the main shopping thoroughfares and accentuate the emerging Berry Street cultural precinct.

REVITALISATION OF LANEWAYS

Along with an active anti graffiti policy, Council could develop a street art policy. With the permission of the property owner and council, an artist may obtain a permit to paint on identified laneway walls (eg: Emporium Lane, Fitzgerald Lane, Smith Lane). The gated walkway between Emporium Lane and Junction Street has been identified as an ideal location for temporary art installation and/or events.

ART TRAIL LINKING NOWRA CBD WITH SHOWGROUND AND RIVER PRECINCT

In keeping with the proposed green link along Junction Street, strategically placed artwork would reinforce a link from the Nowra CBD to the Nowra Showground and ultimately to the River Precinct. This art trail loop would also promote health and well being in the community. Ideal Junction St locations include Junction Court, an upgrade of the Post Office forecourt, Rauch Park, and finally to a culturally sensitive element at Hanging Rock which promotes the viewpoint and picnic area.

The art trail loop could be listed on *Google Maps*. This will provide users with background information about the artwork as well as encouraging physical activity and movement around the proposed green links in the CBD.

SENSORY ART GARDEN

A sensory art garden is proposed to be incorporated into the art trail at Nowra Park and the western perimeter of the health precinct. It would offer users of the hospital, cancer clinic, and future medical developments an opportunity to engage with sensory art in a natural setting, providing healing and reflective opportunities.

VIBRANT GREEN SPACES FOR COMMUNITY EVENTS

The grassed forecourt of the Entertainment Centre, River Promenade and Grey's Beach Reserve have been identified as open air areas for community events and exhibitions. This may include twilight cinema, temporary sculpture walks, or video projections. For example, projections onto the Nowra Bridge in summer months would help to stimulate use of the River Promenade and Grey's Beach areas in the evenings.

ACTIVATION OF UNUSED BUILDING SPACES

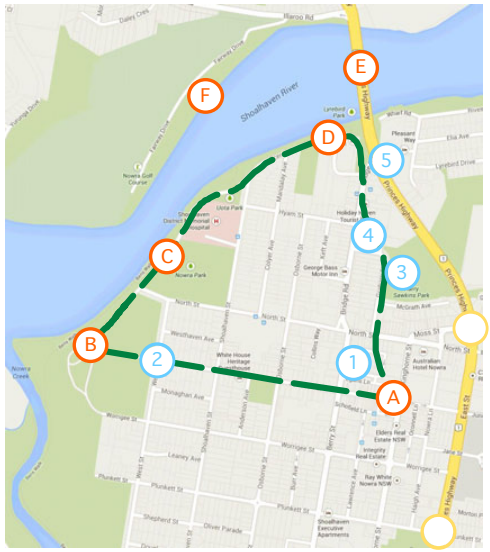
This aim is to place artists, cultural projects and community groups from the region in unused building spaces to activate and revitalise the CBD.

Themes Summary

- Contemporary Nowra – food, knowledge, family, health & wellbeing
- Natural Elements 'Living Art' – mountains, bush, river, rock
- Indigenous Culture - including contemporary Aboriginal Culture in an urban environment
- Industry – defence, agriculture, paper
- Historical Shoalhaven

Legend

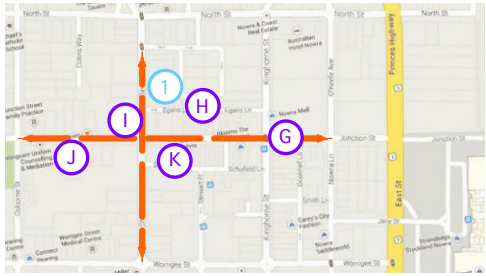
- Proposed Locations
- Existing Locations
- Proposed Gateways (as identified in Nowra CBD Master Plan)
- Proposed Urban Spaces & Laneways
- Art Trail Loop
- Art Integrated into Streetscape Upgrade

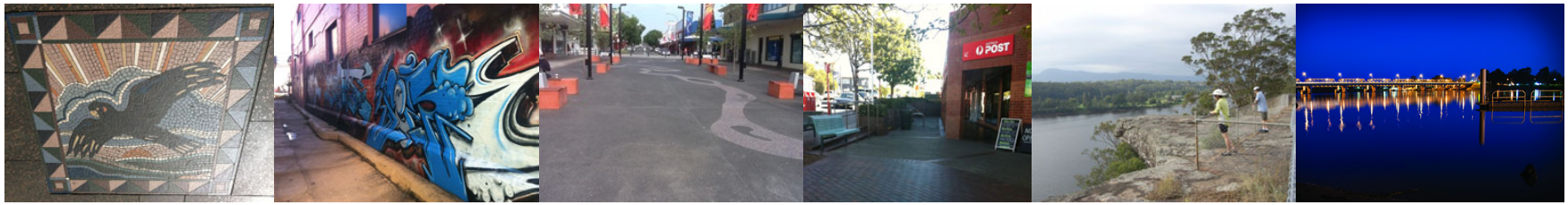


Notes

A. Town Centre
B. Hanging Rock Picnic Area
C. Sensory Garden
D. River Promenade
E. Nowra Bridge
F. Greys Beach
G. Junction Court
H. Egans Lane
I. Post Office Corner
J. Rauch Park
K. Laneways

1. Shoalhaven Arts Centre and Forecourt
2. War memorial
3. Harry Sawkins Mural
4. Shoalhaven Entertainment Centre and Forecourt
5. Existing Gateway Features (Nowra Entry Sign & Helicopter)





Themes and Locations - Berry

Analysis

Berry has an iconic heritage & rural character, particularly expressed within its architecture and landscape. The preservation of the historical character of the Berry Town Centre is a fundamental objective of the Berry DCP. Berry's town centre is widely known for its boutique retail experience and gourmet produce. Currently, there is little designated public art within Berry, with existing elements drawing reference to the historical figure of Alexander Berry.

Themes

The nature of public art should be complimentary to Berry's established rural village character whilst also being of a more contemporary and eclectic nature that is aligned to the modern boutique and gourmet food experience of the town centre. These themes could also align with existing tourist events around food, wine, boutique farms and gardens, and the *Tour de Berry*. Public art should include local artists and community initiatives where possible.

Locations

Because of Berry's distinct existing character, public art need not have a dominant presence within the town centre. It could however serve to enhance key community hubs such as Broughton Place linking Queens St to the northern car park by upgrading or replacing streetscape infrastructure such as the community notice board, furniture, or raised brick plant beds with vibrant local art makeovers. Providing a point of interest in this location would assist in linking the Queen Street retail strip with the northern shopping precinct and reinforce a central hub for gathering and meeting. The nature of the public art would reflect a contemporary and eclectic Berry character that compliments the retail experience rather than the heritage aspect of Berry.

Another area identified is the Berry Railway Station. A contemporary public marker at this location with possible additional elements along the Alexandra Street pathway would assist in the legibility of the station within the town centre, encourage public transport use, and define the pedestrian link between the station and the town centre (via significant town memorials, the showground, and the school of arts).

The proposed Berry Bypass will also create new opportunities for public art locations. This could include elements within a planned recreational park between North Street and the bypass where new park infrastructure like playground equipment and picnic shelters could interpret Berry themes. There is also an opportunity to integrate public art elements within the infrastructure of future streetscape upgrades to Queen St (existing highway) as it evolves from heavy vehicle use to a pedestrian orientated thoroughfare. This may include street furniture, pavement inlays and banners.

It should also be noted that the existing 'Berry Heads' northern gateway sculpture will be relocated to perform the same function at the new Berry entry from the Bypass.

Themes Summary

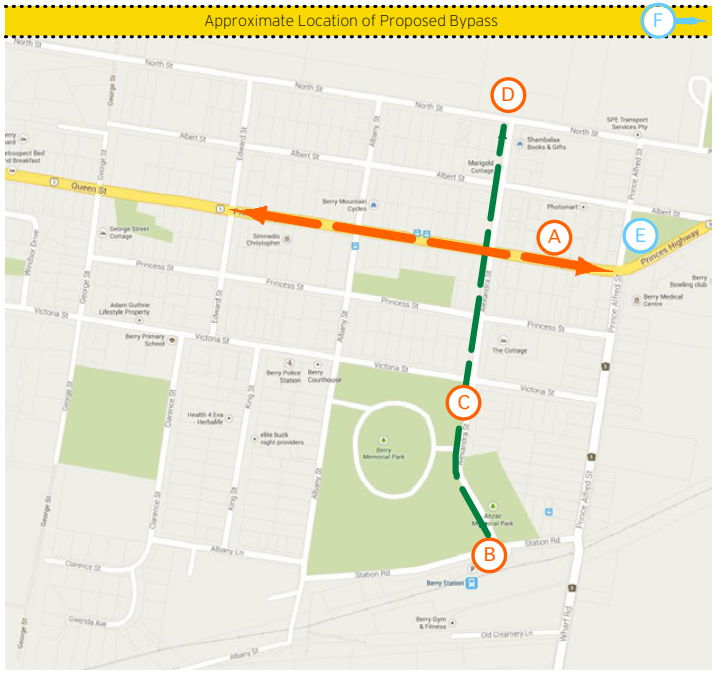
- Contemporary Berry – boutique food, wine, gardens, shopping & café culture
- Rural agriculture
- Historical Berry

Legend

- Proposed Locations
- Existing Location
- Art Trail
- Art integrated into Streetscape Upgrade

Notes

A. Community Hub Walkway
B. Railway Station
C. Alexandra St Pathway
D. Recreational Park
E. Alexander Berry Monument
F. Relocated 'Berry Heads' Entry Sculpture



Themes and Locations - Huskisson & Vincentia

Analysis

Huskisson and Vincentia are both connected with the pristine natural environment of Jervis Bay. Huskisson in particular has a vibrant cafe and shopping culture with a sufficient marine themed streetscape. The desired future character statement from the Huskisson Tourist Town Centre DCP states that *"The Huskisson Tourist Town Centre is the gateway to Jervis Bay; A Tourist Town in a unique and pristine environment; A centre with a rich boat building history; A business centre orientated to take advantage of Bay side view and traditional waterside activities; and A community which lives in harmony with its natural environment and the future."* The DCP also indicates that any future streetscaping is to adopt a maritime/leisure theme.

Vincentia town centre on the other hand is more utilitarian in character and is currently under threat by an alternative retail development.

The Jervis Bay community has a strong artistic representation and enjoys an active outdoor lifestyle. Local parks and the shared pathway between the towns are frequently utilised by residents and visitors alike. It is seen that these elements would be ideal for future public art installations and events.

Themes

Jervis Bay is an international tourist destination and future public art in Huskisson and Vincentia should interpret and enhance its marine environment and history. This could be achieved through environmental, socially aware, natural, and educational installations regarding the surrounding marine environment.

Locations

Open space adjoining the town centres would be highly desirable locations for interpretive public art and events. A good existing example of this is White Sands Park where the park upgrade has an interpretive component (eg: naval ship playground and seagrass pavement motifs). The northern end of White Sands Park is in a very prominent location. It provides an ideal spot to install an interactive sculpture that engages and orientates users by framing and identifying key views and locations around the bay.

Voyager Memorial Park has seating interpreting the ship building history of the area. The reserve is undergoing a new master plan and is an ideal location for more public art elements and events integrated into any future upgrade, particularly relating to the ANZAC memorial and HMAS Voyager disaster.

Other reserves on the bay such as Moona Moona would also be suitable for holding public art events such as moonlight cinema or temporary exhibitions.

The Huskisson Jetty would be another location where a public art marker that is visible from the bay and the town centre could be installed. A similar installation would be relevant for the Vincentia shopping hub.

The shared pathway between the two towns is another element that could benefit from regular interpretive installations as a means to further encourage education, health and well being.

Themes Summary

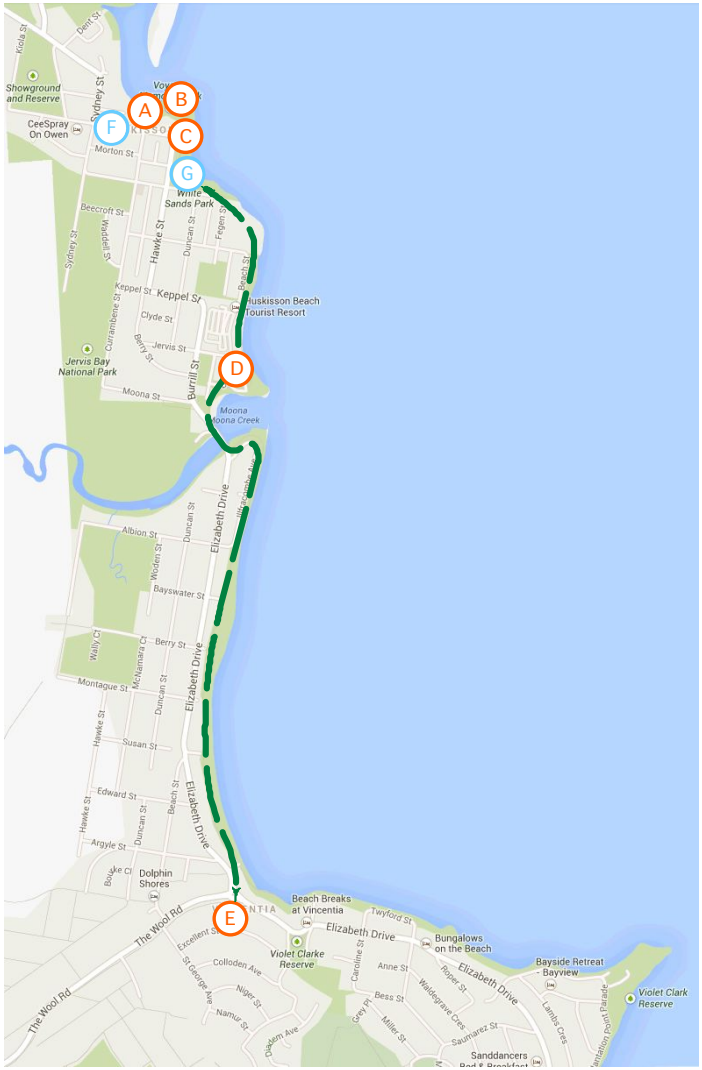
- Marine Ecology - Protection & Education
- Maritime - Boat Building & Naval History
- Indigenous Culture

Legend

- Proposed Locations
- Existing Locations
- Art & Events Trail

Notes

A. Huskisson Jetty
B. Voyager memorial Park
C. Northern White Sands Park
D. Huskisson to Vincentia Shared Path and Reserves
E. Vincentia Town Centre
F. Huskisson Town Centre
G. White Sands Park



Themes and locations - Sussex Inlet

Analysis

Sussex Inlet is a popular tourist and retirement destination with a strong emphasis on water activities and fishing. The town centre has a low key character typical of such coastal villages. The Sussex Inlet Town Centre DCP identifies the town focal point/market square as the open space area between the Newsagent and the Cinema centrally located within the main retail core. To function effectively, this area *requires sufficient pedestrian open space for people to congregate, sit, read, etc and provide a venue for the monthly markets.*

The inlet surrounds the village to the north and east. The shared pathway around the accompanying reserve is frequently utilised by residents and visitors alike. This area would be ideal for future public art installations or to accompany events such as the fishing festival. There are some small sculptures of birds on stumps at the end of Jacobs Drive which are quite appropriate for the character of the community and environment.

Along the inlet reserve is a large quantity of memorial seating. One idea is to encourage the community to memorialise loved ones through funding small sculptures or trees in the reserve rather than more seating.

Themes

Local heritage and maritime themes are seen as the most appropriate. Public art could be low key, involving local artists and initiatives where possible.

Locations

Public art doesn't need a dominant presence within the town centre. It could however serve to enhance the town focal point/market square between the Newsagent and the Cinema in the form of updated furniture, or a makeover of the raised brick plant beds (eg tiled mosaic) in an appropriate theme. Providing a point of interest in this location would assist in reinforcing a central hub for gathering and meeting.

A similar approach would also be relevant with any future community facility development such as the tourism centre and library proposal at the 'Old Bakers Site'.

The shared pathway and reserve around the inlet is another element that could benefit from regular interpretive installations as an emphasis to further encourage education, health and well being. This could take the form of temporary installations at each of the jetties for specific events, new park furniture and infrastructure, or permanent sculptures like the birds at the Jacobs Drive Jetty.

Themes Summary

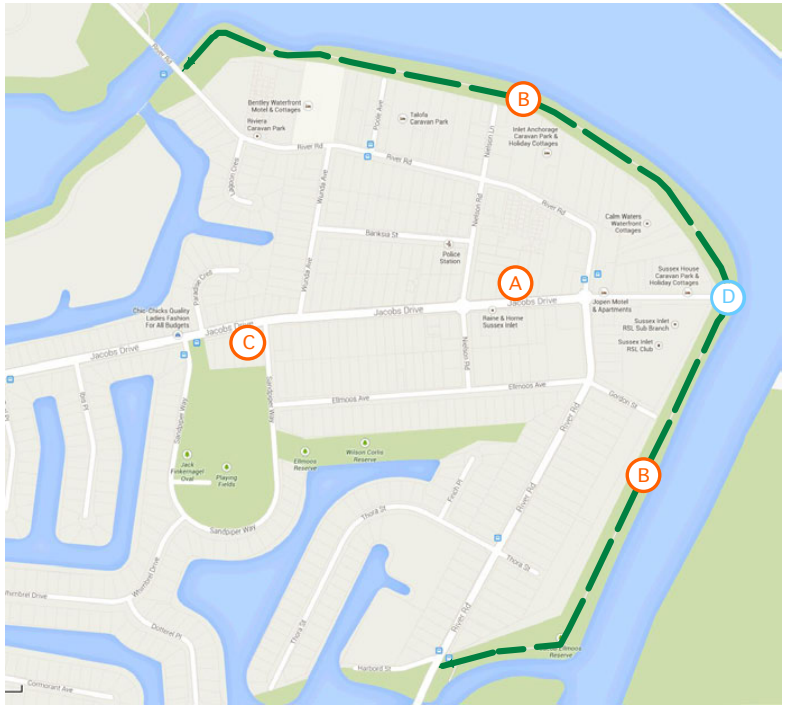
- Marine Ecology & Protection
- Natural Beauty
- Local Heritage - Ellmoos family
- Maritime - Boating & Fishing

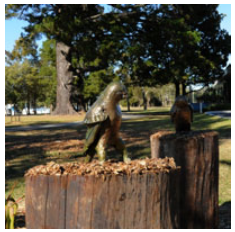
Legend

- Proposed Locations
- Existing Location
- Art & Events Trail

Notes

A. Commercial Hub - Lions Peace Park
B. Jacob Ellmoos Reserve
C. 'Old Bakers' Tourism Centre & Library
D. Jacobs Drive Jetty





Themes and locations - Milton

Analysis

Milton has a strong art representation in its community. The village has an iconic heritage character with significant rural, mountain, and sea views from its ridgeline spine. Milton town centre is widely known for its boutique retail, local & natural products, and cafe experience. Existing public art elements include traditional tile mosaic features within the streetscape paving, a mural at the town library courtyard, and eclectic installations such as hopscotch pavers and a novelty portrait mural that attracts visitors in the town's centre. With the established character, there is not a great need to for new public art to have a dominant presence.

The current *draft Town of Milton DCP* recognises Milton's rural, historic, village and community character. *'The future of Milton will see appropriate growth that retains this character, complements its history and heritage and brings opportunities for all ages.'*

The Public Domain Objectives in the DCP are to enhance the pedestrian amenity in the Town Centre Precinct with public art, signage and other sculptural elements to reinforce activity nodes in key areas. These nodal areas are strategically located at key pedestrian thoroughfares to create vibrant points interacting with active retail frontages. For example new tile mosaics in nodal areas could be a bolder and modern continuation of the mosaic features already located in parts of the streetscape.

Themes

The nature of the public art could be complimentary to the existing rural and heritage character whilst also being of a more contemporary and eclectic nature that is aligned to the modern boutique cultural experience of the town centre. Public art should include local artists and community initiatives where possible.

Locations

Within the public domain, "core activation areas" or "activity nodes" should be developed and highlighted through the use of public art in the form of mosaics, murals, installations and streetscape furniture. The locations have been identified in the recently prepared *draft Town of Milton DCP*.

Themes Summary

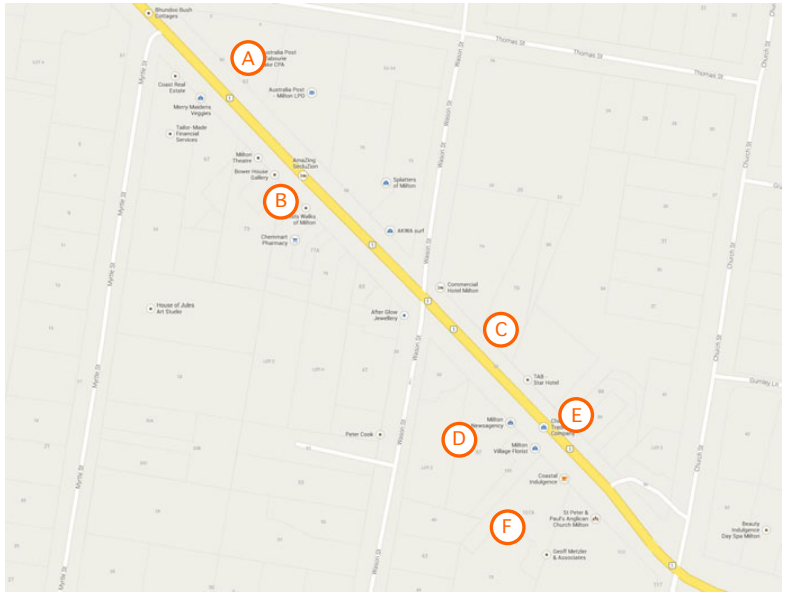
- Contemporary Milton – boutique shopping, local and natural products, café culture
- Rural and Coastal Connections
- Historical Milton

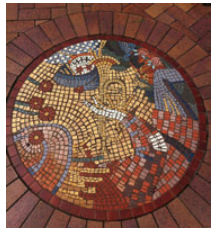
Legend

- Existing Locations to be Upgraded

Notes

A. Memorial Park
B. Library Forecourt
C. Central Information Hub
D. Settlement Building Courtyard
E. Pedestrian thoroughfare with future development
F. Village Green





Themes and locations - Ulladulla

Analysis

The focus of the Ulladulla town centre should be the harbour. This has always been the industry centre for fishing, tourism and recreation. Traditionally, town development has not maximised its harbour connection, however recent upgrades into public infrastructure have begun to acknowledge a connection with the harbour through the walkway and foreshore projects. The current development of the Ulladulla Civic Centre will further enhance the 'Recreation and Special Activities Precinct'. Some public art has been included in the schemes, however there is opportunity to provide further public art amenity to reinforce the precincts emerging identity and link community use to the harbour by providing an interactive capacity for community participation, activities or events. This transformation could also include the industrial area around the southern breakwall. Ulladulla (and Nowra) are seen as the priority sites for public art covered in this document.

Ulladulla has two cultural walking trails (One Track for All & Coomee Nulunga Cultural Trail) featuring indigenous themed sculpture, carvings and paintings. This reinforces the need for a more substantial public art representation in the Ulladulla CBD area. The Ulladulla Town Centre and Harbour Review DCP states that development within the Recreation and Special Activities Precinct should *"Maintain the relationship of the Civic precinct with the Ulladulla Harbour and reinforce the sense of arrival to the Town Centre. In this regard: streetscape and landscape works are to reinforce the maritime character of Ulladulla"*.

Public art could be incorporated into new or existing events that utilise the harbour precinct such as 'the blessing of the fleet'. New events may include moonlight cinema or light projections on the breakwall for example.

Themes

Traditional 'themes' that could inform public art in Ulladulla relate to it's history, maritime, indigenous culture, fishing industry and fossils.

Ulladulla has a strong youth culture. It is important that public art reflects and engages with this demographic – this could include future outdoor amenities and activities associated with the new civic centre and any long term development of the harbour precinct.

Locations

Locations include public art markers to define and visually link the harbour precinct, along with locating opportunity areas for events, activities, and interaction. This could extend through to Rotary Park in the north.

There is also an opportunity for interpretive elements to be incorporated into public infrastructure such as paths or furniture around the harbour. This could depict, for example, maritime themes or geological history.

Themes Summary

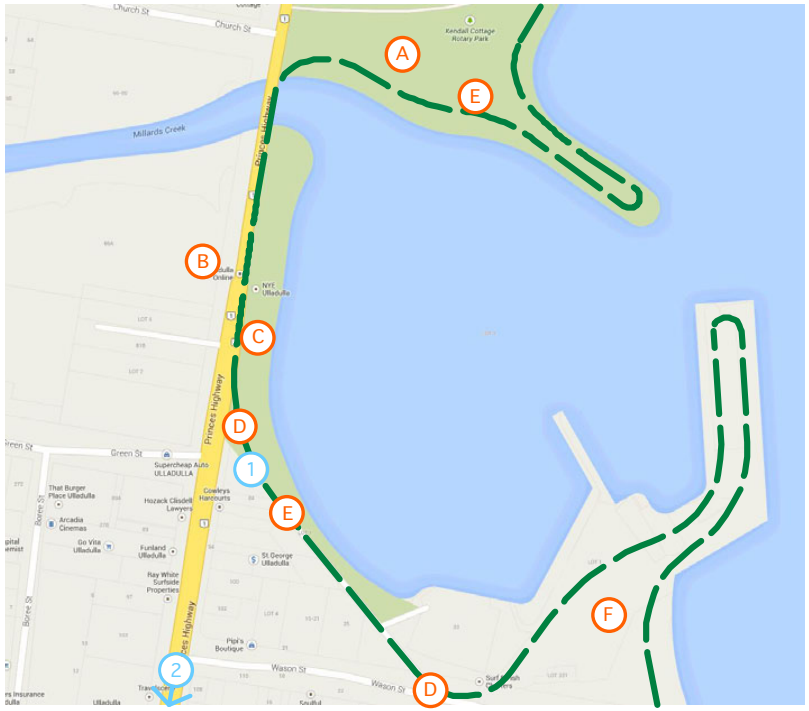
- Contemporary Ulladulla - Youth Culture & Coastal Lifestyle
- Fishing Industry
- Indigenous Culture
- Maritime
- Fossils

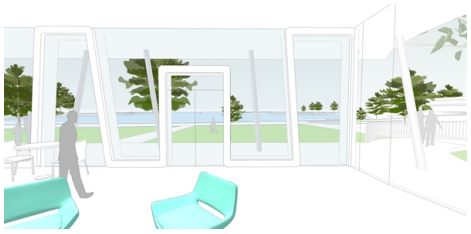
Legend

- Proposed Locations
- Existing Location
- Art Walk or Events

Notes

A. Rotary Park
B. Civic Centre
C. Ulladulla Foreshore
D. Ulladulla Walkway Entry
E. Foreshore Walk
F. Harbour Precinct
1. Completed Walkway
2. Highway Gateway Sculptures





Best Practice - Digital Projections

William Jolly Bridge Creative Lighting Project
Brisbane City Council, 2009 - Present

The William Jolly Bridge Creative Lighting Project uses this iconic Brisbane bridge to deliver digital artworks for Brisbane city. The light projection is a permanent installation using two lighthouses specifically built to project images onto the arches of the bridge.

The project was part of 'Connecting Brisbane' - a $2 million joint project between Brisbane City Council and the State Government celebrating the 150th anniversary of Queensland's separation from NSW and Brisbane's declaration as a municipality. It also forms part of the Council's City Centre Master Plan – a 20 year plan for the revitalisation of the city centre.

Council works closely with the Museum of Brisbane and the Queensland Performing Arts Centre (QPAC) to facilitate the long term delivery and management of the initiative. Internationally renowned projection artist Ian de Gruchy delivered the artistic direction and creative elements of the project.

The bridge is lit for important cultural events and celebrations and projects images from Brisbane's past, present and future.

City Evolutions on Watt St
City of Newcastle, 2013

In June 2013, the City of Newcastle launched a landmark contemporary art project, featuring a series of interactive digital projections along Newcastle's oldest street, Watt Street. City Evolutions is part of efforts by Newcastle Council to revitalise the city's East End and is running for one year.

City Evolutions is funded by the Department of Energy, Resources and Tourism under T-QUAL grants, the Office of Environment and Heritage, The City of Newcastle, The University of Newcastle and Newcastle NOW.

Esem Projects, a public design practice, were commissioned to develop four installations and have established a program of community engagement, social media and digital publishing platforms to enable Novocastrians past and present to get involved. The installations are driven by intensive historical research, interaction design methodologies and community engagement programs.

North Bombo Headland Quarry Projections
Craig Walsh: Digital Odyssey, A Museum of Contemporary Touring Project
Kiama, 2010

Internationally regarded artist Craig Walsh travelled around Australia in 2010-2011 in a mobile living and working environment developing and presenting temporary large scale public projection works that were responsive to regional history, local stories and the surrounding landscape.

In November 2010, he worked closely with the Boolarng Nangamai Aboriginal Arts & Cultural Studio in Gerringong to produce still and video footage which was projected onto the north Bombo headlands disused quarry sight. He filmed and photographed the Studio's artists, friends and family who were painted in traditional white clay. The projections featured local resident Julie Freeman sharing the story of Kiama which had been passed on verbally from generation to generation within her family as well as portraits of local artists, artworks and poems. It also displayed a 3D animation of an eel, inspired by local Aboriginal stories describing the eel as the creator of some of the unique rock formations along the nearby coast.

To view video footage of Julie Freeman's story of Kiama visit:
http://digitalodysseyblog.wordpress.com/2010/11/

Best Practice - Laneways

Laneway Revitalisation Strategy
City Of Sydney, 2010

As part of the City of Sydney's Laneway Revitalisation Strategy, Council has completed groundwork, site-specific furniture, art installations, lighting and historical markers at Angel Place and Chinatown.

These works have been completed under the direction of landscape architects Aspect Studios.

A focus of the upgrade is the public art installation Forgotten Songs by Michael Thomas Hill, created for the Laneways by George exhibition in 2010, and now a permanent fixture in Angel Place. The installation includes 186 bird cages suspended on a system of cables above Angel Place. The cages house a sound system which plays the calls of birds which would have inhabited the Sydney CBD prior to the arrival of the first fleet.

At Chinatown, the previously underutilised thoroughfare of Kimber Lane includes the 'Between Two Worlds' art installation by artist Jason Wing, which features painted coloured motifs on the walls and ground, granite etching as well as a series of site specific catenary lighting elements. The artwork references the site's history and current community.

Best Practice - Contemporary Indigenous

Redfern Park
City Of Sydney, 2008

The children's playground was part of a 19 million dollar Redfern Park upgrade. The brief was to reinvigorate Redfern Park, making it an attractive destination for families by providing inviting and interactive play opportunities.

Indigenous artist Fiona Foley was commissioned through Art Consultants UAP to create an intuitive playscape for the under 7 age group. The artist gathered her reference material from walks throughout the local area, themeing the play elements around native flora. The intention is to stimulate the imagination and senses as much as provide tangible cues to structured play activity.

The artworks aims to embed knowledge and communicate history with the three significant artworks in within the site. Cast stainless steel and bronze lotus flowers emerge from the ground line representing the strength of a colonised culture to survive. Oversized seed pods scattered amongst ancient fig trees provide intuitive play opportunities for young children. The fig played an important part in the Aboriginal diet. For older children, Foley designs a lyrical playscape telling the story of possum hunting.

Foley's Redfern Park installations also recognise the work of local artist and community elder, Euphemia Bostock.

Best Practice - Community

Everything Except Walk
City Of Darebin Victoria, 2013

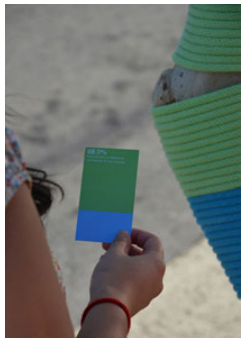
In March 2013, Pollen Studio was invited by the City of Darebin to produce a large-scale site installation for the inaugural True North Festival in Reservoir.

Thirty street trees were wrapped overnight with 4.5km's of hand-dyed rope to provide an instant impact on the first day of the festival. Each tree was wrapped with a unique banded code that related a particular statistic from the local community. A series of encoded calling cards were handed out throughout the festival, so that people could match the code to each tree. This became a game of collecting, matching, and most of all conversing with the trees.

Fifteen blue and green tree wraps and fifteen pink and orange tree wraps represented fifteen key statistical breakdowns of the Reservoir community including cultural background and language, household make-up, local services accessed, employment and income.

A significant challenge faced was the physical (and therefore social) divide of east and west Reservoir by a series of major roads, a railway station and a railway line.

The cards then became agents for further exploration of the project, encouraging participants to move out into the local landscape to explore, compare and connect with the corresponding trees, and to cross over the east/west divide.



Art in the Heart of Lismore Project
Lismore City Council, 2010 - Present

Art in the Heart is a project which aims to place creative workers from the Northern Rivers NSW in empty shops and other premises in the Lismore CBD in order to activate these spaces and encourage more life in the city centre.

This project operates in a similar way to other art in empty space programmes such as Renew Newcastle, Pop Up Parramatta, and The Rocks Pop Up Project.

The Art in the Heart project is a partnership between Arts NSW and the Lismore City Council city centre revitalisation program, and is the recipient of Arts NSW Creative Enterprise Hub funding. The project is governed by the 7-member Art in the Heart Taskforce.

The Lismore Spinners & Weavers Inc were the first group to benefit from this project. The group occupied a former cafe adjacent to the Lismore Regional Gallery for a 10 week period. During this residency, their exhibition generated over $3000 in sales.

Animals with Attitude Gold Coast Sculpture Trail
Gold Coast City Council, 2013

For nine weeks in April 2013, large koala sculptures were displayed on the Gold Coast showcasing the wealth of artistic local and national talent.

This inaugural event aimed to raise awareness of the plight of the Koala and raise valuable funds for the Currumbin Wildlife Hospital Foundation. John Cox's Creative Workshop Pty Ltd designed, sculpted & manufactured 21 Koalas and helped to co-ordinate this public art project for which artists were commissioned to design the Koalas.

The sculpture trail, spanned the length of the Gold Coast and aimed to excite, inspire and encourage public exploration of the city.

MoovingArt Shepparton
Greater Shepparton City Council, 2002 - Present

MoovingArt is a long running and evolving public art initiative.

Scattered across Greater Shepparton's parks, gardens, riverbanks and public spaces are an array of colourful, ever changing fibreglass cows that make up the MoovingArt Herd.

MoovingArt is an interactive event that allows the public to touch and feel the cows. Designs are being created with durability and public safety concerns in mind. It is a mobile, interactive public art exhibition that features life-sized three-dimensional cow sculptures.

Artists involved include local indigenous artists as well as local community groups and charities such as GV Disability Services.

Best Practice - Art Trail

Mackay Bluewater Trail
Mackay Regional Council, 2009

The Mackay Bluewater trail is a 19 kilometre 'ring of activity' around the city centre. The trail is a key component of Mackay Council's Bluewater Activation Strategy, which looks to develop a range of activities along the riverfront and inner city beachfront through leisure opportunities and selective commercial and residential projects. The inclusion of a series of landmark public artworks forms a significant part of the trail.

Artist Fiona Foley and Urban Art Projects collaborated to produce the 6 artworks which draw on the site's historical, cultural and natural context. The site offers a rich history of indigenous presence, marine habitats and a large number of sugar cane plantations dating from the colonial era.

Foley's research and discussions with local communities in the Mackay region, the Indigenous Yuibera people and the Mackay-based South Sea Islander communities, inform and infiltrate these works.

1. MANGROVE CAP
The mangrove cap is a large-scale version of a tiny found object from the surrounding natural environment. The 9.5m high weathered steel Mangrove Cap is illuminated from within by two rings of solar powered blue LEDs. Echoing the stars of the night sky under which the artwork stands, pinpricks of light stream through holes in the upper pod.

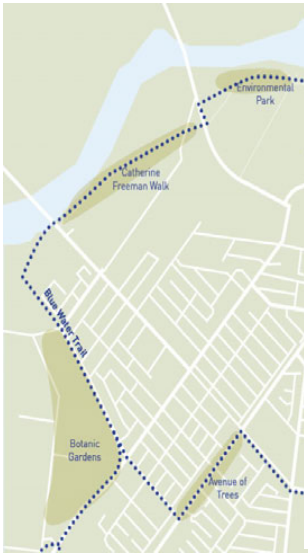
2. YUWI text work
'YUWI' is the name of Mackay's indigenous people. The iconic red letters are intended to build upon and support the recognition of indigenous culture in Mackay's urban environment. A cast bronze ring set into the concrete in front of the word references a bora ring, traditionally a site of initiation in indigenous culture.

3. FISH BONES
The stylised fish bone forms are designed to connect symbolically with the river edge and reference local aquaculture. One of the forms is highlighted with a red mosaic, and another lies flat and can serve as a seating or play element.

4. SHIELDS
These permanent ground plane works draw reference to the traditional shield designs of the local Yuibera people. The Shields are intended to raises awareness of the site's history for contemporary visitors.

5. SUGAR CUBES
Sugar Cubes references the sugar farming and South Sea Island heritage of the Mackay region. Seven sculptural steel elements represent stacks of sugar cubes. Each cube is inscribed on the outer side with the name and dates of marine vessels that brought South Sea Islanders to Mackay to work on cane plantations. The inner side is inscribed with names of the labourers themselves, and fingerprints of their descendants who were living in Mackay at the time of installation.

6. BLACK BIRDS
This suspended work depicts local birds and wildlife. The lifelike silhouetted forms cast a strong shadow that creates a second layer to the artwork and gives a sense of the birds' constant watchful presence.



Best Practice - General

KINETIC

WATER

INDIGENOUS

GATEWAY

Best Practice - General

ECO

LIGHT

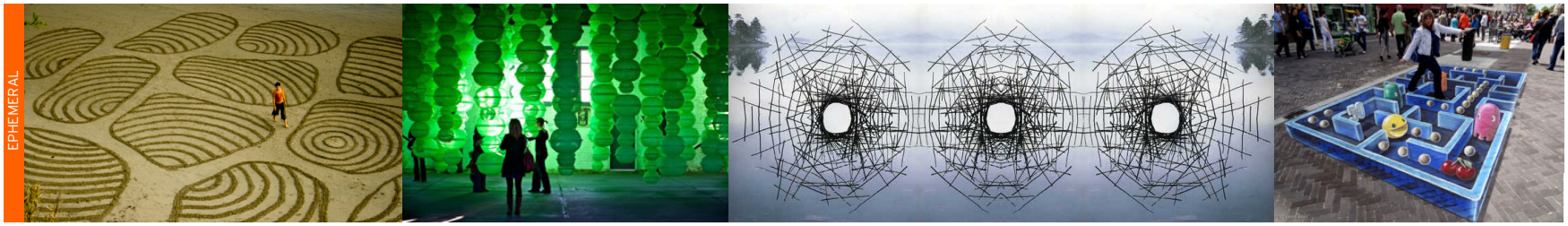
STREET ART

INTERACTIVE

Best Practice - General

SCULPTURE

EPHEMERAL



FURNITURE

Best Practice - General

Implementation Plan

The following prioritises and provides a brief methodology for delivering public art to the nominated sites.

PRIORITY	TYPE	DESCRIPTION
HIGH		
NOWRA	Art Trail	Artwork to be incorporated as a key component in future open space strategies and development initiatives throughout the designated loop.
	Vibrant Spaces for Community Events	Incorporate artwork as a component of future open space upgrades particularly relating to Greys Beach and the River Promenade. Future events and usage to be established in partnership with the tourism and events sections of Council.
	Streetscapes and Activation of Urban Spaces	Artwork to be incorporated as a component of future urban streetscape development and upgrades particularly relating to the CBD Master Plan recommendations.
	Revitalisation of Laneways	Council to encourage local street art, music and food events and installations in the nominated laneways
	Sensory Art Garden	To be incorporated in association with future development in the medical precinct.
	Activation of Unused Building Spaces	Council to investigate implementing a 'Pop up' style art gallery and studio strategy.
ULLADULLA	Harbour Foreshore	Incorporate artwork as a component of open space development and upgrades. New events and usage to be established in partnership with the tourism and events sections of Council.
	Civic Precinct Development	Artwork to be incorporated as a component of open space development and upgrades. particularly relating to the CBD Master Plan recommendations. New events and usage to be established in partnership with the tourism and events sections of Council
	Art Trail	Incorporate artwork as a key component in future open space strategies and development initiatives along the designated route.
	Rotary Park	Artwork to be incorporated as a component of future open space upgrades.
LOW		
BERRY	Enhancement of Broughton Place	Artwork to be incorporated as a component of future streetscape development and upgrades.
	Berry Bypass	Incorporate artwork as a component of future public realm development and upgrades associated with the Bypass construction. This may include playgrounds, shelters and furniture, and streetscape upgrades.
	Art Trail	Artwork to be incorporated as a component of future development initiatives along the designated route, including an installation at the Berry Railway Station
HUSKISSON & VINCENTIA	Voyager Park Enhancement	Incorporate artwork as a component of open space development and upgrades, particularly relating to the Voyager Park Master Plan. New events and usage to be established in partnership with the tourism and events sections of Council.
	North White Sands Park Enhancement	Investigate potential of a 'lookout' type installation, which frames and identifies key vistas and locations around the bay.
	Vincentia Town Centre	Artwork to be incorporated as a component of future development and upgrades.
	Art and Events Trail	Artwork to be incorporated as a component in future development initiatives throughout the designated route. Locations of future events and type to be established in partnership with the tourism and events sections of Council.
MILTON	Town Centre Activity Nodes	Incorporate artwork as a component of future open space upgrades particularly relating to Greys Beach and the River Promenade.
SUSSEX INLET	Enhancement of Commercial Hub	Artwork to be incorporated as a component of future development and upgrades.
	Art and Events Trail	Artwork to be incorporated as a component in future development initiatives throughout the designated route. Locations of future events and type to be established in partnership with the tourism and events sections of Council.
	'Old Bakers Site' Community Facility Development	Artwork to be incorporated as a component of any future development and upgrades.

Code of Meeting Practice

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1. Introduction

The Model Code of Meeting Practice for Local Councils in NSW (the Model Meeting Code) is made under section 360 of the *Local Government Act 1993* (the Act) and the *Local Government (General) Regulation 2021* (the Regulation).

This Code reflects the provisions of the Model Code of Meeting Practice. It shall apply to:

- Council meetings
- All Committees comprising of Councillors appointed pursuant to Clause 260 Regulations with the exception of the provisions relating to 'Rising to speak' and 'Limitation on the number of times a member may speak'.
- Other Committees comprising of Councillors and Staff or Community members (including Boards) with the exception of the provisions relating to 'Rising to speak' and 'Limitation on the number of times a member may speak'.

Council's 'Code of Conduct' and Procedures are to be read in conjunction with this Code and apply in all respects conduct at Council and Committee meetings.

A Council and a Committee of the Council of which all the members are Councillors must conduct its meetings in accordance with the Code of Meeting Practice adopted by the Council.

A Council's adopted code of meeting practice may also incorporate the non-mandatory provisions of the Model Meeting Code and other supplementary provisions. However, a code of meeting practice adopted by a Council must not contain provisions that are inconsistent with the mandatory provisions of the Model Meeting Code.

2. Meeting Principles

2.1 Council and Committee meetings should be:

Transparent: Decisions are made in a way that is open and accountable.

Informed: Decisions are made based on relevant, quality information.

Inclusive: Decisions respect the diverse needs and interests of the local community.

Principled: Decisions are informed by the principles prescribed under Chapter 3 of the Act.

Trusted: The community has confidence that Councillors and staff act ethically and make decisions in the interests of the whole community.

Respectful: Councillors, staff and meeting attendees treat each other with respect.

Effective: Meetings are well organised, effectively run and skilfully chaired.

Orderly: Councillors, staff and meeting attendees behave in a way that contributes to the orderly conduct of the meeting.

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3. Before the Meeting

Timing of Ordinary Council Meetings

3.1 The Council shall, by resolution, set the frequency, time, date and place of its ordinary meetings.

Note: Under section 365 of the Act, Councils are required to meet at least ten (10) times each year, each time in a different month unless the Minister for Local Government has approved a reduction in the number of times that a Council is required to meet each year under section 365A.

Note: Under section 396 of the Act, County Councils are required to meet at least four (4) times each year.

Note: Under section 400T of the Act, boards of joint organisations are required to meet at least four (4) times each year, each in a different quarter of the year.

Extraordinary Meetings

3.2 If the Mayor receives a request in writing, signed by at least two (2) Councillors, the Mayor must call an extraordinary meeting of the Council to be held as soon as practicable, but in any event, no more than fourteen (14) days after receipt of the request. The Mayor can be one of the two Councillors requesting the meeting.

Note: Clause 3.2 reflects section 366 of the Act.

Notice to the Public of Council Meetings

3.3 The Council must give notice to the public of the time, date and place of each of its meetings, including Extraordinary meetings and of each meeting of Committees of the Council.

Note: Clause 3.3 reflects section 9(1) of the Act.

3.4 For the purposes of clause 3.3, notice of a meeting of the Council and of a Committee of Council is to be published before the meeting takes place. The notice must be published on the Council's website, and in such other manner that the Council is satisfied is likely to bring notice of the meeting to the attention of as many people as possible.

3.5 For the purposes of clause 3.3, notice of more than one (1) meeting may be given in the same notice.

Notice to Councillors of Ordinary Council Meetings

3.6 The General Manager must send to each Councillor, at least three (3) days before each meeting of the Council, a notice specifying the time, date and place at which the meeting is to be held, and the business proposed to be considered at the meeting.

Note: Clause 3.6 reflects section 367(1) of the Act.

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3.7 The notice and the agenda for, and the business papers relating to, the meeting may be given to Councillors in electronic form, but only if all Councillors have facilities to access the notice, agenda and business papers in that form.

Note: Clause 3.7 reflects section 367(3) of the Act.

Notice to Councillors of Extraordinary Meetings

3.8 Notice of less than three (3) days may be given to Councillors of an Extraordinary meeting of the Council in cases of emergency.

Note: Clause 3.8 reflects section 367(2) of the Act.

Giving Notice of Business to be Considered at Council Meetings

3.9 A Councillor may give notice of any business they wish to be considered by the Council at its next ordinary meeting by way of a notice of motion. To be included on the agenda of the meeting, the notice of motion must be in writing and must be submitted **at least 7 calendar days** before the meeting is to be held.

3.10 A Councillor may, in writing to the General Manager, request the withdrawal of a Notice of Motion submitted by them prior to its inclusion in the agenda and business paper for the meeting at which it is to be considered.

3.11 If the General Manager considers that a Notice of Motion submitted by a Councillor for consideration at an Ordinary Meeting of the Council has legal, strategic, financial or policy implications which should be taken into consideration by the meeting, the General Manager may prepare a report in relation to the Notice of Motion for inclusion with the business papers for the meeting at which the Notice of Motion is to be considered by the Council.

Note for consideration: A Notice of Motion for the expenditure of funds on works and/or services other than those already provided for in the Council's current adopted Operational Plan should identify the source of funding for the expenditure that is the subject of the Notice of Motion.

If the Notice of Motion does not identify a funding source, the General Manager is able to either:

(a) add a note to the Notice of Motion
(b) prepare a report on the availability of funds for implementing the motion if adopted for inclusion in the business papers for the meeting at which the Notice of Motion is to be considered by the Council, or
(c) by written notice sent to all Councillors with the business papers for the meeting for which the Notice of Motion has been submitted, defer consideration of the matter by the Council to such a date specified in the notice, pending the preparation of such a report

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Questions with Notice

3.12 A Councillor may, by way of a notice submitted under clause 3.9, ask a question for response by the General Manager about the performance or operations of the Council.

3.13 A Councillor is not permitted to ask a Question with Notice under clause 3.12 that comprises a complaint against the General Manager or a member of staff of the Council, or a question that implies wrongdoing by the General Manager or a member of staff of the Council.

3.14 The General Manager or their nominee may respond to a Question with Notice submitted under clause 3.12 by way of a report included in the business papers for the relevant meeting of the Council or orally at the meeting.

Agenda and Business Papers for Ordinary Meetings

3.15 The General Manager must cause the agenda for a meeting of the Council or a Committee of the Council to be prepared as soon as practicable before the meeting.

3.16 The General Manager must ensure that the agenda for an ordinary meeting of the Council states:

(a) all matters to be dealt with arising out of the proceedings of previous meetings of the Council, and
(b) if the Mayor is the chairperson – any matter or topic that the chairperson proposes, at the time when the agenda is prepared, to put to the meeting, and
(c) all matters, including matters that are the subject of staff reports and reports of Committees, to be considered at the meeting, and
(d) any business of which due notice has been given under clause 3.9.

3.17 Nothing in clause 3.16 limits the powers of the Mayor to put a Mayoral Minute to a meeting under clause 9.6.

3.18 The General Manager must not include in the agenda for a meeting of the Council any business of which due notice has been given if, in the opinion of the General Manager, the business is, or the implementation of the business would be, unlawful. The General Manager must report, without giving details of the item of business, any such exclusion to the next meeting of the Council.

3.19 Where the agenda includes the receipt of information or discussion of other matters that, in the opinion of the General Manager, is likely to take place when the meeting is closed to the public, the General Manager must ensure that the agenda of the meeting:

(a) identifies the relevant item of business and indicates that it is of such a nature (without disclosing details of the information to be considered when the meeting is closed to the public), and
(b) states the grounds under section 10A(2) of the Act relevant to the item of business.

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Note: Clause 3.19 reflects section 9(2A)(a) of the Act.

3.20 The General Manager must ensure that the details of any item of business which, in the opinion of the General Manager, is likely to be considered when the meeting is closed to the public, are included in a business paper provided to Councillors for the meeting concerned. Such details must not be included in the business papers made available to the public, and must not be disclosed by a Councillor or by any other person to another person who is not authorised to have that information.

Statement of Ethical Obligations

3.21 Business papers for all Ordinary and Extraordinary Meetings of the Council and Committees of the Council must contain a statement reminding Councillors of their Oath or Affirmation of Office made under section 233A of the Act and their obligations under the Council's Code of Conduct to disclose and appropriately manage conflicts of interest.

Availability of the Agenda and Business Papers to the Public

3.22 Copies of the agenda and the associated business papers, such as correspondence and reports for meetings of the Council and Committees of Council, are to be published on the Council's website, and must be made available to the public for inspection, or for taking away by any person free of charge at the offices of the Council, at the relevant meeting and at such other venues determined by the Council.

Note: Clause 3.22 reflects section 9(2) and (4) of the Act.

3.23 Clause 3.22 does not apply to the business papers for items of business that the General Manager has identified under clause 3.19 as being likely to be considered when the meeting is closed to the public.

Note: Clause 3.23 reflects section 9(2A)(b) of the Act.

3.24 For the purposes of clause 3.22, copies of agendas and business papers must be published on the Council's website and made available to the public at a time that is as close as possible to the time they are available to Councillors.

Note: Clause 3.24 reflects section 9(3) of the Act.

3.25 A copy of an agenda, or of an associated business paper made available under clause 3.22, may in addition be given or made available in electronic form.

Note: Clause 3.25 reflects section 9(5) of the Act.

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Agenda and Business Papers for Extraordinary Meetings

3.26 The General Manager must ensure that the agenda for an Extraordinary Meeting of the Council deals only with the matters stated in the notice of the meeting.

3.27 Despite clause 3.26, business may be considered at an Extraordinary Meeting of the Council, even though due notice of the business has not been given, if:

(a) a motion is passed to have the business considered at the meeting, and
(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the Council before the next scheduled Ordinary Meeting of the Council.

3.28 A motion moved under clause 3.27(a) can be moved without notice but only after the business notified in the agenda for the Extraordinary Meeting has been dealt with.

3.29 Despite clauses 10.19–10.29, only the mover of a motion moved under clause 3.28(a) can speak to the motion before it is put.

3.30 A motion of dissent cannot be moved against a ruling of the chairperson under clause 3.27(b) on whether a matter is of great urgency.

Pre-Meeting Briefing Sessions

3.31 Where the General Manager deems necessary, the General Manager may arrange a pre-meeting briefing session to brief Councillors on business to be considered at a Council meeting. Pre-meeting briefing sessions may also be held for Extraordinary Meetings of the Council and meetings of Committees of the Council.

3.32 Pre-meeting briefing sessions are to be held in the absence of the public.

3.33 Pre-meeting briefing sessions may be held by audio-visual link.

3.34 The General Manager or a member of staff nominated by the General Manager is to preside at pre-meeting briefing sessions.

3.35 Councillors must not use pre-meeting briefing sessions to debate or make preliminary decisions on items of business they are being briefed on, and any debate and decision-making must be left to the formal Council or Committee Meeting at which the item of business is to be considered.

3.36 Councillors (including the Mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of a briefing at a pre-meeting briefing session, in the same way that they are required to do so at a Council or Committee Meeting. The Council is to maintain a written record of all conflict of interest declarations made at pre-meeting briefing sessions and how the conflict of interest was managed by the Councillor who made the declaration.

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4. Public Forum

4.1 The Council may hold a Public Forum prior to each Ordinary Meeting of the Council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting. Public forums may also be held prior to Extraordinary Council meetings and meetings of Committees of the Council.

4.2 Public Forums may be held by audio-visual link.

4.3 Public Forums are to be chaired by the Mayor or their nominee.

4.4 To speak at a Public Forum, a person must first make an application to the Council in the approved form. Applications to speak at the Public Forum must be received by [date and time to be specified by the council] before the date on which the Public Forum is to be held, and must identify the item of business on the agenda of the Council meeting the person wishes to speak on, and whether they wish to speak 'for' or 'against' the item.

4.5 Legal representatives acting on behalf of others are not to be permitted to speak at a public forum unless they identify their status as a legal representative when applying to speak at the Public Forum.

4.6 The General Manager or the chairperson may refuse an application to speak at a Public Forum.

4.7 No more than one speaker is to be permitted to speak 'for' and 'against' each item of business on the agenda for the Council meeting.

4.8 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or the chairperson may increase the number of speakers permitted to speak on an item of business, where they are satisfied that it is necessary to do so to allow the council to hear a fuller range of views on the relevant item of business.

4.9 Approved speakers at the public forum are to register with the council any written, visual or audio material to be presented in support of their address to the council at the public forum, and to identify any equipment needs no more than [number to be specified by the council] days before the public forum. The general manager or their delegate may refuse to allow such material to be presented.

4.10 The General Manager or their delegate is to determine the order of speakers at the public forum.

4.11 Each speaker will be allowed five minutes to address the council. This time is to be strictly enforced by the chairperson.

4.12 Speakers at public forums must not digress from the item on the agenda of the council meeting they have applied to address the council on. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

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4.13 A councillor (including the chairperson) may, through the chairperson, ask questions of a speaker following their address at a public forum. Questions put to a speaker must be direct, succinct and without argument.

4.14 Speakers are under no obligation to answer a question put under clause 4.13.

4.15 Speakers at public forums cannot ask questions of the council, councillors or council staff.

4.16 The general manager or their nominee may, with the concurrence of the chairperson, address the council for up to five minutes in response to an address to the council at a public forum after the address and any subsequent questions and answers have been finalised.

4.17 Where an address made at a public forum raises matters that require further consideration by council staff, the general manager may recommend that the council defer consideration of the matter pending the preparation of a further report on the matters.

4.18 When addressing the council, speakers at public forums must comply with this code and all other relevant council codes, policies and procedures. Speakers must refrain from engaging in disorderly conduct, publicly alleging breaches of the council's code of conduct or making other potentially defamatory statements.

4.19 If the chairperson considers that a speaker at a public forum has engaged in conduct of the type referred to in clause 4.18, the chairperson may request the person to refrain from the inappropriate behaviour and to withdraw and unreservedly apologise for any inappropriate comments. Where the speaker fails to comply with the chairperson's request, the chairperson may immediately require the person to stop speaking.

4.20 Clause 4.19 does not limit the ability of the chairperson to deal with disorderly conduct by speakers at public forums in accordance with the provisions of Part 15 of this code.

4.21 Where a speaker engages in conduct of the type referred to in clause 4.19, the general manager or their delegate may refuse further applications from that person to speak at public forums for such a period as the general manager or their delegate considers appropriate.

4.22 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of an address at a public forum, in the same way that they are required to do so at a council or committee meeting. The council is to maintain a written record of all conflict of interest declarations made at public forums and how the conflict of interest was managed by the councillor who made the declaration.

Note: Public Forums should not be held as part of a Council or Committee Meeting. Council or Committee Meetings should be reserved for decision-making by the Council or Committee of Council. Where a Public Forum is held as part of a Council or Committee Meeting, it must

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be conducted in accordance with the other requirements of this code relating to the conduct of Council and Committee Meetings.

5. Coming Together

Attendance by Councillors at Meetings

5.1 All Councillors must make reasonable efforts to attend meetings of the Council and of Committees of the Council of which they are members.

Note: A Councillor may not attend a meeting as a Councillor (other than the first meeting of the Council after the Councillor is elected or a meeting at which the Councillor takes an oath or makes an affirmation of office) until they have taken an oath or made an affirmation of office in the form prescribed under section 233A of the Act.

5.2 A Councillor cannot participate in a meeting of the Council or of a Committee of the Council unless personally present at the meeting, unless permitted to attend the meeting by audio-visual link under this code.

5.3 Where a Councillor is unable to attend one or more ordinary meetings of the Council, the Councillor should request that the Council grant them a leave of absence from those meetings. This clause does not prevent a Councillor from making an apology if they are unable to attend a meeting. However the acceptance of such an apology does not constitute the granting of a leave of absence for the purposes of this code and the Act.

5.4 A Councillor's request for leave of absence from Council meetings should, if practicable, identify (by date) the meetings from which the Councillor intends to be absent and the grounds upon which the leave of absence is being sought.

5.5 The Council must act reasonably when considering whether to grant a Councillor's request for a leave of absence.

5.6 A Councillor's civic office will become vacant if the Councillor is absent from three (3) consecutive ordinary meetings of the Council without prior leave of the Council, or leave granted by the Council at any of the meetings concerned, unless the holder is absent because they have been suspended from office under the Act, or because the Council has been suspended under the Act, or as a consequence of a compliance order under section 438HA.

Note: Clause 5.6 reflects section 234(1)(d) of the Act.

5.7 A Councillor who intends to attend a meeting of the Council despite having been granted a leave of absence should, if practicable, give the General Manager at least two (2) days' notice of their intention to attend.

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The Quorum for a Meeting

5.8 The quorum for a meeting of the Council is a majority of the Councillors of the Council who hold office at that time and are not suspended from office.

Note: Clause 5.8 reflects section 368(1) of the Act.

5.9 Clause 5.8 does not apply if the quorum is required to be determined in accordance with directions of the Minister in a performance improvement order issued in respect of the Council.

Note: Clause 5.9 reflects section 368(2) of the Act.

5.10 A meeting of the Council must be adjourned if a quorum is not present:

(a) at the commencement of the meeting where the number of apologies received for the meeting indicates that there will not be a quorum for the meeting, or
(b) within half an hour after the time designated for the holding of the meeting, or
(c) at any time during the meeting.

5.11 In either case, the meeting must be adjourned to a time, date and place fixed:

(a) by the chairperson, or
(b) in the chairperson's absence, by the majority of the Councillors present, or
(c) failing that, by the General Manager.

5.12 The General Manager must record in the Council's minutes the circumstances relating to the absence of a quorum (including the reasons for the absence of a quorum) at or arising during a meeting of the Council, together with the names of the Councillors present.

5.13 Where, prior to the commencement of a meeting, it becomes apparent that a quorum may not be present at the meeting, or that the safety and welfare of Councillors, Council staff and members of the public may be put at risk by attending the meeting because of a natural disaster (such as, but not limited to flood or bushfire), the Mayor may, in consultation with the General Manager and, as far as is practicable, with each Councillor, cancel the meeting. Where a meeting is cancelled, notice of the cancellation must be published on the Council's website and in such other manner that the Council is satisfied is likely to bring notice of the cancellation to the attention of as many people as possible.

5.14 Where a meeting is cancelled under clause 5.13, the business to be considered at the meeting may instead be considered, where practicable, at the next ordinary meeting of the Council or at an extraordinary meeting called under clause 3.2.

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Meetings held by audio-visual link

5.15 A meeting of the Council or a Committee of the Council may be held by audio-visual link where the Mayor determines that the meeting should be held by audio-visual link because of a natural disaster or a public health emergency. The Mayor may only make a determination under this clause where they are satisfied that attendance at the meeting may put the health and safety of Councillors and staff at risk. The Mayor must make a determination under this clause in consultation with the General Manager and, as far as is practicable, with each Councillor.

5.16 Where the Mayor determines under clause 5.15 that a meeting is to be held by audio-visual link, the General Manager must:

(a) give written notice to all Councillors that the meeting is to be held by audio-visual link, and

(b) take all reasonable steps to ensure that all Councillors can participate in the meeting by audio-visual link, and

(c) cause a notice to be published on the Council's website and in such other manner the General Manager is satisfied will bring it to the attention of as many people as possible, advising that the meeting is to be held by audio-visual link and providing information about where members of the public may view the meeting.

5.17 This code applies to a meeting held by audio-visual link under clause 5.15 in the same way it would if the meeting was held in person.

Note: Where a council holds a meeting by audio-visual link under clause 5.15, it is still required under section 10 of the Act to provide a physical venue for members of the public to attend in person and observe the meeting.

Attendance by Councillors at Meetings by audio visual link

5.18 Councillors may attend and participate in meetings of the Council and Committees of the Council by audio-visual link.

5.19 This code applies to a Councillor attending a meeting by audio-visual link in the same way it would if the Councillor was attending the meeting in person. Where a Councillor is permitted to attend a meeting by audio-visual link under this code, they are to be taken as attending the meeting in person for the purposes of the code and will have the same voting rights as if they were attending the meeting in person.

5.20 A councillor must give their full attention to the business and proceedings of the meeting when attending a meeting by audio-visual link. The Councillor's camera must be on at all times during the meeting except as may be otherwise provided for under this code.

5.21 A Councillor must be appropriately dressed when attending a meeting by audio-visual link and must ensure that no items are within sight of the meeting that are inconsistent with the maintenance of order at the meeting or that are likely to bring the Council or the Committee into disrepute.

Entitlement of the Public to Attend Council Meetings

5.22 Everyone is entitled to attend a meeting of the Council and Committees of the Council. The Council must ensure that all meetings of the Council and Committees of the Council are open to the public.

Note: Clause 5.22 reflects section 10(1) of the Act.

5.23 Clause 5.22 does not apply to parts of meetings that have been closed to the public under section 10A of the Act.

5.24 A person (whether a Councillor or another person) is not entitled to be present at a meeting of the Council or a Committee of the Council if expelled from the meeting:

(a) by a resolution of the meeting, or
(b) by the person presiding at the meeting if the Council has, by resolution, authorised the person presiding to exercise the power of expulsion.

Note: Clause 5.24 reflects section 10(2) of the Act.

Note: Clauses 15.14 and 15.15 confer a standing authorisation on all Chairpersons of meetings of the Council and Committees of the Council to expel persons from meetings. If adopted, clause 15.14 authorises Chairpersons to expel any person, including a councillor, from a Council or Committee meeting. Alternatively, if adopted, clause 15.15 authorises Chairpersons to expel persons other than Councillors from a Council or Committee meeting..

Webcasting of Meetings

5.25 Shoalhaven City Council will webcast the proceedings (including presentations, deputations and debate) of the Ordinary, Development Committee and Strategy and Assets Committee meetings held within the Council Chambers of the Nowra Administrative Building.

5.26 Confidential Sessions of Meetings which are closed to the public in accordance with Section 10A of the Local Government Act, 1993 will not be webcast.

5.27 At the start of each meeting that will be webcast, the Chairperson must advise those in attendance that the meeting will be webcast, and may be recorded under the provisions of this Code (as per Clause 19.13(3))

5.28 It is not the intention of live streaming, recording and publishing to capture those attending the Meeting in the gallery, however this may occur due to the camera angles and seating arrangements. By attending a public meeting, attendees are consenting to their image, voice or comments being webcast or recorded.

5.29 Notifications of webcasting will be provided via:

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(a) The inclusion of an Advisory Note on the Agenda of the meetings to be webcast
(b) Signage in the Council Chambers

5.30 The General Manager may terminate or suspend webcasting at any point during a meeting if they are of the opinion that continued recording of the proceedings may infringe the rights or safety of an individual, be defamatory or inappropriate.

5.31 Council will maintain an online library of recorded webcast meetings on Council's Website, for a period of two (2) years. Recordings within that library may have adaptions, modifications or amendments authorised by the General Manager.

5.32 While Council will make every effort to ensure that live streaming is available, it cannot be held liable for technical issues that may occur. The failure to webcast the debate or decision does not invalidate a resolution of the Council

5.33 Speakers addressing the meeting do not have absolute privilege with respect to comments they make, opinions they express or material presented, and need to be aware that they may be held personally liable for defamatory statements or statements contrary to any legal obligations.

5.34 The Webcasts and recordings of the Council are protected by Copyright and owned by Shoalhaven City Council.

5.35 Written transcripts of the proceedings will not be made available

5.36 Each meeting of the Council or a Committee of the Council is to be recorded by means of an audio or audio-visual device.

5.37 At the start of each meeting of the Council or a Committee of the Council, the Chairperson must inform the persons attending the meeting that:
(a) the meeting is being recorded and made publicly available on the Council's website, and
(b) persons attending the meeting should refrain from making any defamatory statements.

5.38 The recording of a meeting is to be made publicly available on the Council's website:
(a) at the same time as the meeting is taking place, or
(b) as soon as practicable after the meeting.

5.39 The recording of a meeting is to be made publicly available on the Council's website for at least 12 months after the meeting.

5.40 Clauses 5.38 and 5.39 do not apply to any part of a meeting that has been closed to the public in accordance with section 10A of the Act.

Note: Clauses 5.36 – 5.40 reflect section 236 of the Regulation.

5.41 Recordings of meetings may be disposed of in accordance with the *State Records Act 1998*.

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Attendance of the General Manager and other staff at meetings

5.42 The General Manager is entitled to attend, but not to vote at, a meeting of the Council or a meeting of a Committee of the Council of which all of the members are Councillors.

Note: Clause 5.29 reflects section 376(1) of the Act.

5.43 The General Manager is entitled to attend a meeting of any other Committee of the Council and may, if a member of the Committee, exercise a vote.

Note: Clause 5.30 reflects section 376(2) of the Act.

5.44 The General Manager may be excluded from a meeting of the Council or a Committee while the Council or Committee deals with a matter relating to the standard of performance of the General Manager or the terms of employment of the General Manager.

Note: Clause 5.31 reflects section 376(3) of the Act.

5.45 The attendance of other Council staff at a meeting, (other than as members of the public) shall be with the approval of the General Manager.

5.46 The General Manager and other Council staff may attend meetings of the Council and Committees of the Council by audio-visual-link. Attendance by Council staff at meetings by audio-visual link (other than as members of the public) shall be with the approval of the General Manager.

6. The Chairperson

The Chairperson at Meetings

6.1 The Mayor, or at the request of or in the absence of the Mayor, the Deputy Mayor (if any) presides at meetings of the Council.

Note: Clause 6.1 reflects section 369(1) of the Act.

6.2 If the Mayor and the Deputy Mayor (if any) are absent, a Councillor elected to chair the meeting by the Councillors present presides at a meeting of the Council.

Note: Clause 6.2 reflects section 369(2) of the Act.

6.3 If no chairperson is present at a meeting of the Council at the time designated for the holding of the meeting, the first business of the meeting must be the election of a chairperson to preside at the meeting.

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6.4 The election of a chairperson must be conducted:

(a) by the General Manager or, in their absence, an employee of the Council designated by the General Manager to conduct the election, or
(b) by the person who called the meeting or a person acting on their behalf if neither the General Manager nor a designated employee is present at the meeting, or if there is no General Manager or designated employee.

6.5 If, at an election of a chairperson, two (2) or more candidates receive the same number of votes and no other candidate receives a greater number of votes, the chairperson is to be the candidate whose name is chosen by lot.

6.6 For the purposes of clause 6.5, the person conducting the election must:
(a) arrange for the names of the candidates who have equal numbers of votes to be written on similar slips, and
(b) then fold the slips so as to prevent the names from being seen, mix the slips and draw one of the slips at random.

6.7 The candidate whose name is on the drawn slip is the candidate who is to be the chairperson.

6.8 Any election conducted under clause 6.3, and the outcome of the vote, are to be recorded in the minutes of the meeting.

Chairperson to have precedence

6.9 When the chairperson rises or speaks during a meeting of the Council:
(a) any Councillor then speaking or seeking to speak must cease speaking and, if standing, immediately resume their seat, and
(b) every Councillor present must be silent to enable the chairperson to be heard without interruption.

7. Modes of Address

7.1 If the chairperson is the Mayor, they are to be addressed as Mayor (Surname).

7.2 Where the chairperson is not the Mayor, they are to be addressed as either Chairperson' or 'The Chair'.

7.3 A Councillor is to be addressed as 'Councillor [surname]'.

7.4 A Council officer is to be addressed by their official position title or as Mr/Ms [surname].

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8. Order of Business for Ordinary Council Meetings

8.1 At a meeting of the Council, the general order of business is as fixed by resolution of the Council.

8.2 The order of business as fixed under clause 8.1 may be altered for a particular meeting of the Council if a motion to that effect is passed at that meeting. Such a motion can be moved without notice.

Note: Refer to Part 13.

8.3 Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 8.2 may speak to the motion before it is put.

9. Consideration of Business at Council Meetings

Business that can be dealt with at a Council meeting

9.1 The Council must not consider business at a meeting of the Council:

(a) unless a Councillor has given notice of the business, as required by clause 3.9, and
(b) unless notice of the business has been sent to the Councillors in accordance with clause 3.7 in the case of an ordinary meeting or clause 3.8 in the case of an extraordinary meeting called in an emergency.

9.2 Clause 9.1 does not apply to the consideration of business at a meeting, if the business:

(a) is already before, or directly relates to, a matter that is already before the Council, or
(b) is the election of a chairperson to preside at the meeting, or
(c) subject to clause 9.9, is a matter or topic put to the meeting by way of a Mayoral minute, or
(d) is a motion for the adoption of recommendations of a Committee, including, but not limited to, a Committee of the Council.

9.3 Despite clause 9.1, business may be considered at a meeting of the Council even though due notice of the business has not been given to the Councillors if:

(a) a motion is passed to have the business considered at the meeting, and
(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the Council before the next scheduled ordinary meeting of the Council.

9.4 A motion moved under clause 9.3(a) can be moved without notice. Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 9.3(a) can speak to the motion before it is put.

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9.5 A motion of dissent cannot be moved against a ruling by the chairperson under clause 9.3(b).

Mayoral Minutes

9.6 Subject to clause 9.9, if the Mayor is the chairperson at a meeting of the Council, the Mayor may, by minute signed by the Mayor, put to the meeting without notice any matter or topic that is within the jurisdiction of the Council, or of which the Council has official knowledge.

9.7 A Mayoral minute, when put to a meeting, takes precedence over all business on the Council's agenda for the meeting. The chairperson (but only if the chairperson is the Mayor) may move the adoption of a Mayoral minute without the motion being seconded.

9.8 A recommendation made in a Mayoral minute put by the Mayor is, so far as it is adopted by the Council, a resolution of the Council.

9.9 A Mayoral minute must not be used to put without notice matters that are routine and not urgent, or matters for which proper notice should be given because of their complexity. For the purpose of this clause, a matter will be urgent where it requires a decision by the Council before the next scheduled ordinary meeting of the Council.

Note for consideration: Where a Mayoral Minute makes a recommendation which, if adopted, would require the expenditure of funds on works and/or services other than those already provided for in the Council's current adopted Operational Plan, it should identify the source of funding for the expenditure that is the subject of the recommendation.

Staff reports

9.10 A recommendation made in a staff report is, so far as it is adopted by the Council, a resolution of the Council.

Reports of Committees of Council

9.11 The recommendations of a Committee of the Council are, so far as they are adopted by the Council, resolutions of the Council.

9.12 If in a report of a Committee of the Council distinct recommendations are made, the Council may make separate decisions on each recommendation.

Questions

9.13 A question must not be asked at a meeting of the Council unless it concerns a matter on the agenda of the meeting or notice has been given of the question in accordance with clauses 3.9 and 3.14.

9.14 A Councillor may, through the chairperson, put a question to another Councillor about a matter on the agenda.

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9.15 A Councillor may, through the General Manager, put a question to a Council employee about a matter on the agenda. Council employees are only obliged to answer a question put to them through the General Manager at the direction of the General Manager.

9.16 A Councillor or Council employee to whom a question is put is entitled to be given reasonable notice of the question and, in particular, sufficient notice to enable reference to be made to other persons or to documents. Where a Councillor or Council employee to whom a question is put is unable to respond to the question at the meeting at which it is put, they may take it on notice and report the response to the next meeting of the Council.

9.17 Councillors must put questions directly, succinctly, respectfully and without argument.

9.18 The chairperson must not permit discussion on any reply to, or refusal to reply to, a question put to a Councillor or Council employee.

Petitions

9.19 The exact wording of petitions tabled at meetings of the Council shall be recorded in the minutes of that meeting. Petitions will be managed in accordance with the Council's Policy for Petitions.

Development Approval Process

9.20 In any circumstances where a Development Application is called-in by Council for determination the resolution shall include reasons for doing so.

9.21 Reasons will also be recorded for decisions, approval or refusal, involving Development Applications seeking approval for significant variations to Council policies, Development Control Plans or other development standards. (Refer MIN08.907)

9.22 A notice of amendment or rescission shall be lodged in the circumstance a call-in (under clause 19.20) is to be reversed. The resolution of the Council must include the reason for the reversal.

9.23 Where a report is provided to the Council relating to a DA, the report will provide names of the applicants and owners to allow consideration and declaration of any Conflict of Interest.

10. Rules of Debate

Motions to be Seconded

10.1 Unless otherwise specified in this code, a motion or an amendment cannot be debated unless or until it has been seconded.

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Notices of Motion

10.2 A Councillor who has submitted a Notice of Motion under clause 3.9 is to move the motion the subject of the Notice of Motion at the meeting at which it is to be considered.

10.3 If a Councillor who has submitted a Notice of Motion under clause 3.9 wishes to withdraw it after the agenda and business paper for the meeting at which it is to be considered have been sent to Councillors, the Councillor may request the withdrawal of the motion when it is before the Council.

10.4 In the absence of a Councillor who has placed a Notice of Motion on the agenda for a meeting of the Council:

(a) any other Councillor may, with the leave of the chairperson, move the motion at the meeting, or
(b) the chairperson may defer consideration of the motion until the next meeting of the Council.

Chairperson's Duties with Respect to Motions

10.5 It is the duty of the chairperson at a meeting of the Council to receive and put to the meeting any lawful motion that is brought before the meeting.

10.6 The chairperson must rule out of order any motion or amendment to a motion that is unlawful or the implementation of which would be unlawful.

10.7 Before ruling out of order a motion or an amendment to a motion under clause 10.6, the chairperson is to give the mover an opportunity to clarify or amend the motion or amendment.

10.8 Any motion, amendment or other matter that the chairperson has ruled out of order is taken to have been lost.

Amendments to Motions

10.9 An amendment to a motion must be moved and seconded before it can be debated.

10.10 An amendment to a motion must relate to the matter being dealt with in the original motion before the Council and must not be a direct negative of the original motion. An amendment to a motion which does not relate to the matter being dealt with in the original motion, or which is a direct negative of the original motion, must be ruled out of order by the chairperson.

10.11 The mover of an amendment is to be given the opportunity to explain any uncertainties in the proposed amendment before a seconder is called for.

10.12 If an amendment has been lost, a further amendment can be moved to the motion to which the lost amendment was moved, and so on, but no more than one (1) motion and one (1) proposed amendment can be before Council at any one time.

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10.13 While an amendment is being considered, debate must only occur in relation to the amendment and not the original motion. Debate on the original motion is to be suspended while the amendment to the original motion is being debated.

10.14 If the amendment is carried, it becomes the motion and is to be debated. If the amendment is lost, debate is to resume on the original motion.

10.15 An amendment may become the motion without debate or a vote where it is accepted by the Councillor who moved the original motion.

Foreshadowed Motions

10.16 A Councillor may propose a foreshadowed motion in relation to the matter the subject of the original motion before the Council, without a seconder during debate on the original motion. The foreshadowed motion is only to be considered if the original motion is lost or withdrawn and the foreshadowed motion is then moved and seconded. If the original motion is carried, the foreshadowed motion lapses.

10.17 Where an amendment has been moved and seconded, a Councillor may, without a seconder, foreshadow a further amendment that they propose to move after the first amendment has been dealt with. There is no limit to the number of foreshadowed amendments that may be put before the Council at any time. However, no discussion can take place on foreshadowed amendments until the previous amendment has been dealt with and the foreshadowed amendment has been moved and seconded.

10.18 Foreshadowed motions and foreshadowed amendments are to be considered in the order in which they are proposed. However, foreshadowed motions cannot be considered until all foreshadowed amendments have been dealt with.

Limitations on the Number and Duration of Speeches

10.19 A Councillor who, during a debate at a meeting of the Council, moves an original motion, has the right to speak on each amendment to the motion and a right of general reply to all observations that are made during the debate in relation to the motion, and any amendment to it at the conclusion of the debate before the motion (whether amended or not) is finally put.

10.20 A Councillor, other than the mover of an original motion, has the right to speak once on the motion and once on each amendment to it.

10.21 A Councillor must not, without the consent of the Council, speak more than once on a motion or an amendment, or for longer than five (5) minutes at any one time.

10.22 Despite clause 10.21, the chairperson may permit a Councillor who claims to have been misrepresented or misunderstood to speak more than once on a motion or an amendment, and for longer than five (5) minutes on that motion or amendment to enable the Councillor to make a statement limited to explaining the misrepresentation or misunderstanding.

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10.23 Despite clause 10.21, the Council may resolve to shorten the duration of speeches to expedite the consideration of business at a meeting.

10.24 Despite clauses 10.19 and 10.20, a Councillor may move that a motion or an amendment be now put:

(a) if the mover of the motion or amendment has spoken in favour of it and no Councillor expresses an intention to speak against it, or
(b) if at least two (2) Councillors have spoken in favour of the motion or amendment and at least two (2) Councillors have spoken against it.

10.25 The chairperson must immediately put to the vote, without debate, a motion moved under clause 10.24. A seconder is not required for such a motion.

10.26 If a motion that the original motion or an amendment be now put is passed, the chairperson must, without further debate, put the original motion or amendment to the vote immediately after the mover of the original motion has exercised their right of reply under clause 10.19.

10.27 If a motion that the original motion or an amendment be now put is lost, the chairperson must allow the debate on the original motion or the amendment to be resumed.

10.28 All Councillors must be heard without interruption and all other Councillors must, unless otherwise permitted under this code, remain silent while another Councillor is speaking.

10.29 Once the debate on a matter has concluded and a matter has been dealt with, the chairperson must not allow further debate on the matter.

11. Voting

Voting Entitlements of Councillors

11.1 Each Councillor is entitled to one (1) vote.
Note: Clause 11.1 reflects section 370(1) of the Act.

11.2 The person presiding at a meeting of the Council has, in the event of an equality of votes, a second or casting vote.
Note: Clause 11.2 reflects section 370(2) of the Act.

11.3 Where the chairperson declines to exercise, or fails to exercise, their second or casting vote, in the event of an equality of votes, the motion being voted upon is lost.

Voting at Council Meetings

11.4 A Councillor who is present at a meeting of the Council but who fails to vote on a motion put to the meeting is taken to have voted against the motion.

11.5 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system).

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However, the Council may resolve that the voting in any election by Councillors for Mayor or deputy Mayor is to be by secret ballot.

11.6 All voting at Council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of Councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

11.7 If a councillor who has voted against a motion put at a council meeting so requests, the general manager must ensure that the councillor's dissenting vote is recorded in the council's minutes.

11.8 The decision of the chairperson as to the result of a vote is final unless the decision is immediately challenged and not fewer than two (2) councillors rise and call for a division.

11.9 When a division on a motion is called, the chairperson must ensure that the division takes place immediately. The general manager must ensure that the names of those who vote for the motion and those who vote against it are recorded in the council's minutes for the meeting.

11.10 When a division on a motion is called, any councillor who fails to vote will be recorded as having voted against the motion in accordance with clause 11.5 of this code.

11.11 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system). However, the council may resolve that the voting in any election by councillors for mayor or deputy mayor is to be by secret ballot.

11.12 All voting at council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

Voting on planning decisions

11.13 The General Manager must keep a register containing, for each planning decision made at a meeting of the Council or a Council Committee (including, but not limited to a Committee of the Council), the names of the Councillors who supported the decision and the names of any Councillors who opposed (or are taken to have opposed) the decision.

11.14 For the purpose of maintaining the register, a division is taken to have been called whenever a motion for a planning decision is put at a meeting of the Council or a Council Committee. Leave in with Note regarding recorded as a division

11.15 Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document.

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11.16 Clauses 11.13–11.15 apply also to meetings that are closed to the public.

Note: Clauses 11.13–11.14 reflect section 375A of the Act.

Note: The requirements of clause 11.13 may be satisfied by maintaining a register of the minutes of each planning decision.

12. Committee of the Whole

12.1 The Council may resolve itself into a Committee to consider any matter before the Council.

Note: Clause 12.1 reflects section 373 of the Act.

12.2 All the provisions of this code relating to meetings of the Council, so far as they are applicable, extend to and govern the proceedings of the Council when in Committee of the whole, except the provisions limiting the number and duration of speeches.

Note: Clauses 10.19–10.29 limit the number and duration of speeches.

12.3 The General Manager or, in the absence of the General Manager, an employee of the Council designated by the General Manager, is responsible for reporting to the Council the proceedings of the Committee of the whole. It is not necessary to report the proceedings in full but any recommendations of the Committee must be reported.

12.4 The Council must ensure that a report of the proceedings (including any recommendations of the Committee) is recorded in the Council's minutes. However, the Council is not taken to have adopted the report until a motion for adoption has been made and passed.

13. Call over of Items – Dealing with Items by Exception

13.1 The Council or a Committee of Council may, at any time, resolve to adopt multiple items of business on the agenda together by way of a single resolution.

13.2 Before the Council or Committee resolves to adopt multiple items of business on the agenda together under clause 13.1, the chairperson must call over or list the items of business to be adopted and ask Councillors to identify any individual items of business listed by the chairperson that they intend to vote against the recommendation made in the business paper or that they wish to speak on.

13.3 The Council or Committee must not resolve to adopt any item of business under clause 13.1 that a Councillor has identified as being one they intend to vote against the recommendation made in the business paper or to speak on.

13.4 Where the consideration of multiple items of business together under clause 13.1 involves a variation to the order of business for the meeting, the Council or Committee must resolve to alter the order of business in accordance with clause 8.2.

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13.5 A motion to adopt multiple items of business together under clause 13.1 as the result of a call-over must identify each of the items of business to be adopted and state that they are to be adopted as recommended in the business paper.

13.6 Items of business adopted under clause 13.1 are to be taken to have been adopted unanimously.

13.7 Councillors must ensure that they declare and manage any conflicts of interest they may have in relation to items of business considered together under clause 13.1 in accordance with the requirements of the Council's code of conduct.

14. Closure of Council Meetings to the Public

Grounds on Which Meetings can be Closed to the Public

14.1 The Council or a Committee of the Council may close to the public so much of its meeting as comprises the discussion or the receipt of any of the following types of matters:

(a) personnel matters concerning particular individuals (other than Councillors),
(b) the personal hardship of any resident or ratepayer,
(c) information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business,
(d) commercial information of a confidential nature that would, if disclosed:
  (i) prejudice the commercial position of the person who supplied it, or
  (ii) confer a commercial advantage on a competitor of the Council, or
  (iii) reveal a trade secret,
(e) information that would, if disclosed, prejudice the maintenance of law,
(f) matters affecting the security of the Council, Councillors, Council staff or Council property,
(g) advice concerning litigation, or advice that would otherwise be privileged from production in legal proceedings on the ground of legal professional privilege,
(h) information concerning the nature and location of a place or an item of Aboriginal significance on community land,
(i) alleged contraventions of the Council's code of conduct.

Note: Clause 14.1 reflects section 10A(1) and (2) of the Act.

14.2 The Council or a Committee of the Council may also close to the public so much of its meeting as comprises a motion to close another part of the meeting to the public.

Note: Clause 14.2 reflects section 10A(3) of the Act.

Matters to be Considered when Closing Meetings to the Public

14.3 A meeting is not to remain closed during the discussion of anything referred to in clause 14.1:

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(a) except for so much of the discussion as is necessary to preserve the relevant confidentiality, privilege or security, and
(b) if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret – unless the Council or Committee concerned is satisfied that discussion of the matter in an open meeting would, on balance, be contrary to the public interest.

Note: Clause 14.3 reflects section 10B(1) of the Act.

14.4 A meeting is not to be closed during the receipt and consideration of information or advice referred to in clause 14.1(g) unless the advice concerns legal matters that:

(a) are substantial issues relating to a matter in which the Council or Committee is involved, and
(b) are clearly identified in the advice, and
(c) are fully discussed in that advice.

Note: Clause 14.4 reflects section 10B(2) of the Act.

14.5 If a meeting is closed during the discussion of a motion to close another part of the meeting to the public (as referred to in clause 14.2), the consideration of the motion must not include any consideration of the matter or information to be discussed in that other part of the meeting other than consideration of whether the matter concerned is a matter referred to in clause 14.1.

Note: Clause 14.5 reflects section 10B(3) of the Act.

14.6 For the purpose of determining whether the discussion of a matter in an open meeting would be contrary to the public interest, it is irrelevant that:

(a) a person may misinterpret or misunderstand the discussion, or
(b) the discussion of the matter may:
  (i) cause embarrassment to the Council or Committee concerned, or to Councillors or to employees of the Council, or
  (ii) cause a loss of confidence in the Council or Committee.

Note: Clause 14.6 reflects section 10B(4) of the Act.

14.7 In deciding whether part of a meeting is to be closed to the public, the Council or Committee concerned must consider any relevant guidelines issued by the Chief Executive of the Office of Local Government.
Note: Clause 14.7 reflects section 10B(5) of the Act.

Notice of Likelihood of Closure not Required in Urgent Cases

14.8 Part of a meeting of the Council, or of a Committee of the Council, may be closed to the public while the Council or Committee considers a matter that has not been identified in the agenda for the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed, but only if:

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(a) it becomes apparent during the discussion of a particular matter that the matter is a matter referred to in clause 14.1, and
(b) the Council or Committee, after considering any representations made under clause 14.9, resolves that further discussion of the matter:
(i) should not be deferred (because of the urgency of the matter), and
(ii) should take place in a part of the meeting that is closed to the public.

Note: Clause 14.8 reflects section 10C of the Act.

Representations by Members of the Public

14.9 The Council, or a Committee of the Council, may allow members of the public to make representations to or at a meeting, before any part of the meeting is closed to the public, as to whether that part of the meeting should be closed.

Note: Clause 14.9 reflects section 10A(4) of the Act.

14.10 A representation under clause 14.9 is to be made after the motion to close the part of the meeting is moved and seconded.

14.11 Where the matter has been identified in the agenda of the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed to the public, in order to make representations under clause 14.9, members of the public must first make an application to the Council in the approved form. Applications must be received by **9.30am on the day of** the meeting at which the matter is to be considered.

14.12 The General Manager (or their delegate) may refuse an application made under clause 14.11. The General Manager or their delegate must give reasons in writing for a decision to refuse an application.

14.13 No more than **one speaker for and one speaker against** are to be permitted to make representations under clause 14.9.

14.14 If more than the permitted number of speakers apply to make representations under clause 14.9, the General Manager or their delegate may request the speakers to nominate from among themselves the persons who are to make representations to the Council. If the speakers are not able to agree on whom to nominate to make representations under clause 14.9, the General Manager or their delegate is to determine who will make representations to the Council.

14.15 The General Manager (or their delegate) is to determine the order of speakers.

14.16 Where the Council or a Committee of the Council proposes to close a meeting or part of a meeting to the public in circumstances where the matter has not been identified in the agenda for the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed to the public, the chairperson is to invite representations from the public under clause 14.9 after the motion to close the part of the meeting is moved and seconded. The chairperson is to permit no more than **two (2)** speakers to make representations in such order as determined by the chairperson.

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14.17 Each speaker will be allowed **five (5)** minutes to make representations, and this time limit is to be strictly enforced by the chairperson. Speakers must confine their representations to whether the meeting should be closed to the public. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

Expulsion of Non-Councillors from Meetings Closed to the Public

14.18 If a meeting or part of a meeting of the Council or a Committee of the Council is closed to the public in accordance with section 10A of the Act and this code, any person who is not a Councillor and who fails to leave the meeting when requested, may be expelled from the meeting as provided by section 10(2)(a) or (b) of the Act.

14.19 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the Council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary restrain that person from re-entering that place for the remainder of the meeting.

Obligations of Councillors attending meetings by audio visual link

14.20 Councillors attending a meeting by audio-visual link must ensure that no other person is within sight or hearing of the meeting at any time that the meeting is closed to the public under section 10A of the Act.

Information to be Disclosed in Resolutions Closing Meetings to the Public

14.21 The grounds on which part of a meeting is closed must be stated in the decision to close that part of the meeting and must be recorded in the minutes of the meeting. The grounds must specify the following:

(a) the relevant provision of section 10A(2) of the Act,
(b) the matter that is to be discussed during the closed part of the meeting,
(c) the reasons why the part of the meeting is being closed, including (if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret) an explanation of the way in which discussion of the matter in an open meeting would be, on balance, contrary to the public interest.

Note: Clause 14.21 reflects section 10D of the Act.

Resolutions Passed at Closed Meetings to be Made Public

14.22 If the Council passes a resolution during a meeting, or a part of a meeting, that is closed to the public, the chairperson must make the resolution public as soon as practicable after the meeting, or the relevant part of the meeting, has ended, and the resolution must be recorded in the publicly available minutes of the meeting.

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14.23 Resolutions passed during a meeting, or a part of a meeting, that is closed to the public must be made public by the chairperson under clause 14.22 during a part of the meeting that is webcast.

15. Keeping Order at Meetings

Points of Order

15.1 A Councillor may draw the attention of the chairperson to an alleged breach of this code by raising a point of order. A point of order does not require a seconder.

15.2 A point of order cannot be made with respect to adherence to the principles contained in clause 2.1.

15.3 A point of order must be taken immediately it is raised. The chairperson must suspend the business before the meeting and permit the Councillor raising the point of order to state the provision of this code they believe has been breached. The chairperson must then rule on the point of order – either by upholding it or by overruling it.

Questions of Order

15.4 The chairperson, without the intervention of any other Councillor, may call any Councillor to order whenever, in the opinion of the chairperson, it is necessary to do so.

15.5 A Councillor who claims that another Councillor has committed an act of disorder, or is out of order, may call the attention of the chairperson to the matter.

15.6 The chairperson must rule on a question of order immediately after it is raised but, before doing so, may invite the opinion of the Council.

15.7 The chairperson's ruling must be obeyed unless a motion dissenting from the ruling is passed.

Motions of Dissent

15.8 A Councillor can, without notice, move to dissent from a ruling of the chairperson on a point of order or a question of order. If that happens, the chairperson must suspend the business before the meeting until a decision is made on the motion of dissent.

15.9 If a motion of dissent is passed, the chairperson must proceed with the suspended business as though the ruling dissented from had not been given. If, as a result of the ruling, any motion or business has been rejected as out of order, the chairperson must restore the motion or business to the agenda and proceed with it in due course.

15.10 Despite any other provision of this code, only the mover of a motion of dissent and the chairperson can speak to the motion before it is put. The mover of the motion does not have a right of general reply.

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Acts of Disorder

15.11 A Councillor commits an act of disorder if the Councillor, at a meeting of the Council or a Committee of the Council:

(a) contravenes the Act or any regulation in force under the Act or this code, or
(b) assaults or threatens to assault another Councillor or person present at the meeting, or
(c) moves or attempts to move a motion or an amendment that has an unlawful purpose or that deals with a matter that is outside the jurisdiction of the Council or the Committee, or addresses or attempts to address the Council or the Committee on such a motion, amendment or matter, or
(d) insults or makes personal reflections on or imputes improper motives to any other Council official, or alleges a breach of the Council's code of conduct, or
(e) says or does anything that is inconsistent with maintaining order at the meeting or is likely to bring the Council or the Committee into disrepute.

15.12 The chairperson may require a Councillor:

(a) to apologise without reservation for an act of disorder referred to in clauses 15.11(a) or (b), or
(b) to withdraw a motion or an amendment referred to in clause 15.11(c) and, where appropriate, to apologise without reservation, or
(c) to retract and apologise without reservation for an act of disorder referred to in clauses 15.11(d) and (e).

How Disorder at a Meeting may be Dealt with

15.13 If disorder occurs at a meeting of the Council, the chairperson may adjourn the meeting for a period of not more than fifteen (15) minutes and leave the chair. The Council, on reassembling, must, on a question put from the chairperson, decide without debate whether the business is to be proceeded with or not. This clause applies to disorder arising from the conduct of members of the public as well as disorder arising from the conduct of Councillors.

Expulsion from Meetings

15.14 All chairpersons of meetings of the Council and Committees of the Council are authorised under this code to expel any person other than a Councillor, from a Council or Committee meeting, for the purposes of section 10(2)(b) of the Act. Councillors may only be expelled by resolution of the Council or the Committee of the Council.

15.15 A Councillor may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the Council for having failed to comply with a requirement under clause 15.12. The expulsion of a Councillor from the meeting for that reason does not prevent any other action from being taken against the Councillor for the act of disorder concerned.

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15.16 A member of the public may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the Council for engaging in or having engaged in disorderly conduct at the meeting.

15.17 Where a Councillor or a member of the public is expelled from a meeting, the expulsion and the name of the person expelled, if known, are to be recorded in the minutes of the meeting.

15.18 If a Councillor or a member of the public fails to leave the place where a meeting of the Council is being held immediately after they have been expelled, a police officer, or any person authorised for the purpose by the Council or person presiding, may, by using only such force as is necessary, remove the Councillor or member of the public from that place and, if necessary, restrain the Councillor or member of the public from re-entering that place for the remainder of the meeting.

15.19 Clause 15.14 does not limit the ability of the Council or a Committee of the Council to resolve to expel a person, including a Councillor, from a Council or Committee meeting, under section 10(2)(a) of the Act

How Disorder by Councillors Attending Meetings by Audio-Visual Link may be Dealt with

15.20 Where a Councillor is attending a meeting by audio-visual link, the chairperson or a person authorised by the chairperson may mute the Councillor's audio link to the meeting for the purposes of enforcing compliance with this code.

15.21 If a Councillor attending a meeting by audio-visual link is expelled from a meeting for an act of disorder, the chairperson of the meeting or a person authorised by the chairperson, may terminate the Councillor's audio-visual link to the meeting.

Use of mobile phones and the unauthorised recording of meetings

15.22 Councillors, Council staff and members of the public must ensure that mobile phones are turned to silent during meetings of the Council and Committees of the Council.

15.23 A person must not live stream or use an audio recorder, video camera, mobile phone or any other device to make a recording of the proceedings of a meeting of the council or a Committee of the Council without the prior authorisation of the Council or the Committee.

15.24 Without limiting clause 15.16, a contravention of clause 15.23 or an attempt to contravene that clause, constitutes disorderly conduct for the purposes of clause 15.18. Any person who contravenes or attempts to contravene clause 15.23, may be expelled from the meeting as provided for under section 10(2) of the Act.

15.25 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the council or person presiding, may, by using only such force as is necessary, remove the first mentioned person from that

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place and, if necessary, restrain that person from re-entering that place for the remainder of the meeting.

16. Conflicts of Interest

16.1 All Councillors and, where applicable, all other persons, must declare and manage any conflicts of interest they may have in matters being considered at meetings of the Council and Committees of the Council in accordance with the Council's code of conduct. All declarations of conflicts of interest and how the conflict of interest was managed by the person who made the declaration must be recorded in the minutes of the meeting at which the declaration was made.

16.2 Councillors attending a meeting by audio-visual link must declare and manage any conflicts of interest they may have in matters being considered at the meeting in accordance with the Council's Code of Conduct. Where a Councillor has declared a pecuniary or significant non-pecuniary conflict of interest in a matter being discussed at the meeting, the Councillor's audio-visual link to the meeting must be suspended or terminated and the Councillor must not be in sight or hearing of the meeting at any time during which the matter is being considered or discussed by the Council or Committee, or at any time during which the Council or Committee is voting on the matter.

17. Decisions of the Council

Council Decisions

17.1 A decision supported by a majority of the votes at a meeting of the Council at which a quorum is present is a decision of the Council.
Note: Clause 17.1 reflects section 371 of the Act in the case of Councils and section 400T(8) in the case of joint organisations.

17.2 Decisions made by the Council must be accurately recorded in the minutes of the meeting at which the decision is made.

Rescinding or Altering Council Decisions

17.3 A resolution passed by the Council may not be altered or rescinded except by a motion to that effect of which notice has been given under clause 3.9.

Note: Clause 17.3 reflects section 372(1) of the Act.

17.4 If a notice of motion to rescind a resolution is given at the meeting at which the resolution is carried, the resolution must not be carried into effect until the motion of rescission has been dealt with.

Note: Clause 17.4 reflects section 372(2) of the Act.

17.5 If a motion has been lost, a motion having the same effect must not be considered

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unless notice of it has been duly given in accordance with clause 3.9.

Note: Clause 17.5 reflects section 372(3) of the Act.

17.6 A notice of motion to alter or rescind a resolution, and a notice of motion which has the same effect as a motion which has been lost, must be signed by three (3) Councillors if less than three (3) months has elapsed since the resolution was passed, or the motion was lost.

Note: Clause 17.6 reflects section 372(4) of the Act.

17.7 If a motion to alter or rescind a resolution has been lost, or if a motion which has the same effect as a previously lost motion is lost, no similar motion may be brought forward within three (3) months of the meeting at which it was lost. This clause may not be evaded by substituting a motion differently worded, but in principle the same.

Note: Clause 17.7 reflects section 372(5) of the Act.

17.8 The provisions of clauses 17.5–17.7 concerning lost motions do not apply to motions of adjournment.

Note: Clause 17.8 reflects section 372(7) of the Act.

17.9 A notice of motion submitted in accordance with clause 17.6 may only be withdrawn under clause 3.10 with the consent of all signatories to the notice of motion.

17.10 A notice of motion to alter or rescind a resolution relating to a development application must be submitted to the General Manager prior to the conclusion of the meeting it was lodged at which the resolution was adopted.

17.11 A motion to alter or rescind a resolution of the Council may be moved on the report of a Committee of the Council and any such report must be recorded in the minutes of the meeting of the Council.

Note: Clause 17.11 reflects section 372(6) of the Act.

Recommitting resolutions to correct an error

17.12 Despite the provisions of this Part, a Councillor may, with the leave of the chairperson, move to recommit a resolution adopted at the same meeting:

(a) to correct any error, ambiguity or imprecision in the Council's resolution, or
(b) to confirm the voting on the resolution.

17.13 In seeking the leave of the chairperson to move to recommit a resolution for the purposes of clause 17.12(a), the Councillor is to propose alternative wording for the resolution.

17.14 The chairperson must not grant leave to recommit a resolution for the purposes of clause 17.12(a), unless they are satisfied that the proposed alternative wording of the

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resolution would not alter the substance of the resolution previously adopted at the meeting.

17.15 A motion moved under clause 17.12 can be moved without notice. Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 17.12 can speak to the motion before it is put.

17.16 A motion of dissent cannot be moved against a ruling by the chairperson under clause 17.12.

17.17 A motion moved under clause 17.12 with the leave of the chairperson cannot be voted on unless or until it has been seconded.

18. Time Limits on Council Meetings

18.1 Meetings of the Council and Committees of the Council are to conclude no later than **9.30pm**

18.2 If the business of the meeting is unfinished at 9.30pm, the Council or the Committee may, by resolution, extend the time of the meeting.

18.3 If the business of the meeting is unfinished at 10.00pm, and the Council does not resolve to extend the meeting, the chairperson must either:

(a) defer consideration of the remaining items of business on the agenda to the next ordinary meeting of the Council, or
(b) adjourn the meeting to a time, date and place fixed by the chairperson.

18.4 Clause 18.3 does not limit the ability of the Council or a Committee of the Council to resolve to adjourn a meeting at any time. The resolution adjourning the meeting must fix the time, date and place that the meeting is to be adjourned to.

18.5 Where a meeting is adjourned under clause 18.3 or 18.4, the General Manager must:

(a) individually notify each Councillor of the time, date and place at which the meeting will reconvene, and
(b) publish the time, date and place at which the meeting will reconvene on the Council's website and in such other manner that the General Manager is satisfied is likely to bring notice of the time, date and place of the reconvened meeting to the attention of as many people as possible.

19. After the Meeting

Minutes of Meetings

19.1 The Council is to keep full and accurate minutes of the proceedings of meetings of the Council.

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Note: Clause 19.1 reflects section 375(1) of the Act.

19.2 At a minimum, the General Manager must ensure that the following matters are recorded in the Council's minutes:

(a) details of each motion moved at a Council meeting and of any amendments moved to it,
(b) the names of the mover and seconder of the motion or amendment,
(c) whether the motion or amendment was passed or lost, and
(d) such other matters specifically required under this code.
(e) the names of Councillors attending a Council meeting and whether they attended the meeting in person or by audio-visual link

19.3 The minutes of a Council meeting must be confirmed at a subsequent meeting of the Council.

Note: Clause 19.3 reflects section 375(2) of the Act.

19.4 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

19.5 When the minutes have been confirmed, they are to be signed by the person presiding at the subsequent meeting.
Note: Clause 19.5 reflects section 375(2) of the Act.

19.6 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

19.7 The confirmed minutes of a Council meeting must be published on the Council's website. This clause does not prevent the Council from also publishing unconfirmed minutes of its meetings on its website prior to their confirmation.

Access to Correspondence and Reports Laid on the Table at, or Submitted to, a Meeting

19.8 The Council and Committees of the Council must, during or at the close of a meeting, or during the business day following the meeting, give reasonable access to any person to inspect correspondence and reports laid on the table at, or submitted to, the meeting.

Note: Clause 19.8 reflects section 11(1) of the Act.

19.9 Clause 19.8 does not apply if the correspondence or reports relate to a matter that was received or discussed or laid on the table at, or submitted to, the meeting when the meeting was closed to the public.

Note: Clause 19.9 reflects section 11(2) of the Act.

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19.10 Clause 19.8 does not apply if the Council or the Committee resolves at the meeting, when open to the public, that the correspondence or reports are to be treated as confidential because they relate to a matter specified in section 10A(2) of the Act.

Note: Clause 19.10 reflects section 11(3) of the Act.

19.11 Correspondence or reports to which clauses 19.9 and 19.10 apply are to be marked with the relevant provision of section 10A(2) of the Act that applies to the correspondence or report.

Implementation of Decisions of the Council

19.12 The General Manager is to implement, without undue delay, lawful decisions of the Council.

Note: Clause 19.12 reflects section 335(b) of the Act.

20. Council Committees

Application of this Part

20.1 This Part applies to Committees of the Council whose members are all Councillors

Council Committees Whose Members are all Councillors

20.2 The Council may, by resolution, establish such Committees as it considers necessary.

20.3 A Committee of the Council is to consist of the Mayor and such other Councillors as are elected by the Councillors or appointed by the Council.

20.4 The quorum for a meeting of a Committee of the Council is to be:

(a) such number of members as the Council decides, or
(b) if the Council has not decided a number – a majority of the members of the Committee.

Functions of Committees

20.5 The Council must specify the functions of each of its Committees when the Committee is established, but may from time to time amend those functions.

Notice of Committee Meetings

20.6 The General Manager must send to each Councillor, regardless of whether they are a Committee member, at least three (3) days before each meeting of the Committee, a notice specifying:

(a) the time, date and place of the meeting, and
(b) the business proposed to be considered at the meeting.

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20.7 Notice of less than three (3) days may be given of a Committee meeting called in an emergency.

Attendance at Committee Meetings

20.8 A Committee member (other than the Mayor) ceases to be a member of a Committee if the Committee member:

(a) has been absent from three (3) consecutive meetings of the Committee without having given reasons acceptable to the Committee for the member's absences, or
(b) has been absent from at least half of the meetings of the Committee held during the immediately preceding year without having given to the Committee acceptable reasons for the member's absences.

20.9 Clause 20.8 does not apply if all of the members of the Council are members of the Committee.

Non-members Entitled to Attend Committee Meetings

20.10 A Councillor who is not a member of a Committee of the Council is entitled to attend, and to speak at a meeting of the Committee. However, the Councillor is not entitled:

(a) to give notice of business for inclusion in the agenda for the meeting, or
(b) to move or second a motion at the meeting, or
(c) to vote at the meeting.

Chairperson and Deputy Chairperson of Council Committees- Where all Members are Councillors

20.11 The chairperson of each Committee of the Council must be:

(a) the Mayor, or
(b) if the Mayor does not wish to be the chairperson of a Committee, a member of the Committee elected by the Council, or
(c) if the Council does not elect such a member, a member of the Committee elected by the Committee.

20.12 The Council may elect a member of a Committee of the Council as deputy chairperson of the Committee. If the Council does not elect a deputy chairperson of such a Committee, the Committee may elect a deputy chairperson.

20.13 If neither the chairperson nor the deputy chairperson of a Committee of the Council is able or willing to preside at a meeting of the Committee, the Committee must elect a member of the Committee to be acting chairperson of the Committee.

20.14 The chairperson is to preside at a meeting of a Committee of the Council. If the chairperson is unable or unwilling to preside, the deputy chairperson (if any) is to preside at the meeting, but if neither the chairperson nor the deputy chairperson is able or willing to preside, the acting chairperson is to preside at the meeting.

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Procedure in Committee Meetings

20.15 Subject to any specific requirements of this code, each Committee of the Council may regulate its own procedure. The provisions of this code are to be taken to apply to all Committees of the Council unless the Council or the Committee determines otherwise in accordance with this clause.

20.16 Whenever the voting on a motion put to a meeting of the Committee is equal, the chairperson of the Committee is to have a casting vote as well as an original vote unless the Council or the Committee determines otherwise in accordance with clause 20.15.

20.17 Voting at a Council Committee meeting is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system).

Closure of Committee Meetings to the Public

20.18 The provisions of the Act and Part 14 of this code apply to the closure of meetings of Committees of the Council to the public in the same way they apply to the closure of meetings of the Council to the public.

20.19 If a Committee of the Council passes a resolution, or makes a recommendation, during a meeting, or a part of a meeting that is closed to the public, the chairperson must make the resolution or recommendation public as soon as practicable after the meeting or part of the meeting has ended, and report the resolution or recommendation to the next meeting of the Council. The resolution or recommendation must also be recorded in the publicly available minutes of the meeting.

20.20 Resolutions passed during a meeting, or a part of a meeting that is closed to the public must be made public by the chairperson under clause 20.19 during a part of the meeting that is webcast.

Disorder in Committee Meetings

20.21 The provisions of the Act and this code relating to the maintenance of order in Council meetings apply to meetings of Committees of the Council in the same way as they apply to meetings of the Council.

Minutes of Council Committee Meetings

20.22 Each Committee of the Council is to keep full and accurate minutes of the proceedings of its meetings. At a minimum, a Committee must ensure that the following matters are recorded in the Committee's minutes:

(a) details of each motion moved at a meeting and of any amendments moved to it,
(b) the names of the mover and seconder of the motion or amendment,
(c) whether the motion or amendment was passed or lost, and

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(d) such other matters specifically required under this code.
(e) the names of Councillors attending a meeting and whether they attended the meeting in person or by audio-visual link

20.23 All voting at meetings of Committees of the Council (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of Councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

20.24 The minutes of meetings of each Committee of the Council must be confirmed at a subsequent meeting of the Committee.

20.25 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

20.26 When the minutes have been confirmed, they are to be signed by the person presiding at that subsequent meeting.

20.27 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

20.28 The confirmed minutes of a meeting of a Committee of the Council must be published on the Council's website. This clause does not prevent the Council from also publishing unconfirmed minutes of meetings of Committees of the Council on its website prior to their confirmation.

21. Irregularities

21.1 Proceedings at a meeting of a Council or a Council Committee are not invalidated because of:

(a) a vacancy in a civic office, or
(b) a failure to give notice of the meeting to any Councillor or Committee member, or
(c) any defect in the election or appointment of a Councillor or Committee member, or
(d) a failure of a Councillor or a Committee member to declare a conflict of interest, or to refrain from the consideration or discussion of, or vote on, the relevant matter, at a Council or Committee meeting in accordance with the Council's code of conduct, or
(e) a failure to comply with this code.

Note: Clause 21.1 reflects section 374 of the Act.

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22. Definitions

the Act	means the *Local Government Act 1993*
act of disorder	means an act of disorder as defined in clause 15.11 of this code
amendment	in relation to an original motion, means a motion moving an amendment to that motion
audio recorder	any device capable of recording speech
audio-Visual Link	means a facility that enables audio and visual communication between persons at different places
business day	means any day except Saturday or Sunday or any other day the whole or part of which is observed as a public holiday throughout New South Wales
chairperson	in relation to a meeting of the Council – means the person presiding at the meeting as provided by section 369 of the Act and clauses 6.1 and 6.2 of this code, and in relation to a meeting of a Committee – means the person presiding at the meeting as provided by clause 20.11 of this code
this code	means the Council's adopted code of meeting practice
Committee of the Council	means a Committee established by the Council in accordance with clause 20.2 of this code (being a Committee consisting only of Councillors) or the Council when it has resolved itself into Committee of the whole under clause 12.1
Council official	has the same meaning it has in the Model Code of Conduct for Local Councils in NSW
day	means calendar day
division	means a request by two councillors under clause 11.8 of this code requiring the recording of the names of the councillors who voted both for and against a motion
foreshadowed amendment	means a proposed amendment foreshadowed by a Councillor under clause 10.17 of this code during debate on the first amendment
foreshadowed motion	means a motion foreshadowed by a Councillor under clause 10.16 of this code during debate on an original motion
open voting	means voting on the voices or by a show of hands or by a visible electronic voting system or similar means
planning decision	means a decision made in the exercise of a function of a Council under the *Environmental Planning and Assessment Act 1979* including any decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but not including the making of an order under Division 9.3 of Part 9 of that Act
performance improvement order	means an order issued under section 438A of the Act

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quorum	means the minimum number of Councillors or Committee members necessary to conduct a meeting
the Regulation	means the *Local Government (General) Regulation 2021*
webcast	a video or audio broadcast of a meeting transmitted across the internet either concurrently with the meeting or at a later time
year	means the period beginning 1 July and ending the following 30 June

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Code of Meeting Practice

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1. Introduction

The Model Code of Meeting Practice for Local Councils in NSW (the Model Meeting Code) is made under section 360 of the *Local Government Act 1993* (the Act) and the *Local Government (General) Regulation 2021* (the Regulation).

This Code reflects the provisions of the Model Code of Meeting Practice. It shall apply to:

- Council meetings
- All Committees comprising of Councillors appointed pursuant to Clause 260 Regulations with the exception of the provisions relating to 'Rising to speak' and 'Limitation on the number of times a member may speak'.
- Other Committees comprising of Councillors and Staff or Community members (including Boards) with the exception of the provisions relating to 'Rising to speak' and 'Limitation on the number of times a member may speak'.

Council's 'Code of Conduct' and Procedures are to be read in conjunction with this Code and apply in all respects conduct at Council and Committee meetings.

A Council and a Committee of the Council of which all the members are Councillors must conduct its meetings in accordance with the Code of Meeting Practice adopted by the Council.

A Council's adopted code of meeting practice may also incorporate the non-mandatory provisions of the Model Meeting Code and other supplementary provisions. However, a code of meeting practice adopted by a Council must not contain provisions that are inconsistent with the mandatory provisions of the Model Meeting Code.

2. Meeting Principles

2.1 Council and Committee meetings should be:

Transparent: Decisions are made in a way that is open and accountable.

Informed: Decisions are made based on relevant, quality information.

Inclusive: Decisions respect the diverse needs and interests of the local community.

Principled: Decisions are informed by the principles prescribed under Chapter 3 of the Act.

Trusted: The community has confidence that Councillors and staff act ethically and make decisions in the interests of the whole community.

Respectful: Councillors, staff and meeting attendees treat each other with respect.

Effective: Meetings are well organised, effectively run and skilfully chaired.

Orderly: Councillors, staff and meeting attendees behave in a way that contributes to the orderly conduct of the meeting.

3. Before the Meeting

Timing of Ordinary Council Meetings

3.1 The Council shall, by resolution, set the frequency, time, date and place of its ordinary meetings.

Note: Under section 365 of the Act, Councils are required to meet at least ten (10) times each year, each time in a different month unless the Minister for Local Government has approved a reduction in the number of times that a Council is required to meet each year under section 365A.

Note: Under section 396 of the Act, County Councils are required to meet at least four (4) times each year.

Note: Under section 400T of the Act, boards of joint organisations are required to meet at least four (4) times each year, each in a different quarter of the year.

Extraordinary Meetings

3.2 If the Mayor receives a request in writing, signed by at least two (2) Councillors, the Mayor must call an extraordinary meeting of the Council to be held as soon as practicable, but in any event, no more than fourteen (14) days after receipt of the request. The Mayor can be one of the two Councillors requesting the meeting.

Note: Clause 3.2 reflects section 366 of the Act.

Notice to the Public of Council Meetings

3.3 The Council must give notice to the public of the time, date and place of each of its meetings, including Extraordinary meetings and of each meeting of Committees of the Council.

Note: Clause 3.3 reflects section 9(1) of the Act.

3.4 For the purposes of clause 3.3, notice of a meeting of the Council and of a Committee of Council is to be published before the meeting takes place. The notice must be published on the Council's website, and in such other manner that the Council is satisfied is likely to bring notice of the meeting to the attention of as many people as possible.

3.5 For the purposes of clause 3.3, notice of more than one (1) meeting may be given in the same notice.

Notice to Councillors of Ordinary Council Meetings

3.6 The General Manager must send to each Councillor, at least three (3) days before each meeting of the Council, a notice specifying the time, date and place at which the meeting is to be held, and the business proposed to be considered at the meeting.

Note: Clause 3.6 reflects section 367(1) of the Act.

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3.7 The notice and the agenda for, and the business papers relating to, the meeting may be given to Councillors in electronic form, but only if all Councillors have facilities to access the notice, agenda and business papers in that form.

Note: Clause 3.7 reflects section 367(3) of the Act.

Notice to Councillors of Extraordinary Meetings

3.8 Notice of less than three (3) days may be given to Councillors of an Extraordinary meeting of the Council in cases of emergency.

Note: Clause 3.8 reflects section 367(2) of the Act.

Giving Notice of Business to be Considered at Council Meetings

3.9 A Councillor may give notice of any business they wish to be considered by the Council at its next ordinary meeting by way of a notice of motion. To be included on the agenda of the meeting, the notice of motion must be in writing and must be submitted **at least 7 calendar days** before the meeting is to be held.

3.10 A Councillor may, in writing to the General Manager, request the withdrawal of a Notice of Motion submitted by them prior to its inclusion in the agenda and business paper for the meeting at which it is to be considered.

3.11 If the General Manager considers that a Notice of Motion submitted by a Councillor for consideration at an Ordinary Meeting of the Council has legal, strategic, financial or policy implications which should be taken into consideration by the meeting, the General Manager may prepare a report in relation to the Notice of Motion for inclusion with the business papers for the meeting at which the Notice of Motion is to be considered by the Council.

Note for consideration: A Notice of Motion for the expenditure of funds on works and/or services other than those already provided for in the Council's current adopted Operational Plan should identify the source of funding for the expenditure that is the subject of the Notice of Motion.

If the Notice of Motion does not identify a funding source, the General Manager is able to either:

(a) add a note to the Notice of Motion

(b) prepare a report on the availability of funds for implementing the motion if adopted for inclusion in the business papers for the meeting at which the Notice of Motion is to be considered by the Council, or

(c) by written notice sent to all Councillors with the business papers for the meeting for which the Notice of Motion has been submitted, defer consideration of the matter by the Council to such a date specified in the notice, pending the preparation of such a report

Questions with Notice

3.12 A Councillor may, by way of a notice submitted under clause 3.9, ask a question for response by the General Manager about the performance or operations of the Council.

3.13 A Councillor is not permitted to ask a Question with Notice under clause 3.12 that comprises a complaint against the General Manager or a member of staff of the Council, or a question that implies wrongdoing by the General Manager or a member of staff of the Council.

3.14 The General Manager or their nominee may respond to a Question with Notice submitted under clause 3.12 by way of a report included in the business papers for the relevant meeting of the Council or orally at the meeting.

Agenda and Business Papers for Ordinary Meetings

3.15 The General Manager must cause the agenda for a meeting of the Council or a Committee of the Council to be prepared as soon as practicable before the meeting.

3.16 The General Manager must ensure that the agenda for an ordinary meeting of the Council states:

(a) all matters to be dealt with arising out of the proceedings of previous meetings of the Council, and
(b) if the Mayor is the chairperson – any matter or topic that the chairperson proposes, at the time when the agenda is prepared, to put to the meeting, and
(c) all matters, including matters that are the subject of staff reports and reports of Committees, to be considered at the meeting, and
(d) any business of which due notice has been given under clause 3.9.

3.17 Nothing in clause 3.16 limits the powers of the Mayor to put a Mayoral Minute to a meeting under clause 9.6.

3.18 The General Manager must not include in the agenda for a meeting of the Council any business of which due notice has been given if, in the opinion of the General Manager, the business is, or the implementation of the business would be, unlawful. The General Manager must report, without giving details of the item of business, any such exclusion to the next meeting of the Council.

3.19 Where the agenda includes the receipt of information or discussion of other matters that, in the opinion of the General Manager, is likely to take place when the meeting is closed to the public, the General Manager must ensure that the agenda of the meeting:

(a) identifies the relevant item of business and indicates that it is of such a nature (without disclosing details of the information to be considered when the meeting is closed to the public), and
(b) states the grounds under section 10A(2) of the Act relevant to the item of business.

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Note: Clause 3.19 reflects section 9(2A)(a) of the Act.

3.20 The General Manager must ensure that the details of any item of business which, in the opinion of the General Manager, is likely to be considered when the meeting is closed to the public, are included in a business paper provided to Councillors for the meeting concerned. Such details must not be included in the business papers made available to the public, and must not be disclosed by a Councillor or by any other person to another person who is not authorised to have that information.

Statement of Ethical Obligations

3.21 Business papers for all Ordinary and Extraordinary Meetings of the Council and Committees of the Council must contain a statement reminding Councillors of their Oath or Affirmation of Office made under section 233A of the Act and their obligations under the Council's Code of Conduct to disclose and appropriately manage conflicts of interest.

Availability of the Agenda and Business Papers to the Public

3.2~~1~~2 Copies of the agenda and the associated business papers, such as correspondence and reports for meetings of the Council and Committees of Council, are to be published on the Council's website, and must be made available to the public for inspection, or for taking away by any person free of charge at the offices of the Council, at the relevant meeting and at such other venues determined by the Council.

Note: Clause 3.2~~1~~2 reflects section 9(2) and (4) of the Act.

3.2~~2~~3 Clause 3.2~~1~~2 does not apply to the business papers for items of business that the General Manager has identified under clause 3.19 as being likely to be considered when the meeting is closed to the public.

Note: Clause 3.2~~3~~2 reflects section 9(2A)(b) of the Act.

3.2~~3~~4 For the purposes of clause 3.2~~1~~1, copies of agendas and business papers must be published on the Council's website and made available to the public at a time that is as close as possible to the time they are available to Councillors.

Note: Clause 3.2~~4~~3 reflects section 9(3) of the Act.

3.2~~5~~4 A copy of an agenda, or of an associated business paper made available under clause 3.2~~1~~2, may in addition be given or made available in electronic form.

Note: Clause 3.2~~4~~5 reflects section 9(5) of the Act.

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Agenda and Business Papers for Extraordinary Meetings

3.2~~5~~6 The General Manager must ensure that the agenda for an Extraordinary Meeting of the Council deals only with the matters stated in the notice of the meeting.

3.2~~6~~7 Despite clause 3.2~~5~~6, business may be considered at an Extraordinary Meeting of the Council, even though due notice of the business has not been given, if:

(a) a motion is passed to have the business considered at the meeting, and
(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the Council before the next scheduled Ordinary Meeting of the Council.

3.2~~7~~8 A motion moved under clause 3.2~~6~~7(a) can be moved without notice but only after the business notified in the agenda for the Extraordinary Meeting has been dealt with.

3.2~~8~~9 Despite clauses 10.19–10.29, only the mover of a motion moved under clause 3.2~~7~~8(a) can speak to the motion before it is put.

3.30~~29~~A motion of dissent cannot be moved against a ruling of the chairperson under clause 3.2~~6~~7(b) on whether a matter is of great urgency.

Pre-Meeting Briefing Sessions

3.3~~0~~10 Where the General Manager deems necessary, the General Manager may arrange a pre-meeting briefing session to brief Councillors on business to be considered at a Council meeting. Pre-meeting briefing sessions may also be held for Extraordinary Meetings of the Council and meetings of Committees of the Council.

3.32 Pre-meeting briefing sessions are to be held in the absence of the public.

3.33 Pre-meeting briefing sessions may be held by audio-visual link.

3.34 The General Manager or a member of staff nominated by the General Manager is to preside at pre-meeting briefing sessions.

3.35 Councillors must not use pre-meeting briefing sessions to debate or make preliminary decisions on items of business they are being briefed on, and any debate and decision-making must be left to the formal Council or Committee Meeting at which the item of business is to be considered.

3.36 Councillors (including the Mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of a briefing at a pre-meeting briefing session, in the same way that they are required to do so at a Council or Committee Meeting. The Council is to maintain a written record of all conflict of interest declarations made at pre-meeting briefing sessions and how the conflict of interest was managed by the Councillor who made the declaration.

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4. Deputations

4.1 The Council may hold a public forum prior to each ordinary meeting of the Council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting. Public forums may also be held prior to extraordinary Council meetings and meetings of Committees of the Council.

Deputations to Committee Meetings

4.2 Deputations will only be permitted to the Committees of Council and must relate to business before the Committee.

4.3 One speaker for and against each item will be permitted to address a Committee except in extenuating circumstances.

4.4 An individual or representative group is only permitted to address a Committee once on an issue except where the Committee resolves otherwise on the basis that new material has been presented, and in this case the comments are limited to that new material.

4.5 The Chairperson of the Committee is authorised to grant approval for deputations up until 12.00 noon on the day of the meeting.

4.6 Where requests are received for a deputation after the issue of the Notice of Meeting they will be dealt with in accordance with this Policy except such requests for deputations may be declined when it is considered time will not permit the matter to be heard.

4.7 If the Mayor, Chairperson or General Manager as the case may be approves a deputation as provided for in this clause, where practical, notification is to be given to the Governance Staff who shall notify Group Directors.

4.8 Where more than one request is received to address a Committee either for or against a proposal, the individuals and/or groups involved will be encouraged to appoint one representative to present their submission.

4.9 Where more than one person is granted permission to address a Committee on the same issue every endeavour will be made to ensure that the information being presented by the different people cover different aspects of the proposal and there is not an unnecessary repetition of the same argument.

4.10 Where an individual or organisation is granted permission to address a Committee they be informed that: -

4.10.1 Maximum time permitted is five (5) minutes.

4.10.2 One main spokesperson is to be nominated to address the Committee.

4.10.3 The meeting, including their deputation will be webcast by the Council as outlined in Part 5.18 of this Code

4.10.4 Comments which may cast reflection on any organisation or individual are to be avoided as these comments can be regarded as public statements.

4.10.5 Information from a deputation is placed on the public record and can be distributed / displayed.

4.11 The Committee may vary this Code to allow for additional speakers in the event that a resolution is carried the effect of which deems that the matter is of sufficient importance to warrant a deviation from this Code.

Deputations to Ordinary Meetings

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~~Council may permit a deputation on any item before Council which has not been previously considered by a Committee where for reasons such as delay, it is undesirable to refer the matter back to a Core Council Committee. And further that:~~

~~4.12 These deputations be limited to five minutes duration with one speaker in favour and one against.~~

~~4.13 Requests for deputations must be made to the Mayor or General Manager no later than 12 noon on the day of the Ordinary meeting.~~

~~4.14 If the Mayor or General Manager as the case may be approves a deputation as provided for in this clause, where practical, notification is to be given to the Executive Support Staff who shall notify Group Directors.~~

~~4.15 Council may vary this Code to allow for additional speakers in the event that a resolution is carried to that effect which deems that the matter is of sufficient importance to warrant a deviation from this Code.~~

~~4.16 If new issues are introduced at that deputation, the matter is not to be considered by Council at that meeting unless those issues are of a minor nature and staff can clarify those issues at the meeting. If the issues are significant, and cannot be clarified, the matter may be deferred to the next available meeting to allow staff sufficient time to consider and report on the matters raised in the deputation. If the Council and responsible Director agree that no new matters are raised in the deputation, the item may be considered at that meeting.~~

~~4.17 The General Manager (or delegate) is to approve deputation requests in cases where the application is inconsistent with rules or the Chair will be asked to make the final determination.~~

4. Public Forum

4.1 The Council may hold a Public Forum prior to each Ordinary Meeting of the Council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting. Public forums may also be held prior to Extraordinary Council meetings and meetings of Committees of the Council.

4.2 Public Forums may be held by audio-visual link.

4.3 Public Forums are to be chaired by the Mayor or their nominee.

4.4 To speak at a Public Forum, a person must first make an application to the Council in the approved form. Applications to speak at the Public Forum must be received by [date and time to be specified by the council] before the date on which the Public Forum is to be held, and must identify the item of business on the agenda of the Council meeting the person wishes to speak on, and whether they wish to speak 'for' or 'against' the item.

4.5 Legal representatives acting on behalf of others are not to be permitted to speak at a public forum unless they identify their status as a legal representative when applying to speak at the Public Forum.

4.6 The General Manager or the chairperson may refuse an application to speak at a Public Forum.

4.7 No more than one speaker is to be permitted to speak 'for' and 'against' each item of business on the agenda for the Council meeting.

4.8 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or the chairperson may increase the number of speakers permitted to speak on an item of business, where they are satisfied that it is necessary to do so to allow the council to hear a fuller range of views on the relevant item of business.

4.09 Approved speakers at the public forum are to register with the council any written, visual or audio material to be presented in support of their address to the council at the public forum, and to identify any equipment needs no more than [number to be specified by the council] days before the public forum. The general manager or their delegate may refuse to allow such material to be presented.

4.10 The general manager or their delegate is to determine the order of speakers at the public forum.

4.11 Each speaker will be allowed five minutes to address the council. This time is to be strictly enforced by the chairperson.

4.12 Speakers at public forums must not digress from the item on the agenda of the council meeting they have applied to address the council on. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

4.13 A councillor (including the chairperson) may, through the chairperson, ask questions of a speaker following their address at a public forum. Questions put to a speaker must be direct, succinct and without argument.

4.14 Speakers are under no obligation to answer a question put under clause 4.13.

4.15 Speakers at public forums cannot ask questions of the council, councillors or council staff.

4.16 The general manager or their nominee may, with the concurrence of the chairperson, address the council for up to [number to be specified by the council] minutes in response to an address to the council at a public forum after the address and any subsequent questions and answers have been finalised.

4.17 Where an address made at a public forum raises matters that require further consideration by council staff, the general manager may recommend that the council defer consideration of the matter pending the preparation of a further report on the matters.

4.18 When addressing the council, speakers at public forums must comply with this code and all other relevant council codes, policies and procedures. Speakers must refrain from engaging in disorderly conduct, publicly alleging breaches of the council's code of conduct or making other potentially defamatory statements.

4.19 If the chairperson considers that a speaker at a public forum has engaged in conduct of the type referred to in clause 4.18, the chairperson may request the person to refrain from the inappropriate behaviour and to withdraw and unreservedly apologise for any inappropriate comments. Where the speaker fails to comply with the chairperson's request, the chairperson may immediately require the person to stop speaking.

4.20 Clause 4.19 does not limit the ability of the chairperson to deal with disorderly conduct by speakers at public forums in accordance with the provisions of Part 15 of this code.

4.21 Where a speaker engages in conduct of the type referred to in clause 4.19, the general manager or their delegate may refuse further applications from that person to speak at public forums for such a period as the general manager or their delegate considers appropriate.

4.22 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of an address at a public forum, in the same way that they are required to do so at a council or committee meeting. The council is to maintain a written record of all conflict of interest declarations made at public forums and how the conflict of interest was managed by the councillor who made the declaration.

Note: Public Forums should not be held as part of a Council or Committee Meeting. Council or Committee Meetings should be reserved for decision-making by the Council or Committee of Council. Where a Public Forum is held as part of a Council or Committee Meeting, it must be conducted in accordance with the other requirements of this code relating to the conduct of Council and Committee Meetings.

5. Coming Together

Attendance by Councillors at Meetings

5.1 All Councillors must make reasonable efforts to attend meetings of the Council and of Committees of the Council of which they are members.

Note: A Councillor may not attend a meeting as a Councillor (other than the first meeting of the Council after the Councillor is elected or a meeting at which the Councillor takes an oath or makes an affirmation of office) until they have taken an oath or made an affirmation of office in the form prescribed under section 233A of the Act.

5.2 A Councillor cannot participate in a meeting of the Council or of a Committee of the Council unless personally present at the meeting, unless permitted to attend the meeting by audio-visual link under this code.

5.3 Where a Councillor is unable to attend one or more ordinary meetings of the Council, the Councillor should request that the Council grant them a leave of absence from

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those meetings. This clause does not prevent a Councillor from making an apology if they are unable to attend a meeting. However the acceptance of such an apology does not constitute the granting of a leave of absence for the purposes of this code and the Act.

5.4 A Councillor's request for leave of absence from Council meetings should, if practicable, identify (by date) the meetings from which the Councillor intends to be absent and the grounds upon which the leave of absence is being sought.

5.5 The Council must act reasonably when considering whether to grant a Councillor's request for a leave of absence.

5.6 A Councillor's civic office will become vacant if the Councillor is absent from three (3) consecutive ordinary meetings of the Council without prior leave of the Council, or leave granted by the Council at any of the meetings concerned, unless the holder is absent because they have been suspended from office under the Act, or because the Council has been suspended under the Act, or as a consequence of a compliance order under section 438HA.

Note: Clause 5.6 reflects section 234(1)(d) of the Act.

5.7 A Councillor who intends to attend a meeting of the Council despite having been granted a leave of absence should, if practicable, give the General Manager at least two (2) days' notice of their intention to attend.

The Quorum for a Meeting

5.8 The quorum for a meeting of the Council is a majority of the Councillors of the Council who hold office at that time and are not suspended from office.

Note: Clause 5.8 reflects section 368(1) of the Act.

5.9 Clause 5.8 does not apply if the quorum is required to be determined in accordance with directions of the Minister in a performance improvement order issued in respect of the Council.

Note: Clause 5.9 reflects section 368(2) of the Act.

5.10 A meeting of the Council must be adjourned if a quorum is not present:

(a) at the commencement of the meeting where the number of apologies received for the meeting indicates that there will not be a quorum for the meeting, or
(b) within half an hour after the time designated for the holding of the meeting, or
(c) at any time during the meeting.

5.11 In either case, the meeting must be adjourned to a time, date and place fixed:

(a) by the chairperson, or
(b) in the chairperson's absence, by the majority of the Councillors present, or
(c) failing that, by the General Manager.

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5.12 The General Manager must record in the Council's minutes the circumstances relating to the absence of a quorum (including the reasons for the absence of a quorum) at or arising during a meeting of the Council, together with the names of the Councillors present.

5.13 Where, prior to the commencement of a meeting, it becomes apparent that a quorum may not be present at the meeting, or that the safety and welfare of Councillors, Council staff and members of the public may be put at risk by attending the meeting because of a natural disaster (such as, but not limited to flood or bushfire), the Mayor may, in consultation with the General Manager and, as far as is practicable, with each Councillor, cancel the meeting. Where a meeting is cancelled, notice of the cancellation must be published on the Council's website and in such other manner that the Council is satisfied is likely to bring notice of the cancellation to the attention of as many people as possible.

5.14 Where a meeting is cancelled under clause 5.13, the business to be considered at the meeting may instead be considered, where practicable, at the next ordinary meeting of the Council or at an extraordinary meeting called under clause 3.2.

Meetings held by audio-visual link

5.15 A meeting of the Council or a Committee of the Council may be held by audio-visual link where the Mayor determines that the meeting should be held by audio-visual link because of a natural disaster or a public health emergency. The Mayor may only make a determination under this clause where they are satisfied that attendance at the meeting may put the health and safety of Councillors and staff at risk. The Mayor must make a determination under this clause in consultation with the General Manager and, as far as is practicable, with each Councillor.

5.16 Where the Mayor determines under clause 5.15 that a meeting is to be held by audio-visual link, the General Manager must:

(a) give written notice to all Councillors that the meeting is to be held by audio-visual link, and

(b) take all reasonable steps to ensure that all Councillors can participate in the meeting by audio-visual link, and

(c) cause a notice to be published on the Council's website and in such other manner the General Manager is satisfied will bring it to the attention of as many people as possible, advising that the meeting is to be held by audio-visual link and providing information about where members of the public may view the meeting.

5.17 This code applies to a meeting held by audio-visual link under clause 5.15 in the same way it would if the meeting was held in person.

Note: Where a council holds a meeting by audio-visual link under clause 5.15, it is still required under section 10 of the Act to provide a physical venue for members of the public to attend in person and observe the meeting.

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Attendance by Councillors at Meetings by audio visual link

5.18 Councillors may attend and participate in meetings of the Council and Committees of the Council by audio-visual link.

5.19 This code applies to a Councillor attending a meeting by audio-visual link in the same way it would if the Councillor was attending the meeting in person. Where a Councillor is permitted to attend a meeting by audio-visual link under this code, they are to be taken as attending the meeting in person for the purposes of the code and will have the same voting rights as if they were attending the meeting in person.

5.20 A councillor must give their full attention to the business and proceedings of the meeting when attending a meeting by audio-visual link. The Councillor's camera must be on at all times during the meeting except as may be otherwise provided for under this code.

5.21 A Councillor must be appropriately dressed when attending a meeting by audio-visual link and must ensure that no items are within sight of the meeting that are inconsistent with the maintenance of order at the meeting or that are likely to bring the Council or the Committee into disrepute.

Entitlement of the Public to Attend Council Meetings

5.2215 Everyone is entitled to attend a meeting of the Council and Committees of the Council. The Council must ensure that all meetings of the Council and Committees of the Council are open to the public.

Note: Clause 5.2215 reflects section 10(1) of the Act.

5.2316 Clause 5.2215 does not apply to parts of meetings that have been closed to the public under section 10A of the Act.

5.2417 A person (whether a Councillor or another person) is not entitled to be present at a meeting of the Council or a Committee of the Council if expelled from the meeting:

(a) by a resolution of the meeting, or
(b) by the person presiding at the meeting if the Council has, by resolution, authorised the person presiding to exercise the power of expulsion.

Note: Clause 5.2417 reflects section 10(2) of the Act.

Note: Clauses 15.14 and 15.15 confer a standing authorisation on all Chairpersons of meetings of the Council and Committees of the Council to expel persons from meetings. If adopted, clause 15.14 authorises Chairpersons to expel any person, including a councillor, from a Council or Committee meeting. Alternatively, if adopted, clause 15.15 authorises Chairpersons to expel persons other than Councillors from a Council or Committee meeting.~~Note: Clause 15.14 authorises chairpersons to expel persons other than Councillors from a Council or Committee meeting~~.

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Webcasting of Meetings

5.~~1~~258 Shoalhaven City Council will webcast the proceedings (including presentations, deputations and debate) of the Ordinary, Development Committee and Strategy and Assets Committee meetings held within the Council Chambers of the Nowra Administrative Building.

5.2619 Confidential Sessions of Meetings which are closed to the public in accordance with Section 10A of the Local Government Act, 1993 will not be webcast.

5.2720 At the start of each meeting that will be webcast, the Chairperson must advise those in attendance that the meeting will be webcast, and may be recorded under the provisions of this Code (as per Clause 19.13(3))

5.2~~1~~8 It is not the intention of live streaming, recording and publishing to capture those attending the Meeting in the gallery, however this may occur due to the camera angles and seating arrangements. By attending a public meeting, attendees are consenting to their image, voice or comments being webcast or recorded.

5.2~~9~~2 Notifications of webcasting will be provided via:
(a) The inclusion of an Advisory Note on the Agenda of the meetings to be webcast
(b) Signage in the Council Chambers

5.~~2~~30 The General Manager may terminate or suspend webcasting at any point during a meeting if they are of the opinion that continued recording of the proceedings may infringe the rights or safety of an individual, be defamatory or inappropriate.

5.3124 Council will maintain an online library of recorded webcast meetings on Council's Website, for a period of two (2) years. Recordings within that library may have adaptions, modifications or amendments authorised by the General Manager.

5.3225 While Council will make every effort to ensure that live streaming is available, it cannot be held liable for technical issues that may occur. The failure to webcast the debate or decision does not invalidate a resolution of the Council

5.3326 Speakers addressing the meeting do not have absolute privilege with respect to comments they make, opinions they express or material presented, and need to be aware that they may be held personally liable for defamatory statements or statements contrary to any legal obligations.

5.3427 The Webcasts and recordings of the Council are protected by Copyright and owned by Shoalhaven City Council.

5.3528 Written transcripts of the proceedings will not be made available

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5.36 Each meeting of the Council or a Committee of the Council is to be recorded by means of an audio or audio-visual device.

5.37 At the start of each meeting of the Council or a Committee of the Council, the Chairperson must inform the persons attending the meeting that:
(a) the meeting is being recorded and made publicly available on the Council's website, and
(b) persons attending the meeting should refrain from making any defamatory statements.

5.38 The recording of a meeting is to be made publicly available on the Council's website:
(a) at the same time as the meeting is taking place, or
(b) as soon as practicable after the meeting.

5.39 The recording of a meeting is to be made publicly available on the Council's website for at least 12 months after the meeting.

5.40 Clauses 5.38 and 5.39 do not apply to any part of a meeting that has been closed to the public in accordance with section 10A of the Act.

Note: Clauses 5.36 – 5.40 reflect section 236 of the Regulation.

5.41 Recordings of meetings may be disposed of in accordance with the *State Records Act 1998*.

Attendance of the General Manager and other staff at meetings

5.42~~29~~ The General Manager is entitled to attend, but not to vote at, a meeting of the Council or a meeting of a Committee of the Council of which all of the members are Councillors.

Note: Clause 5.29 reflects section 376(1) of the Act.

5.43~~30~~ The General Manager is entitled to attend a meeting of any other Committee of the Council and may, if a member of the Committee, exercise a vote.

Note: Clause 5.30 reflects section 376(2) of the Act.

5.44~~31~~ The General Manager may be excluded from a meeting of the Council or a Committee while the Council or Committee deals with a matter relating to the standard of performance of the General Manager or the terms of employment of the General Manager.

Note: Clause 5.31 reflects section 376(3) of the Act.

5.45~~32~~ The attendance of other Council staff at a meeting, (other than as members of the public) shall be with the approval of the General Manager.

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5.46 The General Manager and other Council staff may attend meetings of the Council and Committees of the Council by audio-visual-link. Attendance by Council staff at meetings by audio-visual link (other than as members of the public) shall be with the approval of the General Manager.

6. The Chairperson

The Chairperson at Meetings

6.1 The Mayor, or at the request of or in the absence of the Mayor, the Deputy Mayor (if any) presides at meetings of the Council.

Note: Clause 6.1 reflects section 369(1) of the Act.

6.2 If the Mayor and the Deputy Mayor (if any) are absent, a Councillor elected to chair the meeting by the Councillors present presides at a meeting of the Council.

Note: Clause 6.2 reflects section 369(2) of the Act.

~~**Election of the chairperson in the absence of the Mayor, deputy Mayor and assistant deputy Mayor**~~

6.3 If no chairperson is present at a meeting of the Council at the time designated for the holding of the meeting, the first business of the meeting must be the election of a chairperson to preside at the meeting.

6.4 The election of a chairperson must be conducted:

(a) by the General Manager or, in their absence, an employee of the Council designated by the General Manager to conduct the election, or
(b) by the person who called the meeting or a person acting on their behalf if neither the General Manager nor a designated employee is present at the meeting, or if there is no General Manager or designated employee.

6.5 If, at an election of a chairperson, two (2) or more candidates receive the same number of votes and no other candidate receives a greater number of votes, the chairperson is to be the candidate whose name is chosen by lot.

6.6 For the purposes of clause 6.5, the person conducting the election must:
(a) arrange for the names of the candidates who have equal numbers of votes to be written on similar slips, and
(b) then fold the slips so as to prevent the names from being seen, mix the slips and draw one of the slips at random.

6.7 The candidate whose name is on the drawn slip is the candidate who is to be the chairperson.

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6.8 Any election conducted under clause 6.3, and the outcome of the vote, are to be recorded in the minutes of the meeting.

Chairperson to have precedence

6.9 When the chairperson rises or speaks during a meeting of the Council:

(a) any Councillor then speaking or seeking to speak must cease speaking and, if standing, immediately resume their seat, and
(b) every Councillor present must be silent to enable the chairperson to be heard without interruption.

7. Modes of Address

7.1 If the chairperson is the Mayor, they are to be addressed as Mayor (Surname).

7.2 Where the chairperson is not the Mayor, they are to be addressed as either Chairperson' or 'The Chair'.

7.3 A Councillor is to be addressed as 'Councillor [surname]'.

7.4 A Council officer is to be addressed by their official position title or as Mr/Ms [surname].

8. Order of Business for Ordinary Council Meetings

8.1 At a meeting of the Council, the general order of business is as fixed by resolution of the Council.

8.2 The order of business as fixed under clause 8.1 may be altered for a particular meeting of the Council if a motion to that effect is passed at that meeting. Such a motion can be moved without notice.

Note: Refer to Part 13.

8.3 Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 8.2 may speak to the motion before it is put.

9. Consideration of Business at Council Meetings

Business that can be dealt with at a Council meeting

9.1 The Council must not consider business at a meeting of the Council:

(a) unless a Councillor has given notice of the business, as required by clause 3.9, and
(b) unless notice of the business has been sent to the Councillors in accordance with clause 3.7 in the case of an ordinary meeting or clause 3.8 in the case of an extraordinary meeting called in an emergency.

9.2 Clause 9.1 does not apply to the consideration of business at a meeting, if the business:

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(a) is already before, or directly relates to, a matter that is already before the Council, or
(b) is the election of a chairperson to preside at the meeting, or
(c) subject to clause 9.9, is a matter or topic put to the meeting by way of a Mayoral minute, or
(d) is a motion for the adoption of recommendations of a Committee, including, but not limited to, a Committee of the Council.

9.3 Despite clause 9.1, business may be considered at a meeting of the Council even though due notice of the business has not been given to the Councillors if:

(a) a motion is passed to have the business considered at the meeting, and
(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the Council before the next scheduled ordinary meeting of the Council.

9.4 A motion moved under clause 9.3(a) can be moved without notice. Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 9.3(a) can speak to the motion before it is put.

9.5 A motion of dissent cannot be moved against a ruling by the chairperson under clause 9.3(b).

Mayoral Minutes

9.6 Subject to clause 9.9, if the Mayor is the chairperson at a meeting of the Council, the Mayor may, by minute signed by the Mayor, put to the meeting without notice any matter or topic that is within the jurisdiction of the Council, or of which the Council has official knowledge.

9.7 A Mayoral minute, when put to a meeting, takes precedence over all business on the Council's agenda for the meeting. The chairperson (but only if the chairperson is the Mayor) may move the adoption of a Mayoral minute without the motion being seconded.

9.8 A recommendation made in a Mayoral minute put by the Mayor is, so far as it is adopted by the Council, a resolution of the Council.

9.9 A Mayoral minute must not be used to put without notice matters that are routine and not urgent, or matters for which proper notice should be given because of their complexity. For the purpose of this clause, a matter will be urgent where it requires a decision by the Council before the next scheduled ordinary meeting of the Council.

Note for consideration: Where a Mayoral Minute makes a recommendation which, if adopted, would require the expenditure of funds on works and/or services other than those already provided for in the Council's current adopted Operational Plan, it should identify the source of funding for the expenditure that is the subject of the recommendation.

Staff reports

9.10 A recommendation made in a staff report is, so far as it is adopted by the Council, a resolution of the Council.

Reports of Committees of Council

9.11 The recommendations of a Committee of the Council are, so far as they are adopted by the Council, resolutions of the Council.

9.12 If in a report of a Committee of the Council distinct recommendations are made, the Council may make separate decisions on each recommendation.

Questions

9.13 A question must not be asked at a meeting of the Council unless it concerns a matter on the agenda of the meeting or notice has been given of the question in accordance with clauses 3.9 and 3.14.

9.14 A Councillor may, through the chairperson, put a question to another Councillor about a matter on the agenda.

9.15 A Councillor may, through the General Manager, put a question to a Council employee about a matter on the agenda. Council employees are only obliged to answer a question put to them through the General Manager at the direction of the General Manager.

9.16 A Councillor or Council employee to whom a question is put is entitled to be given reasonable notice of the question and, in particular, sufficient notice to enable reference to be made to other persons or to documents. Where a Councillor or Council employee to whom a question is put is unable to respond to the question at the meeting at which it is put, they may take it on notice and report the response to the next meeting of the Council.

9.17 Councillors must put questions directly, succinctly, respectfully and without argument.

9.18 The chairperson must not permit discussion on any reply to, or refusal to reply to, a question put to a Councillor or Council employee.

Petitions

9.19 The exact wording of petitions tabled at meetings of the Council shall be recorded in the minutes of that meeting. Petitions will be managed in accordance with the Council's Policy for Petitions.

Development Approval Process

9.20 In any circumstances where a Development Application is called-in by Council for determination the resolution shall include reasons for doing so.

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9.21 Reasons will also be recorded for decisions, approval or refusal, involving Development Applications seeking approval for significant variations to Council policies, Development Control Plans or other development standards. (Refer MIN08.907)

9.22 A notice of amendment or rescission shall be lodged in the circumstance a call-in (under clause 19.20) is to be reversed. The resolution of the Council must include the reason for the reversal.

9.23 Where a report is provided to the Council relating to a DA, the report will provide names of the applicants and owners to allow consideration and declaration of any Conflict of Interest.

10. Rules of Debate

Motions to be Seconded

10.1 Unless otherwise specified in this code, a motion or an amendment cannot be debated unless or until it has been seconded.

Notices of Motion

10.2 A Councillor who has submitted a Notice of Motion under clause 3.9 is to move the motion the subject of the Notice of Motion at the meeting at which it is to be considered.

10.3 If a Councillor who has submitted a Notice of Motion under clause 3.9 wishes to withdraw it after the agenda and business paper for the meeting at which it is to be considered have been sent to Councillors, the Councillor may request the withdrawal of the motion when it is before the Council.

10.4 In the absence of a Councillor who has placed a Notice of Motion on the agenda for a meeting of the Council:

(a) any other Councillor may, with the leave of the chairperson, move the motion at the meeting, or
(b) the chairperson may defer consideration of the motion until the next meeting of the Council.

Chairperson's Duties with Respect to Motions

10.5 It is the duty of the chairperson at a meeting of the Council to receive and put to the meeting any lawful motion that is brought before the meeting.

10.6 The chairperson must rule out of order any motion or amendment to a motion that is unlawful or the implementation of which would be unlawful.

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10.7 Before ruling out of order a motion or an amendment to a motion under clause 10.6, the chairperson is to give the mover an opportunity to clarify or amend the motion or amendment.

10.8 Any motion, amendment or other matter that the chairperson has ruled out of order is taken to have been lost.

Amendments to Motions

10.9 An amendment to a motion must be moved and seconded before it can be debated.

10.10 An amendment to a motion must relate to the matter being dealt with in the original motion before the Council and must not be a direct negative of the original motion. An amendment to a motion which does not relate to the matter being dealt with in the original motion, or which is a direct negative of the original motion, must be ruled out of order by the chairperson.

10.11 The mover of an amendment is to be given the opportunity to explain any uncertainties in the proposed amendment before a seconder is called for.

10.12 If an amendment has been lost, a further amendment can be moved to the motion to which the lost amendment was moved, and so on, but no more than one (1) motion and one (1) proposed amendment can be before Council at any one time.

10.13 While an amendment is being considered, debate must only occur in relation to the amendment and not the original motion. Debate on the original motion is to be suspended while the amendment to the original motion is being debated.

10.14 If the amendment is carried, it becomes the motion and is to be debated. If the amendment is lost, debate is to resume on the original motion.

10.15 An amendment may become the motion without debate or a vote where it is accepted by the Councillor who moved the original motion.

Foreshadowed Motions

10.16 A Councillor may propose a foreshadowed motion in relation to the matter the subject of the original motion before the Council, without a seconder during debate on the original motion. The foreshadowed motion is only to be considered if the original motion is lost or withdrawn and the foreshadowed motion is then moved and seconded. If the original motion is carried, the foreshadowed motion lapses.

10.17 Where an amendment has been moved and seconded, a Councillor may, without a seconder, foreshadow a further amendment that they propose to move after the first amendment has been dealt with. There is no limit to the number of foreshadowed amendments that may be put before the Council at any time. However, no discussion can take place on foreshadowed amendments until the previous amendment has been dealt with and the foreshadowed amendment has been moved and seconded.

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10.18 Foreshadowed motions and foreshadowed amendments are to be considered in the order in which they are proposed. However, foreshadowed motions cannot be considered until all foreshadowed amendments have been dealt with.

Limitations on the Number and Duration of Speeches

10.19 A Councillor who, during a debate at a meeting of the Council, moves an original motion, has the right to speak on each amendment to the motion and a right of general reply to all observations that are made during the debate in relation to the motion, and any amendment to it at the conclusion of the debate before the motion (whether amended or not) is finally put.

10.20 A Councillor, other than the mover of an original motion, has the right to speak once on the motion and once on each amendment to it.

10.21 A Councillor must not, without the consent of the Council, speak more than once on a motion or an amendment, or for longer than five (5) minutes at any one time.

10.22 Despite clause 10.21, the chairperson may permit a Councillor who claims to have been misrepresented or misunderstood to speak more than once on a motion or an amendment, and for longer than five (5) minutes on that motion or amendment to enable the Councillor to make a statement limited to explaining the misrepresentation or misunderstanding.

10.23 Despite clause 10.21, the Council may resolve to shorten the duration of speeches to expedite the consideration of business at a meeting.

10.24 Despite clauses 10.19 and 10.20, a Councillor may move that a motion or an amendment be now put:

(a) if the mover of the motion or amendment has spoken in favour of it and no Councillor expresses an intention to speak against it, or
(b) if at least two (2) Councillors have spoken in favour of the motion or amendment and at least two (2) Councillors have spoken against it.

10.25 The chairperson must immediately put to the vote, without debate, a motion moved under clause 10.24. A seconder is not required for such a motion.

10.26 If a motion that the original motion or an amendment be now put is passed, the chairperson must, without further debate, put the original motion or amendment to the vote immediately after the mover of the original motion has exercised their right of reply under clause 10.19.

10.27 If a motion that the original motion or an amendment be now put is lost, the chairperson must allow the debate on the original motion or the amendment to be resumed.

10.28 All Councillors must be heard without interruption and all other Councillors must, unless otherwise permitted under this code, remain silent while another Councillor is speaking.

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10.29 Once the debate on a matter has concluded and a matter has been dealt with, the chairperson must not allow further debate on the matter.

11. Voting

Voting Entitlements of Councillors

11.1 Each Councillor is entitled to one (1) vote.
Note: Clause 11.1 reflects section 370(1) of the Act.

11.2 The person presiding at a meeting of the Council has, in the event of an equality of votes, a second or casting vote.
Note: Clause 11.2 reflects section 370(2) of the Act.

11.3 Where the chairperson declines to exercise, or fails to exercise, their second or casting vote, in the event of an equality of votes, the motion being voted upon is lost.

Voting at Council Meetings

11.4 A Councillor who is present at a meeting of the Council but who fails to vote on a motion put to the meeting is taken to have voted against the motion.

11.5 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system). However, the Council may resolve that the voting in any election by Councillors for Mayor or deputy Mayor is to be by secret ballot.

11.6 All voting at Council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of Councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

11.7 If a councillor who has voted against a motion put at a council meeting so requests, the general manager must ensure that the councillor's dissenting vote is recorded in the council's minutes.

11.8 The decision of the chairperson as to the result of a vote is final unless the decision is immediately challenged and not fewer than two (2) councillors rise and call for a division.

11.9 When a division on a motion is called, the chairperson must ensure that the division takes place immediately. The general manager must ensure that the names of those who vote for the motion and those who vote against it are recorded in the council's minutes for the meeting.

11.10 When a division on a motion is called, any councillor who fails to vote will be recorded as having voted against the motion in accordance with clause 11.5 of this code.

11.11 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting

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system). However, the council may resolve that the voting in any election by councillors for mayor or deputy mayor is to be by secret ballot.

11.12 All voting at council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

Voting on planning decisions

11.137 The General Manager must keep a register containing, for each planning decision made at a meeting of the Council or a Council Committee (including, but not limited to a Committee of the Council), the names of the Councillors who supported the decision and the names of any Councillors who opposed (or are taken to have opposed) the decision.

11.148 For the purpose of maintaining the register, a division is taken to have been called whenever a motion for a planning decision is put at a meeting of the Council or a Council Committee. Leave in with Note regarding recorded as a division

11.159 Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document.

11.160 Clauses 11.713–11.915 apply also to meetings that are closed to the public.

Note: Clauses 11.713–11.8 14 reflect section 375A of the Act.

Note: The requirements of clause 11.713 may be satisfied by maintaining a register of the minutes of each planning decision.

12. Committee of the Whole

12.1 The Council may resolve itself into a Committee to consider any matter before the Council.

Note: Clause 12.1 reflects section 373 of the Act.

12.2 All the provisions of this code relating to meetings of the Council, so far as they are applicable, extend to and govern the proceedings of the Council when in Committee of the whole, except the provisions limiting the number and duration of speeches.

Note: Clauses 10.19–10.29 limit the number and duration of speeches.

12.3 The General Manager or, in the absence of the General Manager, an employee of the Council designated by the General Manager, is responsible for reporting to the Council the proceedings of the Committee of the whole. It is not necessary to report the proceedings in full but any recommendations of the Committee must be reported.

12.4 The Council must ensure that a report of the proceedings (including any recommendations of the Committee) is recorded in the Council's minutes. However, the Council is not taken to have adopted the report until a motion for adoption has been made and passed.

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13. Call over of Items – Dealing with Items by Exception

13.1 The Council or a Committee of Council may, at any time, resolve to adopt multiple items of business on the agenda together by way of a single resolution.

13.2 Before the Council or Committee resolves to adopt multiple items of business on the agenda together under clause 13.1, the chairperson must call over or list the items of business to be adopted and ask Councillors to identify any individual items of business listed by the chairperson that they intend to vote against the recommendation made in the business paper or that they wish to speak on.

13.3 The Council or Committee must not resolve to adopt any item of business under clause 13.1 that a Councillor has identified as being one they intend to vote against the recommendation made in the business paper or to speak on.

13.4 Where the consideration of multiple items of business together under clause 13.1 involves a variation to the order of business for the meeting, the Council or Committee must resolve to alter the order of business in accordance with clause 8.2.

13.5 A motion to adopt multiple items of business together under clause 13.1 as the result of a call-over must identify each of the items of business to be adopted and state that they are to be adopted as recommended in the business paper.

13.6 Items of business adopted under clause 13.1 are to be taken to have been adopted unanimously.

13.7 Councillors must ensure that they declare and manage any conflicts of interest they may have in relation to items of business considered together under clause 13.1 in accordance with the requirements of the Council's code of conduct.

14. Closure of Council Meetings to the Public

Grounds on Which Meetings can be Closed to the Public

14.1 The Council or a Committee of the Council may close to the public so much of its meeting as comprises the discussion or the receipt of any of the following types of matters:

(a) personnel matters concerning particular individuals (other than Councillors),
(b) the personal hardship of any resident or ratepayer,
(c) information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business,
(d) commercial information of a confidential nature that would, if disclosed:
(i) prejudice the commercial position of the person who supplied it, or
(ii) confer a commercial advantage on a competitor of the Council, or
(iii) reveal a trade secret,
(e) information that would, if disclosed, prejudice the maintenance of law,
(f) matters affecting the security of the Council, Councillors, Council staff or Council property,
(g) advice concerning litigation, or advice that would otherwise be privileged from

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production in legal proceedings on the ground of legal professional privilege,

(h) information concerning the nature and location of a place or an item of Aboriginal significance on community land,

(i) alleged contraventions of the Council's code of conduct.

Note: Clause 14.1 reflects section 10A(1) and (2) of the Act.

14.2 The Council or a Committee of the Council may also close to the public so much of its meeting as comprises a motion to close another part of the meeting to the public.

Note: Clause 14.2 reflects section 10A(3) of the Act.

Matters to be Considered when Closing Meetings to the Public

14.3 A meeting is not to remain closed during the discussion of anything referred to in clause 14.1:

(a) except for so much of the discussion as is necessary to preserve the relevant confidentiality, privilege or security, and

(b) if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret – unless the Council or Committee concerned is satisfied that discussion of the matter in an open meeting would, on balance, be contrary to the public interest.

Note: Clause 14.3 reflects section 10B(1) of the Act.

14.4 A meeting is not to be closed during the receipt and consideration of information or advice referred to in clause 14.1(g) unless the advice concerns legal matters that:

(a) are substantial issues relating to a matter in which the Council or Committee is involved, and

(b) are clearly identified in the advice, and

(c) are fully discussed in that advice.

Note: Clause 14.4 reflects section 10B(2) of the Act.

14.5 If a meeting is closed during the discussion of a motion to close another part of the meeting to the public (as referred to in clause 14.2), the consideration of the motion must not include any consideration of the matter or information to be discussed in that other part of the meeting other than consideration of whether the matter concerned is a matter referred to in clause 14.1.

Note: Clause 14.5 reflects section 10B(3) of the Act.

14.6 For the purpose of determining whether the discussion of a matter in an open meeting would be contrary to the public interest, it is irrelevant that:

(a) a person may misinterpret or misunderstand the discussion, or

(b) the discussion of the matter may:

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(i) cause embarrassment to the Council or Committee concerned, or to Councillors or to employees of the Council, or
(ii) cause a loss of confidence in the Council or Committee.
Note: Clause 14.6 reflects section 10B(4) of the Act.

14.7 In deciding whether part of a meeting is to be closed to the public, the Council or Committee concerned must consider any relevant guidelines issued by the Chief Executive of the Office of Local Government.
Note: Clause 14.7 reflects section 10B(5) of the Act.

Notice of Likelihood of Closure not Required in Urgent Cases

14.8 Part of a meeting of the Council, or of a Committee of the Council, may be closed to the public while the Council or Committee considers a matter that has not been identified in the agenda for the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed, but only if:

(a) it becomes apparent during the discussion of a particular matter that the matter is a matter referred to in clause 14.1, and
(b) the Council or Committee, after considering any representations made under clause 14.9, resolves that further discussion of the matter:
(i) should not be deferred (because of the urgency of the matter), and
(ii) should take place in a part of the meeting that is closed to the public.
Note: Clause 14.8 reflects section 10C of the Act.

Representations by Members of the Public

14.9 The Council, or a Committee of the Council, may allow members of the public to make representations to or at a meeting, before any part of the meeting is closed to the public, as to whether that part of the meeting should be closed.
Note: Clause 14.9 reflects section 10A(4) of the Act.

14.10 A representation under clause 14.9 is to be made after the motion to close the part of the meeting is moved and seconded.

14.11 Where the matter has been identified in the agenda of the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed to the public, in order to make representations under clause 14.9, members of the public must first make an application to the Council in the approved form. Applications must be received by ~~midday~~ 9.30am **on the day of** the meeting at which the matter is to be considered.

14.12 The General Manager (or their delegate) may refuse an application made under clause 14.11. The General Manager or their delegate must give reasons in writing for a decision to refuse an application.

14.13 No more than **one speaker for and one speaker against** are to be permitted to make representations under clause 14.9.

14.14 If more than the permitted number of speakers apply to make representations under clause 14.9, the General Manager or their delegate may request the speakers to

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nominate from among themselves the persons who are to make representations to the Council. If the speakers are not able to agree on whom to nominate to make representations under clause 14.9, the General Manager or their delegate is to determine who will make representations to the Council.

14.15 The General Manager (or their delegate) is to determine the order of speakers.

14.16 Where the Council or a Committee of the Council proposes to close a meeting or part of a meeting to the public in circumstances where the matter has not been identified in the agenda for the meeting under clause 3.19 as a matter that is likely to be considered when the meeting is closed to the public, the chairperson is to invite representations from the public under clause 14.9 after the motion to close the part of the meeting is moved and seconded. The chairperson is to permit no more than **two (2)** speakers to make representations in such order as determined by the chairperson.

14.17 Each speaker will be allowed **five (5)** minutes to make representations, and this time limit is to be strictly enforced by the chairperson. Speakers must confine their representations to whether the meeting should be closed to the public. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

Expulsion of Non-Councillors from Meetings Closed to the Public

14.18 If a meeting or part of a meeting of the Council or a Committee of the Council is closed to the public in accordance with section 10A of the Act and this code, any person who is not a Councillor and who fails to leave the meeting when requested, may be expelled from the meeting as provided by section 10(2)(a) or (b) of the Act.

14.19 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the Council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary restrain that person from re-entering that place for the remainder of the meeting.

Obligations of Councillors attending meetings by audio visual link

14.20 Councillors attending a meeting by audio-visual link must ensure that no other person is within sight or hearing of the meeting at any time that the meeting is closed to the public under section 10A of the Act.

Information to be Disclosed in Resolutions Closing Meetings to the Public

14.21~~0~~ The grounds on which part of a meeting is closed must be stated in the decision to close that part of the meeting and must be recorded in the minutes of the meeting. The grounds must specify the following:

(a) the relevant provision of section 10A(2) of the Act,
(b) the matter that is to be discussed during the closed part of the meeting,
(c) the reasons why the part of the meeting is being closed, including (if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret) an explanation of the way in which discussion of the matter in an open meeting would be, on balance, contrary to the public interest.

Note: Clause 14.2~~0~~1 reflects section 10D of the Act.

Resolutions Passed at Closed Meetings to be Made Public

14.2~~2~~1If the Council passes a resolution during a meeting, or a part of a meeting, that is closed to the public, the chairperson must make the resolution public as soon as practicable after the meeting, or the relevant part of the meeting, has ended, and the resolution must be recorded in the publicly available minutes of the meeting.

14.2~~2~~3Resolutions passed during a meeting, or a part of a meeting, that is closed to the public must be made public by the chairperson under clause 14.2~~1~~2 during a part of the meeting that is webcast.

15. Keeping Order at Meetings

Points of Order

15.1 A Councillor may draw the attention of the chairperson to an alleged breach of this code by raising a point of order. A point of order does not require a seconder.

15.2 A point of order cannot be made with respect to adherence to the principles contained in clause 2.1.

15.3 A point of order must be taken immediately it is raised. The chairperson must suspend the business before the meeting and permit the Councillor raising the point of order to state the provision of this code they believe has been breached. The chairperson must then rule on the point of order – either by upholding it or by overruling it.

Questions of Order

15.4 The chairperson, without the intervention of any other Councillor, may call any Councillor to order whenever, in the opinion of the chairperson, it is necessary to do so.

15.5 A Councillor who claims that another Councillor has committed an act of disorder, or is out of order, may call the attention of the chairperson to the matter.

15.6 The chairperson must rule on a question of order immediately after it is raised but, before doing so, may invite the opinion of the Council.

15.7 The chairperson's ruling must be obeyed unless a motion dissenting from the ruling is passed.

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Motions of Dissent

15.8 A Councillor can, without notice, move to dissent from a ruling of the chairperson on a point of order or a question of order. If that happens, the chairperson must suspend the business before the meeting until a decision is made on the motion of dissent.

15.9 If a motion of dissent is passed, the chairperson must proceed with the suspended business as though the ruling dissented from had not been given. If, as a result of the ruling, any motion or business has been rejected as out of order, the chairperson must restore the motion or business to the agenda and proceed with it in due course.

15.10 Despite any other provision of this code, only the mover of a motion of dissent and the chairperson can speak to the motion before it is put. The mover of the motion does not have a right of general reply.

Acts of Disorder

15.11 A Councillor commits an act of disorder if the Councillor, at a meeting of the Council or a Committee of the Council:

(a) contravenes the Act or any regulation in force under the Act or this code, or
(b) assaults or threatens to assault another Councillor or person present at the meeting, or
(c) moves or attempts to move a motion or an amendment that has an unlawful purpose or that deals with a matter that is outside the jurisdiction of the Council or the Committee, or addresses or attempts to address the Council or the Committee on such a motion, amendment or matter, or
(d) insults or makes personal reflections on or imputes improper motives to any other Council official, or alleges a breach of the Council's code of conduct, or
(e) says or does anything that is inconsistent with maintaining order at the meeting or is likely to bring the Council or the Committee into disrepute.

15.12 The chairperson may require a Councillor:

(a) to apologise without reservation for an act of disorder referred to in clauses 15.11(a) or (b), or
(b) to withdraw a motion or an amendment referred to in clause 15.11(c) and, where appropriate, to apologise without reservation, or
(c) to retract and apologise without reservation for an act of disorder referred to in clauses 15.11(d) and (e).

How Disorder at a Meeting may be Dealt with

15.13 If disorder occurs at a meeting of the Council, the chairperson may adjourn the meeting for a period of not more than fifteen (15) minutes and leave the chair. The Council, on reassembling, must, on a question put from the chairperson, decide without debate whether the business is to be proceeded with or not. This clause applies to disorder arising from the conduct of members of the public as well as disorder arising from the conduct of Councillors.

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Expulsion from Meetings

15.14 All chairpersons of meetings of the Council and Committees of the Council are authorised under this code to expel any person other than a Councillor, from a Council or Committee meeting, for the purposes of section 10(2)(b) of the Act. Councillors may only be expelled by resolution of the Council or the Committee of the Council.

15.15 A Councillor may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the Council for having failed to comply with a requirement under clause 15.12. The expulsion of a Councillor from the meeting for that reason does not prevent any other action from being taken against the Councillor for the act of disorder concerned.

15.16 A member of the public may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the Council for engaging in or having engaged in disorderly conduct at the meeting.

15.17 Where a Councillor or a member of the public is expelled from a meeting, the expulsion and the name of the person expelled, if known, are to be recorded in the minutes of the meeting.

15.18 If a Councillor or a member of the public fails to leave the place where a meeting of the Council is being held immediately after they have been expelled, a police officer, or any person authorised for the purpose by the Council or person presiding, may, by using only such force as is necessary, remove the Councillor or member of the public from that place and, if necessary, restrain the Councillor or member of the public from re-entering that place for the remainder of the meeting.

15.19 Clause 15.14 does not limit the ability of the Council or a Committee of the Council to resolve to expel a person, including a Councillor, from a Council or Committee meeting, under section 10(2)(a) of the Act

How Disorder by Councillors Attending Meetings by Audio-Visual Link may be Dealt with

15.20 Where a Councillor is attending a meeting by audio-visual link, the chairperson or a person authorised by the chairperson may mute the Councillor's audio link to the meeting for the purposes of enforcing compliance with this code.

15.21 If a Councillor attending a meeting by audio-visual link is expelled from a meeting for an act of disorder, the chairperson of the meeting or a person authorised by the chairperson, may terminate the Councillor's audio-visual link to the meeting.

Use of mobile phones and the unauthorised recording of meetings

~~15.19 Councillors, Council staff and members of the public must ensure that mobile phones are turned to silent during meetings of the Council and Committees of the Council.~~

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~~15.20 Council permits the use of an audio recorder, video camera, mobile phone or any other device to make a recording of the proceedings of any open meeting of the Council or a Committee of the Council held within the Council Chambers. Prior authorisation of the Council or the Committee will be required to record meetings held in other locations.~~

~~15.21 Any person who contravenes or attempts to contravene clause 15.20, may be expelled from the meeting as provided for under section 10(2) of the Act.~~

~~15.22 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the Council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary, restrain that person from re-entering that place for the remainder of the meeting.~~

15.22 Councillors, Council staff and members of the public must ensure that mobile phones are turned to silent during meetings of the Council and Committees of the Council.

15.23 A person must not live stream or use an audio recorder, video camera, mobile phone or any other device to make a recording of the proceedings of a meeting of the council or a Committee of the Council without the prior authorisation of the Council or the Committee.

15.24 Without limiting clause 15.16, a contravention of clause 15.23 or an attempt to contravene that clause, constitutes disorderly conduct for the purposes of clause 15.18. Any person who contravenes or attempts to contravene clause 15.23, may be expelled from the meeting as provided for under section 10(2) of the Act.

15.25 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the council or person presiding, may, by using only such force as is necessary, remove the first mentioned person from that place and, if necessary, restrain that person from re-entering that place for the remainder of the meeting.

16. Conflicts of Interest

16.1 All Councillors and, where applicable, all other persons, must declare and manage any conflicts of interest they may have in matters being considered at meetings of the Council and Committees of the Council in accordance with the Council's code of conduct. All declarations of conflicts of interest and how the conflict of interest was managed by the person who made the declaration must be recorded in the minutes of the meeting at which the declaration was made.

16.2 Councillors attending a meeting by audio-visual link must declare and manage any conflicts of interest they may have in matters being considered at the meeting in accordance with the Council's Code of Conduct. Where a Councillor has declared a pecuniary or significant non-pecuniary conflict of interest in a matter being discussed

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at the meeting, the Councillor's audio-visual link to the meeting must be suspended or terminated and the Councillor must not be in sight or hearing of the meeting at any time during which the matter is being considered or discussed by the Council or Committee, or at any time during which the Council or Committee is voting on the matter.

17. Decisions of the Council

Council Decisions

17.1 A decision supported by a majority of the votes at a meeting of the Council at which a quorum is present is a decision of the Council.
Note: Clause 17.1 reflects section 371 of the Act in the case of Councils and section 400T(8) in the case of joint organisations.

17.2 Decisions made by the Council must be accurately recorded in the minutes of the meeting at which the decision is made.

Rescinding or Altering Council Decisions

17.3 A resolution passed by the Council may not be altered or rescinded except by a motion to that effect of which notice has been given under clause 3.9.
Note: Clause 17.3 reflects section 372(1) of the Act.

17.4 If a notice of motion to rescind a resolution is given at the meeting at which the resolution is carried, the resolution must not be carried into effect until the motion of rescission has been dealt with.
Note: Clause 17.4 reflects section 372(2) of the Act.

17.5 If a motion has been lost, a motion having the same effect must not be considered unless notice of it has been duly given in accordance with clause 3.9.
Note: Clause 17.5 reflects section 372(3) of the Act.

17.6 A notice of motion to alter or rescind a resolution, and a notice of motion which has the same effect as a motion which has been lost, must be signed by three (3) Councillors if less than three (3) months has elapsed since the resolution was passed, or the motion was lost.
Note: Clause 17.6 reflects section 372(4) of the Act.

17.7 If a motion to alter or rescind a resolution has been lost, or if a motion which has the same effect as a previously lost motion is lost, no similar motion may be brought forward within three (3) months of the meeting at which it was lost. This clause may not be evaded by substituting a motion differently worded, but in principle the same.
Note: Clause 17.7 reflects section 372(5) of the Act.

17.8 The provisions of clauses 17.5–17.7 concerning lost motions do not apply to motions of adjournment.
Note: Clause 17.8 reflects section 372(7) of the Act.

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17.9 A notice of motion submitted in accordance with clause 17.6 may only be withdrawn under clause 3.10 with the consent of all signatories to the notice of motion.

17.10 A notice of motion to alter or rescind a resolution relating to a development application must be submitted to the General Manager prior to the conclusion of the meeting it was lodged at which the resolution was adopted.

17.11 A motion to alter or rescind a resolution of the Council may be moved on the report of a Committee of the Council and any such report must be recorded in the minutes of the meeting of the Council.
Note: Clause 17.11 reflects section 372(6) of the Act.

Recommitting resolutions to correct an error

17.12 Despite the provisions of this Part, a Councillor may, with the leave of the chairperson, move to recommit a resolution adopted at the same meeting:

(a) to correct any error, ambiguity or imprecision in the Council's resolution, or
(b) to confirm the voting on the resolution.

17.13 In seeking the leave of the chairperson to move to recommit a resolution for the purposes of clause 17.12(a), the Councillor is to propose alternative wording for the resolution.

17.14 The chairperson must not grant leave to recommit a resolution for the purposes of clause 17.12(a), unless they are satisfied that the proposed alternative wording of the resolution would not alter the substance of the resolution previously adopted at the meeting.

17.15 A motion moved under clause 17.12 can be moved without notice. Despite clauses 10.19–10.29, only the mover of a motion referred to in clause 17.12 can speak to the motion before it is put.

17.16 A motion of dissent cannot be moved against a ruling by the chairperson under clause 17.12.

17.27 A motion moved under clause 17.12 with the leave of the chairperson cannot be voted on unless or until it has been seconded.

18. Time Limits on Council Meetings

18.1 Meetings of the Council and Committees of the Council are to conclude no later than **9.30pm**

18.2 If the business of the meeting is unfinished at 9.~~0~~30pm, the Council or the Committee may, by resolution, extend the time of the meeting.

18.3 If the business of the meeting is unfinished at 10.00pm, and the Council does not resolve to extend the meeting, the chairperson must either:

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(a) defer consideration of the remaining items of business on the agenda to the next ordinary meeting of the Council, or
(b) adjourn the meeting to a time, date and place fixed by the chairperson.

18.4 Clause 18.3 does not limit the ability of the Council or a Committee of the Council to resolve to adjourn a meeting at any time. The resolution adjourning the meeting must fix the time, date and place that the meeting is to be adjourned to.

18.5 Where a meeting is adjourned under clause 18.3 or 18.4, the General Manager must:

(a) individually notify each Councillor of the time, date and place at which the meeting will reconvene, and
(b) publish the time, date and place at which the meeting will reconvene on the Council's website and in such other manner that the General Manager is satisfied is likely to bring notice of the time, date and place of the reconvened meeting to the attention of as many people as possible.

19. After the Meeting

Minutes of Meetings

19.1 The Council is to keep full and accurate minutes of the proceedings of meetings of the Council.
Note: Clause 19.1 reflects section 375(1) of the Act.

19.2 At a minimum, the General Manager must ensure that the following matters are recorded in the Council's minutes:

(a) details of each motion moved at a Council meeting and of any amendments moved to it,
(b) the names of the mover and seconder of the motion or amendment,
(c) whether the motion or amendment was passed or lost, and
(d) such other matters specifically required under this code.
(e) the names of Councillors attending a Council meeting and whether they attended the meeting in person or by audio-visual link

19.3 The minutes of a Council meeting must be confirmed at a subsequent meeting of the Council.
Note: Clause 19.3 reflects section 375(2) of the Act.

19.4 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

19.5 When the minutes have been confirmed, they are to be signed by the person presiding at the subsequent meeting.
Note: Clause 19.5 reflects section 375(2) of the Act.

19.6 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

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19.7 The confirmed minutes of a Council meeting must be published on the Council's website. This clause does not prevent the Council from also publishing unconfirmed minutes of its meetings on its website prior to their confirmation.

Access to Correspondence and Reports Laid on the Table at, or Submitted to, a Meeting

19.8 The Council and Committees of the Council must, during or at the close of a meeting, or during the business day following the meeting, give reasonable access to any person to inspect correspondence and reports laid on the table at, or submitted to, the meeting.
Note: Clause 19.8 reflects section 11(1) of the Act.

19.9 Clause 19.8 does not apply if the correspondence or reports relate to a matter that was received or discussed or laid on the table at, or submitted to, the meeting when the meeting was closed to the public.
Note: Clause 19.9 reflects section 11(2) of the Act.

19.10 Clause 19.8 does not apply if the Council or the Committee resolves at the meeting, when open to the public, that the correspondence or reports are to be treated as confidential because they relate to a matter specified in section 10A(2) of the Act.
Note: Clause 19.10 reflects section 11(3) of the Act.

19.11 Correspondence or reports to which clauses 19.9 and 19.10 apply are to be marked with the relevant provision of section 10A(2) of the Act that applies to the correspondence or report.

Implementation of Decisions of the Council

19.12 The General Manager is to implement, without undue delay, lawful decisions of the Council.
Note: Clause 19.12 reflects section 335(b) of the Act.

20. Council Committees

Application of this Part

20.1 This Part applies to Committees of the Council whose members are all Councillors~~, in addition to all Committees, Boards, and Advisory Groups appointed by the Council~~

Council Committees Whose Members are all Councillors

20.2 The Council may, by resolution, establish such Committees as it considers necessary.

20.3 A Committee of the Council is to consist of the Mayor and such other Councillors as are elected by the Councillors or appointed by the Council.

20.4 The quorum for a meeting of a Committee of the Council is to be:

(a) such number of members as the Council decides, or

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(b) if the Council has not decided a number – a majority of the members of the Committee.

Functions of Committees

20.5 The Council must specify the functions of each of its Committees when the Committee is established, but may from time to time amend those functions.

Notice of Committee Meetings

20.6 The General Manager must send to each Councillor, regardless of whether they are a Committee member, at least three (3) days before each meeting of the Committee, a notice specifying:

(a) the time, date and place of the meeting, and
(b) the business proposed to be considered at the meeting.

20.7 Notice of less than three (3) days may be given of a Committee meeting called in an emergency.

Attendance at Committee Meetings

20.8 A Committee member (other than the Mayor) ceases to be a member of a Committee if the Committee member:

(a) has been absent from three (3) consecutive meetings of the Committee without having given reasons acceptable to the Committee for the member's absences, or
(b) has been absent from at least half of the meetings of the Committee held during the immediately preceding year without having given to the Committee acceptable reasons for the member's absences.

20.9 Clause 20.8 does not apply if all of the members of the Council are members of the Committee.

Non-members Entitled to Attend Committee Meetings

20.10 A Councillor who is not a member of a Committee of the Council is entitled to attend, and to speak at a meeting of the Committee. However, the Councillor is not entitled:

(a) to give notice of business for inclusion in the agenda for the meeting, or
(b) to move or second a motion at the meeting, or
(c) to vote at the meeting.

Chairperson and Deputy Chairperson of Council Committees- Where all Members are Councillors

20.11 The chairperson of each Committee of the Council must be:

(a) the Mayor, or

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(b) if the Mayor does not wish to be the chairperson of a Committee, a member of the Committee elected by the Council, or
(c) if the Council does not elect such a member, a member of the Committee elected by the Committee.

20.12 The Council may elect a member of a Committee of the Council as deputy chairperson of the Committee. If the Council does not elect a deputy chairperson of such a Committee, the Committee may elect a deputy chairperson.

20.13 If neither the chairperson nor the deputy chairperson of a Committee of the Council is able or willing to preside at a meeting of the Committee, the Committee must elect a member of the Committee to be acting chairperson of the Committee.

20.14 The chairperson is to preside at a meeting of a Committee of the Council. If the chairperson is unable or unwilling to preside, the deputy chairperson (if any) is to preside at the meeting, but if neither the chairperson nor the deputy chairperson is able or willing to preside, the acting chairperson is to preside at the meeting.

Procedure in Committee Meetings

20.15 Subject to any specific requirements of this code, each Committee of the Council may regulate its own procedure. The provisions of this code are to be taken to apply to all Committees of the Council unless the Council or the Committee determines otherwise in accordance with this clause.

20.16 Whenever the voting on a motion put to a meeting of the Committee is equal, the chairperson of the Committee is to have a casting vote as well as an original vote unless the Council or the Committee determines otherwise in accordance with clause 20.15.

20.17 Voting at a Council Committee meeting is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system).

Closure of Committee Meetings to the Public

20.18 The provisions of the Act and Part 14 of this code apply to the closure of meetings of Committees of the Council to the public in the same way they apply to the closure of meetings of the Council to the public.

20.19 If a Committee of the Council passes a resolution, or makes a recommendation, during a meeting, or a part of a meeting that is closed to the public, the chairperson must make the resolution or recommendation public as soon as practicable after the meeting or part of the meeting has ended, and report the resolution or recommendation to the next meeting of the Council. The resolution or recommendation must also be recorded in the publicly available minutes of the meeting.

20.20 Resolutions passed during a meeting, or a part of a meeting that is closed to the public must be made public by the chairperson under clause 20.19 during a part of the meeting that is webcast.

Disorder in Committee Meetings

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20.21 The provisions of the Act and this code relating to the maintenance of order in Council meetings apply to meetings of Committees of the Council in the same way as they apply to meetings of the Council.

Minutes of Council Committee Meetings

20.22 Each Committee of the Council is to keep full and accurate minutes of the proceedings of its meetings. At a minimum, a Committee must ensure that the following matters are recorded in the Committee's minutes:

(a) details of each motion moved at a meeting and of any amendments moved to it,
(b) the names of the mover and seconder of the motion or amendment,
(c) whether the motion or amendment was passed or lost, and
(d) such other matters specifically required under this code.
(e) the names of Councillors attending a meeting and whether they attended the meeting in person or by audio-visual link

20.23 All voting at meetings of Committees of the Council (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of Councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

20.24 The minutes of meetings of each Committee of the Council must be confirmed at a subsequent meeting of the Committee.

20.25 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

20.26 When the minutes have been confirmed, they are to be signed by the person presiding at that subsequent meeting.

20.27 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

20.28 The confirmed minutes of a meeting of a Committee of the Council must be published on the Council's website. This clause does not prevent the Council from also publishing unconfirmed minutes of meetings of Committees of the Council on its website prior to their confirmation.

21. Irregularities

21.1 Proceedings at a meeting of a Council or a Council Committee are not invalidated because of:

(a) a vacancy in a civic office, or
(b) a failure to give notice of the meeting to any Councillor or Committee member, or
(c) any defect in the election or appointment of a Councillor or Committee member,

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or

(d) a failure of a Councillor or a Committee member to declare a conflict of interest, or to refrain from the consideration or discussion of, or vote on, the relevant matter, at a Council or Committee meeting in accordance with the Council's code of conduct, or

(e) a failure to comply with this code.

Note: Clause 21.1 reflects section 374 of the Act.

22. Definitions

the Act	means the *Local Government Act 1993*
act of disorder	means an act of disorder as defined in clause 15.11 of this code
amendment	in relation to an original motion, means a motion moving an amendment to that motion
audio recorder	any device capable of recording speech
audio-Visual Link	means a facility that enables audio and visual communication between persons at different places
business day	means any day except Saturday or Sunday or any other day the whole or part of which is observed as a public holiday throughout New South Wales
chairperson	in relation to a meeting of the Council – means the person presiding at the meeting as provided by section 369 of the Act and clauses 6.1 and 6.2 of this code, and in relation to a meeting of a Committee – means the person presiding at the meeting as provided by clause 20.11 of this code
this code	means the Council's adopted code of meeting practice
Committee of the Council	means a Committee established by the Council in accordance with clause 20.2 of this code (being a Committee consisting only of Councillors) or the Council when it has resolved itself into Committee of the whole under clause 12.1
Council official	has the same meaning it has in the Model Code of Conduct for Local Councils in NSW
day	means calendar day
division	means a request by two councillors under clause 11.8 of this code requiring the recording of the names of the councillors who voted both for and against a motion
foreshadowed amendment	means a proposed amendment foreshadowed by a Councillor under clause 10.17 of this code during debate on the first amendment
foreshadowed motion	means a motion foreshadowed by a Councillor under clause 10.16 of this code during debate on an original motion
open voting	means voting on the voices or by a show of hands or by a visible electronic voting system or similar means
planning decision	means a decision made in the exercise of a function of a Council under the *Environmental Planning and Assessment Act 1979* including any decision relating to a development application, an environmental planning instrument, a development control plan or

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	a development contribution plan under that Act, but not including the making of an order under Division 9.3 of Part 9 of that Act
performance improvement order	means an order issued under section 438A of the Act
quorum	means the minimum number of Councillors or Committee members necessary to conduct a meeting
the Regulation	means the *Local Government (General) Regulation 2021~~05~~*
webcast	a video or audio broadcast of a meeting transmitted across the internet either concurrently with the meeting or at a later time
year	means the period beginning 1 July and ending the following 30 June

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MODEL CODE OF MEETING PRACTICE

for Local Councils in NSW

2021

NSW GOVERNMENT

MODEL CODE OF MEETING PRACTICE FOR LOCAL COUNCILS IN NSW
2021

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1 Introduction

This Model Code of Meeting Practice for Local Councils in NSW (the Model Meeting Code) is prescribed under section 360 of the *Local Government Act 1993* (the Act) and the *Local Government (General) Regulation 2021* (the Regulation).

The Model Meeting Code applies to all meetings of councils and committees of councils of which all the members are councillors (committees of council). Council committees whose members include persons other than councillors may adopt their own rules for meetings unless the council determines otherwise.

Councils must adopt a code of meeting practice that incorporates the mandatory provisions of the Model Meeting Code.

A council's adopted code of meeting practice may also incorporate the non-mandatory provisions of the Model Meeting Code and other supplementary provisions. However, a code of meeting practice adopted by a council must not contain provisions that are inconsistent with the mandatory provisions of this Model Meeting Code.

The provisions of the Model Meeting Code that are not mandatory are indicated in red font.

A council and a committee of the council of which all the members are councillors must conduct its meetings in accordance with the code of meeting practice adopted by the council.

The Model Meeting Code also applies to meetings of the boards of joint organisations and county councils. The provisions that are specific to meetings of boards of joint organisations are indicated in blue font.

In adopting the Model Meeting Code, joint organisations should adapt it to substitute the terms "board" for "council", "chairperson" for "mayor", "voting representative" for "councillor" and "executive officer" for "general manager".

In adopting the Model Meeting Code, county councils should adapt it to substitute the term "chairperson" for "mayor" and "member" for "councillor".

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2 Meeting Principles

2.1 Council and committee meetings should be:

Transparent:	Decisions are made in a way that is open and accountable.
Informed:	Decisions are made based on relevant, quality information.
Inclusive:	Decisions respect the diverse needs and interests of the local community.
Principled:	Decisions are informed by the principles prescribed under Chapter 3 of the Act.
Trusted:	The community has confidence that councillors and staff act ethically and make decisions in the interests of the whole community.
Respectful:	Councillors, staff and meeting attendees treat each other with respect.
Effective:	Meetings are well organised, effectively run and skilfully chaired.
Orderly:	Councillors, staff and meeting attendees behave in a way that contributes to the orderly conduct of the meeting.

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3 Before the Meeting

Timing of ordinary council meetings

3.1 Ordinary meetings of the council will be held on the following occasions: **[council to specify the frequency, time, date and place of its ordinary meetings].**

3.2 The council shall, by resolution, set the frequency, time, date and place of its ordinary meetings.

Note: Councils must use either clause 3.1 or 3.2.

Note: Under section 365 of the Act, councils are required to meet at least ten (10) times each year, each time in a different month unless the Minister for Local Government has approved a reduction in the number of times that a council is required to meet each year under section 365A.

Note: Under section 396 of the Act, county councils are required to meet at least four (4) times each year.

Note: Under section 400T of the Act, boards of joint organisations are required to meet at least four (4) times each year, each in a different quarter of the year.

Extraordinary meetings

3.3 If the mayor receives a request in writing, signed by at least two (2) councillors, the mayor must call an extraordinary meeting of the council to be held as soon as practicable, but in any event, no more than fourteen (14) days after receipt of the request. The mayor can be one of the two councillors requesting the meeting.

Note: Clause 3.3 reflects section 366 of the Act.

Notice to the public of council meetings

3.4 The council must give notice to the public of the time, date and place of each of its meetings, including extraordinary meetings and of each meeting of committees of the council.

Note: Clause 3.4 reflects section 9(1) of the Act.

3.5 For the purposes of clause 3.4, notice of a meeting of the council and of a committee of council is to be published before the meeting takes place. The notice must be published on the council's website, and in such other manner that the council is satisfied is likely to bring notice of the meeting to the attention of as many people as possible.

3.6 For the purposes of clause 3.4, notice of more than one (1) meeting may be given in the same notice.

Notice to councillors of ordinary council meetings

3.7 The general manager must send to each councillor, at least three (3) days before each meeting of the council, a notice specifying the time, date and place at which the meeting is to be held, and the business proposed to be considered at the meeting.

Note: Clause 3.7 reflects section 367(1) of the Act.

3.8 The notice and the agenda for, and the business papers relating to, the meeting may be given to councillors in electronic form, but only if all councillors have facilities to access the notice, agenda and business papers in that form.

Note: Clause 3.8 reflects section 367(3) of the Act.

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Notice to councillors of extraordinary meetings

3.9 Notice of less than three (3) days may be given to councillors of an extraordinary meeting of the council in cases of emergency.

Note: Clause 3.9 reflects section 367(2) of the Act.

Giving notice of business to be considered at council meetings

3.10 A councillor may give notice of any business they wish to be considered by the council at its next ordinary meeting by way of a notice of motion. To be included on the agenda of the meeting, the notice of motion must be in writing and must be submitted **[council to specify notice period required]** business days before the meeting is to be held.

3.11 A councillor may, in writing to the general manager, request the withdrawal of a notice of motion submitted by them prior to its inclusion in the agenda and business paper for the meeting at which it is to be considered.

3.12 If the general manager considers that a notice of motion submitted by a councillor for consideration at an ordinary meeting of the council has legal, strategic, financial or policy implications which should be taken into consideration by the meeting, the general manager may prepare a report in relation to the notice of motion for inclusion with the business papers for the meeting at which the notice of motion is to be considered by the council.

3.13 A notice of motion for the expenditure of funds on works and/or services other than those already provided for in the council's current adopted operational plan must identify the source of funding for the expenditure that is the subject of the notice of motion. If the notice of motion does not identify a funding source, the general manager must either:

(a) prepare a report on the availability of funds for implementing the motion if adopted for inclusion in the business papers for the meeting at which the notice of motion is to be considered by the council, or

(b) by written notice sent to all councillors with the business papers for the meeting for which the notice of motion has been submitted, defer consideration of the matter by the council to such a date specified in the notice, pending the preparation of such a report.

Questions with notice

3.14 A councillor may, by way of a notice submitted under clause 3.10, ask a question for response by the general manager about the performance or operations of the council.

3.15 A councillor is not permitted to ask a question with notice under clause 3.14 that comprises a complaint against the general manager or a member of staff of the council, or a question that implies wrongdoing by the general manager or a member of staff of the council.

3.16 The general manager or their nominee may respond to a question with notice submitted under clause 3.14 by way of a report included in the business papers for the relevant meeting of the council or orally at the meeting.

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Agenda and business papers for ordinary meetings

3.17 The general manager must cause the agenda for a meeting of the council or a committee of the council to be prepared as soon as practicable before the meeting.

3.18 The general manager must ensure that the agenda for an ordinary meeting of the council states:

(a) all matters to be dealt with arising out of the proceedings of previous meetings of the council, and

(b) if the mayor is the chairperson – any matter or topic that the chairperson proposes, at the time when the agenda is prepared, to put to the meeting, and

(c) all matters, including matters that are the subject of staff reports and reports of committees, to be considered at the meeting, and

(d) any business of which due notice has been given under clause 3.10.

3.19 Nothing in clause 3.18 limits the powers of the mayor to put a mayoral minute to a meeting under clause 9.6.

3.20 The general manager must not include in the agenda for a meeting of the council any business of which due notice has been given if, in the opinion of the general manager, the business is, or the implementation of the business would be, unlawful. The general manager must report, without giving details of the item of business, any such exclusion to the next meeting of the council.

3.21 Where the agenda includes the receipt of information or discussion of other matters that, in the opinion of the general manager, is likely to take place when the meeting is closed to the public, the general manager must ensure that the agenda of the meeting:

(a) identifies the relevant item of business and indicates that it is of such a nature (without disclosing details of the information to be considered when the meeting is closed to the public), and

(b) states the grounds under section 10A(2) of the Act relevant to the item of business.

Note: Clause 3.21 reflects section 9(2A)(a) of the Act.

3.22 The general manager must ensure that the details of any item of business which, in the opinion of the general manager, is likely to be considered when the meeting is closed to the public, are included in a business paper provided to councillors for the meeting concerned. Such details must not be included in the business papers made available to the public and must not be disclosed by a councillor or by any other person to another person who is not authorised to have that information.

Statement of ethical obligations

3.23 Business papers for all ordinary and extraordinary meetings of the council and committees of the council must contain a statement reminding councillors of their oath or affirmation of office made under section 233A of the Act and their obligations under the council's code of conduct to disclose and appropriately manage conflicts of interest.

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Availability of the agenda and business papers to the public

3.24 Copies of the agenda and the associated business papers, such as correspondence and reports for meetings of the council and committees of council, are to be published on the council's website, and must be made available to the public for inspection, or for taking away by any person free of charge at the offices of the council, at the relevant meeting and at such other venues determined by the council.

Note: Clause 3.24 reflects section 9(2) and (4) of the Act.

3.25 Clause 3.24 does not apply to the business papers for items of business that the general manager has identified under clause 3.21 as being likely to be considered when the meeting is closed to the public.

Note: Clause 3.25 reflects section 9(2A)(b) of the Act.

3.26 For the purposes of clause 3.24, copies of agendas and business papers must be published on the council's website and made available to the public at a time that is as close as possible to the time they are available to councillors.

Note: Clause 3.26 reflects section 9(3) of the Act.

3.27 A copy of an agenda, or of an associated business paper made available under clause 3.24, may in addition be given or made available in electronic form.

Note: Clause 3.27 reflects section 9(5) of the Act.

Agenda and business papers for extraordinary meetings

3.28 The general manager must ensure that the agenda for an extraordinary meeting of the council deals only with the matters stated in the notice of the meeting.

3.29 Despite clause 3.28, business may be considered at an extraordinary meeting of the council, even though due notice of the business has not been given, if:

(a) a motion is passed to have the business considered at the meeting, and

(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the council before the next scheduled ordinary meeting of the council.

3.30 A motion moved under clause 3.29(a) can be moved without notice but only after the business notified in the agenda for the extraordinary meeting has been dealt with.

3.31 Despite clauses 10.20–10.30, only the mover of a motion moved under clause 3.29(a) can speak to the motion before it is put.

3.32 A motion of dissent cannot be moved against a ruling of the chairperson under clause 3.29(b) on whether a matter is of great urgency.

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Pre-meeting briefing sessions

3.33 Prior to each ordinary meeting of the council, the general manager may arrange a pre-meeting briefing session to brief councillors on business to be considered at the meeting. Pre-meeting briefing sessions may also be held for extraordinary meetings of the council and meetings of committees of the council.

3.34 Pre-meeting briefing sessions are to be held in the absence of the public.

3.35 Pre-meeting briefing sessions may be held by audio-visual link.

3.36 The general manager or a member of staff nominated by the general manager is to preside at pre-meeting briefing sessions.

3.37 Councillors must not use pre-meeting briefing sessions to debate or make preliminary decisions on items of business they are being briefed on, and any debate and decision-making must be left to the formal council or committee meeting at which the item of business is to be considered.

3.38 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of a briefing at a pre-meeting briefing session, in the same way that they are required to do so at a council or committee meeting. The council is to maintain a written record of all conflict of interest declarations made at pre-meeting briefing sessions and how the conflict of interest was managed by the councillor who made the declaration.

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4 Public Forums

4.1 The council may hold a public forum prior to each ordinary meeting of the council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting. Public forums may also be held prior to extraordinary council meetings and meetings of committees of the council.

4.2 Public forums may be held by audio-visual link.

4.3 Public forums are to be chaired by the mayor or their nominee.

4.4 To speak at a public forum, a person must first make an application to the council in the approved form. Applications to speak at the public forum must be received by **[date and time to be specified by the council]** before the date on which the public forum is to be held, and must identify the item of business on the agenda of the council meeting the person wishes to speak on, and whether they wish to speak 'for' or 'against' the item.

4.5 A person may apply to speak on no more than **[number to be specified by the council]** items of business on the agenda of the council meeting.

4.6 Legal representatives acting on behalf of others are not to be permitted to speak at a public forum unless they identify their status as a legal representative when applying to speak at the public forum.

4.7 The general manager or their delegate may refuse an application to speak at a public forum. The general manager or their delegate must give reasons in writing for a decision to refuse an application.

4.8 No more than **[number to be specified by the council]** speakers are to be permitted to speak 'for' or 'against' each item of business on the agenda for the council meeting.

4.9 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or their delegate may request the speakers to nominate from among themselves the persons who are to address the council on the item of business. If the speakers are not able to agree on whom to nominate to address the council, the general manager or their delegate is to determine who will address the council at the public forum.

4.10 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or their delegate may, in consultation with the mayor or the mayor's nominated chairperson, increase the number of speakers permitted to speak on an item of business, where they are satisfied that it is necessary to do so to allow the council to hear a fuller range of views on the relevant item of business.

4.11 Approved speakers at the public forum are to register with the council any written, visual or audio material to be presented in support of their address to the council at the public forum, and to identify any equipment needs no more than **[number to be specified by the council]** days before the public forum. The general manager or their delegate may refuse to allow such material to be presented.

4.12 The general manager or their delegate is to determine the order of speakers at the public forum.

4.13 Each speaker will be allowed **[number to be specified by the council]** minutes to address the council. This time is to be strictly enforced by the chairperson.

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4.14 Speakers at public forums must not digress from the item on the agenda of the council meeting they have applied to address the council on. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

4.15 A councillor (including the chairperson) may, through the chairperson, ask questions of a speaker following their address at a public forum. Questions put to a speaker must be direct, succinct and without argument.

4.16 Speakers are under no obligation to answer a question put under clause 4.15. Answers by the speaker, to each question are to be limited to **[number to be specified by the council]** minutes.

4.17 Speakers at public forums cannot ask questions of the council, councillors, or council staff.

4.18 The general manager or their nominee may, with the concurrence of the chairperson, address the council for up to **[number to be specified by the council]** minutes in response to an address to the council at a public forum after the address and any subsequent questions and answers have been finalised.

4.19 Where an address made at a public forum raises matters that require further consideration by council staff, the general manager may recommend that the council defer consideration of the matter pending the preparation of a further report on the matters.

4.20 When addressing the council, speakers at public forums must comply with this code and all other relevant council codes, policies, and procedures. Speakers must refrain from engaging in disorderly conduct, publicly alleging breaches of the council's code of conduct or making other potentially defamatory statements.

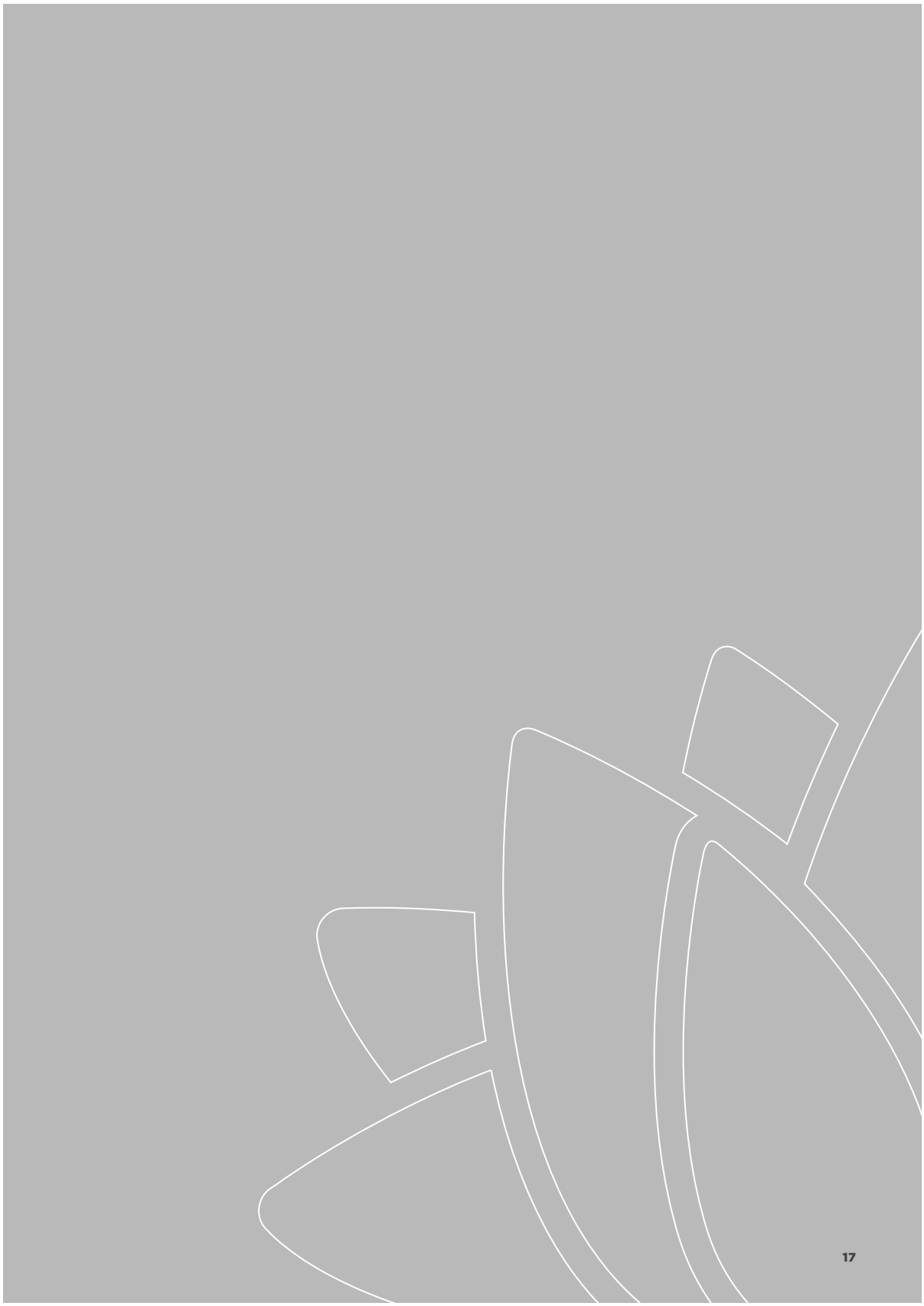
4.21 If the chairperson considers that a speaker at a public forum has engaged in conduct of the type referred to in clause 4.20, the chairperson may request the person to refrain from the inappropriate behaviour and to withdraw and unreservedly apologise for any inappropriate comments. Where the speaker fails to comply with the chairperson's request, the chairperson may immediately require the person to stop speaking.

4.22 Clause 4.21 does not limit the ability of the chairperson to deal with disorderly conduct by speakers at public forums in accordance with the provisions of Part 15 of this code.

4.23 Where a speaker engages in conduct of the type referred to in clause 4.20, the general manager or their delegate may refuse further applications from that person to speak at public forums for such a period as the general manager or their delegate considers appropriate.

4.24 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of an address at a public forum, in the same way that they are required to do so at a council or committee meeting. The council is to maintain a written record of all conflict of interest declarations made at public forums and how the conflict of interest was managed by the councillor who made the declaration.

Note: Public forums should not be held as part of a council or committee meeting. Council or committee meetings should be reserved for decision-making by the council or committee of council. Where a public forum is held as part of a council or committee meeting, it must be conducted in accordance with the other requirements of this code relating to the conduct of council and committee meetings.



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5 Coming Together

Attendance by councillors at meetings

5.1 All councillors must make reasonable efforts to attend meetings of the council and of committees of the council of which they are members.

Note: A councillor may not attend a meeting as a councillor (other than the first meeting of the council after the councillor is elected or a meeting at which the councillor takes an oath or makes an affirmation of office) until they have taken an oath or made an affirmation of office in the form prescribed under section 233A of the Act.

5.2 A councillor cannot participate in a meeting of the council or of a committee of the council unless personally present at the meeting, unless permitted to attend the meeting by audio-visual link under this code.

5.3 The board of the joint organisation may, if it thinks fit, transact any of its business at a meeting at which representatives (or some representatives) participate by telephone or other electronic means, but only if any representative who speaks on a matter before the meeting can be heard by the other representatives. For the purposes of a meeting held in accordance with this clause, the chairperson and each other voting representative on the board have the same voting rights as they have at an ordinary meeting of the board.

Note: Clause 5.3 reflects section 397G of the Regulation. Joint organisations may adopt clause 5.3 and omit clause 5.2. Councils must not adopt clause 5.3.

5.4 Where a councillor is unable to attend one or more ordinary meetings of the council, the councillor should request that the council grant them a leave of absence from those meetings. This clause does not prevent a councillor from making an apology if they are unable to attend a meeting. However, the acceptance of such an apology does not constitute the granting of a leave of absence for the purposes of this code and the Act.

5.5 A councillor's request for leave of absence from council meetings should, if practicable, identify (by date) the meetings from which the councillor intends to be absent and the grounds upon which the leave of absence is being sought.

5.6 The council must act reasonably when considering whether to grant a councillor's request for a leave of absence.

5.7 A councillor's civic office will become vacant if the councillor is absent from three (3) consecutive ordinary meetings of the council without prior leave of the council, or leave granted by the council at any of the meetings concerned, unless the holder is absent because they have been suspended from office under the Act, or because the council has been suspended under the Act, or as a consequence of a compliance order under section 438HA.

Note: Clause 5.7 reflects section 234(1)(d) of the Act.

5.8 A councillor who intends to attend a meeting of the council despite having been granted a leave of absence should, if practicable, give the general manager at least two (2) days' notice of their intention to attend.

The quorum for a meeting

5.9 The quorum for a meeting of the council is a majority of the councillors of the council who hold office at that time and are not suspended from office.

Note: Clause 5.9 reflects section 368(1) of the Act.

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5.10 Clause 5.9 does not apply if the quorum is required to be determined in accordance with directions of the Minister in a performance improvement order issued in respect of the council.

Note: Clause 5.10 reflects section 368(2) of the Act.

5.11 A meeting of the council must be adjourned if a quorum is not present:

(a) at the commencement of the meeting where the number of apologies received for the meeting indicates that there will not be a quorum for the meeting, or

(b) within half an hour after the time designated for the holding of the meeting, or

(c) at any time during the meeting.

5.12 In either case, the meeting must be adjourned to a time, date, and place fixed:

(a) by the chairperson, or

(b) in the chairperson's absence, by the majority of the councillors present, or

(c) failing that, by the general manager.

5.13 The general manager must record in the council's minutes the circumstances relating to the absence of a quorum (including the reasons for the absence of a quorum) at or arising during a meeting of the council, together with the names of the councillors present.

5.14 Where, prior to the commencement of a meeting, it becomes apparent that a quorum may not be present at the meeting, or that the health, safety or welfare of councillors, council staff and members of the public may be put at risk by attending the meeting because of a natural disaster or a public health emergency, the mayor may, in consultation with the general manager and, as far as is practicable, with each councillor, cancel the meeting. Where a meeting is cancelled, notice of the cancellation must be published on the council's website and in such other manner that the council is satisfied is likely to bring notice of the cancellation to the attention of as many people as possible.

5.15 Where a meeting is cancelled under clause 5.14, the business to be considered at the meeting may instead be considered, where practicable, at the next ordinary meeting of the council or at an extraordinary meeting called under clause 3.3.

Meetings held by audio-visual link

5.16 A meeting of the council or a committee of the council may be held by audio-visual link where the mayor determines that the meeting should be held by audio-visual link because of a natural disaster or a public health emergency. The mayor may only make a determination under this clause where they are satisfied that attendance at the meeting may put the health and safety of councillors and staff at risk. The mayor must make a determination under this clause in consultation with the general manager and, as far as is practicable, with each councillor.

5.17 Where the mayor determines under clause 5.16 that a meeting is to be held by audio-visual link, the general manager must:

(a) give written notice to all councillors that the meeting is to be held by audio-visual link, and

(b) take all reasonable steps to ensure that all councillors can participate in the meeting by audio-visual link, and

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(c) cause a notice to be published on the council's website and in such other manner the general manager is satisfied will bring it to the attention of as many people as possible, advising that the meeting is to be held by audio-visual link and providing information about where members of the public may view the meeting.

5.18 This code applies to a meeting held by audio-visual link under clause 5.16 in the same way it would if the meeting was held in person.

Note: Where a council holds a meeting by audio-visual link under clause 5.16, it is still required under section 10 of the Act to provide a physical venue for members of the public to attend in person and observe the meeting.

Attendance by councillors at meetings by audio-visual link

5.19 Councillors may attend and participate in meetings of the council and committees of the council by audio-visual link with the approval of the council or the relevant committee.

5.20 A request by a councillor for approval to attend a meeting by audio-visual link must be made in writing to the general manager prior to the meeting in question and must provide reasons why the councillor will be prevented from attending the meeting in person.

5.21 Councillors may request approval to attend more than one meeting by audio-visual link. Where a councillor requests approval to attend more than one meeting by audio-visual link, the request must specify the meetings the request relates to in addition to the information required under clause 5.20.

5.22 The council must comply with the Health Privacy Principles prescribed under the *Health Records and Information Privacy Act 2002* when collecting, holding, using and disclosing health information in connection with a request by a councillor to attend a meeting by audio-visual link.

5.23 A councillor who has requested approval to attend a meeting of the council or a committee of the council by audio-visual link may participate in the meeting by audio-visual link until the council or committee determines whether to approve their request and is to be taken as present at the meeting. The councillor may participate in a decision in relation to their request to attend the meeting by audio-visual link.

5.24 A decision whether to approve a request by a councillor to attend a meeting of the council or a committee of the council by audio-visual link must be made by a resolution of the council or the committee concerned. The resolution must state:

(a) the meetings the resolution applies to, and

(b) the reason why the councillor is being permitted to attend the meetings by audio-visual link where it is on grounds other than illness, disability, or caring responsibilities.

5.25 If the council or committee refuses a councillor's request to attend a meeting by audio-visual link, their link to the meeting is to be terminated.

5.26 A decision whether to approve a councillor's request to attend a meeting by audio-visual link is at the council's or the relevant committee's discretion. The council and committees of the council must act reasonably when considering requests by councillors to attend meetings by audio-visual link. However, the council and committees of the council are under no obligation to approve a councillor's request to attend a meeting by audio-

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visual link where the technical capacity does not exist to allow the councillor to attend the meeting by these means.

5.27 The council and committees of the council may refuse a councillor's request to attend a meeting by audio-visual link where the council or committee is satisfied that the councillor has failed to appropriately declare and manage conflicts of interest, observe confidentiality, or to comply with this code on one or more previous occasions they have attended a meeting of the council or a committee of the council by audio-visual link.

5.28 This code applies to a councillor attending a meeting by audio-visual link in the same way it would if the councillor was attending the meeting in person. Where a councillor is permitted to attend a meeting by audio-visual link under this code, they are to be taken as attending the meeting in person for the purposes of the code and will have the same voting rights as if they were attending the meeting in person.

5.29 A councillor must give their full attention to the business and proceedings of the meeting when attending a meeting by audio-visual link. The councillor's camera must be on at all times during the meeting except as may be otherwise provided for under this code.

5.30 A councillor must be appropriately dressed when attending a meeting by audio-visual link and must ensure that no items are within sight of the meeting that are inconsistent with the maintenance of order at the meeting or that are likely to bring the council or the committee into disrepute.

Entitlement of the public to attend council meetings

5.31 Everyone is entitled to attend a meeting of the council and committees of the council. The council must ensure that all meetings of the council and committees of the council are open to the public.

Note: Clause 5.31 reflects section 10(1) of the Act.

5.32 Clause 5.31 does not apply to parts of meetings that have been closed to the public under section 10A of the Act.

5.33 A person (whether a councillor or another person) is not entitled to be present at a meeting of the council or a committee of the council if expelled from the meeting:

(a) by a resolution of the meeting, or

(b) by the person presiding at the meeting if the council has, by resolution, authorised the person presiding to exercise the power of expulsion.

Note: Clause 5.33 reflects section 10(2) of the Act.

Note: If adopted, clauses 15.14 and 15.15 confer a standing authorisation on all chairpersons of meetings of the council and committees of the council to expel persons from meetings. If adopted, clause 15.14 authorises chairpersons to expel any person, including a councillor, from a council or committee meeting. Alternatively, if adopted, clause 15.15 authorises chairpersons to expel persons other than councillors from a council or committee meeting.

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Webcasting of meetings

5.34 Each meeting of the council or a committee of the council is to be recorded by means of an audio or audio-visual device.

5.35 At the start of each meeting of the council or a committee of the council, the chairperson must inform the persons attending the meeting that:

(a) the meeting is being recorded and made publicly available on the council's website, and

(b) persons attending the meeting should refrain from making any defamatory statements.

5.36 The recording of a meeting is to be made publicly available on the council's website:

(a) at the same time as the meeting is taking place, or

(b) as soon as practicable after the meeting.

5.37 The recording of a meeting is to be made publicly available on the council's website for at least 12 months after the meeting.

5.38 Clauses 5.36 and 5.37 do not apply to any part of a meeting that has been closed to the public in accordance with section 10A of the Act.

Note: Clauses 5.34 – 5.38 reflect section 236 of the Regulation.

5.39 Recordings of meetings may be disposed of in accordance with the *State Records Act 1998*.

Note: Joint organisations are not required to webcast meetings but may choose to do so by adopting clauses 5.34–5.39. Joint organisations that choose not to webcast meetings may omit clauses 5.34–5.39.

Attendance of the general manager and other staff at meetings

5.40 The general manager is entitled to attend, but not to vote at, a meeting of the council or a meeting of a committee of the council of which all of the members are councillors.

Note: Clause 5.40 reflects section 376(1) of the Act.

5.41 The general manager is entitled to attend a meeting of any other committee of the council and may, if a member of the committee, exercise a vote.

Note: Clause 5.41 reflects section 376(2) of the Act.

5.42 The general manager may be excluded from a meeting of the council or a committee while the council or committee deals with a matter relating to the standard of performance of the general manager or the terms of employment of the general manager.

Note: Clause 5.42 reflects section 376(3) of the Act.

5.43 The attendance of other council staff at a meeting, (other than as members of the public) shall be with the approval of the general manager.

5.44 The general manager and other council staff may attend meetings of the council and committees of the council by audio-visual link. Attendance by council staff at meetings by audio-visual link (other than as members of the public) shall be with the approval of the general manager.

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6 The Chairperson

The chairperson at meetings

6.1 The mayor, or at the request of or in the absence of the mayor, the deputy mayor (if any) presides at meetings of the council.

Note: Clause 6.1 reflects section 369(1) of the Act.

6.2 If the mayor and the deputy mayor (if any) are absent, a councillor elected to chair the meeting by the councillors present presides at a meeting of the council.

Note: Clause 6.2 reflects section 369(2) of the Act.

Election of the chairperson in the absence of the mayor and deputy mayor

6.3 If no chairperson is present at a meeting of the council at the time designated for the holding of the meeting, the first business of the meeting must be the election of a chairperson to preside at the meeting.

6.4 The election of a chairperson must be conducted:

(a) by the general manager or, in their absence, an employee of the council designated by the general manager to conduct the election, or

(b) by the person who called the meeting or a person acting on their behalf if neither the general manager nor a designated employee is present at the meeting, or if there is no general manager or designated employee.

6.5 If, at an election of a chairperson, two (2) or more candidates receive the same number of votes and no other candidate receives a greater number of votes, the chairperson is to be the candidate whose name is chosen by lot.

6.6 For the purposes of clause 6.5, the person conducting the election must:

(a) arrange for the names of the candidates who have equal numbers of votes to be written on similar slips, and

(b) then fold the slips so as to prevent the names from being seen, mix the slips and draw one of the slips at random.

6.7 The candidate whose name is on the drawn slip is the candidate who is to be the chairperson.

6.8 Any election conducted under clause 6.3, and the outcome of the vote, are to be recorded in the minutes of the meeting.

Chairperson to have precedence

6.9 When the chairperson rises or speaks during a meeting of the council:

(a) any councillor then speaking or seeking to speak must cease speaking and, if standing, immediately resume their seat, and

(b) every councillor present must be silent to enable the chairperson to be heard without interruption.

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7 Modes of Address

7.1 If the chairperson is the mayor, they are to be addressed as 'Mr Mayor' or 'Madam Mayor'.

7.2 Where the chairperson is not the mayor, they are to be addressed as either 'Mr Chairperson' or 'Madam Chairperson'.

7.3 A councillor is to be addressed as 'Councillor [surname]'.

7.4 A council officer is to be addressed by their official designation or as Mr/Ms [surname].

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8 Order of Business for Ordinary Council Meetings

8.1 At a meeting of the council, the general order of business is as fixed by resolution of the council.

8.2 The general order of business for an ordinary meeting of the council shall be: **[councils may adapt the following order of business to meet their needs]**

01 Opening meeting
02 Acknowledgement of country
03 Apologies and applications for a leave of absence or attendance by audio-visual link by councillors
04 Confirmation of minutes
05 Disclosures of interests
06 Mayoral minute(s)
07 Reports of committees
08 Reports to council
09 Notices of motions/Questions with notice
10 Confidential matters
11 Conclusion of the meeting

Note: Councils must use either clause 8.1 or 8.2.

8.3 The order of business as fixed under [8.1/8.2] **[delete whichever is not applicable]** may be altered for a particular meeting of the council if a motion to that effect is passed at that meeting. Such a motion can be moved without notice.

Note: If adopted, Part 13 allows council to deal with items of business by exception.

8.4 Despite clauses 10.20–10.30, only the mover of a motion referred to in clause 8.3 may speak to the motion before it is put.

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9 Consideration of Business at Council Meetings

Business that can be dealt with at a council meeting

9.1 The council must not consider business at a meeting of the council:

(a) unless a councillor has given notice of the business, as required by clause 3.10, and

(b) unless notice of the business has been sent to the councillors in accordance with clause 3.7 in the case of an ordinary meeting or clause 3.9 in the case of an extraordinary meeting called in an emergency.

9.2 Clause 9.1 does not apply to the consideration of business at a meeting, if the business:

(a) is already before, or directly relates to, a matter that is already before the council, or

(b) is the election of a chairperson to preside at the meeting, or

(c) subject to clause 9.9, is a matter or topic put to the meeting by way of a mayoral minute, or

(d) is a motion for the adoption of recommendations of a committee, including, but not limited to, a committee of the council.

9.3 Despite clause 9.1, business may be considered at a meeting of the council even though due notice of the business has not been given to the councillors if:

(a) a motion is passed to have the business considered at the meeting, and

(b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by the council before the next scheduled ordinary meeting of the council.

9.4 A motion moved under clause 9.3(a) can be moved without notice. Despite clauses 10.20–10.30, only the mover of a motion referred to in clause 9.3(a) can speak to the motion before it is put.

9.5 A motion of dissent cannot be moved against a ruling by the chairperson under clause 9.3(b).

Mayoral minutes

9.6 Subject to clause 9.9, if the mayor is the chairperson at a meeting of the council, the mayor may, by minute signed by the mayor, put to the meeting without notice any matter or topic that is within the jurisdiction of the council, or of which the council has official knowledge.

9.7 A mayoral minute, when put to a meeting, takes precedence over all business on the council's agenda for the meeting. The chairperson (but only if the chairperson is the mayor) may move the adoption of a mayoral minute without the motion being seconded.

9.8 A recommendation made in a mayoral minute put by the mayor is, so far as it is adopted by the council, a resolution of the council.

9.9 A mayoral minute must not be used to put without notice matters that are routine and not urgent or matters for which proper notice should be given because of their complexity. For the purpose of this clause, a matter will be urgent where it requires a decision by the council before the next scheduled ordinary meeting of the council.

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9.10 Where a mayoral minute makes a recommendation which, if adopted, would require the expenditure of funds on works and/or services other than those already provided for in the council's current adopted operational plan, it must identify the source of funding for the expenditure that is the subject of the recommendation. If the mayoral minute does not identify a funding source, the council must defer consideration of the matter, pending a report from the general manager on the availability of funds for implementing the recommendation if adopted.

Staff reports

9.11 A recommendation made in a staff report is, so far as it is adopted by the council, a resolution of the council.

Reports of committees of council

9.12 The recommendations of a committee of the council are, so far as they are adopted by the council, resolutions of the council.

9.13 If in a report of a committee of the council distinct recommendations are made, the council may make separate decisions on each recommendation.

Questions

9.14 A question must not be asked at a meeting of the council unless it concerns a matter on the agenda of the meeting or notice has been given of the question in accordance with clauses 3.10 and 3.14.

9.15 A councillor may, through the chairperson, put a question to another councillor about a matter on the agenda.

9.16 A councillor may, through the general manager, put a question to a council employee about a matter on the agenda. Council employees are only obliged to answer a question put to them through the general manager at the direction of the general manager.

9.17 A councillor or council employee to whom a question is put is entitled to be given reasonable notice of the question and, in particular, sufficient notice to enable reference to be made to other persons or to information. Where a councillor or council employee to whom a question is put is unable to respond to the question at the meeting at which it is put, they may take it on notice and report the response to the next meeting of the council.

9.18 Councillors must put questions directly, succinctly, respectfully and without argument.

9.19 The chairperson must not permit discussion on any reply to, or refusal to reply to, a question put to a councillor or council employee.

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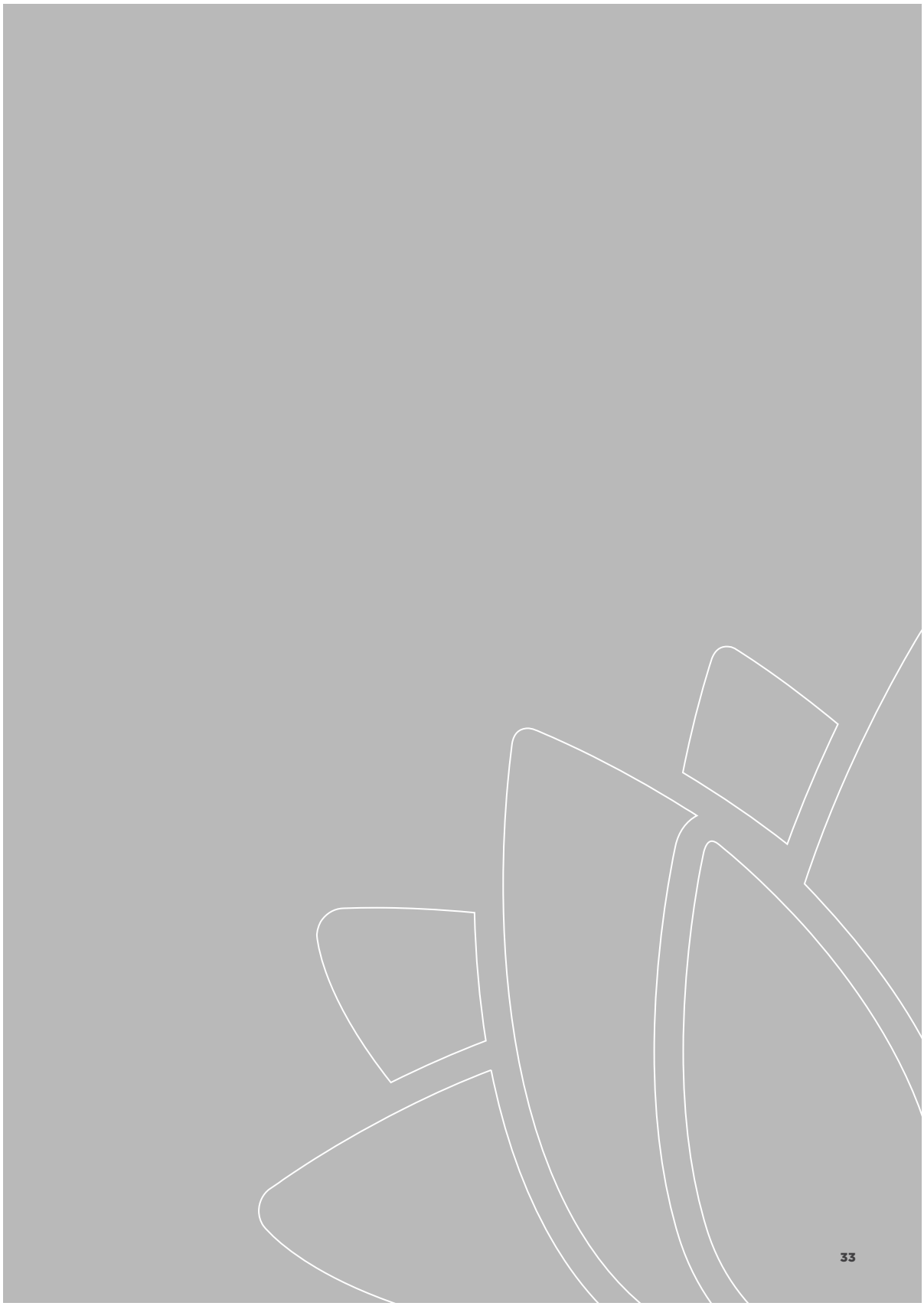

10 Rules of Debate

Motions to be seconded

10.1 Unless otherwise specified in this code, a motion or an amendment cannot be debated unless or until it has been seconded.

Notices of motion

10.2 A councillor who has submitted a notice of motion under clause 3.10 is to move the motion the subject of the notice of motion at the meeting at which it is to be considered.

10.3 If a councillor who has submitted a notice of motion under clause 3.10 wishes to withdraw it after the agenda and business paper for the meeting at which it is to be considered have been sent to councillors, the councillor may request the withdrawal of the motion when it is before the council.

10.4 In the absence of a councillor who has placed a notice of motion on the agenda for a meeting of the council:

(a) any other councillor may, with the leave of the chairperson, move the motion at the meeting, or

(b) the chairperson may defer consideration of the motion until the next meeting of the council.

Chairperson's duties with respect to motions

10.5 It is the duty of the chairperson at a meeting of the council to receive and put to the meeting any lawful motion that is brought before the meeting.

10.6 The chairperson must rule out of order any motion or amendment to a motion that is unlawful or the implementation of which would be unlawful.

10.7 Before ruling out of order a motion or an amendment to a motion under clause 10.6, the chairperson is to give the mover an opportunity to clarify or amend the motion or amendment.

10.8 Any motion, amendment, or other matter that the chairperson has ruled out of order is taken to have been lost.

Motions requiring the expenditure of funds

10.9 A motion or an amendment to a motion which if passed would require the expenditure of funds on works and/or services other than those already provided for in the council's current adopted operational plan must identify the source of funding for the expenditure that is the subject of the motion. If the motion does not identify a funding source, the council must defer consideration of the matter, pending a report from the general manager on the availability of funds for implementing the motion if adopted.

Amendments to motions

10.10 An amendment to a motion must be moved and seconded before it can be debated.

10.11 An amendment to a motion must relate to the matter being dealt with in the original motion before the council and must not be a direct negative of the original motion. An amendment to a motion which does not relate to the matter being dealt with in the original motion, or which is a direct negative of the original motion, must be ruled out of order by the chairperson.

10.12 The mover of an amendment is to be given the opportunity to explain any uncertainties in the proposed amendment before a seconder is called for.

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10.13 If an amendment has been lost, a further amendment can be moved to the motion to which the lost amendment was moved, and so on, but no more than one (1) motion and one (1) proposed amendment can be before council at any one time.

10.14 While an amendment is being considered, debate must only occur in relation to the amendment and not the original motion. Debate on the original motion is to be suspended while the amendment to the original motion is being debated.

10.15 If the amendment is carried, it becomes the motion and is to be debated. If the amendment is lost, debate is to resume on the original motion.

10.16 An amendment may become the motion without debate or a vote where it is accepted by the councillor who moved the original motion.

Foreshadowed motions

10.17 A councillor may propose a foreshadowed motion in relation to the matter the subject of the original motion before the council, without a seconder during debate on the original motion. The foreshadowed motion is only to be considered if the original motion is lost or withdrawn and the foreshadowed motion is then moved and seconded. If the original motion is carried, the foreshadowed motion lapses.

10.18 Where an amendment has been moved and seconded, a councillor may, without a seconder, foreshadow a further amendment that they propose to move after the first amendment has been dealt with. There is no limit to the number of foreshadowed amendments that may be put before the council at any time. However, no discussion can take place on foreshadowed amendments until the previous amendment has been dealt with and the foreshadowed amendment has been moved and seconded.

10.19 Foreshadowed motions and foreshadowed amendments are to be considered in the order in which they are proposed. However, foreshadowed motions cannot be considered until all foreshadowed amendments have been dealt with.

Limitations on the number and duration of speeches

10.20 A councillor who, during a debate at a meeting of the council, moves an original motion, has the right to speak on each amendment to the motion and a right of general reply to all observations that are made during the debate in relation to the motion, and any amendment to it at the conclusion of the debate before the motion (whether amended or not) is finally put.

10.21 A councillor, other than the mover of an original motion, has the right to speak once on the motion and once on each amendment to it.

10.22 A councillor must not, without the consent of the council, speak more than once on a motion or an amendment, or for longer than five (5) minutes at any one time.

10.23 Despite clause 10.22, the chairperson may permit a councillor who claims to have been misrepresented or misunderstood to speak more than once on a motion or an amendment, and for longer than five (5) minutes on that motion or amendment to enable the councillor to make a statement limited to explaining the misrepresentation or misunderstanding.

10.24 Despite clause 10.22, the council may resolve to shorten the duration of speeches to expedite the consideration of business at a meeting.

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10.25 Despite clauses 10.20 and 10.21, a councillor may move that a motion or an amendment be now put:

(a) if the mover of the motion or amendment has spoken in favour of it and no councillor expresses an intention to speak against it, or

(b) if at least two (2) councillors have spoken in favour of the motion or amendment and at least two (2) councillors have spoken against it.

10.26 The chairperson must immediately put to the vote, without debate, a motion moved under clause 10.25. A seconder is not required for such a motion.

10.27 If a motion that the original motion or an amendment be now put is passed, the chairperson must, without further debate, put the original motion or amendment to the vote immediately after the mover of the original motion has exercised their right of reply under clause 10.20.

10.28 If a motion that the original motion or an amendment be now put is lost, the chairperson must allow the debate on the original motion or the amendment to be resumed.

10.29 All councillors must be heard without interruption and all other councillors must, unless otherwise permitted under this code, remain silent while another councillor is speaking.

10.30 Once the debate on a matter has concluded and a matter has been dealt with, the chairperson must not allow further debate on the matter.

Participation by non-voting representatives in joint organisation board meetings

10.31 Non-voting representatives of joint organisation boards may speak on but must not move, second or vote on any motion or an amendment to a motion.

Note: Under section 400T(1)(c) of the Act, non-voting representatives of joint organisation boards may attend but are not entitled to vote at a meeting of the board.

Note: Joint organisations must adopt clause 10.31. Councils must not adopt clause 10.31.

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11 Voting

Voting entitlements of councillors

11.1 Each councillor is entitled to one (1) vote.

Note: Clause 11.1 reflects section 370(1) of the Act.

Note: Under section 400T(1) of the Act, voting representatives of joint organisation boards are entitled to one (1) vote each at meetings of the board.

11.2 The person presiding at a meeting of the council has, in the event of an equality of votes, a second or casting vote.

Note: Clause 11.2 reflects section 370(2) of the Act.

11.3 Where the chairperson declines to exercise, or fails to exercise, their second or casting vote, in the event of an equality of votes, the motion being voted upon is lost.

11.4 A motion at a meeting of the board of a joint organisation is taken to be lost in the event of an equality of votes.

Note: Clause 11.4 reflects section 397E of the Regulation. Joint organisations must adopt clause 11.4 and omit clauses 11.2 and 11.3. Councils must not adopt clause 11.4.

Note: Under section 400U(4) of the Act, joint organisations may specify more stringent voting requirements for decisions by the board such as a 75% majority or consensus decision making. Where a joint organisation's charter specifies more stringent voting requirements, clause 11.4 must be adapted to reflect those requirements.

Voting at council meetings

11.5 A councillor who is present at a meeting of the council but who fails to vote on a motion put to the meeting is taken to have voted against the motion

11.6 If a councillor who has voted against a motion put at a council meeting so requests, the general manager must ensure that the councillor's dissenting vote is recorded in the council's minutes.

11.7 The decision of the chairperson as to the result of a vote is final unless the decision is immediately challenged and not fewer than two (2) councillors rise and call for a division.

11.8 When a division on a motion is called, the chairperson must ensure that the division takes place immediately. The general manager must ensure that the names of those who vote for the motion and those who vote against it are recorded in the council's minutes for the meeting.

11.9 When a division on a motion is called, any councillor who fails to vote will be recorded as having voted against the motion in accordance with clause 11.5 of this code.

11.10 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system). However, the council may resolve that the voting in any election by councillors for mayor or deputy mayor is to be by secret ballot.

11.11 All voting at council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

Note: If clause 11.11 is adopted, clauses 11.6 – 11.9 and clause 11.13 may be omitted.

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Voting on planning decisions

11.12 The general manager must keep a register containing, for each planning decision made at a meeting of the council or a council committee (including, but not limited to a committee of the council), the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.

11.13 For the purpose of maintaining the register, a division is taken to have been called whenever a motion for a planning decision is put at a meeting of the council or a council committee.

11.14 Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document.

11.15 Clauses 11.12–11.14 apply also to meetings that are closed to the public.

Note: Clauses 11.12–11.15 reflect section 375A of the Act.

Note: The requirements of clause 11.12 may be satisfied by maintaining a register of the minutes of each planning decision.

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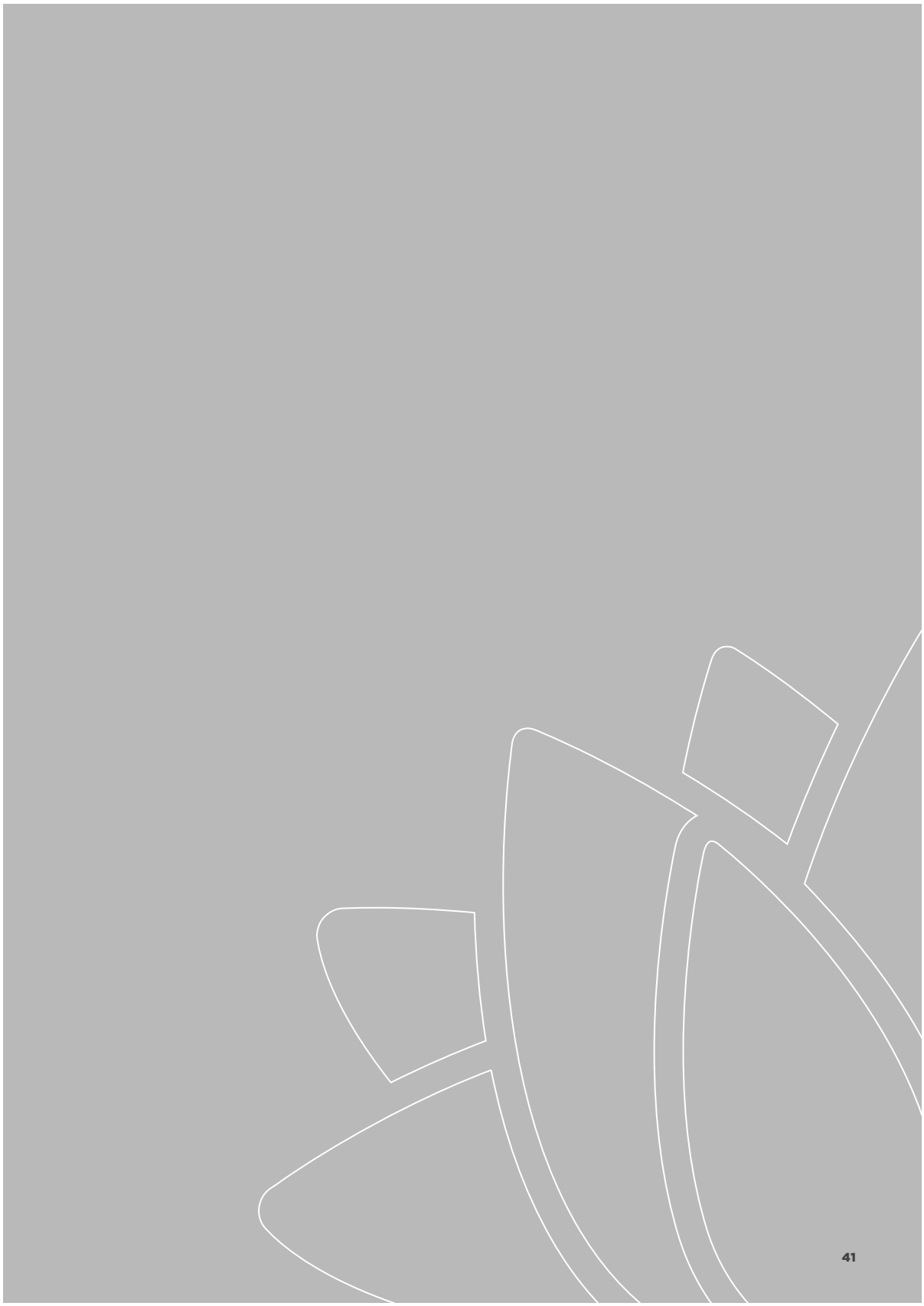

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12 Committee of the Whole

12.1 The council may resolve itself into a committee to consider any matter before the council.

Note: Clause 12.1 reflects section 373 of the Act.

12.2 All the provisions of this code relating to meetings of the council, so far as they are applicable, extend to and govern the proceedings of the council when in committee of the whole, except the provisions limiting the number and duration of speeches.

Note: Clauses 10.20–10.30 limit the number and duration of speeches.

12.3 The general manager or, in the absence of the general manager, an employee of the council designated by the general manager, is responsible for reporting to the council the proceedings of the committee of the whole. It is not necessary to report the proceedings in full, but any recommendations of the committee must be reported.

12.4 The council must ensure that a report of the proceedings (including any recommendations of the committee) is recorded in the council's minutes. However, the council is not taken to have adopted the report until a motion for adoption has been made and passed.

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13 Dealing with Items by Exception

13.1 The council or a committee of council may, at any time, resolve to adopt multiple items of business on the agenda together by way of a single resolution.

13.2 Before the council or committee resolves to adopt multiple items of business on the agenda together under clause 13.1, the chairperson must list the items of business to be adopted and ask councillors to identify any individual items of business listed by the chairperson that they intend to vote against the recommendation made in the business paper or that they wish to speak on.

13.3 The council or committee must not resolve to adopt any item of business under clause 13.1 that a councillor has identified as being one they intend to vote against the recommendation made in the business paper or to speak on.

13.4 Where the consideration of multiple items of business together under clause 13.1 involves a variation to the order of business for the meeting, the council or committee must resolve to alter the order of business in accordance with clause 8.3.

13.5 A motion to adopt multiple items of business together under clause 13.1 must identify each of the items of business to be adopted and state that they are to be adopted as recommended in the business paper.

13.6 Items of business adopted under clause 13.1 are to be taken to have been adopted unanimously.

13.7 Councillors must ensure that they declare and manage any conflicts of interest they may have in relation to items of business considered together under clause 13.1 in accordance with the requirements of the council's code of conduct.

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14 Closure of Council Meetings to the Public

Grounds on which meetings can be closed to the public

14.1 The council or a committee of the council may close to the public so much of its meeting as comprises the discussion or the receipt of any of the following types of matters:

(a) personnel matters concerning particular individuals (other than councillors),

(b) the personal hardship of any resident or ratepayer,

(c) information that would, if disclosed, confer a commercial advantage on a person with whom the council is conducting (or proposes to conduct) business,

(d) commercial information of a confidential nature that would, if disclosed:

(i) prejudice the commercial position of the person who supplied it, or

(ii) confer a commercial advantage on a competitor of the council, or

(iii) reveal a trade secret,

(e) information that would, if disclosed, prejudice the maintenance of law,

(f) matters affecting the security of the council, councillors, council staff or council property,

(g) advice concerning litigation, or advice that would otherwise be privileged from production in legal proceedings on the ground of legal professional privilege,

(h) information concerning the nature and location of a place or an item of Aboriginal significance on community land,

(i) alleged contraventions of the council's code of conduct.

Note: Clause 14.1 reflects section 10A(1) and (2) of the Act.

14.2 The council or a committee of the council may also close to the public so much of its meeting as comprises a motion to close another part of the meeting to the public.

Note: Clause 14.2 reflects section 10A(3) of the Act.

Matters to be considered when closing meetings to the public

14.3 A meeting is not to remain closed during the discussion of anything referred to in clause 14.1:

(a) except for so much of the discussion as is necessary to preserve the relevant confidentiality, privilege or security, and

(b) if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret – unless the council or committee concerned is satisfied that discussion of the matter in an open meeting would, on balance, be contrary to the public interest.

Note: Clause 14.3 reflects section 10B(1) of the Act.

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14.4 A meeting is not to be closed during the receipt and consideration of information or advice referred to in clause 14.1(g) unless the advice concerns legal matters that:

(a) are substantial issues relating to a matter in which the council or committee is involved, and

(b) are clearly identified in the advice, and

(c) are fully discussed in that advice.

Note: Clause 14.4 reflects section 10B(2) of the Act.

14.5 If a meeting is closed during the discussion of a motion to close another part of the meeting to the public (as referred to in clause 14.2), the consideration of the motion must not include any consideration of the matter or information to be discussed in that other part of the meeting other than consideration of whether the matter concerned is a matter referred to in clause 14.1.

Note: Clause 14.5 reflects section 10B(3) of the Act.

14.6 For the purpose of determining whether the discussion of a matter in an open meeting would be contrary to the public interest, it is irrelevant that:

(a) a person may misinterpret or misunderstand the discussion, or

(b) the discussion of the matter may:

(i) cause embarrassment to the council or committee concerned, or to councillors or to employees of the council, or

(ii) cause a loss of confidence in the council or committee.

Note: Clause 14.6 reflects section 10B(4) of the Act.

14.7 In deciding whether part of a meeting is to be closed to the public, the council or committee concerned must consider any relevant guidelines issued by the Departmental Chief Executive of the Office of Local Government.

Note: Clause 14.7 reflects section 10B(5) of the Act.

Notice of likelihood of closure not required in urgent cases

14.8 Part of a meeting of the council, or of a committee of the council, may be closed to the public while the council or committee considers a matter that has not been identified in the agenda for the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed, but only if:

(a) it becomes apparent during the discussion of a particular matter that the matter is a matter referred to in clause 14.1, and

(b) the council or committee, after considering any representations made under clause 14.9, resolves that further discussion of the matter:

(i) should not be deferred (because of the urgency of the matter), and

(ii) should take place in a part of the meeting that is closed to the public.

Note: Clause 14.8 reflects section 10C of the Act.

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Representations by members of the public

14.9 The council, or a committee of the council, may allow members of the public to make representations to or at a meeting, before any part of the meeting is closed to the public, as to whether that part of the meeting should be closed.

Note: Clause 14.9 reflects section 10A(4) of the Act.

14.10 A representation under clause 14.9 is to be made after the motion to close the part of the meeting is moved and seconded.

14.11 Where the matter has been identified in the agenda of the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed to the public, in order to make representations under clause 14.9, members of the public must first make an application to the council in the approved form. Applications must be received by **[date and time to be specified by the council]** before the meeting at which the matter is to be considered.

14.12 The general manager (or their delegate) may refuse an application made under clause 14.11. The general manager or their delegate must give reasons in writing for a decision to refuse an application.

14.13 No more than **[number to be specified by the council]** speakers are to be permitted to make representations under clause 14.9.

14.14 If more than the permitted number of speakers apply to make representations under clause 14.9, the general manager or their delegate may request the speakers to nominate from among themselves the persons who are to make representations to the council. If the speakers are not able to agree on whom to nominate to make representations under clause 14.9, the general manager or their delegate is to determine who will make representations to the council.

14.15 The general manager (or their delegate) is to determine the order of speakers.

14.16 Where the council or a committee of the council proposes to close a meeting or part of a meeting to the public in circumstances where the matter has not been identified in the agenda for the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed to the public, the chairperson is to invite representations from the public under clause 14.9 after the motion to close the part of the meeting is moved and seconded. The chairperson is to permit no more than **[number to be specified by the council]** speakers to make representations in such order as determined by the chairperson.

14.17 Each speaker will be allowed **[number to be specified by the council]** minutes to make representations, and this time limit is to be strictly enforced by the chairperson. Speakers must confine their representations to whether the meeting should be closed to the public. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

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Expulsion of non-councillors from meetings closed to the public

14.18 If a meeting or part of a meeting of the council or a committee of the council is closed to the public in accordance with section 10A of the Act and this code, any person who is not a councillor and who fails to leave the meeting when requested, may be expelled from the meeting as provided by section 10(2)(a) or (b) of the Act.

14.19 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary restrain that person from re-entering that place for the remainder of the meeting.

Obligations of councillors attending meetings by audio-visual link

14.20 Councillors attending a meeting by audio-visual link must ensure that no other person is within sight or hearing of the meeting at any time that the meeting is closed to the public under section 10A of the Act.

Information to be disclosed in resolutions closing meetings to the public

14.21 The grounds on which part of a meeting is closed must be stated in the decision to close that part of the meeting and must be recorded in the minutes of the meeting. The grounds must specify the following:

(a) the relevant provision of section 10A(2) of the Act,

(b) the matter that is to be discussed during the closed part of the meeting,

(c) the reasons why the part of the meeting is being closed, including (if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret) an explanation of the way in which discussion of the matter in an open meeting would be, on balance, contrary to the public interest.

Note: Clause 14.21 reflects section 10D of the Act.

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Resolutions passed at closed meetings to be made public

14.22 If the council passes a resolution during a meeting, or a part of a meeting, that is closed to the public, the chairperson must make the resolution public as soon as practicable after the meeting, or the relevant part of the meeting, has ended, and the resolution must be recorded in the publicly available minutes of the meeting.

14.23 Resolutions passed during a meeting, or a part of a meeting, that is closed to the public must be made public by the chairperson under clause 14.22 during a part of the meeting that is webcast.

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15 Keeping Order at Meetings

Points of order

15.1 A councillor may draw the attention of the chairperson to an alleged breach of this code by raising a point of order. A point of order does not require a seconder.

15.2 A point of order cannot be made with respect to adherence to the principles contained in clause 2.1.

15.3 A point of order must be taken immediately it is raised. The chairperson must suspend the business before the meeting and permit the councillor raising the point of order to state the provision of this code they believe has been breached. The chairperson must then rule on the point of order – either by upholding it or by overruling it.

Questions of order

15.4 The chairperson, without the intervention of any other councillor, may call any councillor to order whenever, in the opinion of the chairperson, it is necessary to do so.

15.5 A councillor who claims that another councillor has committed an act of disorder, or is out of order, may call the attention of the chairperson to the matter.

15.6 The chairperson must rule on a question of order immediately after it is raised but, before doing so, may invite the opinion of the council.

15.7 The chairperson's ruling must be obeyed unless a motion dissenting from the ruling is passed.

Motions of dissent

15.8 A councillor can, without notice, move to dissent from a ruling of the chairperson on a point of order or a question of order. If that happens, the chairperson must suspend the business before the meeting until a decision is made on the motion of dissent.

15.9 If a motion of dissent is passed, the chairperson must proceed with the suspended business as though the ruling dissented from had not been given. If, as a result of the ruling, any motion or business has been rejected as out of order, the chairperson must restore the motion or business to the agenda and proceed with it in due course.

15.10 Despite any other provision of this code, only the mover of a motion of dissent and the chairperson can speak to the motion before it is put. The mover of the motion does not have a right of general reply.

Acts of disorder

15.11 A councillor commits an act of disorder if the councillor, at a meeting of the council or a committee of the council:

(a) contravenes the Act, the Regulation or this code, or

(b) assaults or threatens to assault another councillor or person present at the meeting, or

(c) moves or attempts to move a motion or an amendment that has an unlawful purpose or that deals with a matter that is outside the jurisdiction of the council or the committee, or addresses or attempts to address the council or the committee on such a motion, amendment or matter, or

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(d) insults, makes unfavourable personal remarks about, or imputes improper motives to any other council official, or alleges a breach of the council's code of conduct, or

(e) says or does anything that is inconsistent with maintaining order at the meeting or is likely to bring the council or the committee into disrepute.

Note: Clause 15.11 reflects section 182 of the Regulation.

15.12 The chairperson may require a councillor:

(a) to apologise without reservation for an act of disorder referred to in clauses 15.11(a), (b), or (e), or

(b) to withdraw a motion or an amendment referred to in clause 15.11(c) and, where appropriate, to apologise without reservation, or

(c) to retract and apologise without reservation for any statement that constitutes an act of disorder referred to in clauses 15.11(d) and (e).

Note: Clause 15.12 reflects section 233 of the Regulation.

How disorder at a meeting may be dealt with

15.13 If disorder occurs at a meeting of the council, the chairperson may adjourn the meeting for a period of not more than fifteen (15) minutes and leave the chair. The council, on reassembling, must, on a question put from the chairperson, decide without debate whether the business is to be proceeded with or not. This clause applies to disorder arising from the conduct of members of the public as well as disorder arising from the conduct of councillors.

Expulsion from meetings

15.14 All chairpersons of meetings of the council and committees of the council are authorised under this code to expel any person, including any councillor, from a council or committee meeting, for the purposes of section 10(2)(b) of the Act.

15.15 All chairpersons of meetings of the council and committees of the council are authorised under this code to expel any person other than a councillor, from a council or committee meeting, for the purposes of section 10(2)(b) of the Act. Councillors may only be expelled by resolution of the council or the committee of the council.

Note: Councils may use either clause 15.14 or clause 15.15.

15.16 Clause [15.14/15.15] **[delete whichever is not applicable]**, does not limit the ability of the council or a committee of the council to resolve to expel a person, including a councillor, from a council or committee meeting, under section 10(2)(a) of the Act.

15.17 A councillor may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the council for having failed to comply with a requirement under clause 15.12. The expulsion of a councillor from the meeting for that reason does not prevent any other action from being taken against the councillor for the act of disorder concerned.

Note: Clause 15.17 reflects section 233(2) of the Regulation.

15.18 A member of the public may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of the council for engaging in or having engaged in disorderly conduct at the meeting.

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15.19 Where a councillor or a member of the public is expelled from a meeting, the expulsion and the name of the person expelled, if known, are to be recorded in the minutes of the meeting.

15.20 If a councillor or a member of the public fails to leave the place where a meeting of the council is being held immediately after they have been expelled, a police officer, or any person authorised for the purpose by the council or person presiding, may, by using only such force as is necessary, remove the councillor or member of the public from that place and, if necessary, restrain the councillor or member of the public from re-entering that place for the remainder of the meeting.

How disorder by councillors attending meetings by audio-visual link may be dealt with

15.21 Where a councillor is attending a meeting by audio-visual link, the chairperson or a person authorised by the chairperson may mute the councillor's audio link to the meeting for the purposes of enforcing compliance with this code.

15.22 If a councillor attending a meeting by audio-visual link is expelled from a meeting for an act of disorder, the chairperson of the meeting or a person authorised by the chairperson, may terminate the councillor's audio-visual link to the meeting.

Use of mobile phones and the unauthorised recording of meetings

15.23 Councillors, council staff and members of the public must ensure that mobile phones are turned to silent during meetings of the council and committees of the council.

15.24 A person must not live stream or use an audio recorder, video camera, mobile phone or any other device to make a recording of the proceedings of a meeting of the council or a committee of the council without the prior authorisation of the council or the committee.

15.25 Without limiting clause 15.18, a contravention of clause 15.24 or an attempt to contravene that clause, constitutes disorderly conduct for the purposes of clause 15.18. Any person who contravenes or attempts to contravene clause 15.24, may be expelled from the meeting as provided for under section 10(2) of the Act.

15.26 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by the council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary, restrain that person from re-entering that place for the remainder of the meeting.

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16 Conflicts of Interest

16.1 All councillors and, where applicable, all other persons, must declare and manage any conflicts of interest they may have in matters being considered at meetings of the council and committees of the council in accordance with the council's code of conduct. All declarations of conflicts of interest and how the conflict of interest was managed by the person who made the declaration must be recorded in the minutes of the meeting at which the declaration was made.

16.2 Councillors attending a meeting by audio-visual link must declare and manage any conflicts of interest they may have in matters being considered at the meeting in accordance with the council's code of conduct. Where a councillor has declared a pecuniary or significant non-pecuniary conflict of interest in a matter being discussed at the meeting, the councillor's audio-visual link to the meeting must be suspended or terminated and the councillor must not be in sight or hearing of the meeting at any time during which the matter is being considered or discussed by the council or committee, or at any time during which the council or committee is voting on the matter.

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17 Decisions of the Council

Council decisions

17.1 A decision supported by a majority of the votes at a meeting of the council at which a quorum is present is a decision of the council.

Note: Clause 17.1 reflects section 371 of the Act in the case of councils and section 400T(8) in the case of joint organisations.

Note: Under section 400U(4) of the Act, joint organisations may specify more stringent voting requirements for decisions by the board such as a 75% majority or consensus decision making. Where a joint organisation's charter specifies more stringent voting requirements, clause 17.1 must be adapted to reflect those requirements.

17.2 Decisions made by the council must be accurately recorded in the minutes of the meeting at which the decision is made.

Rescinding or altering council decisions

17.3 A resolution passed by the council may not be altered or rescinded except by a motion to that effect of which notice has been given under clause 3.10.

Note: Clause 17.3 reflects section 372(1) of the Act.

17.4 If a notice of motion to rescind a resolution is given at the meeting at which the resolution is carried, the resolution must not be carried into effect until the motion of rescission has been dealt with.

Note: Clause 17.4 reflects section 372(2) of the Act.

17.5 If a motion has been lost, a motion having the same effect must not be considered unless notice of it has been duly given in accordance with clause 3.10.

Note: Clause 17.5 reflects section 372(3) of the Act.

17.6 A notice of motion to alter or rescind a resolution, and a notice of motion which has the same effect as a motion which has been lost, must be signed by three (3) councillors if less than three (3) months has elapsed since the resolution was passed, or the motion was lost.

Note: Clause 17.6 reflects section 372(4) of the Act.

17.7 If a motion to alter or rescind a resolution has been lost, or if a motion which has the same effect as a previously lost motion is lost, no similar motion may be brought forward within three (3) months of the meeting at which it was lost. This clause may not be evaded by substituting a motion differently worded, but in principle the same.

Note: Clause 17.7 reflects section 372(5) of the Act.

17.8 The provisions of clauses 17.5–17.7 concerning lost motions do not apply to motions of adjournment.

Note: Clause 17.8 reflects section 372(7) of the Act.

17.9 A notice of motion submitted in accordance with clause 17.6 may only be withdrawn under clause 3.11 with the consent of all signatories to the notice of motion.

17.10 A notice of motion to alter or rescind a resolution relating to a development application must be submitted to the general manager no later than **[council to specify the period of time]** after the meeting at which the resolution was adopted.

17.11 A motion to alter or rescind a resolution of the council may be moved on the report of a committee of the council and any such report must be recorded in the minutes of the meeting of the council.

Note: Clause 17.11 reflects section 372(6) of the Act.

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17.12 Subject to clause 17.7, in cases of urgency, a motion to alter or rescind a resolution of the council may be moved at the same meeting at which the resolution was adopted, where:

(a) a notice of motion signed by three councillors is submitted to the chairperson, and

(b) a motion to have the motion considered at the meeting is passed, and

(c) the chairperson rules the business that is the subject of the motion is of great urgency on the grounds that it requires a decision by the council before the next scheduled ordinary meeting of the council.

17.13 A motion moved under clause 17.12(b) can be moved without notice. Despite clauses 10.20–10.30, only the mover of a motion referred to in clause 17.12(b) can speak to the motion before it is put.

17.14 A motion of dissent cannot be moved against a ruling by the chairperson under clause 17.12(c).

Recommitting resolutions to correct an error

17.15 Despite the provisions of this Part, a councillor may, with the leave of the chairperson, move to recommit a resolution adopted at the same meeting:

(a) to correct any error, ambiguity or imprecision in the council's resolution, or

(b) to confirm the voting on the resolution.

17.16 In seeking the leave of the chairperson to move to recommit a resolution for the purposes of clause 17.15(a), the councillor is to propose alternative wording for the resolution.

17.17 The chairperson must not grant leave to recommit a resolution for the purposes of clause 17.15(a), unless they are satisfied that the proposed alternative wording of the resolution would not alter the substance of the resolution previously adopted at the meeting.

17.18 A motion moved under clause 17.15 can be moved without notice. Despite clauses 10.20–10.30, only the mover of a motion referred to in clause 17.15 can speak to the motion before it is put.

17.19 A motion of dissent cannot be moved against a ruling by the chairperson under clause 17.15.

17.20 A motion moved under clause 17.15 with the leave of the chairperson cannot be voted on unless or until it has been seconded.

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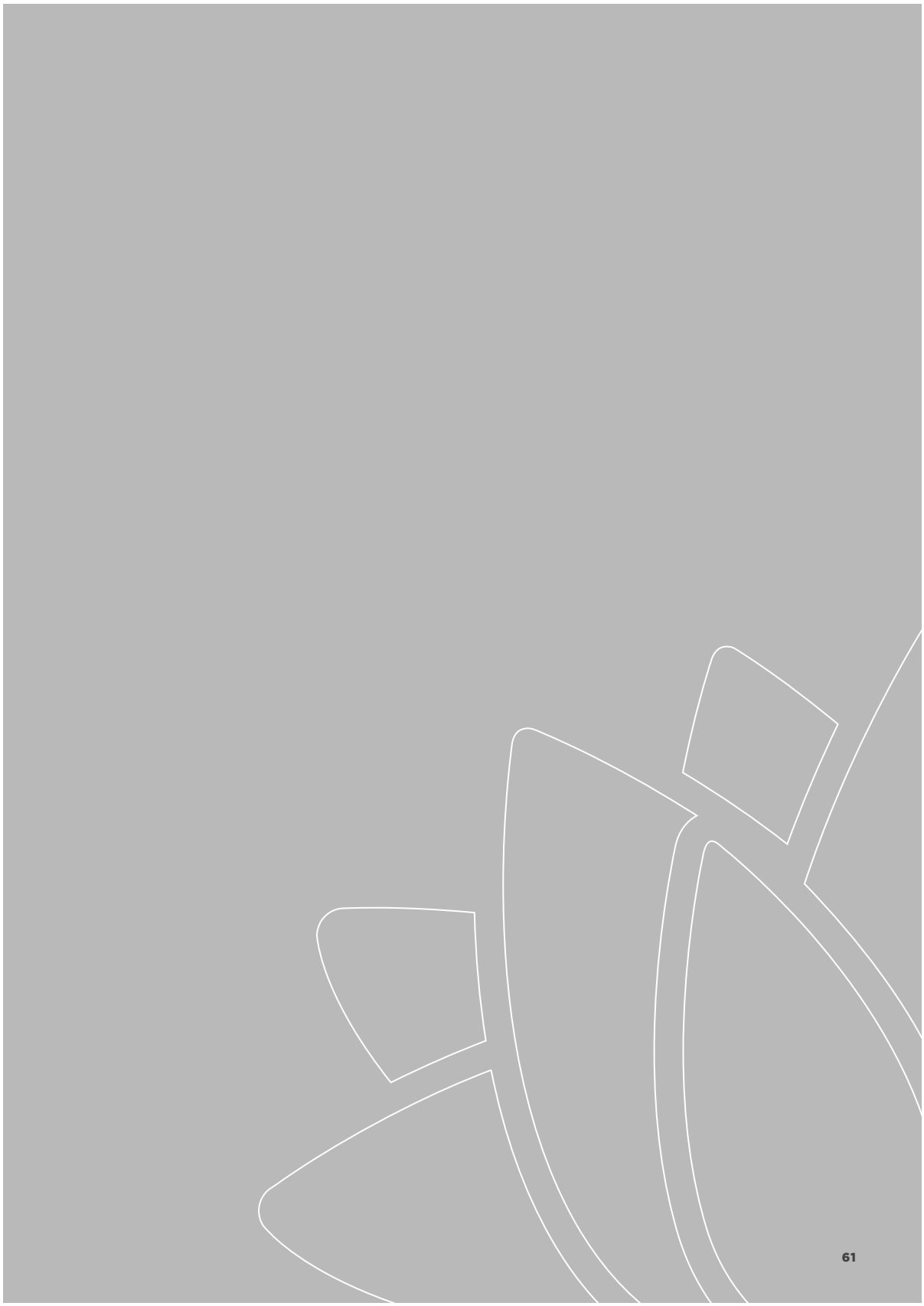

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18 Time Limits on Council Meetings

18.1 Meetings of the council and committees of the council are to conclude no later than **[council to specify the time].**

18.2 If the business of the meeting is unfinished at **[council to specify the time]**, the council or the committee may, by resolution, extend the time of the meeting.

18.3 If the business of the meeting is unfinished at **[council to specify the time]**, and the council does not resolve to extend the meeting, the chairperson must either:

(a) defer consideration of the remaining items of business on the agenda to the next ordinary meeting of the council, or

(b) adjourn the meeting to a time, date and place fixed by the chairperson.

18.4 Clause 18.3 does not limit the ability of the council or a committee of the council to resolve to adjourn a meeting at any time. The resolution adjourning the meeting must fix the time, date and place that the meeting is to be adjourned to.

18.5 Where a meeting is adjourned under clause 18.3 or 18.4, the general manager must:

(a) individually notify each councillor of the time, date and place at which the meeting will reconvene, and

(b) publish the time, date and place at which the meeting will reconvene on the council's website and in such other manner that the general manager is satisfied is likely to bring notice of the time, date and place of the reconvened meeting to the attention of as many people as possible.

19 After the Meeting

Minutes of meetings

19.1 The council is to keep full and accurate minutes of the proceedings of meetings of the council.

Note: Clause 19.1 reflects section 375(1) of the Act.

19.2 At a minimum, the general manager must ensure that the following matters are recorded in the council's minutes:

(a) the names of councillors attending a council meeting and whether they attended the meeting in person or by audio-visual link,

(b) details of each motion moved at a council meeting and of any amendments moved to it,

(c) the names of the mover and seconder of the motion or amendment,

(d) whether the motion or amendment was passed or lost, and

(e) such other matters specifically required under this code.

19.3 The minutes of a council meeting must be confirmed at a subsequent meeting of the council.

Note: Clause 19.3 reflects section 375(2) of the Act.

19.4 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

19.5 When the minutes have been confirmed, they are to be signed by the person presiding at the subsequent meeting.

Note: Clause 19.5 reflects section 375(2) of the Act.

19.6 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

19.7 The confirmed minutes of a council meeting must be published on the council's website. This clause does not prevent the council from also publishing unconfirmed minutes of its meetings on its website prior to their confirmation.

Access to correspondence and reports laid on the table at, or submitted to, a meeting

19.8 The council and committees of the council must, during or at the close of a meeting, or during the business day following the meeting, give reasonable access to any person to inspect correspondence and reports laid on the table at, or submitted to, the meeting.

Note: Clause 19.8 reflects section 11(1) of the Act.

19.9 Clause 19.8 does not apply if the correspondence or reports relate to a matter that was received or discussed or laid on the table at, or submitted to, the meeting when the meeting was closed to the public.

Note: Clause 19.9 reflects section 11(2) of the Act.

19.10 Clause 19.8 does not apply if the council or the committee resolves at the meeting, when open to the public, that the correspondence or reports are to be treated as confidential because they relate to a matter specified in section 10A(2) of the Act.

Note: Clause 19.10 reflects section 11(3) of the Act.

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19.11 Correspondence or reports to which clauses 19.9 and 19.10 apply are to be marked with the relevant provision of section 10A(2) of the Act that applies to the correspondence or report.

Implementation of decisions of the council

19.12 The general manager is to implement, without undue delay, lawful decisions of the council.

Note: Clause 19.12 reflects section 335(b) of the Act.

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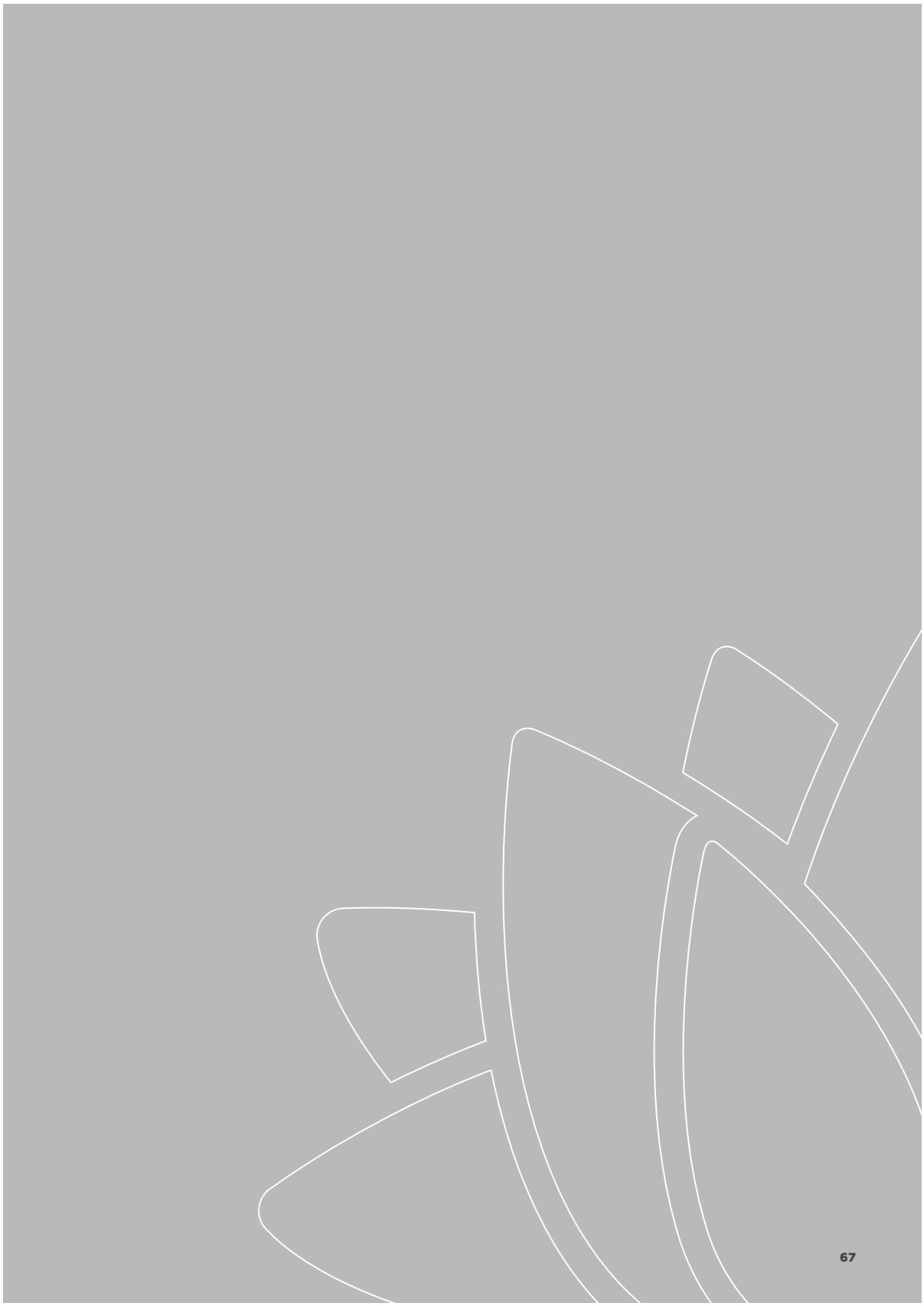

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20 Council Committees

Application of this Part

20.1 This Part only applies to committees of the council whose members are all councillors.

Council committees whose members are all councillors

20.2 The council may, by resolution, establish such committees as it considers necessary.

20.3 A committee of the council is to consist of the mayor and such other councillors as are elected by the councillors or appointed by the council.

20.4 The quorum for a meeting of a committee of the council is to be:

(a) such number of members as the council decides, or

(b) if the council has not decided a number – a majority of the members of the committee.

Functions of committees

20.5 The council must specify the functions of each of its committees when the committee is established but may from time to time amend those functions.

Notice of committee meetings

20.6 The general manager must send to each councillor, regardless of whether they are a committee member, at least three (3) days before each meeting of the committee, a notice specifying:

(a) the time, date and place of the meeting, and

(b) the business proposed to be considered at the meeting.

20.7 Notice of less than three (3) days may be given of a committee meeting called in an emergency.

Attendance at committee meetings

20.8 A committee member (other than the mayor) ceases to be a member of a committee if the committee member:

(a) has been absent from three (3) consecutive meetings of the committee without having given reasons acceptable to the committee for the member's absences, or

(b) has been absent from at least half of the meetings of the committee held during the immediately preceding year without having given to the committee acceptable reasons for the member's absences.

20.9 Clause 20.8 does not apply if all of the members of the council are members of the committee.

Non-members entitled to attend committee meetings

20.10 A councillor who is not a member of a committee of the council is entitled to attend, and to speak at a meeting of the committee. However, the councillor is not entitled:

(a) to give notice of business for inclusion in the agenda for the meeting, or

(b) to move or second a motion at the meeting, or

(c) to vote at the meeting.

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Chairperson and deputy chairperson of council committees

20.11 The chairperson of each committee of the council must be:

(a) the mayor, or

(b) if the mayor does not wish to be the chairperson of a committee, a member of the committee elected by the council, or

(c) if the council does not elect such a member, a member of the committee elected by the committee.

20.12 The council may elect a member of a committee of the council as deputy chairperson of the committee. If the council does not elect a deputy chairperson of such a committee, the committee may elect a deputy chairperson.

20.13 If neither the chairperson nor the deputy chairperson of a committee of the council is able or willing to preside at a meeting of the committee, the committee must elect a member of the committee to be acting chairperson of the committee.

20.14 The chairperson is to preside at a meeting of a committee of the council. If the chairperson is unable or unwilling to preside, the deputy chairperson (if any) is to preside at the meeting, but if neither the chairperson nor the deputy chairperson is able or willing to preside, the acting chairperson is to preside at the meeting.

Procedure in committee meetings

20.15 Subject to any specific requirements of this code, each committee of the council may regulate its own procedure. The provisions of this code are to be taken to apply to all committees of the council unless the council or the committee determines otherwise in accordance with this clause.

20.16 Whenever the voting on a motion put to a meeting of the committee is equal, the chairperson of the committee is to have a casting vote as well as an original vote unless the council or the committee determines otherwise in accordance with clause 20.15.

20.17 A motion at a committee of a joint organisation is taken to be lost in the event of an equality of votes.

Note: Clause 20.17 reflects section 397E of the Regulation. Joint organisations must adopt clause 20.17 and omit clause 20.16. Councils must not adopt clause 20.17.

20.18 Voting at a council committee meeting is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system).

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Closure of committee meetings to the public

20.19 The provisions of the Act and Part 14 of this code apply to the closure of meetings of committees of the council to the public in the same way they apply to the closure of meetings of the council to the public.

20.20 If a committee of the council passes a resolution, or makes a recommendation, during a meeting, or a part of a meeting that is closed to the public, the chairperson must make the resolution or recommendation public as soon as practicable after the meeting or part of the meeting has ended, and report the resolution or recommendation to the next meeting of the council. The resolution or recommendation must also be recorded in the publicly available minutes of the meeting.

20.21 Resolutions passed during a meeting, or a part of a meeting that is closed to the public must be made public by the chairperson under clause 20.20 during a part of the meeting that is webcast.

Disorder in committee meetings

20.22 The provisions of the Act and this code relating to the maintenance of order in council meetings apply to meetings of committees of the council in the same way as they apply to meetings of the council.

Minutes of council committee meetings

20.23 Each committee of the council is to keep full and accurate minutes of the proceedings of its meetings. At a minimum, a committee must ensure that the following matters are recorded in the committee's minutes:

(a) the names of councillors attending a meeting and whether they attended the meeting in person or by audio-visual link,

(b) details of each motion moved at a meeting and of any amendments moved to it,

(c) the names of the mover and seconder of the motion or amendment,

(d) whether the motion or amendment was passed or lost, and

(e) such other matters specifically required under this code.

20.24 All voting at meetings of committees of the council (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

20.25 The minutes of meetings of each committee of the council must be confirmed at a subsequent meeting of the committee.

20.26 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

20.27 When the minutes have been confirmed, they are to be signed by the person presiding at that subsequent meeting.

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20.28 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

20.29 The confirmed minutes of a meeting of a committee of the council must be published on the council's website. This clause does not prevent the council from also publishing unconfirmed minutes of meetings of committees of the council on its website prior to their confirmation.

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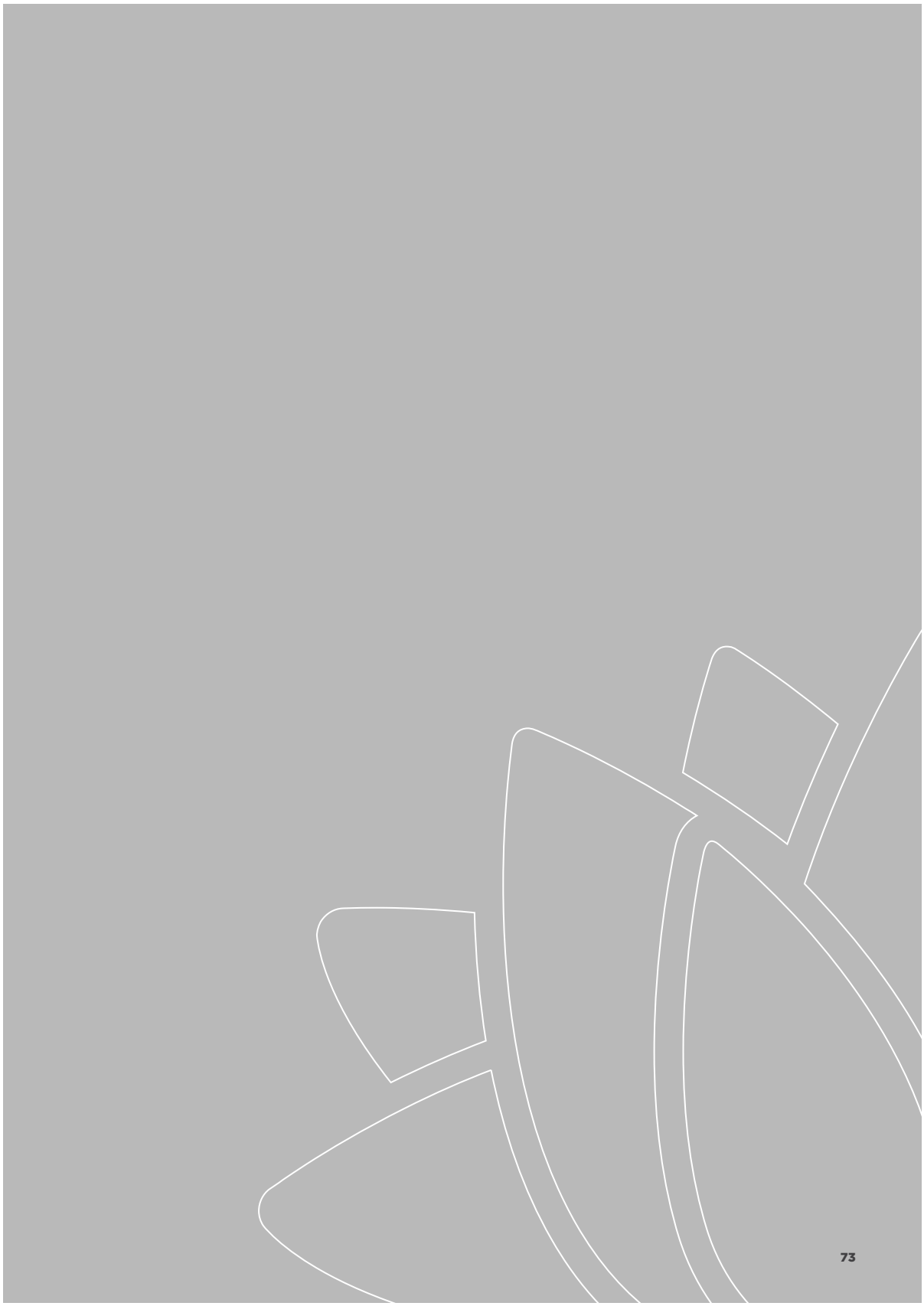

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21 Irregularities

21.1 Proceedings at a meeting of a council or a council committee are not invalidated because of:

(a) a vacancy in a civic office, or

(b) a failure to give notice of the meeting to any councillor or committee member, or

(c) any defect in the election or appointment of a councillor or committee member, or

(d) a failure of a councillor or a committee member to declare a conflict of interest, or to refrain from the consideration or discussion of, or vote on, the relevant matter, at a council or committee meeting in accordance with the council's code of conduct, or

(e) a failure to comply with this code.

Note: Clause 21.1 reflects section 374 of the Act.

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22 Definitions

the Act	means the *Local Government Act 1993*
act of disorder	means an act of disorder as defined in clause 15.11 of this code
amendment	in relation to an original motion, means a motion moving an amendment to that motion
audio recorder	any device capable of recording speech
audio-visual link	means a facility that enables audio and visual communication between persons at different places
business day	means any day except Saturday or Sunday or any other day the whole or part of which is observed as a public holiday throughout New South Wales
chairperson	in relation to a meeting of the council – means the person presiding at the meeting as provided by section 369 of the Act and clauses 6.1 and 6.2 of this code, and in relation to a meeting of a committee – means the person presiding at the meeting as provided by clause 20.11 of this code
this code	means the council's adopted code of meeting practice
committee of the council	means a committee established by the council in accordance with clause 20.2 of this code (being a committee consisting only of councillors) or the council when it has resolved itself into committee of the whole under clause 12.1
council official	has the same meaning it has in the *Model Code of Conduct for Local Councils in NSW*
day	means calendar day
division	means a request by two councillors under clause 11.7 of this code requiring the recording of the names of the councillors who voted both for and against a motion
foreshadowed amendment	means a proposed amendment foreshadowed by a councillor under clause 10.18 of this code during debate on the first amendment
foreshadowed motion	means a motion foreshadowed by a councillor under clause 10.17 of this code during debate on an original motion
open voting	means voting on the voices or by a show of hands or by a visible electronic voting system or similar means
planning decision	means a decision made in the exercise of a function of a council under the *Environmental Planning and Assessment Act 1979* including any decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but not including the making of an order under Division 9.3 of Part 9 of that Act

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performance improvement order	means an order issued under section 438A of the Act
quorum	means the minimum number of councillors or committee members necessary to conduct a meeting
the Regulation	means the *Local Government (General) Regulation 2021*
webcast	a video or audio broadcast of a meeting transmitted across the internet either concurrently with the meeting or at a later time
year	means the period beginning 1 July and ending the following 30 June

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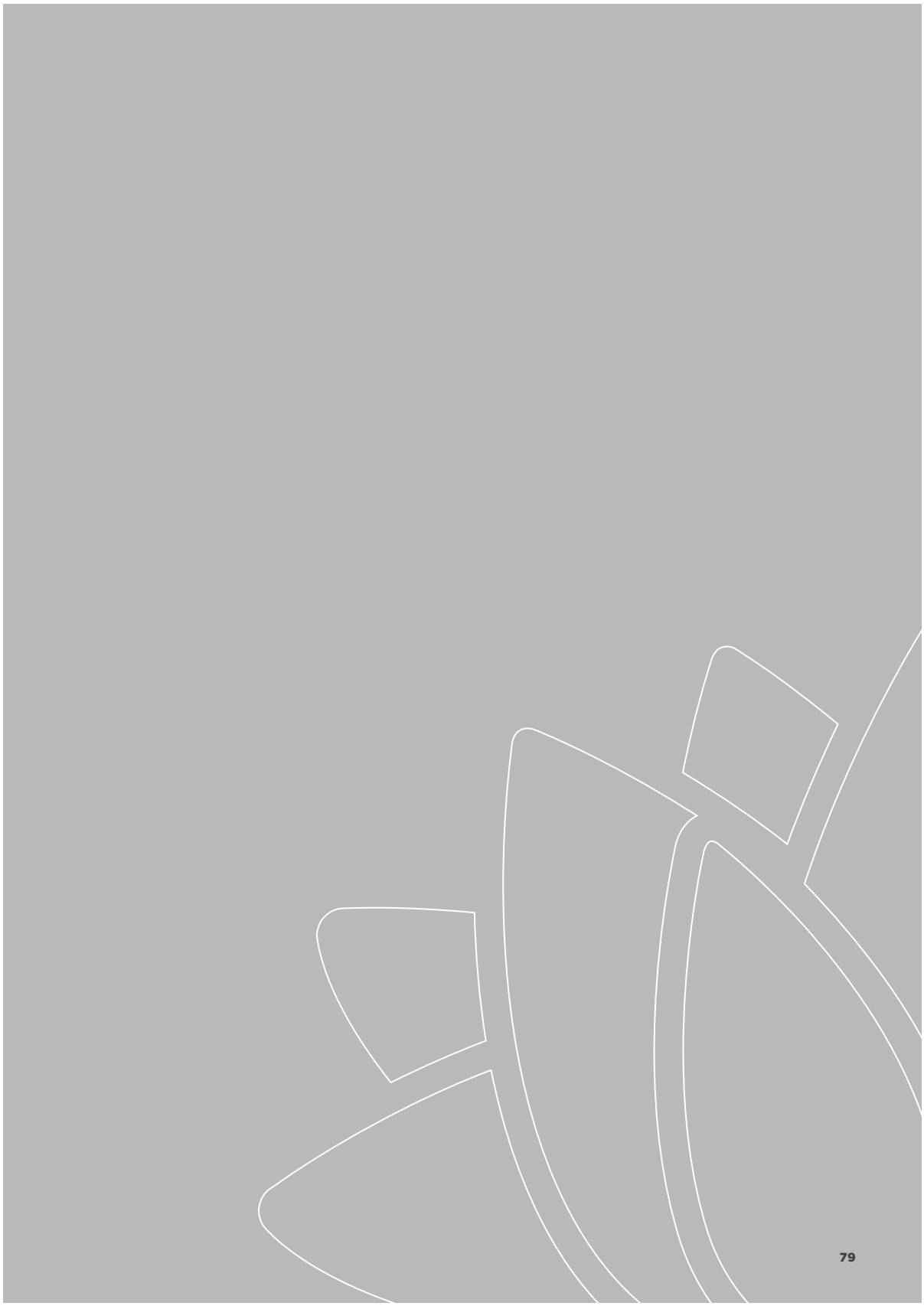

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Monthly Report

Shoalhaven City Council

February 2022

CPG Research & Advisory Pty Ltd

Market and Economic News

Global Leaders

Stocks fell again, as Russia not only entered the eastern Donbass region of Ukraine but attacked capital Kyiv 700km further west. After initial dithering, NATO agreed on crippling sanctions on Russia.

The US Dow Jones, S&P500 and NASDAQ slid -3.3%, -3.0% and -3.4% respectively. MSCI World ex-AUS fell -2.8% in local terms. US 10-year bonds eased to 1.83% (+4bp), having broken 2% mid-month. High yield drifted to 377bp spread (+14bp).

US unemployment inched higher to 4% (+0.1%) in January. Non-farm Payrolls of +467k followed December's revised +510k. Participation was 62.2% (+0.3%). Youth unemployment fell to 8.2% (-0.2%). *GDPNow's* estimate of Q1 growth slipped into negative territory. On the border, the lengthy truck blockade in Canada further hurt supply chains by blocking border crossings. Inflation was +7.5% YoY (+0.5%) after a +0.6% month; core inflation soared to +6% - 40+ year highs. Retail sales rose +3.3%.

Eurozone unemployment fell to 6.8% (-0.2%) in January. Prices rose +0.3% in January and are a record +5.1% YoY. Core CPI eased to +2.3%. Retail sales fell -3%. Europe agonised over how to sanction Russia without crippling its own economy.

China eased some property restrictions, to avoid a cascading 2007-style crash. Inflation fell to 0.9% YoY, despite a +0.4% January but producer prices are up +9.1% (*vs* +10.3% in January). December's trade surplus was a record +$US94.5bn on higher exports.

Japan's inflation fell to +0.5% *vs* +0.8%, and retail sales fell -1.9%.

Domestic News

After month end, the RBA's March meeting offered no change in rates guidance and minimal changes in commentary. As other central banks rush to acknowledge high global inflation, the RBA remains "*patient*."

A slow-moving weather system parked off the east coast, bringing massive flooding. Australia reached 94½% 16+ / 80% population vaccination. Early 2-shot recipients will shortly become "overdue." State borders are now reopening, with the return of inbound tourism. The omicron wave of COVID19 cases eased to a daily average in the 30s. New cases at 22k per day compare to a peak of 105k.

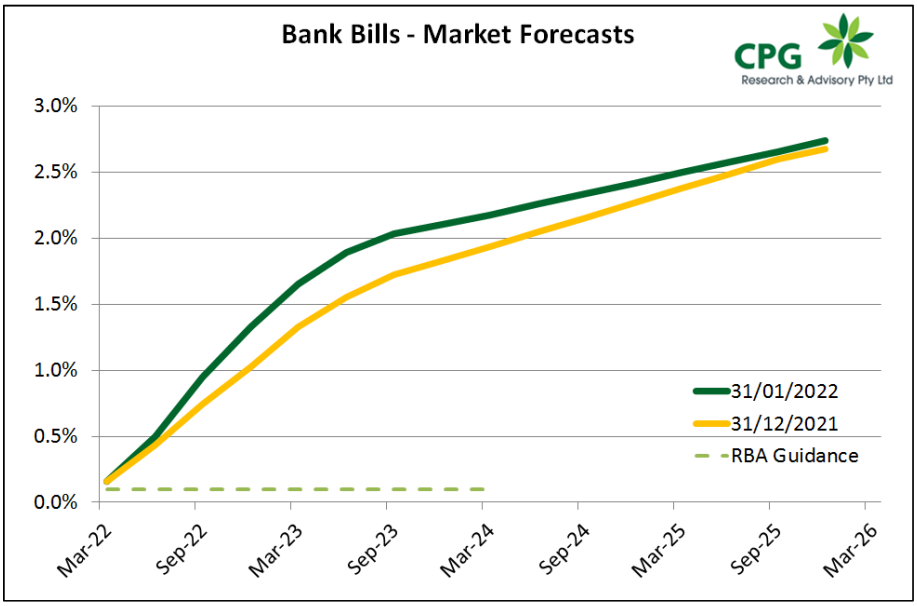
2-year yields soared to 111bp, from 90bp. 10-year bonds closed 2.18% (+27bp). The ASX200 rebounded +2.1% but the Small Ordinaries was flat. CoreLogic reported +0.3% property gains in February (with Sydney and Melbourne pausing), +19% YoY. Home loan commitments rose +4.4% in December and dwelling approvals rose +8.2%.

Core inflation was 2.6%. Wages rose +2.3% to December, just below core CPI. Unemployment was flat at 4.2% with 66.2% participation (+0.1%). Employment rose +13k (fulltime -17k) to a record 13¼m, +¼m YoY. Underemployment rose +0.1% to 6.7%. Youth unemployment fell to 9% (-0.4%). The November trade surplus was $8.4bn (-14%) after a 5% increase in imports. Retail sales were +1.8% in January, +6.4% YoY.

Other Markets

WTI oil jumped to $US95/bbl (+8%) on Russia's invasion of Ukraine and sanctions. Gold soared to $1909/oz (+6%). Iron ore eased to $137/t (-1%). Base metals all gained with Nickel (+11.5%), Zinc (+1.7%), Tin (+8.1%), Aluminium (+13.6%) and Copper (+3.7%). $A rebounded to US71.82c (+2.4%).

Expected short-end rates were again pricing in a faster rate cycle:



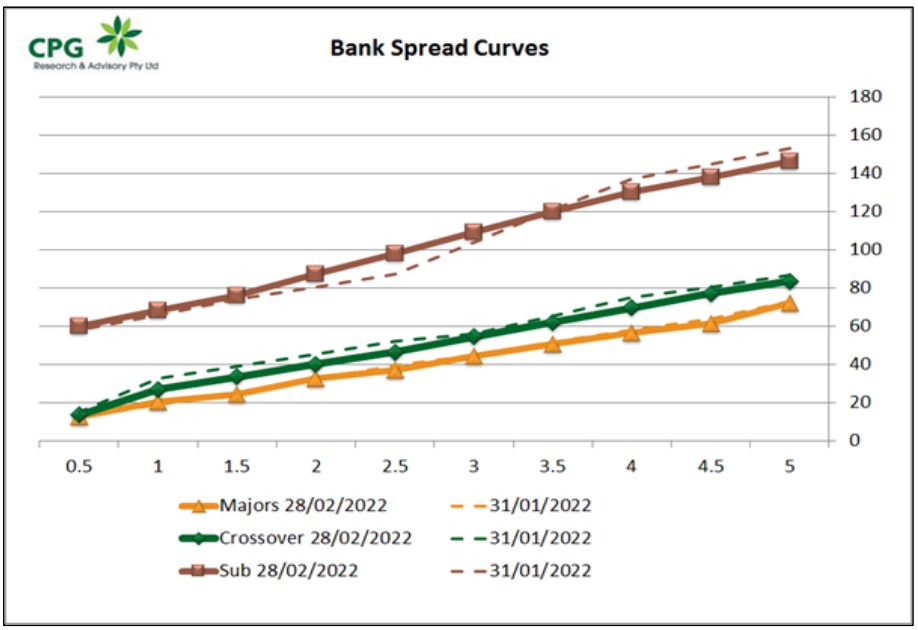
Fixed Interest Markets

As omicron subsided, Russia launched the warned-of invasion of Ukraine, targeting Kyiv and sending energy prices soaring. Credit sold off heavily:

Credit Indices	28 Feb 22	31 Jan 22	28 Feb 21
iTraxx Australia 5 Yr CDS	***92bp***	74bp	*62bp*
iTraxx European 5 Yr CDS	**71bp**	59bp	51bp
CDX IG North American 5 Yr CDS	**72bp**	60bp	56bp
CDX HY North American 5 Yr CDS	**365bp**	339bp	310bp

Australia has been a particular underperformer since COVID19, but should be a beneficiary of the current commodity boom.

Bank senior paper was little changed, holding up well as asset prices fell:



Physical high yield **also sold off**, closing at +377bp *vs* +363bp in January (*BoAMLHY Index, option-adjusted*). ***We regard HY bonds as reasonable around +400bp***. We retain a *Neutral* view on loans – steady at ~425bp spread during a range of market conditions.

Global bonds slipped again in February, with Australia severely underperforming – again despite falling global stocks. US bonds eased to 1.83% (+4bp). Australian 10-year bonds weakened to 2.18% (+27bp). 2-year bond yields weakened again to **1.11%** (*vs* 0.9% in January). 5-year bonds traded to **1.88% (+24bp)**. **3m BBSW as flat at 8bp.**

Russia attack on Ukraine affects all of Europe, and the financial system has been particularly hard-hit. Bank stocks dived amid fears of bad debts, loss of trading revenues, and the direct economic impact on Europe. **It is impossible to impose massive sanctions without hitting almost every industry.** Energy prices are soaring, and there are fears that energy will not be fully available at any price.

Our medium-term view is that wars are **highly inflation (as seen in energy and metals prices) but tend to make central banks more cautious.** Bonds weakened early in the month, but ignored a new series of record energy prices to partially recover late in the month.

After month end, the RBA's March meeting changed very little. As central banks around the world respond to very high inflation, the RBA feels Australia's far lower inflation gives it scope to pause and study the impacts elsewhere. **Policy changes were not expected this month, but investors received no guidance on timing and form of the next moves.** A time of fragile sentiment and rapidly evolving newsflow may not be the best time.

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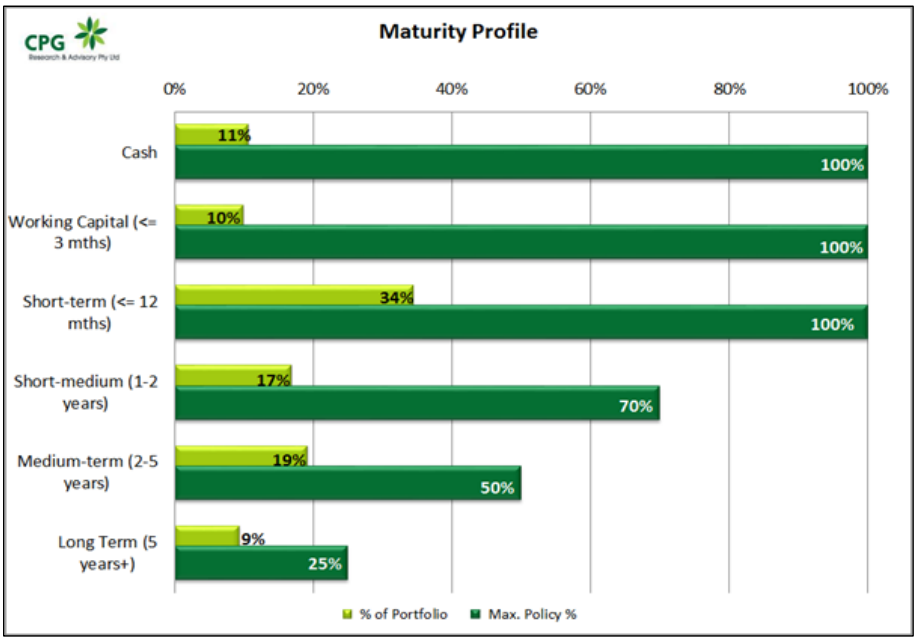
Council's Portfolio

The portfolio has a 11% of investments available at-call. A further 10% of assets mature within 3 months, with an additional 34% of assets maturing within 3-12 months. **The yield curve looks for policy rates to turn higher through FY23**, despite the RBA's reluctance to update guidance. They quietly dropped yield curve targeting, but without taking the opportunity for more radical change.

There is a longer-term allocation of 19% in 2-5 years maturity FRNs plus the TCorpIM Long-Term Growth Fund. **With FRN spreads back around pre-COVID levels, FRNs are now good relative value against deposits, with many more highly rated options available.**

All investments are within the current Minister's Order, having closed out legacy fund positions at their peak. Council now holds $20m+ in LTGF, coincident with securing loans from TCorp and adopting TCorpIM policy rules.



Council's investments are well spread across maturities and diversified across the highly rated part of the eligible fixed interest universe. **Capacity is effective unconstrained at all durations**.

Council's portfolio is primarily in deposits (at 57%) along with a substantial liquid portfolio. Of the FRNs, market liquidity is very strong with demand for all bank securities. A more diverse range of banks have come to market as FY21 progressed.

Cash was reduced to 13% (including AMP 31-day Notice Account) through purchase of FRNs.

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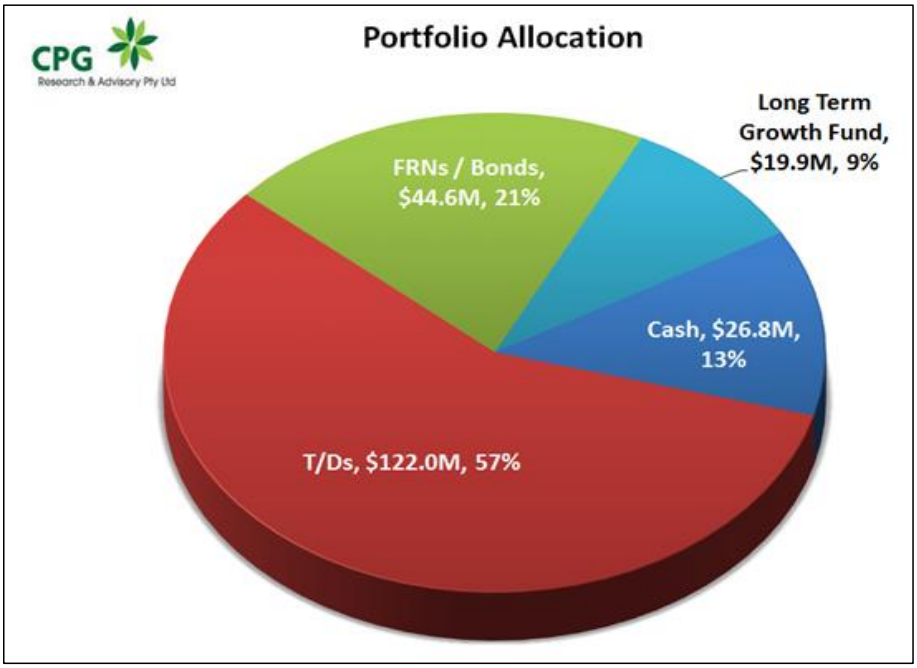
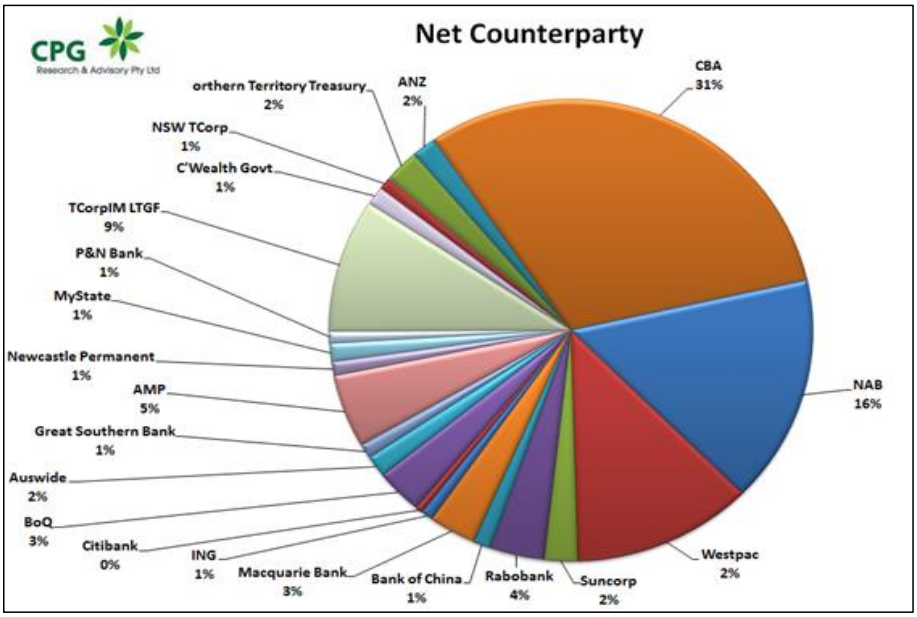


The investment portfolio is well diversified in complying assets across the entire credit spectrum, with **major banks the largest exposures**.



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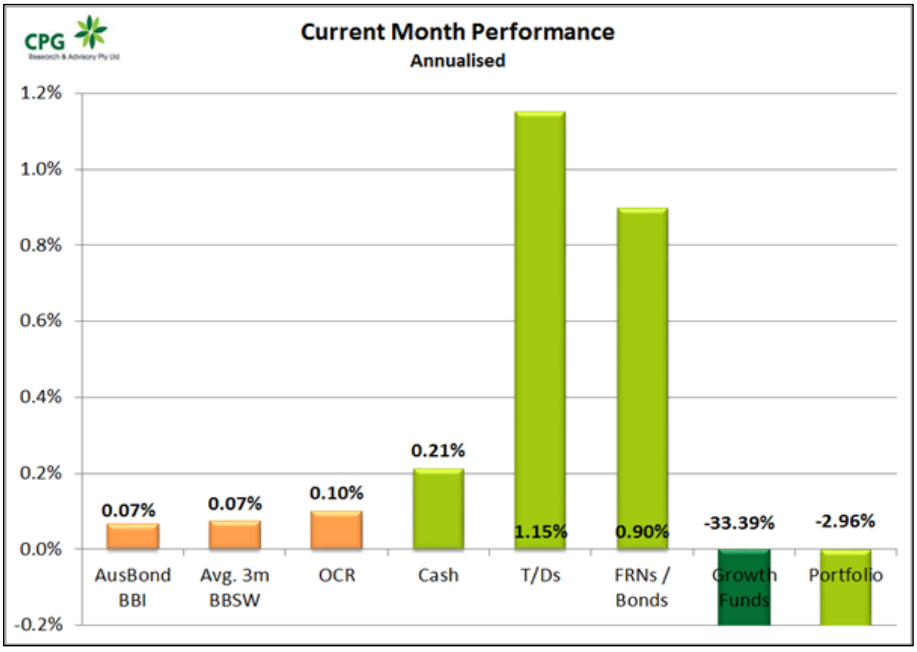
Returns - Accrual

Actual									
	1 month	3 months	6 months	FYTD	1 year	2 years	3 years	4 years	5 years
Official Cash Rate	0.01%	0.02%	0.05%	0.07%	0.10%	0.15%	0.45%	0.71%	0.87%
Avg. 3m BBSW	0.01%	0.02%	0.02%	0.03%	0.04%	0.10%	0.45%	0.83%	1.01%
AusBond Bank Bill Index	0.01%	0.01%	0.02%	0.02%	0.03%	0.12%	0.51%	0.88%	1.05%
Council Cash	0.02%	0.05%	0.12%	0.16%	0.25%	0.42%	0.80%	1.11%	1.31%
Council T/Ds	0.09%	0.29%	0.56%	0.76%	1.23%	1.57%	1.97%	2.28%	2.49%
Council FRNs / Bonds	0.07%	0.23%	0.46%	1.12%	1.44%	1.35%	1.72%	2.11%	-
Council Growth Funds	-3.07%	-3.63%	-4.43%	-0.76%	-	-	-	-	-
Council Total Portfolio	-0.23%	-0.14%	0.03%	0.55%	0.96%	1.25%	1.64%	1.95%	2.15%

Annualised									
	1 month	3 months	6 months	FYTD	1 year	2 years	3 years	4 years	5 years
Official Cash Rate	0.10%	0.10%	0.10%	0.10%	0.10%	0.15%	0.45%	0.71%	0.87%
Avg. 3m BBSW	0.07%	0.07%	0.05%	0.04%	0.04%	0.10%	0.45%	0.83%	1.01%
AusBond Bank Bill Index	0.07%	0.06%	0.04%	0.03%	0.03%	0.12%	0.51%	0.88%	1.05%
Council Cash	0.21%	0.21%	0.24%	0.25%	0.25%	0.42%	0.80%	1.11%	1.31%
Council T/Ds	1.15%	1.17%	1.14%	1.15%	1.23%	1.57%	1.97%	2.28%	2.49%
Council FRNs / Bonds	0.90%	0.95%	0.92%	1.68%	1.44%	1.35%	1.72%	2.11%	-
Council Growth Funds	-33.39%	-13.94%	-8.74%	-1.14%	-	-	-	-	-
Council Total Portfolio	-2.96%	-0.57%	0.06%	0.82%	0.96%	1.25%	1.64%	1.95%	2.15%

The Overall portfolio lost -2.96% p.a. for the month of February 2022 as hostilities in Ukraine accelerated. ***Fixed interest including cash returned a stable +6bp (0.85% p.a.) pre-Growth,*** *exceeding the benchmark AusBond Bank Bill Index (+0.07% p.a.) by* ***+78bp p.a. Monthly results will depend entirely on stockmarket direction.***

Deposits fell sharply to ~0.98% – consistent with the best rates of 12 months from the market. It is now likely that benchmark rates will accelerate upwards in FY23 to meet current returns. As always, **we stress that annualised growth numbers have little meaning**, and the actual decline was small.



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Credit Quality

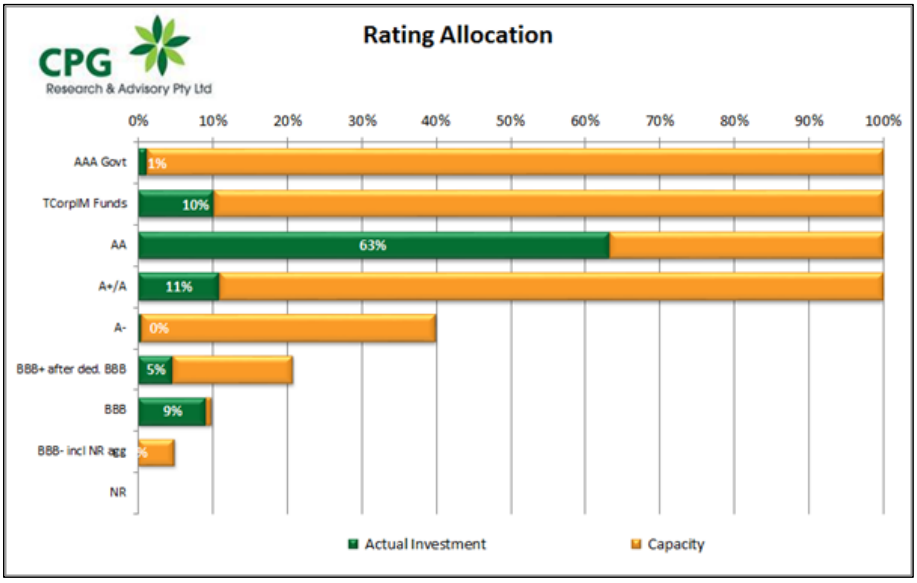
Allocations were very conservative. A previous overweight to BBB ceased after maturity in the month. These now use the TCorp's criteria embedded in the new Investment Policy in order to access concessional loans.

We have tested the portfolio provided against Council's new Investment Policy:

There is no overweight in any category:

Rating Category	Actual	Per C/Party	Aggregate	Actual Investment	Capacity
AAA Govt	1%	100%	100%	1%	99%
TCorpIM Funds	10%	100%	100%	10%	90%
AA	63%	100%	100%	63%	37%
A+/A	11%	30%	100%	11%	89%
A-	0%	20%	40%	0%	40%
BBB+ after ded. BBB	5%	10%	21%	5%	16%
BBB	9%	5%	10%	9%	1%
BBB- incl NR agg	0%	$250,000	5%	0%	5%
NR	0%	$250,000	incl in BBB-		

This table reflects the 2021 Policy. **Further BBB capacity** can be created at will by redemption of AMP Bank Notice Account, or sale of FRNs such as CUA 2023 (now Great Southern Bank).



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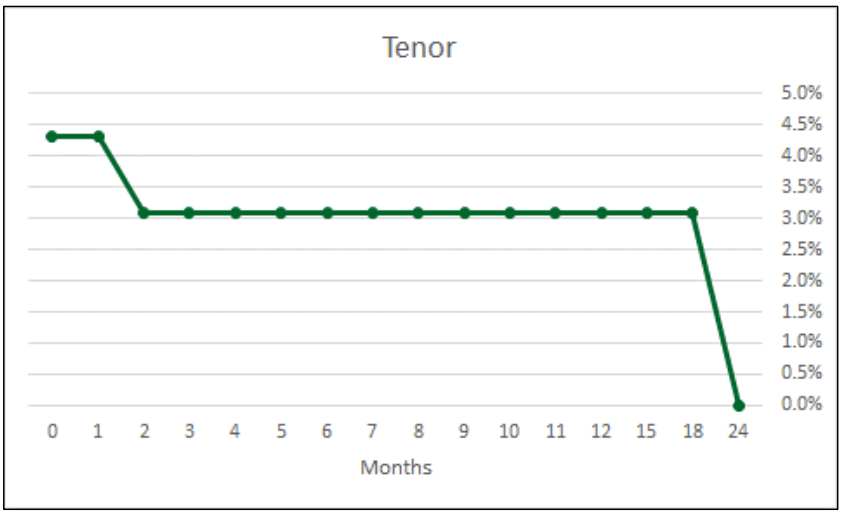
Tenor

The new Policy restricted both aggregate amount, and remaining term (tenor).

The only area requiring attention are the longer BBB holdings. TCorp allow BBB-range names, but limit them to 12 months where not BBB+. The initial projection at commencement date followed this path over time:



We note

- **All but $3m of long-tenor BBB is in FRN form** and currently either short dated saleable – we now recommend the sale of "legacy" assets, on outright investment grounds as the spreads are very tight for short-dated FRNs
- While we recommend sale of the CUA (Great Southern Bank) 2023 (BBB, at the lower-of rating), **it is complying (1-year tenor) asset and will followed by the Auswide 2023 during March**. There is no longer an aggregate overweight to BBBs, although there had briefly been some following some ADI downgrades.
- Newcastle Permanent 2025 should become saleable, but there is **no compulsion to switch it given a heavy cash balance**.
- The **long-dated MyState deposit maturing in 2023 will also soon revert to a 12-month tenor**

TCorp has approved the rapidly declining "legacy" / grandfathered holding.

CL22.145 - Attachment 1

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Other Compliance

We have tested the portfolio provided against Council's current investment policy and report the following:

AMP is fractionally above its limit (and notice can be placed at will). The fixed interest portfolio is rated and otherwise compliant for single name exposures. TCorpIM LTGF is the only unrated asset.

Counterparties	Exposure $M	FCS	Net	Rating	Policy Limit	Actual	Capacity
TCorpIM Cash Fund	$0.00M	$0.00M	$0.00M	AAA	100%	0%	$213.30M
NSW TCorp	$1.91M	$0.00M	$1.91M	AAA	100%	1%	$211.39M
Northern Territory Trea	$5.00M	$0.00M	$5.00M	AA-	100%	2%	$208.30M
Suncorp Cov	$0.00M	$0.00M	$0.00M	AAA	100%	0%	$213.30M
ANZ	$3.50M	$0.00M	$3.50M	AA-	100%	2%	$209.80M
CBA	$66.52M	$0.25M	$66.27M	AA-	100%	31%	$147.03M
NAB	$34.30M	$0.25M	$34.05M	AA-	100%	16%	$179.25M
Westpac	$26.00M	$0.25M	$25.75M	AA-	100%	12%	$187.55M
Suncorp	$4.80M	$0.00M	$4.80M	A+	100%	2%	$208.50M
Rabobank	$8.00M	$0.25M	$7.75M	A	100%	4%	$205.55M
Bank of China	$2.50M	$0.00M	$2.50M	A	100%	1%	$210.80M
Macquarie Bank	$7.00M	$0.25M	$6.75M	A	100%	3%	$206.55M
ING	$2.00M	$0.25M	$1.75M	A	100%	1%	$211.55M
Citibank	$1.00M	$0.00M	$1.00M	A-	20%	0%	$41.66M
Bendigo-Adelaide	$0.00M	$0.00M	$0.00M	BBB+	10%	0%	$21.33M
BoQ	$7.00M	$0.25M	$6.75M	BBB+	10%	3%	$14.58M
Auswide	$3.50M	$0.25M	$3.25M	BBB+	10%	2%	$18.08M
ME Bank	$0.00M	$0.00M	$0.00M	BBB+	10%	0%	$21.33M
Great Southern Bank	$2.10M	$0.00M	$2.10M	BBB	5%	1%	$8.57M
AMP	$11.17M	$0.25M	$10.92M	BBB	5%	5%	-$0.25M
TMB	$0.00M	$0.00M	$0.00M	BBB	5%	0%	$10.67M
Newcastle Permanent	$2.10M	$0.00M	$2.10M	BBB	5%	1%	$8.57M
MyState	$3.00M	$0.25M	$2.75M	BBB	5%	1%	$7.92M
Defence Bank	$0.00M	$0.00M	$0.00M	BBB	5%	0%	$10.67M
P&N Bank	$2.00M	$0.25M	$1.75M	BBB	5%	1%	$8.92M
Qbank	$0.00M	$0.00M	$0.00M	BBB-	$250k	0%	$0.25M
TCorpIM LTGF	$19.91M	$0.00M	$19.91M	NR	100%	9%	$193.40M
	$213.30M		$210.55M			99%	
C'Wealth Govt		$2.8M	$2.75M	AAA	100%	1%	
Total	$213.30M		$213.30M			100%	

We have also tested Council's current investment exposure against the lower rated counterparties' net assets as Council's Policy prescribes maximum concentration.

We report the following:

All counterparties comply with the net assets % threshold for an individual counterparty.

CL22.145 - Attachment 1

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Counterparties	Exposure $M	Rating	Max port %	Actual	Net Assets $M	Max allowed % of net assets	Net Exposure		
Bendigo-Adelaide	$0.00M	BBB+	10%	0%	$6,354	2%	0.000%	2.00%	Comply
BoQ	$7.00M	BBB+	10%	3%	$6,197	2%	0.113%	1.89%	Comply
Auswide	$3.50M	BBB+	10%	2%	$257	2%	1.364%	0.64%	Comply
Great Southern Bank	$2.10M	BBB	10%	1%	$1,159	2%	0.181%	1.82%	Comply
AMP	$11.17M	BBB	10%	5%	$5,362	2%	0.208%	1.79%	Comply
TMB	$0.00M	BBB	10%	0%	$613	2%	0.000%	2.00%	Comply
Newcastle Permanent	$2.10M	BBB	10%	1%	$1,034	2%	0.203%	1.80%	Comply
ME Bank	$0.00M	BBB+	10%	0%	$1,646	2%	0.000%	2.00%	Comply
MyState	$3.00M	BBB	10%	1%	$415	2%	0.723%	1.28%	Comply
P&N Bank	$2.00M	BBB	10%	1%	$461	2%	0.434%	1.57%	Comply
Qbank	$0.00M	BBB-	10%	0%	$85	2%	0.000%	2.00%	Comply

These are before application of the government insurance scheme (FCS), although the difference is trivial. TCorp's convention is to calculate allocation on a gross basis, and they set their recommended limits accordingly.

Again, any excess is grandfathered by TCorp's loan approvals and will be run off. **The BoQ / ME Bank merger will not affect Council's counterparty exposures, but could bring a rating upgrade to BoQ to A range** given the current Positive Outlook**.**

Term Deposits

At month-end, deposits accounted for approximately 57% of the total investment portfolio. The weighted average duration of the deposit portfolio is **~0.9 year, or 10 months. It is comparable to the peer group, at a satisfactory interest rate relative to current offerings.**

Patience has been rewarded, with yields rising in both FRNs and deposits throughout FY22.

The current yield of 0.98% is above comparable term rates currently available but higher long-end rates are now available as bond yields rise. **Market deposit rates rose again, but higher rated deposits did not keep pace with rising bond yields.** ***The gap between A-rated and lower deposits is very variable – AMP dropped some of its outlier rates leaving the lower-rated and ineligible Judo Bank the main outlier.*** A long term 5-year rate from NAB rose to 2.35% at month end.

Beyond 1 year, very low margins continue at high ratings. High grade deposits pay around 15-25bp above swap; ***we anticipate much higher margins from FRNs*** with protection against more rapid Official Rate increases than expected.

We note (typically short-dated) broker specials for deposits around short-term investment requirements are advised in the T/D daily rate sheet regularly. Relevant portfolio data follows:

Term Deposit Statistics

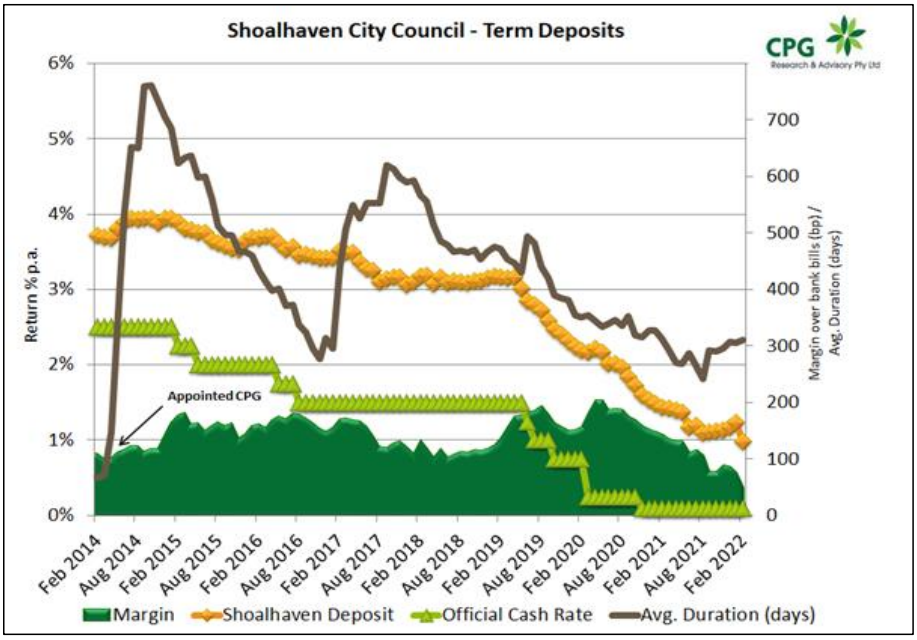
Percentage of total portfolio	57%
Weighted Average Yield	0.98%
Weighted Average Duration	0.8 yrs

Credit Quality of Deposits

AAA^	0%
AA	75%
A	7%
BBB	17%
Unrated ADI	0%
Total	**100%**

^ *Calculation excludes the Financial Claims Scheme (FCS)*

We refer to the detailed analysis in our February ***Fixed Interest Analytics***. *We also revisit some prior analysis*. Duration has since been relatively static just under the 1-year area. **Deposit margins have consistently exceeded 100bp since early 2019**, which set up excellent FY20 – the best in 5 years – and an extended plateau into a very strong FY21 as well. As deposits mature, average yield is again gradually reflecting (lagged) policy interest rates, around a year later.



FY21 saw strong excess performance from deposits (which have recently ranged from +150 to +200bp during the COVID-19 recession), as well as additional profits available from realising the embedded gains of the FRN book. Only now, more than a year after the emergency rate cuts, has this outperformance begun to normalise.

The 2021 Policy will restrict longer deposits in future, pushing the portfolio towards higher rated FRNs. Council has directed some new investments to FRNs in 2022.

Credit: FRNs & Fixed Bonds

***Senior major FRN spreads were again marked in the +70s*. Several were issued at that level in 2022 – *we recommend this on a relative spread basis* compared to deposits.**

We think they are now fairly priced, with spreads back to around pre-COVID levels.

Investors could target +100 or more with high credit quality – this contrasts with A or AA T/D spreads that have at times fallen into the teens. However, **this would require sales and rollovers**, which have not recently been undertaken.

We note further **new issues indicated in the mid +70s**, and **think BBB+ names will issue wider than currently marked – however, they are heavily restricted by term**. ***Easier to fit into the current Policy are global major banks***, which continue to pay a premium over domestic equivalents.

Long bonds resumed weakening, after November saw a rebound against the trend. 10-year bonds **broke through the 2% level**, reaching 2.3%. This is around a 6% capital movement since the 1.6% recent lows – ***bonds are quite a high risk asset***.

The global inflation outlook continues to trend towards more persistently high numbers and a broader range of countries caught – **this is a headwind for bonds**. With the recent spike in commodity prices, and particularly energy, it is likely there is another round of inflation to come.

We refer to the detailed analysis in our February ***Fixed Interest Analytics***.

With AMP Bank in run-off as it is at the counterparty limit at Policy commencement (and BBB in total also slightly above), the highest returns from fixed interest in the Minister's Order are likely to be from new **FRNs outside the major banks. *These are effectively prohibited by TCorp's duration limits.* This is a cost of accessing cheaper loans.** An upgrade of BoQ to A- post merger with ME Bank is possible, and may help broaden the accessible universe slightly as well as creating BBB+ capacity.

BBB FRNs will be heavily restricted under the 2021 Policy. As such, ***foreign institutions will be the direction compelled by the TCorp rules*.**

We continue to analyse opportunities, and **expect to recommend further sales of BBB FRNs nearing maturity**. The CUA 2023 (now Great Southern Bank) is an obvious choice to immediately reduce BBB counterparty exposure, and **selling the Auswide 2023 also has Policy benefits**. Both sales can be justified on outright investment terms, even before considering Policy impacts.

The spread between AA and the larger BBB names is back to pre-GFC levels although back to around +20bp at the long end. It is through +10bp for shorter dated securities, ***which is very expensive***. This provides the ***opportunity to also sell benchmark second tier issuers***. Smaller ADIs will tend to trade considerably wider than benchmark issues.

Council invested $2.75m with CBA at +70bp, $2m with Rabobank at +73bp and $2.7m with Suncorp issued at +78bp, using negotiated single-A flexibility.

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TCorpIM L/T Growth Fund

Council invested $20m in the Long-term Growth Fund in June 2021.

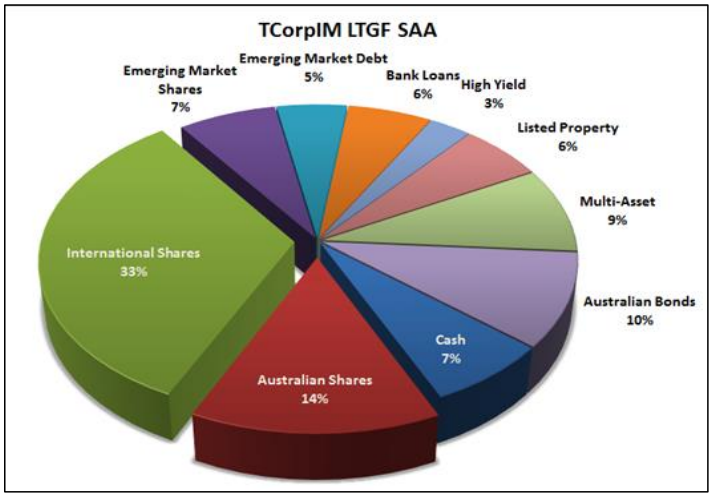
The TCorpIM Long-Term Growth Fund lost -3.07% net actual in February, far below peers. A higher $A in the month (+2.4%) was unhelpful for absolute and relative performance, as was a tilt to emerging markets. Most markets fell in February, and continued to fall after month end.

TCorpIM's lower equity allocation would normally help relative outperformance against the true 70/30 peers in a falling market, but this was overwhelmed by style and tilts.

2022 has opened with a number of escalating risks, all manifesting at once. **Inflation** is very high, and still rising – Europe has been especially hard hit by energy prices and shortages. Base metals are soaring. This is **driving central banks to raise interest rates**, or at least guide imminent tightening. **Russia's war** could conceivably draw in other countries. **US growth** had already been slowing dramatically from the supply chain failures, before the latest commodity shock.

Also hurting balance funds was the **weakness in bonds**, which worsened stockmarket losses.

The strategic asset allocation is as follows:



The US Dow Jones, S&P500 and NASDAQ slid -3.3%, -3.0% and -3.4% respectively.

Final US Q4 GDP of +7.0% (6.9% from previous estimate) compared to 2.3% from Q3, with the biggest contribution came from private inventories, personal consumption and transportation***. GDPNow's* estimate of Q1 growth slipped into negative territory.**

Emerging Markets -3% in $US, entirely from Russia. Frontier fell -4.4%.

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Fixed Interest Outlook

Last month, we said central banks have a dilemma – inflation last seen in the 1980s would suggest tightening far beyond what highly indebted economies could bear. That problem became far worse with Europe now in war, and commodities soaring to new records. Central banks will be sensitive to tightening during a geopolitical event.

COVID19 is old news, coming off the peak of the omicron wave with some restrictions easing slightly. European governments are pressured by USA (and their population) for maximum sanction pressure against Ukraine; but their energy relies overwhelmingly on Russia.

So an already terrible inflation situation looks set to get much worse. And the EU could replace USA as the epicentre of inflation. The ECB (through German influence, and memories of 1923's hyperinflation) is acutely sensitive to inflation and **in 2010 Trichet tipped Europe into a second-round recession for fear of the post-GFC recovery bringing a little inflation**.

But you don't put your region into recession when expecting war. More inflation, less hawkish seems the likely thinking from central banks. The Fed has already softened the market up for 4-6x 25bp rate hikes in 2022 although the ECB has been less prescriptive.

The RBA surprised in March – with no rate hike guidance at all, **they were expected to outline a path to some rate normalisation**. ***They didn't.*** It was Russia plus December commentary. So Australia remains in the dark. ***Bill futures (above) appear to fully price in the likely path, given likely caution by all central banks during major hostilities***.

CL22.145 - Attachment 1

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30th YEARS ANNIVERSARY

Portfolio Listing

Shoalhaven City Council as at 28/02/2022						
Authorised Deposit-Taking Institution (ADI)	ST Rating	Security Type	Principal/ Current MF Value	Term	Interest Rate	Maturity Date
Westpac Bank	A-1+	TD	$6,000,000.00	1826	3.00%	2-Mar-22
Bank of Qld	A-2	TD	$2,000,000.00	1826	3.80%	22-Mar-22
Auswide Bank	A-2	TD	$2,000,000.00	182	0.40%	1-Apr-22
Commonwealth Bank Australia	A-1+	TD	$2,000,000.00	225	0.35%	13-Apr-22
Commonwealth Bank Australia	A-1+	TD	$4,000,000.00	253	0.36%	11-May-22
Commonwealth Bank Australia	A-1+	TD	$2,000,000.00	285	0.37%	6-Jun-22
Commonwealth Bank Australia	A-1+	TD	$4,000,000.00	306	0.38%	27-Jun-22
Commonwealth Bank Australia	A-1+	TD	$4,000,000.00	315	0.40%	6-Jul-22
Commonwealth Bank Australia	A-1+	TD	$4,000,000.00	322	0.40%	13-Jul-22
Westpac Bank	A-1+	TD	$2,000,000.00	1826	2.83%	24-Aug-22
Westpac Bank	A-1+	TD	$2,000,000.00	1826	3.00%	24-Aug-22
Rabobank	A-1	TD	$2,000,000.00	1826	3.39%	13-Sep-22
Police and Nurses Bank	A-2	TD	$2,000,000.00	1836	3.51%	28-Sep-22
Macquarie Bank	A-1+	TD	$1,000,000.00	266	0.40%	5-Oct-22
Commonwealth Bank Australia	A-1+	TD	$3,000,000.00	384	0.38%	12-Oct-22
National Australia Bank	A-1+	TD	$3,000,000.00	272	0.65%	18-Oct-22
Commonwealth Bank Australia	A-1+	TD	$7,500,000.00	430	0.43%	10-Nov-22
AMP Bank	A-2	TD	$2,500,000.00	365	1.20%	16-Nov-22
National Australia Bank	A-1+	TD	$2,000,000.00	333	0.70%	5-Dec-22
Commonwealth Bank Australia	A-1+	TD	$5,000,000.00	372	0.57%	7-Dec-22
ING Bank (Australia) Ltd	A-1	TD	$2,000,000.00	365	0.60%	14-Dec-22
National Australia Bank	A-1+	TD	$2,000,000.00	384	0.58%	14-Dec-22
Commonwealth Bank Australia	A-1+	TD	$7,500,000.00	120	0.45%	14-Dec-22
AMP Bank	A-2	TD	$2,500,000.00	395	1.30%	16-Jan-23
AMP Bank	A-2	TD	$2,000,000.00	365	1.30%	20-Jan-23
Bank of Qld	A-2	TD	$5,000,000.00	1827	0.92%	21-Feb-23
Westpac Bank	A-1+	TD	$5,000,000.00	1826	0.94%	22-Feb-23
MyState	A-2	TD	$3,000,000.00	730	0.56%	4-May-23
National Australia Bank	A-1+	TD	$3,000,000.00	730	0.60%	31-May-23
National Australia Bank	A-1+	TD	$3,000,000.00	735	0.55%	15-Jun-23
National Australia Bank	A-1+	TD	$3,000,000.00	729	0.65%	21-Jun-23
National Australia Bank	A-1+	TD	$3,000,000.00	767	0.57%	17-Jul-23
Rabobank	A-1	TD	$2,000,000.00	1828	3.40%	23-Aug-23
National Australia Bank	A-1+	TD	$3,000,000.00	827	0.60%	15-Sep-23
National Australia Bank	A-1+	TD	$4,000,000.00	759	0.65%	16-Oct-23
Westpac Bank	A-1+	TD	$4,000,000.00	827	0.55%	12-Dec-23
Rabobank	A-1	TD	$2,000,000.00	1826	3.13%	21-Feb-24
Westpac Bank	A-1+	TD	$4,000,000.00	1827	2.21%	19-Jun-24
Total Term Deposits			**$122,000,000.00**			

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Authorised Deposit-Taking Institution (ADI)	ST Rating	Security Type	Principal/ Current MF Value	Term	Interest Rate	Maturity Date
Credit Union Australia	A-2	FRN	$1,000,000.00	1096	1.29%	4-Mar-22
Credit Union Australia	A-2	FRN	$1,100,000.00	1096	1.31%	21-Feb-23
Westpac Bank	A-1+	FRN	$2,000,000.00	1826	0.89%	6-Mar-23
Auswide Bank	A-2	FRN	$1,500,000.00	1095	1.12%	17-Mar-23
National Australia Bank	A-1+	FRN	$2,300,000.00	1826	1.12%	26-Feb-24
Bank of China	A-2	FRN	$2,500,000.00	1096	0.65%	28-Apr-24
National Australia Bank	A-1+	FRN	$2,000,000.00	1827	0.99%	19-Jun-24
Westpac Bank	A-1+	FRN	$1,000,000.00	1919	0.98%	16-Aug-24
ANZ	A-1+	FRN	$3,500,000.00	1827	0.85%	29-Aug-24
Citibank	A-1	FRN	$1,000,000.00	1827	0.95%	14-Nov-24
Northern Territory Treasury Bond	A-1+	Fixed Rate	$3,000,000.00	1206	1.00%	15-Dec-24
Newcastle Permanent Building Society	A-2	FRN	$2,100,000.00	1827	1.17%	4-Feb-25
Macquarie Bank	A-1	FRN	$2,000,000.00	1827	1.12%	12-Feb-25
Macquarie Bank	A-1	FRN	$4,000,000.00	1827	0.51%	9-Dec-25
Northern Territory Treasury Bond	A-1+	Fixed Rate	$2,000,000.00	1571	1.20%	15-Dec-25
Suncorp Metway Ltd Bank	A-1	FRN	$2,100,000.00	1826	1.05%	24-Feb-26
CBA	A-1+	FRN	$2,750,000.00	1826	0.77%	14-Jan-27
Rabobank	A-1	FRN	$2,000,000.00	1826	0.81%	27-Jan-27
Suncorp Metway Ltd Bank	A-1	FRN	$2,700,000.00	1826	0.85%	25-Jan-27
National Australia Bank	A-1+	FRN	$4,000,000.00	1827	0.80%	25-Feb-27
Total Senior Securities			**$44,550,000.00**			
			$166,550,000.00			
Shoalhaven City Council as at 28/02/2022						
Grandfathered	**ST Rating**	**SecurityType**	**Current Valuation**			**Maturity Date**
Macquarie Global Income Opportunities	NR	MF	$0.00			T+3
TCorpIM Cash Fund	AAAm	MF	$0.00			T+0
TCorpIM Long Term Growth Fund	NR	MF	$19,905,364.70			T+2
			$19,905,364.70			
Product	**ST Rating**	**SecurityType**	**Current Valuation**			**Maturity Date**
AMP At Call	A-2	Cash	$687.49		0.60%	At-Call
AMP Notice Account	A-2	Cash	$4,166,661.66		0.65%	31 Days
State Insurance Regulatory Authority		Cash	$1,911,000.00			At-Call
CBA Operating Account	A-1+	Cash	$12,568,672.04		0.10%	At-Call
CBA Business Online Saver	A-1+	Cash	$8,199,865.52		0.20%	At-Call
			$26,846,886.71			
Total Investment Portfolio			**$213,302,251.41**			

Disclaimer

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All information and recommendations expressed herein constitute judgements as of the date of this report and may change without notice. Staff and associates may hold positions in the investments discussed, and these could change without notice.

Shoalhaven City Council
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Cemeteries, Crematoria and Memorial Gardens Policy

Adoption Date:	19/11/1996
Reaffirmed:	20/09/2005
Amendment Date:	26/09/2006, 27/02/2007, 14/04/2009, 17/05/2011, 28/02/2012. 23/11/2012, 20/12/2016
Minute Number:	MIN96.2303, MIN05.1233, MIN06.1280, MIN07.229, MIN09.410, MIN11.460, MIN12.149, MIN12.1290, MIN16.1011
Review Date:	01/12/2024
Directorate:	City Services
Record Number:	POL22/101

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CL22.150 - Attachment 1

1. PURPOSE

This Policy is aligned with the *Crown Lands Management Act 2016* to ensure that the Crown Land Cemeteries administered by Council work within a recognised legal framework. It also reflects the requirements of the *Cemeteries and Crematoria Act 2013* (NSW). It is intended to control the administration, management and maintenance of the Shoalhaven Cemeteries and Crematoria. It provides guidance to assist in carrying out the objective functions of Cemeteries and Crematoria. It reflects statute and common law, regulation and Australian Standards that affect the management and operation of Cemeteries and Crematoria. It also sets reasonable and practical standards of conduct for those entering the Cemeteries, Crematoria and Memorial Gardens.

2. STATEMENT

2.1. Citation

This Policy may be cited as The Policy or The Shoalhaven City Council Cemeteries Policy.

2.2. Commencement

This Policy is to commence as of <date to be defined>

2.3. Application

2.3.1. This Policy applies to all Cemeteries, Crematoria and Memorial Gardens controlled, managed, administered, operated and maintained by Council.

2.4. Definitions

2.4.1. ***Applicant*** means the person making an application:

2.4.1.1. to obtain an Interment Right;

2.4.1.2. to obtain a work permit or other Council consent; or

2.4.1.3. to have the body of a deceased person interred or cremated

2.4.1.4. to have the remains of a cremated body interred in a Cemetery

2.4.1.5. to have a deceased person commemorated in a Cemetery; or

2.4.1.6. for any other bereavement service provided by the Council and

that is subject to an application process.

2.4.2. ***Applications*** to obtain or arrange***:***

2.4.2.1. An Interment Right

2.4.2.2. Interment

2.4.2.3. Plaque Inscriptions

2.4.2.4. Chapel Bookings

2.4.2.5. Cremation Service Bookings

2.4.2.6. Monument and Related Permits to Carry Out Work in the Cemeteries

CL22.150 - Attachment 1

2.4.2.7. Disinterment of cremated remains from a Cemetery

2.4.2.8. A bereavement or pre-need service that requires a formal recording process must be made on a form approved by the Council, unless otherwise specified by a Statutory Authority

2.4.3. ***Approved Form*** means an application form which has been approved by Council, either as an appended document to this Policy or an appended document to a Safe Work Method Statement or Standard Operating Procedure, developed and adopted under Council's Work Health and Safety Policy. The only exception will be where a Statutory Authority has approved a form for a particular purpose.

2.4.4. ***Appropriate fee*** means a fee set by Council.

2.4.5. ***AS-4204*** means the Standards Australia Standard **AS 4204-2019** Headstones and Cemetery Monuments.

2.4.6. ***Ash Processor*** means the device used to process cremated remains to a fine grain.

2.4.7. ***Burial*** means the act of burying, interring or immuring the remains of a deceased person.

2.4.8. ***Burial place*** means a grave site, interment site, vault site, crypt site, memorial site or other place for the disposition or commemoration of the remains of the dead, whether cremated or not.

2.4.9. ***Interment Right*** see 3.1.4.

2.4.10. ***Interment Right Holder*** – see Holder

2.4.11. ***Burial Licence -*** superseded by "Interment Right" see 3.1.4***.***

2.4.12. ***Burra Charter*** means "The Burra Charter (The Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance)".

2.4.13. ***Crown Lands*** means *Crown Lands Management Act 2016*

2.4.14. ***Casket*** is a general term to describe coffins and containers used to hold human remains.

2.4.15. ***Catafalque*** means the place in the Chapel where the casket is placed prior to committal to the crematory.

2.4.16. ***Cemetery*** or ***Cemeteries*** means an area containing one or more burial places and that is administered or controlled by Council.

2.4.17. ***Cemeteries and Crematoria Act*** means the *Cemeteries and Crematoria Act 2013* (NSW).

2.4.18. ***Council*** means the Shoalhaven City Council.

2.4.19. ***Cremator*** means the cremation furnace or cremation incinerator.

2.4.20. ***Crematorium*** means the whole of the facility where cremation services are conducted, including the Chapel, crematory, vestry, and surrounding area.

2.4.21. ***Crematory*** means that part of the crematorium where the cremator is located and the cremation of human remains is carried out.

2.4.22. ***Direct Service*** means the delivery of human remains directly to the crematory for cremation, without a committal or funeral service at the crematorium.

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2.4.23. ***Electronic forms*** means forms that may be submitted electronically provided they are a facsimile of the equivalent approved form (2.4.3).

2.4.24. ***Final Disposition of Ashes*** means the legal disposal, interment, memorialising, collection, scattering etc of cremated remains.

2.4.25. ***Funeral Director*** means an individual or business carrying out funeral services.

2.4.26. ***Funeral Directors procedure*** means 'Funerary and Monument/Masonry Services Procedure'.

2.4.27. ***General Plot*** means a public area of the Cemetery grounds set aside for the legal disposition of cremated remains.

2.4.28. ***Grantee*** has been replaced by the term "**Holder**".

2.4.29. ***Hearse*** means a vehicle set aside for the transport of caskets containing human remains.

2.4.30. ***Holder*** means the person who has been issued with an Interment Right.

2.4.31 ***Interment*** means
(a) the placement of human remains in a mausoleum, vault, columbarium or other structure designed for the placement of such remains, or
(b) the burial in the earth of human remains (directly in the earth or in a container).

2.4.32 ***Interment Right*** means an interment right granted under these terms and conditions for the interment of human remains.

2.4.33 ***Interment Site*** means a place in a Cemetery for the interment of human remains

2.4.34. ***Joint Holders*** means two or more persons named as Joint Holders of a single Interment Right.

2.4.35. ***Monument***/***Memorial*** means any structure, plaque, headstone, masonry, metal work, casting or item placed over, in or around an interment site.

2.4.36. ***Monument Mason*** a tradesman mason or person possessing the skills to carry out monument masonry work.

2.4.37. ***Monument Masons Procedure*** means 'Funerary and Monument/Masonry Services Procedure'.

2.4.38. ***Pre-need*** means a service or Right purchased in advance of actual need, i.e. the entitlement of the Right has not been exercised.

2.4.39. ***Procedure Manual*** means Council's Lawn Cemetery and Crematoria Work Procedures Manual.

2.4.40. ***Public Health Regulation*** *means* Public Health Regulation 2012 under the Public Health Act 2010 (NSW).

2.4.41. ***Register*** means Council's formal data repository containing all the required details relating to interments, cremations, memorial sites, memorials and immurements.

2.4.42. ***Reservation*** means an Interment Right the provisions of which have not been exercised (see 2.4.38).

2.4.43. ***Right*** means Interment Right, see 3.1.4.

2.4.44. ***Right of Burial*** superseded by "**Interment Right**" (see 4).

2.4.45. ***Structures in Cemeteries*** (see 2.4.35).

2.4.46. ***The Policy*** means this Policy.

3. PROVISIONS

3.1. Management of Cemeteries

3.1.1. **Compliance with *Crown Lands Management Act 2016 and Regulations there-under***

3.1.1.1. The conditions and the provisions of the *Crown Lands Management Act 2016* shall apply.

3.1.1.2. Administrative, management and operational procedures and controls set out or implied in the Regulations shall be complied with.

3.1.2. **Compliance with *Cemeteries and Crematoria Act 2013* and Regulations there-under.**

3.1.2.1. The requirements and provisions of the *Cemeteries and Crematoria Act 2013 (NSW)* shall apply.

3.1.2.2. Administrative, management and operational procedures and controls set out or implied by the Act and Regulations shall be complied with.

3.1.3. **Planning Conduct and Maintenance of Cemeteries**

Council will make such provisions as it considers necessary for the following:

3.1.3.1. The setting aside of sections for different types and classes of interments.

3.1.3.2. The establishment of standards of construction and design of monuments and structures.

3.1.3.3. The size, multiple use and location of interment sites.

3.1.3.4. Interments and entombments in vaults.

3.1.3.5. The carrying out of work by Funeral Directors in the Cemeteries.

3.1.3.6. The erection or installation of structures and the making of inscriptions.

3.1.3.7. The carrying out of work by Monument Masons in the Cemeteries.

3.1.3.8. The qualifications required by, and the security deposits to be lodged by, Monument Masons.

3.1.3.9. The removal, replacement and maintenance of structures.

3.1.3.10. The improvement and maintenance of Cemeteries.

3.1.3.11. The making of arrangements for the care of interment sites on an annual or other basis.

3.1.3.12. The supply of goods and services incidental to the conduct of interments and other matters relating to Cemeteries.

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3.1.3.13. The conduct of religious or other ceremonies of interment, cremation, disposition or commemoration.

3.1.4. **Interment Rights**

The granting of Interment Right in a Cemetery administered or managed by the Council shall be in accordance with the *Crown Lands Management Act 2016* and the *Cemeteries and Crematoria Act 2013.*

3.1.4.1. Council may grant an Interment Right in respect of an interment site in a Cemetery.

3.1.4.2. An application for an Interment Right must be in an approved form and must be accompanied by the appropriate fee.

3.1.4.3. An Interment Right may be granted to one or to two or more persons as Joint Holders.

3.1.4.4. Council will not grant an Interment Right to a person if the granting of the Right will result in the person holding (including jointly holding) Interment Rights for more than two (2) burial places in the Cemeteries administered or managed by the Council unless approved by the Statutory Authority.

3.1.4.5. An Interment Right entitles the person or persons to whom it is granted an exclusive entitlement to inter or immure the remains of a deceased person in the interment site in respect of which it is granted.

3.1.5. **Transfer of Interment Right to person other than Council**

3.1.5.1. Council may, on application, transfer an Interment Right from one person or two or more persons as Joint Holders to one person or two or more other persons as Joint Holders.

3.1.5.2. An application under subclause (1) may be made only by the Holder of the Interment Right concerned or, if the Interment Right is held by Joint Holders, by all the Joint Holders.

3.1.5.3. An application for the transfer of an Interment Right must be in the approved form and accompanied by the appropriate fee.

3.1.6. **Transfer of Interment Right to Council**

3.1.6.1. The Holder or Joint Holders of an Interment Right granted by the Council may transfer the Interment Right to Council.

3.1.6.2. Council will only accept the transfer of an Interment Right if:

a) The interment site described in the Interment Right to be transferred has not been used for interment of human or other remains, including the remains from a cremation.

b) The interment site is free of structural improvements, such as headstone, marker, plantings etc.

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3.1.6.3. Council may refuse to accept the transfer of an Interment Right from the Holder.

3.1.6.4. If Council accepts the transfer of a Interment Right it will compensate the Holder by refunding half of the current fee for a similar Interment Right in a Cemetery administered or managed by the Council, less any unpaid fees that are due to Council in respect of the Right being transferred.

3.1.7. **Grant of Interment Right may be refused**

3.1.7.1. The Council may refuse to grant or transfer an Interment Right if, in Council's opinion, the grant or transfer would tend to create a monopoly or encourage dealing in Interment Rights unless approved by Cemeteries and Crematoria NSW.

3.1.8. **Interment Right to pass to surviving Holder**

3.1.8.1. On the death of a Joint Holder of an Interment Right, the remaining Joint Holder is, or Joint Holders are, entitled to the Interment Right.

3.1.9. **Interment Rights may be bequeathed**

3.1.9.1. The Holder of an Interment Right may bequeath the Right as if it were the Holder's personal estate.

3.1.9.2. A person to whom an Interment Right devolves as a result of a bequest does not become the Holder of the Right until the register is amended to indicate that fact.

3.1.9.3. On application made by a person to whom an Interment Right has devolved as a result of a bequest, Council will amend the register so as to indicate that the person has become the Holder of the Interment Right.

3.1.9.4. An application under this clause must be on an approved form and accompanied by the appropriate fee.

3.1.9.5. For the purposes of section 49 (5) of the Act, the time by which the Cemetery operator must be notified of the death of the bequeather is 12 months after the executor or administrator becomes aware of the death.

3.1.10. **Rules of intestacy to apply to Interment Rights not bequeathed**

3.1.10.1. If the Holder of an Interment Right dies and has not bequeathed the Right, the Right is to be dealt with as if it were personal property forming part of the estate of an intestate.

3.1.10.2. A person to whom an Interment Right devolves as a result of intestacy does not become the Holder of the Right until the Cemetery register is amended to indicate that fact.

3.1.10.3. On application made by a person to whom an Interment Right has devolved as a result of intestacy, Council must amend the

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register so as to indicate that the person has become the Holder of the Right.

3.1.10.4. An application under this clause must be on an approved form and accompanied by the appropriate fee.

3.1.11. **Council may determine the Holder of an Interment Right**

This clause applies if there is a dispute or other doubt about who holds the Interment Right for a particular interment site in a Cemetery.

3.1.11.1. A person who believes he or she is the Holder of the Interment Right may apply to Council for a decision that the person holds the Interment Right.

3.1.11.2. As soon as practicable after receiving the application Council must determine whether the person holds or does not hold the Interment Right for the interment site.

3.1.11.3. However, Council may determine that the person holds the Interment Right for the interment site only if:

(a) at least twenty eight (28) days before making the decision, Council:

i. displays a notice about its intention to make the decision in a prominent position at the Cemetery, and

ii. displays a notice about its intention to make the decision in a prominent position at the Cemetery, and

iii. publishes a notice about its intention to make the decision in at least one newspaper circulating throughout the State, and

iv. takes any other steps it considers reasonable in the circumstances to determine who holds the Interment Right for the interment site, or

(b) in the reasonable opinion of Council it is not possible to follow the procedure in paragraph (a) because it is necessary to make an urgent decision due to the imminent interment of a person who was related by blood or marriage to, or who was in a domestic relationship with:

i. the Applicant, or

ii. a person interred in the interment site.

(c) If Council decides that the person holds the Interment Right for the interment site, Council is taken to have revoked any other Interment Right for the interment site.

3.1.12. **Revocation of Interment Rights**

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3.1.12.1. Council may revoke an Interment Right, or any previous authority or Council, has granted if the right conferred by the Right is not exercised within fifty (50) years after it is granted.

3.1.12.2. Before revoking an Interment Right under this clause, Council must cause notice of its intention to do so to be sent, by registered post, to the person (if any) shown in the register of interment sites as the Holder of the Interment Right.

3.1.12.3. If no response to the notice is received within twenty eight (28) days after the date on which it is sent, a second notice of Council intention is to be given by means of an advertisement, identifying the interment site and the name of the Holder:

a. displayed in a prominent position at the Cemetery, and
b. published in at least one national and one local newspaper.

3.1.12.4. If no response to the second notice is received within six (6) months after the date on which it is advertised, final notice of Council's intention is to be sent, by registered post, to the person (if any) shown in the register as the Holder of the Interment Right allowing the Holder twenty eight 28 days from the date of the notice within which to enter into negotiations of the kind referred to in subclause (6).

3.1.12.5. If Council has insufficient information to properly address the notice referred to in subclause (3.1.12.2) or (3.1.12.4), Council is not required to send that notice but may in that case begin the notification process by means of the notice referred to in subclause (3.1.12.3) and may take any other notification action it considers appropriate.

3.1.12.6. At any time before the expiry of the period for responding to the final notice referred to in subclause (3.1.12.4) (or, in the circumstances referred to in subclause (3.1.12.4), within twenty eight (28) days after the last date on which an advertisement referred to in subclause (3.1.12.3) (b) is published) the Holder of the Interment Right concerned may enter into negotiations with Council for:

a. the sale of the Interment Right to Council, or

b. the retention of the Interment Right.

3.1.12.7. Any notice required to be displayed or published under this clause may relate to more than one interment site.

3.1.13. **Compensation**

3.1.13.1. If Council revokes the Interment Right for an interment site, whether granted before or after the commencement of this clause, the former Holder of that Right is entitled:

a. to be granted an Interment Right:

i. for an alternative interment site in the same Cemetery (and, if available, in the same general location) as the original interment site, and

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ii. for an equivalent period to that for which the original Interment Right was granted, or

b. to be paid by Council, by way of compensation, an amount equal to half of the fee payable (as provided by Council's current scale of fees) for the granting of an Interment Right, less any fees due to Council in respect of the Right being revoked:

i. for an alternative interment site in the same Cemetery (and, if available, in the same general location) as the original interment site, and

ii. for an equivalent period to that for which the original Interment Right was granted.

3.1.13.2. If there is no alternative interment site available, or if there is no applicable scale of fees, the amount of compensation referred to in subclause (3.1.13.1) (b) is to be half of the fee payable for the granting of an Interment Right under the most recent applicable scale of fees, varied in proportion to any variation in the Consumer Price Index (All Groups Index) for Sydney that has occurred between the date on which that scale was established and the date of revocation of the Interment Right.

3.1.13.3. Council must ensure that any report on its accounts contains an estimate of its contingent liability with respect to any Interment Rights it has revoked.

3.1.13.4. Council may elect whether the former Holder of the revoked Interment Right is to be granted an alternative interment site or paid compensation.

3.1.13.5. Despite clause 3.1.5, if the former Holder of the revoked Interment Right is granted an Interment Right for an alternative interment site, that Right may not be transferred by the former Holder within five (5) years after the date on which it was granted.

3.1.13.6. An application for an entitlement under this clause:

a. must be on an approved form , and

b. must be accompanied by the appropriate fee, and

c. must be lodged with Council within six (6) years after the date on which the relevant Interment Right was revoked.

3.1.13.7. In this clause, former Holder of a revoked Interment Right means the person who held that Right immediately before it was revoked.

3.1.14. **Interments into interment sites in respect of which Interment Rights have been granted**

3.1.14.1. The remains of a deceased person may not be interred in an interment site in respect of which an Interment Right has been granted unless:

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a. the person was the Holder of the Right immediately before he or she died or the Holder of the Right gives written consent to the person's remains being interred in the interment site, and

b. where another person is already interred in the interment site, the interment site has been dug to a depth to accommodate the remains of another deceased person.

3.1.14.2. Once an interment has occurred in an interment site, the authority over the site devolves to the estate of the deceased whose remains were interred in the interment site, except when there are Joint Holders (see 3.1.8).

3.1.14.3. The Applicant for the interment shall be regarded as the person representing the estate of the deceased person whose remains are interred in the interment site unless the Executor of the estate of the deceased steps forward..

3.1.14.4. When there are two or more interments in an interment site, the authority over site will devolve to the estate of the last deceased person to be interred in the interment site.

3.1.14.5. On the death of the spouse or a child of the Holder of an Interment Right, the remains of the spouse or child may be interred in the interment site to which the Right relates without the written consent of the Holder of the Right if Council is satisfied:

a. that the Holder is not available to give consent to the interment, and

b. that consent to the interment would be given if the Holder were available, and

c. where another person is already interred in the interment site, the interment site has been dug to a depth to accommodate the remains of another deceased person.

3.1.14.6. The only compensation that Council is liable to pay to the Holder of an Interment Right in the event that it permits the Holder's spouse or child to be interred in the interment site without the consent of the Holder is an amount equivalent to the fee currently charged by Council for the grant of a Interment Right in respect of a comparable interment site.

3.1.15. **Disturbing remains of a deceased person**

To ascertain whether any cultural or religious practices apply to the remains of a deceased person for the purposes of section 46 (3) of the Act, a Cemetery operator is to:

a. consult the Cemetery operator's register, and

b. if the information is not recorded in the register—make enquiries of the deceased's next-of-kin, and

c. if the information is not reasonably ascertainable from that source—make enquiries of the cultural or spiritual leader in the community

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who is relevant to the remains (including by reference to the part of the Cemetery in which the interment site is located), and

Note. Information to assist in identifying relevant cultural or spiritual leaders for various cultural or religious groups is available on the web page relating to Cemeteries and Crematoria NSW on the Department of Industry website.

d. if the information is not reasonably ascertainable from that source—take any other steps the Cemetery operator considers reasonable in the circumstances to ascertain whether any cultural or religious practices apply to the remains.

e. A Cemetery operator is to make all reasonable efforts (including taking such time as is reasonably necessary) in making the enquiries referred to in subclause (1).

Note. Clause 15 (b) requires the steps taken to ascertain information, and the information ascertained, under this clause to be recorded in the Cemetery operator's register.

3.1.16. **Register of Interment Rights, Interments and Cremations**

3.1.16.1. A public register of Interment Rights, as required by the Regulations of the *Public Health Act 2010* and the *Cemeteries and Crematoria Act 2013* must be kept in respect of each Interment Right granted. The minimum information required shall be the:

- Full name of the Holder
- Date of birth of the Holder
- Gender of Holder
- Marital status of the Holder
- Occupation of the Holder
- Religion of the Holder
- Full residential address of the Holder
- Full name, and residential address of the Applicant, if the Applicant is not the Holder
- Relationship of the Applicant to the Holder
- Full name and address of a secondary contact for the Holder
- Relationship of the secondary contact to the Holder

3.1.16.1.1. A public register of interments, as required by the Regulations of the *Public Health Act 2010*, and the *Cemeteries and Crematoria Act 2013* in respect of each interment.

3.1.16.1.2. A public register of cremations, as required by the Regulations of the *Public Health Act 2010*, and the *Cemeteries and Crematoria Act 2013* in respect of each cremation.

3.1.16.1.3. Each register, which may be kept in written, printed or electronic form, must contain sufficient information to allow for simple cross-referencing of entries by:

a) Surname

b) Date of Interment or Cremation or Reservation

c) Interment or Memorial location

3.1.16.1.4. Each interment or cremation must be recorded in its respective register immediately after the service.

3.1.16.1.5. Registers may be amended to remove or correct inaccuracies.

3.1.16.1.6. Council must, on application made by any person, make available to the person a copy of any entry made in an interment or the cremation register.

a) Applications made under this provision shall be made on an approved form.

b) Each form shall be limited to a single register entry search.

c) A fee, as approved by Council, may be charged for each application.

3.1.16.1.7. The registers will be used in any proceedings requiring evidence of the identity of the Holder of an Interment Right.

3.1.17. **Certificates of Interment Rights**

3.1.17.1. Council will issue to the Holder a certificate, clearly showing:

a) the Holder's name and address or the Joint Holders' names and addresses;

b) In the case of Joint Holders, each Holder may receive a copy of the certificate

c) amount paid;

d) date of issue;

e) a description of the location of the interment site; and

f) the key terms and conditions under which the certificate is issued.

3.1.17.2. Application for a copy of a Certificate must be made on the form approved by Council.

3.1.17.3. Any fees relating to the purchase and re-issue of a Certificate must be paid at the time of application.

3.1.18. **Hours of Interment, Cremation and Exhumation**

3.1.18.1. Interments, cremations and exhumations shall take place only during the hours approved by Council.

3.1.19. **Applications for Interments**

3.1.19.1. Applications for Interments must be made on the approved forms.

3.1.19.2. An Interment application must be made in respect of an existing Right

3.1.19.3. The Applicant for an interment must be:

- the executor of the estate for the deceased person to be interred; or
- the next of kin to the deceased person to be interred; or

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- any other person having an interest in the estate of the deceased person to be interred; or
- in the case of an indigent burial, an authorised representative of the statutory authority ordering the interment.

3.1.20. **Interment Orders**

3.1.20.1. There shall be no Interment Order issued unless there is an application made under 3.1.19.1.

3.1.20.2. Interments cannot take place unless an Interment Order has been issued by Council.

3.1.20.3. The issue and processing of an interment order shall be in accordance with Council's Work Health and Safety Policy (POL20/12).

3.1.20.4. All interments shall comply with the Public Health Regulation and Council's Work Health and Safety Policy (POL20/12).

3.1.21. **Exhumation**

3.1.21.1. Exhumations are **NOT** to take place unless:

a) Prior written consent has been obtained from the Director-General of the Department of Health (NSW), if required; and

b) Order for Exhumation has been issued by Council.

c) This clause does not apply if an exhumation has been ordered by a Court or the New South Wales Coroner.

3.1.21.2. All costs incurred in carrying out an exhumation shall be paid by the Applicant or instructing authority.

3.2. Miscellaneous

3.2.1. A person must not do any of the following within a Cemetery:

3.2.1.1. Damage, deface, interfere with or alter interment sites;

3.2.1.2. Damage, deface, interfere with or alter monuments;

3.2.1.3. Bury, inter or exhume any human remains, whether cremated or not;

3.2.1.4. Enter or remain in a Cemetery between sunset and sunrise;

3.2.1.5. Cause or permit an animal that is under the person's control to enter or remain in a Cemetery;

3.2.1.6. Take part in any gathering, meeting or assembly, except for the purpose of religious, research, historical, educational or other ceremony of interment or commemoration;

3.2.1.7. Engage in trade or commerce without Council's written consent;

3.2.1.8. Distribute any circulars, advertisements, paper drawn or photographic material without prior Council consent;

3.2.1.9. Drive a vehicle at a speed of more than eight (8) kilometres per hour;

3.2.1.10. Drive a vehicle or a vehicle and trailer having an unladen weight of more than three (3) tonnes;

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3.2.1.11. Drive a vehicle through a Cemetery for the purpose of travelling between places outside of the Cemetery;

3.2.1.12. Park a vehicle on any known interment site, verge or plantation, or in a manner that is likely to impede traffic,

3.2.1.13. Teach, learn or practice driving a vehicle;

3.2.1.14. Camp or reside on any Cemetery land;

3.2.1.15. Possess or consume an alcoholic or intoxicating beverage or substance;

3.2.1.16. Urinate or defecate;

3.2.1.17. Bring or leave any rubbish, refuse, scrap metal (including remains of vehicles), rock, soil, sand or any other such substances;

3.2.1.18. Remove any dead timber, logs, trees, flora, whether standing or fallen;

3.2.1.19. Kill, capture or in any way interfere with any animal, bird, fish or other fauna, whether native or introduced;

3.2.1.20. Plant any tree, shrub, herbage or other plant without prior consent.

3.2.2. Clause 3.2.1.5 does not prevent a person from riding a horse or leading or walking a dog on a leash.

3.2.3. Council's written consent is required to legally carry out any act that might otherwise give rise to an offence under this clause.

3.3. Requirements for Interment Sites

3.3.1. The dimensions of an interment site for the interment of the body of a deceased person shall be a minimum of:

3.3.1.1. 1200mm X 2400mm for adult interment sites;

3.3.1.2. 900mm X 1500mm for children's interment sites.

3.4. The number of interments permitted in an interment site shall be in strict accordance with the Public Health Regulation.

3.5. Above Ground Entombment

3.5.1. All immurements shall be in accordance with

3.5.1.1. Council's Work Health and Safety Policy

3.5.1.2. The *Public Health Regulation (Disposal of Bodies) 2012* NSW

3.6. Funeral Directors and Monument Masons

3.6.1. Any person or business providing or carrying out monument masonry services in a Cemetery, including the construction, erection, repair, cleaning and restoration of structures over burial places, must comply with the requirements of Council's Funerary and Monument Masonry Services Procedure.

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3.6.2. Any person or business providing or carrying out funerary services in a Cemetery must comply with the requirements of Council's Funerary and Monument Masonry Services Procedure.

3.7. Monuments and Inscriptions

Any person working in a Cemetery must comply with requirements of Council's Work Health and Safety Policy.

3.7.1. A person may not carry out any work in a Cemetery, including the erection of structures over interment sites in the Cemetery, unless

3.7.1.1. They are a Council employee instructed to do so by Council

3.7.1.2. A contractor acting under instructions of Council

3.7.1.3. A Funeral Director or Monument Mason acting in accordance with the requirements of Councils Funerary and Monument Masonry Services Procedure.

3.7.2. A person shall not, in a Cemetery:

3.7.2.1. Construct, install, alter, restore, renovate or improve any monument, memorial, foundation, vault, table, headstone, gravestone, kerbing, railing or other structure, unless it is of:

a) a material and design approved in writing by Council;

b) carried out to the standard of workmanship required by Council; and

c) constructed or maintained in accordance with AS4204-2019 Headstones and Cemetery monuments.

3.7.2.2. Make any inscription or carry out any adornment, unless it is approved by Council and made or carried out to the standard required by Council.

3.8. Removal of Structures

3.8.1. A person may not:

3.8.1.1. remove a monument, memorial, foundation, vault, table, headstone, gravestone, kerbing, rail or other structure from a Cemetery without Council's written permission;

3.8.1.2. erase, correct, or require the erasure or correction of, wording of any inscription that has been constructed, installed, made or carried out:

a) without Council's written consent; or

b) otherwise than in accordance with an approval given by Council.

3.8.2. Council may:

3.8.2.1. remove, demolish, alter or require the removal, demolition or alteration of any structure or any adornment, or

3.8.2.2. where any work that has been approved is not completed within a reasonable time, remove or demolish such partially finished work as it deems necessary to preserve the fabric of the Cemetery and public safety.

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3.9. Removal and replacement of structures for the purpose of interment

3.9.1. Where notice is given to open an interment site, vault or crypt for a lawful purpose and is in accordance with this policy, it shall be the Applicant's responsibility to:

3.9.1.1. Arrange for the removal of any part of the structure to enable the safe opening of the interment site. To make good the repair of the structure affected under this provision within fourteen (14) days of the interment or service date.

3.10. Maintenance of Structures

3.10.1. Council shall not be responsible for the upkeep, maintenance, repair etc of any monument or structure over an interment site.

3.10.2. Council's responsibility for any structure in a Cemetery is limited to its preservation as defined in the Burra Charter, ie, 1.6 Preservation means maintaining the fabric of a place in its existing state and retarding deterioration

3.10.3. The cleaning, repair or restoration of a structure in a Cemetery is the responsibility of the Interment Right Holder.

3.10.4. Council may act to remove any structure in a Cemetery that has become dilapidated, unsightly, is crumbling, or deemed to be unsafe in a risk assessment carried out by Council.

3.10.5. Council may remove any shrubs, trees or other vegetation that has been planted on an interment site without Council's written consent

3.10.6. Council may remove any trees, shrubs or other vegetation from any Cemetery where, in its opinion, it is in the interest of the Cemetery to do so.

3.11. Unsafe Monuments

3.11.1. When hazards, including unsafe structures, are identified Council will act to eliminate them.

3.11.2. **Identification and Reporting**

Identification of unsafe structures shall be by Risk Assessment and/or Hazard reporting as prescribed in Council's Work Health, Safety and Policy (POL20/12). Actions carried out under this clause will be thoroughly documented and supported with photographs. All actions will be recorded against the respective Cemetery register entry.

3.11.3. **Unsafe monument – notice of action**

The notice given to the Holder of the Interment Right for an interment site affected by an unsafe monument or structure shall be notified in accordance with the following schedule, which is derived from the Initial Risk Rating determined by the Risk Assessment.

Initial Risk Rating	Notification process

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EXTREME	No notification – immediate action to be taken to make the structure safe.
HIGH	The Holder shall be notified to take action within SEVEN (7) days to remedy the structure. If the Holder cannot be contacted, a sign giving seven (7) days' notice that the Holder should act to make the structure safe shall be displayed at the interment site. If, after the period of notice, no action has been taken by the Holder of the Interment Right, Council will take steps to make the monument safe.
MEDIUM	The Holder shall be notified to take action within FOURTEEN (14) days to remedy the structure. If the Holder cannot be contacted, a sign giving FOURTEEN (14) days' notice that the Holder should act to make the structure safe shall be displayed at the interment site. If, after the period of notice, no action has been taken by the Holder of the Interment Right, Council will take steps to make the monument safe.
LOW	The Holder shall be notified to take action within TWENTY-EIGHT (28) days to remedy the structure. If the Holder cannot be contacted, a sign giving TWENTY-EIGHT (28) days' notice that the Holder should act to make the structure safe shall be displayed at the interment site. If, after the period of notice, no action has been taken by the Holder of the Interment Right, Council will take steps to make the monument safe.

3.11.4. **Subsidence**

Where subsidence is evident, Council will fill and optionally compact the ground in the normal manner.

3.11.5. **Repair of Monument**

Council will not repair monuments. Council's actions will be limited to making unsafe structures safe to ensure public and employee safety.

3.12. Lawn Cemetery Portions

3.12.1. Council will ensure that:

3.12.1.1. It maintains, preserves, and repairs lawn Cemetery interment sites;

3.12.1.2. Interment sites are not enclosed with any railing or kerbing except where culturally required;

3.12.1.3. No headstone, statue or other structure is erected or constructed over an interment site in a Lawn Portion;

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3.12.1.4. No tree, shrub or other plant is placed or planted on any interment site in a Lawn Portion other than by Council at its absolute discretion.

3.12.2. Artificial flowers are permitted in Lawn Cemetery portions provided they are securely fixed into a vase approved by Council.

3.12.3. Artificial flowers are not permitted in 'Bush Walk Garden' areas at the Shoalhaven Memorial Gardens and Lawn Cemetery or the Sandridge Memorial Gardens, Mollymook.

3.12.4. Grounds maintenance staff will, without notice, remove and dispose of artificial flowers that:

3.12.4.1. in their opinion, are not securely fixed in the vase;

3.12.4.2. are left loose or strewn about by wind, animals etc; or

3.12.4.3. have faded, deteriorated or become untidy in appearance.

3.12.5. Council shall place over each interment site in the Lawn Portion, as soon as practicable after an interment has taken place, and upon receipt of written instructions from the Applicant, a memorial plaque, supplied by Council, of a standard size and type as determined by Council.

3.12.6. The Holder must arrange for a cast bronze plaque to be placed at the interment site within eighteen (18) months of the interment date. If after eighteen (18) months the cast bronze plaque has not been finalised, Council will act to do so.

3.12.7. Where Council acts to place the plaque (under the provisions of 3.12.6) the plaque shall have on it the full name of the deceased, their date of birth (if available), their date of death and their age as recorded in the Cemetery's interment register.

3.12.8. The Applicant for the interment or their delegate may apply to privately supply and fix a memorial plaque in Lawn Cemetery portions provided that:

3.12.8.1. a formal application in accordance with this policy has been lodged with Council;

3.12.8.2. all fees as scheduled by Council for the lodgement of the application have been paid;

3.12.8.3. the design and type of plaque is consistent with the requirements determined by Council; and

3.12.8.4. Council has given its written approval.

3.12.9. Council will not be liable for the repair, maintenance, upkeep or preservation of any plaque or item placed on an interment site in a Lawn Cemetery under the provisions of this section of the Policy.

3.12.10. When a plaque is placed under clause 3.12.5, the applicant must pay any costs incurred if they issue subsequent instructions to alter or replace the plaque.

3.13. Monument Lawn Portions

3.13.1. Council will ensure that:

3.13.1.1. It maintains, preserves, and repairs monument Lawn Cemetery interment sites.

3.13.1.2. Interment sites are not enclosed with any railing or kerbing except where culturally required.

3.13.1.3. Only cut flowers are left at interment sites in Monument Lawn Cemeteries.

3.13.1.4. Cut flowers are placed in vases of a type approved by Council.

3.13.1.5. No tree, shrub or other plant is placed or planted on any interment site in a Monument Lawn portion other than by Council at its absolute discretion.

3.13.2. Council will ensure that each interment site in a Lawn Monument portion shall be marked with a permanent headstone and sub-socket, as defined in section 3.13.11 of this Policy, within eighteen (18) months of the date of interment.

3.13.3. A fee for the procurement of the headstone and sub-socket must be paid by the Holder of the Interment Right prior to interment.

3.13.4. If instructions for the headstone have not been finalised after 15 months a final letter will be sent to the Interment Right Holder stating that Council will act to place a headstone with a basic inscription on the grave site unless the Estate acts by the end of the 18 month period.

3.13.5. If after eighteen (18) months the Holder of the Interment Right has not issued instructions for the headstone and sub-socket, Council will act to do so.

3.13.6. Where Council acts to place the headstone (under the provisions of 3.12.5) the headstone shall have on it the full name of the deceased, their date of birth (if available), their date of death and their age as recorded in the Cemetery's interment register.

3.13.7. The Holder of the Interment Right or their delegate may apply to privately supply and fix a headstone and sub-socket in Lawn Monument portions provided that:

3.13.7.1. a formal application in accordance with 3.7 of this policy has been lodged with Council;

3.13.7.2. all fees as scheduled by Council for the lodgement of the application have been paid;

3.13.7.3. the design and type of headstone is consistent with the requirements determined by Council; and

3.13.7.4. Council has given its written approval.

3.13.8. If the Holder of the Interment Right chooses to procure their own headstone under section 3.12.7 of this policy, the fee originally paid to Council (section 3.13.2) for the headstone shall be refunded in full to the Holder of the Interment Right.

3.13.9. Council will not be liable for the repair, maintenance, upkeep or preservation of the headstone and sub-socket placed on an interment site in a lawn monument Cemetery or portion under the provisions of section 3.12.7 of this Policy.

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3.13.10. All monument work must comply with Australian Standard AS 4204-19 Headstones and Cemetery Monuments as the minimum standard of work.

3.13.11. Minimum Standards for Headstones in the Monument Beam Section:

3.13.11.1. **The Base** (Sub-socket)

a) The base upon which the headstone is mounted must be LIGHT TO MEDIUM GREY GRANITE or a NATURAL STONE that has a porosity similar to monument quality granite stone - sub bases derived from granite other than Harcourt can be used.

b) Each base must measure 1050mm long, 300mm deep (wide) and 150mm high measured from the top of the provided concrete beam.

c) The top of the base MUST be polished

d) The front, left and right sides of the base must be 'rock hammered'

e) The back of the base can be sawn or polished.

f) The base must provide cored holes for at least two flush mounted vases.

g) The base MUST be placed and secured, on the provided beam in accordance with AS4204-19 dowel specifications..

3.13.11.2. The Headstone

a) Headstones must be manufactured from best quality, monument grade 'granite'.

b) The face of the headstone MUST be polished

c) The back and edges can be polished, sawn or 'bush rock hammered'

d) Each headstone must be between 550mm and 800mm wide at its base.

e) The overall width of each headstone must be no more than 800mm

f) Each headstone must be between 450mm and 600mm high, measured from the top of the base (sub-socket)

g) The headstone must be secured to the base using dowels as directed in AS4204-19 as a minimum standard.

h) Lettering must be inscribed into the face of the headstone; surface mounted lettering is NOT allowed.

i) Cast bronze plaques fixed to the headstone are permitted in place of inscribed lettering.

j) Alternative stone to granite may be considered upon application, however the general principals of this section must be observed.

3.13.11.3. **Example for Lawn Monument Beam Headstone**:

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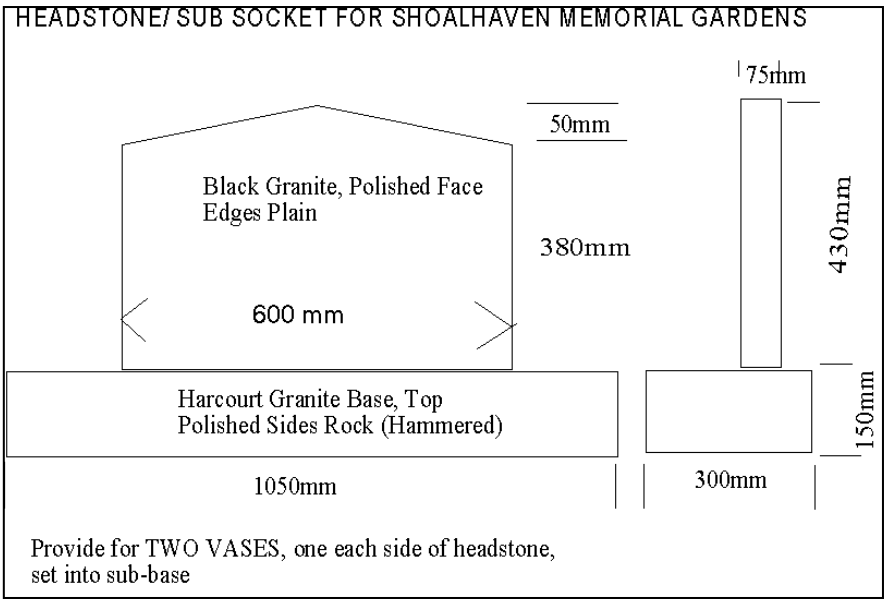

3.13.12. Council accepts responsibility for the care and maintenance of any headstone it has provided in a Monument Lawn portion.

3.13.13. Council will not maintain, repair or restore any headstone it did not provide in a Monument Lawn portion.

3.13.14. Artificial flowers are permitted in Monument Lawn portions provided they are securely fixed into a vase approved by Council.

3.14. Memorial Gardens

3.14.1. Council shall be the sole provider and installer of all plaques in the Memorial Gardens it manages.

3.14.2. Artificial flowers are not permitted in 'Bush Walk Garden' areas at the Shoalhaven Memorial Gardens and Lawn Cemetery or the Sandridge Memorial Gardens, Mollymook.

3.14.3. Grounds maintenance staff will, without notice, remove and dispose of artificial flowers that:

3.14.3.1. in their opinion, are not securely fixed in the vase;

3.14.3.2. are left loose or strewn about by wind, animals etc

3.14.3.3. have faded, deteriorated or present an untidy appearance.

3.15. Cremation

3.15.1. Cremation shall be in strict accordance with the Public Health Regulation and the procedures approved by Council.

3.15.2. All cremations shall be carried out under the supervision of a Council officer employed for that purpose.

3.15.3. The disposition of cremated remains shall be in accordance with the Public Health Regulations.

3.15.4. The scattering of cremated remains is permitted only in those areas of the Cemeteries designated for the purpose.

3.15.5. The interment or immurement of cremated remains in a Council Cemetery shall be subject to the same process that applies to interments under this Policy.

3.15.6. **Inspection of the Crematorium**

Public inspection of the crematorium and crematory is permitted:

3.15.6.1. by appointment, made with the Shoalhaven Bereavement Services Manager; and

3.15.6.2. under the direct guidance and control of the Shoalhaven Bereavement Services Manager or other suitably qualified Council employee.

3.15.7. **Conditions of Acceptance of a Cremation Service**

Notwithstanding the Public Health Regulation, a cremation service will only be accepted when:

3.15.7.1. the human remains to be cremated have been contained in a casket or coffin suitable for cremation;

3.15.7.2. all statutory requirements, particularly in relation to the *Public Health Regulation 2012*, the *Cemeteries and Crematoria Act 2013*, the *Coroners Act 2009* and the *Local Government Act 1993* have been met; and

3.15.7.3. such fees as required by Council to carry out the cremation service have been paid.

Note: Council may, at its discretion, delay a service arriving later than the agreed to schedule for the service.

3.15.8. **Companion Animals in the Chapel**

Dogs, cats and other companion animals are not permitted inside the Chapel at any time.

3.15.9. **Clearing of Chapel Area**

The Chapel concierge shall ensure that the Chapel area is cleared of mourners, flowers etc prior to the scheduled time of the next service or within the hour of the current service, whichever is sooner.

3.15.10. **Removal of Items from Casket or Body**

Council accepts no responsibility for the items (flowers, covers, jewellery, ornaments etc.) left on or in the casket once it has been accepted into the crematory. Council will remove and dispose of visible hazardous, combustible, volatile, or other visible item as is deemed necessary to ensure the safe progress of work.

3.15.11. **Viewing of Cremation**

Immediate family members may, by application, appointment and payment of the prescribed fee, observe from the viewing area set aside

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for the purpose, the committal of the casket into the cremator. Visitors under these provisions must leave the area when requested to do so by a Council Officer or an employee directly involved with the operation and maintenance of the crematorium.

3.15.12. **Access to the Crematory**

Only Council employees acting under instructions to do so may enter the crematory. Non-employees, members of the public, Funeral Directors and employees not directly involved in the operation and maintenance of the cremator may only enter the crematory when accompanied by the Shoalhaven Bereavement Services Manager or another suitably qualified Council employee.

3.15.13. **Opening of Caskets in the Crematory**

Caskets or coffins shall not be opened when held in the crematorium.

3.15.14. **Obtaining Instructions for Disposition**

If no instructions for final disposition have been issued by the Applicant for the cremation, every reasonable effort must be made to contact the Applicant, in writing, after:

3.15.14.1. Fourteen (14) days,

3.15.14.2. Ninety (90) days, and

3.15.14.3. Six (6) months

of the cremation date.

3.15.15. **No Instructions for Disposition**

In accordance with the *Public Health Regulation 2012*, if no instructions for disposition have been received within nine (9) months of the cremation date, Council will direct the remains to be interred in the General Plot.

4. SPECIAL PORTIONS SET ASIDE

4.1. Royal Australian Navy (Naval) Portion And The Military Portion

4.1.1. The land measuring approximately 40m x 20m on the southern side of the Royal Australian Naval Section of Nowra General Cemetery (see Attachment A) shall be administered and operated by Council.

4.1.2. The portion will be called the "Military Portion of Nowra General Cemetery" (Military Portion).

4.1.3. The "Military Portion" will be administered under this policy and the Funerary and Monument Masonry Procedure.

4.1.4. Interment Rights in the "Military Portion" will only be granted to:

4.1.4.1. Those who have served in an Australian Defence Force and their spouses and partners.

4.1.4.2. The members of the Defence Forces of Allies who served with the Australian Defence personnel in war, their spouses and partners. Council's fees for Interment Rights will be calculated and set to recover costs and to provide for future maintenance

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and preservation work, as set out in the *Crown Land Management Act 2016*.

4.1.5. The standard of monuments shall be the same as applies to the established interment sites in the Naval Section

4.1.6. The foundations for the monuments shall be constructed by Council.

4.1.7. The fee for the Interment Right, including the foundations for the monument, will be the same as the one for Shoalhaven Monument Lawn Cemetery, Worrigee.

4.1.8. Interment site digging and related services shall be same as those applying to Nowra General Cemetery.

4.1.9. Within twelve (12) months of it occurring, each interment in the "Military Portion" shall be marked with a standard brown cast bronze plaque measuring 380mm x 280mm and the plaque must be fixed to the plinth of the monument.

4.1.10. A refundable "monument surety deposit" shall be charged at the time of the first interment.

4.1.11. The "monument surety deposit" shall be refunded to the applicant for the interment once the monument has been constructed and the permanent marker has been fixed to it.

4.1.12. If a monument and permanent marker have not been constructed over the interment site after twelve (12) months of the first interment, Council may permanently retain the surety deposit and seek to recover costs to complete the construction.

4.1.13. The Royal Australian Navy will continue to give directions and instructions and meet all costs associated with the planning, development, maintenance and preservation of those portions of the Nowra General Cemetery it retains for its exclusive use.

4.1.14. Council will give reasonable assistance to the RAN in the management of the Naval Cemetery, on a cost-recovery basis.

4.2. To meet the cultural needs of members of the community

4.2.1. In accordance with Cemeteries and Crematoria Act 2013, the cultural needs of the members of the Jewish faith will be addressed by the allocation of an area in the Lawn Monument Portion of the Shoalhaven Memorial Gardens and Lawn Cemetery for the exclusive use of the Jewish community. Persons to be interred there will be affirmed by designated Jewish authority.

4.2.2. In accordance with the Cemeteries and Crematoria Act 2013, the cultural needs of members of the community will be addressed if possible once these needs have been officially established.

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5. IMPLEMENTATION

City Services Group through Commercial Services via Bereavement Services will administer the Policy.

6. REVIEW

This policy will be reviewed within one (1) year of the election of every new Council, or earlier should circumstances arise to warrant revision.

7. APPLICATION OF ESD PRINCIPLES

The policy assists in achieving practical allocation of diminishing resources, primarily Interment Rights and interment sites, within the Cemeteries and Memorial Gardens.

It also encourages all new structures (monuments etc) to be built in accordance with the best practices and standards, thereby making them as sustainable as possible.

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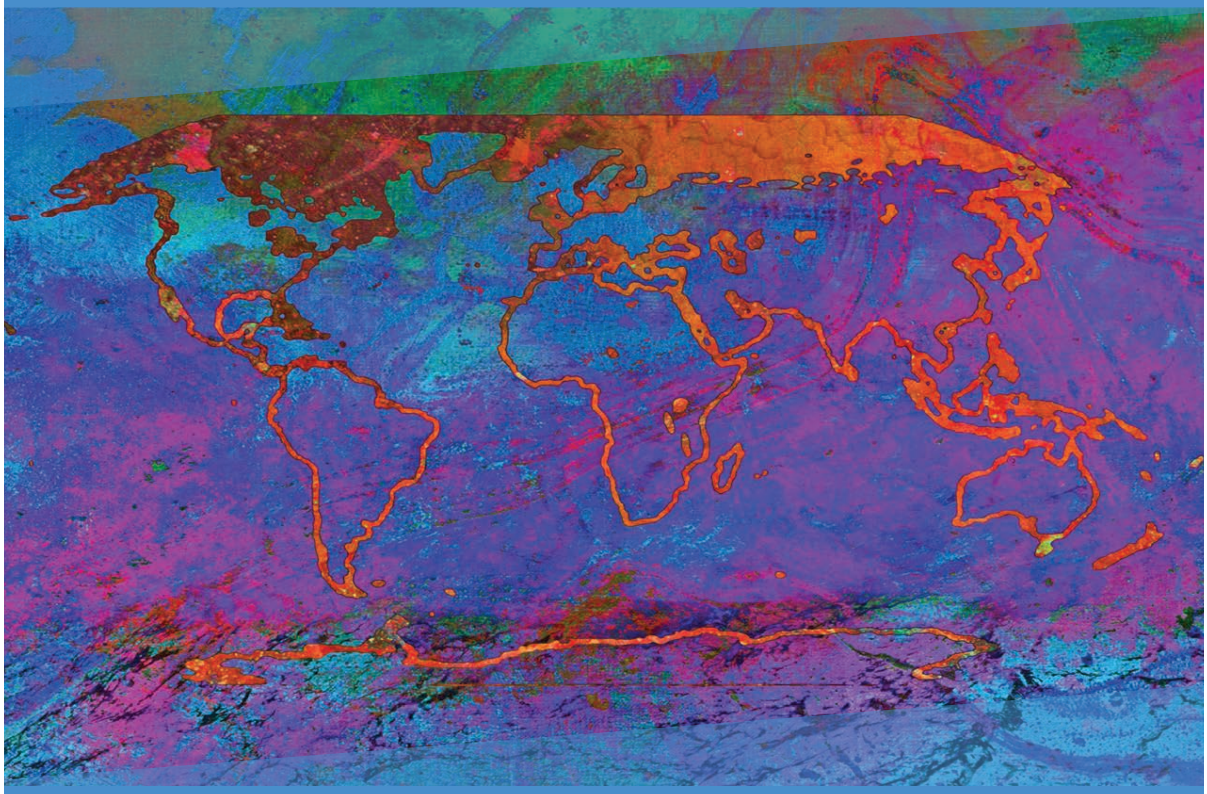
Climate Change 2021

The Physical Science Basis

Summary for Policymakers



WGI

Working Group I Contribution to the
Sixth Assessment Report of the
Intergovernmental Panel on Climate Change

WMO UNEP

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Climate Change 2021
The Physical Science Basis

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Summary for Policymakers

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SPM

Summary for Policymakers

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SPM

Introduction

This Summary for Policymakers (SPM) presents key findings of the Working Group I (WGI) contribution to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6)[1] on the physical science basis of climate change. The report builds upon the 2013 Working Group I contribution to the IPCC's Fifth Assessment Report (AR5) and the 2018–2019 IPCC Special Reports[2] of the AR6 cycle and incorporates subsequent new evidence from climate science.[3]

This SPM provides a high-level summary of the understanding of the current state of the climate, including how it is changing and the role of human influence, the state of knowledge about possible climate futures, climate information relevant to regions and sectors, and limiting human-induced climate change.

Based on scientific understanding, key findings can be formulated as statements of fact or associated with an assessed level of confidence indicated using the IPCC calibrated language.[4]

The scientific basis for each key finding is found in chapter sections of the main Report and in the integrated synthesis presented in the Technical Summary (hereafter TS), and is indicated in curly brackets. The AR6 WGI Interactive Atlas facilitates exploration of these key synthesis findings, and supporting climate change information, across the WGI reference regions.[5]

A. The Current State of the Climate

Since AR5, improvements in observationally based estimates and information from paleoclimate archives provide a comprehensive view of each component of the climate system and its changes to date. New climate model simulations, new analyses, and methods combining multiple lines of evidence lead to improved understanding of human influence on a wider range of climate variables, including weather and climate extremes. The time periods considered throughout this section depend upon the availability of observational products, paleoclimate archives and peer-reviewed studies.

A.1 It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. {2.2, 2.3, Cross-Chapter Box 2.3, 3.3, 3.4, 3.5, 3.6, 3.8, 5.2, 5.3, 6.4, 7.3, 8.3, 9.2, 9.3, 9.5, 9.6, Cross-Chapter Box 9.1} (Figure SPM.1, Figure SPM.2)

A.1.1 Observed increases in well-mixed greenhouse gas (GHG) concentrations since around 1750 are unequivocally caused by human activities. Since 2011 (measurements reported in AR5), concentrations have continued to increase in the atmosphere, reaching annual averages of 410 parts per million (ppm) for carbon dioxide (CO_2), 1866 parts per billion (ppb) for methane (CH_4), and 332 ppb for nitrous oxide (N_2O) in 2019.[6] Land and ocean have taken up a near-constant proportion (globally about 56% per year) of CO_2 emissions from human activities over the past six decades, with regional differences (*high confidence*).[7]
{2.2, 5.2, 7.3, TS.2.2, Box TS.5}

1 Decision IPCC/XLVI-2.

2 The three Special Reports are: Global Warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (SR1.5); Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SRCCL); IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC).

3 The assessment covers scientific literature accepted for publication by 31 January 2021.

4 Each finding is grounded in an evaluation of underlying evidence and agreement. A level of confidence is expressed using five qualifiers: very low, low, medium, high and very high, and typeset in italics, for example, *medium confidence*. The following terms have been used to indicate the assessed likelihood of an outcome or result: virtually certain 99–100% probability; very likely 90–100%; likely 66–100%; about as likely as not 33–66%; unlikely 0–33%; very unlikely 0–10%; and exceptionally unlikely 0–1%. Additional terms (extremely likely 95–100%; more likely than not >50–100%; and extremely unlikely 0–5%) are also used when appropriate. Assessed likelihood is typeset in italics, for example, *very likely*. This is consistent with AR5. In this Report, unless stated otherwise, square brackets [x to y] are used to provide the assessed *very likely* range, or 90% interval.

5 The Interactive Atlas is available at https://interactive-atlas.ipcc.ch

6 Other GHG concentrations in 2019 were: perfluorocarbons (PFCs) – 109 parts per trillion (ppt) CF_4 equivalent; sulphur hexafluoride (SF_6) – 10 ppt; nitrogen trifluoride (NF_3) – 2 ppt; hydrofluorocarbons (HFCs) – 237 ppt HFC-134a equivalent; other Montreal Protocol gases (mainly chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs)) – 1032 ppt CFC-12 equivalent). Increases from 2011 are 19 ppm for CO_2, 63 ppb for CH_4 and 8 ppb for N_2O.

7 Land and ocean are not substantial sinks for other GHGs.

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A.1.2 Each of the last four decades has been successively warmer than any decade that preceded it since 1850. Global surface temperature[8] in the first two decades of the 21st century (2001–2020) was 0.99 [0.84 to 1.10] °C higher than 1850–1900.[9] Global surface temperature was 1.09 [0.95 to 1.20] °C higher in 2011–2020 than 1850–1900, with larger increases over land (1.59 [1.34 to 1.83] °C) than over the ocean (0.88 [0.68 to 1.01] °C). The estimated increase in global surface temperature since AR5 is principally due to further warming since 2003–2012 (+0.19 [0.16 to 0.22] °C). Additionally, methodological advances and new datasets contributed approximately 0.1°C to the updated estimate of warming in AR6.[10]
{2.3, Cross-Chapter Box 2.3} (Figure SPM.1)

A.1.3 The *likely* range of total human-caused global surface temperature increase from 1850–1900 to 2010–2019[11] is 0.8°C to 1.3°C, with a best estimate of 1.07°C. It is *likely* that well-mixed GHGs contributed a warming of 1.0°C to 2.0°C, other human drivers (principally aerosols) contributed a cooling of 0.0°C to 0.8°C, natural drivers changed global surface temperature by –0.1°C to +0.1°C, and internal variability changed it by –0.2°C to +0.2°C. It is *very likely* that well-mixed GHGs were the main driver[12] of tropospheric warming since 1979 and *extremely likely* that human-caused stratospheric ozone depletion was the main driver of cooling of the lower stratosphere between 1979 and the mid-1990s.
{3.3, 6.4, 7.3, TS.2.3, Cross-Section Box TS.1} (Figure SPM.2)

A.1.4 Globally averaged precipitation over land has *likely* increased since 1950, with a faster rate of increase since the 1980s (*medium confidence*). It is *likely* that human influence contributed to the pattern of observed precipitation changes since the mid-20th century and *extremely likely* that human influence contributed to the pattern of observed changes in near-surface ocean salinity. Mid-latitude storm tracks have *likely* shifted poleward in both hemispheres since the 1980s, with marked seasonality in trends (*medium confidence*). For the Southern Hemisphere, human influence *very likely* contributed to the poleward shift of the closely related extratropical jet in austral summer.
{2.3, 3.3, 8.3, 9.2, TS.2.3, TS.2.4, Box TS.6}

A.1.5 Human influence is *very likely* the main driver of the global retreat of glaciers since the 1990s and the decrease in Arctic sea ice area between 1979–1988 and 2010–2019 (decreases of about 40% in September and about 10% in March). There has been no significant trend in Antarctic sea ice area from 1979 to 2020 due to regionally opposing trends and large internal variability. Human influence *very likely* contributed to the decrease in Northern Hemisphere spring snow cover since 1950. It is *very likely* that human influence has contributed to the observed surface melting of the Greenland Ice Sheet over the past two decades, but there is only *limited evidence*, with *medium agreement*, of human influence on the Antarctic Ice Sheet mass loss.
{2.3, 3.4, 8.3, 9.3, 9.5, TS.2.5}

A.1.6 It is *virtually certain* that the global upper ocean (0–700 m) has warmed since the 1970s and *extremely likely* that human influence is the main driver. It is *virtually certain* that human-caused CO_2 emissions are the main driver of current global acidification of the surface open ocean. There is *high confidence* that oxygen levels have dropped in many upper ocean regions since the mid-20th century and *medium confidence* that human influence contributed to this drop.
{2.3, 3.5, 3.6, 5.3, 9.2, TS.2.4}

A.1.7 Global mean sea level increased by 0.20 [0.15 to 0.25] m between 1901 and 2018. The average rate of sea level rise was 1.3 [0.6 to 2.1] mm yr^{-1} between 1901 and 1971, increasing to 1.9 [0.8 to 2.9] mm yr^{-1} between 1971 and 2006, and further increasing to 3.7 [3.2 to 4.2] mm yr^{-1} between 2006 and 2018 (*high confidence*). Human influence was *very likely* the main driver of these increases since at least 1971.
{2.3, 3.5, 9.6, Cross-Chapter Box 9.1, Box TS.4}

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8 The term 'global surface temperature' is used in reference to both global mean surface temperature and global surface air temperature throughout this SPM. Changes in these quantities are assessed with *high confidence* to differ by at most 10% from one another, but conflicting lines of evidence lead to *low confidence* in the sign (direction) of any difference in long-term trend. {Cross-Section Box TS.1}

9 The period 1850–1900 represents the earliest period of sufficiently globally complete observations to estimate global surface temperature and, consistent with AR5 and SR1.5, is used as an approximation for pre-industrial conditions.

10 Since AR5, methodological advances and new datasets have provided a more complete spatial representation of changes in surface temperature, including in the Arctic. These and other improvements have also increased the estimate of global surface temperature change by approximately 0.1°C, but this increase does not represent additional physical warming since AR5.

11 The period distinction with A.1.2 arises because the attribution studies consider this slightly earlier period. The observed warming to 2010–2019 is 1.06 [0.88 to 1.21] °C.

12 Throughout this SPM, 'main driver' means responsible for more than 50% of the change.

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A.1.8 Changes in the land biosphere since 1970 are consistent with global warming: climate zones have shifted poleward in both hemispheres, and the growing season has on average lengthened by up to two days per decade since the 1950s in the Northern Hemisphere extratropics (*high confidence*). {2.3, TS.2.6}

Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years

Changes in global surface temperature relative to 1850–1900

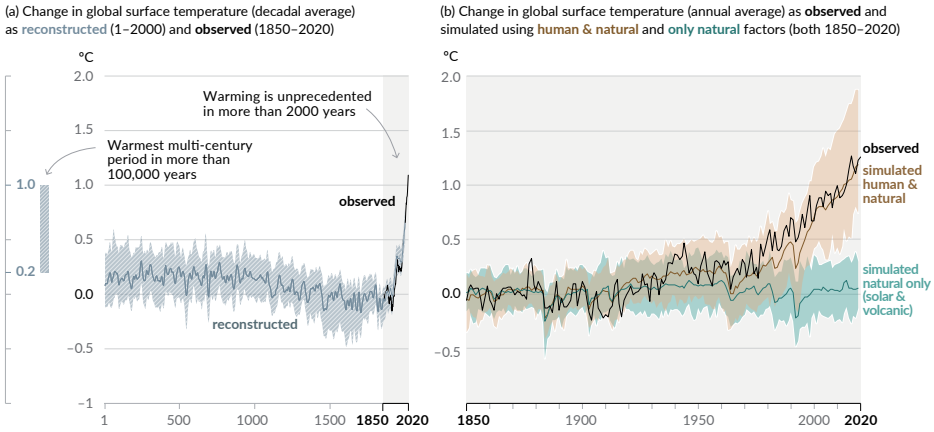

Figure SPM.1 | History of global temperature change and causes of recent warming

Panel (a) Changes in global surface temperature reconstructed from paleoclimate archives (solid grey line, years 1–2000) **and from direct observations** (solid black line, 1850–2020), both relative to 1850–1900 and decadally averaged. The vertical bar on the left shows the estimated temperature (*very likely* range) during the warmest multi-century period in at least the last 100,000 years, which occurred around 6500 years ago during the current interglacial period (Holocene). The Last Interglacial, around 125,000 years ago, is the next most recent candidate for a period of higher temperature. These past warm periods were caused by slow (multi-millennial) orbital variations. The grey shading with white diagonal lines shows the *very likely* ranges for the temperature reconstructions.

Panel (b) Changes in global surface temperature over the past 170 years (black line) relative to 1850–1900 and annually averaged, compared to Coupled Model Intercomparison Project Phase 6 (CMIP6) climate model simulations (see Box SPM.1) of the temperature response to both human and natural drivers (brown) and to only natural drivers (solar and volcanic activity, green). Solid coloured lines show the multi-model average, and coloured shades show the *very likely* range of simulations. (See Figure SPM.2 for the assessed contributions to warming).

{2.3.1; Cross-Chapter Box 2.3; 3.3; TS.2.2; Cross-Section Box TS.1, Figure 1a}

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Observed warming is driven by emissions from human activities, with greenhouse gas warming partly masked by aerosol cooling

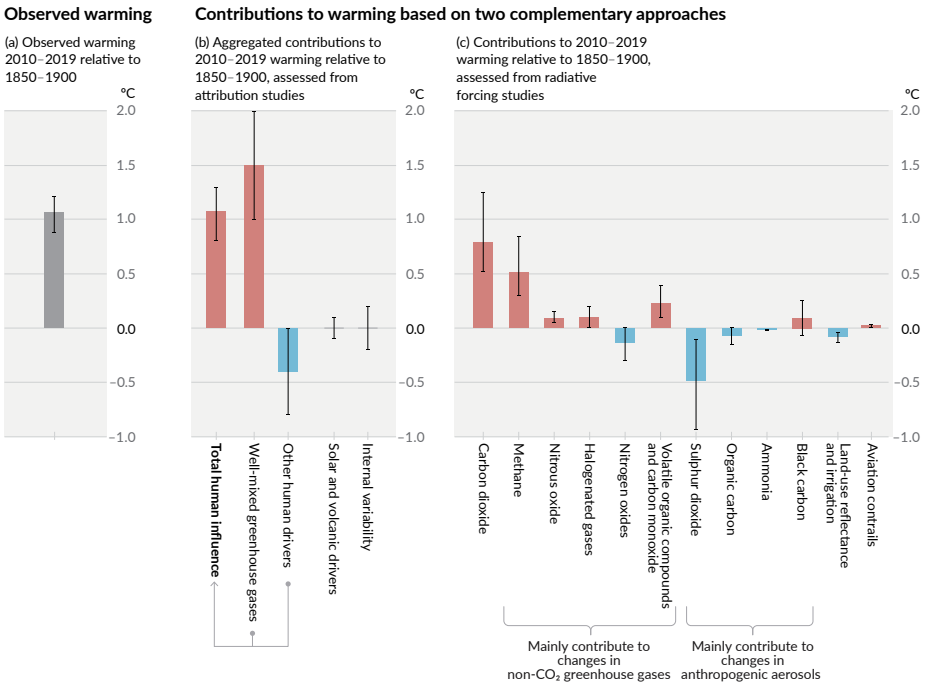

Figure SPM.2 | Assessed contributions to observed warming in 2010–2019 relative to 1850–1900

Panel (a) Observed global warming (increase in global surface temperature). Whiskers show the *very likely* range.

Panel (b) Evidence from attribution studies, which synthesize information from climate models and observations. The panel shows temperature change attributed to: total human influence; changes in well-mixed greenhouse gas concentrations; other human drivers due to aerosols, ozone and land-use change (land-use reflectance); solar and volcanic drivers; and internal climate variability. Whiskers show *likely* ranges.

Panel (c) Evidence from the assessment of radiative forcing and climate sensitivity. The panel shows temperature changes from individual components of human influence: emissions of greenhouse gases, aerosols and their precursors; land-use changes (land-use reflectance and irrigation); and aviation contrails. Whiskers show *very likely* ranges. Estimates account for both direct emissions into the atmosphere and their effect, if any, on other climate drivers. For aerosols, both direct effects (through radiation) and indirect effects (through interactions with clouds) are considered.

{Cross-Chapter Box 2.3, 3.3.1, 6.4.2, 7.3}

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A.2 The scale of recent changes across the climate system as a whole – and the present state of many aspects of the climate system – are unprecedented over many centuries to many thousands of years. {2.2, 2.3, Cross-Chapter Box 2.1, 5.1} (Figure SPM.1)

A.2.1 In 2019, atmospheric CO_2 concentrations were higher than at any time in at least 2 million years (*high confidence*), and concentrations of CH_4 and N_2O were higher than at any time in at least 800,000 years (*very high confidence*). Since 1750, increases in CO_2 (47%) and CH_4 (156%) concentrations far exceed – and increases in N_2O (23%) are similar to – the natural multi-millennial changes between glacial and interglacial periods over at least the past 800,000 years (*very high confidence*). {2.2, 5.1, TS.2.2}

A.2.2 Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years (*high confidence*). Temperatures during the most recent decade (2011–2020) exceed those of the most recent multi-century warm period, around 6500 years ago[13] [0.2°C to 1°C relative to 1850–1900] (*medium confidence*). Prior to that, the next most recent warm period was about 125,000 years ago, when the multi-century temperature [0.5°C to 1.5°C relative to 1850–1900] overlaps the observations of the most recent decade (*medium confidence*). {2.3, Cross-Chapter Box 2.1, Cross-Section Box TS.1} (Figure SPM.1)

A.2.3 In 2011–2020, annual average Arctic sea ice area reached its lowest level since at least 1850 (*high confidence*). Late summer Arctic sea ice area was smaller than at any time in at least the past 1000 years (*medium confidence*). The global nature of glacier retreat since the 1950s, with almost all of the world's glaciers retreating synchronously, is unprecedented in at least the last 2000 years (*medium confidence*). {2.3, TS.2.5}

A.2.4 Global mean sea level has risen faster since 1900 than over any preceding century in at least the last 3000 years (*high confidence*). The global ocean has warmed faster over the past century than since the end of the last deglacial transition (around 11,000 years ago) (*medium confidence*). A long-term increase in surface open ocean pH occurred over the past 50 million years (*high confidence*). However, surface open ocean pH as low as recent decades is unusual in the last 2 million years (*medium confidence*). {2.3, TS.2.4, Box TS.4}

A.3 Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since AR5. {2.3, 3.3, 8.2, 8.3, 8.4, 8.5, 8.6, Box 8.1, Box 8.2, Box 9.2, 10.6, 11.2, 11.3, 11.4, 11.6, 11.7, 11.8, 11.9, 12.3} (Figure SPM.3)

A.3.1 It is *virtually certain* that hot extremes (including heatwaves) have become more frequent and more intense across most land regions since the 1950s, while cold extremes (including cold waves) have become less frequent and less severe, with *high confidence* that human-induced climate change is the main driver[14] of these changes. Some recent hot extremes observed over the past decade would have been *extremely unlikely* to occur without human influence on the climate system. Marine heatwaves have approximately doubled in frequency since the 1980s (*high confidence*), and human influence has *very likely* contributed to most of them since at least 2006. {Box 9.2, 11.2, 11.3, 11.9, TS.2.4, TS.2.6, Box TS.10} (Figure SPM.3)

A.3.2 The frequency and intensity of heavy precipitation events have increased since the 1950s over most land area for which observational data are sufficient for trend analysis (*high confidence*), and human-induced climate change is *likely* the main driver. Human-induced climate change has contributed to increases in agricultural and ecological droughts[15] in some regions due to increased land evapotranspiration[16] (*medium confidence*). {8.2, 8.3, 11.4, 11.6, 11.9, TS.2.6, Box TS.10} (Figure SPM.3)

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13 As stated in section B.1, even under the very low emissions scenario SSP1-1.9, temperatures are assessed to remain elevated above those of the most recent decade until at least 2100 and therefore warmer than the century-scale period 6500 years ago.

14 As indicated in footnote 12, throughout this SPM, 'main driver' means responsible for more than 50% of the change.

15 Agricultural and ecological drought (depending on the affected biome): a period with abnormal soil moisture deficit, which results from combined shortage of precipitation and excess evapotranspiration, and during the growing season impinges on crop production or ecosystem function in general (see Annex VII: Glossary). Observed changes in meteorological droughts (precipitation deficits) and hydrological droughts (streamflow deficits) are distinct from those in agricultural and ecological droughts and are addressed in the underlying AR6 material (Chapter 11).

16 The combined processes through which water is transferred to the atmosphere from open water and ice surfaces, bare soils and vegetation that make up the Earth's surface (Glossary).

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A.3.3 Decreases in global land monsoon precipitation[17] from the 1950s to the 1980s are partly attributed to human-caused Northern Hemisphere aerosol emissions, but increases since then have resulted from rising GHG concentrations and decadal to multi-decadal internal variability (*medium confidence*). Over South Asia, East Asia and West Africa, increases in monsoon precipitation due to warming from GHG emissions were counteracted by decreases in monsoon precipitation due to cooling from human-caused aerosol emissions over the 20th century (*high confidence*). Increases in West African monsoon precipitation since the 1980s are partly due to the growing influence of GHGs and reductions in the cooling effect of human-caused aerosol emissions over Europe and North America (*medium confidence*).
{2.3, 3.3, 8.2, 8.3, 8.4, 8.5, 8.6, Box 8.1, Box 8.2, 10.6, Box TS.13}

A.3.4 It is *likely* that the global proportion of major (Category 3–5) tropical cyclone occurrence has increased over the last four decades, and it is *very likely* that the latitude where tropical cyclones in the western North Pacific reach their peak intensity has shifted northward; these changes cannot be explained by internal variability alone (*medium confidence*). There is *low confidence* in long-term (multi-decadal to centennial) trends in the frequency of all-category tropical cyclones. Event attribution studies and physical understanding indicate that human-induced climate change increases heavy precipitation associated with tropical cyclones (*high confidence*), but data limitations inhibit clear detection of past trends on the global scale.
{8.2, 11.7, Box TS.10}

A.3.5 Human influence has *likely* increased the chance of compound extreme events[18] since the 1950s. This includes increases in the frequency of concurrent heatwaves and droughts on the global scale (*high confidence*), fire weather in some regions of all inhabited continents (*medium confidence*), and compound flooding in some locations (*medium confidence*).
{11.6, 11.7, 11.8, 12.3, 12.4, TS.2.6, Table TS.5, Box TS.10}

17 The global monsoon is defined as the area in which the annual range (local summer minus local winter) of precipitation is greater than 2.5 mm day^{-1} (Glossary). Global land monsoon precipitation refers to the mean precipitation over land areas within the global monsoon.

18 Compound extreme events are the combination of multiple drivers and/or hazards that contribute to societal or environmental risk (Glossary). Examples are concurrent heatwaves and droughts, compound flooding (e.g., a storm surge in combination with extreme rainfall and/or river flow), compound fire weather conditions (i.e., a combination of hot, dry and windy conditions), or concurrent extremes at different locations.

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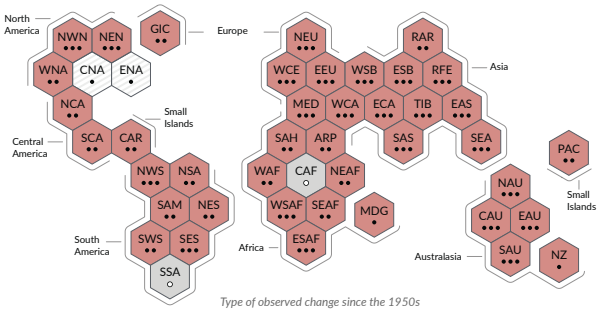
Climate change is already affecting every inhabited region across the globe, with human influence contributing to many observed changes in weather and climate extremes

(a) Synthesis of assessment of observed change in **hot extremes** and confidence in human contribution to the observed changes in the world's regions

Type of observed change in hot extremes
- Increase (41)
- Decrease (0)
- Low agreement in the type of change (2)
- Limited data and/or literature (2)

Confidence in human contribution to the observed change
- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence

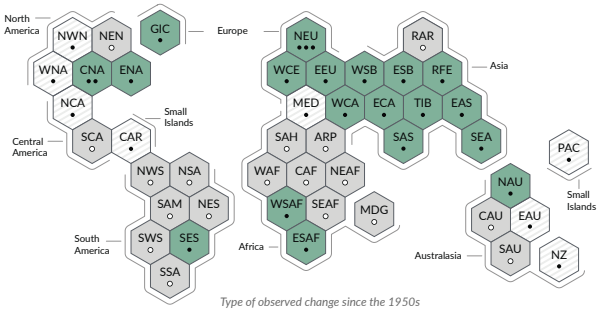


Type of observed change since the 1950s

(b) Synthesis of assessment of observed change in **heavy precipitation** and confidence in human contribution to the observed changes in the world's regions

Type of observed change in heavy precipitation
- Increase (19)
- Decrease (0)
- Low agreement in the type of change (8)
- Limited data and/or literature (18)

Confidence in human contribution to the observed change
- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence

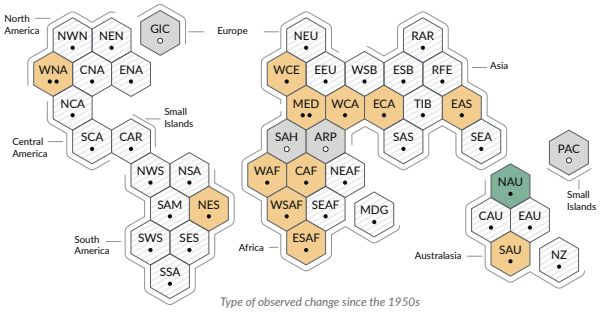


Type of observed change since the 1950s

(c) Synthesis of assessment of observed change in **agricultural and ecological drought** and confidence in human contribution to the observed changes in the world's regions

Type of observed change in agricultural and ecological drought
- Increase (12)
- Decrease (1)
- Low agreement in the type of change (28)
- Limited data and/or literature (4)

Confidence in human contribution to the observed change
- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence



Type of observed change since the 1950s

Each hexagon corresponds to one of the IPCC AR6 WGI reference regions

NWN *North-Western North America*

IPCC AR6 WGI reference regions: **North America:** ***NWN*** *(North-Western North America),* ***NEN*** *(North-Eastern North America),* ***WNA*** *(Western North America),* ***CNA*** *(Central North America),* ***ENA*** *(Eastern North America),* **Central America:** ***NCA*** *(Northern Central America),* ***SCA*** *(Southern Central America),* ***CAR*** *(Caribbean),* **South America:** ***NWS*** *(North-Western South America),* ***NSA*** *(Northern South America),* ***NES*** *(North-Eastern South America),* ***SAM*** *(South American Monsoon),* ***SWS*** *(South-Western South America),* ***SES*** *(South-Eastern South America),* ***SSA*** *(Southern South America),* **Europe:** ***GIC*** *(Greenland/Iceland),* ***NEU*** *(Northern Europe),* ***WCE*** *(Western and Central Europe),* ***EEU*** *(Eastern Europe),* ***MED*** *(Mediterranean),* **Africa:** ***MED*** *(Mediterranean),* ***SAH*** *(Sahara),* ***WAF*** *(Western Africa),* ***CAF*** *(Central Africa),* ***NEAF*** *(North Eastern Africa),* ***SEAF*** *(South Eastern Africa),* ***WSAF*** *(West Southern Africa),* ***ESAF*** *(East Southern Africa),* ***MDG*** *(Madagascar),* **Asia:** ***RAR*** *(Russian Arctic),* ***WSB*** *(West Siberia),* ***ESB*** *(East Siberia),* ***RFE*** *(Russian Far East),* ***WCA*** *(West Central Asia),* ***ECA*** *(East Central Asia),* ***TIB*** *(Tibetan Plateau),* ***EAS*** *(East Asia),* ***ARP*** *(Arabian Peninsula),* ***SAS*** *(South Asia),* ***SEA*** *(South East Asia),* **Australasia:** ***NAU*** *(Northern Australia),* ***CAU*** *(Central Australia),* ***EAU*** *(Eastern Australia),* ***SAU*** *(Southern Australia),* ***NZ*** *(New Zealand),* **Small Islands:** ***CAR*** *(Caribbean),* ***PAC*** *(Pacific Small Islands)*

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Figure SPM.3 | Synthesis of assessed observed and attributable regional changes

The IPCC AR6 WGI inhabited regions are displayed as **hexagons** with identical size in their approximate geographical location (see legend for regional acronyms). All assessments are made for each region as a whole and for the 1950s to the present. Assessments made on different time scales or more local spatial scales might differ from what is shown in the figure. The **colours** in each panel represent the four outcomes of the assessment on observed changes. Striped hexagons (white and light-grey) are used where there is *low agreement* in the type of change for the region as a whole, and grey hexagons are used when there is limited data and/or literature that prevents an assessment of the region as a whole. Other colours indicate at least *medium confidence* in the observed change. The **confidence level** for the human influence on these observed changes is based on assessing trend detection and attribution and event attribution literature, and it is indicated by the number of dots: three dots for *high confidence*, two dots for *medium confidence* and one dot for *low confidence* (single, filled dot: limited agreement; single, empty dot: limited evidence).

Panel (a) For hot extremes, the evidence is mostly drawn from changes in metrics based on daily maximum temperatures; regional studies using other indices (heatwave duration, frequency and intensity) are used in addition. Red hexagons indicate regions where there is at least *medium confidence* in an observed increase in hot extremes.

Panel (b) For heavy precipitation, the evidence is mostly drawn from changes in indices based on one-day or five-day precipitation amounts using global and regional studies. Green hexagons indicate regions where there is at least *medium confidence* in an observed increase in heavy precipitation.

Panel (c) Agricultural and ecological droughts are assessed based on observed and simulated changes in total column soil moisture, complemented by evidence on changes in surface soil moisture, water balance (precipitation minus evapotranspiration) and indices driven by precipitation and atmospheric evaporative demand. Yellow hexagons indicate regions where there is at least *medium confidence* in an observed increase in this type of drought, and green hexagons indicate regions where there is at least *medium confidence* in an observed decrease in agricultural and ecological drought.

For all regions, Table TS.5 shows a broader range of observed changes besides the ones shown in this figure. Note that Southern South America (SSA) is the only region that does not display observed changes in the metrics shown in this figure, but is affected by observed increases in mean temperature, decreases in frost and increases in marine heatwaves.

{11.9, Atlas 1.3.3, Figure Atlas.2, Table TS.5; Box TS.10, Figure 1}

A.4 Improved knowledge of climate processes, paleoclimate evidence and the response of the climate system to increasing radiative forcing gives a best estimate of equilibrium climate sensitivity of 3°C, with a narrower range compared to AR5. {2.2, 7.3, 7.4, 7.5, Box 7.2, 9.4, 9.5, 9.6, Cross-Chapter Box 9.1}

A.4.1 Human-caused radiative forcing of 2.72 [1.96 to 3.48] W m^{-2} in 2019 relative to 1750 has warmed the climate system. This warming is mainly due to increased GHG concentrations, partly reduced by cooling due to increased aerosol concentrations. The radiative forcing has increased by 0.43 W m^{-2} (19%) relative to AR5, of which 0.34 W m^{-2} is due to the increase in GHG concentrations since 2011. The remainder is due to improved scientific understanding and changes in the assessment of aerosol forcing, which include decreases in concentration and improvement in its calculation (*high confidence*). {2.2, 7.3, TS.2.2, TS.3.1}

A.4.2 Human-caused net positive radiative forcing causes an accumulation of additional energy (heating) in the climate system, partly reduced by increased energy loss to space in response to surface warming. The observed average rate of heating of the climate system increased from 0.50 [0.32 to 0.69] W m^{-2} for the period 1971–2006[19] to 0.79 [0.52 to 1.06] W m^{-2} for the period 2006–2018[20] (*high confidence*). Ocean warming accounted for 91% of the heating in the climate system, with land warming, ice loss and atmospheric warming accounting for about 5%, 3% and 1%, respectively (*high confidence*). {7.2, Box 7.2, TS.3.1}

A.4.3 Heating of the climate system has caused global mean sea level rise through ice loss on land and thermal expansion from ocean warming. Thermal expansion explained 50% of sea level rise during 1971–2018, while ice loss from glaciers contributed 22%, ice sheets 20% and changes in land-water storage 8%. The rate of ice-sheet loss increased by a factor of four between 1992–1999 and 2010–2019. Together, ice-sheet and glacier mass loss were the dominant contributors to global mean sea level rise during 2006–2018 (*high confidence*). {9.4, 9.5, 9.6, Cross-Chapter Box 9.1}

A.4.4 The equilibrium climate sensitivity is an important quantity used to estimate how the climate responds to radiative forcing. Based on multiple lines of evidence,[21] the *very likely* range of equilibrium climate sensitivity is between 2°C (*high confidence*) and 5°C (*medium confidence*). The AR6 assessed best estimate is 3°C with a *likely* range of 2.5°C to 4°C (*high confidence*), compared to 1.5°C to 4.5°C in AR5, which did not provide a best estimate. {7.4, 7.5, TS.3.2}

19 Cumulative energy increase of 282 [177 to 387] ZJ over 1971–2006 (1 ZJ = 10^{21} joules).

20 Cumulative energy increase of 152 [100 to 205] ZJ over 2006–2018.

21 Understanding of climate processes, the instrumental record, paleoclimates and model-based emergent constraints (Glossary).

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B. Possible Climate Futures

A set of five new illustrative emissions scenarios is considered consistently across this Report to explore the climate response to a broader range of greenhouse gas (GHG), land-use and air pollutant futures than assessed in AR5. This set of scenarios drives climate model projections of changes in the climate system. These projections account for solar activity and background forcing from volcanoes. Results over the 21st century are provided for the near term (2021–2040), mid-term (2041–2060) and long term (2081–2100) relative to 1850–1900, unless otherwise stated.

Box SPM.1 | Scenarios, Climate Models and Projections

Box SPM.1.1: This Report assesses the climate response to five illustrative scenarios that cover the range of possible future development of anthropogenic drivers of climate change found in the literature. They start in 2015, and include scenarios[22] with high and very high GHG emissions (SSP3-7.0 and SSP5-8.5) and CO_2 emissions that roughly double from current levels by 2100 and 2050, respectively, scenarios with intermediate GHG emissions (SSP2-4.5) and CO_2 emissions remaining around current levels until the middle of the century, and scenarios with very low and low GHG emissions and CO_2 emissions declining to net zero around or after 2050, followed by varying levels of net negative CO_2 emissions[23] (SSP1-1.9 and SSP1-2.6), as illustrated in Figure SPM.4. Emissions vary between scenarios depending on socio-economic assumptions, levels of climate change mitigation and, for aerosols and non-methane ozone precursors, air pollution controls. Alternative assumptions may result in similar emissions and climate responses, but the socio-economic assumptions and the feasibility or likelihood of individual scenarios are not part of the assessment.
{1.6, Cross-Chapter Box 1.4, TS.1.3} (Figure SPM.4)

Box SPM.1.2: This Report assesses results from climate models participating in the Coupled Model Intercomparison Project Phase 6 (CMIP6) of the World Climate Research Programme. These models include new and better representations of physical, chemical and biological processes, as well as higher resolution, compared to climate models considered in previous IPCC assessment reports. This has improved the simulation of the recent mean state of most large-scale indicators of climate change and many other aspects across the climate system. Some differences from observations remain, for example in regional precipitation patterns. The CMIP6 historical simulations assessed in this Report have an ensemble mean global surface temperature change within 0.2°C of the observations over most of the historical period, and observed warming is within the *very likely* range of the CMIP6 ensemble. However, some CMIP6 models simulate a warming that is either above or below the assessed *very likely* range of observed warming.
{1.5, Cross-Chapter Box 2.2, 3.3, 3.8, TS.1.2, Cross-Section Box TS.1} (Figure SPM.1b, Figure SPM.2)

Box SPM.1.3: The CMIP6 models considered in this Report have a wider range of climate sensitivity than in CMIP5 models and the AR6 assessed *very likely* range, which is based on multiple lines of evidence. These CMIP6 models also show a higher average climate sensitivity than CMIP5 and the AR6 assessed best estimate. The higher CMIP6 climate sensitivity values compared to CMIP5 can be traced to an amplifying cloud feedback that is larger in CMIP6 by about 20%.
{Box 7.1, 7.3, 7.4, 7.5, TS.3.2}

Box SPM.1.4: For the first time in an IPCC report, assessed future changes in global surface temperature, ocean warming and sea level are constructed by combining multi-model projections with observational constraints based on past simulated warming, as well as the AR6 assessment of climate sensitivity. For other quantities, such robust methods do not yet exist to constrain the projections. Nevertheless, robust projected geographical patterns of many variables can be identified at a given level of global warming, common to all scenarios considered and independent of timing when the global warming level is reached.
{1.6, 4.3, 4.6, Box 4.1, 7.5, 9.2, 9.6, Cross-Chapter Box 11.1, Cross-Section Box TS.1}

22 Throughout this Report, the five illustrative scenarios are referred to as SSPx-y, where 'SSPx' refers to the Shared Socio-economic Pathway or 'SSP' describing the socio-economic trends underlying the scenario, and 'y' refers to the approximate level of radiative forcing (in watts per square metre, or W m^{-2}) resulting from the scenario in the year 2100. A detailed comparison to scenarios used in earlier IPCC reports is provided in Section TS.1.3, and Sections 1.6 and 4.6. The SSPs that underlie the specific forcing scenarios used to drive climate models are not assessed by WGI. Rather, the SSPx-y labelling ensures traceability to the underlying literature in which specific forcing pathways are used as input to the climate models. IPCC is neutral with regard to the assumptions underlying the SSPs, which do not cover all possible scenarios. Alternative scenarios may be considered or developed.

23 Net negative CO_2 emissions are reached when anthropogenic removals of CO_2 exceed anthropogenic emissions (Glossary).

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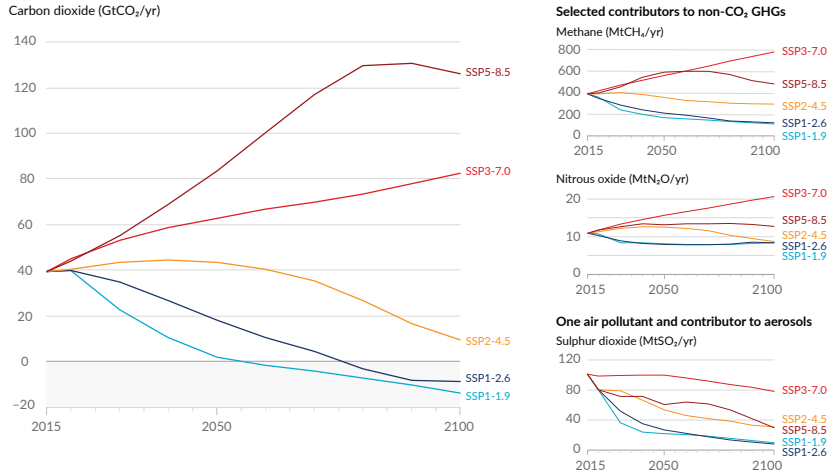
Box SPM.1 (continued)

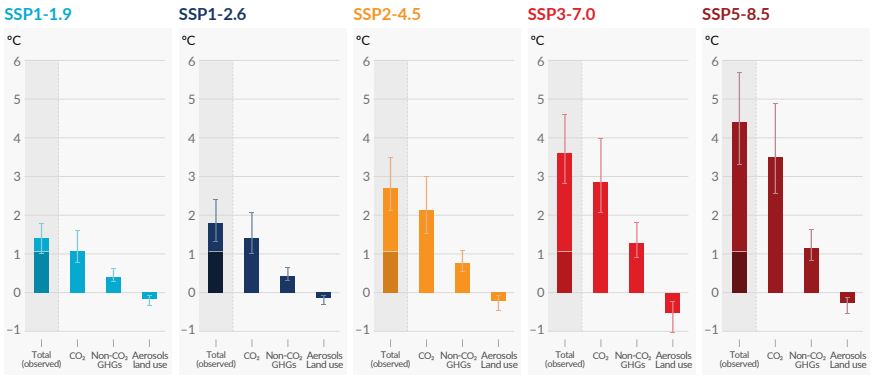
Future emissions cause future additional warming, with total warming dominated by past and future CO_2 emissions

(a) Future annual emissions of CO_2 (left) and of a subset of key non-CO_2 drivers (right), across five illustrative scenarios



(b) Contribution to global surface temperature increase from different emissions, with a dominant role of CO_2 emissions

Change in global surface temperature in 2081–2100 relative to 1850–1900 (°C)



Total warming (observed warming to date in darker shade), warming from CO_2, warming from non-CO_2 GHGs and cooling from changes in aerosols and land use

Figure SPM.4 | Future anthropogenic emissions of key drivers of climate change and warming contributions by groups of drivers for the five illustrative scenarios used in this report

The five scenarios are SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5.

Panel (a) Annual anthropogenic (human-caused) emissions over the 2015–2100 period. Shown are emissions trajectories for carbon dioxide (CO_2) from all sectors ($GtCO_2$/yr) (left graph) and for a subset of three key non-CO_2 drivers considered in the scenarios: methane (CH_4, $MtCH_4$/yr, top-right graph); nitrous oxide (N_2O, MtN_2O/yr, middle-right graph); and sulphur dioxide (SO_2, $MtSO_2$/yr, bottom-right graph, contributing to anthropogenic aerosols in panel (b).

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Panel (b) Warming contributions by groups of anthropogenic drivers and by scenario are shown as the change in global surface temperature (°C) in 2081–2100 relative to 1850–1900, with indication of the observed warming to date. Bars and whiskers represent median values and the *very likely* range, respectively. Within each scenario bar plot, the bars represent: total global warming (°C; 'total' bar) (see Table SPM.1); warming contributions (°C) from changes in CO_2 ('CO_2' bar) and from non-CO_2 greenhouse gases (GHGs; 'non-CO_2 GHGs' bar: comprising well-mixed greenhouse gases and ozone); and net cooling from other anthropogenic drivers ('aerosols and land use' bar: anthropogenic aerosols, changes in reflectance due to land-use and irrigation changes, and contrails from aviation) (see Figure SPM.2, panel c, for the warming contributions to date for individual drivers). The best estimate for observed warming in 2010–2019 relative to 1850–1900 (see Figure SPM.2, panel a) is indicated in the darker column in the 'total' bar. Warming contributions in panel (b) are calculated as explained in Table SPM.1 for the total bar. For the other bars, the contribution by groups of drivers is calculated with a physical climate emulator of global surface temperature that relies on climate sensitivity and radiative forcing assessments.
{Cross-Chapter Box 1.4; 4.6; Figure 4.35; 6.7; Figures 6.18, 6.22 and 6.24; 7.3; Cross-Chapter Box 7.1; Figure 7.7; Box TS.7; Figures TS.4 and TS.15}

B.1 Global surface temperature will continue to increase until at least mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO_2 and other greenhouse gas emissions occur in the coming decades. {2.3, Cross-Chapter Box 2.3, Cross-Chapter Box 2.4, 4.3, 4.4, 4.5} (Figure SPM.1, Figure SPM.4, Figure SPM.8, Table SPM.1, Box SPM.1)

B.1.1 Compared to 1850–1900, global surface temperature averaged over 2081–2100 is *very likely* to be higher by 1.0°C to 1.8°C under the very low GHG emissions scenario considered (SSP1-1.9), by 2.1°C to 3.5°C in the intermediate GHG emissions scenario (SSP2-4.5) and by 3.3°C to 5.7°C under the very high GHG emissions scenario (SSP5-8.5).[24] The last time global surface temperature was sustained at or above 2.5°C higher than 1850–1900 was over 3 million years ago (*medium confidence*).
{2.3, Cross-Chapter Box 2.4, 4.3, 4.5, Box TS.2, Box TS.4, Cross-Section Box TS.1} (Table SPM.1)

Table SPM.1 | Changes in global surface temperature, which are assessed based on multiple lines of evidence, for selected 20-year time periods and the five illustrative emissions scenarios considered. Temperature differences relative to the average global surface temperature of the period 1850–1900 are reported in °C. This includes the revised assessment of observed historical warming for the AR5 reference period 1986–2005, which in AR6 is higher by 0.08 [–0.01 to +0.12] °C than in AR5 (see footnote 10). Changes relative to the recent reference period 1995–2014 may be calculated approximately by subtracting 0.85°C, the best estimate of the observed warming from 1850–1900 to 1995–2014.
{Cross-Chapter Box 2.3, 4.3, 4.4, Cross-Section Box TS.1}

	Near term, 2021–2040		Mid-term, 2041–2060		Long term, 2081–2100	
Scenario	Best estimate (°C)	*Very likely* range (°C)	Best estimate (°C)	*Very likely* range (°C)	Best estimate (°C)	*Very likely* range (°C)
SSP1-1.9	1.5	1.2 to 1.7	1.6	1.2 to 2.0	1.4	1.0 to 1.8
SSP1-2.6	1.5	1.2 to 1.8	1.7	1.3 to 2.2	1.8	1.3 to 2.4
SSP2-4.5	1.5	1.2 to 1.8	2.0	1.6 to 2.5	2.7	2.1 to 3.5
SSP3-7.0	1.5	1.2 to 1.8	2.1	1.7 to 2.6	3.6	2.8 to 4.6
SSP5-8.5	1.6	1.3 to 1.9	2.4	1.9 to 3.0	4.4	3.3 to 5.7

B.1.2 Based on the assessment of multiple lines of evidence, global warming of 2°C, relative to 1850–1900, would be exceeded during the 21st century under the high and very high GHG emissions scenarios considered in this report (SSP3-7.0 and SSP5-8.5, respectively). Global warming of 2°C would *extremely likely* be exceeded in the intermediate GHG emissions scenario (SSP2-4.5). Under the very low and low GHG emissions scenarios, global warming of 2°C is *extremely unlikely* to be exceeded (SSP1-1.9) or *unlikely* to be exceeded (SSP1-2.6).[25] Crossing the 2°C global warming level in the mid-term period (2041–2060) is *very likely* to occur under the very high GHG emissions scenario (SSP5-8.5), *likely* to occur under the high GHG emissions scenario (SSP3-7.0), and *more likely than not* to occur in the intermediate GHG emissions scenario (SSP2-4.5).[26]
{4.3, Cross-Section Box TS.1} (Table SPM.1, Figure SPM.4, Box SPM.1)

24 Changes in global surface temperature are reported as running 20-year averages, unless stated otherwise.

25 SSP1-1.9 and SSP1-2.6 are scenarios that start in 2015 and have very low and low GHG emissions, respectively, and CO_2 emissions declining to net zero around or after 2050, followed by varying levels of net negative CO_2 emissions.

26 Crossing is defined here as having the assessed global surface temperature change, averaged over a 20-year period, exceed a particular global warming level.

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B.1.3 Global warming of 1.5°C relative to 1850–1900 would be exceeded during the 21st century under the intermediate, high and very high GHG emissions scenarios considered in this report (SSP2-4.5, SSP3-7.0 and SSP5-8.5, respectively). Under the five illustrative scenarios, in the near term (2021–2040), the 1.5°C global warming level is *very likely* to be exceeded under the very high GHG emissions scenario (SSP5-8.5), *likely* to be exceeded under the intermediate and high GHG emissions scenarios (SSP2-4.5 and SSP3-7.0), *more likely than not* to be exceeded under the low GHG emissions scenario (SSP1-2.6) and *more likely than not* to be reached under the very low GHG emissions scenario (SSP1-1.9).[27] Furthermore, for the very low GHG emissions scenario (SSP1-1.9), it is *more likely than not* that global surface temperature would decline back to below 1.5°C toward the end of the 21st century, with a temporary overshoot of no more than 0.1°C above 1.5°C global warming.
{4.3, Cross-Section Box TS.1} (Table SPM.1, Figure SPM.4)

B.1.4 Global surface temperature in any single year can vary above or below the long-term human-induced trend, due to substantial natural variability.[28] The occurrence of individual years with global surface temperature change above a certain level, for example 1.5°C or 2°C, relative to 1850–1900 does not imply that this global warming level has been reached.[29]
{Cross-Chapter Box 2.3, 4.3, 4.4, Box 4.1, Cross-Section Box TS.1} (Table SPM.1, Figure SPM.1, Figure SPM.8)

B.2 Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation, and, in some regions, agricultural and ecological droughts; an increase in the proportion of intense tropical cyclones; and reductions in Arctic sea ice, snow cover and permafrost.
{4.3, 4.5, 4.6, 7.4, 8.2, 8.4, Box 8.2, 9.3, 9.5, Box 9.2, 11.1, 11.2, 11.3, 11.4, 11.6, 11.7, 11.9, Cross-Chapter Box 11.1, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.4, Atlas.5, Atlas.6, Atlas.7, Atlas.8, Atlas.9, Atlas.10, Atlas.11} (Figure SPM.5, Figure SPM.6, Figure SPM.8)

B.2.1 It is *virtually certain* that the land surface will continue to warm more than the ocean surface (*likely* 1.4 to 1.7 times more). It is *virtually certain* that the Arctic will continue to warm more than global surface temperature, with *high confidence* above two times the rate of global warming.
{2.3, 4.3, 4.5, 4.6, 7.4, 11.1, 11.3, 11.9, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.4, Atlas.5, Atlas.6, Atlas.7, Atlas.8, Atlas.9, Atlas.10, Atlas.11, Cross-Section Box TS.1, TS.2.6} (Figure SPM.5)

B.2.2 With every additional increment of global warming, changes in extremes continue to become larger. For example, every additional 0.5°C of global warming causes clearly discernible increases in the intensity and frequency of hot extremes, including heatwaves (*very likely*), and heavy precipitation (*high confidence*), as well as agricultural and ecological droughts[30] in some regions (*high confidence*). Discernible changes in intensity and frequency of meteorological droughts, with more regions showing increases than decreases, are seen in some regions for every additional 0.5°C of global warming (*medium confidence*). Increases in frequency and intensity of hydrological droughts become larger with increasing global warming in some regions (*medium confidence*). There will be an increasing occurrence of some extreme events unprecedented in the observational record with additional global warming, even at 1.5°C of global warming. Projected percentage changes in frequency are larger for rarer events (*high confidence*).
{8.2, 11.2, 11.3, 11.4, 11.6, 11.9, Cross-Chapter Box 11.1, Cross-Chapter Box 12.1, TS.2.6} (Figure SPM.5, Figure SPM.6)

B.2.3 Some mid-latitude and semi-arid regions, and the South American Monsoon region, are projected to see the highest increase in the temperature of the hottest days, at about 1.5 to 2 times the rate of global warming (*high confidence*). The Arctic is projected to experience the highest increase in the temperature of the coldest days, at about three times the rate of global warming (*high confidence*). With additional global warming, the frequency of marine heatwaves will continue to increase (*high confidence*), particularly in the tropical ocean and the Arctic (*medium confidence*).
{Box 9.2, 11.1, 11.3, 11.9, Cross-Chapter Box 11.1, Cross-Chapter Box 12.1, 12.4, TS.2.4, TS.2.6} (Figure SPM.6)

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27 The AR6 assessment of when a given global warming level is first exceeded benefits from the consideration of the illustrative scenarios, the multiple lines of evidence entering the assessment of future global surface temperature response to radiative forcing, and the improved estimate of historical warming. The AR6 assessment is thus not directly comparable to the SR1.5 SPM, which reported *likely* reaching 1.5°C global warming between 2030 and 2052, from a simple linear extrapolation of warming rates of the recent past. When considering scenarios similar to SSP1-1.9 instead of linear extrapolation, the SR1.5 estimate of when 1.5°C global warming is first exceeded is close to the best estimate reported here.

28 Natural variability refers to climatic fluctuations that occur without any human influence, that is, internal variability combined with the response to external natural factors such as volcanic eruptions, changes in solar activity and, on longer time scales, orbital effects and plate tectonics (Glossary).

29 The internal variability in any single year is estimated to be about ±0.25°C (5–95% range, *high confidence*).

30 Projected changes in agricultural and ecological droughts are primarily assessed based on total column soil moisture. See footnote 15 for definition and relation to precipitation and evapotranspiration.

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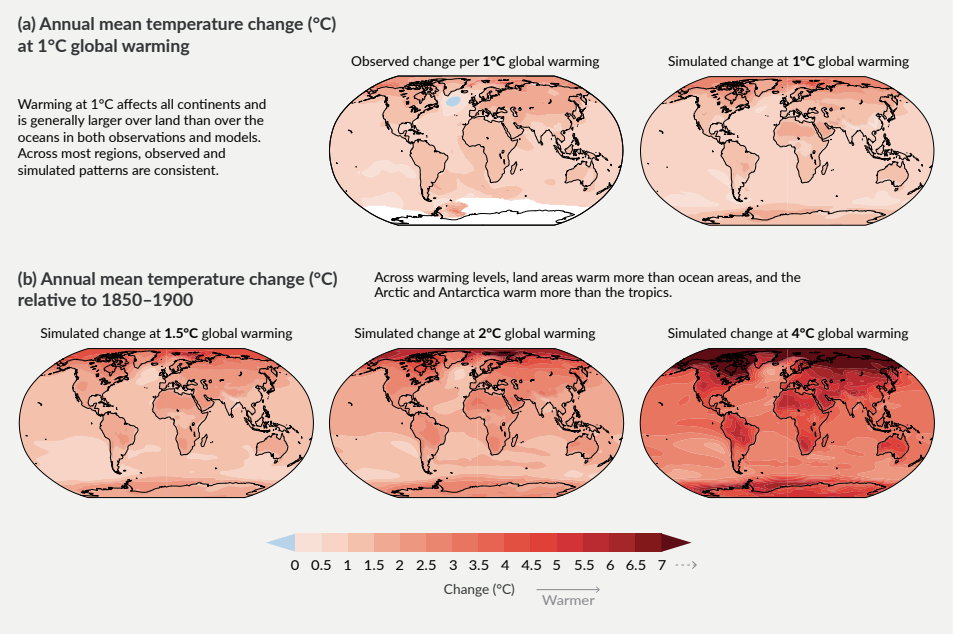
B.2.4 It is *very likely* that heavy precipitation events will intensify and become more frequent in most regions with additional global warming. At the global scale, extreme daily precipitation events are projected to intensify by about 7% for each 1°C of global warming (*high confidence*). The proportion of intense tropical cyclones (Category 4–5) and peak wind speeds of the most intense tropical cyclones are projected to increase at the global scale with increasing global warming (*high confidence*). {8.2, 11.4, 11.7, 11.9, Cross-Chapter Box 11.1, Box TS.6, TS.4.3.1} (Figure SPM.5, Figure SPM.6)

B.2.5 Additional warming is projected to further amplify permafrost thawing and loss of seasonal snow cover, of land ice and of Arctic sea ice (*high confidence*). The Arctic is *likely* to be practically sea ice-free in September[31] at least once before 2050 under the five illustrative scenarios considered in this report, with more frequent occurrences for higher warming levels. There is *low confidence* in the projected decrease of Antarctic sea ice. {4.3, 4.5, 7.4, 8.2, 8.4, Box 8.2, 9.3, 9.5, 12.4, Cross-Chapter Box 12.1, Atlas.5, Atlas.6, Atlas.8, Atlas.9, Atlas.11, TS.2.5} (Figure SPM.8)

With every increment of global warming, changes get larger in regional mean temperature, precipitation and soil moisture



31 Monthly average sea ice area of less than 1 million km², which is about 15% of the average September sea ice area observed in 1979–1988.

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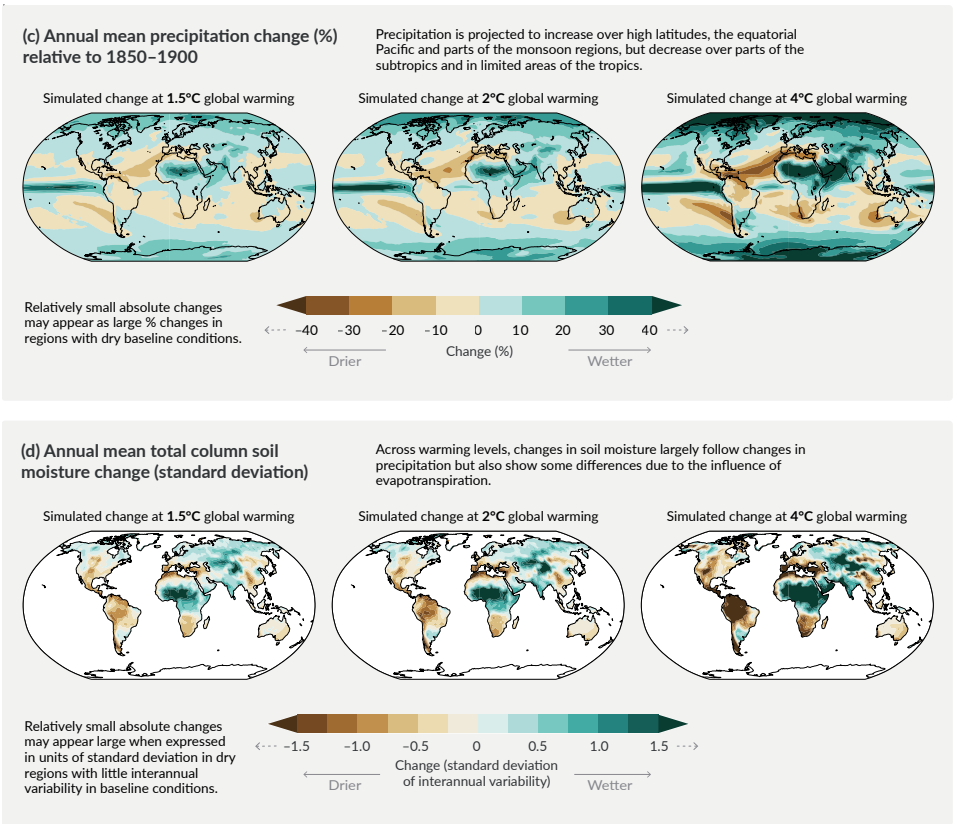

Figure SPM.5 | Changes in annual mean surface temperature, precipitation, and soil moisture

Panel (a) Comparison of observed and simulated annual mean surface temperature change. The **left map** shows the observed changes in annual mean surface temperature in the period 1850–2020 per °C of global warming (°C). The local (i.e., grid point) observed annual mean surface temperature changes are linearly regressed against the global surface temperature in the period 1850–2020. Observed temperature data are from Berkeley Earth, the dataset with the largest coverage and highest horizontal resolution. Linear regression is applied to all years for which data at the corresponding grid point is available. The regression method was used to take into account the complete observational time series and thereby reduce the role of internal variability at the grid point level. White indicates areas where time coverage was 100 years or less and thereby too short to calculate a reliable linear regression. The **right map** is based on model simulations and shows change in annual multi-model mean simulated temperatures at a global warming level of 1°C (20-year mean global surface temperature change relative to 1850–1900). The triangles at each end of the colour bar indicate out-of-bound values, that is, values above or below the given limits.

Panel (b) Simulated annual mean temperature change (°C), panel (c) precipitation change (%), and panel (d) total column soil moisture change (standard deviation of interannual variability) at global warming levels of 1.5°C, 2°C and 4°C (20-year mean global surface temperature change relative to 1850–1900). Simulated changes correspond to Coupled Model Intercomparison Project Phase 6 (CMIP6) multi-model mean change (median change for soil moisture) at the corresponding global warming level, that is, the same method as for the right map in panel (a).

In **panel (c)**, high positive percentage changes in dry regions may correspond to small absolute changes. In **panel (d)**, the unit is the standard deviation of interannual variability in soil moisture during 1850–1900. Standard deviation is a widely used metric in characterizing drought severity. A projected reduction in mean soil moisture by one standard deviation corresponds to soil moisture conditions typical of droughts that occurred about once every six years during 1850–1900. In panel (d), large changes in dry regions with little interannual variability in the baseline conditions can correspond to small absolute change. The triangles at each end of the colour bars indicate out-of-bound values, that is, values above or below the given limits. Results from all models reaching the corresponding warming level in any of the five illustrative scenarios (SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5) are averaged. Maps of annual mean temperature and precipitation changes at a global warming level of 3°C are available in Figure 4.31 and Figure 4.32 in Section 4.6. Corresponding maps of panels (b), (c) and (d), including hatching to indicate the level of model agreement at grid-cell level, are found in Figures 4.31, 4.32 and 11.19, respectively; as highlighted in Cross-Chapter Box Atlas.1, grid-cell level hatching is not informative for larger spatial scales (e.g., over AR6 reference regions) where the aggregated signals are less affected by small-scale variability, leading to an increase in robustness.

{Figure 1.14, 4.6.1, Cross-Chapter Box 11.1, Cross-Chapter Box Atlas.1, TS.1.3.2, Figures TS.3 and TS.5}

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Projected changes in extremes are larger in frequency and intensity with every additional increment of global warming

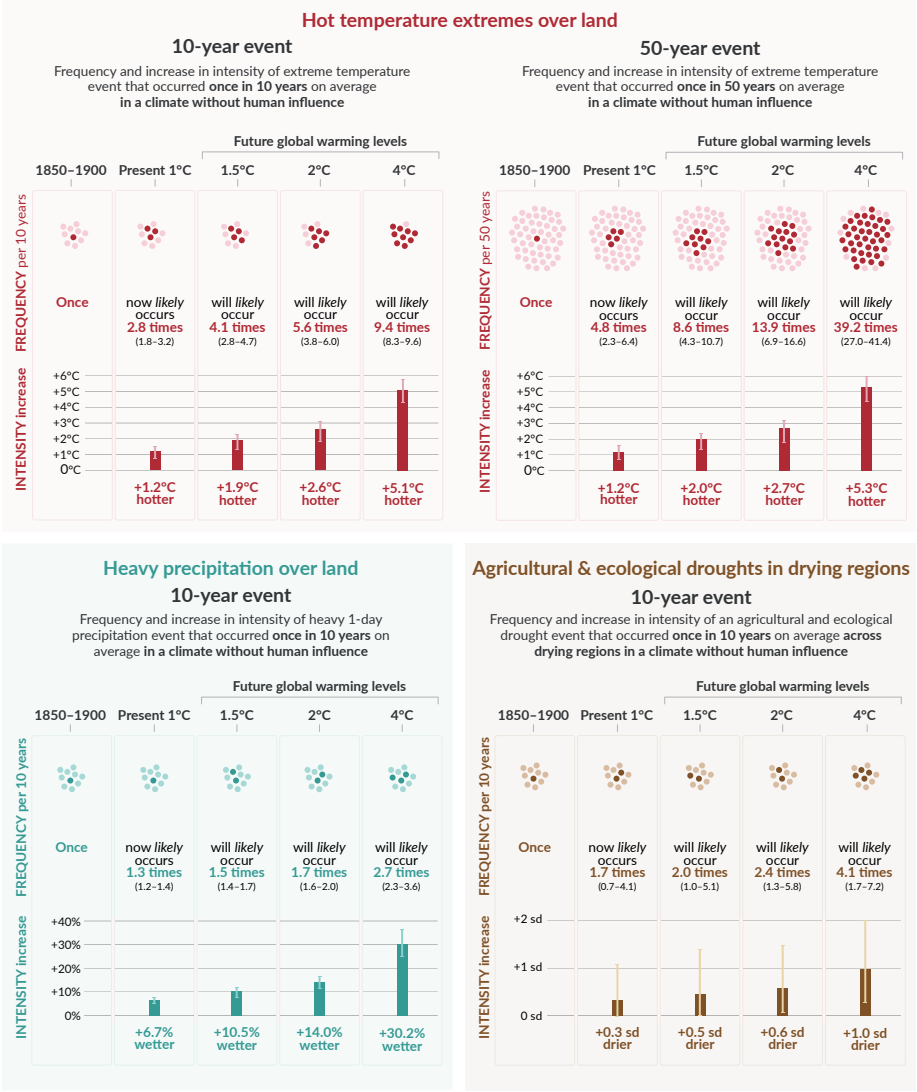

Figure SPM.6 | Projected changes in the intensity and frequency of hot temperature extremes over land, extreme precipitation over land, and agricultural and ecological droughts in drying regions

Projected changes are shown at global warming levels of 1°C, 1.5°C, 2°C, and 4°C and are relative to 1850–1900,[9] representing a climate without human influence. The figure depicts frequencies and increases in intensity of 10- or 50-year extreme events from the base period (1850–1900) under different global warming levels.

Hot temperature extremes are defined as the daily maximum temperatures over land that were exceeded on average once in a decade (10-year event) or once in 50 years (50-year event) during the 1850–1900 reference period. **Extreme precipitation events** are defined as the daily precipitation amount over land that

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was exceeded on average once in a decade during the 1850–1900 reference period. **Agricultural and ecological drought events** are defined as the annual average of total column soil moisture below the 10th percentile of the 1850–1900 base period. These extremes are defined on model grid box scale. For hot temperature extremes and extreme precipitation, results are shown for the global land. For agricultural and ecological drought, results are shown for drying regions only, which correspond to the AR6 regions in which there is at least *medium confidence* in a projected increase in agricultural and ecological droughts at the 2°C warming level compared to the 1850–1900 base period in the Coupled Model Intercomparison Project Phase 6 (CMIP6). These regions include Western North America, Central North America, Northern Central America, Southern Central America, Caribbean, Northern South America, North-Eastern South America, South American Monsoon, South-Western South America, Southern South America, Western and Central Europe, Mediterranean, West Southern Africa, East Southern Africa, Madagascar, Eastern Australia, and Southern Australia (Caribbean is not included in the calculation of the figure because of the too-small number of full land grid cells). The non-drying regions do not show an overall increase or decrease in drought severity. Projections of changes in agricultural and ecological droughts in the CMIP Phase 5 (CMIP5) multi-model ensemble differ from those in CMIP6 in some regions, including in parts of Africa and Asia. Assessments of projected changes in meteorological and hydrological droughts are provided in Chapter 11.

In the **'frequency' section**, each year is represented by a dot. The dark dots indicate years in which the extreme threshold is exceeded, while light dots are years when the threshold is not exceeded. Values correspond to the medians (in bold) and their respective *likely* ranges based on the 5–95% range of the multi-model ensemble from simulations of CMIP6 under different Shared Socio-economic Pathway scenarios. For consistency, the number of dark dots is based on the rounded-up median. In the **'intensity' section**, medians and their *likely* ranges, also based on the 5–95% range of the multi-model ensemble from simulations of CMIP6, are displayed as dark and light bars, respectively. Changes in the intensity of hot temperature extremes and extreme precipitation are expressed as degree Celsius and percentage. As for agricultural and ecological drought, intensity changes are expressed as fractions of standard deviation of annual soil moisture.

{11.1; 11.3; 11.4; 11.6; 11.9; Figures 11.12, 11.15, 11.6, 11.7, and 11.18}

B.3 Continued global warming is projected to further intensify the global water cycle, including its variability, global monsoon precipitation and the severity of wet and dry events.
{4.3, 4.4, 4.5, 4.6, 8.2, 8.3, 8.4, 8.5, Box 8.2, 11.4, 11.6, 11.9, 12.4, Atlas.3} (Figure SPM.5, Figure SPM.6)

B.3.1 There is strengthened evidence since AR5 that the global water cycle will continue to intensify as global temperatures rise (*high confidence*), with precipitation and surface water flows projected to become more variable over most land regions within seasons (*high confidence*) and from year to year (*medium confidence*). The average annual global land precipitation is projected to increase by 0–5% under the very low GHG emissions scenario (SSP1-1.9), 1.5–8% for the intermediate GHG emissions scenario (SSP2-4.5) and 1–13% under the very high GHG emissions scenario (SSP5-8.5) by 2081–2100 relative to 1995–2014 (*likely* ranges). Precipitation is projected to increase over high latitudes, the equatorial Pacific and parts of the monsoon regions, but decrease over parts of the subtropics and limited areas in the tropics in SSP2-4.5, SSP3-7.0 and SSP5-8.5 (*very likely*). The portion of the global land experiencing detectable increases or decreases in seasonal mean precipitation is projected to increase (*medium confidence*). There is *high confidence* in an earlier onset of spring snowmelt, with higher peak flows at the expense of summer flows in snow-dominated regions globally.
{4.3, 4.5, 4.6, 8.2, 8.4, Atlas.3, TS.2.6, TS.4.3, Box TS.6} (Figure SPM.5)

B.3.2 A warmer climate will intensify very wet and very dry weather and climate events and seasons, with implications for flooding or drought (*high confidence*), but the location and frequency of these events depend on projected changes in regional atmospheric circulation, including monsoons and mid-latitude storm tracks. It is *very likely* that rainfall variability related to the El Niño–Southern Oscillation is projected to be amplified by the second half of the 21st century in the SSP2-4.5, SSP3-7.0 and SSP5-8.5 scenarios.
{4.3, 4.5, 4.6, 8.2, 8.4, 8.5, 11.4, 11.6, 11.9, 12.4, TS.2.6, TS.4.2, Box TS.6} (Figure SPM.5, Figure SPM.6)

B.3.3 Monsoon precipitation is projected to increase in the mid- to long term at the global scale, particularly over South and South East Asia, East Asia and West Africa apart from the far west Sahel (*high confidence*). The monsoon season is projected to have a delayed onset over North and South America and West Africa (*high confidence*) and a delayed retreat over West Africa (*medium confidence*).
{4.4, 4.5, 8.2, 8.3, 8.4, Box 8.2, Box TS.13}

B.3.4 A projected southward shift and intensification of Southern Hemisphere summer mid-latitude storm tracks and associated precipitation is *likely* in the long term under high GHG emissions scenarios (SSP3-7.0, SSP5-8.5), but in the near term the effect of stratospheric ozone recovery counteracts these changes (*high confidence*). There is *medium confidence* in a continued poleward shift of storms and their precipitation in the North Pacific, while there is *low confidence* in projected changes in the North Atlantic storm tracks.
{4.4, 4.5, 8.4, TS.2.3, TS.4.2}

B.4 Under scenarios with increasing CO_2 emissions, the ocean and land carbon sinks are projected to be less effective at slowing the accumulation of CO_2 in the atmosphere.
{4.3, 5.2, 5.4, 5.5, 5.6} (Figure SPM.7)

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B.4.1 While natural land and ocean carbon sinks are projected to take up, in absolute terms, a progressively larger amount of CO_2 under higher compared to lower CO_2 emissions scenarios, they become less effective, that is, the proportion of emissions taken up by land and ocean decrease with increasing cumulative CO_2 emissions. This is projected to result in a higher proportion of emitted CO_2 remaining in the atmosphere (*high confidence*).
{5.2, 5.4, Box TS.5} (Figure SPM.7)

B.4.2 Based on model projections, under the intermediate GHG emissions scenario that stabilizes atmospheric CO_2 concentrations this century (SSP2-4.5), the rates of CO_2 taken up by the land and ocean are projected to decrease in the second half of the 21st century (*high confidence*). Under the very low and low GHG emissions scenarios (SSP1-1.9, SSP1-2.6), where CO_2 concentrations peak and decline during the 21st century, the land and ocean begin to take up less carbon in response to declining atmospheric CO_2 concentrations (*high confidence*) and turn into a weak net source by 2100 under SSP1-1.9 (*medium confidence*). It is *very unlikely* that the combined global land and ocean sink will turn into a source by 2100 under scenarios without net negative emissions (SSP2-4.5, SSP3-7.0, SSP5-8.5).[32]
{4.3, 5.4, 5.5, 5.6, Box TS.5, TS.3.3}

B.4.3 The magnitude of feedbacks between climate change and the carbon cycle becomes larger but also more uncertain in high CO_2 emissions scenarios (*very high confidence*). However, climate model projections show that the uncertainties in atmospheric CO_2 concentrations by 2100 are dominated by the differences between emissions scenarios (*high confidence*). Additional ecosystem responses to warming not yet fully included in climate models, such as CO_2 and CH_4 fluxes from wetlands, permafrost thaw and wildfires, would further increase concentrations of these gases in the atmosphere (*high confidence*).
{5.4, Box TS.5, TS.3.2}

The proportion of CO_2 emissions taken up by land and ocean carbon sinks is smaller in scenarios with higher cumulative CO_2 emissions

Total cumulative CO_2 emissions **taken up by land and ocean** (colours) and remaining in the atmosphere (grey) under the five illustrative scenarios from 1850 to 2100

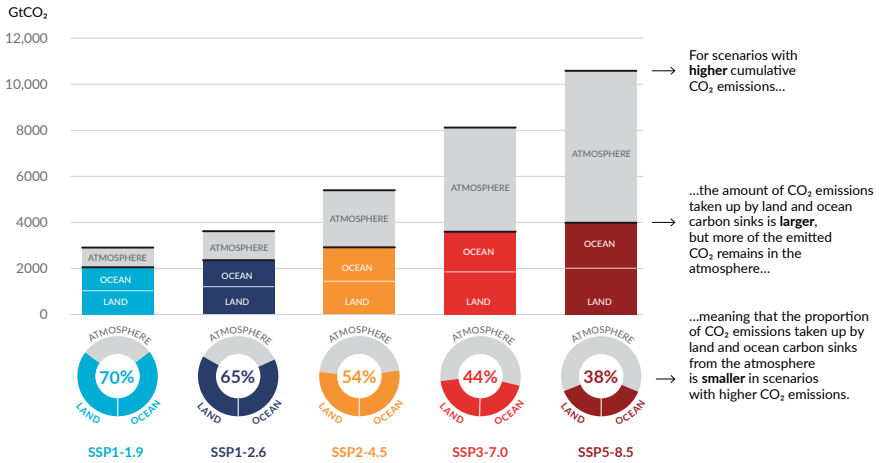

Figure SPM.7 | Cumulative anthropogenic CO_2 emissions taken up by land and ocean sinks by 2100 under the five illustrative scenarios

The cumulative anthropogenic (human-caused) carbon dioxide (CO_2) emissions taken up by the land and ocean sinks under the five illustrative scenarios (SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5) are simulated from 1850 to 2100 by Coupled Model Intercomparison Project Phase 6 (CMIP6) climate models in the concentration-driven simulations. Land and ocean carbon sinks respond to past, current and future emissions; therefore, cumulative sinks from 1850 to 2100 are presented here. During the historical period (1850–2019) the observed land and ocean sink took up 1430 $GtCO_2$ (59% of the emissions).

32 These projected adjustments of carbon sinks to stabilization or decline of atmospheric CO_2 are accounted for in calculations of remaining carbon budgets.

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The bar chart illustrates the projected amount of cumulative anthropogenic CO_2 emissions ($GtCO_2$) between 1850 and 2100 remaining in the atmosphere (grey part) and taken up by the land and ocean (coloured part) in the year 2100. **The doughnut chart** illustrates the proportion of the cumulative anthropogenic CO_2 emissions taken up by the land and ocean sinks and remaining in the atmosphere in the year 2100. Values in % indicate the proportion of the cumulative anthropogenic CO_2 emissions taken up by the combined land and ocean sinks in the year 2100. The overall anthropogenic carbon emissions are calculated by adding the net global land-use emissions from the CMIP6 scenario database to the other sectoral emissions calculated from climate model runs with prescribed CO_2 concentrations.[33] Land and ocean CO_2 uptake since 1850 is calculated from the net biome productivity on land, corrected for CO_2 losses due to land-use change by adding the land-use change emissions, and net ocean CO_2 flux.

{5.2.1; Table 5.1; 5.4.5; Figure 5.25; Box TS.5; Box TS.5, Figure 1}

B.5 Many changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level. {2.3, Cross-Chapter Box 2.4, 4.3, 4.5, 4.7, 5.3, 9.2, 9.4, 9.5, 9.6, Box 9.4} (Figure SPM.8)

B.5.1 Past GHG emissions since 1750 have committed the global ocean to future warming (*high confidence*). Over the rest of the 21st century, *likely* ocean warming ranges from 2–4 (SSP1-2.6) to 4–8 times (SSP5-8.5) the 1971–2018 change. Based on multiple lines of evidence, upper ocean stratification (*virtually certain*), ocean acidification (*virtually certain*) and ocean deoxygenation (*high confidence*) will continue to increase in the 21st century, at rates dependent on future emissions. Changes are irreversible on centennial to millennial time scales in global ocean temperature (*very high confidence*), deep-ocean acidification (*very high confidence*) and deoxygenation (*medium confidence*).
{4.3, 4.5, 4.7, 5.3, 9.2, TS.2.4} (Figure SPM.8)

B.5.2 Mountain and polar glaciers are committed to continue melting for decades or centuries (*very high confidence*). Loss of permafrost carbon following permafrost thaw is irreversible at centennial time scales (*high confidence*). Continued ice loss over the 21st century is *virtually certain* for the Greenland Ice Sheet and *likely* for the Antarctic Ice Sheet. There is *high confidence* that total ice loss from the Greenland Ice Sheet will increase with cumulative emissions. There is *limited evidence* for low-likelihood, high-impact outcomes (resulting from ice-sheet instability processes characterized by deep uncertainty and in some cases involving tipping points) that would strongly increase ice loss from the Antarctic Ice Sheet for centuries under high GHG emissions scenarios.[34]
{4.3, 4.7, 5.4, 9.4, 9.5, Box 9.4, Box TS.1, TS.2.5}

B.5.3 It is *virtually certain* that global mean sea level will continue to rise over the 21st century. Relative to 1995–2014, the *likely* global mean sea level rise by 2100 is 0.28–0.55 m under the very low GHG emissions scenario (SSP1-1.9); 0.32–0.62 m under the low GHG emissions scenario (SSP1-2.6); 0.44–0.76 m under the intermediate GHG emissions scenario (SSP2-4.5); and 0.63–1.01 m under the very high GHG emissions scenario (SSP5-8.5); and by 2150 is 0.37–0.86 m under the very low scenario (SSP1-1.9); 0.46–0.99 m under the low scenario (SSP1-2.6); 0.66–1.33 m under the intermediate scenario (SSP2-4.5); and 0.98–1.88 m under the very high scenario (SSP5-8.5) (*medium confidence*).[35] Global mean sea level rise above the *likely* range – approaching 2 m by 2100 and 5 m by 2150 under a very high GHG emissions scenario (SSP5-8.5) (*low confidence*) – cannot be ruled out due to deep uncertainty in ice-sheet processes.
{4.3, 9.6, Box 9.4, Box TS.4} (Figure SPM.8)

B.5.4 In the longer term, sea level is committed to rise for centuries to millennia due to continuing deep-ocean warming and ice-sheet melt and will remain elevated for thousands of years (*high confidence*). Over the next 2000 years, global mean sea level will rise by about 2 to 3 m if warming is limited to 1.5°C, 2 to 6 m if limited to 2°C and 19 to 22 m with 5°C of warming, and it will continue to rise over subsequent millennia (*low confidence*). Projections of multi-millennial global mean sea level rise are consistent with reconstructed levels during past warm climate periods: *likely* 5–10 m higher than today around 125,000 years ago, when global temperatures were *very likely* 0.5°C–1.5°C higher than 1850–1900; and *very likely* 5–25 m higher roughly 3 million years ago, when global temperatures were 2.5°C–4°C higher (*medium confidence*).
{2.3, Cross-Chapter Box 2.4, 9.6, Box TS.2, Box TS.4, Box TS.9}

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33 The other sectoral emissions are calculated as the residual of the net land and ocean CO_2 uptake and the prescribed atmospheric CO_2 concentration changes in the CMIP6 simulations. These calculated emissions are net emissions and do not separate gross anthropogenic emissions from removals, which are included implicitly.

34 Low-likelihood, high-impact outcomes are those whose probability of occurrence is low or not well known (as in the context of deep uncertainty) but whose potential impacts on society and ecosystems could be high. A tipping point is a critical threshold beyond which a system reorganizes, often abruptly and/or irreversibly. (Glossary) {1.4, Cross-Chapter Box 1.3, 4.7}

35 To compare to the 1986–2005 baseline period used in AR5 and SROCC, add 0.03 m to the global mean sea level rise estimates. To compare to the 1900 baseline period used in Figure SPM.8, add 0.16 m.

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Human activities affect all the major climate system components, with some responding over decades and others over centuries

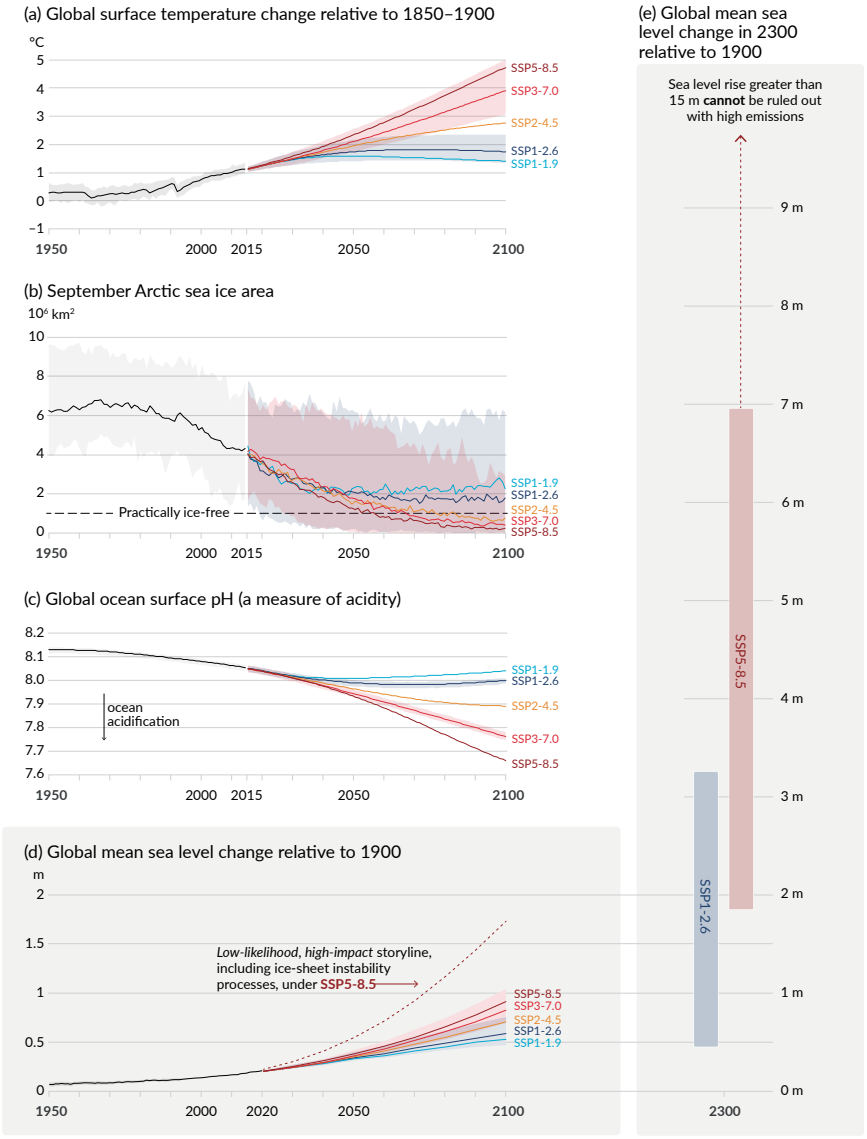

Figure SPM.8 | Selected indicators of global climate change under the five illustrative scenarios used in this Report

The projections for each of the five scenarios are shown in colour. Shades represent uncertainty ranges – more detail is provided for each panel below. The black curves represent the historical simulations (panels a, b, c) or the observations (panel d). Historical values are included in all graphs to provide context for the projected future changes.

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Panel (a) Global surface temperature changes in °C relative to 1850–1900. These changes were obtained by combining Coupled Model Intercomparison Project Phase 6 (CMIP6) model simulations with observational constraints based on past simulated warming, as well as an updated assessment of equilibrium climate sensitivity (see Box SPM.1). Changes relative to 1850–1900 based on 20-year averaging periods are calculated by adding 0.85°C (the observed global surface temperature increase from 1850–1900 to 1995–2014) to simulated changes relative to 1995–2014. *Very likely* ranges are shown for SSP1-2.6 and SSP3-7.0.

Panel (b) September Arctic sea ice area in 10^6 km^2 based on CMIP6 model simulations. *Very likely* ranges are shown for SSP1-2.6 and SSP3-7.0. The Arctic is projected to be practically ice-free near mid-century under intermediate and high GHG emissions scenarios.

Panel (c) Global ocean surface pH (a measure of acidity) based on CMIP6 model simulations. *Very likely* ranges are shown for SSP1-2.6 and SSP3-7.0.

Panel (d) Global mean sea level change in metres, relative to 1900. The historical changes are observed (from tide gauges before 1992 and altimeters afterwards), and the future changes are assessed consistently with observational constraints based on emulation of CMIP, ice-sheet, and glacier models. *Likely* ranges are shown for SSP1-2.6 and SSP3-7.0. Only *likely* ranges are assessed for sea level changes due to difficulties in estimating the distribution of deeply uncertain processes. The dashed curve indicates the potential impact of these deeply uncertain processes. It shows the 83rd percentile of SSP5-8.5 projections that include low-likelihood, high-impact ice-sheet processes that cannot be ruled out; because of *low confidence* in projections of these processes, this curve does not constitute part of a *likely* range. Changes relative to 1900 are calculated by adding 0.158 m (observed global mean sea level rise from 1900 to 1995–2014) to simulated and observed changes relative to 1995–2014.

Panel (e) Global mean sea level change at 2300 in metres relative to 1900. Only SSP1-2.6 and SSP5-8.5 are projected at 2300, as simulations that extend beyond 2100 for the other scenarios are too few for robust results. The 17th–83rd percentile ranges are shaded. The dashed arrow illustrates the 83rd percentile of SSP5-8.5 projections that include low-likelihood, high-impact ice-sheet processes that cannot be ruled out.

Panels (b) and (c) are based on single simulations from each model, and so include a component of internal variability. Panels (a), (d) and (e) are based on long-term averages, and hence the contributions from internal variability are small.

{4.3; Figures 4.2, 4.8, and 4.11; 9.6; Figure 9.27; Figures TS.8 and TS.11; Box TS.4, Figure 1}

C. Climate Information for Risk Assessment and Regional Adaptation

Physical climate information addresses how the climate system responds to the interplay between human influence, natural drivers and internal variability. Knowledge of the climate response and the range of possible outcomes, including low-likelihood, high impact outcomes, informs climate services, the assessment of climate-related risks, and adaptation planning. Physical climate information at global, regional and local scales is developed from multiple lines of evidence, including observational products, climate model outputs and tailored diagnostics.

C.1 Natural drivers and internal variability will modulate human-caused changes, especially at regional scales and in the near term, with little effect on centennial global warming. These modulations are important to consider in planning for the full range of possible changes.
{1.4, 2.2, 3.3, Cross-Chapter Box 3.1, 4.4, 4.6, Cross-Chapter Box 4.1, Box 7.2, 8.3, 8.5, 9.2, 10.3, 10.4, 10.6, 11.3, 12.5, Atlas.4, Atlas.5, Atlas.8, Atlas.9, Atlas.10, Atlas.11, Cross-Chapter Box Atlas.2}

C.1.1 The historical global surface temperature record highlights that decadal variability has both enhanced and masked underlying human-caused long-term changes, and this variability will continue into the future (*very high confidence*). For example, internal decadal variability and variations in solar and volcanic drivers partially masked human-caused surface global warming during 1998–2012, with pronounced regional and seasonal signatures (*high confidence*). Nonetheless, the heating of the climate system continued during this period, as reflected in both the continued warming of the global ocean (*very high confidence*) and in the continued rise of hot extremes over land (*medium confidence*).
{1.4, 3.3, Cross-Chapter Box 3.1, 4.4, Box 7.2, 9.2, 11.3, Cross-Section Box TS.1} (Figure SPM.1)

C.1.2 Projected human-caused changes in mean climate and climatic impact-drivers (CIDs),[36] including extremes, will be either amplified or attenuated by internal variability (*high confidence*).[37] Near-term cooling at any particular location with respect to present climate could occur and would be consistent with the global surface temperature increase due to human influence (*high confidence*).
{1.4, 4.4, 4.6, 10.4, 11.3, 12.5, Atlas.5, Atlas.10, Atlas.11, TS.4.2}

36 Climatic impact-drivers (CIDs) are physical climate system conditions (e.g., means, events, extremes) that affect an element of society or ecosystems. Depending on system tolerance, CIDs and their changes can be detrimental, beneficial, neutral, or a mixture of each across interacting system elements and regions (Glossary). CID types include heat and cold, wet and dry, wind, snow and ice, coastal and open ocean.

37 The main internal variability phenomena include El Niño–Southern Oscillation, Pacific Decadal Variability and Atlantic Multi-decadal Variability through their regional influence.

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C.1.3 Internal variability has largely been responsible for the amplification and attenuation of the observed human-caused decadal-to-multi-decadal mean precipitation changes in many land regions (*high confidence*). At global and regional scales, near-term changes in monsoons will be dominated by the effects of internal variability (*medium confidence*). In addition to the influence of internal variability, near-term projected changes in precipitation at global and regional scales are uncertain because of model uncertainty and uncertainty in forcings from natural and anthropogenic aerosols (*medium confidence*).
{1.4, 4.4, 8.3, 8.5, 10.3, 10.4, 10.5, 10.6, Atlas.4, Atlas.8, Atlas.9, Atlas.10, Atlas.11, Cross-Chapter Box Atlas.2, TS.4.2, Box TS.6, Box TS.13}

C.1.4 Based on paleoclimate and historical evidence, it is *likely* that at least one large explosive volcanic eruption would occur during the 21st century.[38] Such an eruption would reduce global surface temperature and precipitation, especially over land, for one to three years, alter the global monsoon circulation, modify extreme precipitation and change many CIDs (*medium confidence*). If such an eruption occurs, this would therefore temporarily and partially mask human-caused climate change.
{2.2, 4.4, Cross-Chapter Box 4.1, 8.5, TS.2.1}

C.2 With further global warming, every region is projected to increasingly experience concurrent and multiple changes in climatic impact-drivers. Changes in several climatic impact-drivers would be more widespread at 2°C compared to 1.5°C global warming and even more widespread and/or pronounced for higher warming levels.
{8.2, 9.3, 9.5, 9.6, Box 10.3, 11.3, 11.4, 11.5, 11.6, 11.7, 11.9, Box 11.3, Box 11.4, Cross-Chapter Box 11.1, 12.2, 12.3, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.4, Atlas.5, Atlas.6, Atlas.7, Atlas.8, Atlas.9, Atlas.10, Atlas.11} (Table SPM.1, Figure SPM.9)

C.2.1 All regions[39] are projected to experience further increases in hot climatic impact-drivers (CIDs) and decreases in cold CIDs (*high confidence*). Further decreases are projected in permafrost; snow, glaciers and ice sheets; and lake and Arctic sea ice (*medium* to *high confidence*).[40] These changes would be larger at 2°C global warming or above than at 1.5°C (*high confidence*). For example, extreme heat thresholds relevant to agriculture and health are projected to be exceeded more frequently at higher global warming levels (*high confidence*).
{9.3, 9.5, 11.3, 11.9, Cross-Chapter Box 11.1, 12.3, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.4, Atlas.5, Atlas.6, Atlas.7, Atlas.8, Atlas.9, Atlas.10, Atlas.11, TS.4.3} (Table SPM.1, Figure SPM.9)

C.2.2 At 1.5°C global warming, heavy precipitation and associated flooding are projected to intensify and be more frequent in most regions in Africa and Asia (*high confidence*), North America (*medium* to *high confidence*)[40] and Europe (*medium confidence*). Also, more frequent and/or severe agricultural and ecological droughts are projected in a few regions in all inhabited continents except Asia compared to 1850–1900 (*medium confidence*); increases in meteorological droughts are also projected in a few regions (*medium confidence*). A small number of regions are projected to experience increases or decreases in mean precipitation (*medium confidence*).
{11.4, 11.5, 11.6, 11.9, Atlas.4, Atlas.5, Atlas.7, Atlas.8, Atlas.9, Atlas.10, Atlas.11, TS.4.3} (Table SPM.1)

C.2.3 At 2°C global warming and above, the level of confidence in and the magnitude of the change in droughts and heavy and mean precipitation increase compared to those at 1.5°C. Heavy precipitation and associated flooding events are projected to become more intense and frequent in the Pacific Islands and across many regions of North America and Europe (*medium* to *high confidence*).[40] These changes are also seen in some regions in Australasia and Central and South America (*medium confidence*). Several regions in Africa, South America and Europe are projected to experience an increase in frequency and/or severity of agricultural and ecological droughts with *medium* to *high confidence*;[40] increases are also projected in Australasia, Central and North America, and the Caribbean with *medium confidence*. A small number of regions in Africa, Australasia, Europe and North America are also projected to be affected by increases in hydrological droughts, and several regions are projected to be affected by increases or decreases in meteorological droughts, with more regions displaying an increase (*medium confidence*). Mean precipitation is projected to increase in all polar, northern European and northern North American regions, most Asian regions and two regions of South America (*high confidence*).
{11.4, 11.6, 11.9, Cross-Chapter Box 11.1, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.5, Atlas.7, Atlas.8, Atlas.9, Atlas.11, TS.4.3} (Table SPM.1, Figure SPM.5, Figure SPM.6, Figure SPM.9)

38 Based on 2500 year reconstructions, eruptions more negative than –1 W m^{-2} occur on average twice per century.

39 Regions here refer to the AR6 WGI reference regions used in this Report to summarize information in sub-continental and oceanic regions. Changes are compared to averages over the last 20–40 years unless otherwise specified. {1.4, 12.4, Atlas.1}.

40 The specific level of confidence or likelihood depends on the region considered. Details can be found in the Technical Summary and the underlying Report.

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C.2.4 More CIDs across more regions are projected to change at 2°C and above compared to 1.5°C global warming (*high confidence*). Region-specific changes include intensification of tropical cyclones and/or extratropical storms (*medium confidence*), increases in river floods (*medium* to *high confidence*),[40] reductions in mean precipitation and increases in aridity (*medium* to *high confidence*),[40] and increases in fire weather (*medium* to *high confidence*).[40] There is *low confidence* in most regions in potential future changes in other CIDs, such as hail, ice storms, severe storms, dust storms, heavy snowfall and landslides.
{11.7, 11.9, Cross-Chapter Box 11.1, 12.4, 12.5, Cross-Chapter Box 12.1, Atlas.4, Atlas.6, Atlas.7, Atlas.8, Atlas.10, TS.4.3.1, TS.4.3.2, TS.5} (Table SPM.1, Figure SPM.9)

C.2.5 It is *very likely* to *virtually certain*[40] that regional mean relative sea level rise will continue throughout the 21st century, except in a few regions with substantial geologic land uplift rates. Approximately two-thirds of the global coastline has a projected regional relative sea level rise within ±20% of the global mean increase (*medium confidence*). Due to relative sea level rise, extreme sea level events that occurred once per century in the recent past are projected to occur at least annually at more than half of all tide gauge locations by 2100 (*high confidence*). Relative sea level rise contributes to increases in the frequency and severity of coastal flooding in low-lying areas and to coastal erosion along most sandy coasts (*high confidence*).
{9.6, 12.4, 12.5, Cross-Chapter Box 12.1, Box TS.4, TS.4.3} (Figure SPM.9)

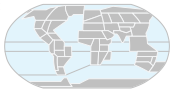
C.2.6 Cities intensify human-induced warming locally, and further urbanization together with more frequent hot extremes will increase the severity of heatwaves (*very high confidence*). Urbanization also increases mean and heavy precipitation over and/or downwind of cities (*medium confidence*) and resulting runoff intensity (*high confidence*). In coastal cities, the combination of more frequent extreme sea level events (due to sea level rise and storm surge) and extreme rainfall/riverflow events will make flooding more probable (*high confidence*).
{8.2, Box 10.3, 11.3, 12.4, Box TS.14}

C.2.7 Many regions are projected to experience an increase in the probability of compound events with higher global warming (*high confidence*). In particular, concurrent heatwaves and droughts are *likely* to become more frequent. Concurrent extremes at multiple locations, including in crop-producing areas, become more frequent at 2°C and above compared to 1.5°C global warming (*high confidence*).
{11.8, Box 11.3, Box 11.4, 12.3, 12.4, Cross-Chapter Box 12.1, TS.4.3} (Table SPM.1)

CL22.152 - Attachment 1

Multiple climatic impact-drivers are projected to change in all regions of the world

Climatic impact-drivers (CIDs) are physical climate system conditions (e.g., means, events, extremes) that affect an element of society or ecosystems. Depending on system tolerance, CIDs and their changes can be detrimental, beneficial, neutral, or a mixture of each across interacting system elements and regions. The CIDs are grouped into seven types, which are summarized under the icons in the figure. All regions are projected to experience changes in at least 5 CIDs. Almost all (96%) are projected to experience changes in at least 10 CIDs and half in at least 15 CIDs. For many CID changes, there is wide geographical variation, and so each region is projected to experience a specific set of CID changes. Each bar in the chart represents a specific geographical set of changes that can be explored in the WGI Interactive Atlas.



interactive-atlas.ipcc.ch

Number of land & coastal regions (a) and **open-ocean regions** (b) where each **climatic impact-driver** (CID) is projected to **increase** or **decrease** with ***high*** *confidence* (dark shade) or ***medium*** *confidence* (light shade)

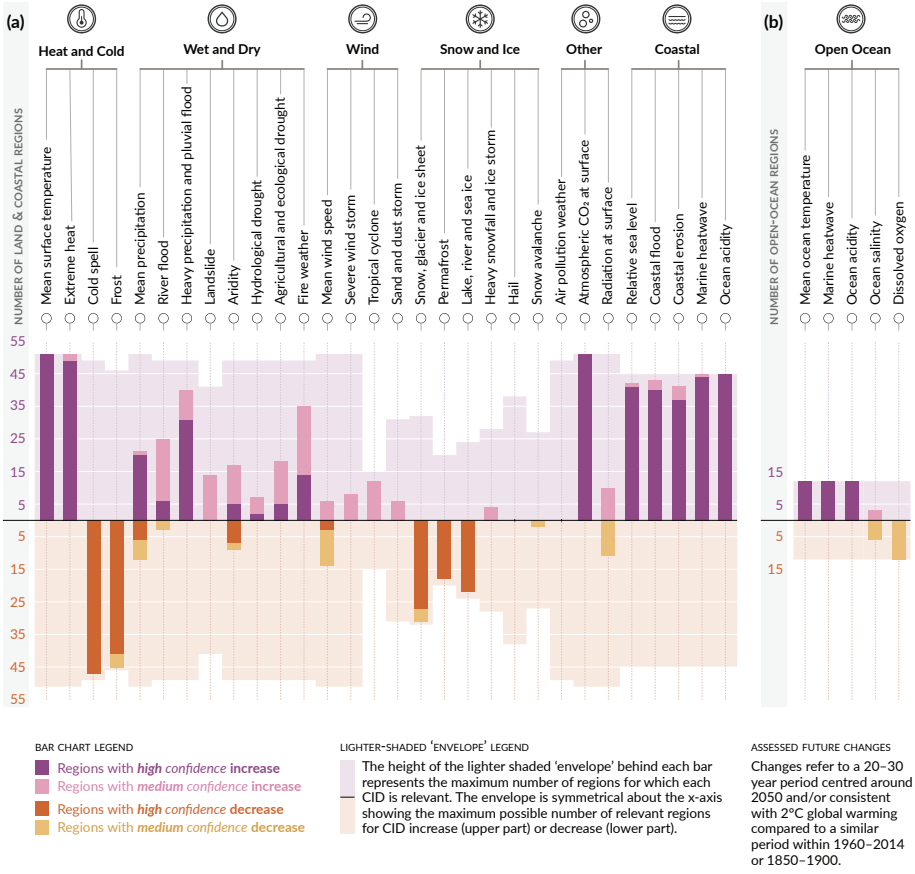


Figure SPM.9 | Synthesis of the number of AR6 WGI reference regions where climatic impact-drivers are projected to change

A total of 35 climatic impact-drivers (CIDs) grouped into seven types are shown: heat and cold; wet and dry; wind; snow and ice; coastal; open ocean; and other. For each CID, the bar in the graph below displays the number of AR6 WGI reference regions where it is projected to change. The **colours** represent the direction of change and the level of confidence in the change: purple indicates an increase while brown indicates a decrease; darker and lighter shades refer to *high* and *medium confidence*, respectively. Lighter background colours represent the maximum number of regions for which each CID is broadly relevant.

Panel (a) shows the 30 CIDs relevant to the **land and coastal regions**, while **panel (b)** shows the five CIDs relevant to the **open-ocean regions**. Marine heatwaves and ocean acidity are assessed for coastal ocean regions in panel (a) and for open-ocean regions in panel (b). Changes refer to a 20–30-year period centred around 2050 and/or consistent with 2°C global warming compared to a similar period within 1960–2014, except for hydrological drought and agricultural and ecological drought, which is compared to 1850–1900. Definitions of the regions are provided in Sections 12.4 and Atlas.1 and the Interactive Atlas (see https://interactive-atlas.ipcc.ch/).

{11.9, 12.2, 12.4, Atlas.1, Table TS.5, Figures TS.22 and TS.25} (Table SPM.1)

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C.3 Low-likelihood outcomes, such as ice-sheet collapse, abrupt ocean circulation changes, some compound extreme events, and warming substantially larger than the assessed *very likely* range of future warming, cannot be ruled out and are part of risk assessment.
{1.4, Cross-Chapter Box 1.3, 4.3, 4.4, 4.8, Cross-Chapter Box 4.1, 8.6, 9.2, Box 9.4, 11.8, Box 11.2, Cross-Chapter Box 12.1} (Table SPM.1)

C.3.1 If global warming exceeds the assessed *very likely* range for a given GHG emissions scenario, including low GHG emissions scenarios, global and regional changes in many aspects of the climate system, such as regional precipitation and other CIDs, would also exceed their assessed *very likely* ranges (*high confidence*). Such low-likelihood, high-warming outcomes are associated with potentially very large impacts, such as through more intense and more frequent heatwaves and heavy precipitation, and high risks for human and ecological systems, particularly for high GHG emissions scenarios.
{Cross-Chapter Box 1.3, 4.3, 4.4, 4.8, Box 9.4, Box 11.2, Cross-Chapter Box 12.1, TS.1.4, Box TS.3, Box TS.4} (Table SPM.1)

C.3.2 Low-likelihood, high-impact outcomes[34] could occur at global and regional scales even for global warming within the *very likely* range for a given GHG emissions scenario. The probability of low-likelihood, high-impact outcomes increases with higher global warming levels (*high confidence*). Abrupt responses and tipping points of the climate system, such as strongly increased Antarctic ice-sheet melt and forest dieback, cannot be ruled out (*high confidence*).
{1.4, 4.3, 4.4, 4.8, 5.4, 8.6, Box 9.4, Cross-Chapter Box 12.1, TS.1.4, TS.2.5, Box TS.3, Box TS.4, Box TS.9} (Table SPM.1)

C.3.3 If global warming increases, some compound extreme events[18] with low likelihood in past and current climate will become more frequent, and there will be a higher likelihood that events with increased intensities, durations and/or spatial extents unprecedented in the observational record will occur (*high confidence*).
{11.8, Box 11.2, Cross-Chapter Box 12.1, Box TS.3, Box TS.9}

C.3.4 The Atlantic Meridional Overturning Circulation is *very likely* to weaken over the 21st century for all emissions scenarios. While there is *high confidence* in the 21st century decline, there is only *low confidence* in the magnitude of the trend. There is *medium confidence* that there will not be an abrupt collapse before 2100. If such a collapse were to occur, it would *very likely* cause abrupt shifts in regional weather patterns and water cycle, such as a southward shift in the tropical rain belt, weakening of the African and Asian monsoons and strengthening of Southern Hemisphere monsoons, and drying in Europe.
{4.3, 8.6, 9.2, TS2.4, Box TS.3}

C.3.5 Unpredictable and rare natural events not related to human influence on climate may lead to low-likelihood, high-impact outcomes. For example, a sequence of large explosive volcanic eruptions within decades has occurred in the past, causing substantial global and regional climate perturbations over several decades. Such events cannot be ruled out in the future, but due to their inherent unpredictability they are not included in the illustrative set of scenarios referred to in this Report
{2.2, Cross-Chapter Box 4.1, Box TS.3} (Box SPM.1)

D. Limiting Future Climate Change

Since AR5, estimates of remaining carbon budgets have been improved by a new methodology first presented in SR1.5, updated evidence, and the integration of results from multiple lines of evidence. A comprehensive range of possible future air pollution controls in scenarios is used to consistently assess the effects of various assumptions on projections of climate and air pollution. A novel development is the ability to ascertain when climate responses to emissions reductions would become discernible above natural climate variability, including internal variability and responses to natural drivers.

D.1 From a physical science perspective, limiting human-induced global warming to a specific level requires limiting cumulative CO_2 emissions, reaching at least net zero CO_2 emissions, along with strong reductions in other greenhouse gas emissions. Strong, rapid and sustained reductions in CH_4 emissions would also limit the warming effect resulting from declining aerosol pollution and would improve air quality.
{3.3, 4.6, 5.1, 5.2, 5.4, 5.5, 5.6, Box 5.2, Cross-Chapter Box 5.1, 6.7, 7.6, 9.6} (Figure SPM.10, Table SPM.2)

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D.1.1 This Report reaffirms with *high confidence* the AR5 finding that there is a near-linear relationship between cumulative anthropogenic CO_2 emissions and the global warming they cause. Each 1000 $GtCO_2$ of cumulative CO_2 emissions is assessed to *likely* cause a 0.27°C to 0.63°C increase in global surface temperature with a best estimate of 0.45°C.[41] This is a narrower range compared to AR5 and SR1.5. This quantity is referred to as the transient climate response to cumulative CO_2 emissions (TCRE). This relationship implies that reaching net zero anthropogenic CO_2 emissions[42] is a requirement to stabilize human-induced global temperature increase at any level, but that limiting global temperature increase to a specific level would imply limiting cumulative CO_2 emissions to within a carbon budget.[43] {5.4, 5.5, TS.1.3, TS.3.3, Box TS.5} (Figure SPM.10)

Every tonne of CO_2 emissions adds to global warming

Global surface temperature increase since 1850–1900 (°C) as a function of cumulative CO_2 emissions ($GtCO_2$)

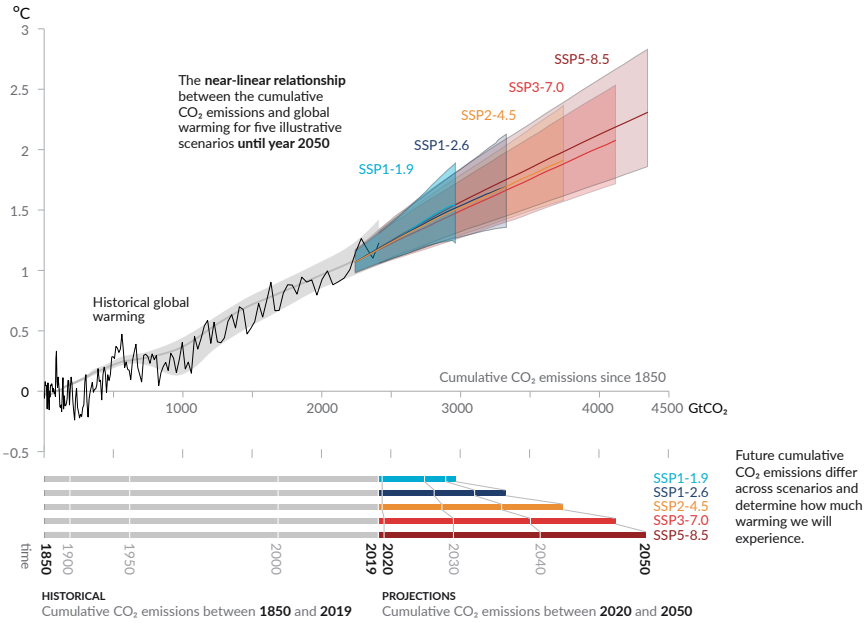

Figure SPM.10 | Near-linear relationship between cumulative CO_2 emissions and the increase in global surface temperature

Top panel: Historical data (thin black line) shows observed global surface temperature increase in °C since 1850–1900 as a function of historical cumulative carbon dioxide (CO_2) emissions in $GtCO_2$ from 1850 to 2019. The grey range with its central line shows a corresponding estimate of the historical human-caused surface warming (see Figure SPM.2). Coloured areas show the assessed *very likely* range of global surface temperature projections, and thick coloured central lines show the median estimate as a function of cumulative CO_2 emissions from 2020 until year 2050 for the set of illustrative scenarios (SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5; see Figure SPM.4). Projections use the cumulative CO_2 emissions of each respective scenario, and the projected global warming includes the contribution from all anthropogenic forcers. The relationship is illustrated over the domain of cumulative CO_2 emissions for which there is *high confidence* that the transient climate response to cumulative CO_2 emissions (TCRE) remains constant, and for the time period from 1850 to 2050 over which global CO_2 emissions remain net positive under all illustrative scenarios, as there is *limited evidence* supporting the quantitative application of TCRE to estimate temperature evolution under net negative CO_2 emissions.

Bottom panel: Historical and projected cumulative CO_2 emissions in $GtCO_2$ for the respective scenarios.

{Section 5.5, Figure 5.31, Figure TS.18}

41 In the literature, units of °C per 1000 PgC (petagrams of carbon) are used, and the AR6 reports the TCRE *likely* range as 1.0°C to 2.3°C per 1000 PgC in the underlying report, with a best estimate of 1.65°C.

42 The condition in which anthropogenic carbon dioxide (CO_2) emissions are balanced by anthropogenic CO_2 removals over a specified period (Glossary).

43 The term 'carbon budget' refers to the maximum amount of cumulative net global anthropogenic CO_2 emissions that would result in limiting global warming to a given level with a given probability, taking into account the effect of other anthropogenic climate forcers. This is referred to as the total carbon budget when expressed starting from the pre-industrial period, and as the remaining carbon budget when expressed from a recent specified date (Glossary). Historical cumulative CO_2 emissions determine to a large degree warming to date, while future emissions cause future additional warming. The remaining carbon budget indicates how much CO_2 could still be emitted while keeping warming below a specific temperature level.

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D.1.2 Over the period 1850–2019, a total of 2390 ± 240 (*likely* range) $GtCO_2$ of anthropogenic CO_2 was emitted. Remaining carbon budgets have been estimated for several global temperature limits and various levels of probability, based on the estimated value of TCRE and its uncertainty, estimates of historical warming, variations in projected warming from non-CO_2 emissions, climate system feedbacks such as emissions from thawing permafrost, and the global surface temperature change after global anthropogenic CO_2 emissions reach net zero.
{5.1, 5.5, Box 5.2, TS.3.3} (Table SPM.2)

Table SPM.2 | Estimates of historical carbon dioxide (CO_2) emissions and remaining carbon budgets. Estimated remaining carbon budgets are calculated from the beginning of 2020 and extend until global net zero CO_2 emissions are reached. They refer to CO_2 emissions, while accounting for the global warming effect of non-CO_2 emissions. Global warming in this table refers to human-induced global surface temperature increase, which excludes the impact of natural variability on global temperatures in individual years.
{Table 3.1, 5.5.1, 5.5.2, Box 5.2, Table 5.1, Table 5.7, Table 5.8, Table TS.3}

Global Warming Between 1850–1900 and 2010–2019 (°C)		Historical Cumulative CO_2 Emissions from 1850 to 2019 ($GtCO_2$)					
1.07 (0.8–1.3; likely range)		2390 (± 240; likely range)					
Approximate global warming relative to 1850–1900 until temperature limit (°C)[a]	Additional global warming relative to 2010–2019 until temperature limit (°C)	Estimated remaining carbon budgets from the beginning of 2020 ($GtCO_2$) *Likelihood of limiting global warming to temperature limit*[b]					Variations in reductions in non-CO_2 emissions[c]
		17%	*33%*	*50%*	*67%*	*83%*	
1.5	0.43	900	650	500	400	300	Higher or lower reductions in accompanying non-CO_2 emissions can increase or decrease the values on the left by 220 $GtCO_2$ or more
1.7	0.63	1450	1050	850	700	550	
2.0	0.93	2300	1700	1350	1150	900	

[a] Values at each 0.1°C increment of warming are available in Tables TS.3 and 5.8.

[b] This likelihood is based on the uncertainty in transient climate response to cumulative CO_2 emissions (TCRE) and additional Earth system feedbacks and provides the probability that global warming will not exceed the temperature levels provided in the two left columns. Uncertainties related to historical warming (±550 $GtCO_2$) and non-CO_2 forcing and response (±220 $GtCO_2$) are partially addressed by the assessed uncertainty in TCRE, but uncertainties in recent emissions since 2015 (±20 $GtCO_2$) and the climate response after net zero CO_2 emissions are reached (±420 $GtCO_2$) are separate.

[c] Remaining carbon budget estimates consider the warming from non-CO_2 drivers as implied by the scenarios assessed in SR1.5. The Working Group III Contribution to AR6 will assess mitigation of non-CO_2 emissions.

D.1.3 Several factors that determine estimates of the remaining carbon budget have been re-assessed, and updates to these factors since SR1.5 are small. When adjusted for emissions since previous reports, estimates of remaining carbon budgets are therefore of similar magnitude compared to SR1.5 but larger compared to AR5 due to methodological improvements.[44]
{5.5, Box 5.2, TS.3.3} (Table SPM.2)

D.1.4 Anthropogenic CO_2 removal (CDR) has the potential to remove CO_2 from the atmosphere and durably store it in reservoirs (*high confidence*). CDR aims to compensate for residual emissions to reach net zero CO_2 or net zero GHG emissions or, if implemented at a scale where anthropogenic removals exceed anthropogenic emissions, to lower surface temperature. CDR methods can have potentially wide-ranging effects on biogeochemical cycles and climate, which can either weaken or strengthen the potential of these methods to remove CO_2 and reduce warming, and can also influence water availability and quality, food production and biodiversity[45] (*high confidence*).
{5.6, Cross-Chapter Box 5.1, TS.3.3}

D.1.5 Anthropogenic CO_2 removal (CDR) leading to global net negative emissions would lower the atmospheric CO_2 concentration and reverse surface ocean acidification (*high confidence*). Anthropogenic CO_2 removals and emissions are partially

44 Compared to AR5, and when taking into account emissions since AR5, estimates in AR6 are about 300–350 $GtCO_2$ larger for the remaining carbon budget consistent with limiting warming to 1.5°C; for 2°C, the difference is about 400–500 $GtCO_2$.

45 Potential negative and positive effects of CDR for biodiversity, water and food production are methods-specific and are often highly dependent on local context, management, prior land use, and scale. IPCC Working Groups II and III assess the CDR potential and ecological and socio-economic effects of CDR methods in their AR6 contributions.

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compensated by CO_2 release and uptake respectively, from or to land and ocean carbon pools (*very high confidence*). CDR would lower atmospheric CO_2 by an amount approximately equal to the increase from an anthropogenic emission of the same magnitude (*high confidence*). The atmospheric CO_2 decrease from anthropogenic CO_2 removals could be up to 10% less than the atmospheric CO_2 increase from an equal amount of CO_2 emissions, depending on the total amount of CDR (*medium confidence*).
{5.3, 5.6, TS.3.3}

D.1.6 If global net negative CO_2 emissions were to be achieved and be sustained, the global CO_2-induced surface temperature increase would be gradually reversed but other climate changes would continue in their current direction for decades to millennia (*high confidence*). For instance, it would take several centuries to millennia for global mean sea level to reverse course even under large net negative CO_2 emissions (*high confidence*).
{4.6, 9.6, TS.3.3}

D.1.7 In the five illustrative scenarios, simultaneous changes in CH_4, aerosol and ozone precursor emissions, which also contribute to air pollution, lead to a net global surface warming in the near and long term (*high confidence*). In the long term, this net warming is lower in scenarios assuming air pollution controls combined with strong and sustained CH_4 emissions reductions (*high confidence*). In the low and very low GHG emissions scenarios, assumed reductions in anthropogenic aerosol emissions lead to a net warming, while reductions in CH_4 and other ozone precursor emissions lead to a net cooling. Because of the short lifetime of both CH_4 and aerosols, these climate effects partially counterbalance each other, and reductions in CH_4 emissions also contribute to improved air quality by reducing global surface ozone (*high confidence*).
{6.7, Box TS.7} (Figure SPM.2, Box SPM.1)

D.1.8 Achieving global net zero CO_2 emissions, with anthropogenic CO_2 emissions balanced by anthropogenic removals of CO_2, is a requirement for stabilizing CO_2-induced global surface temperature increase. This is different from achieving net zero GHG emissions, where metric-weighted anthropogenic GHG emissions equal metric-weighted anthropogenic GHG removals. For a given GHG emissions pathway, the pathways of individual GHGs determine the resulting climate response,[46] whereas the choice of emissions metric[47] used to calculate aggregated emissions and removals of different GHGs affects what point in time the aggregated GHGs are calculated to be net zero. Emissions pathways that reach and sustain net zero GHG emissions defined by the 100-year global warming potential are projected to result in a decline in surface temperature after an earlier peak (*high confidence*).
{4.6, 7.6, Box 7.3, TS.3.3}

D.2 Scenarios with very low or low GHG emissions (SSP1-1.9 and SSP1-2.6) lead within years to discernible effects on greenhouse gas and aerosol concentrations and air quality, relative to high and very high GHG emissions scenarios (SSP3-7.0 or SSP5-8.5). Under these contrasting scenarios, discernible differences in trends of global surface temperature would begin to emerge from natural variability within around 20 years, and over longer time periods for many other climatic impact-drivers (*high confidence*).
{4.6, 6.6, 6.7, Cross-Chapter Box 6.1, 9.6, 11.2, 11.4, 11.5, 11.6, Cross-Chapter Box 11.1, 12.4, 12.5} (Figure SPM.8, Figure SPM.10)

D.2.1 Emissions reductions in 2020 associated with measures to reduce the spread of COVID-19 led to temporary but detectable effects on air pollution (*high confidence*) and an associated small, temporary increase in total radiative forcing, primarily due to reductions in cooling caused by aerosols arising from human activities (*medium confidence*). Global and regional climate responses to this temporary forcing are, however, undetectable above natural variability (*high confidence*). Atmospheric CO_2 concentrations continued to rise in 2020, with no detectable decrease in the observed CO_2 growth rate (*medium confidence*).[48]
{Cross-Chapter Box 6.1, TS.3.3}

D.2.2 Reductions in GHG emissions also lead to air quality improvements. However, in the near term,[49] even in scenarios with strong reduction of GHGs, as in the low and very low GHG emissions scenarios (SSP1-2.6 and SSP1-1.9), these improvements

46 A general term for how the climate system responds to a radiative forcing (Glossary).

47 The choice of emissions metric depends on the purposes for which gases or forcing agents are being compared. This Report contains updated emissions metric values and assesses new approaches to aggregating gases.

48 For other GHGs, there was insufficient literature available at the time of the assessment to assess detectable changes in their atmospheric growth rate during 2020.

49 Near term: 2021–2040.

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are not sufficient in many polluted regions to achieve air quality guidelines specified by the World Health Organization (*high confidence*). Scenarios with targeted reductions of air pollutant emissions lead to more rapid improvements in air quality within years compared to reductions in GHG emissions only, but from 2040, further improvements are projected in scenarios that combine efforts to reduce air pollutants as well as GHG emissions, with the magnitude of the benefit varying between regions (*high confidence*).
{6.6, 6.7, Box TS.7}.

D.2.3 Scenarios with very low or low GHG emissions (SSP1-1.9 and SSP1-2.6) would have rapid and sustained effects to limit human-caused climate change, compared with scenarios with high or very high GHG emissions (SSP3-7.0 or SSP5-8.5), but early responses of the climate system can be masked by natural variability. For global surface temperature, differences in 20-year trends would *likely* emerge during the near term under a very low GHG emissions scenario (SSP1-1.9), relative to a high or very high GHG emissions scenario (SSP3-7.0 or SSP5-8.5). The response of many other climate variables would emerge from natural variability at different times later in the 21st century (*high confidence*).
{4.6, Cross-Section Box TS.1} (Figure SPM.8, Figure SPM.10)

D.2.4 Scenarios with very low and low GHG emissions (SSP1-1.9 and SSP1-2.6) would lead to substantially smaller changes in a range of CIDs[36] beyond 2040 than under high and very high GHG emissions scenarios (SSP3-7.0 and SSP5-8.5). By the end of the century, scenarios with very low and low GHG emissions would strongly limit the change of several CIDs, such as the increases in the frequency of extreme sea level events, heavy precipitation and pluvial flooding, and exceedance of dangerous heat thresholds, while limiting the number of regions where such exceedances occur, relative to higher GHG emissions scenarios (*high confidence*). Changes would also be smaller in very low compared to low GHG emissions scenarios, as well as for intermediate (SSP2-4.5) compared to high or very high GHG emissions scenarios (*high confidence*).
{9.6, 11.2, 11.3, 11.4, 11.5, 11.6, 11.9, Cross-Chapter Box 11.1, 12.4, 12.5, TS.4.3}

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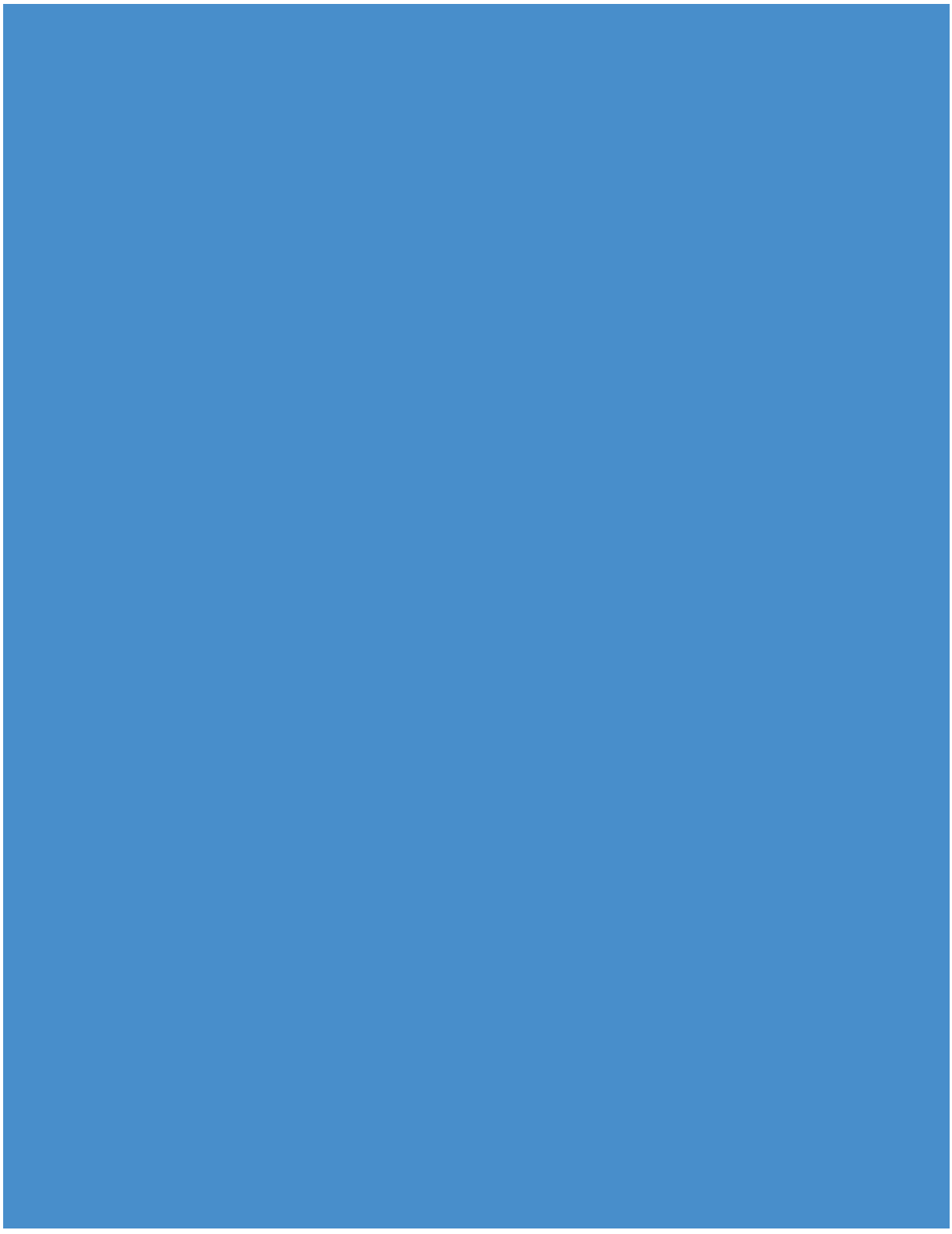

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ipcc
INTERGOVERNMENTAL PANEL ON climate change

Climate Change 2022

Impacts, Adaptation and Vulnerability

Summary for Policymakers

WGII

Working Group II contribution to the
Sixth Assessment Report of the
Intergovernmental Panel on Climate Change

WMO UNEP

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Summary for Policymakers

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SPM.A: Introduction

This Summary for Policymakers (SPM) presents key findings of the Working Group II (WGII) contribution to the Sixth Assessment Report (AR6) of the IPCC[1]. The report builds on the WGII contribution to the Fifth Assessment Report (AR5) of the IPCC, three Special Reports[2], and the Working Group I (WGI) contribution to the AR6 cycle.

This report recognizes the interdependence of climate, ecosystems and biodiversity[3], and human societies (Figure SPM.1) and integrates knowledge more strongly across the natural, ecological, social and economic sciences than earlier IPCC assessments. The assessment of climate change impacts and risks as well as adaptation is set against concurrently unfolding non-climatic global trends e.g., biodiversity loss, overall unsustainable consumption of natural resources, land and ecosystem degradation, rapid urbanisation, human demographic shifts, social and economic inequalities and a pandemic.

The scientific evidence for each key finding is found in the 18 chapters of the underlying report and in the 7 cross-chapter papers as well as the integrated synthesis presented in the Technical Summary (hereafter TS) and referred to in curly brackets {}. Based on scientific understanding, key findings can be formulated as statements of fact or associated with an assessed level of confidence using the IPCC calibrated language[4]. The WGII Global to Regional Atlas (Annex I) facilitates exploration of key synthesis findings across the WGII regions.

[1] Decision IPCC/XLVI-3, The assessment covers scientific literature accepted for publication by 1 September 2021.

[2] The three Special Reports are: 'Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (SR1.5)'; 'Climate Change and Land. An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SRCCL)'; 'IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC)'

[3] Biodiversity: Biodiversity or biological diversity means the variability among living organisms from all sources including, among other things, terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

[4] Each finding is grounded in an evaluation of underlying evidence and agreement. A level of confidence is expressed using five qualifiers: very low, low, medium, high and very high, and typeset in italics, e.g., *medium confidence*. The following terms have been used to indicate the assessed likelihood of an outcome or a result: virtually certain 99-100% probability, very likely 90-100%, likely 66-100%, as likely as not 33-66%, unlikely 0-33%, very unlikely 0-10%, exceptionally unlikely 0-1%. Assessed likelihood is typeset in italics, e.g., *very likely*. This is consistent with AR5 and the other AR6 Reports.

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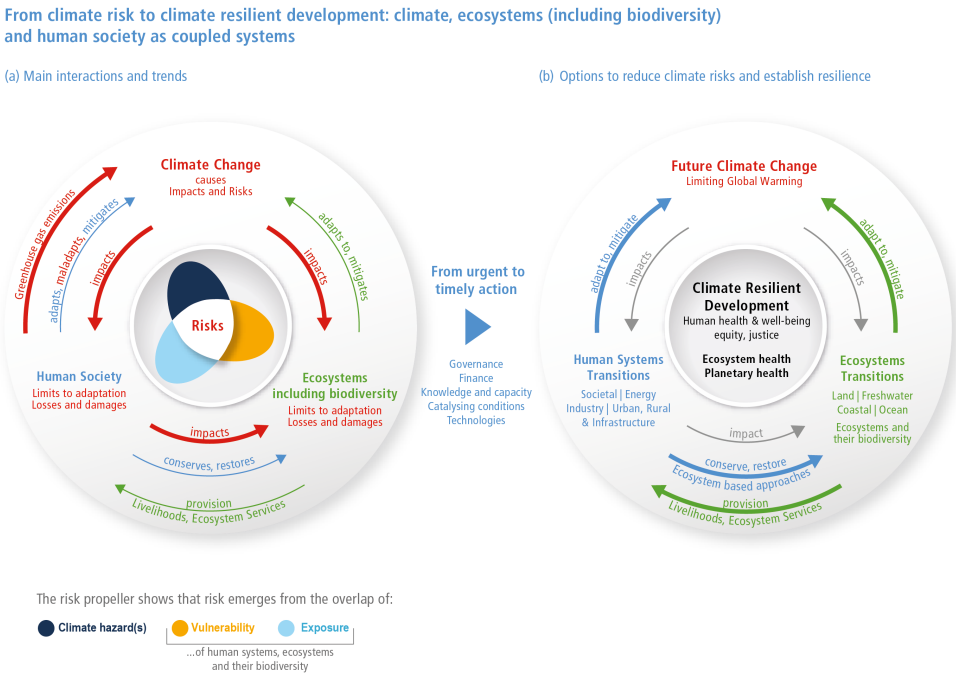

Figure SPM.1: This report has a strong focus on the interactions among the coupled systems climate, ecosystems (including their biodiversity) and human society. These interactions are the basis of emerging risks from climate change, ecosystem degradation and biodiversity loss and, at the same time, offer opportunities for the future. (a) Human society causes climate change. Climate change, through hazards, exposure and vulnerability generates impacts and risks that can surpass limits to adaptation and result in losses and damages. Human society can adapt to, maladapt and mitigate climate change, ecosystems can adapt and mitigate within limits. Ecosystems and their biodiversity provision livelihoods and ecosystem services. Human society impacts ecosystems and can restore and conserve them. (b) Meeting the objectives of climate resilient development thereby supporting human, ecosystem and planetary health, as well as human well-being, requires society and ecosystems to move over (transition) to a more resilient state. The recognition of climate risks can strengthen adaptation and mitigation actions and transitions that reduce risks. Taking action is enabled by governance, finance, knowledge and capacity building, technology and catalysing conditions. Transformation entails system transitions strengthening the resilience of ecosystems and society (Section D). In a) arrow colours represent principle human society interactions (blue), ecosystem (including biodiversity) interactions (green) and the impacts of climate change and human activities, including losses and damages, under continued climate change (red). In b) arrow colours represent human system interactions (blue), ecosystem (including biodiversity) interactions (green) and reduced impacts from climate change and human activities (grey). {1.2, Figure 1.2, Figure TS.1}

The concept of risk is central to all three AR6 Working Groups. A risk framing and the concepts of adaptation, vulnerability, exposure, resilience, equity and justice, and transformation provide alternative, overlapping, complementary, and widely used entry points to the literature assessed in this WGII report.

Across all three AR6 working groups, **risk**[5] provides a framework for understanding the increasingly severe, interconnected and often irreversible impacts of climate change on ecosystems, biodiversity, and human systems; differing impacts across regions, sectors and communities; and how to best reduce adverse

[5] Risk is defined as the potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems

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consequences for current and future generations. In the context of climate change, risk can arise from the dynamic interactions among climate-related **hazards**[6] (see Working Group I), the **exposure**[7] and **vulnerability**[8] of affected human and ecological systems. The risk that can be introduced by human responses to climate change is a new aspect considered in the risk concept. This report identifies 127 key risks[9]. {1.3, 16.5}

The vulnerability of exposed human and natural systems is a component of risk, but also, independently, an important focus in the literature. Approaches to analysing and assessing vulnerability have evolved since previous IPCC assessments. Vulnerability is widely understood to differ within communities and across societies, regions and countries, also changing through time.

Adaptation[10] plays a key role in reducing exposure and vulnerability to climate change. Adaptation in ecological systems includes autonomous adjustments through ecological and evolutionary processes. In human systems, adaptation can be anticipatory or reactive, as well as incremental and/ or transformational. The latter changes the fundamental attributes of a social-ecological system in anticipation of climate change and its impacts. Adaptation is subject to hard and soft limits[11].

Resilience[12] in the literature has a wide range of meanings. Adaptation is often organized around resilience as bouncing back and returning to a previous state after a disturbance. More broadly the term describes not just the ability to maintain essential function, identity and structure, but also the capacity for transformation.

This report recognises the value of diverse forms of **knowledge** such as scientific, as well as Indigenous knowledge and local knowledge in understanding and evaluating climate adaptation processes and actions to reduce risks from human-induced climate change. AR6 highlights adaptation solutions which are effective, **feasible**[13], and conform to principles of **justice**[14]. The term climate justice, while used in different ways in different contexts by different communities, generally includes three principles: *distributive justice* which refers to the allocation of burdens and benefits among individuals, nations and generations; *procedural justice* which refers to who decides and participates in decision-making; and *recognition* which entails basic respect and robust engagement with and fair consideration of diverse cultures and perspectives.

[6] Hazard is defined as the potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources. Physical climate conditions that may be associated with hazards are assessed in Working Group I as climatic impact-drivers.

[7] Exposure is defined as the presence of people; livelihoods; species or ecosystems; environmental functions, services and resources; infrastructure; or economic, social or cultural assets in places and settings that could be adversely affected.

[8] Vulnerability in this report is defined as the propensity or predisposition to be adversely affected and encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

[9] Key risks have potentially severe adverse consequences for humans and social-ecological systems resulting from the interaction of climate related hazards with vulnerabilities of societies and systems exposed.

[10] Adaptation is defined, in human systems, as the process of adjustment to actual or expected climate and its effects in order to moderate harm or take advantage of beneficial opportunities. In natural systems, adaptation is the process of adjustment to actual climate and its effects; human intervention may facilitate this.

[11] Adaptation Limits: The point at which an actor's objectives (or system needs) cannot be secured from intolerable risks through adaptive actions.

- Hard adaptation limit - No adaptive actions are possible to avoid intolerable risks.
- Soft adaptation limit - Options may exist but are currently not available to avoid intolerable risks through adaptive action.

[12] Resilience in this report is defined as the capacity of social, economic and ecosystems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure as well as biodiversity in case of ecosystems while also maintaining the capacity for adaptation, learning and transformation. Resilience is a positive attribute when it maintains such a capacity for adaptation, learning, and/or transformation.

[13] Feasibility refers to the potential for an adaptation option to be implemented.

[14] Justice is concerned with setting out the moral or legal principles of fairness and equity in the way people are treated, often based on the ethics and values of society. *Social justice* comprises just or fair relations within society that seek to address the distribution of wealth, access to resources, opportunity and support according to principles of justice and fairness. *Climate justice* comprises justice that links development and human rights to achieve a rights-based approach to addressing climate change.

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Effectiveness refers to the extent to which an action reduces vulnerability and climate-related risk, increases resilience, and avoids maladaptation[15].

This report has a particular focus on transformation[16] and system transitions in energy; land, ocean, coastal and freshwater ecosystems; urban, rural and infrastructure; and industry and society. These transitions make possible the adaptation required for high levels of human health and wellbeing, economic and social resilience, ecosystem health[17], and planetary health[18] (Figure SPM.1). These system transitions are also important for achieving the low global warming levels (WGIII) that would avoid many limits to adaptation[11]. The report also assesses economic and non-economic losses and damages[19]. This report labels the process of implementing mitigation and adaptation together in support of sustainable development for all as climate resilient development[20].

[START BOX SPM.1 HERE]

Box SPM.1: AR6 Common Climate Dimensions, Global Warming Levels and Reference Periods

Assessments of climate risks consider possible future climate change, societal development and responses. This report assesses literature including that based on climate model simulations that are part of the fifth and sixth Coupled Model Intercomparison Project phase (CMIP5, CMIP6) of the World Climate Research Programme. Future projections are driven by emissions and/or concentrations from illustrative Representative Concentration Pathways (RCPs)[21] and Shared Socio-economic Pathways (SSPs)[22] scenarios, respectively[23]. Climate impacts literature is based primarily on climate projections assessed in AR5 or earlier, or assumed global warming levels, though some recent impacts literature uses newer projections based on the CMIP6 exercise. Given differences in the impacts literature regarding socioeconomic details and assumptions, WGII chapters contextualize impacts with respect to exposure, vulnerability and adaptation as appropriate for their literature, this includes assessments regarding sustainable development and climate resilient development. There are many emissions and socioeconomic pathways that are consistent with a given global warming outcome. These represent a broad range of possibilities as available in the literature assessed that affect future climate change exposure and vulnerability. Where available, WGII also assesses literature that is based on an integrative SSP-RCP framework where climate projections obtained under the RCP scenarios are analysed against the backdrop of various illustrative SSPs[22]. The WGII assessment combines multiple lines of evidence including impacts modelling driven by climate projections, observations, and process understanding. {1.2, 16.5, 18.2, CCB CLIMATE, WGI SPM.C, WGI Box SPM.1, WGI 1.6, WGI Ch.12, AR5 WGI}

[15] Maladaptation refers to actions that may lead to increased risk of adverse climate-related outcomes, including via increased greenhouse gas emissions, increased or shifted vulnerability to climate change, more inequitable outcomes, or diminished welfare, now or in the future. Most often, maladaptation is an unintended consequence.

[16] Transformation refers to a change in the fundamental attributes of natural and human systems.

[17] Ecosystem health: a metaphor used to describe the condition of an ecosystem, by analogy with human health. Note that there is no universally accepted benchmark for a healthy ecosystem. Rather, the apparent health status of an ecosystem is judged on the ecosystem's resilience to change, with details depending upon which metrics (such as species richness and abundance) are employed in judging it and which societal aspirations are driving the assessment.

[18] Planetary health: a concept based on the understanding that human health and human civilisation depend on ecosystem health and the wise stewardship of ecosystems.

[19] In this report, the term 'losses and damages' refers to adverse observed impacts and/or projected risks and can be economic and/or non-economic.

[20] In the WGII report, climate resilient development refers to the process of implementing greenhouse gas mitigation and adaptation measures to support sustainable development for all.

[21] RCP-based scenarios are referred to as RCPy, where 'y' refers to the level of radiative forcing (in watts per square meter, or W m^{-2}) resulting from the scenario in the year 2100.

[22] SSP-based scenarios are referred to as SSPx-y, where 'SSPx' refers to the Shared Socio-economic Pathway describing the socio-economic trends underlying the scenarios, and 'y' refers to the level of radiative forcing (in watts per square meter, or W m^{-2}) resulting from the scenario in the year 2100.

[23] IPCC is neutral with regard to the assumptions underlying the SSPs, which do not cover all possible scenarios. Alternative scenarios may be considered or developed.

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A common set of reference years and time periods are adopted for assessing climate change and its impacts and risks: the reference period 1850–1900 approximates pre-industrial global surface temperature, and three future reference periods cover the near-term (2021–2040), mid-term (2041–2060) and long-term (2081–2100). {CCB CLIMATE}

Common levels of global warming relative to 1850-1900 are used to contextualize and facilitate analysis, synthesis and communication of assessed past, present and future climate change impacts and risks considering multiple lines of evidence. Robust geographical patterns of many variables can be identified at a given level of global warming, common to all scenarios considered and independent of timing when the global warming level is reached. {16.5, CCB CLIMATE, WGI 4.2, WGI CCB11.1, WGI Box SPM.1}

WGI assessed increase in global surface temperature is 1.09 [0.95 to 1.20][24] °C in 2011-2020 above 1850-1900. The estimated increase in global surface temperature since AR5 is principally due to further warming since 2003–2012 (+0.19 [0.16 to 0.22] °C).[25] Considering all five illustrative scenarios assessed by WGI, there is at least a greater than 50% likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low greenhouse gas emissions scenario[26]. {WGI CCB 2.3, WGI SPM A1.2, WGI SPM B1.3, WGI Table SPM.1}

[END BOX SPM.1 HERE]

SPM.B: Observed and Projected Impacts and Risks

Since AR5, the knowledge base on observed and projected impacts and risks generated by climate hazards, exposure and vulnerability has increased with impacts attributed to climate change and key risks identified across the report. Impacts and risks are expressed in terms of their damages, harms, economic, and non-economic losses. Risks from observed vulnerabilities and responses to climate change are highlighted. Risks are projected for the near-term (2021-2040), the mid (2041-2060) and long term (2081-2100), at different global warming levels and for pathways that overshoot 1.5°C global warming level for multiple decades[27]. Complex risks result from multiple climate hazards occurring concurrently, and from multiple risks interacting, compounding overall risk and resulting in risks transmitting through interconnected systems and across regions.

Observed Impacts from Climate Change

SPM.B.1 Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. Some development and adaptation efforts have reduced vulnerability. Across sectors and regions the most vulnerable people and systems are observed to be disproportionately affected. The rise in weather

[24] In the WGI report, square brackets [x to y] are used to provide the assessed *very likely* range, or 90% interval.

[25] Since AR5, methodological advances and new datasets have provided a more complete spatial representation of changes in surface temperature, including in the Arctic. These and other improvements have also increased the estimate of global surface temperature change by approximately 0.1°C, but this increase does not represent additional physical warming since AR5.

[26] Global warming of 1.5°C relative to 1850–1900 would be exceeded during the 21st century under the intermediate, high and very high greenhouse gas emissions scenarios considered in this report (SSP2-4.5, SSP3-7.0 and SSP5-8.5, respectively). Under the five illustrative scenarios, in the near term (2021–2040), the 1.5°C global warming level is *very likely* to be exceeded under the very high greenhouse gas emissions scenario (SSP5-8.5), *likely* to be exceeded under the intermediate and high greenhouse gas emissions scenarios (SSP2-4.5 and SSP3-7.0), *more likely than not* to be exceeded under the low greenhouse gas emissions scenario (SSP1-2.6) and *more likely than not* to be reached under the very low greenhouse gas emissions scenario (SSP1-1.9). Furthermore, for the very low greenhouse gas emissions scenario (SSP1-1.9), it is *more likely than not* that global surface temperature would decline back to below 1.5°C toward the end of the 21st century, with a temporary overshoot of no more than 0.1°C above 1.5°C global warming.

[27] Overshoot: In this report, pathways that first exceed a specified global warming level (usually 1.5°C, by more than 0.1°C), and then return to or below that level again before the end of a specified period of time (e.g., before 2100). Sometimes the magnitude and likelihood of the overshoot is also characterized. The overshoot duration can vary from at least one decade up to several decades.

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and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt. (*high confidence*) (Figure SPM.2) {1.3, 2.3, 2.4, 2.6, 3.3, 3.4, 3.5, 4.2, 4.3, 5.2, 5.12, 6.2, 7.2, 8.2, 9.6, 9.8, 9.10, 9.11, 10.4, 11.3, 12.3, 12.4, 13.10, 14.4, 14.5, 15.3, 16.2, CCP1.2, CCP3.2, CCP4.1, CCP5.2, CCP6.2, CCP7.2, CCP7.3, CCB EXTREMES, CCB ILLNESS, CCB SLR, CCB NATURAL, CCB DISASTER, CCB MIGRATE, Figure TS.5, TS B1

SPM.B.1.1 Widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather (*high confidence*). Increasingly since AR5, these observed impacts have been attributed[28] to human-induced climate change particularly through increased frequency and severity of extreme events. These include increased heat-related human mortality (*medium confidence*), warm-water coral bleaching and mortality (*high confidence*), and increased drought related tree mortality (*high confidence*). Observed increases in areas burned by wildfires have been attributed to human-induced climate change in some regions (*medium* to *high confidence*). Adverse impacts from tropical cyclones, with related losses and damages[19], have increased due to sea level rise and the increase in heavy precipitation (*medium confidence*). Impacts in natural and human systems from slow-onset processes[29] such as ocean acidification, sea level rise or regional decreases in precipitation have also been attributed to human induced climate change (*high confidence*). {1.3, 2.3, 2.4, 2.5, 3.2, 3.4, 3.5, 3.6, 4.2, 5.2, 5.4, 5.6, 5.12, 7.2, 9.6, 9.8, 9.7, 9.8, 9.11, 11.3, Box 11.1, Box 11.2, Table 11.9, 12.3, 12.4, 13.3, 13.5, 13.10, 14.2,14.5, 15.7, 15.8, 16.2, Box CCP5.1, CCP1.2, CCP2.2, CCP7.3, CCB EXTREME, CCB ILLNESS, CCB DISASTER, WG1 9, WGI 11.3-11.8, WGI SPM.3, SROCC Ch. 4}

SPM.B.1.2 Climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater and coastal and open ocean marine ecosystems (*high confidence*). The extent and magnitude of climate change impacts are larger than estimated in previous assessments (*high confidence*). Widespread deterioration of ecosystem structure and function, resilience and natural adaptive capacity, as well as shifts in seasonal timing have occurred due to climate change (*high confidence*), with adverse socioeconomic consequences (*high confidence*). Approximately half of the species assessed globally have shifted polewards or, on land, also to higher elevations (*very high confidence*). Hundreds of local losses of species have been driven by increases in the magnitude of heat extremes (*high confidence*), as well as mass mortality events on land and in the ocean (*very high confidence*) and loss of kelp forests (*high confidence*). Some losses are already irreversible, such as the first species extinctions driven by climate change (*medium confidence*). Other impacts are approaching irreversibility such as the impacts of hydrological changes resulting from the retreat of glaciers, or the changes in some mountain (*medium confidence*) and Arctic ecosystems driven by permafrost thaw (*high confidence*). (Figure SPM.2a). {2.3, 2.4, 3.4, 3.5, 4.2, 4.3, 4.5, 9.6, 10.4, 11.3, 12.3, 12.8, 13.3, 13.4, 13.10, 14.4, 14.5, 14.6, 15.3, 16.2, CCP1.2; CCP3.2, CCP4.1, CCP5.2, CCP6.1, CCP6.2, CCP7.2, CCP7.3, CCP5.2, Figure CCP5.4, CCB PALEO, CCB EXTREMES, CCB ILLNESS, CCB SLR, CCB NATURAL, CCB MOVING PLATE, Figure TS.5, TS B1, SROCC 2.3}

[28] Attribution is defined as the process of evaluating the relative contributions of multiple causal factors to a change or event with an assessment of confidence. {Annex II Glossary, CWGB ATTRIB}

[29] Impacts of climate change are caused by slow onset and extreme events. Slow onset events are described among the climatic-impact drivers of the WGI AR6 and refer to the risks and impacts associated with e.g., increasing temperature means, desertification, decreasing precipitation, loss of biodiversity, land and forest degradation, glacial retreat and related impacts, ocean acidification, sea level rise and salinization (https://interactive-atlas.ipcc.ch).

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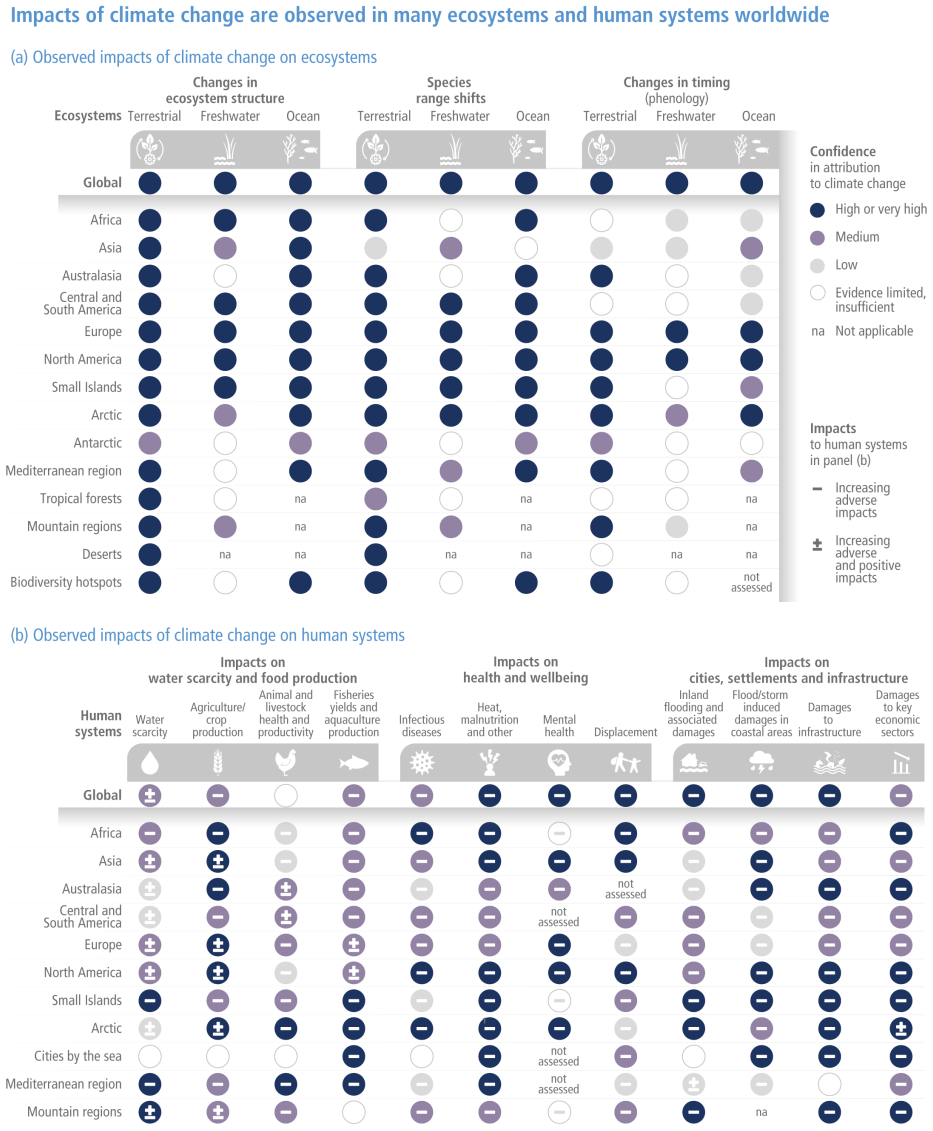

Figure SPM.2: Observed global and regional impacts on ecosystems and human systems attributed to climate change. Confidence levels reflect uncertainty in attribution of the observed impact to climate change. Global assessments focus on large studies, multi-species, meta-analyses and large reviews. For that reason they can be assessed with higher confidence than regional studies, which may often rely on smaller studies that have more limited data. Regional assessments consider evidence on impacts across an entire region and do not focus on any country in particular. (a) Climate change has already altered terrestrial, freshwater and ocean ecosystems at global scale, with multiple impacts evident at regional and local scales where there is sufficient literature to make an assessment. Impacts are evident on ecosystem structure, species geographic ranges and timing of seasonal life cycles (phenology) (for methodology and detailed references to chapters and cross-chapter papers see SMTS.1 and SMTS.1.1). (b) Climate change has already had diverse adverse impacts on human systems, including on water security and food production, health and well-being, and cities, settlements and infrastructure. The + and – symbols indicate the direction of observed impacts, with a – denoting

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an increasing adverse impact and a ± denoting that, within a region or globally, both adverse and positive impacts have been observed (e.g., adverse impacts in one area or food item may occur with positive impacts in another area or food item). Globally, '–' denotes an overall adverse impact; 'Water scarcity' considers, e.g., water availability in general, groundwater, water quality, demand for water, drought in cities. Impacts on food production were assessed by excluding non-climatic drivers of production increases; Global assessment for agricultural production is based on the impacts on global aggregated production; 'Reduced animal and livestock health and productivity' considers, e.g., heat stress, diseases, productivity, mortality; 'Reduced fisheries yields and aquaculture production' includes marine and freshwater fisheries/production; 'Infectious diseases' include, e.g., water-borne and vector-borne diseases; 'Heat, malnutrition and other' considers, e.g., human heat-related morbidity and mortality, labour productivity, harm from wildfire, nutritional deficiencies; 'Mental health' includes impacts from extreme weather events, cumulative events, and vicarious or anticipatory events; 'Displacement' assessments refer to evidence of displacement attributable to climate and weather extremes; 'Inland flooding and associated damages' considers, e.g., river overflows, heavy rain, glacier outbursts, urban flooding; 'Flood/storm induced damages in coastal areas' include damages due to, e.g., cyclones, sea level rise, storm surges. Damages by key economic sectors are observed impacts related to an attributable mean or extreme climate hazard or directly attributed. Key economic sectors include standard classifications and sectors of importance to regions (for methodology and detailed references to chapters and cross-chapter papers see SMTS.1 and SMTS.1.2).

SPM.B.1.3 Climate change including increases in frequency and intensity of extremes have reduced food and water security, hindering efforts to meet Sustainable Development Goals (*high confidence*). Although overall agricultural productivity has increased, climate change has slowed this growth over the past 50 years globally (*medium confidence*), related negative impacts were mainly in mid- and low latitude regions but positive impacts occurred in some high latitude regions (*high confidence*). Ocean warming and ocean acidification have adversely affected food production from shellfish aquaculture and fisheries in some oceanic regions (*high confidence*). Increasing weather and climate extreme events have exposed millions of people to acute food insecurity[30] and reduced water security, with the largest impacts observed in many locations and/or communities in Africa, Asia, Central and South America, Small Islands and the Arctic (*high confidence*). Jointly, sudden losses of food production and access to food compounded by decreased diet diversity have increased malnutrition in many communities (*high confidence*), especially for Indigenous Peoples, small-scale food producers and low-income households (*high confidence*), with children, elderly people and pregnant women particularly impacted (*high confidence*). Roughly half of the world's population currently experience severe water scarcity for at least some part of the year due to climatic and non-climatic drivers (*medium confidence*). (Figure SPM.2b) {3.5, Box 4.1, 4.3, 4.4, 5.2, 5.4, 5.8, 5.9, 5.12, 7.1, 7.2, 9.8, 10.4, 11.3, 12.3, 13.5, 14.4, 14.5, 15.3, 16.2, CCP5.2, CCP6.2}

SPM.B.1.4 Climate change has adversely affected physical health of people globally (*very high confidence)* and mental health of people in the assessed regions (*very high confidence*). Climate change impacts on health are mediated through natural and human systems, including economic and social conditions and disruptions (*high confidence*). In all regions extreme heat events have resulted in human mortality and morbidity (*very high confidence*). The occurrence of climate-related food-borne and water-borne diseases has increased (*very high confidence*). The incidence of vector-borne diseases has increased from range expansion and/or increased reproduction of disease vectors (*high confidence*). Animal and human diseases, including zoonoses, are emerging in new areas (*high confidence*). Water and food-borne disease risks have increased regionally from climate-sensitive aquatic pathogens, including *Vibrio* spp. (*high confidence*), and from toxic substances from harmful freshwater cyanobacteria (*medium confidence*). Although diarrheal diseases have decreased globally, higher temperatures, increased rain and flooding have increased the occurrence of diarrheal diseases, including cholera (*very high confidence*) and other gastrointestinal infections (*high confidence*). In assessed regions, some mental health challenges are associated with increasing temperatures (*high confidence*), trauma from weather and climate extreme events (*very high confidence*), and loss of livelihoods and culture (*high confidence*). Increased exposure to wildfire smoke, atmospheric dust, and aeroallergens have been associated with climate-sensitive cardiovascular and respiratory distress (*high confidence*). Health services have been disrupted by extreme events such as floods (*high confidence*). {4.3, 5.12, 7.2, Box 7.3, 8.2, 8.3, Figure 8.10,

[30] Acute food insecurity can occur at any time with a severity that threatens lives, livelihoods or both, regardless of the causes, context or duration, as a result of shocks risking determinants of food security and nutrition, and used to assess the need for humanitarian action (IPC Global Partners, 2019).

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Box 8.6, 9.10, Figure 9.33, Figure 9.34, 10.4, 11.3, 12.3, 13.7, 14.4, 14.5, Figure 14.8, 15.3, 16.2, Table CCP5.1, CCP5.2.5, CCP6.2, Figure CCP6.3, Table CCB ILLNESS.1}

SPM.B.1.5 In urban settings, observed climate change has caused impacts on human health, livelihoods and key infrastructure (*high confidence*). Multiple climate and non-climate hazards impact cities, settlements and infrastructure and sometimes coincide, magnifying damage (*high confidence*). Hot extremes including heatwaves have intensified in cities (*high confidence*), where they have also aggravated air pollution events (*medium confidence*) and limited functioning of key infrastructure (*high confidence*). Observed impacts are concentrated amongst the economically and socially marginalized urban residents, e.g., in informal settlements (*high confidence*). Infrastructure, including transportation, water, sanitation and energy systems have been compromised by extreme and slow-onset events, with resulting economic losses, disruptions of services and impacts to wellbeing (*high confidence*). {4.3, 6.2, 7.1, 7.2, 9.9, 10.4, 11.3, 12.3, 13.6, 14.5, 15.3, CCP2.2, CCP4.2, CCP5.2}

SPM.B.1.6 Overall adverse economic impacts attributable to climate change, including slow-onset and extreme weather events, have been increasingly identified (*medium confidence*). Some positive economic effects have been identified in regions that have benefited from lower energy demand as well as comparative advantages in agricultural markets and tourism (*high confidence*). Economic damages from climate change have been detected in climate-exposed sectors, with regional effects to agriculture, forestry, fishery, energy, and tourism (*high confidence*), and through outdoor labour productivity (*high confidence*). Some extreme weather events, such as tropical cyclones, have reduced economic growth in the short-term (*high confidence*). Non-climatic factors including some patterns of settlement, and siting of infrastructure have contributed to the exposure of more assets to extreme climate hazards increasing the magnitude of the losses (*high confidence*). Individual livelihoods have been affected through changes in agricultural productivity, impacts on human health and food security, destruction of homes and infrastructure, and loss of property and income, with adverse effects on gender and social equity (*high confidence*). {3.5, 4.2, 5.12, 6.2, 7.2, 8.2, 9.6, 10.4, 13.10, 14.5, Box 14.6, 16.2, Table 16.5, 18.3, CCP6.2, CCB GENDER, CWGB ECONOMICS}

SPM.B.1.7 Climate change is contributing to humanitarian crises where climate hazards interact with high vulnerability (*high confidence*). Climate and weather extremes are increasingly driving displacement in all regions (*high confidence*), with small island states disproportionately affected (*high confidence*). Flood and drought-related acute food insecurity and malnutrition have increased in Africa (*high confidence*) and Central and South America (*high confidence*). While non-climatic factors are the dominant drivers of existing intrastate violent conflicts, in some assessed regions extreme weather and climate events have had a small, adverse impact on their length, severity or frequency, but the statistical association is weak (*medium confidence*). Through displacement and involuntary migration from extreme weather and climate events, climate change has generated and perpetuated vulnerability (*medium confidence*). {4.2, 4.3, 5.4, 7.2, 9.8, Box 9.9, Box 10.4, 12.3, 12.5, CCB MIGRATE, CCB DISASTER, 16.2}

Vulnerability and Exposure of Ecosystems and People

SPM.B.2 Vulnerability of ecosystems and people to climate change differs substantially among and within regions (*very high confidence*), driven by patterns of intersecting socio-economic development, unsustainable ocean and land use, inequity, marginalization, historical and ongoing patterns of inequity such as colonialism, and governance[31] (*high confidence*). Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change (*high confidence*). A high proportion of species is vulnerable to climate change (*high confidence*). Human and ecosystem vulnerability are interdependent (*high confidence*). Current unsustainable development patterns are increasing exposure of ecosystems and people to climate hazards (*high confidence*). {2.3, 2.4, 3.5, 4.3, 6.2, 8.2, 8.3, 9.4, 9.7, 10.4, 12.3, 14.5, 15.3, CCP5.2, CCP6.2, CCP7.3, CCP7.4, CCB GENDER}

[31] Governance: The structures, processes and actions through which private and public actors interact to address societal goals. This includes formal and informal institutions and the associated norms, rules, laws and procedures for deciding, managing, implementing and monitoring policies and measures at any geographic or political scale, from global to local.

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SPM.B.2.1 Since AR5 there is increasing evidence that degradation and destruction of ecosystems by humans increases the vulnerability of people (*high confidence*). Unsustainable land-use and land cover change, unsustainable use of natural resources, deforestation, loss of biodiversity, pollution, and their interactions, adversely affect the capacities of ecosystems, societies, communities and individuals to adapt to climate change (*high confidence*). Loss of ecosystems and their services has cascading and long-term impacts on people globally, especially for Indigenous Peoples and local communities who are directly dependent on ecosystems, to meet basic needs (*high confidence*). {2.3, 2.5, 2.6, 3.5, 3.6, 4.2, 4.3, 4.6, 5.1, 5.4, 5.5, 5.7, 5.8, 7.2, 8.1, 8.2, 8.3, 8.4, 8.5, 9.6, 10.4, 11.3, 12.2, 12.5. 13.8, 14.4, 14.5, 15.3, CCP1.2, CCP1.3, CCP2.2, CCP3, CCP4.3, CCP5.2, CCP6.2, CCP7.2, CCP7.3, CCP7.4, CCB ILLNESS, CCB MOVING PLATE, CCB SLR}

SPM.B.2.2 Non-climatic human-induced factors exacerbate current ecosystem vulnerability to climate change (*very high confidence*). Globally, and even within protected areas, unsustainable use of natural resources, habitat fragmentation, and ecosystem damage by pollutants increase ecosystem vulnerability to climate change (*high confidence*). Globally, less than 15% of the land, 21% of the freshwater and 8% of the ocean are protected areas. In most protected areas, there is insufficient stewardship to contribute to reducing damage from, or increasing resilience to, climate change (*high confidence*). {2.4, 2.5, 2.6, 3.4, 3.6, 4.2, 4.3, 5.8, 9.6, 11.3, 12.3, 13.3, 13.4, 14.5, 15.3, CCP1.2 Figure CCP1.15, CCP2.1, CCP2.2, CCP4.2, CCP5.2, CCP 6.2, CCP7.2, CCP7.3, CCB NATURAL}

SPM.B.2.3 Future vulnerability of ecosystems to climate change will be strongly influenced by the past, present and future development of human society, including from overall unsustainable consumption and production, and increasing demographic pressures, as well as persistent unsustainable use and management of land, ocean, and water (*high confidence*). Projected climate change, combined with non-climatic drivers, will cause loss and degradation of much of the world's forests (*high confidence*), coral reefs and low-lying coastal wetlands (*very high confidence*). While agricultural development contributes to food security, unsustainable agricultural expansion, driven in part by unbalanced diets[32], increases ecosystem and human vulnerability and leads to competition for land and/or water resources (*high confidence*). {2.2, 2.3, 2.4, 2.6, 3.4, 3.5, 3.6, 4.3, 4.5, 5.6, 5.12, 5.13, 7.2, 12.3, 13.3, 13.4, 13.10, 14.5, CCP1.2, CCP2.2, CCP5.2, CCP6.2, CCP7.2, CCP7.3, CCB NATURAL, CCB HEALTH}

SPM.B.2.4 Regions and people with considerable development constraints have high vulnerability to climatic hazards (*high confidence*). Global hotspots of high human vulnerability are found particularly in West-, Central- and East Africa, South Asia, Central and South America, Small Island Developing States and the Arctic (*high confidence*). Vulnerability is higher in locations with poverty, governance challenges and limited access to basic services and resources, violent conflict and high levels of climate-sensitive livelihoods (e.g., smallholder farmers, pastoralists, fishing communities) (*high confidence*). Between 2010-2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability (*high confidence*). Vulnerability at different spatial levels is exacerbated by inequity and marginalization linked to gender, ethnicity, low income or combinations thereof (*high confidence*), especially for many Indigenous Peoples and local communities (*high confidence*). Present development challenges causing high vulnerability are influenced by historical and ongoing patterns of inequity such as colonialism, especially for many Indigenous Peoples and local communities (*high confidence*). {4.2, 5.12, 6.2, 6.4, 7.1, 7.2, Box 7.1, 8.2, 8.3, Box 8.4, Figure 8.6, Box 9.1, 9.4, 9.7, 9.9, 10.3, 10.4, 10.6, 12.3, 12.5, Box 13.2, 14.4, 15.3, 15.6, 16.2, CCP6.2, CCP7.4}

SPM.B.2.5 Future human vulnerability will continue to concentrate where the capacities of local, municipal and national governments, communities and the private sector are least able to provide infrastructures and basic services (*high confidence*). Under the global trend of urbanization, human vulnerability will also concentrate in informal settlements and rapidly growing smaller settlements (*high confidence*). In rural areas vulnerability will be heightened by compounding processes including high emigration, reduced habitability and high reliance on climate-sensitive livelihoods (*high confidence*). Key infrastructure systems including sanitation, water, health, transport, communications and energy will be increasingly vulnerable if design

[32] Balanced diets feature plant-based foods, such as those based on coarse grains, legumes fruits and vegetables, nuts and seeds, and animal-source foods produced in resilient, sustainable and low-greenhouse gas emissions systems, as described in SRCCL.

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standards do not account for changing climate conditions (*high confidence*). Vulnerability will also rapidly rise in low-lying Small Island Developing States and atolls in the context of sea level rise and in some mountain regions, already characterised by high vulnerability due to high dependence on climate-sensitive livelihoods, rising population displacement, the accelerating loss of ecosystem services and limited adaptive capacities (*high confidence*). Future exposure to climatic hazards is also increasing globally due to socio-economic development trends including migration, growing inequality and urbanization *(high confidence*). {4.5, 5.5, 6.2, 7.2, 8.3, 9.9, 9.11, 10.3, 10.4, 12.3, 12.5, 13.6, 14.5, 15.3, 15.4, 16.5, CCP2.3, CCP4.3, CCP5.2, CCP5.3, CCP5.4, CCP6.2, CCB MIGRATE}

Risks in the near term (2021-2040)

SPM.B.3 Global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans (*very high confidence*). The level of risk will depend on concurrent near-term trends in vulnerability, exposure, level of socioeconomic development and adaptation (*high confidence*). Near-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change in human systems and ecosystems, compared to higher warming levels, but cannot eliminate them all (*very high confidence*). (Figure SPM.3, Box SPM.1) {WGI Table SPM.1, 16.4, 16.5, 16.6, CCP1.2, CCP5.3, CCB SLR, WGI SPM B1.3}

SPM.B.3.1 Near-term warming and increased frequency, severity and duration of extreme events will place many terrestrial, freshwater, coastal and marine ecosystems at high or very high risks of biodiversity loss (*medium to very high confidence*, depending on ecosystem). Near-term risks for biodiversity loss are moderate to high in forest ecosystems (*medium confidence*), kelp and seagrass ecosystems (*high* to *very high confidence*), and high to very high in Arctic sea-ice and terrestrial ecosystems (*high confidence*) and warm-water coral reefs (*very high confidence*). Continued and accelerating sea level rise will encroach on coastal settlements and infrastructure (*high confidence*) and commit low-lying coastal ecosystems to submergence and loss (*medium confidence*). If trends in urbanisation in exposed areas continue, this will exacerbate the impacts, with more challenges where energy, water and other services are constrained (*medium confidence*). The number of people at risk from climate change and associated loss of biodiversity will progressively increase (*medium confidence*). Violent conflict and, separately, migration patterns, in the near-term will be driven by socio-economic conditions and governance more than by climate change (*medium confidence*). (Figure SPM.3) {2.5, 3.4, 4.6, 6.2, 7.3, 8.7, 9.2, 9.9, 11.6, 12.5, 13.6, 13.10, 14.6, 15.3, 16.5, 16.6, CCP1.2, CCP2.1, CCP2.2, CCP5.3, CCP6.2, CCP6.3, CCB SLR, CCB MIGRATE}

SPM.B.3.2 In the near term, climate-associated risks to natural and human systems depend more strongly on changes in their vulnerability and exposure than on differences in climate hazards between emissions scenarios (*high confidence*). Regional differences exist, and risks are highest where species and people exist close to their upper thermal limits, along coastlines, in close association with ice or seasonal rivers (*high confidence*). Risks are also high where multiple non-climate drivers persist or where vulnerability is otherwise elevated (*high confidence*). Many of these risks are unavoidable in the near-term, irrespective of emission scenario (*high confidence*). Several risks can be moderated with adaptation (*high confidence*). (Figure SPM.3, Section C) {2.5, 3.3, 3.4, 4.5, 6.2, 7.1, 7.3, 8.2, 11.6, 12.4, 13.6, 13.7, 13.10, 14.5, 16.4, 16.5, CCP2.2, CCP4.3, CCP5.3, CCB SLR, WGI Table SPM.1}

SPM.B.3.3 Levels of risk for all Reasons for Concern (RFC) are assessed to become high to very high at lower global warming levels than in AR5 (*high confidence*). Between 1.2°C and 4.5°C global warming level very high risks emerge in all five RFCs compared to just two RFCs in AR5 (*high confidence*). Two of these transitions from high to very high risk are associated with near-term warming: risks to unique and threatened systems at a median value of 1.5°C [1.2 to 2.0] °C (*high confidence*) and risks associated with extreme weather events at a median value of 2°C [1.8 to 2.5] °C (*medium confidence*). Some key risks contributing to the RFCs are projected to lead to widespread, pervasive, and potentially irreversible impacts at global warming levels of 1.5–2°C if exposure and vulnerability are high and adaptation is low (*medium confidence*). Near-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change in human systems and ecosystems, compared to higher warming levels, but cannot eliminate them all (*very high confidence*). (Figure SPM.3b) {16.5, 16.6, CCB SLR}

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Mid to Long-term Risks (2041–2100)

SPM.B.4 Beyond 2040 and depending on the level of global warming, climate change will lead to numerous risks to natural and human systems (*high confidence*). For 127 identified key risks, assessed mid- and long-term impacts are up to multiple times higher than currently observed (*high confidence*). The magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation actions, and projected adverse impacts and related losses and damages escalate with every increment of global warming (*very high confidence*). (Figure SPM.3) {2.5, 3.4, 4.4, 5.2, 6.2, 7.3, 8.4, 9.2, 10.2, 11.6, 12.4, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 14.6, 15.3, 16.5, 16.6, CCP1.2; CCP2.2, CCP3.3, CCP4.3, CCP5.3, CCP6.3, CCP7.3}

SPM.B.4.1 Biodiversity loss, and degradation, damages to and transformation of ecosystems are already key risks for every region due to past global warming and will continue to escalate with every increment of global warming (*very high confidence*). In terrestrial ecosystems, 3 to 14% of species assessed[33] will *likely* face very high risk of extinction[34] at global warming levels of 1.5°C, increasing up to 3 to 18% at 2°C, 3 to 29% at 3°C, 3 to 39% at 4°C, and 3 to 48% at 5°C. In ocean and coastal ecosystems, risk of biodiversity loss ranges between moderate and very high by 1.5°C global warming level and is moderate to very high by 2°C but with more ecosystems at high and very high risk (*high confidence*), and increases to high to very high across most ocean and coastal ecosystems by 3°C (*medium* to *high confidence*, depending on ecosystem). Very high extinction risk for endemic species in biodiversity hotspots is projected to at least double from 2% between 1.5°C and 2°C global warming levels and to increase at least tenfold if warming rises from 1.5°C to 3°C (*medium confidence*). (Figure SPM.3c, d, f) {2.4, 2.5, 3.4, 3.5,12.3, 12.5, Table 12.6, 13.4, 13.10, 16.4, 16.6, CCP1.2, Figure CCP1.6; Figure CCP1.7, CCP5.3, CCP6.3, CCB PALEO}

SPM.B.4.2 Risks in physical water availability and water-related hazards will continue to increase by the mid- to long-term in all assessed regions, with greater risk at higher global warming levels (*high confidence*). At approximately 2°C global warming, snowmelt water availability for irrigation is projected to decline in some snowmelt dependent river basins by up to 20%, and global glacier mass loss of 18 ± 13% is projected to diminish water availability for agriculture, hydropower, and human settlements in the mid- to long-term, with these changes projected to double with 4°C global warming (*medium confidence*). In small islands, groundwater availability is threatened by climate change (*high confidence*). Changes to streamflow magnitude, timing and associated extremes are projected to adversely impact freshwater ecosystems in many watersheds by the mid- to long-term across all assessed scenarios (*medium confidence*). Projected increases in direct flood damages are higher by 1.4 to 2 times at 2°C and 2.5 to 3.9 times at 3°C compared to 1.5°C global warming without adaptation (*medium confidence*). At global warming of 4°C, approximately 10% of the global land area is projected to face increases in both extreme high and low river flows in the same location, with implications for planning for all water use sectors (*medium confidence*). Challenges for water management will be exacerbated in the near, mid and long term, depending on the magnitude, rate and regional details of future climate change and will be particularly challenging for regions with constrained resources for water management (*high confidence*). {2.3, Box 4.2, 4.4, 4.5, Figure 4.20, 15.3, CCB DISASTER, CCP5.3, SROCC 2.3}

SPM.B.4.3 Climate change will increasingly put pressure on food production and access, especially in vulnerable regions, undermining food security and nutrition (*high confidence*). Increases in frequency, intensity and severity of droughts, floods and heatwaves, and continued sea level rise will increase risks to food security (*high confidence*) in vulnerable regions from moderate to high between 1.5°C and 2°C global warming level, with no or low levels of adaptation (*medium confidence*). At 2°C or higher global warming level in the mid-term, food security risks due to climate change will be more severe, leading to malnutrition and micro-nutrient deficiencies, concentrated in Sub-Saharan Africa, South Asia, Central and South America and Small Islands (*high confidence)*. Global warming will progressively weaken soil health and ecosystem

[33] Numbers of species assessed are in the tens of thousands globally.

[34] The term 'very high risks of extinction' is used here consistently with the IUCN categories and criteria and equates with 'critically endangered'.

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services such as pollination, increase pressure from pests and diseases, and reduce marine animal biomass, undermining food productivity in many regions on land and in the ocean (*medium confidence*). At 3ºC or higher global warming level in the long term, areas exposed to climate-related hazards will expand substantially compared with 2ºC or lower global warming level (*high confidence*), exacerbating regional disparity in food security risks (*high confidence*). (Figure SPM.3) {1.1, 3.3, CCB SLR, 4.5, 5.2, 5.4, 5.5, 5.8, 5.9, 5.12, CCB MOVING PLATE, 7.3, 8.3, 9.11,13.5,15.3, 16.5, 16.6}

SPM.B.4.4 Climate change and related extreme events will significantly increase ill health and premature deaths from the near- to long-term (*high confidence*). Globally, population exposure to heatwaves will continue to increase with additional warming, with strong geographical differences in heat-related mortality without additional adaptation (*very high confidence*). Climate-sensitive food-borne, water-borne, and vector-borne disease risks are projected to increase under all levels of warming without additional adaptation (*high confidence*). In particular, dengue risk will increase with longer seasons and a wider geographic distribution in Asia, Europe, Central and South America and sub-Saharan Africa, potentially putting additional billions of people at risk by the end of the century (*high confidence*). Mental health challenges, including anxiety and stress, are expected to increase under further global warming in all assessed regions, particularly for children, adolescents, elderly, and those with underlying health conditions (*very high confidence*). {4.5, 5.12, Box 5.10, 7.3, Fig 7.9, 8.4, 9.10, Fig 9.32, Fig 9.35, 10.4, Fig 10.11, 11.3, 12.3, Fig 12.5, Fig 12.6, 13.7, Fig 13.23, Fig 13.24, 14.5, 15.3, CCP6.2}

SPM.B.4.5 Climate change risks to cities, settlements and key infrastructure will rise rapidly in the mid- and long-term with further global warming, especially in places already exposed to high temperatures, along coastlines, or with high vulnerabilities (*high confidence*). Globally, population change in low-lying cities and settlements will lead to approximately a billion people projected to be at risk from coastal-specific climate hazards in the mid-term under all scenarios, including in Small Islands (*high confidence*). The population potentially exposed to a 100-year coastal flood is projected to increase by about 20% if global mean sea level rises by 0.15 m relative to 2020 levels; this exposed population doubles at a 0.75 m rise in mean sea level and triples at 1.4 m without population change and additional adaptation (*medium confidence*). Sea level rise poses an existential threat for some Small Islands and some low-lying coasts (*medium confidence*). By 2100 the value of global assets within the future 1-in-100 year coastal floodplains is projected to be between US$7.9 and US$12.7 trillion (2011 value) under RCP4.5, rising to between US$8.8 and US$14.2 trillion under RCP8.5 (*medium confidence*). Costs for maintenance and reconstruction of urban infrastructure, including building, transportation, and energy will increase with global warming level (*medium confidence*), the associated functional disruptions are projected to be substantial particularly for cities, settlements and infrastructure located on permafrost in cold regions and on coasts (*high confidence*). {6.2, 9.9, 10.4, 13.6, 13.10, 15.3, 16.5, CCP2.1, CCP2.2, CCP5.3, CCP6.2, CCB SLR, SROCC 2.3, SROCC CCB9}

SPM.B.4.6 Projected estimates of global aggregate net economic damages generally increase non-linearly with global warming levels (*high confidence*).[35] The wide range of global estimates, and the lack of comparability between methodologies, does not allow for identification of a robust range of estimates (*high confidence*). The existence of higher estimates than assessed in AR5 indicates that global aggregate economic impacts could be higher than previous estimates (*low confidence*).[36] Significant regional variation in aggregate economic damages from climate change is projected (*high confidence*) with estimated economic damages per capita for developing countries often higher as a fraction of income (*high confidence*). Economic damages, including both those represented and those not represented in economic markets, are projected to be lower at 1.5°C than at 3°C or higher global warming levels (*high confidence*). {4.4, 9.11, 11.5, 13.10, Box 14.6, 16.5, CWGB ECONOMICS}

SPM.B.4.7 In the mid- to long-term, displacement will increase with intensification of heavy precipitation and associated flooding, tropical cyclones, drought and, increasingly, sea level rise (*high confidence*). At progressive levels of warming, involuntary migration from regions with high exposure and low adaptive

[35] The assessment found estimated rates of increase in projected global economic damages that were both greater than linear and less than linear as global warming level increases. There is evidence that some regions could benefit from low levels of warming (*high confidence*). {CWGB ECONOMICS}

[36] *Low confidence* assigned due to the assessed lack of comparability and robustness of global aggregate economic damage estimates. {CWGB ECONOMICS}

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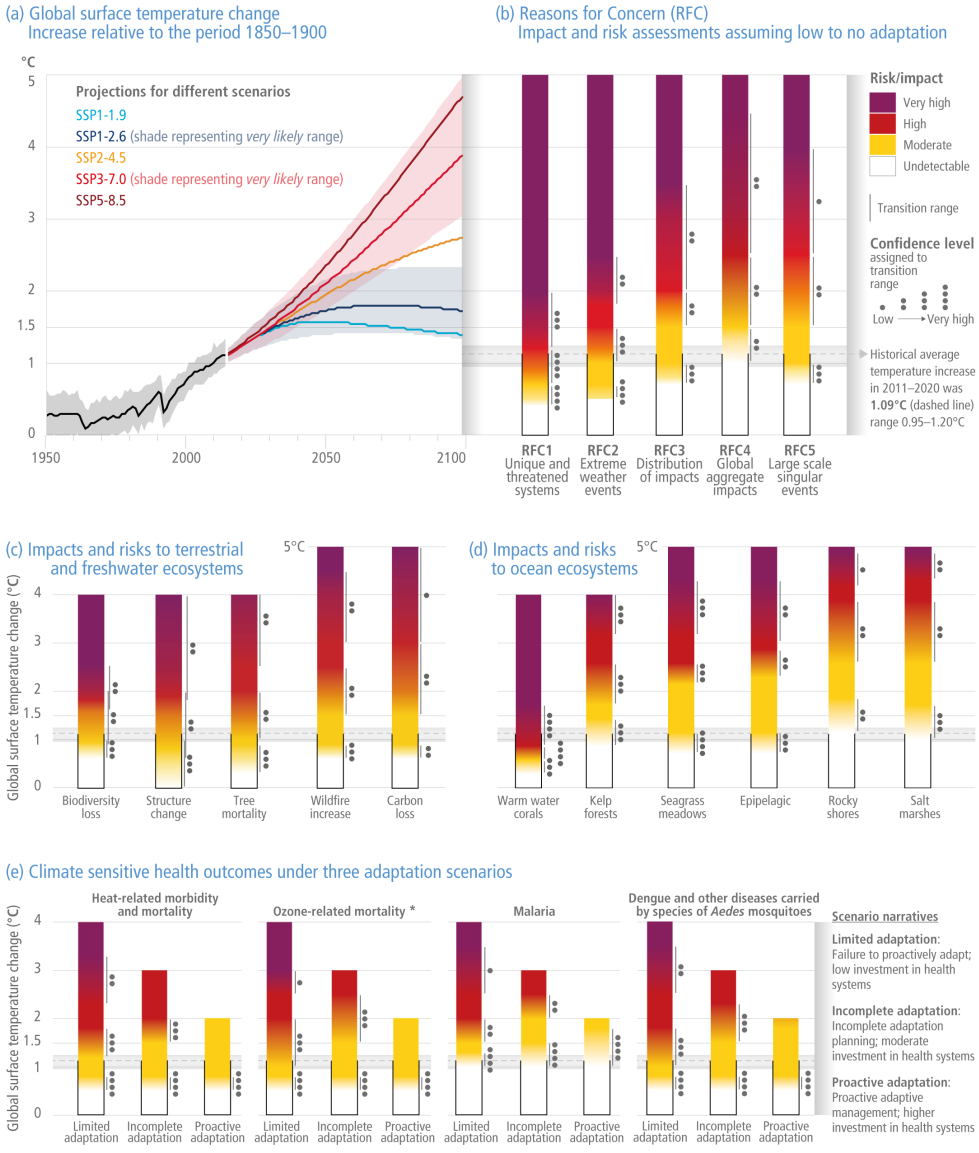
capacity would occur (*medium confidence*). Compared to other socioeconomic factors the influence of climate on conflict is assessed as relatively weak (*high confidence*). Along long-term socioeconomic pathways that reduce non-climatic drivers, risk of violent conflict would decline (*medium confidence*). At higher global warming levels, impacts of weather and climate extremes, particularly drought, by increasing vulnerability will increasingly affect violent intrastate conflict (*medium confidence*). {7.3, 16.5, CCB MIGRATE, TSB7.4}

Global and regional risks for increasing levels of global warming



* Mortality projections include demographic trends but do not include future efforts to improve air quality that reduce ozone concentrations.

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(f) Examples of regional key risks

Absence of risk diagrams does not imply absence of risks within a region. The development of synthetic diagrams for Small Islands, Asia and Central and South America was limited due to the paucity of adequately downscaled climate projections, with uncertainty in the direction of change, the diversity of climatologies and socioeconomic contexts across countries within a region, and the resulting few numbers of impact and risk projections for different warming levels.

The risks listed are of at least *medium confidence* level:

Small Islands	- Loss of terrestrial, marine and coastal biodiversity and ecosystem services - Loss of lives and assets, risk to food security and economic disruption due to destruction of settlements and infrastructure - Economic decline and livelihood failure of fisheries, agriculture, tourism and from biodiversity loss from traditional agroecosystems - Reduced habitability of reef and non-reef islands leading to increased displacement - Risk to water security in almost every small island
North America	- Climate-sensitive mental health outcomes, human mortality and morbidity due to increasing average temperature, weather and climate extremes, and compound climate hazards - Risk of degradation of marine, coastal and terrestrial ecosystems, including loss of biodiversity, function, and protective services - Risk to freshwater resources with consequences for ecosystems, reduced surface water availability for irrigated agriculture, other human uses, and degraded water quality - Risk to food and nutritional security through changes in agriculture, livestock, hunting, fisheries, and aquaculture productivity and access - Risks to well-being, livelihoods and economic activities from cascading and compounding climate hazards, including risks to coastal cities, settlements and infrastructure from sea-level rise
Europe	- Risks to people, economies and infrastructures due to coastal and inland flooding - Stress and mortality to people due to increasing temperatures and heat extremes - Marine and terrestrial ecosystems disruptions - Water scarcity to multiple interconnected sectors - Losses in crop production, due to compound heat and dry conditions, and extreme weather
Central and South America	- Risk to water security - Severe health effects due to increasing epidemics, in particular vector-borne diseases - Coral reef ecosystems degradation due to coral bleaching - Risk to food security due to frequent/extreme droughts - Damages to life and infrastructure due to floods, landslides, sea level rise, storm surges and coastal erosion
Aus-tralasia	- Degradation of tropical shallow coral reefs and associated biodiversity and ecosystem service values - Loss of human and natural systems in low-lying coastal areas due to sea-level rise - Impact on livelihoods and incomes due to decline in agricultural production - Increase in heat-related mortality and morbidity for people and wildlife - Loss of alpine biodiversity in Australia due to less snow
Asia	- Urban infrastructure damage and impacts on human well-being and health due to flooding, especially in coastal cities and settlements - Biodiversity loss and habitat shifts as well as associated disruptions in dependent human systems across freshwater, land, and ocean ecosystems - More frequent, extensive coral bleaching and subsequent coral mortality induced by ocean warming and acidification, sea level rise, marine heat waves and resource extraction - Decline in coastal fishery resources due to sea level rise, decrease in precipitation in some parts and increase in temperature - Risk to food and water security due to increased temperature extremes, rainfall variability and drought
Africa	- Species extinction and reduction or irreversible loss of ecosystems and their services, including freshwater, land and ocean ecosystems - Risk to food security, risk of malnutrition (micronutrient deficiency), and loss of livelihood due to reduced food production from crops, livestock and fisheries - Risks to marine ecosystem health and to livelihoods in coastal communities - Increased human mortality and morbidity due to increased heat and infectious diseases (including vector-borne and diarrhoeal diseases) - Reduced economic output and growth, and increased inequality and poverty rates - Increased risk to water and energy security due to drought and heat

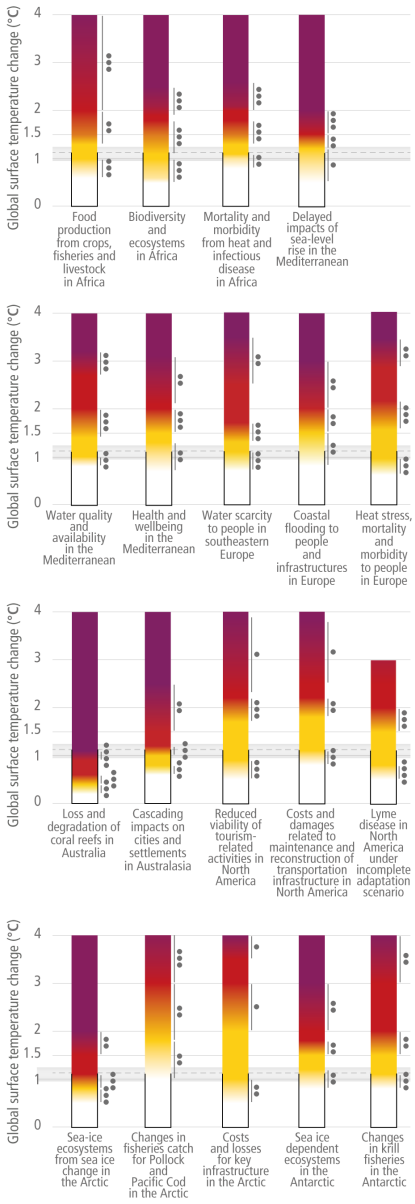

Figure SPM.3: Synthetic diagrams of global and sectoral assessments and examples of regional key risks. Diagrams show the change in the levels of impacts and risks assessed for global warming of 0-5°C global surface temperature change relative to pre-industrial period (1850-1900) over the range. (a) Global surface temperature changes in °C relative to 1850–1900. These changes were obtained by combining CMIP6 model simulations with observational constraints based on past simulated warming, as well as an updated assessment of equilibrium climate sensitivity (Box SPM.1). Changes relative to 1850–1900 based on 20-year averaging periods are calculated by adding 0.85°C (the observed global surface temperature increase from 1850–1900 to 1995–2014) to simulated changes relative to 1995–2014. *Very likely* ranges are shown for SSP1-2.6 and SSP3-

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7.0 (WGI Figure SPM.8). Assessments were carried out at the global scale for (b), (c), (d) and (e). (b) The Reasons for Concern (RFC) framework communicates scientific understanding about accrual of risk for five broad categories. Diagrams are shown for each RFC, assuming low to no adaptation (i.e., adaptation is fragmented, localized and comprises incremental adjustments to existing practices). However, the transition to a very high risk level has an emphasis on irreversibility and adaptation limits. Undetectable risk level (white) indicates no associated impacts are detectable and attributable to climate change; moderate risk (yellow) indicates associated impacts are both detectable and attributable to climate change with at least *medium confidence*, also accounting for the other specific criteria for key risks; high risk (red) indicates severe and widespread impacts that are judged to be high on one or more criteria for assessing key risks; and very high risk level (purple) indicates very high risk of severe impacts and the presence of significant irreversibility or the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazard or impacts/risks. The horizontal line denotes the present global warming of 1.09°C which is used to separate the observed, past impacts below the line from the future projected risks above it. RFC1: Unique and threatened systems: ecological and human systems that have restricted geographic ranges constrained by climate-related conditions and have high endemism or other distinctive properties. Examples include coral reefs, the Arctic and its Indigenous Peoples, mountain glaciers and biodiversity hotspots. RFC2: Extreme weather events: risks/impacts to human health, livelihoods, assets and ecosystems from extreme weather events such as heatwaves, heavy rain, drought and associated wildfires, and coastal flooding. RFC3: Distribution of impacts: risks/impacts that disproportionately affect particular groups due to uneven distribution of physical climate change hazards, exposure or vulnerability. RFC4: Global aggregate impacts: impacts to socio-ecological systems that can be aggregated globally into a single metric, such as monetary damages, lives affected, species lost or ecosystem degradation at a global scale. RFC5: Large-scale singular events: relatively large, abrupt and sometimes irreversible changes in systems caused by global warming, such as ice sheet disintegration or thermohaline circulation slowing. Assessment methods are described in SM16.6 and are identical to AR5, but are enhanced by a structured approach to improve robustness and facilitate comparison between AR5 and AR6. Risks for (c) terrestrial and freshwater ecosystems and (d) ocean ecosystems. For c) and d), diagrams shown for each risk assume low to no adaptation. The transition to a very high risk level has an emphasis on irreversibility and adaptation limits. (e) Climate-sensitive human health outcomes under three scenarios of adaptation effectiveness. The assessed projections were based on a range of scenarios, including SRES, CMIP5, and ISIMIP, and, in some cases, demographic trends. The diagrams are truncated at the nearest whole ºC within the range of temperature change in 2100 under three SSP scenarios in panel (a). (f) Examples of regional key risks. Risks identified are of at least *medium confidence* level. Key risks are identified based on the magnitude of adverse consequences (pervasiveness of the consequences, degree of change, irreversibility of consequences, potential for impact thresholds or tipping points, potential for cascading effects beyond system boundaries); likelihood of adverse consequences; temporal characteristics of the risk; and ability to respond to the risk, e.g., by adaptation. The full set of 127 assessed global and regional key risks is given in SM16.7. Diagrams are provided for some risks. The development of synthetic diagrams for Small Islands, Asia and Central and South America were limited by the availability of adequately downscaled climate projections, with uncertainty in the direction of change, the diversity of climatologies and socio-economic contexts across countries within a region, and the resulting low number of impact and risk projections for different warming levels. Absence of risks diagrams does not imply absence of risks within a region. (Box SPM.1) {16.5, 16.6, Figure 16.15, SM16.3, SM16.4, SM16.5, SM16.6 (methodologies), SM16.7, Figure 2.11, Figure SM3.1, Figure 7.9, Figure 9.6, Figure 11.6, Figure 13.28, Figure CCP6.5, Figure CCP4.8, Figure CCP4.10, Figure TS.4, WGI Figure SPM.8, WGI SPM A.1.2, Box SPM.1, WGI Ch. 2}

Complex, Compound and Cascading Risks

SPM.B.5 Climate change impacts and risks are becoming increasingly complex and more difficult to manage. Multiple climate hazards will occur simultaneously, and multiple climatic and non-climatic risks will interact, resulting in compounding overall risk and risks cascading across sectors and regions. Some responses to climate change result in new impacts and risks. (*high confidence*) {1.3, 2.4, Box 2.2, Box 9.5, 11.5, 13.5, 14.6, Box 15.1, CCP1.2, CCP2.2, CCB DISASTER, CCB INTERREG, CCB SRM, CCB COVID}

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SPM.B.5.1 Concurrent and repeated climate hazards occur in all regions, increasing impacts and risks to health, ecosystems, infrastructure, livelihoods and food (*high confidence*). Multiple risks interact, generating new sources of vulnerability to climate hazards, and compounding overall risk (*high confidence*). Increasing concurrence of heat and drought events are causing crop production losses and tree mortality (*high confidence*). Above 1.5°C global warming increasing concurrent climate extremes will increase risk of simultaneous crop losses of maize in major food-producing regions, with this risk increasing further with higher global warming levels (*medium confidence*). Future sea level rise combined with storm surge and heavy rainfall will increase compound flood risks (*high confidence*). Risks to health and food production will be made more severe from the interaction of sudden food production losses from heat and drought, exacerbated by heat-induced labour productivity losses (*high confidence*). These interacting impacts will increase food prices, reduce household incomes, and lead to health risks of malnutrition and climate-related mortality with no or low levels of adaptation, especially in tropical regions (*high confidence*). Risks to food safety from climate change will further compound the risks to health by increasing food contamination of crops from mycotoxins and contamination of seafood from harmful algal blooms, mycotoxins, and chemical contaminants (*high confidence*). {5.2, 5.4, 5.8, 5.9, 5.11, 5.12, 7.2, 7.3, 9.8, 9.11, 10.4, 11.3, 11.5, 12.3, 13.5, 14.5, 15.3, Box 15.1, 16.6, CCP1.2, CCP6.2, Figure TS10C, WG1 SPM A.3.1, A.3.2 and C.2.7}

SPM.B.5.2 Adverse impacts from climate hazards and resulting risks are cascading across sectors and regions (*high confidence*), propagating impacts along coasts and urban centres (*medium confidence*) and in mountain regions (*high confidence*). These hazards and cascading risks also trigger tipping points in sensitive ecosystems and in significantly and rapidly changing social-ecological systems impacted by ice melt, permafrost thaw and changing hydrology in polar regions (*high confidence*). Wildfires, in many regions, have affected ecosystems and species, people and their built assets, economic activity, and health (*medium to high confidence*)**.** In cities and settlements, climate impacts to key infrastructure are leading to losses and damages across water and food systems, and affect economic activity, with impacts extending beyond the area directly impacted by the climate hazard (*high confidence*). In Amazonia, and in some mountain regions, cascading impacts from climatic (e.g., heat) and non-climatic stressors (e.g., land use change) will result in irreversible and severe losses of ecosystem services and biodiversity at 2°C global warming level and beyond (*medium confidence*). Unavoidable sea level rise will bring cascading and compounding impacts resulting in losses of coastal ecosystems and ecosystem services, groundwater salinisation, flooding and damages to coastal infrastructure that cascade into risks to livelihoods, settlements, health, well-being, food and water security, and cultural values in the near to long-term (*high confidence*). (Figure SPM.3) {2.5, 3.4, 3.5, Box 7.3, Box 8.7, Box 9.4, Box 11.1, 11.5, 12.3, 13.9, 14.6, 15.3, 16.5, 16.6, CCP1.2, CCP2.2, CCP5.2, CCP5.3, CCP6.2, CCP6.3, Box CCP6.1, Box CCP6.2, CCB EXTREMES, Figure TS.10, WGI SPM Figure SPM.8d}

SPM.B.5.3 Weather and climate extremes are causing economic and societal impacts across national boundaries through supply-chains, markets, and natural resource flows, with increasing transboundary risks projected across the water, energy and food sectors (*high confidence*). Supply chains that rely on specialized commodities and key infrastructure can be disrupted by weather and climate extreme events. Climate change causes the redistribution of marine fish stocks, increasing risk of transboundary management conflicts among fisheries users, and negatively affecting equitable distribution of food provisioning services as fish stocks shift from lower to higher latitude regions, thereby increasing the need for climate-informed transboundary management and cooperation (*high confidence*). Precipitation and water availability changes increases the risk of planned infrastructure projects, such as hydropower in some regions, having reduced productivity for food and energy sectors including across countries that share river basins (*medium confidence*). {Figure TS.10e-f, 3.4, 3.5, 4.5, 5.8, 5.13, 6.2, 9.4, Box 9.5,14.5, Box 14.5, Box 14.6, CCP5.3, CCB EXTREMES, CCB MOVING PLATE, CCB INTERREG, CCB DISASTER}

SPM B.5.4 Risks arise from some responses that are intended to reduce the risks of climate change, including risks from maladaptation and adverse side effects of some emission reduction and carbon dioxide removal measures (*high confidence*). Deployment of afforestation of naturally unforested land, or poorly implemented bioenergy, with or without carbon capture and storage, can compound climate-related risks to biodiversity, water and food security, and livelihoods, especially if implemented at large scales, especially in regions with insecure land tenure (*high confidence*). {Box 2.2, 4.1, 4.7, 5.13, Table 5.18, Box 9.3, Box 13.2, CCB NATURAL, CWGB BIOECONOMY}

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SPM B.5.5 Solar radiation modification approaches, if they were to be implemented, introduce a widespread range of new risks to people and ecosystems, which are not well understood (*high confidence*). Solar radiation modification approaches have potential to offset warming and ameliorate some climate hazards, but substantial residual climate change or overcompensating change would occur at regional scales and seasonal timescales (*high confidence*). Large uncertainties and knowledge gaps are associated with the potential of solar radiation modification approaches to reduce climate change risks. Solar radiation modification would not stop atmospheric CO_2 concentrations from increasing or reduce resulting ocean acidification under continued anthropogenic emissions (*high confidence*). {XWGB SRM}

Impacts of Temporary Overshoot

SPM.B.6 If global warming transiently exceeds 1.5°C in the coming decades or later (overshoot)[37], then many human and natural systems will face additional severe risks, compared to remaining below 1.5°C (*high confidence*). Depending on the magnitude and duration of overshoot, some impacts will cause release of additional greenhouse gases (*medium confidence*) and some will be irreversible, even if global warming is reduced (*high confidence*). (Figure SPM.3) {2.5, 3.4, 12.3, 16.6, CCB SLR, CCB DEEP, Box SPM.1}

SPM.B.6.1 While model-based assessments of the impacts of overshoot pathways are limited, observations and current understanding of processes permit assessment of impacts from overshoot. Additional warming, e.g., above 1.5°C during an overshoot period this century, will result in irreversible impacts on certain ecosystems with low resilience, such as polar, mountain, and coastal ecosystems, impacted by ice-sheet, glacier melt, or by accelerating and higher committed sea level rise (*high confidence*).[38] Risks to human systems will increase, including those to infrastructure, low-lying coastal settlements, some ecosystem-based adaptation measures, and associated livelihoods (*high confidence*), cultural and spiritual values (*medium confidence*). Projected impacts are less severe with shorter duration and lower levels of overshoot (*medium confidence*). {2.5, 3.4, 12.3, 13.2, 16.5, 16.6, CCP 1.2, CCP5.3, CCP6.1, CCP6.2, CCP2.2, CCB SLR, Box TS4, SROCC 2.3, SROCC 5.4, WG1 SPM B5 and C3}

SPM.B.6.2 Risk of severe impacts increase with every additional increment of global warming during overshoot (*high confidence*). In high-carbon ecosystems (currently storing 3,000 to 4,000 GtC)[39] such impacts are already observed and are projected to increase with every additional increment of global warming, such as increased wildfires, mass mortality of trees, drying of peatlands, and thawing of permafrost, weakening natural land carbon sinks and increasing releases of greenhouse gases (*medium confidence*). The resulting contribution to a potential amplification of global warming indicates that a return to a given global warming level or below would be more challenging (*medium confidence*). {2.4, 2.5, CCP4.2, WG1 SPM B.4.3, SROCC 5.4}

SPM.C: Adaptation Measures and Enabling Conditions

Adaptation, in response to current climate change, is reducing climate risks and vulnerability mostly via adjustment of existing systems. Many adaptation options exist and are used to help manage projected climate change impacts, but their implementation depends upon the capacity and effectiveness of governance and decision-making processes. These and other enabling conditions can also support Climate Resilient Development (Section D).

Current Adaptation and its Benefits

[37] In this report, overshoot pathways exceed 1.5°C global warming and then return to that level, or below, after several decades.

[38] Despite limited evidence specifically on the impacts of a temporary overshoot of 1.5°C, a much broader evidence base from process understanding and the impacts of higher global warming levels allows a high confidence statement on the irreversibility of some impacts that would be incurred following such an overshoot.

[39] At the global scale, terrestrial ecosystems currently remove more carbon from the atmosphere (-3.4 ± 0.9 Gt yr^{-1}) than they emit ($+1.6 \pm 0.7$ Gt yr^{-1}), a net sink of -1.9 ± 1.1 Gt yr^{-1}. However, recent climate change has shifted some systems in some regions from being net carbon sinks to net carbon sources.

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SPM.C.1 Progress in adaptation planning and implementation has been observed across all sectors and regions, generating multiple benefits (*very high confidence*). However, adaptation progress is unevenly distributed with observed adaptation gaps[40] (*high confidence*). Many initiatives prioritize immediate and near-term climate risk reduction which reduces the opportunity for transformational adaptation (*high confidence*). {2.6, 5.14, 7.4, 10.4, 12.5, 13.11, 14.7, 16.3, 17.3, CCP5.2, CCP5.4}

SPM.C.1.1 Adaptation planning and implementation have continued to increase across all regions (*very high confidence*). Growing public and political awareness of climate impacts and risks has resulted in at least 170 countries and many cities including adaptation in their climate policies and planning processes (*high confidence*). Decision support tools and climate services are increasingly being used (*very high confidence*). Pilot projects and local experiments are being implemented in different sectors (*high confidence*). Adaptation can generate multiple additional benefits such as improving agricultural productivity, innovation, health and well-being, food security, livelihood, and biodiversity conservation as well as reduction of risks and damages (*very high confidence*). {1.4, CCB ADAPT, 2.6, CCB NATURE, 3.5, 3.6, 4.7, 4.8, 5.4, 5.6, 5.10, 6.4.2, 7.4, 8.5, 9.3, 9.6, 10.4, 12.5, 13.11, 15.5, 16.3, 17.2, 17.3, 17.5 CCP5.4}

SPM.C.1.2 Despite progress, adaptation gaps exist between current levels of adaptation and levels needed to respond to impacts and reduce climate risks (*high confidence*). Most observed adaptation is fragmented, small in scale, incremental, sector-specific, designed to respond to current impacts or near-term risks, and focused more on planning rather than implementation (*high confidence*). Observed adaptation is unequally distributed across regions *(high confidence)*, and gaps are partially driven by widening disparities between the estimated costs of adaptation and documented finance allocated to adaptation (*high confidence*). The largest adaptation gaps exist among lower income population groups (*high confidence*). At current rates of adaptation planning and implementation the adaptation gap will continue to grow (*high confidence*). As adaptation options often have long implementation times, long-term planning and accelerated implementation, particularly in the next decade, is important to close adaptation gaps, recognising that constraints remain for some regions (*high confidence*). {1.1, 1.4, 5.6, 6.3, Figure 6.4, 7.4, 8.3, 10.4, 11.3, 11.7, 15.2, Box 13.1, 13.11, 15.5, Box16.1, Figure 16.4, Figure 16.5, 16.3, 16.5, 17.4, 18.2, CCP2.4, CCP5.4, CCB FINANCE, CCB SLR}

[40] Adaptation gaps are defined as the difference between actually implemented adaptation and a societally set goal, determined largely by preferences related to tolerated climate change impacts and reflecting resource limitations and competing priorities.

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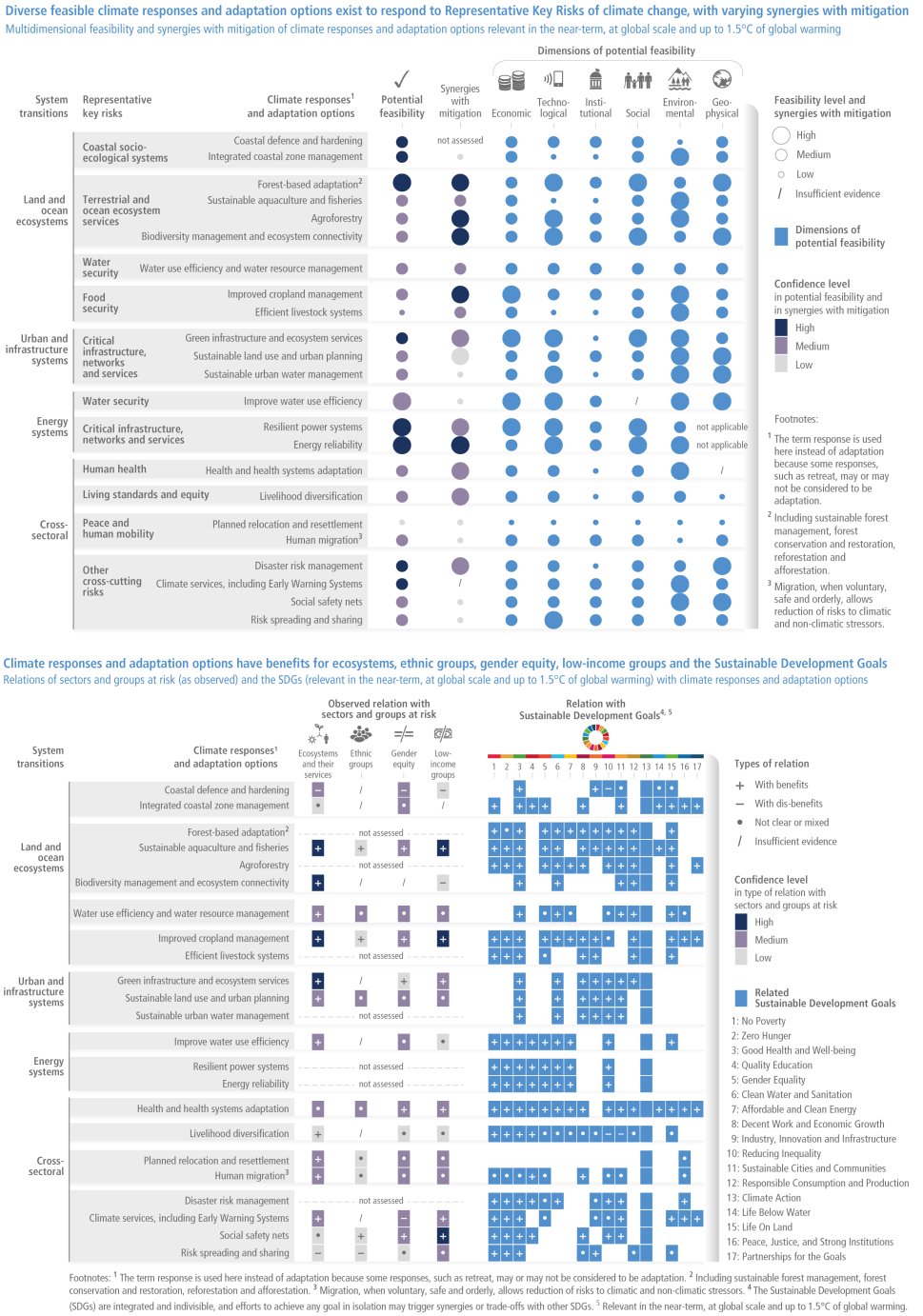

Figure SPM.4: (a) Climate responses and adaptation options, organized by System Transitions and Representative Key Risks (RKRs), are assessed for their multidimensional feasibility at global scale, in the near term and up to 1.5°C global

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warming. As literature above 1.5°C is limited, feasibility at higher levels of warming may change, which is currently not possible to assess robustly. Climate responses and adaptation options at global scale are drawn from a set of options assessed in AR6 that have robust evidence across the feasibility dimensions. This figure shows the six feasibility dimensions (economic, technological, institutional, social, environmental and geophysical) that are used to calculate the potential feasibility of climate responses and adaptation options, along with their synergies with mitigation. For potential feasibility and feasibility dimensions, the figure shows high, medium, or low feasibility. Synergies with mitigation are identified as high, medium, and low. Insufficient evidence is denoted by a dash. {CCB FEASIB., Table SMCCB FEASIB.1.1; SR1.5 4.SM.4.3}

Figure SPM.4: (b) Climate responses and adaptation options, organized by System Transitions and Representative Key Risks, are assessed at global scale for their likely ability to reduce risks for ecosystems and social groups at risk, as well as their relation with the 17 Sustainable Development Goals (SDGs). Climate responses and adaptation options are assessed for observed benefits (+) to ecosystems and their services, ethnic groups, gender equity, and low-income groups, or observed dis-benefits (-) for these systems and groups. Where there is highly diverging evidence of benefits/ dis-benefits across the scientific literature, e.g., based on differences between regions, it is shown as not clear or mixed (•). Insufficient evidence is shown by a dash. The relation with the SDGs is assessed as having benefits (+), dis-benefits (-) or not clear or mixed (•) based on the impacts of the climate response and adaptation option on each SDG. Areas not coloured indicate there is no evidence of a relation or no interaction with the respective SDG. The climate responses and adaptation options are drawn from two assessments. For comparability of climate responses and adaptation options see Table SM17.5. {17.2, 17.5; CCB FEASIB}

Future Adaptation Options and their Feasibility

SPM.C.2 There are feasible[41] and effective[42] adaptation options which can reduce risks to people and nature. The feasibility of implementing adaptation options in the near-term differs across sectors and regions (*very high confidence*). The effectiveness of adaptation to reduce climate risk is documented for specific contexts, sectors and regions (*high confidence*) and will decrease with increasing warming (*high confidence*). Integrated, multi-sectoral solutions that address social inequities, differentiate responses based on climate risk and cut across systems, increase the feasibility and effectiveness of adaptation in multiple sectors (*high confidence*). (Figure SPM.4) {Figure TS.6e, 1.4, 3.6, 4.7, 5.12, 6.3, 7.4, 11.3, 11.7, 13.2, 15.5, 17.6, CCB FEASIB, CCP2.3}

Land, Ocean and Ecosystems Transition

SPM.C.2.1 Adaptation to water-related risks and impacts make up the majority of all documented adaptation (*high confidence*). For inland flooding, combinations of non-structural measures like early warning systems and structural measures like levees have reduced loss of lives (*medium confidence*). Enhancing natural water retention such as by restoring wetlands and rivers, land use planning such as no build zones or upstream forest management, can further reduce flood risk (*medium confidence*). On-farm water management, water storage, soil moisture conservation and irrigation are some of the most common adaptation responses and provide economic, institutional or ecological benefits and reduce vulnerability (*high confidence*). Irrigation is effective in reducing drought risk and climate impacts in many regions and has several livelihood benefits, but needs appropriate management to avoid potential adverse outcomes, which can include accelerated depletion of groundwater and other water sources and increased soil salinization (*medium confidence*). Large scale irrigation can also alter local to regional temperature and precipitation patterns (*high confidence*), including both alleviating and exacerbating temperature extremes (*medium confidence*). The effectiveness of most water-related adaptation options to reduce projected risks declines with increasing warming (*high confidence*). {4.1,

[41] In this report, feasibility refers to the potential for a mitigation or adaptation option to be implemented. Factors influencing feasibility are context-dependent, temporally dynamic, and may vary between different groups and actors. Feasibility depends on geophysical, environmental-ecological, technological, economic, socio-cultural and institutional factors that enable or constrain the implementation of an option. The feasibility of options may change when different options are combined and increase when enabling conditions are strengthened.

[42] Effectiveness refers to the extent to which an adaptation option is anticipated or observed to reduce climate-related risk.

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4.6, 4.7, Box 4.3, Box 4.6, Box 4.7, Figure 4.28, Figure 4.29, Table 4.9, 9.3, 9.7, 11.3, 12.5, 13.1, 13.2, 16.3, CCP5.4, Figure 4.22}

SPM.C.2.2 Effective adaptation options, together with supportive public policies enhance food availability and stability and reduce climate risk for food systems while increasing their sustainability (*medium confidence*). Effective options include cultivar improvements, agroforestry, community-based adaptation, farm and landscape diversification, and urban agriculture (*high confidence*). Institutional feasibility, adaptation limits of crops and cost effectiveness also influence the effectiveness of the adaptation options (*limited evidence*, *medium agreement*). Agroecological principles and practices, ecosystem-based management in fisheries and aquaculture, and other approaches that work with natural processes support food security, nutrition, health and well-being, livelihoods and biodiversity, sustainability and ecosystem services (*high confidence*). These services include pest control, pollination, buffering of temperature extremes, and carbon sequestration and storage (*high confidence*). Trade-offs and barriers associated with such approaches include costs of establishment, access to inputs and viable markets, new knowledge and management (*high confidence*) and their potential effectiveness varies by socio-economic context, ecosystem zone, species combinations and institutional support (*medium confidence*). Integrated, multi-sectoral solutions that address social inequities and differentiate responses based on climate risk and local situation will enhance food security and nutrition (*high confidence*). Adaptation strategies which reduce food loss and waste or support balanced diets[33] (as described in the IPCC Special Report on Climate Change and Land) contribute to nutrition, health, biodiversity and other environmental benefits (*high confidence*). {3.2, 4.7, 4.6, Box 4.3, 5.4, 5.5, 5.6, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.14, 7.4, Box 5.10, Box 5.13, 6.3, 10.4, 12.5, 13.5, 13.10, 14.5, CWGB BIOECONOMY, CCB MOVING PLATE, CCB NATURAL, CCB FEASIB, CCP5.4, CCB HEALTH}

SPM.C.2.3 Adaptation for natural forests[43] includes conservation, protection and restoration measures. In managed forests[44], adaptation options include sustainable forest management, diversifying and adjusting tree species compositions to build resilience, and managing increased risks from pests and diseases and wildfires. Restoring natural forests and drained peatlands and improving sustainability of managed forests, generally enhances the resilience of carbon stocks and sinks. Cooperation, and inclusive decision making, with local communities and Indigenous Peoples, as well as recognition of inherent rights of Indigenous Peoples, is integral to successful forest adaptation in many areas. (*high confidence*) {2.6, Box 2.2, CCB NATURAL, CCB FEASIB, CCB INDIG, 5.6, 5.13, 11.4, 12.5, 13.5, Box 14.1, Box 14.2, Table 5.23, Box CCP7.1, CCP7.5}.

SPM.C.2.4 Conservation, protection and restoration of terrestrial, freshwater, coastal and ocean ecosystems, together with targeted management to adapt to unavoidable impacts of climate change, reduces the vulnerability of biodiversity to climate change (*high confidence*). The resilience of species, biological communities and ecosystem processes increases with size of natural area, by restoration of degraded areas and by reducing non-climatic stressors (*high confidence*). To be effective, conservation and restoration actions will increasingly need to be responsive, as appropriate, to ongoing changes at various scales, and plan for future changes in ecosystem structure, community composition and species' distributions, especially as 1.5°C global warming is approached and even more so if it is exceeded (*high confidence*). Adaptation options, where circumstances allow, include facilitating the movement of species to new ecologically appropriate locations, particularly through increasing connectivity between conserved or protected areas, targeted intensive management for vulnerable species and protecting refugial areas where species can survive locally (*medium confidence*). {2.3, Figure 2.1, 2,6, Table 2.6, 2.6, 3.6, Box 3.4, 4.6, Box 11.2, 12.3, 12.5, 3.3, 13.4, 14.7, Box 4.6, CCP5.4, CCB FEASIB}

SPM.C.2.5 Effective Ecosystem-based Adaptation[44] reduces a range of climate change risks to people, biodiversity and ecosystem services with multiple co-benefits (*high confidence*). Ecosystem-based Adaptation

[43] In this report, the term natural forests describes those which are subject to little or no direct human intervention, whereas the term managed forests describes those where planting or other management activities take place, including those managed for commodity production.

[44] Ecosystem based Adaptation (EbA) is recognised internationally under the Convention on Biological Diversity (CBD14/5). A related concept is Nature-based Solutions (NbS), which includes a broader range of approaches with safeguards, including those that contribute to adaptation and mitigation. The term 'Nature-based Solutions' is widely but not universally used in the scientific literature. The term is the subject of ongoing debate, with concerns that it may lead to the misunderstanding that NbS on its own can provide a global solution to climate change.

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is vulnerable to climate change impacts, with effectiveness declining with increasing global warming (*high confidence*). Urban greening using trees and other vegetation can provide local cooling (*very high confidence*). Natural river systems, wetlands and upstream forest ecosystems reduce flood risk by storing water and slowing water flow, in most circumstances (*high confidence*). Coastal wetlands protect against coastal erosion and flooding associated with storms and sea level rise where sufficient space and adequate habitats are available until rates of sea level rise exceeds natural adaptive capacity to build sediment (*very high confidence*). {2.4, 2.5, 2.6, Table 2.7, 3.4, 3.5, 3.6, Figure 3.26, 4.6, Box 4.6, Box 4.7, 5.5, 5.14, Box 5.11, 6.3, 6.4, Figure 6.6, 7.4, 8.5, 8.6, 9.6, 9.8, 9.9, 10.2, 11.3, 12.5, 13.3, 13.4, 13.5, 14.5, Box 14.7, 16.3, 18.3, CCB HEALTH, CCB NATURAL, CCB MOVING PLATE, CCB FEASIB.3, CWGB BIOECONOMY, CCP5.4}

Urban, Rural and Infrastructure Transition

SPM.C.2.6 Considering climate change impacts and risks in the design and planning of urban and rural settlements and infrastructure is critical for resilience and enhancing human well-being (*high confidence*). The urgent provision of basic services, infrastructure, livelihood diversification and employment, strengthening of local and regional food systems and community-based adaptation enhance lives and livelihoods, particularly of low-income and marginalised groups (*high confidence*). Inclusive, integrated and long-term planning at local, municipal, sub-national and national scales, together with effective regulation and monitoring systems and financial and technological resources and capabilities foster urban and rural system transition (*high confidence*). Effective partnerships between governments, civil society, and private sector organizations, across scales provide infrastructure and services in ways that enhance the adaptive capacity of vulnerable people (*medium to high confidence*). {5.12, 5.13, 5.14, Box 6.3, 6.3, 6.4, Box 6.6, Table 6.6, 7.4, 12.5, 13.6, 14.5, Box14.4, Box17.4, CCB FEASIB, CCP2.3, CCP2.4, CCP5.4}

SPM.C.2.7 An increasing number of adaptation responses exist for urban systems, but their feasibility and effectiveness is constrained by institutional, financial, and technological access and capacity, and depends on coordinated and contextually appropriate responses across physical, natural and social infrastructure (*high confidence*). Globally, more financing is directed at physical infrastructure than natural and social infrastructure (*medium confidence*) and there is *limited evidence* of investment in the informal settlements hosting the most vulnerable urban residents (*medium* to *high confidence*). Ecosystem-based adaptation (e.g., urban agriculture and forestry, river restoration) has increasingly been applied in urban areas (*high confidence).* Combined ecosystem-based and structural adaptation responses are being developed, and there is growing evidence of their potential to reduce adaptation costs and contribute to flood control, sanitation, water resources management, landslide prevention and coastal protection (*medium confidence*). {3.6, Box 4.6, 5.12, 6.3, 6.4, Table 6.8, 7.4, 9.7, 9.9, 10.4, Table 10.3, 11.3, 11.7, Box 11.6, 12.5, 13.2, 13.3, 13.6, 14.5, 15.5, 17.2, Box 17.4, CCB FEASIB, CCP2.3, CCP 3.2, CCP5.4, CCB SLR, SROCC ES}

SPM C.2.8: Sea level rise poses a distinctive and severe adaptation challenge as it implies dealing with slow onset changes and increased frequency and magnitude of extreme sea level events which will escalate in the coming decades (*high confidence*). Such adaptation challenges would occur much earlier under high rates of sea level rise, in particular if low-likelihood, high impact outcomes associated with collapsing ice sheets occur (*high confidence*). Responses to ongoing sea level rise and land subsidence in low-lying coastal cities and settlements and small islands include protection, accommodation, advance and planned relocation (*high confidence*)[45]. These responses are more effective if combined and/or sequenced, planned well ahead, aligned with sociocultural values and development priorities, and underpinned by inclusive community engagement processes (*high confidence*). {CCB SLR, CCP2.3, 6.2, 10.4, 11.7, Box 11.6, 13.2.2, 14.5.9.2, 15.5, SROCC ES: C3.2, WGI SPM B5, C3}

SPM.C.2.9 Approximately 3.4 billion people globally live in rural areas around the world, and many are highly vulnerable to climate change. Integrating climate adaptation into social protection programs, including cash transfers and public works programmes, is highly feasible and increases resilience to climate change, especially when supported by basic services and infrastructure. Social safety nets are increasingly being reconfigured to build adaptive capacities of the most vulnerable in rural and also urban communities. Social

[45] The term 'response' is used here instead of adaptation because some responses, such as retreat, may or may not be considered to be adaptation.

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safety nets that support climate change adaptation have strong co-benefits with development goals such as education, poverty alleviation, gender inclusion and food security. (*high confidence*) {5.14, 9.4, 9.10, 9.11, 12.5, 14.5, CCB GENDER, CCB FEASIB, CCP5.4}

Energy System Transition

SPM.C.2.10 Within energy system transitions, the most feasible adaptation options support infrastructure resilience, reliable power systems and efficient water use for existing and new energy generation systems (*very high confidence*). Energy generation diversification, including with renewable energy resources and generation that can be decentralised depending on context (e.g., wind, solar, small scale hydroelectric) and demand side management (e.g., storage, and energy efficiency improvements) can reduce vulnerabilities to climate change, especially in rural populations (*high confidence*). Adaptations for hydropower and thermo-electric power generation are effective in most regions up to 1.5°C to 2°C, with decreasing effectiveness at higher levels of warming (*medium confidence*). Climate responsive energy markets, updated design standards on energy assets according to current and projected climate change, smart-grid technologies, robust transmission systems and improved capacity to respond to supply deficits have high feasibility in the medium- to long-term, with mitigation co-benefits (*very high confidence*). {4.6, 4.7, Figure 4.28, Figure 4.29, 10.4, Table 11.8, Figure 13.19, Figure 13.16, 13.6, 18.3, CCB FEASIB, CWGB BIOECONOMY, CCP5.2, CCP5.4}

Cross-cutting Options

SPM.C.2.11 Strengthening the climate resiliency of health systems will protect and promote human health and wellbeing (*high confidence*). There are multiple opportunities for targeted investments and finance to protect against exposure to climate hazards, particularly for those at highest risk. Heat Health Action Plans that include early warning and response systems are effective adaptation options for extreme heat (*high confidence*). Effective adaptation options for water-borne and food-borne diseases include improving access to potable water, reducing exposure of water and sanitation systems to flooding and extreme weather events, and improved early warning systems (*very high confidence*). For vector-borne diseases, effective adaptation options include surveillance, early warning systems, and vaccine development (*very high confidence*). Effective adaptation options for reducing mental health risks under climate change include improving surveillance, access to mental health care, and monitoring of psychosocial impacts from extreme weather events (*high confidence*). Health and well-being would benefit from integrated adaptation approaches that mainstream health into food, livelihoods, social protection, infrastructure, water and sanitation policies requiring collaboration and coordination at all scales of governance (*very high confidence*). {5.12, 6.3, 7.4, 9.10, Box 9.7, 11.3, 12.5, 13.7, 14.5, CCB FEASIB, CCB ILLNESS, CCB COVID}.

SPM.C.2.12 Increasing adaptive capacities minimises the negative impacts of climate-related displacement and involuntary migration for migrants and sending and receiving areas (*high confidence*). This improves the degree of choice under which migration decisions are made, ensuring safe and orderly movements of people within and between countries (*high confidence*). Some development reduces underlying vulnerabilities associated with conflict, and adaptation contributes by reducing the impacts of climate change on climate sensitive drivers of conflict (*high confidence*). Risks to peace are reduced, for example, by supporting people in climate-sensitive economic activities (*medium confidence*) and advancing women's empowerment (*high confidence*). {7.4, 12.5, CCB MIGRATE, Box 9.8, Box 10.2, CCB FEASIB}

SPM.C.2.13 There are a range of adaptation options, such as disaster risk management, early warning systems, climate services and risk spreading and sharing that have broad applicability across sectors and provide greater benefits to other adaptation options when combined (*high confidence*). For example, climate services that are inclusive of different users and providers can improve agricultural practices, inform better water use and efficiency, and enable resilient infrastructure planning (*high confidence*). {2.6, 3.6, 4.7, 5.4, 5.5, 5.6, 5.8, 5.9, 5.12, 5.14, 9.4, 9.8, 10.4, 12.5, 13.11, CCB MOVING PLATE, CCB FEASIB, CCP5.4}

Limits to Adaptation

SPM.C.3 Soft limits to some human adaptation have been reached, but can be overcome by addressing a range of constraints, primarily financial, governance, institutional and policy constraints (*high confidence*). Hard

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limits to adaptation have been reached in some ecosystems (*high confidence*). With increasing global warming, losses and damages will increase and additional human and natural systems will reach adaptation limits (*high confidence*). {Figure TS.7, 1.4, 2.4, 2.5, 2.6, CCB SLR, 3.4, 3.6, 4.7, Figure 4.30, 5.5, Table 8.6, Box 10.7, 11.7, Table 11.16, 12.5 13.2, 13.5, 13.6, 13.10, 13.11, Figure 13.21, 14.5, 15.6, 16.4, Figure 16.8, Table 16.3, Table 16.4, CCP1.2, CCP1.3, CCP2.3, CCP3.3, CCP5.2, CCP5.4, CCP6.3, CCP7.3}

SPM.C.3.1 Soft limits to some human adaptation have been reached, but can be overcome by addressing a range of constraints, which primarily consist of financial, governance, institutional and policy constraints (*high confidence*). For example, individuals and households in low lying coastal areas in Australasia and Small Islands and smallholder farmers in Central and South America, Africa, Europe and Asia have reached soft limits (*medium confidence*). Inequity and poverty also constrain adaptation, leading to soft limits and resulting in disproportionate exposure and impacts for most vulnerable groups (*high confidence*). Lack of climate literacy[46] at all levels and limited availability of information and data pose further constraints to adaptation planning and implementation (*medium confidence*). {1.4, 4.7, 5.4, Table 8.6, 8.4, 9.1, 9.4, 9.5, 9.8, 11.7, 12.5 13.5, 15.3, 15.5, 15.6, 16.4, Figure 16.8, 16.4, Box 16.1, CCP5.2, CCP5.4, CCP6.3}

SPM.C.3.2 Financial constraints are important determinants of soft limits to adaptation across sectors and all regions (*high confidence*). Although global tracked climate finance has shown an upward trend since AR5, current global financial flows for adaptation, including from public and private finance sources, are insufficient for and constrain implementation of adaptation options especially in developing countries (*high confidence*). The overwhelming majority of global tracked climate finance was targeted to mitigation while a small proportion was targeted to adaptation (*very high confidence*). Adaptation finance has come predominantly from public sources (*very high confidence*). Adverse climate impacts can reduce the availability of financial resources by incurring losses and damages and through impeding national economic growth, thereby further increasing financial constraints for adaptation, particularly for developing and least developed countries (*medium confidence*). {1.4, 2.6, 3.6, 4.7, Figure 4.30, 5.14, 7.4, Table 8.6, 8.4, 9.4, 9.9, 9.11, 10.5, 12.5, 13.3, 13.11, Box 14.4, 15.6, 16.2, 16.4, Figure 16.8, Table 16.4, 17.4, 18.1, CCB FINANCE, CCP2.4, CCP5.4, CCP6.3, Figure TS 7}

SPM.C.3.3 Many natural systems are near the hard limits of their natural adaptation capacity and additional systems will reach limits with increasing global warming (*high confidence*). Ecosystems already reaching or surpassing hard adaptation limits include some warm water coral reefs, some coastal wetlands, some rainforests, and some polar and mountain ecosystems (*high confidence*). Above 1.5°C global warming level, some ecosystem-based adaptation measures will lose their effectiveness in providing benefits to people as these ecosystems will reach hard adaptation limits (*high confidence*). {1.4, 2.4, 2.6, 3.4, 3.6, CCB SLR, 9.6, Box11.2, 13.4, 14.5, 15.5, 16.4, 16.6, 17.2, CCP1.2, CCP5.2, CCP6.3, CCP7.3, Figure SPM.4}

SPM.3.4 In human systems, some coastal settlements face soft adaptation limits due to technical and financial difficulties of implementing coastal protection (*high confidence*). Above 1.5°C global warming level, limited freshwater resources pose potential hard limits for Small Islands and for regions dependent on glacier and snow-melt (*medium confidence*). By 2°C global warming level, soft limits are projected for multiple staple crops in many growing areas, particularly in tropical regions (*high confidence*). By 3°C global warming level, soft limits are projected for some water management measures for many regions, with hard limits projected for parts of Europe (*medium confidence*). Transitioning from incremental to transformational adaptation can help overcome soft adaptation limits (*high confidence*). {1.4, 4.7, 5.4, 5.8, 7.2, 7.3, 8.4, Table 8.6, 9.8, 10.4, 12.5, 13.2, 13.6, 16.4, 17.2, CCB SLR, CCP1.3. Box CCP1.1, CCP2.3, CCP3.3, CCP4.4, CCP5.3}

SPM.C.3.5 Adaptation does not prevent all losses and damages, even with effective adaptation and before reaching soft and hard limits. Losses and damages are unequally distributed across systems, regions and sectors and are not comprehensively addressed by current financial, governance and institutional arrangements, particularly in vulnerable developing countries. With increasing global warming, losses and damages increase and become increasingly difficult to avoid, while strongly concentrated among the poorest vulnerable

[46] Climate literacy encompasses being aware of climate change, its anthropogenic causes and implications.

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populations. (*high confidence*) {1.4, 2.6, 3.4, 3.6, 6.3, Figure 6.4, 8.4, 13.7, 13.2, 13.10, 17.2, CCB LOSS, CCB SLR, CCP2.3, CCP4.4, CWGB ECONOMIC}

Avoiding Maladaptation

SPM.C.4 There is increased evidence of maladaptation[15] across many sectors and regions since the AR5. Maladaptive responses to climate change can create lock-ins of vulnerability, exposure and risks that are difficult and expensive to change and exacerbate existing inequalities. Maladaptation can be avoided by flexible, multi-sectoral, inclusive and long-term planning and implementation of adaptation actions with benefits to many sectors and systems. (*high confidence*) {1.3, 1.4, 2.6., Box 2.2, 3.2, 3.6, Box 4.3, Box 4.5, 4.6, 4.7, Figure 4.29, 5.6, 5.13, 8.2, 8.3, 8.4, 8.6, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, Box 9.5, Box 9.8, Box 9.9, Box 11.6, 13.11, 13.3, 13.4, 13.5, 14.5, 15.5, 15.6, 16.3, 17.3, 17.4, 17.6, 17.2, 17.5, CCP5.4, CCB NATURAL, CCB SLR, CCB DEEP, CWGB BIOECONOMY, CCP2.3, CCP2.3}

SPM.C.4.1 Actions that focus on sectors and risks in isolation and on short-term gains often lead to maladaptation if long-term impacts of the adaptation option and long-term adaptation commitment are not taken into account (*high confidence*). The implementation of these maladaptive actions can result in infrastructure and institutions that are inflexible and/or expensive to change (*high confidence*). For example, seawalls effectively reduce impacts to people and assets in the short-term but can also result in lock-ins and increase exposure to climate risks in the long-term unless they are integrated into a long-term adaptive plan (*high confidence*). Adaptation integrated with development reduces lock-ins and creates opportunities (e.g., infrastructure upgrading) (*medium confidence*). {1.4, 3.4, 3.6, 10.4, 11.7, Box 11.6, 13.2, 17.2, 17.5, 17.6, CCP 2.3, CCB SLR, CCB DEEP}

SPM.C.4.2 Biodiversity and ecosystem resilience to climate change are decreased by maladaptive actions, which also constrain ecosystem services. Examples of these maladaptive actions for ecosystems include fire suppression in naturally fire-adapted ecosystems or hard defences against flooding. These actions reduce space for natural processes and represent a severe form of maladaptation for the ecosystems they degrade, replace or fragment, thereby reducing their resilience to climate change and the ability to provide ecosystem services for adaptation. Considering biodiversity and autonomous adaptation in long-term planning processes reduces the risk of maladaptation. (*high confidence*) {2.4, 2.6, Table 2.7, 3.4, 3.6, 4.7, 5.6, 5.13, Table 5.21, 5.13, Box 13.2, 17.2, 17.5, Table 5.23, Box 11.2, 13.2, CCP5.4}

SPM.C.4.3 Maladaptation especially affects marginalised and vulnerable groups adversely (e.g., Indigenous Peoples, ethnic minorities, low-income households, informal settlements), reinforcing and entrenching existing inequities. Adaptation planning and implementation that do not consider adverse outcomes for different groups can lead to maladaptation, increasing exposure to risks, marginalising people from certain socio-economic or livelihood groups, and exacerbating inequity. Inclusive planning initiatives informed by cultural values, Indigenous knowledge, local knowledge, and scientific knowledge can help prevent maladaptation. (*high confidence*) (Figure SPM.4) {2.6, 3.6, 4.3, 4.6, 4.8, 5.12, 5.13, 5.14, 6.1, Box 7.1, 8.4, 11.4, 12.5, Box 13.2, 14.4, Box 14.1, 17.2, 17.5, 18.2, 17.2., CCP2.4}

SPM.C.4.4 To minimize maladaptation, multi-sectoral, multi-actor and inclusive planning with flexible pathways encourages low-regret[47] and timely actions that keep options open, ensure benefits in multiple sectors and systems and indicate the available solution space for adapting to long-term climate change (*very high confidence*). Maladaptation is also minimized by planning that accounts for the time it takes to adapt (*high confidence*), the uncertainty about the rate and magnitude of climate risk (*medium confidence*) and a wide range of potentially adverse consequences of adaptation actions (*high confidence*). {1.4, 3.6, 5.12, 5.13, 5.14, 11.6, 11.7, 17.3, 17.6, CCP2.3, CCP2.4, CCB SLR, CCB DEEP; CCP5.4}

[47] From AR5, an option *that would generate net social and/or economic benefits under current climate change and a range of future climate change scenarios*, and represent one example of robust strategies.

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Enabling Conditions

SPM.C.5 Enabling conditions are key for implementing, accelerating and sustaining adaptation in human systems and ecosystems. These include political commitment and follow-through, institutional frameworks, policies and instruments with clear goals and priorities, enhanced knowledge on impacts and solutions, mobilization of and access to adequate financial resources, monitoring and evaluation, and inclusive governance processes. (*high confidence*) {1.4, 2.6, 3.6, 4.8, 6.4, 7.4, 8.5, 9.4, 10.5, 11.4, 11.7, 12.5, 13.11, 14.7, 15.6, 17.4, 18.4, CCB INDIG, CCB FINANCE, CCP2.4, CCP5.4}

SPM.C.5.1 Political commitment and follow-through across all levels of government accelerate the implementation of adaptation actions (*high confidence*). Implementing actions can require large upfront investments of human, financial and technological resources (*high confidence*), whilst some benefits could only become visible in the next decade or beyond (*medium confidence*). Accelerating commitment and follow-through is promoted by rising public awareness, building business cases for adaptation, accountability and transparency mechanisms, monitoring and evaluation of adaptation progress, social movements, and climate-related litigation in some regions (*medium confidence*). {3.6, 4.8, 5.8, 6.4, 8.5, 9.4, 11.7, 12.5, 13.11, 17.4, 17.5, 18.4, CCB COVID, CCP2.4}

SPM.C.5.2 Institutional frameworks, policies and instruments that set clear adaptation goals and define responsibilities and commitments and that are coordinated amongst actors and governance levels, strengthen and sustain adaptation actions (*very high confidence*). Sustained adaptation actions are strengthened by mainstreaming adaptation into institutional budget and policy planning cycles, statutory planning, monitoring and evaluation frameworks and into recovery efforts from disaster events (*high confidence*). Instruments that incorporate adaptation such as policy and legal frameworks, behavioural incentives, and economic instruments that address market failures, such as climate risk disclosure, inclusive and deliberative processes strengthen adaptation actions by public and private actors (*medium confidence*). {1.4, 3.6, 4.8, 5.14, 6.3, 6.4, 7.4, 9.4, 10.4, 11.7, Box 11.6, Table 11.17, 13.10, 13.11, 14.7, 15.6, 17.3, 17.4, 17.5, 17.6, 18.4, CCB DEEP, CCP2.4, CCP5.4, CCP6.3}

SPM.C.5.3 Enhancing knowledge on risks, impacts, and their consequences, and available adaptation options promotes societal and policy responses (*high confidence*). A wide range of top-down, bottom-up and co-produced processes and sources can deepen climate knowledge and sharing, including capacity building at all scales, educational and information programmes, using the arts, participatory modelling and climate services, Indigenous knowledge and local knowledge and citizen science (*high confidence*). These measures can facilitate awareness, heighten risk perception and influence behaviours (*high confidence*). {1.3, 3.6, 4.8, 5.9, 5.14, 6.4, Table 6.8, 7.4, 9.4, 10.5, 11.1, 11.7, 12.5, 13.9, 13.11, 14.3, 15.6, 15.6, 17.4, 18.4, CCB INDIG, CCP2.4.1}.

SPMC.5.4 With adaptation finance needs estimated to be higher than those presented in AR5, enhanced mobilization of and access to financial resources are essential for implementation of adaptation and to reduce adaptation gaps (*high confidence*). Building capacity and removing some barriers to accessing finance is fundamental to accelerate adaptation, especially for vulnerable groups, regions and sectors (*high confidence*). Public and private finance instruments include inter alia grants, guarantee, equity, concessional debt, market debt, and internal budget allocation as well as savings in households and insurance. Public finance is an important enabler of adaptation (*high confidence*). Public mechanisms and finance can leverage private sector finance for adaptation by addressing real and perceived regulatory, cost and market barriers, for example via public-private partnerships (*high confidence*). Financial and technological resources enable effective and ongoing implementation of adaptation, especially when supported by institutions with a strong understanding of adaptation needs and capacity (*high confidence*). {4.8, 5.14, 6.4, Table 6.10, 7.4, 9.4, Table 11.17, 12.5, 13.11, 15.6, 17.4, 18.4, BOX 18.9, CCP5.4, CCB FINANCE}.

SPM.C.5.5 Monitoring and evaluation (M&E) of adaptation are critical for tracking progress and enabling effective adaptation (*high confidence*). M&E implementation is currently limited (*high confidence*) but has increased since AR5 at local and national levels. Although most of the monitoring of adaptation is focused towards planning and implementation, the monitoring of outcomes is critical for tracking the effectiveness and

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progress of adaptation *(high confidence)*. M&E facilitates learning on successful and effective adaptation measures, and signals when and where additional action may be needed. M&E systems are most effective when supported by capacities and resources and embedded in enabling governance systems (*high confidence*). {1.4, 2.6, 6.4, 7.4, 11.7, 11.8, 13.2, 13.11, 17.5, 18.4, CCB PROGRESS, CCB NATURAL, CCB ILLNESS, CCB DEEP, CCP2.4}.

SPM.C.5.6 Inclusive governance that prioritises equity and justice in adaptation planning and implementation leads to more effective and sustainable adaptation outcomes (*high confidence*). Vulnerabilities and climate risks are often reduced through carefully designed and implemented laws, policies, processes, and interventions that address context specific inequities such as based on gender, ethnicity, disability, age, location and income (*high confidence*). These approaches, which include multi-stakeholder co-learning platforms, transboundary collaborations, community-based adaptation and participatory scenario planning, focus on capacity-building, and meaningful participation of the most vulnerable and marginalised groups, and their access to key resources to adapt (*high confidence*). {1.4, 2.6, 3.6, 4.8, 5.4, 5.8, 5.9, 5.13, 6.4, 7.4, 8.5, 11.8, 12.5, 13.11, 14.7, 15.5, 15.7, 17.3, 17.5, 18.4, CCB HEALTH, CCB GENDER, CCB INDIG, CCP2.4, CCP5.4, CCP6.4}

SPM.D: Climate Resilient Development

Climate Resilient Development integrates adaptation measures and their enabling conditions (Section C) with mitigation to advance sustainable development for all. Climate resilient development involves questions of equity and system transitions in land, ocean and ecosystems; urban and infrastructure; energy; industry; and society and includes adaptations for human, ecosystem and planetary health. Pursuing climate resilient development focuses on both where people and ecosystems are co-located as well as the protection and maintenance of ecosystem function at the planetary scale. Pathways for advancing climate resilient development are development trajectories that successfully integrate mitigation and adaptation actions to advance sustainable development. Climate resilient development pathways may be temporarily coincident with any RCP and SSP scenario used throughout AR6, but do not follow any particular scenario in all places and over all time.

Conditions for Climate Resilient Development

SPM.D.1 Evidence of observed impacts, projected risks, levels and trends in vulnerability, and adaptation limits, demonstrate that worldwide climate resilient development action is more urgent than previously assessed in AR5. Comprehensive, effective, and innovative responses can harness synergies and reduce trade-offs between adaptation and mitigation to advance sustainable development. (*very high confidence*) {2.6, 3.4, 3.6, 4.2, 4.6, 7.2, 7.4, 8.3, 8.4, 9.3, 10.6, 13.3, 13.8, 13.10, 14.7, 17.2, 18.3, Figure 18.1, Table 18.5, Box 18.1}

SPM.D.1.1 There is a rapidly narrowing window of opportunity to enable climate resilient development. Multiple climate resilient development pathways are still possible by which communities, the private sector, governments, nations and the world can pursue climate resilient development – each involving and resulting from different societal choices influenced by different contexts and opportunities and constraints on system transitions. Climate resilient development pathways are progressively constrained by every increment of warming, in particular beyond 1.5°C, social and economic inequalities, the balance between adaptation and mitigation varying by national, regional and local circumstances and geographies, according to capabilities including resources, vulnerability, culture and values, past development choices leading to past emissions and future warming scenarios, bounding the climate resilient development pathways remaining, and the ways in which development trajectories are shaped by equity, and social and climate justice. (*very high confidence*) {2.6, 4.7, 4.8, 5.14, 6.4, 7.4, 8.3, 9.4, 9.3, 9.4, 9.5, 10.6, 11.8, 12.5, 13.10, 14.7, 15.3, 18.5, CCP2.3, CCP3.4, CCP4.4, CCP5.3, CCP5.4, Table CCP5.2, CCP6.3, CCP7.5, Figure TS14.d}

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SPM.D.1.2 Opportunities for climate resilient development are not equitably distributed around the world (*very high confidence*). Climate impacts and risks exacerbate vulnerability and social and economic inequities and consequently increase persistent and acute development challenges, especially in developing regions and sub-regions, and in particularly exposed sites, including coasts, small islands, deserts, mountains and polar regions. This in turn undermines efforts to achieve sustainable development, particularly for vulnerable and marginalized communities (*very high confidence*). {2.5, 4.4, 4.7, 6.3, 9.4, Box 6.4, Figure 6.5, Table 18.5, CWGB URBAN, CCB HEALTH, CCP2.2, CCP3.2, CCP3.3, CCP5.4, CCP6.2}

SPM.D.1.3 Embedding effective and equitable adaptation and mitigation in development planning can reduce vulnerability, conserve and restore ecosystems, and enable climate resilient development. This is especially challenging in localities with persistent development gaps and limited resources (*high confidence*). Dynamic trade-offs and competing priorities exist between mitigation, adaptation, and development. Integrated and inclusive system-oriented solutions based on equity and social and climate justice reduce risks and enable climate resilient development (*high confidence*). {1.4, 2.6, 3.6, 4.7, 4.8, Box 4.5, Box 4.8, 5.13, 7.4, 8.5, 9.4, 10.6, Box 9.3, Box 2.2, 12.5, 12.6, 13.3, 13.4, 13.10, 13.11, 14.7, 18.4, CCB HEALTH, SRCCL, CCB DEEP, CCP2, CCP5.4}

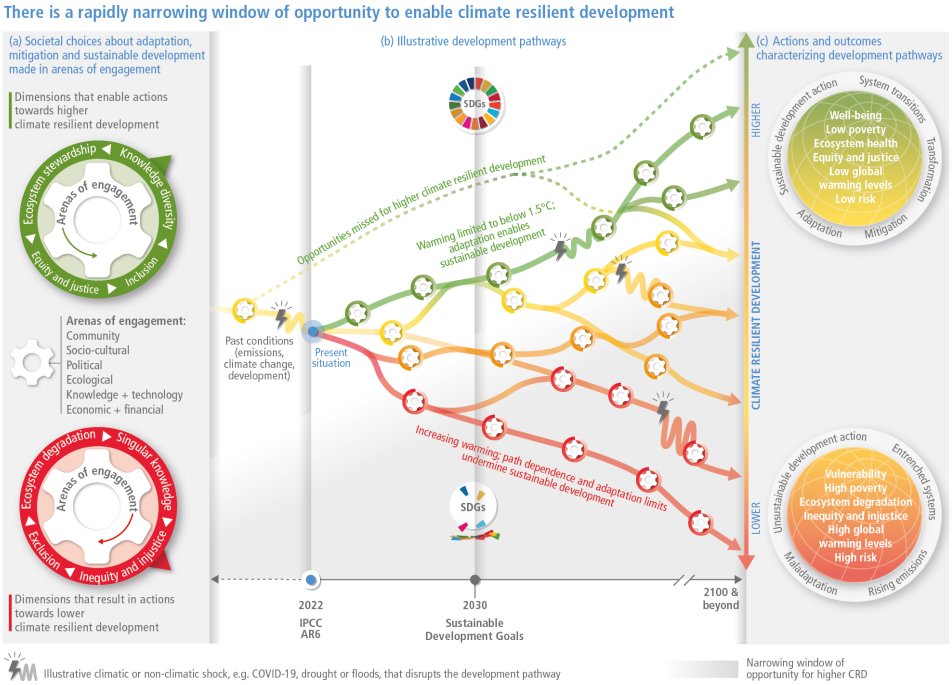

Figure SPM.5: Climate resilient development (CRD) is the process of implementing greenhouse gas mitigation and adaptation measures to support sustainable development. This figure builds on Figure SPM.9 in AR5 WGII (depicting climate resilient pathways) by describing how CRD pathways are the result of cumulative societal choices and actions within multiple arenas. Panel (a): Societal choices towards higher CRD (green cog) or lower CRD (red cog) result from interacting decisions and actions by diverse government, private sector and civil society actors, in the context of climate risks, adaptation limits and development gaps. These actors engage with adaptation, mitigation and development actions in political, economic and financial, ecological, socio-cultural, knowledge and technology, and community arenas from local to international levels. Opportunities for climate resilient development are not equitably distributed around the world. Panel (b): Cumulatively, societal choices, which are made continuously, shift global development pathways towards higher (green) or lower (red) climate resilient development. Past conditions (past emissions, climate change and

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development) have already eliminated some development pathways towards higher CRD (dashed green line). Panel (c): Higher CRD is characterised by outcomes that advance sustainable development for all. Climate resilient development is progressively harder to achieve with global warming levels beyond 1.5°C. Inadequate progress towards the Sustainable Development Goals (SDGs) by 2030 reduces climate resilient development prospects. There is a narrowing window of opportunity to shift pathways towards more climate resilient development futures as reflected by the adaptation limits and increasing climate risks, considering the remaining carbon budgets. (Figure SPM.2, Figure SPM.3) {2.6, 3.6, 7.2, 7.3, 7.4, 8.3, 8.4, 8.5, 16.4, 16.5, 17.3, 17.4, 17.5, 18.1, 18.2, 18.3, 18.4, Figure 18.1, Figure 18.2, Figure 18.3, Box 18.1, CCB COVID, CCB GENDER, CCB HEALTH, CCB INDIG, CCB SLR, AR6 WGI Table SPM.1 and Table SPM.2, SR1.5 Figure SPM.1, Figure TS.14b}

Enabling Climate Resilient Development

SPM.D.2 Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritise risk reduction, equity and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors and timeframes (*very high confidence*). Climate resilient development is facilitated by international cooperation and by governments at all levels working with communities, civil society, educational bodies, scientific and other institutions, media, investors and businesses; and by developing partnerships with traditionally marginalised groups, including women, youth, Indigenous Peoples, local communities and ethnic minorities (*high confidence*). These partnerships are most effective when supported by enabling political leadership, institutions, resources, including finance, as well as climate services, information and decision support tools (*high confidence*). (Figure SPM.5) {1.3, 1.4, 1.5, 2.7, 3.6, 4.8, 5.14, 6.4, 7.4, 8.5, 8.6, 9.4, 10.6, 11.8, 12.5, 13.11, 14.7, 15.6, 15.7, 17.4, 17.6, 18.4, 18.5, CCP2.4, CCP3.4, CCP4.4, CCP5.4, CCP6.4, CCP7.6, CCB HEALTH, CCB GENDER, CCB INDIG, CCB DEEP, CCB NATURAL, CCB SLR}

SPM.D.2.1 Climate resilient development is advanced when actors work in equitable, just and enabling ways to reconcile divergent interests, values and worldviews, toward equitable and just outcomes (*high confidence*). These practices build on diverse knowledges about climate risk and chosen development pathways account for local, regional and global climate impacts, risks, barriers and opportunities (*high confidence*). Structural vulnerabilities to climate change can be reduced through carefully designed and implemented legal, policy, and process interventions from the local to global that address inequities based on gender, ethnicity, disability, age, location and income (*very high confidence*). This includes rights-based approaches that focus on capacity-building, meaningful participation of the most vulnerable groups, and their access to key resources, including financing, to reduce risk and adapt (*high confidence).* Evidence shows that climate resilient development processes link scientific, Indigenous, local, practitioner and other forms of knowledge, and are more effective and sustainable because they are locally appropriate and lead to more legitimate, relevant and effective actions (*high confidence*). Pathways towards climate resilient development overcome jurisdictional and organizational barriers, and are founded on societal choices that accelerate and deepen key system transitions (*very high confidence*). Planning processes and decision analysis tools can help identify 'low regrets' options[47] that enable mitigation and adaptation in the face of change, complexity, deep uncertainty and divergent views (*medium confidence*). {1.3, 1.4, 1.5, 2.7, 3.6, 4.8, 5.14, 6.4, 7.4, 8.5, 8.6, 9.4, 10.6, 11.8, 12.5, 13.11, 14.7, 15.6, 15.7, 17.2-17.6, 18.2-18.4, CCP2.3-2.4, CCP3.4, CCP4.4, CCP5.4, CCP6.4, CCP7.6, Box 8.7, Box 9.2, CCB HEALTH, CCB INDIG, CCB DEEP, CCB NATURAL, CCB SLR}

SPM.D.2.2 Inclusive governance contributes to more effective and enduring adaptation outcomes and enables climate resilient development (*high confidence*). Inclusive processes strengthen the ability of governments and other stakeholders to jointly consider factors such as the rate and magnitude of change and uncertainties, associated impacts, and timescales of different climate resilient development pathways given past development choices leading to past emissions and scenarios of future global warming (*high confidence*). Associated societal choices are made continuously through interactions in arenas of engagement from local to international levels. The quality and outcome of these interactions helps determine whether development pathways shift towards or away from climate resilient development (*medium confidence*). (Figure SPM.5) {2.7, 3.6, 4.8, 5.14,

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6.4, 7.4, 8.5, 8.6, 9.4, 10.6, 11.8, 12.5, 13.11, 14.7, 15.6, 15.7, 17.2-17.6, 18.2, 18.4, CCP2.3-2.4, CCP3.4, CCP4.4, CCP5.4, CCP6.4, CCP7.6, CCB HEALTH, CCB GENDER, CCB INDIG}

SPM.D.2.3 Governance for climate resilient development is most effective when supported by formal and informal institutions and practices that are well-aligned across scales, sectors, policy domains and timeframes. Governance efforts that advance climate resilient development account for the dynamic, uncertain and context-specific nature of climate-related risk, and its interconnections with non-climate risks. Institutions[48] that enable climate resilient development are flexible and responsive to emergent risks and facilitate sustained and timely action. Governance for climate resilient development is enabled by adequate and appropriate human and technological resources, information, capacities and finance. (*high confidence*) {2.7, 3.6, 4.8, 5.14, 6.3, 6.4, 7.4, 8.5, 8.6, 9.4, 10.6, 11.8, 12.5, 13.11, 14.7, 15.6, 15.7, 17.2-17.6, 18.2, 18.4, CCP2.3-2.4, CCP3.4, CCP4.4, CCP5.4, CCP6.4, CCP7.6, CCB HEALTH, CCB GENDER, CCB INDIG, CCB DEEP, CCB NATURAL, CCB SLR}

Climate Resilient Development for Natural and Human Systems

SPM.D.3 Interactions between changing urban form, exposure and vulnerability can create climate change-induced risks and losses for cities and settlements. However, the global trend of urbanisation also offers a critical opportunity in the near-term, to advance climate resilient development (*high confidence*). Integrated, inclusive planning and investment in everyday decision-making about urban infrastructure, including social, ecological and grey/physical infrastructures, can significantly increase the adaptive capacity of urban and rural settlements. Equitable outcomes contributes to multiple benefits for health and well-being and ecosystem services, including for Indigenous Peoples, marginalised and vulnerable communities (*high confidence*). Climate resilient development in urban areas also supports adaptive capacity in more rural places through maintaining peri-urban supply chains of goods and services and financial flows (*medium confidence*). Coastal cities and settlements play an especially important role in advancing climate resilient development (*high confidence*). {6.2, 6.3, 18.3, Table 6.6, Box 9.8, CCP6.2, CCP2.1. CCP2.2, CWGB URBAN}

SPM.D.3.1 Taking integrated action for climate resilience to avoid climate risk requires urgent decision making for the new built environment and retrofitting existing urban design, infrastructure and land use. Based on socioeconomic circumstances, adaptation and sustainable development actions will provide multiple benefits including for health and well-being, particularly when supported by national governments, non-governmental organisations and international agencies that work across sectors in partnerships with local communities. Equitable partnerships between local and municipal governments, the private sector, Indigenous Peoples, local communities, and civil society can, including through international cooperation, advance climate resilient development by addressing structural inequalities, insufficient financial resources, cross-city risks and the integration of Indigenous knowledge and Local knowledge. (*high confidence*) {6.2, 6.3, 6.4, 7.4, 8.5, 9.4, 10.5. 12.5, 17.4, 18.2, Table 6.6, Table 17.8, Box 18.1, CCP2.4, CCB GENDER, CCB INDIG, CCB FINANCE, CWGB URBAN}

SPM.D.3.2 Rapid global urbanisation offers opportunities for climate resilient development in diverse contexts from rural and informal settlements to large metropolitan areas (*high confidence*). Dominant models of energy intensive and market-led urbanisation, insufficient and misaligned finance and a predominant focus on grey infrastructure in the absence of integration with ecological and social approaches, risks missing opportunities for adaptation and locking in maladaptation (*high confidence*). Poor land use planning and siloed approaches to health, ecological and social planning also exacerbates, vulnerability in already marginalised

[48] Institutions: Rules, norms and conventions that guide, constrain or enable human behaviours and practices. Institutions can be formally established, for instance through laws and regulations, or informally established, for instance by traditions or customs. Institutions may spur, hinder, strengthen, weaken or distort the emergence, adoption and implementation of climate action and climate governance.

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communities (*medium confidence*). Urban climate resilient development is observed to be more effective if it is responsive to regional and local land use development and adaptation gaps, and addresses the underlying drivers of vulnerability (*high confidence*). The greatest gains in well-being can be achieved by prioritizing finance to reduce climate risk for low-income and marginalized residents including people living in informal settlements (*high confidence*). {5.14, 6.1, 6.2, 6.3, 6.4, 6.5, 7.4, 8.5, 8.6, 9.8, 9.9, 10.4, 18.2, Table 17.8, Table 6.6, Figure 6.5, CCB HEALTH, CCP2.2, CCP5.4, CWGB URBAN}

SPM.D.3.3 Urban systems are critical, interconnected sites for enabling climate resilient development, especially at the coast. Coastal cities and settlements play a key role in moving toward higher climate resilient development given firstly, almost 11% of the global population – 896 million people – lived within the Low Elevation Coastal Zone[49] in 2020, potentially increasing to beyond 1 billion people by 2050, and these people, and associated development and coastal ecosystems, face escalating climate compounded risks, including sea level rise. Secondly, these coastal cities and settlements make key contributions to climate resilient development through their vital role in national economies and inland communities, global trade supply chains, cultural exchange, and centres of innovation. (*high confidence*) {6.2, Box 15.2, CCP2.1, CCP2.2, Table CCP2.4, CCB SLR}

SPM.D.4 Safeguarding biodiversity and ecosystems is fundamental to climate resilient development, in light of the threats climate change poses to them and their roles in adaptation and mitigation (*very high confidence*). Recent analyses, drawing on a range of lines of evidence, suggest that maintaining the resilience of biodiversity and ecosystem services at a global scale depends on effective and equitable conservation of approximately 30% to 50% of Earth's land, freshwater and ocean areas, including currently near-natural ecosystems (*high confidence*). {2.4, 2.5, 2.6, 3.4, Box 3.4, 3.5, 3.6, 12.5, 13.3, 13.4, 13.5, 13.10, CCB NATURAL, CCB INDIG}

SPM.D.4.1 Building the resilience of biodiversity and supporting ecosystem integrity[50] can maintain benefits for people, including livelihoods, human health and well-being and the provision of food, fibre and water, as well as contributing to disaster risk reduction and climate change adaptation and mitigation.{2.2, 2.5, 2.6, Table 2.6, Table 2.7, 3.5, 3.6, 5.8, 5.13, 5.14, 12.5, Box 5.11 CCP5.4, CCB NATURAL, CCB ILLNESS, CCB COVID, CCB GENDER, CCB INDIG, CCB MIGRATE}

SPM.D.4.2 Protecting and restoring ecosystems is essential for maintaining and enhancing the resilience of the biosphere (*very high confidence*). Degradation and loss of ecosystems is also a cause of greenhouse gas emissions and is at increasing risk of being exacerbated by climate change impacts, including droughts and wildfire *(high confidence)*. Climate resilient development avoids adaptation and mitigation measures that damage ecosystems (*high confidence*). Documented examples of adverse impacts of land-based measures intended as mitigation, when poorly implemented, include afforestation of grasslands, savannas and peatlands, and risks from bioenergy crops at large scale to water supply, food security and biodiversity (*high confidence*). {2.4, 2.5, Box 2.2, 3.4, 3.5, Box 3.4, Box 9.3, CCP7.3, CCB NATURAL, CWGB BIOECONOMY}

SPM.D.4.3 Biodiversity and ecosystem services have limited capacity to adapt to increasing global warming levels, which will make climate resilient development progressively harder to achieve beyond 1.5°C warming (*very high confidence*). Consequences of current and future global warming for climate resilient development include reduced effectiveness of EbA and approaches to climate change mitigation based on ecosystems and amplifying feedbacks to the climate system (*high confidence*). {2.4, 2.5, 2.6, 3.4, 3.5, 3.6, 12.5, 13.2, 13.3, 13.10, 14.5, 14.5, 15.3, 17.3, 17.6, Box 14.3, Box 3.4, Table 5.2, CCP5.3, CCP5.4, Figure TS.14d, CCB EXTREMES, CCB ILLNESS, CCB NATURAL, CCB SLR, SR1.5, SRCCL, SROCC}

[49] LECZ, coastal areas below 10 m of elevation above sea level that are hydrologically connected to the sea

[50] Ecosystem integrity refers to the ability of ecosystems to maintain key ecological processes, recover from disturbance, and adapt to new conditions.

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Achieving Climate Resilient Development

SPM.D.5 It is unequivocal that climate change has already disrupted human and natural systems. Past and current development trends (past emissions, development and climate change) have not advanced global climate resilient development (*very high confidence*). Societal choices and actions implemented in the next decade determine the extent to which medium- and long-term pathways will deliver higher or lower climate resilient development (*high confidence*). Importantly climate resilient development prospects are increasingly limited if current greenhouse gas emissions do not rapidly decline, especially if 1.5°C global warming is exceeded in the near term (*high confidence*). These prospects are constrained by past development, emissions and climate change, and enabled by inclusive governance, adequate and appropriate human and technological resources, information, capacities and finance (*high confidence*). {1.2, 1.4, 1.5, 2.6, 2.7, 3.6, 4.7, 4.8, 5.14, 6.4, 7.4, 8.3, 8.5, 8.6, 9.3, 9.4, 9.5, 10.6, 11.8, 12.5, 13.10, 13.11, 14.7, 15.3, 15.6, 15.7, 16.2, 16.4, 16.5, 16.6, 17.2-17.6, 18.2-18.5, CCP2.3-2.4, CCP3.4, CCP4.4, Table CCP5.2, CCP5.3, CCP5.4, CCP6.3, CCP6.4, CCP7.5, CCP7.6, Figure TS.14d, CCB DEEP, CCB HEALTH, CCB INDIG, CCB DEEP, CCB NATURAL, CCB SLR}

SPM.D.5.1 Climate resilient development is already challenging at current global warming levels (*high confidence*). The prospects for climate resilient development will be further limited if global warming levels exceeds 1.5°C (*high confidence*) and not be possible in some regions and sub-regions if the global warming level exceeds 2°C (*medium confidence*). Climate resilient development is most constrained in regions/subregions in which climate impacts and risks are already advanced, including low-lying coastal cities and settlements, small islands, deserts, mountains and polar regions (*high confidence*). Regions and subregions with high levels of poverty, water, food and energy insecurity, vulnerable urban environments, degraded ecosystems and rural environments, and/or few enabling conditions, face many non-climate challenges that inhibit climate resilient development which are further exacerbated by climate change (*high confidence*). {1.2, 9.3, 9.4, 9.5, 10.6, 11.8, 12.5, 13.10, 14.7, 15.3, CCP2.3, CCP3.4, CCP4.4, Box 6.6. CCP5.3, Table CCP5.2, CCP6.3, CCP7.5, Figure TS.14d}

SPM.D.5.2 Inclusive governance, investment aligned with climate resilient development, access to appropriate technology and rapidly scaled-up finance, and capacity building of governments at all levels, the private sector and civil society enable climate resilient development. Experience shows that climate resilient development processes are timely, anticipatory, integrative, flexible and action focused. Common goals and social learning build adaptive capacity for climate resilient development. When implementing adaptation and mitigation together, and taking trade-offs into account, multiple benefits and synergies for human well-being as well as ecosystem and planetary health can be realised. Prospects for climate resilient development are increased by inclusive processes involving local knowledge and Indigenous Knowledge as well as processes that coordinate across risks and institutions. Climate resilient development is enabled by increased international cooperation including mobilising and enhancing access to finance, particularly for vulnerable regions, sectors and groups. (*high confidence*) (Figure SPM.5) {2.7, 3.6, 4.8, 5.14, 6.4, 7.4, 8.5, 8.6, 9.4, 10.6, 11.8, 12.5, 13.11, 14.7, 15.6, 15.7, 17.2-17.6, 18.2-18.5, CCP2.3-2.4, CCP3.4, CCP4.4, CCP5.4, CCP6.4, CCP7.6, CCB HEALTH, CCB INDIG, CCB DEEP, CCB NATURAL, CCB SLR}

SPM.D.5.3 The cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all. (*very high confidence*) {1.2, 1.4, 1.5, 16.2, 16.4, 16.5, 16.6, 17.4, 17.5, 17.6, 18.3, 18.4, 18.5, CWGB URBAN, CCB DEEP, Table SM16.24, WGI SPM, SROCC SPM, SRCCL SPM}

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NEIGHBOURHOOD ISSUE: CLIMATE COSTS AND RISKS TO COUNCILS

Thank you for supporting the Climate Council.

The Climate Council is an independent, crowd-funded organisation providing quality information on climate change to the Australian public.

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Cover image: Steve Shipton (left) is consoled by fellow farmer Peter Mercieca in Coolagolite, NSW, Wednesday, January 1, 2020. (AAP Image/Sean Davey).

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Key findings

1

Climate change is an immense challenge for all levels of government, but its impacts are felt most acutely at the local level.

- Australia's 537 councils are responsible for community infrastructure and assets valued at nearly half a trillion dollars, including land, buildings, and 75% of the nation's roads.
- As the level of government closest to the community, council staff are often directly impacted by disasters and also required to respond. During Black Summer, one fifth of Towong Shire Council staff were personally affected as the workforce took on extra duties and council resources were effectively exhausted within 72 hours.
- As climate impacts – including coastal erosion, flooding, bushfire risks, and extreme storms – continue to accelerate, the risk to council infrastructure and services increases – as do community needs.

2

Worsening extreme weather, driven by climate change, is compounding costs for councils. This includes mounting damage to council-owned assets, rising insurance premiums and increasing liability risks.

- Critical council infrastructure including roads, drainage and coastal defences, is being damaged by more frequent and/or severe extreme weather, and state and federal assistance is falling short of what's required.
- Coastal councils are being forced to choose between competing interests in deciding how to protect their coastlines and communities from rising sea levels and worsening erosion. The bill for local governments to fix eroding beaches or protect beachside property or infrastructure commonly exceeds $1 million and could reach as high as $54 million per year.
- Claims and damages following extreme weather events are on the rise with average home insurance premiums rising 178% in northern Australia and 52% across the rest of the country in the decade between 2007-08 and 2018-19.
- A growing number of Australians have no insurance or inadequate insurance coverage for their property, which increases pressure on councils and the broader community to provide financial support in the wake of climate-fuelled disasters. Rates of non-insurance range from 17% in north Queensland (more than 62,000 properties) and as high as 40% in north Western Australia (more than 10,000 properties).
- One of the most common concerns for councils as climate impacts escalate is increasing litigation, with 21% of coastal councils surveyed in 2019 citing this as their highest concern. It's virtually impossible for councils to eliminate such legal risks, but they can take steps to materially reduce them.

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3

Local government is playing a leading role in responding to climate change, but there are common barriers that councils face in trying to take further action.

- In Australia, local governments and communities are aligning with the latest climate science by working towards 100% renewable energy goals and zero emission targets. Already, the cities of Sydney, Melbourne, Brisbane and Adelaide have carbon neutral operations – as do Moreland and Darebin councils in Victoria.
- By cutting or avoiding greenhouse gas emissions, councils can also significantly cut operational expenses. For example, the Cities for Climate Protection program supported 233 councils to collectively avoid 18 million tonnes of carbon emissions and save $95 million in energy costs.
- Councils are effectively being asked to do more, with less. While council responsibilities – including those related to climate change – are growing, their tax revenue has shrunk to the fourth lowest share among the 30 industrialised nations that make up the Organisation for Economic Co-operation and Development.
- It is difficult for councils to access funding to prepare their communities for worsening extreme weather. Evidence shows the return on investment is higher for spending on disaster preparation rather than disaster recovery, yet 97% of all Australian disaster funding is spent in the wake of an event.

4

Protecting communities from worsening extreme weather, and minimising the costs borne by them, requires climate leadership at all levels of government.

- This report demonstrates that councils are already experiencing damage and loss beyond their ability to manage. Decisive and immediate action is required at all levels of government to deeply reduce fossil fuel emissions, increase the use of renewable energy and support communities to prepare for and cope with climate-fuelled disasters.
- Australia can and should do more as part of international efforts to keep global warming well below 2°C. This means cutting our emissions by 75% below 2005 levels by 2030, and reaching net zero emissions by 2035.
- Extreme weather events like bushfires and floods don't respect municipal borders, so coordination from higher tiers of government is needed.
- There are big opportunities for councils when they have the resources to act on climate change. Beyond benefits to the community, action can create local jobs and result in long term savings for councils.

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Summary of report recommendations

A full explanation of report recommendations can be found on page 60.

RECOMMENDATIONS FOR LOCAL GOVERNMENTS

1. Increase operational net zero targets and efforts to mitigate climate change through emissions reduction activities.
2. Work with local communities and businesses to support broader efforts to cut emissions beyond council operations and infrastructure.
3. Undertake a climate change risk assessment and implement plans for adapting to those risks.
4. Seek out opportunities for collaboration across multiple councils to reduce emissions and adapt to climate impacts.
5. Encourage economic development units to explore how climate action can boost the local economy.
6. Upskill all council staff to ensure they are confident about the impact of climate change on their day-to-day work, including opportunities for adaptation and mitigation.
7. Ensure that all planning and development activity at a local level considers climate risks and opportunities to cut emissions.
8. Advocate for other tiers of government to embrace stronger climate policies, emissions reductions targets and frameworks for mitigation and adaptation.

RECOMMENDATIONS FOR STATE, TERRITORY AND FEDERAL GOVERNMENTS

1. Lead the country in responding to accelerating climate change at the scale and pace required; with a science-backed approach.
2. Increase state, territory and federal funding sources to councils for responding to climate impacts, and cutting greenhouse gas emissions.
3. Invest in preparing before climate disasters strike, rather than responding after the damage is done.
4. Ensure all disaster response funding incorporates the principle of "betterment".
5. Make funding available post-disaster for all damaged and destroyed council assets.
6. Support residents and businesses exposed to extreme weather events to build resilience.
7. Look for cost sharing opportunities between local and state governments for asset upgrades.
8. Encourage and resource regional collaborations between councils to address climate change.
9. Ensure all planning and development activity at a state and territory level adequately accounts for accelerating climate risks.
10. Improve energy efficiency standards and invest in building upgrades to ensure Australian houses are safe and comfortable.
11. Establish a national body, or expand the remit of an existing one, to support research on adaptation and act as a centralised hub for up-to-date climate change information.
12. Take responsibility for coordination of climate impact responses to ensure consistency and clearly delineated responsibilities between different levels of government.
13. State, territory and federal governments should urgently implement the 2020 findings of the Royal Commission into National Natural Disaster Arrangements.
14. Support councils to undertake and regularly review climate change risk assessments.

Foreword

No community within Australia remains untouched by climate change. Our country is highly exposed to impacts including record breaking heat, more dangerous bushfire seasons, coastal flooding and supercharged storms. These extreme weather events are worsening, and the impacts are reverberating throughout our communities.

As the level of government closest to the community, councils are at the heart of responding to climate impacts. When disaster strikes, local governments work closely with communities to cope and respond. They are also often left with the task of cleaning up – and paying for – the mess, while they keep delivering the essential services that so many residents rely on.

We have a choice about how much worse we're willing to let things get. But the latest science makes it clear that there is no time to waste. Every fraction of a degree of avoided global warming makes a difference, and our success will be measured in lives, communities, properties, species and economies saved. There is one solution, and one solution only: a concerted effort to make immediate, deep and sustained greenhouse gas emission cuts.

While climate action at a federal level has stagnated, local governments are just getting on with it. For many councils, this is part of their core work. Within the Cities Power Partnership more than 150 councils are united in their desire to look after their communities by responding to climate change.

From Margaret River to Hepburn, and from Byron Bay to Cairns, cities and towns across Australia are cutting their emissions, switching to clean energy and building greener, more efficient and resilient communities. The momentum is tangible and benefits like cleaner cities and healthier communities are there for the taking.

While we switch away from using coal, oil and gas there are climate impacts already baked into the system that councils must also respond to in order to keep our communities safe and strengthen their resilience into the future.

The findings and case studies in this report paint a picture of the impacts and scale of the challenge we face, but also outline a pathway to overcome them. I hope this serves to accelerate action at all levels of government to address climate change, and a platform from which councils can advocate for greater support to help them get on with the job.

No one can do this alone, and councils are no exception. If we want communities to stay secure, prosperous and resilient then we need all levels of government to put the right actions and policies in place.

This is an opportunity to improve the lives of all Australians. We expect all levels of government to step up and grasp this opportunity by backing local governments in. With the right support in place they can be ambitious, collaborative and action-orientated in creating the safe and thriving communities we all desire.

Dr Portia Odell
Director, Cities Power Partnership

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1. Introduction

Climate change impacts are felt acutely at the local level.

Councils must manage damage to their own assets and infrastructure from increased temperatures, sea-level rise, shifting rainfall patterns and increasingly frequent and/or severe extreme weather events, as well as the additional demands placed on them via damage to private property in the community.

As climate impacts escalate, communities will increasingly approach their councils for help in responding to and managing such events and associated risks. Councils may be exposed to increased litigation from the community if climate risks have not been properly considered in council decision-making. Councils will also be affected indirectly by harm to local residents and private property, demographic changes in response to extreme weather events and climate impacts on local industries and livelihoods.

In fact, the impacts of climate change cut across almost all areas of local government responsibility including the critical assets, infrastructure and essential services that councils provide for their local communities. Councils are directly responsible for urban planning, land use and building approvals, which means they can take significant steps to manage climate risks. As the level of government closest to the community, councils play a critical role in ensuring on-the-ground needs of local communities are considered and met by all levels of government. Councils also play a critical role in communicating with their communities to explain climate impacts and solutions (DCCEE 2012). All of this takes place in the context of increasing financial pressures on councils from climate impacts, and limited funding, capacity, information and support from higher tiers of government.

Responsibility for local governments rests with state and territory governments. For this reason the specific roles and responsibilities can differ between jurisdictions. However, the broad responsibilities of local governments in relation to adapting to climate change are outlined in Box 1.

Under state and territory legislation, local governments are also delegated a broad array of responsibilities in relation to preparing for, responding to, and recovering from climate-related disasters. These responsibilities can differ between jurisdictions and between local governments – dependent on the size, resourcing, capacity, demographics and geography of the council or local government area, amongst other factors. Responsibilities may include:

- Preparedness and risk mitigation actions before disasters (such as delivering public education and awareness programs, implementing risk management plans, managing firebreaks and asset protection zones around key assets, working with fire agencies to conduct hazard reduction activities, maintaining fire trails and vegetation management programs on local government lands, land-use planning and management including zoning and administering development applications);

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- Delivery of community services and support for emergency management during disasters (such as provision of operational and administrative support to the local emergency management committee and evacuation and relief centers);
- Recovery after climate-related disasters (such as preparing recovery plans, coordinating the recovery effort, conducting disposal of damaged infrastructure, distribution of supplies to survivors and restoring damaged community infrastructure).

BOX 1: RESPONSIBILITIES OF LOCAL GOVERNMENT FOR CLIMATE CHANGE ADAPTATION

Local governments have a responsibility to:

- Administer relevant state and territory and/or Commonwealth legislation to promote adaptation as required, including the application of relevant codes, such as the Building Code of Australia;
- Manage risks and impacts to public assets owned and managed by local governments;
- Manage risks and impacts to local government service delivery;
- Collaborate with other councils and with state and territory governments to manage regional climate impacts and risks;
- Ensure policies and regulations under their jurisdiction, including local planning and development regulations, incorporate climate change considerations and are consistent with state, territory and Commonwealth government adaptation approaches;
- Facilitate building resilience and adaptive capacity in the local community, including through providing information about relevant climate change risks;
- Work in partnership with the community, locally-based and relevant non-government organisations, business and other key stakeholders to manage climate risks and impacts;
- Contribute appropriate resourcing to prepare, prevent, respond and recover from detrimental climatic impacts.

Source: DCCEE 2012 cited in NCCARF 2013.

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Climate change is increasing the frequency and/or intensity of many extreme weather events, and these trends are projected to continue. A summary of some of the key climate trends for Australia from the latest report from the Intergovernmental Panel on Climate Change (IPCC) is provided in Box 2.

BOX 2: KEY CLIMATE TRENDS IN AUSTRALIA

In August 2021, the Intergovernmental Panel on Climate Change (IPCC) published the most important update on the physical science of climate change in a decade. The report – the first part of the IPCC's Sixth Assessment – contains many findings relevant to Australian councils as they adapt to climate impacts.

Key findings specific to Australian communities, include:

- Heat extremes are increasing and cold extremes are decreasing. These trends are projected to continue;
- Heatwaves and droughts will become more frequent and intense;
- Australia is experiencing sea level rise above the global average. Such rises are projected to continue, contributing to increased coastal flooding and shoreline retreat;
- Heavy rainfall and floods are increasing, and projected to continue to do so;
- An increase in marine heatwaves and ocean acidity is already being observed, and both are projected to increase. This is likely to be catastrophic for the Great Barrier Reef;
- Sandstorms and dust storms are projected to increase across Australia;
- Snowfall and snow coverage have decreased, and are projected to decrease further;
- The intensity, frequency and duration of fire weather events have already increased, and are projected to increase further, throughout Australia.

Past inaction and inertia in the climate system mean that climate impacts will continue to worsen over the next two to three decades, even if global greenhouse gas emissions plummet over the same time period, and then could level off. However, if we fail to cut emissions rapidly and steeply within the next decade impacts will escalate steeply post-2040.

Immediate, deep and sustained emission reductions are required to protect communities and ecosystems in Australia. Based on the latest science, and taking into account Australia's national circumstances, the Climate Council recommends that Australia reduce its emissions 75% below 2005 levels by 2030, and reach net zero emissions by 2035. We must do everything possible to deeply and rapidly cut our emissions, while also preparing for climate impacts that can no longer be avoided.

Source: IPCC 2021a.

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Rising average temperatures, sea level rise, shifting rainfall patterns and the increasing frequency and/or intensity of extreme weather events create a number of risks for councils. These can be divided into direct risks, indirect risks and community risks (see Box 3).

This report discusses the direct and indirect risks of climate change for local governments in Australia. Community risks, while significant, are out of scope of this report. The report draws on case studies to illustrate the different types of risks and impacts, and the burdens placed on councils. Further, it discusses the ways councils are proactively responding to climate change by reducing emissions, adapting their own operations and helping their communities do the same. Finally, the report examines a range of barriers that local governments face in trying to take climate action and puts forward a non-exhaustive list of recommendations to address these.

BOX 3: TYPES OF CLIMATE CHANGE RISKS AFFECTING COUNCILS

Direct risks

Direct risks to councils occur where council-owned or managed assets, infrastructure and operations or services are directly affected by climate change hazards. These include council assets damaged in extreme weather events, the costs of increased maintenance, and clean-up costs.

Indirect risks

The impacts of climate change may cause knock-on, or indirect risks to councils through the decisions or actions of secondary parties. For instance, as risk profiles rise due to climate change, insurers may raise premiums to unaffordable levels (as occurred in Bundaberg, Queensland in relation to flood cover), or even refuse cover (as occurred in Emerald and Roma in Queensland in relation to flood insurance). Councils may also be subject to increased litigation risks if they fail to consider the likely effects of climate change when exercising their statutory responsibilities. For instance, without consistent planning legislation and well-defined roles and responsibilities, councils may find it difficult to refuse maladaptive developments, exposing them to increased litigation (NCCARF 2013).

Community risks

Local communities face a range of climate risks and impacts and are engaged in a variety of ways to cope with or adapt to these. In turn, the strain on the community from these compounding impacts can alter council decision making and activities.

2. Direct climate impacts and risks

Councils are already dealing with direct impacts on their operations, assets and expenditure from climate change-driven extreme weather events. With continued warming locked in (see Box 2), these risks are set to increase with more frequent and intense extreme weather events.

Australia's 537 councils are responsible for the provision of community infrastructure and assets (including buildings, structures, machinery, equipment and land) valued at around $457 billion (2018-19), making them one of Australia's most significant infrastructure owners and managers (ALGA 2021a). Many council assets have a long lifespan (greater than 50 years) so will be affected by escalating climate change impacts long into the future.

The types of council assets at risk of climate damage are as diverse as the extreme weather events that threaten them. Roads are one of the most valuable assets that councils manage (Balston et al. 2012), accounting for approximately 75% of the national road length (ALGA 2021b). In addition, councils manage buildings such as community houses, libraries, town halls and gyms, other transport infrastructure such as local airports, and land that makes up public open spaces such as foreshores, beaches and parks. Critical infrastructure such as drains and footpaths also fall within council responsibility.

Some impacts on council assets are slow and chronic, such as increased temperatures deteriorating infrastructure, while others are rapid and acute from fast onset hazards, such as a bushfire destroying buildings within hours.

Figure 1: Roads and a new bridge submerged during a flood in Windsor, New South Wales, in 2021.

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CASE STUDY 1: RISING SEA LEVELS AND COASTAL INUNDATION

Australian beaches are at high risk from climate change with over half the coastline vulnerable to erosion from rising sea levels, and an estimated $226 billion worth of infrastructure and homes at risk from coastal inundation at a sea level rise of 1.1 metres (DCCEE 2011).[1]

Councils face complex and long-standing problems when it comes to managing the coastline, and these problems are set to worsen due to climate change. Whilst council decisions are made within frameworks and legislation developed by state and territory governments, and can be overruled by these governments, councils make the majority of planning and development decisions relating to the everyday maintenance and management of coastal zones. This is done both through the development and promulgation of local planning schemes that set out land use zoning and setbacks, and via individual decisions made by councils on development applications (Harvey and Caton 2010).

Councils are responsible for maintaining beaches and coastal facilities. Councils are also responsible for decisions regarding roads and carparks, the location of access paths, keeping public coastal land in public use, and maintaining coastal reserves and associated facilities, including boat ramps and jetties.[2] The task of shoreline protection is shared between local and state and territory governments. The costs of being the "coastal housekeeper" are high due to the popularity and heavy use of the coastal zone by residents, as well as the fact that catchment wastes end up at the coast (Harvey and Caton 2010).

Councils are one of Australia's most significant infrastructure owners, and are already experiencing climate impacts on their assets.

1 This is comparable to the upper range of likely sea level rise by 2100 under a very high greenhouse gas emissions scenario, as outlined in the most recent IPCC report (IPCC 2021b). However, the IPCC (2021b, p. 28) notes that: "Global mean sea level rise above the likely range – approaching 2 m by 2100 and 5 m by 2150 under a very high GHG emissions scenario (SSP5-8.5) (low confidence) – cannot be ruled out due to deep uncertainty in ice sheet processes". Due to these uncertainties, as well as further development along the coastline since the study by DCCEE (2011) was published, it is worth noting that the value of homes and infrastructure at risk from sea level rise would likely be much higher.

2 Water authorities can also be involved in planning and decision-making regarding some coastal assets.

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Sea level rise and associated erosion and inundation due to storm surges pose significant challenges to coastal councils, and these challenges will continue to accelerate. Implementing coastal adaptation measures and policies requires reconciling competing social values including economic development, scenic amenity, public health and safety, and preservation of natural resources. For example, coastal "retreat" might be the best option for the preservation of beaches and coastal habitats, but is unlikely to be the preferred option of coastal-dwelling residents. Uncertainties of planning for the long-term and the need to consider multiple time frames means traditional cost-benefit analysis is of limited use. Coastal adaptation measures, such as beach nourishment and hard defences, are often very costly. Individual landholders may be the primary beneficiaries, but could find the costs prohibitively expensive. At the same time, councils may have a hard time justifying expenditure on coastal defences for which the predominant purpose is the protection of private property. The costs of seawalls are sometimes partially transferred to third parties, and flow on effects borne by the surrounding environment. For example, erosion of sand adjacent to and immediately in front of seawalls can be exacerbated. These factors make the value proposition of coastal defences difficult to resolve as the costs and benefits are often borne by different actors.

Rising sea levels and associated coastal inundation is already affecting many coastal local government areas. In a recent member survey by Australian Coastal Councils Association, 90% of council respondents said they had been affected by coastal erosion hazards (such as damage to infrastructure from storm surge) in the past five years (ABC News 2021a).

A case in point is the township of Port Fairy (in Moyne Shire), located 280km west of Melbourne on Victoria's south west coast. The south facing coastline is low-lying and subject to wave run-up and inundation. Seawater regularly spills onto the road and adjoining land during storm surges. Thirty houses are at risk of being undermined by present day erosion, a number that will increase to around 200 by 2100 (Flocard et al. 2013). The east-facing beach consists of fine sand, making it highly susceptible to erosion and dune recession. Under existing sea level rise, two decommissioned landfills have become exposed due to dune recession and are releasing contaminants and debris into the coastal environment. One of the landfill sites, the former municipal tip, dates back to the 1970s, and could contain substances such as asbestos, faeces and medical waste (ABC News 2019). As a stop-gap measure, the council has embarked on a program to extend the existing sea wall structure, at a cost of $1.1 million (ABC News 2019). The cost of upgrading the seawall to a standard that would be effective until 2100, considering future sea level rise, has been estimated to be around $3 million (Moyne Shire Council 2018). The council has also proposed adding large quantities of sand to the beach (a process known as "beach nourishment") to protect the decommissioned landfills and provide sand for beachgoers to enjoy. However, without removing the landfill sites entirely – at an estimated cost of around $22 million – the risk of waste being exposed in the future remains (Moyne Shire Council 2018).

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Figure 2: Coastal erosion in Gold Coast, Queensland.

The Gold Coast is another example of coastal councils struggling with the challenges of sea-level rise. Beaches, such as those on the Gold Coast, are extremely vulnerable to recession as sea level rises, combined with the impacts of increased storm surges (Sano et al. 2011), and more southerly occurrence of tropical cyclones (Kossin et al. 2014). There is little to no opportunity for these beaches to move landwards due to the adjacent high-rise development. The Gold Coast coastline has been highly modified since the 1960s. Artificial sand dunes over rocky armouring are actively maintained by Gold Coast City Council through beach nourishment. In 2017, over three million cubic metres of sand were delivered to vulnerable sections of the coastline as part of the Gold Coast Beach Nourishment Project, at a cost of $13.9 million (City of Gold Coast 2019). Tidal inlets are also artificially maintained with dredging, and jetties with rock groynes and an artificial surf reef provide coastal protection. The cost of beach nourishment will be an estimated $11-54 million per year over the next century, depending on the sea-level rise scenario used (Cooper and Lemckert 2012). Pre-planned adaptation would likely enable the Gold Coast to survive a sea level rise of 1 metre, but a 2 metre rise would severely stretch the city's resources. The raising of the artificial dune and the rock bund would require additional material and cost, varying between $30 and $150 million per year over the next century, depending on the rate of sea level rise (DCC 2009). Protection of the 500km long lagoonal shoreline will also require revetments (sloping structures that absorb the energy of incoming water) around the entire perimeter of the waterbody and raising of bridges and roads. Under 1 metre of sea level rise, the entire area would likely be vulnerable to flooding semi-annually without systematic enhancement of coastal protection.

CASE STUDY 2: RAPID AND EXTREME HAZARDS

Extreme weather events that occurred in 2019/20, including the Black Summer Bushfires, resulted in significant damage to council assets across New South Wales. The estimated costs of restoring the damage from bushfires in Bega Valley Shire Council was $20.5 million, with a further bill of $8 million resulting from flooding events in February, July and August 2020 (Audit Office of New South Wales 2021).

Clarence Valley Council was also hit by bushfires and floods with a total estimated damages cost of $19 million. The Council received grants that equated to two thirds of these costs ($7 million related to flood and storm damage and $5.2 million related to bushfires) (Audit Office of New South Wales 2021).

Eurobodalla Shire Council's loss of 14 bridges due to bushfires cost an estimated $10 million alone (Audit Office of New South Wales 2021). Those 14 bridges are just a fraction of the 63 NSW local government bridges destroyed or damaged in the 2019/20 bushfires (Royal Commission into National Natural Disaster Arrangements 2020).

Some of the damage to council assets comes not just as a result of disasters, but from responding to them. In Shoalhaven City Council, 84 roads totalling 316km were damaged not only as a result of the bushfires, but also from firefighting efforts. Large vehicles, excavators and other equipment used in the firefighting effort and driven on unsuitable roads caused significant damage (Shoalhaven City Council 2020). In Mallacoota, the airfield's runway pavement was damaged by heavy aircraft operations carried out in response to the bushfires (Shoalhaven City Council 2020).

Figure 3 (left): Reedy Creek Bridge destroyed by fire in Eurobodalla Shire area, New South Wales, January 2020.
Figure 4 (right): Reedy Creek temporary crossing built to replace bridge destroyed by flood waters, February 2020.

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When assets are damaged, or extreme weather events disrupt activities, council operations can be affected. Extreme weather events are already disrupting standard council services such as use of libraries and recreation facilities, rubbish collection and grounds maintenance. Moreover, councils' responsibility to the local community means that extreme weather events trigger additional operational responsibilities on top of council's core service delivery.

CASE STUDY 3: THE RISING COSTS OF MAINTAINING COUNCIL ASSETS

Extreme weather can significantly affect the maintenance costs and lifespan of council-owned assets and infrastructure. Droughts and storms can have a particularly severe impact on assets such as sports fields. Drought (and associated extreme heat) can lead to compaction of playing fields, resulting in an increased incidence of injuries.

Water availability was particularly limited during the Millennium Drought due to government mandated water restrictions (Dingle and Mallen 2020). Consequently, many compacted playing fields across Victoria were closed, both as a safety precaution and because of difficulties in obtaining public liability insurance (Dingle and Mallen 2020). For example, more than half of the community sporting leagues in rural Victoria had their sporting season curtailed in 2007 due to the drought. When water allocations have been reached, some community-level sports clubs have paid for water to be carted in. Water is traditionally around $50-60 per megalitre, but can go up to around $220-240 per megalitre due to limited supply and high demand. During the Millennium Drought, communities that could afford to purchase carted water had usable fields, and communities that could not afford to cart in water had their fields closed (Dingle and Mallen 2020).

CASE STUDY 4: EMERGENCY MANAGEMENT AT A LOCAL LEVEL

Although state and territory governments have the primary responsibility for emergency management, local governments play a critical support role. During an extreme weather event, such as a bushfire, councils undertake additional activities above and beyond core service delivery. In some cases, this may be true not just for the council directly affected, but those surrounding it as well. For example, during the 2020 Kangaroo Island fire, 23 South Australian councils supported the affected council in its response (LGA of SA 2020).

During the 2019/20 bushfires, more than 100 local government areas were affected (Royal Commission into Natural Disaster Arrangements 2020). Sixty-eight percent of the local government area of Shoalhaven was burnt (Shoalhaven City Council 2020). After its experience in the fires, the Council identified the following rapid-response interventions as being undertaken:

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- Waste disposal;
- Road and bridge repairs;
- Telecommunications reinstatement;
- Water supplies and sewer repairs;
- Power supply provision;
- Temporary accommodation;
- Food and urgent necessities;
- Mental health support;
- Fencing repairs to contain livestock;
- Distribution and storage of donations and supplies;
- Establishment and staffing of recovery centres and assistance points;
- Financial assistance (ALGA 2021a).

In Towong Shire Council in Victoria, 43% of its total area was burned during the 2019/20 bushfires (Commonwealth of Australia 2020). Council staff were required to undertake emergency management roles on top of their normal functions. The council's resources were stretched to their limit during the season by managing the disaster, with the resources reportedly being "effectively exhausted" within 72 hours (Commonwealth of Australia 2020). With 22% of the council's staff members also reported to be personally affected by the bushfires, this presented significant challenges for Towong performing its relief, recovery and coordination functions.

The costs of these emergency management support activities can add up quickly for councils. For example, the 2019/20 bushfires caused numerous power cuts to the Shoalhaven City Council area, which spoiled food for residents. Shoalhaven City Council waived fees for the disposal of green waste, costing Council approximately $630,000, and for spoiled food, costing Council $193,600 (Shoalhaven City Council 2020).

Yarra Ranges Council in Victoria faced similar costs after storms in June 2021 brought significant damage and prolonged power outages to the region. In the local government area, 72 buildings (including 68 homes) were damaged to the point of being uninhabitable and over 54,000 residents were without power (11,346 for a period of 1-2 weeks and 891 for a period of 2-3 weeks) (Yarra Ranges Council 2021a). Initial conservative estimates of the required financial commitment to undertake the necessary rehabilitation, restoration and recovery work were approximately $65 million (Yarra Ranges Council 2021). This does not include any work required on private property which has been initially estimated at over $160 million (Yarra Ranges Council 2021).

During Black Summer, one fifth of Towong Shire Council staff were personally affected and council resources were "effectively exhausted" within 72 hours.

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Beyond assets and operations, climate change is affecting council staff, with extreme weather influencing both the health and wellbeing of individuals, and how well they can perform their duties.

CASE STUDY 5: REPEATED COUNCIL SERVICE DISRUPTION DUE TO EXTREME WEATHER

Pools and recreation centres are frequently managed by councils with services and facilities provided to the local community. Extreme weather events can threaten this infrastructure in a variety of ways with repairs often proving expensive.

The Mittagong Swimming Pool in Wingecarribee Shire Council has been plagued with damage from repeated storms and flooding, with multiple closures to undergo repair. Between 2014 and 2021, the pool was closed five times for major repairs and refurbishment as a result of flood damage with a total repair cost of $6.1 million (Wingecarribee Shire Council Media Centre 2021). In making the decision for the pool to remain closed across summer, 2021/22 Council's Interim Administrator Viv May commented:

"There's no point continually throwing money at the pool every time it floods without a long-term plan. It's important that Council provide the community with a facility that isn't continually interrupted or closed." (Wingecarribee Shire Council Media Centre 2021).

Figure 5: Damage and flooding at Mittagong Swimming Pool, 2020.

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CASE STUDY 6: HEATWAVES AND WORKPLACE SAFETY AT COUNCILS

Climate impacts can affect workers in a range of ways, and council staff are no exception. In particular, heatwaves can push the physical and mental capacity of workers beyond what is safe, with outdoor workers and those in environments with poor climate control particularly at risk (Humphrys et al. 2020). Heat exposure can increase the risk of workplace accidents through physical fatigue and slowed decision-making capacity (Rowlinson et al. 2014). High heat can also impact workers in less direct ways, such as poor sleep or overheating while working, making the commute to work more dangerous (Humphrys et al. 2020).

In 2019, researchers from the University of Technology Sydney gathered quantitative and qualitative data from climate-exposed workers in the City of Sydney, including parks and road maintenance council employees. Focusing on work during heatwaves, the data revealed that many respondents felt less comfortable at work (such as feeling hot, thirsty, fatigued and having difficulty concentrating) and their work was affected. One-fifth of council workers took extra breaks, and two-fifths changed the way they did their work, such as undertaking lighter duties or stopping work.

Quotes from council workers who participated in the survey included:

"Hedging large hedges most of the day creates a hot personal environment due to how close the machinery is to your body and the extra safety gear worn"

"Temperature was around 35°C, estimate it felt like around 40°C. Very hot and somewhat uncomfortable. Makes any labour task harder to physically do and reduces the speed at which you work" (Biloria et al. 2019).

Figure 6: Protective equipment makes hard work even hotter.

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3. Indirect climate impacts and risks

The impacts of climate change hazards may lead secondary actors to make decisions that pose risks to councils. For example, insurers may raise the price of premiums, or even refuse cover, or councils may be subject to increased litigation risks related to climate change. These indirect risks are explored in this chapter.

EXPOSURE TO INCREASED LITIGATION RISK

Councils are potentially exposed to liability if they fail to take into account the likely effects of climate change when exercising a wide range of statutory responsibilities including across land-use planning, development approvals, management of public infrastructure (such as drains and roads), management of public lands (such as foreshores and parks), management of community facilities (e.g. libraries and sporting facilities), public health, water and sewerage services (in some states), and emergency planning (Baker and McKenzie 2011). Councils are also exposed to potential liability if they fail to disclose information about climate change risks, or if they share incorrect information.

Climate change-related litigation affecting councils is likely to arise under either administrative law or tort law (see Box 4). Administrative challenges are likely to occur shortly after a decision has been made. For example, a neighbour or developer may challenge the rejection or approval of a development based on whether or not climate change risks have been adequately considered. By contrast, proceedings in relation to negligence or nuisance may occur decades after a decision has been made, once climate change hazards further materialise (Bell-James et al. 2017).

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BOX 4: CLIMATE CHANGE AND ADMINISTRATIVE AND TORT LAW

Administrative law allows citizens to challenge decisions made by government authorities. Depending on the context, this may be in the form of a merits review or a judicial review. A merits review is a broad form of review where the court is given the power exercised by the original decision-maker to consider the same or additional evidence afresh and make a new decision. For example, in a merits review a court might deliberate over whether or not a decision made by council to approve a beachside development was a good decision, drawing on relevant legislation and/or expert evidence to consider the issue (such as evidence on future projections for sea level rise). Judicial review, on the other hand, allows the court to consider *only* whether the original decision maker followed correct statutory procedures and acted within their authority. For example, a judicial review might focus on whether or not submissions which raised concerns about climate change had been adequately considered by a council before approving a development. The right to a merits review must be specifically granted by a statute and varies across different states and territories. It is usually limited in terms of who can bring a review (e.g. it may be limited to people who made a submission during the planning process). The right to a judicial review is broader. Generally, a person has a right to judicial review if they will be affected by a decision in some way, or if the statute gives them the right (Bell-James et al. 2017).

Tort law, which includes negligence and nuisance, allows citizens to seek compensation in response to a careless decision or action that has caused loss or harm (Bell-James et al. 2017). The main tort relevant to councils is negligence. There are three elements of negligence: a duty of care was owed; that duty of care was breached; and this breach caused damage. Generally speaking, local governments have a duty of care to landholders. According to civil liability legislation in most states and territories, a duty of care is only breached if: the risk was foreseeable, the risk was not insignificant, and a "reasonable person" would have taken precautions under the circumstances. Generally, for an action in negligence to be successful, there must be: a) evidence that actual harm has occurred (although there is growing recognition that some negligence actions can result in an injunction to prevent the breach from occurring, as shown by *Sharma v Minister for the Environment* [2021]) and b) some level of causation demonstrated i.e. that actions by the council were (or would be) the cause of the harm. For example, a claim for liability in negligence could be made if a poorly maintained council asset caused harm to a person during an extreme weather event.

Nuisance is another tort that may be relevant to councils in the context of climate change. Nuisance liability claims may be made if a council's unreasonable land use causes unreasonable interference with a neighbouring person's land. For example, erosion exacerbated by a council seawall that encroaches on private property could give rise to a claim in nuisance liability.

Some states and territories have legislative provisions limiting the liability of public authorities (including councils) for negligence and nuisance. In New South Wales, under s733 of the *Local Government Act 1993,* councils can raise a defense against negligence and nuisance claims if any acts or omissions that caused the plaintiff loss or damage were done honestly or in good faith in the performance of statutory functions. This is an important protection for councils (Baker and McKenzie 2011).

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There have been a large range of cases relating to the liability of councils in nuisance and negligence, and in judicial and merits reviews. Climate change is now becoming increasingly relevant across these areas of law (Baker and McKenzie 2011). Most of the legal challenges brought against councils to date have been under administrative law. Some of the types of claims (and examples of cases) that have been brought against local governments in relation to climate change are listed in Box 5.

BOX 5: TYPES OF LEGAL CLAIMS RELATED TO CLIMATE CHANGE AND COUNCILS

Legal challenges involving councils and related to climate change have focused on the following areas:

- Private property owners challenging the application of climate-relevant conditions in building permits (e.g. *Lark v Shellharbour City Council* [2015] and *Charles & Howard Pty Ltd v Redland Shire Council* [2015]);
- Private property owners or developers challenging the refusal of a development application based on climate change grounds (such as unacceptably high risk of current or anticipated coastal flooding due to sea level rise, or failure to consider various climate impacts in accordance with state and national coastal and climate policy) (e.g. *Joe Davidson Town Planning v Byron Shire Council* [2018], *Restall & Ors v Hobsons Bay City Council* [2010] and *Pridel Investments Pty. Ltd. v Coffs Harbour City Council* [2017]);
- Claims by third parties challenging council approval of a development in an area subject to coastal erosion or flood risk, or where it was argued that climate impacts had not been properly considered (e.g. *Stewart & Honan v Moyne Shire Council* [2014]);
- Proceedings initiated by private landholders seeking compensation in relation to negligence and nuisance due to maladaptation – for example, coastal protection works that exacerbated erosion on adjacent beach parcels (e.g. in *Ralph Lauren 57 v Byron Shire Council* [2016] as outlined in case study below);
- Proceedings initiated by a council seeking to prevent a private landowner constructing coastal protection works (e.g. *Byron Shire Council v Vaughan* [2009]);

A number of climate-related legal challenges involving councils have been launched in Australia.

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BOX 5: CONTINUED

- Proceedings initiated by private landholders alleging that council breached a development consent in preventing the construction of private coastal protection works (e.g. *Vaughan v Byron Shire Council* [2011]);
- Proceedings initiated by a private landowner seeking to compel a council to construct coastal protection works;
- Claims by third parties against development approvals where submissions that raised concerns about climate change had not been adequately considered;
- Challenges to the preparation and adoption of planning scheme amendments that sought to impose standards to guide development in a coastal zone;
- Claims challenging the refusal or approval of developments in the coastal area without a coastal hazard vulnerability assessment having been conducted (e.g. *Ronchi v Wellington Shire Council* [2009], *Owen v Casey City Council* [2010], and *Cooke v Greater Geelong City Council* [2010]).

Examples of cases sourced from Sabin Centre for Climate Change Law (2021).

In some cases, whilst applicants did not explicitly make arguments about climate change, the Tribunal introduced climate change as a relevant consideration. For example, in *Cadzow Enterprises Pty Ltd v Port Phillip County Council* [2010], the permit to construct a house near Port Phillip Bay was challenged by local residents. Though the residents did not make arguments related to climate change or flooding, the Tribunal sought information about risk of flooding from sea level rise from the regional flood control authority, Melbourne Water, which recommended that the house be substantially elevated. The Tribunal subsequently granted a permit to develop, subject to the house being elevated in line with Melbourne Water's recommendation (Sabin Centre for Climate Change Law 2021).

In *Johnston v Bass Coast Shire Council* [2015], a third party, Marjorie Johnston on behalf of the Silverleaves Conservation Society, applied for a review of Bass Coast Shire Council's decision to permit construction of a three-level building due to the environmental and landscape impacts that the building would have, amongst other factors. Although the influence of climate change on coastal hazards was not raised in the grounds of the objection, the court considered these risks, but ultimately found the development plan to be acceptable (Sabin Centre for Climate Change Law 2021). These cases illustrate that even when the grounds of objection to developments do not necessarily include climate change risks, the court may introduce these risks as relevant considerations in its deliberations.

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Figure 7: Current inundation risk modelling at highest tide in Silverleaves on Phillip Island, Victoria.

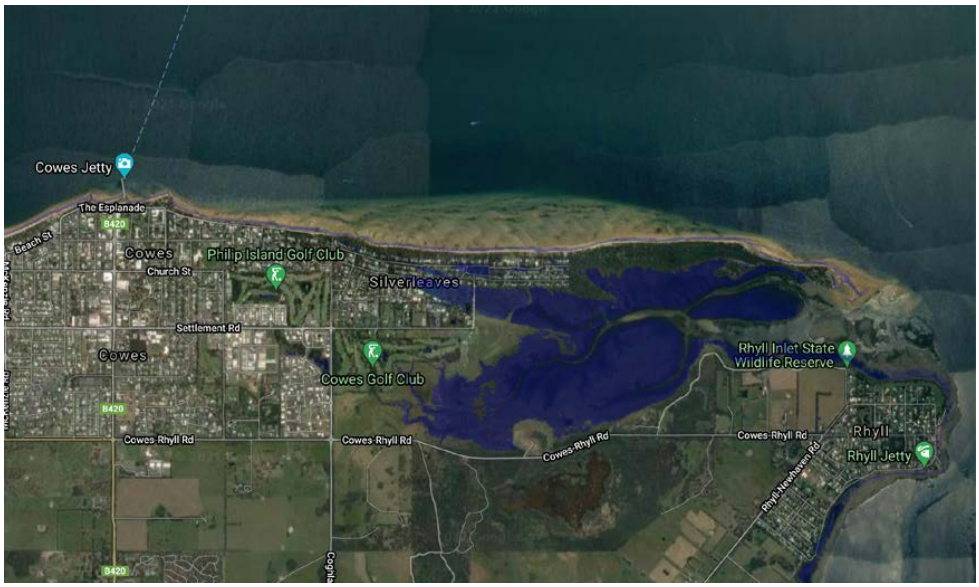

Figure 8: Predicted inundation risk modelling at highest tide for 2100 with +0.74m sea-level rise.

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In several cases, the main grounds of objection have been about whether or not climate risks have been adequately considered in the process of decision making. For example, in *Owen v Casey City Council* [2010] the core issue for the Tribunal was whether a coastal hazard vulnerability assessment, which would specify the nature and degree of flood risk, was a prerequisite for council reviewing its decision to reject a development application for two dwellings near the coast in a designated flood zone. Ultimately, the Tribunal upheld the council's rejection and ordered that a coastal hazard vulnerability assessment be commissioned. When the parties came before the Tribunal again, the Tribunal found the assessment was inadequate as it did not consider risks of riverine flooding, which will also worsen with climate change (Sabin Centre for Climate Change Law 2021).

Types of legal risks related to climate change

Potential challenges related to disclosing or withholding information

Local governments may face legal risks if they decide to release hazard risk information related to climate change. For example, landholders may use tort law (e.g. negligence liability) to challenge the release of information if it reduces the value of their property. This may occur regardless of whether the information *is* correct, but where the information is correct such a case is unlikely to succeed. First, releasing accurate information on climate risks for the benefit of public safety would not breach a duty of care. Second, the benefits of providing risk information to the public would likely be seen to outweigh any potential negative impact on property values (Bell-James et al. 2017). However, such a case has not yet occurred in Australia, so it is difficult to be certain about the likely outcome of such a challenge.

If a council released climate change risk information that was incorrect, partial or confusingly presented, a much stronger case could be made about negligence liability. Given that the future extent of climate change risks and impacts is dependent on global actions to reduce greenhouse gas emissions, some level of uncertainty is unavoidable. Local governments should take care to ensure that information provided is based on the most up-to-date science available, and that a balance is struck between communicating the risk of various hazards and communicating uncertainty. It may be appropriate for disclaimers to accompany any climate change risk information that is released, which may reduce liability (Bell-James et al. 2017).

On the other hand, legal challenges may arise if local governments fail to provide information on climate change and hazard risks. For example, claims may arise on the basis that a council failed to seek information on climate change risks, and to make that information publicly available, leading a landholder to develop in a risky area and subsequently experience loss. In considering such an argument, the court would be likely to take into account the size, resources, capacity (e.g. financial resources) and competing demands of a local government to determine whether or not it is realistic for the council to have allocated resources towards that purpose. This is in line with statutory provisions in tort legislation in most states and territories that limit the liability of public authorities, essentially recognising that governments have limited resources and many functions to perform, and funds can not necessarily be directed to every purpose that constituents may desire (Bell-James et al. 2017).

Another situation that could give rise to legal challenges is if a council has hazard risk information, but withholds it. This is more likely to be classified as negligent misstatement by a court, particularly if that information has been explicitly requested (Bell-James et al. 2017).

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Legal challenges related to strategic planning and development approvals

Local governments also face the risk of legal challenges when deciding whether or not to approve developments, most likely through administrative law (either judicial review or merits review). This may occur no matter what decision is made. If a development application is refused, it may be challenged by a developer. If approved, challenges may be brought by third parties such as neighbours or community groups. Developers may also challenge approvals if they come with conditions which are seen to be unduly onerous.

There is also a risk of challenges being brought against development approvals in the long-term, under claims of negligence liability. For example, if a development is permitted in an area exposed to foreseeable future climate change risks, the council may be held liable for harm incurred once the risks have materialised (Bell-James et al. 2017).

Councils should be particularly careful about approving private seawalls given the risk that they could be held liable in nuisance or negligence if a seawall has a negative impact on other parties, i.e. if the seawall exacerbates erosion on other parcels of beachfront land (Bell-James et al. 2017).

Another role of local government is strategic planning around which types of developments can be situated where (usually outlined in planning schemes). Failure to include climate change risks in planning schemes themselves would be unlikely to form the basis of successful litigation claims. Strategic policy is generally exempt from negligence liability, and it is generally well-accepted in administrative law that the failure to create legislation is not open to review. However, it may be useful for local governments to include consideration of climate change risks in strategic policies such as planning schemes. Whilst legal challenges related to the inclusion or exclusion of climate change in strategic policies themselves are unlikely to succeed, the existence of such strategic policies could help provide consistency and predictability in decision-making, which could reduce the risk of individual decisions around development applications being challenged (Bell-James et al. 2017).

Figure 9: Holiday resort villas on Kangaroo island, South Australia destroyed by 2020 bushfires.

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CASE STUDY 7: IMPORTANCE OF INCLUDING CLIMATE RISKS IN PLANNING STRATEGIES

In *Fetherston v Wollongong City Council* [2016] Mr. Fetherston, who had been denied permission to build a two-story dwelling by the Wollongong City Council, appealed that decision by arguing, among other things, that the design made adequate provision for flood risk. Before ordering the council to grant the permit, the court considered evidence on flooding from two experts, one of whom presented evidence of the effects of climate change. The court, noting that the Wollongong Development Control Plan did not require a planning review to incorporate climate change impacts, accepted the submission of the flood expert who had not evaluated climate risk (Sabin Centre for Climate Change Law 2021). This case speaks to the significance of failing to incorporate climate change considerations into relevant planning documents.

The inclusion of climate risks in planning schemes could result in restrictions to development being placed on certain parcels of land. This could, in turn, result in pushback from affected landholders who may argue that they are entitled to compensation for 'injurious affection' if the value and insurability of their property is reduced by the planning scheme amendments. Noosa Shire Council is facing such opposition to its Noosa Council Coastal Hazards Adaptation Plan from coastal landholders, who warn the Council will face a potential class action for 'injurious affection' compensation if the planning scheme is amended leading to a loss in the value of coastal properties (AFR 2021). In most states and territories, compensation claims arising from planning scheme amendments restricting development potential are unlikely to succeed, unless land is compulsorily acquired or reserved for a public purpose. There are a limited number of situations in Western Australia, Tasmania and Victoria where compensation is payable (Baker and McKenzie 2011). Queensland does have a broad provision for injurious affection due to adverse planning scheme amendments, but a number of exceptions may constrain claims for compensation[3] (Baker and McKenzie 2011).

Legal challenges related to asset management

Local governments are not obliged to provide risk mitigation infrastructure (e.g. seawalls). The allocation of financial and other resources of public authorities is not open to challenge under statutory provisions governing negligence liability. Hence, a decision not to build a seawall due to resourcing constraints would be unlikely to be considered negligent (Bell-James et al. 2017). It would also be highly unlikely for it to constitute public nuisance.

On the other hand, if a council does build coastal protective infrastructure or stormwater infrastructure, but fails to adequately maintain it, leading to loss or harm, it may be found liable for negligence or nuisance. Similarly, if a council constructs a seawall that leads to erosion on adjacent parcels of land and causes damage to private properties, claims of negligence or nuisance might be brought.

3 For example, under s 30 of the *Queensland Planning Act (2016)*, a planning change is not considered to be adverse if it: reduces a material risk of serious harm to persons or property on the premises from natural events or processes and a report assessing feasible alternatives for reducing the risk, including imposing development conditions on development approvals, has been prepared by the local government as instructed under the Minister's rules that apply specifically to the making of a planning change to reduce the risk (see s 30 of the *Queensland Planning Act 2016*).

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CASE STUDY 8: LEGAL CHALLENGES TO COASTAL ADAPTATION WORKS

In *Ralph Lauren 57 v Byron Shire Council* [2016] residents who owned property along Belongil Beach in New South Wales sought compensation from Byron Shire Council to cover the costs of shoreline protections and loss of property value due to the encroaching sea. The plaintiffs argued that the council was negligent for installing hard shoreline armouring in the 1960s and 1970s that had since displaced wave action to adjacent portions of beach, worsening erosion there. The plaintiffs also argued that the council's shoreline armouring constituted an instance of public nuisance. The plaintiffs further argued that their injury was compounded by the council's position that managed retreat is the preferred policy response to shoreline encroachment. Ultimately, the council's insurers, who had been leading the defense, agreed to a settlement with the plaintiffs so the court never determined legal liability for the alleged claims (Sabin Centre for Climate Change Law 2021). The settlement involved Byron Shire Council paying $2.75 million to the plaintiffs, as well as agreeing not to remove any existing shoreline protections in front of the properties, or any approved repairs made in the year following the settlement (McDonald 2019).

A few years later, the Transitional Coastal Panel refused an application from property owners along Belongil Beach to repair the seawalls in front of their properties. The Transitional Coastal Panel argued that approving the repairs would impede public access and be a threat to public safety, and would set a precedent leading to the undesirable outcome of continuous seawalls along Belongil Beach, which would also preclude a whole-of-embayment solution to coastal hazards. This decision was appealed by three property owners in *Ralph Lauren Property Ltd v Transitional Coastal Panel* [2018] and related cases.[4] Justice Brian Preston upheld the Panel's rejection in the New South Wales Land and Environment Court, finding that the repairs would indeed impede public access and would increase damage to the beach (given that no development consent had been granted for the original seawalls) (McDonald 2019).

Litigation against councils is likely to increase as climate impacts escalate, and councils can find themselves caught between a rock and many hard places.

4 *Ralph Lauren Pty Ltd v New South Wales Transitional Coastal Panel; Stewartville Pty Ltd v New South Wales Transitional Coastal Panel; Robert Watson v New South Wales Transitional Coastal Panel* [2018] NSWLEC 207 (21 December 2018).

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As climate impacts escalate, litigation against councils is likely to increase, and the types of legal challenges are likely to expand. Potential claims against councils could include:

- Failure to include climate change in local government planning schemes;
- The inadequacy of emergency procedures when more frequently put to the test;
- Responsibility for erosion and landslides (catalysed by extreme weather events);
- The inadequacy of public health and disease prevention programs;
- Failure to implement strategies to preserve public natural assets and protect properties from climate change risks;
- Inaction regarding mitigation and adaptation measures;
- Provision of inadequate information regarding climate change risks or failure to disclose known information about climate change risks (e.g. related to sea level rise);
- Failure to consider climate change risks in planning decisions;
- Interference with private property rights as a result of the construction of coastal protection or other works on public land;
- Failure to provide services or maintain infrastructure for climate change-related reasons;
- The diminution of land values due to planning scheme amendments and rezoning;
- Challenges to compulsory acquisition valuations;
- Reassessment of coastal boundaries and related claims related to diminution of land value as a result of coastal erosion and changes to property boundaries (Baker and McKenzie 2011).

When it comes to climate change, councils face many difficult decisions in a contested space, and can find themselves caught between the community, the courts and state and territory governments. On many fronts, councils are caught between a rock and a hard place. Councils can potentially be exposed to liability for approving or rejecting developments and for withholding or disclosing information on climate change risks. It is virtually impossible, therefore, for councils to entirely eliminate the risks of litigation in relation to climate change. Coastal councils face particular challenges in this regard, and appear to be painfully aware of the risks with 21% of coastal councils ranking legal risks associated with coastal planning decisions as their highest concern (Australian Coastal Councils Association 2019).

However, councils may be able to limit their liability by exercising care when making planning decisions. In particular, by basing their decisions on the best available scientific evidence at the time a decision is made, and having a clear and consistent process/criteria for considering climate impacts when determining development applications. Councils can also reduce their liability by embedding consideration of climate change risks in planning strategies, zoning land appropriately to minimise future risk to people and properties, and taking care to strike an appropriate balance between communicating climate risks and uncertainty to residents.

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As climate change accelerates, more litigation is likely to be brought against councils. In many cases, councils will not be able to recuperate the legal and administrative costs associated with this. Actions in negligence and nuisance may be particularly costly and time consuming, as defending proceedings could take several years. Even if councils are successful, it may be difficult to recover all costs. If councils are unsuccessful, potential compensatory damages or injunctions may be extremely onerous. Regardless of the outcome of any legal proceedings, the lack of clarity and fear of repercussions has consequences for effective decision making by councils in regards to risk. Councils would benefit from clearer provisions in the respective state and territory planning laws requiring attention to climate change, and, where councils have given this attention and followed state or territory guidance, better protections for councils that reduce their liability.

Figure 10: Litigation against councils is likely to escalate as climate change impacts escalate.

RISING CLAIMS, DAMAGES AND INSURANCE

Climate change will lead to secondary impacts on councils via changes to the costs and availability of insurance. Insurance is a mechanism to spread risk, but as insurers adjust to changing risk profiles they may choose to refuse cover (as occurred in Roma, Queensland, as discussed in the following case study) or raise insurance premiums (sometimes to unaffordable levels, as occurred in Bundaberg, Queensland) (NCCARF 2013). This can lead to reduced property values and marketability, and may even drive entire communities into decline.

Average home insurance premiums rose by 178% in northern Australia and 52% in the rest of Australia in real terms in the decade between 2007-08 and 2018-19 (ACCC 2020). Over the same period, combined home and contents insurance rose by 122% in Northern Australia and by 71% in the rest of Australia (ACCC 2020). The increase in claims and damages following extreme weather events over recent decades has likely contributed to the rise in insurance premiums.

In the past decade, inflation-adjusted insurance claims following disasters have more than doubled compared to the previous decade (as reported by the Reserve Bank of Australia to the Royal Commission into National Natural Disaster Arrangements) (Commonwealth of Australia 2020). In 2011 and 2017, cyclones Yasi and Debbie caused insured damages of more than $3 billion, and the Queensland floods in 2010-11 resulted in insured losses of more than $2.4 billion (The Treasury 2018). More recently, as at 27 August 2020, around 38,500 claims (including building and contents and commercial insurance claims) had been lodged as a result of the 2019/20 bushfires, totalling an estimated $2.33 billion (Insurance Council of Australia 2020). In total, 38% of councils in New South Wales made insurance claims following natural disasters in 2019/20 (Audit Office of New South Wales 2021).

Figure 11: Clean up in the aftermath of the 2011 floods in Brisbane, Queensland.

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Rising general insurance premiums will require councils to spend more to protect their assets. However, perhaps the most significant impact on councils will be the rising incidence of underinsurance and non-insurance in the community. When households that are uninsured or underinsured are affected by extreme weather events, they often face costs they cannot personally meet. If this happens, costs can be transferred to governments, such as through financial support claims and increased demands for governments to contribute to the costs of rebuilding. As observed by Eurobodalla Shire Council (2020, p.22) in NSW after the 2019/20 bushfires:

> *"It reported that up to one third of people are not insured ... The lack of insurance places increased pressure on governments, not for profit groups and the broader community to provide financial support to those impacted by natural disasters."*

In North Queensland, the rate of non-insurance is 17% or more than 62,000 properties, with 95% of uninsured property owners citing cost as the reason (ACCC 2020; Insurance Business Australia 2021). The Northern Territory has a rate of non-insurance of 26%, amounting to more than 13,000 properties, and north Western Australia has a non-insurance rate of 40%, amounting to more than 10,000 properties (ACCC 2020).

Underinsurance occurs when policyholders do have insurance, but the sum insured "is insufficient to enable full replacement of the damaged or destroyed property" (NIBA 2020). There is less data available on underinsurance as it often only comes to light following a large-scale insurable event. After the 2019/20 bushfires, the Insurance Council of Australia estimated that 20-40% of bushfire-affected residents were underinsured (ABC News 2020). Underinsurance extends to businesses, with up to 15% lacking insurance for interruption to business caused by natural hazards (Tooth et al. 2020).

Figure 12: Firefighter observes the wreckage of a home in Kinglake Victoria after the 2009 bushfires.

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The consequences of underinsurance and non-insurance extend beyond the individual to the greater functionality of insurance in managing risk because the benefits of risk pooling are reduced as insurance coverage decreases. Further, the consequences are not just financial but can be a matter of life and death. For example, a property owner's level of confidence in their insurance status could affect their decision-making during a bushfire event, and thus have a significant impact on the risk to their lives (The Senate 2020). The Senate Select Committee on Agricultural and Related Industries (2010) noted that:

> *"Insurance is an integral part of bushfire risk management, not because it protects assets from being destroyed by fire, but because it has an important effect on the risks people are prepared to take to defend their properties. By providing property owners with the knowledge that their assets will be replaced in the event they are destroyed in a bushfire, adequate insurance cover encourages people to make sensible choices about self-protection in the critical moments of a bushfire disaster." (pp.101,106)*

The risk mitigation activities that councils undertake, and the decisions they make, can also play a role in reducing risk exposure in the community, leading to reduced insurance premiums and increased insurance coverage. For example, in Roma Queensland the Maranoa Regional Council contributed to risk reduction infrastructure in the community that had the direct effect of reducing average home and contents insurance premiums.

Figure 13: 2012 Roma floods as seen from the air. Roma, Queensland has a long history of flood events.

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CASE STUDY 9: BUILDING INFRASTRUCTURE THAT REDUCES PROPERTY RISKS

Roma, a rural town in south-west Queensland, has a long history of flood events due to its location along Bungil Creek, a tributary of the Condamine River. Roma experienced major flooding events in 2010, 2011 and 2012. The flood in 2012 resulted in a fatality and inundation of approximately 1028 properties, with 580 being flooded above the floor level of the building (ACCC 2020). The insured losses from the event amounted to $137 million (normalised to 2017 values) (SECCA and ICA 2019) and, subsequently, several insurers announced an embargo on underwriting new insurance policies for Roma residents until flood mitigation works had been constructed. The Maranoa Regional Council commissioned studies of the floodplain in and around Bungil Creek, which informed a number of flood mitigation strategies including the construction of flood levees. The Roma Flood Mitigation Project, implemented in two stages, was designed to reduce flood risk for more than 500 properties (ACCC 2020).

By 2019 the two stages of the levee had been completed. The second stage of the project was completed with funding from the Commonwealth National Insurance Affordability Initiative, the Queensland Government Building our Regions Fund and Maranoa Regional Council. As a direct result of the project, more than 500 Roma properties have had their flood risk officially downgraded and insurers have returned to the market (ACCC 2020).

Modelling undertaken by The Cross-Dependency Initiative (XDI) and reported in 'Compound Costs' (Climate Council 2019) shows that, in the absence of adaptation and risk reduction measures being implemented, the annual average cost of damage from extreme weather and climate hazards to properties will rise to $85 billion in 2030, with about one in every 19 properties projected to be "uninsurable" (Climate Council 2019). In this analysis, "uninsurable" refers to situations where insurance is either unaffordable (where insurance premiums cost 1% or more of the property value per annum) or unavailable (e.g. some hazards such as coastal inundation and soil subsidence are typically not included in insurance policies, but are included in this analysis). The major impact of increased costs will be geographically clustered around 5-6% of properties (Climate Council 2019).

The number of uninsurable addresses in Australia could reach one in 19 by 2030 — if nothing is done to address escalating risks from extreme weather and climate change.

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4. Councils rising to the climate change challenge

HOW COUNCILS ARE REDUCING EMISSIONS, AND SAVING MONEY

Australia's national approach to emissions reductions has been out of step with global action for many years, and has been regularly criticised at home and abroad. While there has been a leadership vacuum from the federal government, state, territory and local governments, alongside business, industry and the community, have been stepping up. All states and territories now have net zero targets and have been strengthening commitments to renewable energy. Globally and in Australia, local governments and communities are aligning with the latest climate science and international agreements, and working towards 100% renewable energy goals and zero emissions targets. Local governments in urban areas have a particularly critical role in global emissions reductions, with an estimated 70% of the abatement required to achieve the Paris Climate Agreement goals deliverable in urban areas (Echeverri 2018).

Local governments have an extremely important role to play in emissions reductions, and can contribute in at least three ways. First, they can reduce their operational emissions (and costs) that arise from council-owned buildings, infrastructure, vehicles and waste management facilities. Second, they can have a significant influence on reducing community emissions arising from industries, transport, waste, buildings and community behaviour choices within a local government area. Third, local governments can be instrumental in developing innovative solutions to the climate change challenge, and motivating increased climate action from higher levels of government.

Globally and in Australia local governments are working towards zero emissions targets and 100% renewable energy goals.

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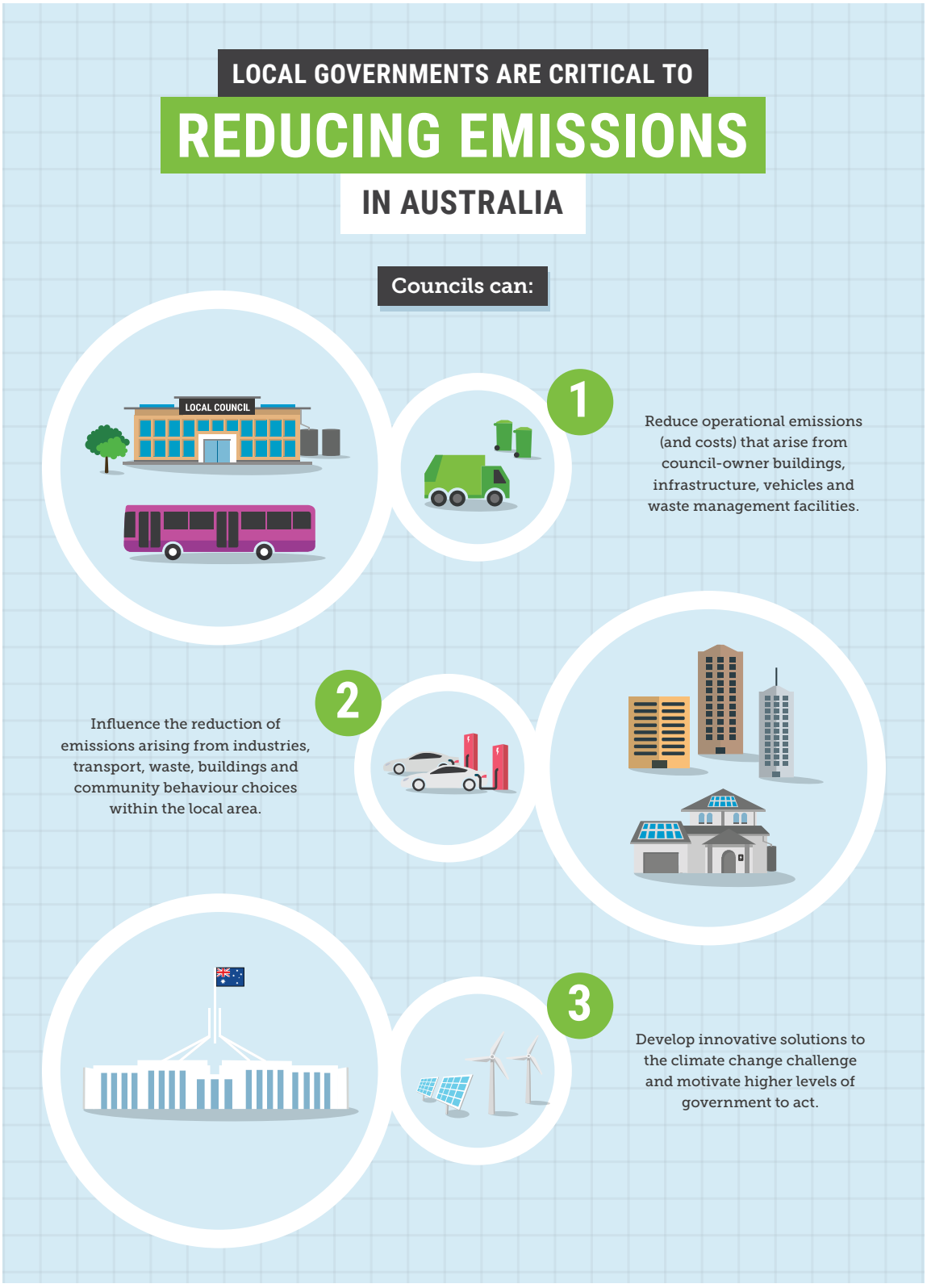

Figure 14: It's clear that local governments play a key role in slashing emissions in Australia.

In Australia, local governments have been leaders in climate action for around 20 years, through a range of different initiatives. For example, the Cities for Climate Protection (CCP) program run by Local Governments for Sustainability (ICLEI), which operated between 1997 and 2008, supported 233 councils to develop local action plans with a focus on renewable energy, sustainable transport, waste management and efficient lighting. It is estimated that this program helped councils and community members in Australia avoid 18 million tonnes of CO_2 emissions and save $95 million in energy costs (Climate Works and MSDI 2020).

Building on this initiative, in 2016, 31 councils in Australia joined the Global Covenant of Mayors for Climate and Energy, forming part of a coalition of 10,000 cities and towns from 139 countries working to reduce emissions and adapt to climate change. The C40 cities initiative is another forum supporting global megacities (including the City of Sydney and the City of Melbourne) to reduce emissions to achieve the Paris goals and address climate change risks (C40 cities 2021). Beyond Zero Emissions' Zero Carbon Communities also supports local councils and communities around Australia on the transition.

The Cities Power Partnership, now Australia's largest network of cities and towns working to tackle climate change, has engaged over 150 local government areas. These local government areas represent more than half of Australia's population and to date the partnership has made more than 780 pledges to reduce emissions across five areas: renewable energy, energy efficiency, sustainable transport and working together for greater impact (CPP 2021).

A survey of Australia's 57 largest local governments (covering 52% of Australia's population) found that all are taking steps to reduce their operational or community emissions, and many have targets or aspirations to reach net zero by 2050 or sooner (Climate Works and MSDI 2020). Thirty-three councils (58% of those assessed) had put in place a target to reach net zero for 'operational' emissions by 2050 (Climate Works and MSDI 2020). For example, the Cities of Sydney, Melbourne, Brisbane and Adelaide are already carbon neutral for their operational emissions as is Moreland City Council and Darebin City Council in the inner north of Melbourne. Many more councils have a goal of carbon neutrality for operational emissions by 2030, including the City of Darwin.

The 2021 Local Government Climate Survey found that 67% of responding Australian councils have set or are in the process of developing community emissions reductions targets, with an understanding that anything other than a net zero target is not acceptable from a climate risk or ambition perspective (Lynch et al. 2021). For example, the City of Port Phillip, Wollongong and Canada Bay have targets or aspirations for net zero for community-wide emissions by 2050 (Lynch et al. 2021). Councils aiming for the same in 2040 include Brimbank, Ku-ring-gai and Mornington Peninsula (Lynch et al. 2021). Recently, the City of Ballarat Council and the Shire of Augusta Margaret River both endorsed aspirational community-wide net zero targets by 2030 (BREAZE 2021; The Shire of Augusta Margaret River 2020).

Some councils have already achieved net zero emissions for their operations, with many more aiming to reach the goal in 2030 and 2040.

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CASE STUDY 10: SETTING AMBITIOUS TARGETS FOR NET ZERO COMMUNITY AND CORPORATE EMISSIONS

Many councils are setting ambitious net zero targets for both corporate and community emissions. What's even more impressive is that these targets are being regularly achieved, or brought forward.

The City of Sydney was the first local government in Australia to become carbon neutral for its operations in 2007 with the Council's operations now powered by 100% renewable electricity.

The proposed new Environmental Strategy 2021-2025 sets out a target for the City of Sydney to reach net zero carbon emissions across the community by 2035 – five years earlier than previously planned.

Following closely behind Sydney as the second council to do so, Moreland City Council achieved carbon neutrality for its operational emissions in 2012. In 2014, Moreland City Council developed its Zero Carbon Evolution Strategy (2014-2020), setting a target to be on track to zero net carbon emissions across the community by 2020.

Figure 15: Solar panels on Turbine Hall, Cockatoo Island, New South Wales.

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CASE STUDY 11: COUNCIL INITIATIVES THAT REDUCE EMISSIONS - AND CREATE JOBS

Renewable energy and storage for councils and communities that reduce power bills and increase energy independence and resilience.

Sunshine Coast Solar Farm

Sunshine Coast Regional Council (QLD)

The 15MW Sunshine Coast Solar Farm is providing enough energy to meet Council's entire electricity demand every year, including administration buildings, aquatic centres and sporting facilities, libraries and other public buildings. The facility is expected to deliver Council net savings of over $22 million over a 30-year period (Sunshine Coast Regional Council 2020).

Sustainable transport solutions to future proof cities and better connect communities and regions.

Fifteenth Avenue Smart Transit Corridor

Liverpool City Council (NSW)

Fifteenth Avenue Smart Transit (FAST) Corridor is a visionary city-shaping project to deliver a sustainable public transport link between the Liverpool CBD and Western Sydney International Airport in time for its 2026 opening. High quality public and active transport options (like trackless trams) are critical for commuters, residents and airport visitors and the FAST Corridor will play a key role in the sustainable growth of the Liverpool LGA (Liverpool City Council 2020).

Energy efficiency measures to create jobs, reduce energy costs and create more comfortable homes and workplaces.

LED Street Light Project

Orange City Council (NSW)

Since December 2019, most streetlights in Orange have been replaced with energy efficient LEDs. The savings in electricity and greenhouse emissions are already proving substantial, with up to 50 percent energy reduction and an expected $500,000 savings every year (Orange City Council 2020).

Revegetation and urban greening – and ecosystem restoration – to maintain unique biodiversity, clean air and water, and healthy communities.

Greening Onkaparinga

City of Onkaparinga (SA)

More than 35,000 trees have been planted in streets, parks and waterways since 2017 as part of Onkaparinga's accelerated greening program, which aims to plant 100,000 trees on council land. Council's ambitious targets for tree planting are inspired by mapping urban tree canopy and heat impacts, as well as a desire to increase habitat for wildlife. By 2045, there will be a 20% increase in both canopy cover and urban green cover, supporting 8 jobs every year (City of Onkaparinga 2020).

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Circular economy principles' integration to close the loop on resource use (like enhancing organic waste collection and processing), create jobs and cut carbon emissions.

Your Waste – Got it Sorted?
Wagga Wagga City Council (NSW)

To reduce emissions, save money and cut waste to landfill, Wagga Wagga City Council introduced a food organics and garden organics collection as part of its three bin kerbside waste service. In its first two years, 20,268 tonnes of food and garden waste was diverted from landfill and over $2M was saved in landfill costs (Wagga Wagga City Council 2020). The program also supported 32 jobs in the construction period and provides 7 ongoing jobs.

Support for local businesses to be more sustainable through key opportunities – like increasing the uptake of renewable energy, aiding energy efficiency upgrades and waste management support.

Sustainability Incentives Scheme (SIS)
City of Adelaide (SA)

The SIS provides financial rebates to the community to support adoption of sustainable technologies and actions that improve environmental performance. Since 2015, the Scheme has leveraged $8.35 for every $1 spent through rebates. During this time, the Scheme provided rebates for 106 energy storage and 302 solar PV systems (City of Adelaide 2020).

Community engagement to provide a clear understanding of the importance and benefits of taking action on climate change.

Whitsunday Climate Change Innovation Hub (The Hub)
Whitsunday Regional Council (QLD)

The Whitsundays Regional Council established The Hub in late 2018 to advance Council's ability to better respond to the challenges posed by climate change and build resilience. Lessons learned, information gathered, and techniques developed will be disseminated to other local communities nationally and globally (Whitsunday Regional Council 2020).

Prioritising local businesses, skills and supplies for new or ongoing projects and ensuring sustainability is at the core of council purchasing.

Melbourne Renewable Energy Project (MREP)
City of Melbourne (VIC)

For MREP, the City of Melbourne partnered with 13 organisations (local governments, cultural institutions, universities and corporates) to secure a 10 year renewable Power Purchase Agreement which supported the construction of an 80 MW wind farm in regional Crowlands, Victoria. Part of the evaluation criteria included a preference for using local goods and services, which saw the Crowlands wind farm construction deliver significant economic development for the region, including almost 150 local jobs (City of Melbourne 2020).

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PROTECTING LIVES, PROPERTY AND PLACES: ADAPTATION

While mitigation actions to reduce emissions aim to slow and lessen future impacts of climate change, many impacts are already being experienced, and further impacts are locked in due to greenhouse gas emissions that have already been emitted. This means that to manage or reduce the direct, indirect and community risks of climate change, adaptation is also needed to protect lives, property and ecosystems.

Notably, adaptation costs will continue to increase into the future, and are influenced by the extent to which emissions reduction efforts are successful. For example, the difference between limiting warming to 1.5°C and 2°C is the difference between 14% and 37% of the world's population being exposed to severe heat at least once every five years (IPCC 2018). This difference means the heat impacts at 2°C are 2.6 times worse, and would require substantially higher investment to adapt to if it is possible at all. The lack of clarity on the severity of future climate impacts makes it difficult for councils to adequately adapt, and demonstrates the importance of continued efforts to mitigate climate change.

There is significant diversity in the adaptation activities undertaken by councils, from climate change risk assessments to adaptation plans and implementation of a variety of discreet projects. These activities require councils to make or accept external predictions of the severity and frequency of future events, such as the height of sea level rise in 2030, 2040 and so forth. Adaptation activities also frequently raise competing priorities for councils, such as amenity, safety, cost and longevity. Some adaptation activities, such as urban greening and improving infrastructure resilience to extreme temperatures, also have the advantage of mitigating climate change. The following case studies are examples of councils being ambitious and innovative in their approaches to adaptation activities.

Figure 16: Burned forest after 2019/20 bushfires, Bendalong, New South Wales.

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CASE STUDY 12: COUNCIL INVESTMENT IN URBAN GREENING TO REDUCE THE IMPACT OF HEATWAVES

Climate change is increasing the intensity, frequency and duration of heatwaves. In urban areas temperatures are often several degrees higher than in surrounding areas, due to surfaces such as concrete and asphalt absorbing and retaining heat (called the Urban Heat Island Effect). Urban greening is one very effective way to create cooler microclimates and keep cities and suburbs cooler during heatwaves, and local governments play a critical role in this adaptation strategy (Beecham et al. 2016). Trees can cool the air by several degrees compared to surrounding areas of concrete and asphalt. Green spaces can also help to manage the quantity and quality of stormwater (Coutts et al. 2013) and improve air quality (Nowak et al. 2014). For these reasons, urban greening is an effective and efficient way for local governments to support adaptation to climate change. Increasing vegetation biomass has the added benefit of storing carbon, as well as providing numerous other social, environmental and economic benefits.

The City of Melbourne's Urban Forest Strategy is widely viewed as a benchmark urban greening initiative. The strategy aims to increase tree canopy from 22% to 40% by 2040 to mitigate and adapt to climate change and reduce the urban heat island effect, amongst other goals. To foster resilience in the face of climatic extremes, the strategy has also set diversity targets, specifying that planted trees should not comprise more than 20% from any one family, 10% from any one genus or 5% from any one species (City of Melbourne 2012).

The City of Melbourne further commissioned research into which tree species will be best able to adapt to Melbourne's future climate and is actively using this research to guide the selection and trialing of new tree species. This builds on the work of the Which Plant Where initiative shared by Hort Innovation, Macquarie University, University of Western Sydney and the New South Wales Government. *Which Plant Where* seeks to address "a key challenge for greening Australia's urban environments...to ensure that future plantings are made with trees, shrubs and turf that can tolerate the climate conditions that will occur in the near future" (Which Plant Where 2021).

Other councils are undertaking their own urban greening initiatives, such as Logan City Council which successfully increased tree canopy cover from 41% in 2016 to 53% in 2020 (ABC News 2021a). This accomplishment involved planting 100,000 trees during the 2019/20 financial year (City of Logan 2020).

Figure 17: Council staff planting trees in Onkaparinga, South Australia.

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CASE STUDY 13: COORDINATING LAND SWAPS OR RETREAT TO PROTECT RESIDENTS FROM HAZARDS

In response to devastating floods in 2010 and 2011, the Lockyer Valley Regional Council introduced a 'relocation policy' in 2011. This policy enabled eligible landowners to voluntarily swap their flood-prone land for a new parcel of land of comparable size located in an elevated development area owned by the council (Productivity Commission 2012). The Lockyer Valley Regional Council acquired 378 hectares to facilitate the program, which was assisted by a new development scheme for the Grantham Reconstruction area by the Queensland Reconstruction Authority. This scheme allowed participants to be exempted from certain planning approval requirements provided new buildings were constructed in accordance with the Residential Living Zone Code (Macintosh et al. 2013). Those participating in the program were responsible for building their own homes. Grantham and surrounding areas were affected by flooding again in February 2013, but very few homes were affected with the reduced impacts attributed to the Lockyer Valley Regional Council's scheme (Lynch 2013).

CASE STUDY 14: COUNCIL INVESTMENTINSELF-SUFFICIENT BATTERY SYSTEMS TO BUILD RESILIENCE

Nillumbik Shire Council has installed one of Victoria's largest solar battery systems on its Community Bank Stadium to ensure that the stadium can run off-grid during times of emergency. Given that it can operate off the grid, the stadium has also been made the main Bushfire Refuge Area for the region. The stadium roof has been fitted with a 100kW solar system, which powers facilities during the day and charges the 100-kWh battery system. Most of the time, the power stored in the batteries is used during the evenings to operate the local gym and sports facilities. However, during the bushfire season, advanced battery management technology prevents the batteries from discharging overnight so that there is power available in the event of an emergency. The solar battery system thus helps to keep communities safer in the face of elevated bushfire danger due to climate change, whilst simultaneously reducing greenhouse gas emissions, reducing reliance on fossil fuels and grid power, and reducing the council's electricity bills (EnviroGroup 2020; Nillumbik Shire Council 2019).

Figure 18: Nillumbik Shire Council's Community Stadium and Relief Centre in Victoria, featuring rooftop solar, a battery system and an electric vehicle charging station.

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CASE STUDY 15: COORDINATING ADDITIONAL SERVICES DURING HEATWAVES TO KEEP RESIDENTS SAFE

Blacktown City Council in Western Sydney is trialing an Australia-first network of 'heat refuges' where vulnerable residents can seek shelter, and be provided for, during 'severe' or 'extreme' heatwaves (as classified by the Bureau of Meteorology). Vulnerable residents include older people, people with disabilities or pre-existing illnesses and young children without access to air conditioning.

Beginning a trial over summer 2021, the network initially included council-owned venues such as community and neighbourhood centres, and a few community-owned venues such as the Blacktown Workers Club and the Bidwell Uniting Church. The initiative is a partnership between Blacktown City Council and a range of not-for-profit organisations including Active Care Network, Red Cross, Meals on Wheels and Settlement Services International. The heat refuge strategy was set up with funding of $54,500 from Resilience NSW through the Community Resilience Innovation Program (Mirage News 2021).

Figure 19: Blacktown City Council in Western Sydney is trialing an Australia-first network of 'heat refuges'.

CASE STUDY 16: COMPULSORY ACQUISITION OR VOLUNTARY BUY-BACK OF HAZARD-PRONE LAND TO REDUCE RISK

Councils are faced with potentially risky, expensive and unpopular decisions in controlling development of at-risk land. In some areas particularly exposed to natural hazards such as floods or bushfires, councils have decided to purchase land, either through voluntary or compulsory buy-back schemes. Sometimes, buy-back schemes are the only feasible option to reduce risk to lives and property in the most hazardous areas. However, given the enormous expense of such programs, they are generally only considered if no other viable infrastructure option exists to reduce risk (e.g. the installation of pipes to remove a flooding problem) and are usually only implemented by larger councils.

In the aftermath of the 2009 bushfires in Victoria, a voluntary buyback program was established with the aim of reducing the number of dwellings that were rebuilt in areas of high bushfire risk, and facilitate the resettlement of affected landholders (Macintosh et al. 2013). The program was available to owner-occupiers whose principal place of residence was destroyed by the fires, who had not commenced rebuilding, and where a site was not available on the property that would enable a replacement dwelling to meet relevant standards (Macintosh et al. 2013).

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Value for money today, and in the future

The difficulty for councils, as the tier of government with the most constrained resources, is to find the money to fund more resilient (and therefore more expensive) assets today, versus picking up the damage costs as climate impacts occur. As the Municipal Association of Victoria wrote in their submission to the Productivity Commission (2012):

> *"Climate change is likely to reduce the lifespan of infrastructure and increase maintenance costs and repair costs... since many councils struggle to finance baseline capital expenditure requirements, the additional cost of climate-proofing infrastructure is too much."*

Part of the challenge for councils is large costs to properly prepare an asset for future extreme weather events. Many councils are now conducting asset vulnerability assessments and finding that where assets are ill prepared for extreme weather events, they face either preemptive expenditure, or potentially higher costs for rectification after damage has occurred. The types of upgrades required are diverse, from better insulation to withstand extreme heat, to backup power for evacuation facilities, to improved guttering to withstand major rainfall events (NAGA 2021).

A recent report by Infrastructure Australia warned that climate change risks must be better considered in relation to the construction of assets. Policy and research director Jonathan Cartledge pointed out: "it's about delivering value for money for infrastructure investments we're making not just today, but in the next 10, 15 and 30 years" (Courier Mail 2021).

Figure 20: Flooded roads, Mcgraths Hill, New South Wales 2021.

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Avoiding negative adaptation outcomes

Some adaptation responses can fail to meet their objectives or even unintentionally increase vulnerability, an outcome known as 'maladaptation' (Barnett and O'Neill 2010). It has been suggested that there are at least five types of maladaptation, specifically, actions that relative to alternatives: increase emissions of greenhouse gases, disproportionately burden the most vulnerable, have high opportunity costs, reduce incentives to adapt, and set paths that limit the choices available to future generations (Barnett and O'Neill 2010).

BOX 6: TYPES OF MALADAPTATION

While energy-intensive adaptations might address current needs, they create a positive feedback by increasing emissions of greenhouse gasses, thereby increasing the need for future adaptation. For example, the increased use of energy-intensive air conditioners in response to heat-waves.

Disproportionate burden to the most vulnerable

Sometimes adaptation actions designed to meet the needs of one sector or group can ultimately increase the vulnerability of those most at risk, such as minority groups or low-income households. This can take the form of adaptation-related development against the wishes of traditional landowners such as Indigenous Peoples, or higher costs for services such as water or electricity, which disproportionately impacts poorer individuals.

High opportunity costs

If the economic, social or environmental costs of an action are high, relative to alternatives, it may be maladaptive. For example, there are many possible responses to sea level rise with varying associated costs, ranging from planned retreat to building sea defences to improved coastal adaptation. The choice of a hard defence, such as a seawall, can be an expensive undertaking and eliminates the possibility of other softer coastal adaptation options such as mangrove planting, which may have fewer negative side effects.

Reduced incentives to adapt

Maladaptive actions may reduce incentives for individuals to adapt, such as through encouraging unnecessary dependence on others or penalising early actors. For example, government intervention that reduces the cost of insurance premiums in a high risk area without simultaneously helping residents to improve their resilience to extreme weather events may discourage individuals to move away from the danger. This can expose individuals to harm, and over time, as disasters grow more frequent, individuals who have become reliant on insurance assistance may find themselves unable to sell and move because of lowered property values.

Set paths that limit the choices available to future generations

As discussed throughout this report, infrastructural responses to climate change can be expensive to undertake, creating a trajectory that can be difficult to change in the future. This can lead to decreased flexibility in the face of unforeseen changes in climatic, environmental, economic and social conditions. An example of this could be building a sea wall to a height inadequate to deal with future storm surges riding on higher sea levels – the expenditure to build the infrastructure is high, and retrofitting for additional height may be impossible.

Source: Adapted from Barnett and O'Neill (2010).

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5. Barriers to rapid action for councils

Despite the steps councils are taking to adapt to and mitigate climate change, there are a range of barriers to even more rapid action.

FUNDING

Doing more with less

In council submissions to the Productivity Commission's (2012) inquiry report into *Barriers to Effective Climate Change Adaptation*, inadequate funding was the most frequently identified barrier to effective implementation. Councils face not only increased expenditure to mitigate and adapt to more frequent and intense extreme weather events, but an ever-growing list of responsibilities and limited revenue opportunities.

Traditionally, local governments were expected to provide the three R's: 'roads, rates and rubbish'. Now, local governments are also expected to provide a raft of other services from welfare (e.g. childcare, aged care and health services), to retail (e.g. water, sewerage and transport), to recreation (including arts and culture), and to play a stronger regulatory role in relation to development and planning, environmental management and public health. With the additional pressures of local emergency management and climate change mitigation and adaptation, councils have to do more with the funding they have.

As stated by Deputy Mayor of MidCoast Council Claire Pontin:

> *"Every time we have to deal with a climate emergency, [higher tiers of Government] just pulls money out of the standard maintenance fund. We're expected constantly to do more, by and large, without extra funding." (ABC News 2021b)*

Sources of funding vary between councils with the bulk sourced from rates, user charges and grants from the state, territory and federal governments (ALGA 2021b). Local government rates make up 3.4% of tax raised by all levels of government and is the only tax levied by local governments (ALGA 2021b). Rate income is tied to property value and number of properties, meaning that for some councils this represents a less resilient and consistent funding source. With climate impacts such as bushfires and sea level rise threatening property values, ironically some of the councils hardest hit by climate change risk losing proportionally more of the income required to adapt to its impacts.

Access to grants

Financial Assistance Grants from the Federal Government are a key source of funding for local governments, contributing 7% of the sector's total revenue (ALGA 2021a). This source of funding has declined from 1% of Commonwealth taxation revenue in 1996 to a level closer to 0.5% currently (ALGA 2021a). In fact, local governments in Australia now have the fourth lowest share

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of taxation among the 30 industrialised nations of the Organisation for Economic Cooperation and Development (OECD), and a far lower share than in most other federations. This means that as councils' responsibilities have expanded, their access to tax revenue to deliver these responsibilities has shrunk considerably.

In addition to Financial Assistance Grants, there is a diverse network of specific-purpose grants and subsidies available to councils. These funds vary from year to year and differ between states and territories. Overall, grants and subsidies currently account for around 14% of total council revenue, but for some rural and remote councils where other revenue raising is limited, grants can account for more than 50% (ALGA 2021b).

While grant funding is sometimes considered the most straightforward way to support local governments, there are a number of problems. Many councils express concern that such funding is piecemeal, ad-hoc and is not always addressed to regionally or locally determined priorities (CVGA 2019). Further, this funding is not long-term, flexible or agile, and generally does not support cross-council projects that might address regional problems or opportunities. Smaller and less well-resourced councils may be disadvantaged in competitive grant rounds as they have fewer professional staff to prepare grant applications and implement funded programs (Productivity Commission 2012).

Need for funding before disaster strikes

Ad-hoc grant programs lend themselves to a boom-bust cycle where investment is generally only available after a disaster has caused harm, rather than building resilience in assets and communities before the event occurs. This is at odds with the substantial evidence that spending in advance of a disaster is a better return on investment than recovery spending. For example, research from the United States has found a benefit-cost ratio of $6 for every $1 spent through federal mitigation grants (NIBS 2019).

The Natural Disaster Funding Arrangements Inquiry by the Productivity Commission found that 97% of Australian disaster funding is spent after an extreme weather event has occurred with only 3% invested to prepare and potentially lessen impacts commenting:

> *"There is a longstanding concern that governments underinvest in mitigation and spend too much on recovery, leading to higher overall costs for the community. Furthermore, government responses to natural disasters can be ad hoc and emotionally and politically charged, resulting in reactive 'policy on the run' and inequitable and unsustainable outcomes." (Productivity Commission 2014, p.4)*

While council responsibilities have continued to expand, their access to tax revenue has shrunk to the fourth lowest share among the 30 industrialised nations of the OECD.

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They further commented:

> *"Governments overinvest in post-disaster reconstruction and underinvest in mitigation that would limit the impact of natural disasters in the first place. As such, natural disaster costs have become a growing, unfunded liability for governments." (Productivity Commission 2014, p.2)*

There have been recent reports of unfair communication about grant opportunities, unequal grant distribution and accusations of pork-barrelling (i.e. utilising project funds to help win votes) in the wake of the 2019/20 bushfires (Lloyd-Cape et al. 2021). While grant processes are not inherently prone to corruption, they are certainly subject to the winds of political objectives, particularly during community outcry after an extreme weather event. Furthermore, some climate impacts are missed in the boom-bust cycle because of the ongoing, pervasive nature of the event. A particularly expensive example of this is management for coastal impacts – a problem highlighted in responses to Australian Coastal Councils Association 2019 survey:

> *"Our council has more than 100km of coastline with 25km actively managed by Council. Over the past two years, Council's average coastal operating costs represented 37% of total operating expenditure." Kingston District Council (SA)*

> *"Current grants schemes fall woefully short of what will be required by local governments. There is little to show this will change, leaving the onus on local governments and their ratepayers." City of Greater Geraldton (WA)*

> *"Equity of funding for small rural councils with vast coastlines is needed, particularly in rural areas that do not have a large rates base. These councils have very little capacity to source their own funding." Glenelg Shire Council (VIC)*

> *"Coastal problems are beyond the financial capacity of Councils to solve. There is a need for all layers of Government to be involved in providing solutions." Onkaparinga Council (SA) (Australian Coastal Councils Association 2019)*

The return on investment is higher for spending in preparation for a disaster rather than in recovery, yet 97% of Australia's disaster funding takes place after an event has already occured.

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Insufficient grant funding

Moreover, grants specific to climate change are regularly oversubscribed. For example, the New South Wales Government's Resilience to Climate Change program offered funding to councils to encourage a variety of adaptation and climate risk assessment projects. Across three grant rounds, there were 92 applications requesting over $11 million in funding. In total, the Climate Change Fund was able to award 31 grants totalling $2.8 million, representing a third of the total applications and 25% of the requested funds (Local Government NSW 2021).

The story is similar in other states. In 2017, the Victorian state government established the Victorian Climate Change Innovation Partnerships Grant Scheme. Over 240 applications represented a request up to $72 million, yet the $4.3 million scheme could only support 24 projects – meaning 9 out of 10 applicants missed out on funding (Act on Climate 2018). In Queensland, the 2017-18 Natural Disaster Resilience Program and 2019 Queensland Disaster Relief Fund were oversubscribed eightfold (The State of Queensland 2020).

The competitive nature of grants, shrinking share of tax revenue and growing list of responsibilities paints a clear picture of the insufficient funding provided to councils to undergo essential climate change mitigation and adaptation work. It has been estimated that a $10 billion fund is required to support local governments and communities across the country to address climate change, both in terms of improving the resilience of local communities and reducing emissions (ALGA 2019).

Figure 21: Damage from 2011 floods in Brisbane, Queensland.

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Limitations to "building back better"

Beyond the limitations of funding for local governments themselves, the way funding can be used has been raised as a limitation when it comes to reducing emissions and adapting to the impacts of climate change. For example, under the current Disaster Recovery Funding Arrangements (Department of Home Affairs 2018b) the Commonwealth only provides funding equivalent to the reconstruction of an essential public asset to its *pre-disaster* function. This clause makes it difficult for the Commonwealth to fund Councils or State Government to "build back better": replacing the asset with one that is better suited to local needs and better designed to withstand future extreme weather events. This "like for like replacement" means that a vulnerable asset may be replaced with another vulnerable asset, such as a timber bridge unlikely to withstand flood or fire. In the 2019/20 bushfires, Shoalhaven City Council experienced damage to seven timber bridges (Shoalhaven City Council 2020). In their submission to the Royal Commission they pointed out:

> *"Funding 'like for like' is an investment in a repeat of failure in the future. Inadequate infrastructure needs to be replaced with resilient and bushfire resistant alternatives. Shoalhaven City Council has the funding to replace damaged timber bridges, with timber bridges. Council would like to future proof these assets by constructing new bridges in concrete. Construction costs for concrete bridges is generally double what it would cost to build a timber bridge... Council needs financial support to upgrade and future proof these assets." (Shoalhaven City Council 2020, p. 29)*

Under the DRFA, funding is available to replace or repair an essential public asset which is "a transport or public infrastructure asset which is owned and maintained, or operated and maintained, by an eligible undertaking" (Department of Home Affairs 2018a). Essential assets include roads and road infrastructure (including footpaths, bike lanes and pedestrian bridges), bridges, tunnels, culverts, public hospitals, public schools, public housing, prisons, police and fire stations, levees, state, territory and local government offices, and stormwater infrastructure. However, there are a range of assets that fall outside of this description and are generally considered to be ineligible. Consequently, a significant number of council assets, including those important for community recovery and wellbeing, are not covered by the DRFA arrangements (ALGA 2021c), for example:

- Sporting, recreational and community facilities (for example playgrounds and walking trails);
- Environmental assets (such as rivers or beaches) except where they relate to the immediate protection or structural integrity of an eligible public asset (i.e. road or bridge);
- Assets damaged due to contributing factors such as poor construction or inadequate maintenance;
- Religious establishments and memorials;
- Fire trails and roadside area structures;
- Restoration or replacement of the contents or furnishings of an asset not permanently attached to the affected building (EMV 2018).

Council libraries are not considered essential public assets, even though they are used during natural disasters as evacuation centres, refuges, places where people can access information and the internet (ALGA 2021c). Similarly, water and waste-water (sewage) assets have, to date, not been classed as essential assets (ALGA 2021c). New South Wales councils and the majority of Queensland councils are responsible for the delivery of water and waste-water services to communities across these states (ALGA 2021c).

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POLICY AND DECISION-MAKING POWER

Councils have a great deal of responsibility for handling climate impacts, but even with the best local policies and investment, councils cannot be alone in meeting this existential risk. As part of a three-tiered government system decisions made by state, territory and federal governments affect councils, such as energy policy and investment in new electricity generating projects impacts the energy choices and carbon footprints of local communities.

Many councils are working to reduce emissions from the community, but higher tiers of government have significant control in this area. These higher tiers of government control the approvals and funding for energy projects, which in turn provide the source of electricity for individual households. Private individuals can exercise some control, such as opting for a clean energy source or adding solar panels to their roof, but the make-up of renewable vs. fossil fuel power sources rests primarily with other tiers of government. Furthermore, the Federal Government, on behalf of state and territory governments, operates the National Construction Code and National House Energy Rating Scheme that regulates energy efficiency standards for homes. These tiers of government have the power to implement higher standards and policies for the Code that reduce the electricity demand of buildings, in turn reducing how much work there is for councils to do on reducing community emissions.

While councils have a role to play in emergency management, here too it is higher tiers of government that hold primary responsibility and decision-making power. This impacts not only the purchase and maintenance of emergency equipment and personnel, but relevant planning decisions. As our population grows and urban sprawl continues, urban communities are increasingly being built on fringes exposed to extreme weather risks, and constructed in ways that exacerbate those risks.

Figure 22: Dark rooftops and lack of vegetation contribute to the Urban Heat Island Effect.

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For example, expansion of the Urban Growth Boundary, controlled by state and territory governments, can bring people unaware of the level of risk into proximity of bush and grass fires, sometimes without sufficient access to emergency services when they occur (NAGA 2014). Likewise, the intense clustering of some developments can increase runoff from impervious surfaces, contributing to flood risk, or inadequate provision of open space enhancing the Urban Heat Island Effect (NAGA 2014). In all of these examples, councils are faced with managing communities where extreme weather risks are built in by design.

While it is generally appropriate that higher tiers of government hold responsibility for these policy decisions, in the context of councils trying to protect communities from climate impacts, and act to mitigate climate change, leadership is needed to enact change. Stronger policies at a state, territory and federal level that address climate change reduce the risk and burden on councils.

As the primary recipients of tax revenue and with substantially more assets available, state, territory and federal governments also have a greater capacity than councils to muster the funds required to adequately mitigate and adapt to climate change. This includes some of the funding needed to undertake activities such as building back better after extreme weather events, or increasing renewable energy generation.

The lack of policy and decision-making power vested in councils is exacerbated by the fact that local governments and their peak bodies no longer have a seat at the federal level since the abolishment of the Council of Australian Governments (COAG). Local councils have expressed their concern at this change, but so far no corrective change has been made (ALGA 2021a).

Higher tiers of government can reduce the risk and burden on council through stronger climate change policies.

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LACK OF CLEAR GUIDANCE AND CONSISTENCY

A related problem to the lack of policy and decision-making power can be a lack of consistency and clear guidance from higher tiers of government around climate change responses for local governments. Without clear directives from state, territory and federal governments, councils are left to independently determine the scale and nature of the risks that they face, and how to handle them. This can lead to inconsistent approaches between councils, and insufficient internal council capacity to be aware of and respond to the scale of the risk.

The inconsistency of approaches to climate change risk in Australia extends as far as the terminology and modelling relied upon by different levels of government to plan for the future. As the Royal Commission into National Natural Disaster Arrangements (2020) remarked:

> *"There is a patchwork of climate datasets across Australia. Australia does not have an authoritative agreed set of climate change scenarios for the nation nor standardised guidance on how to interpret and use these scenarios consistently."*

This lack of consistent definitions and policy extends to public warning systems such as for bushfires and hazardous smoke exposure levels (Royal Commission into Natural Disaster Arrangements 2020).

If there are activities that multiple councils should be, and are, taking to address and prepare for climate risks, guidance from higher tiers of government is key. A clear example of this is the development of climate change risk assessments and the development of climate change adaptation plans, which many councils are undertaking. The responsibility for carrying out these assessments, and the clarity of guidance varies from state to state, leading to diversity in outputs from councils.

Figure 23: Bushfire smoke blankets Sydney Harbour, New South Wales, 2019.

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The Productivity Commission (2012) points out that this can even lead to differences in definitions, terminology and the focus and format of climate risk assessment reports between councils.

To perform their functions well, councils need clarity on their roles and responsibilities in relation to climate change adaptation. The National Climate Change Adaptation Research Facility found that:

> *"Local governments will better respond to the challenges of climate change in an environment where adaptive responsibilities are clear, response and evaluation frameworks are consistent across jurisdictions, approaches to mainstreaming climate change adaptation are implemented, and decisions are made on the basis of the best data and information." (NCCARF 2013)*

This clarity varies between states. For example, the Victorian Government has taken substantial steps in recent years to clarify these roles and responsibilities for local government decision makers (Department of Environment, Land, Water and Planning 2020).

The importance of clear guidance for councils highlights a further need for greater state, territory and national coordination, particularly when it comes to extreme weather events. Extreme weather does not respect local government boundaries, and in some cases the actions undertaken by one council to mitigate or adapt to a risk can affect neighbouring councils.

A particularly clear example of the need for national coordination is in coastal management, which involves a large number of councils across the country (the Australian Coastal Councils Association alone has 200 members). The options available to councils to manage sea-level rise, coastal inundation and associated problems are as diverse as they are complex in application. Currently, without a national framework, different councils are planning based on different levels of sea-level rise, including neighbouring councils in some cases. Further, some coastal management strategies have the potential to affect adjacent councils. In many comparable jurisdictions, the majority of the responsibility to legislate for and fund major protection works sits with state, territory and national governments (Fletcher et al. 2013). In the Netherlands, for example, the National Government has a legislative responsibility to act and ensure that its communities and settlements are protected from coastal flooding (Fletcher et al. 2013).

The Productivity Commission (2012) pointed out that while local government is the most appropriate level of government to undertake localised adaptation work, this is not the case where there are adaptation issues of regional or national significance, where there are spillovers or economies of scale associated with adaptation, or where diversity in approaches between local governments would impose costs that exceed the benefits. Coastal management is an example that clearly warrants a less localised, more coordinated response.

Climate impacts do not respect local government boundaries – coordination is needed.

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The need for centralised coordination was reflected in survey responses by coastal councils to the 2019 Coastal Issues Survey by the Australian Coastal Councils Association, including:

> *"There should be a national policy framework and funding mechanism for agreed adaptation responses in order to ensure an equitable adaptation framework and response." Moreton Bay Regional Council (QLD)*
>
> *"Coastal problems are beyond the financial capacity of Councils to solve. There is a need for all layers of Government to be involved in providing solutions." Onkaparinga Council (SA)*
>
> *"An Intergovernmental Coastal Policy that clearly defines the roles and responsibilities of federal, state and local governments in regard to integrated coastal zone management is needed urgently." City of Busselton (WA) (Australian Coastal Councils Association 2019)*

Councils also require help in understanding and being prepared for any legal liability they face, particularly around land-use planning and managing risks in existing areas of settlement (Productivity Commission 2012). The Productivity Commission (2012) noted that their lack of clarity around legal liability was a barrier to effective action, and that they had concerns both in terms of taking action and in failing to take action. The Gold Coast City Council submission noted that:

> *"In the absence of guidance on how and when to respond to the potential impacts of climate change, [Local Government Authorities] may be vulnerable to liability for both action and inaction and will continue to struggle with the question of what constitutes a reasonable response." (Productivity Commission 2012)*

The "know-how" and capacity challenge

Councils can only reduce emissions and adapt to climate change as far as their capacity and institutional awareness of risks and opportunities stretches. With scarce funding support or opportunities to lean on the expertise of higher tiers of government, it is difficult for independent councils to do this work. Tracey Roberts, the president of West Australian Local Government Association, suggests that beyond resourcing, the key hurdle facing local governments is a "lack of knowledge, skills and expertise to address the challenges of climate change" (ABC News 2021a).

Multiple councils reported to the Productivity Commission that climate change projections are usually sufficient to undertake high-level, broad-scope risk assessments, but there is rarely sufficient localised detail to incorporate risks into specific plans or quantify impacts on assets (Productivity Commission 2012). For example, if a council knows its local government area is at risk of coastal inundation, to respond effectively and efficiently they need to know in what time period they are likely to see those impacts, to what extent and even which streets, properties and infrastructure are most at risk. The more specific that information is, the more likely it can be applied through planning.

Even where climate change information is sufficient, some councils may not have the in-house technical expertise to determine how that information should be used. A 2011 study of councils in the Sydney area asked individual council staff how they might apply their policies regarding climate adaptation and found that the most common response was that participants simply did not know how to go about it (Measham et al. 2011). Submissions to the Productivity Commission identified that gaps in expertise might include skills in geomorphology

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and coastal processes, applying new planning options in an Australian context, or the interdisciplinary skills required to incorporate the complexity and uncertainty of climate change into decision-making frameworks across all local government disciplines (Productivity Commission 2012).

Finally, the level of awareness and buy-in from senior staff and elected councillors plays a significant role in a council's capacity to act on climate risks. A study examining the barriers to climate adaptation at council level, including interviews with council staff, identified that the opinions of the mayor in particular, as well as the CEO or general manager, made a strong difference to the opinions held by other participants (Measham et al. 2011). Quotes from interviews included:

> *"It's really vital that our councillors want to be seen to be a leader in this area and would regard that our place-based planning needs to have a vision for the prospect of climate change."*

> *"I don't know that that's really reflected in the planning that we're doing at the moment. I think there's still an element of hope it won't happen."*

An example of this barrier playing out in practice is the assessment of development applications. A council officer making this assessment is firstly reliant on climate risk data that is sufficiently specific to the development, such as potential sea level rise. Secondly, they require adequate expertise to understand those risks and how that might play out in practise on the development, such as whether flooding would occur regularly, or pose a risk to the building or its residents. They also need an understanding of the potential legal risks at play in their decision making. Thirdly, they need institutional support to be able to make the correct decision, even if it is against the immediate interests of the developer or local residents. This represents a complex and fraught decision making process without sufficient internal information, expertise and confidence.

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SCALE OF THE CHALLENGE

All of the barriers highlighted are exacerbated by the scale of the challenge that councils now face – of more intense and more frequent extreme weather events. These events make it difficult for councils to plan and, in some cases, leave little time to recover in between one disaster and the next. A joint statement by 17 New South Wales and Queensland councils in March, 2021 stated:

> *"We are exhausted by the immediate costs and challenges, and we are worried about what's to come. Extreme weather disasters used to occur every few years. Now, we are facing them every few months." (ABC News 2021b)*

The 2019/20 bushfires demonstrate how severe damage from extreme weather events can be at a local level. What is already a national, territory and state-wide significant fire is even more acute for the councils directly affected. For example, in New South Wales the local council areas of Bega Valley, Shoalhaven and Eurobodalla respectively saw 58%, 68% and 79% of their land masses burnt (Shoalhaven City Council 2020).

Figure 24: Massive bushfire threatens Batemans Bay, New South Wales, 2019.

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CASE STUDY 17: COMPOUNDING DISASTERS LEAVE LITTLE TIME FOR RECOVERY

Recovery from major extreme weather events can take years for local communities, but when events occur with greater frequency the scale of the problem can feel insurmountable.

Floods in March, 2021 led the New South Wales government to declare a natural disaster in 24 local government areas that had also experienced floods or storms in 2019/20 (Nicholas and Evershed 2021). Six of those areas also had more than 40% of their area burned in the Black Summer bushfires at the end of 2019 (Nicholas and Evershed 2021). In total, 96 New South Wales councils were impacted by bushfires and storms in 2019/20 with 35 councils impacted by both in that time (Audit Office of New South Wales 2021).

For example, within 14 months, the Clarence Valley and town of Kempsey in Kempsey Shire experienced drought, floods and bushfires. Commenting on bridges destroyed in the flooding and bushfire events, Kempsey Shire Council Mayor, Liz Campbell, told Guardian Australia:

"The work all starts all over again. Six months of work on our roads and bridges are just gone. Just vanished." (The Guardian 2021)

There is an increasing recognition of compounding disasters: the same areas being hit repeatedly by extreme weather events. As this phenomenon continues, it challenges traditional thinking about community recovery, and the work needed from councils to best respond.

Figure 25: Severe flooding in Kempsey, New South Wales, 2021.

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6. Report recommendations

As climate change accelerates, and extreme weather worsens, the status quo won't do. Changes are needed at all levels of government to meet the scale of the challenge, keep communities safe and support councils to meet their responsibilities. Urgent and strong leadership is needed from the Federal Government to ensure a whole-of-system solution is delivered that directs the efforts of state, territory and local governments. The following recommendations are not an exhaustive list of what is required, but highlights priorities identified in this report.

RECOMMENDATIONS FOR LOCAL GOVERNMENTS

1. **Increase operational net zero targets and efforts to mitigate climate change through emissions reduction activities.**

   To meet the challenge of climate change, it is essential we don't simply adapt, but also mitigate through deep and rapid emissions reductions. All councils should set net zero emissions targets for council operations and scale-up mitigation initiatives.

2. **Work with local communities and businesses to support broader efforts to cut emissions; beyond council operations and infrastructure**

   Councils have an important role to play in broader emissions reductions through community education, setting community-wide net zero emissions reduction targets, and delivering programs to help drive down emissions in the community. Councils should facilitate the community and local businesses to develop plans to reach these targets.

3. **Undertake a climate change risk assessment and implement plans for adapting to those risks.**

   All councils need to be undertaking climate risk assessments, creating action plans based on the findings and ensuring that implementation takes place across all areas of responsibility. This includes mainstreaming climate change across most aspects of council decision making, and ensuring that climate risks are part of councils' risk management frameworks. Importantly, this process is not a one-off activity but needs to be constantly reviewed to respond to changing information and risks.

4. **Seek out opportunities for collaboration across multiple councils to reduce emissions and adapt to climate impacts**

   Council mitigation and adaptation activities can be enhanced through the sharing of resources, information and building of economies of scale through collaboration with other councils and state and territory governments where possible. Local governments should explore collaboration opportunities and establish the governance systems and processes needed to support this.

5. **Encourage economic development units to explore how climate action can boost the local economy**

   Economic development units should endeavour to understand the impact of climate change on local economies, and incorporate climate change into plans and strategies. This can include risks to local economies, such as extreme weather or drought on agriculture and tourism, but it can also incorporate new opportunities for economic development in the region, such as large-scale renewables and innovations such as shifting agricultural commodities.

6. **Upskill all council staff to ensure they are confident about the impact of climate change on their day-to-day work, including opportunities for adaptation and mitigation**

   To avoid risks and seize opportunities, all council staff require a working knowledge of climate change impacts and the mechanisms through which they can incorporate climate mitigation and adaptation into their policies. Local Government Associations can play a critical role in providing training opportunities for members to ensure this confidence is widespread.

7. **Ensure that all planning and development activity at a local level considers climate risks and opportunities to cut emissions**

   Councils should integrate climate change considerations into all aspects of planning and development for which they have responsibility. Better planning can help increase resilience across a range of physical assets and embed an understanding of climate risks to benefit the population (NAGA 2014). This should include a willingness to make decisions that are in the long-term best interests of their communities such as limiting development in areas of future high risk.

8. **Advocate for other tiers of government to embrace stronger climate policies, emissions reductions targets and frameworks for mitigation and adaptation**

   There is a fundamental question as to how councils – particularly rural and regional councils with lower resources – can continue to service their communities as climate risks escalate. Councils should advocate other tiers of government about the urgent need for deep and rapid emissions reductions, as well as adaptation and resilience needs. This aligns with ALGA's Strategic Plan 2020-2023, which as a key priority identifies: "action by all levels of government to mitigate climate change and adapt to unavoidable change" (ALGA 2020).

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RECOMMENDATIONS FOR STATE, TERRITORY AND FEDERAL GOVERNMENTS

1. **Lead the country in responding to accelerating climate change at the scale and pace required; with a science-backed approach**

   Councils cannot address climate change alone: state, territory and federal governments must lift their ambitions. To make a fair contribution to the required global effort to reduce emissions, Australia should achieve net zero emissions by 2035, and reduce emissions by 75% below 2005 levels by 2030 (Climate Council 2021). The effort in Australia to help limit warming to well below 2°C must include several key elements. These include:

   - Banning any new fossil fuel developments, including gas;
   - Phasing out all existing fossil fuels and replacing them with other energy sources, built around renewable electricity;
   - Contributing to building a stronger, more diverse economy, creating more jobs and spreading benefits to regional centres and communities;
   - Stepping up as a global exporter of zero emissions energy, technology and expertise;
   - Building resilience to future climate threats across all sectors;
   - Using our influence internationally, through climate diplomacy, development assistance, and clean energy exports, to catalyse and support action beyond our shores.

2. **Increase state, territory and federal funding sources to councils for responding to climate impacts, and cutting greenhouse gas emissions**

   Funding to councils to mitigate and adapt to climate change must be increased. At a minimum, Financial Assistance Grants should be restored to at least 1% of Commonwealth taxation revenue. This proposition is supported by ALGA (ALGA 2020).

3. **Invest in preparing before climate disasters strike, rather than responding after the damage is done**

   Substantially more funding should be made available for pre-disaster funding in resilience and preparedness from all tiers of government. As a starting point, we support ALGA's proposition for the establishment of a natural disaster mitigation program at a level of $200 million per annum, in line with the 2014 Productivity Commission recommendations (ALGA 2021c).

4. **Ensure all disaster response funding incorporates the principle of "betterment"**

   Post-disaster funding needs to genuinely incorporate the principle of "build back better" by making a larger initial investment so that rebuilt infrastructure is ready to withstand the new climate reality. Damaged and destroyed assets should be assessed for opportunities to go beyond their pre-disaster function and a concept of "betterment" should be established in consultation with local governments to assist them in making a business case for investment.

5. **Make funding available post-disaster for all damaged and destroyed council assets**

   We recommend a review of the definition of essential public assets in the DRFA, or dispose of the metric altogether to ensure that council assets impacted by extreme weather events are rebuilt. This should extend to a review of funding provisions to ensure they cover all sorts of climate impacts.

6. **Support residents and businesses exposed to extreme weather events to build resilience**

   We recommend that state, territory and federal governments re-examine policies and invest in supporting private mitigation efforts. This includes robust building standards, community education and rebates and subsidies for energy efficiency and home resilience retrofits, especially for the most vulnerable in our communities. All policies responding to climate change impacts need to limit the risk and responsibility placed directly on individuals, who have far less resourcing, information and power than governments.

7. **Look for cost sharing opportunities between local and state governments for asset upgrades**

   Cost sharing agreements should be formed to improve assets with interconnected responsibility across levels of government (such as bike lanes and street lighting). This process should be led by state and territory governments who have a higher level of control and access to greater resources.

8. **Encourage and resource regional collaborations between councils to address climate change**

   All state and territory governments should ensure mechanisms and funding exists for the creation and ongoing work of cross-council alliances, such as the Greenhouse Alliances in Victoria which have been internationally recognised as a best practice governance model (CVGA 2019).

9. **Ensure all planning and development activity at a state and territory level adequately accounts for accelerating climate risks**

   All planning and development policies and activities undertaken by state and territory governments must take climate change into account. This echoes recommendation 19.3 of the Royal Commission into National Natural Disaster Arrangements that "state, territory and local governments should be required to consider present and future natural disaster risk when making land-use planning decisions for new developments" (Royal Commission into National Natural Disaster Arrangements 2020).

10. **Improve energy efficiency standards and invest in building upgrades to ensure Australian houses are safe and comfortable**

    Investing in better quality and more efficient buildings, including homes, helps protect residents from climate impacts and reduces emissions. State, territory and federal governments need to continue to raise standards through mechanisms such as updating the National Construction Code, introducing minimum standards for rental properties and mandatory disclosure of energy efficiency ratings

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at point of sale. There should also be substantial investment in programs to retrofit existing homes to make them more energy efficient, including social and low-income housing.

11. **Establish a national body, or expand the remit of an existing one, to support research on adaptation and act as a centralised hub for up-to-date climate change information**

    The federal government should expand an existing body, or establish a new one, to lead research on adaptation, with a dedicated arm focused on providing support and training to local governments in how to use, interpret and communicate climate change information. This body should assist councils in locating and using data that is sufficiently specific in timeframes and geographic scales to aid decision-making, and deal with the full spectrum of climate-fuelled risks. Establishing such a centralised and authoritative source of climate change information could help to reduce both the risk and fear of litigation for councils.

12. **Take responsibility for coordination of climate impacts responses to ensure consistency and clearly delineated responsibilities between different levels of government**

    The climate impacts experienced by councils do not respect local government boundaries and cannot be handled by individual councils or ad-hoc agreements between neighbouring councils. State, territory and federal governments should formally recognise the role they have to play in coordination of responding to climate risks and provide better guidance to councils on how to approach different hazards.

13. **State, territory and federal governments should urgently implement the findings of the Royal Commission into National Natural Disaster Arrangements**

    It is essential that state, territory and federal governments comprehensively and urgently review, accept and implement all recommendations of the Royal Commission into National Natural Disaster Arrangements. A large number of the 2020 recommendations of the Royal Commission were directed to state, territory and federal governments, but have significant implications for councils.

14. **Support councils to undertake and regularly review climate change risk assessments**

    State and territory governments, through consultation with local governments, should develop clear mechanisms that ensure all councils are undertaking and regularly reviewing robust climate change risk assessments. This responsibility for councils should be matched with clear guidance on what needs to be done, including best practice examples.

7. Conclusion

While individual case studies and sections of this report can be shocking in and of themselves, their true significance emerges in the collective picture they paint. Australia has entered a new era of climate impacts and risks that are being acutely felt at the local level. Communities and the councils that support them are experiencing the brunt of more severe and frequent extreme weather events. These disasters risk human life, property, economies and councils' abilities to fulfill their myriad of functions within the community.

Despite the significant barriers facing local government areas in reducing emissions and adapting to climate change, many are appropriately escalating and prioritising the risk. These efforts should be applauded, but greater ambition and follow-through is needed from all levels of government if we are to meet the challenge ahead. There is no time to delay immediate action to reduce fossil fuel emissions, ramp up renewable energy production and develop resilience to climate threats.

We call on all levels of government to recognise that climate damage is here, now, and requires urgent and collective action. The non-exhaustive recommendations that conclude this report offer a first stepping stone toward a more equitable and consistent approach across Australia.

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Cover image: Farmer is consoled after the 2019-2020 bushfires in NSW. Sean Davey. AAP Images.

Page 11 - Figure 1: Roads and a new bridge submerged during a flood in Windsor, New South Wales, in 2021. Leah-Anne Thompson. Shutterstock.

Page 14 - Figure 2: Coastal erosion in Gold Coast, Queensland. By Flickr user Citt. Licensed under CC-by-NC-ND-2.0.

Page 15 - Figure 3 (left): Eurobodalla bridge destroyed by fire. Eurobodalla Shire Council.

Page 15 - Figure 4 (right): Eurobodalla bridge destroyed by flood. Eurobodalla Shire Council.

Page 18 - Figure 5: Damage and flooding at Mittagong Swimming Pool, 2020. Wingecarribee Shire Council.

Page 19 - Figure 6: Protective equipment makes hard work even hotter. Vadim Ratnikov. Shutterstock.

Page 24 - Figure 7: Current inundation risk modelling at highest tide in Silverleaves on Phillip Island, Victoria. Coastal Risk Australia.

Page 24 - Figure 8: Predicted inundation risk modelling at highest tide for 2100 with +0.74m sea-level rise. Coastal Risk Australia.

Page 26 - Figure 9: Holiday resort villas on Kangaroo island, South Australia destroyed by 2020 bushfires. BeyondImages. iStock.

Page 30 - Figure 10: Aerial Mike. Shutterstock.

Page 31 - Figure 11: Clean up in the aftermath of the 2011 floods in Brisbane, Queensland. Maythee Voran. Shutterstock.

Page 32 - Figure 12: Firefighter observes the wreckage of a home in Kinglake Victoria after the 2009 bushfires. By Flickr user Neil Creek

Page 33 - Figure 13: 2012 Roma floods as seen from the air. Roma, Queensland has a long history of flood events. By Flick user Tatter. Licensed under CC-by-SA-2.0.

Page 38 - Figure 15: Solar panels on Turbine Hall, Cockatoo Island, New South Wales. By Flickr user Jason Wong. Licensed under CC-by-NC-ND-2.0.

Page 41 - Figure 16: Burned forest after 2019/20 bushfires, Bendalong, New South Wales. RugliG. Shutterstock.

Page 42 - Figure 17: Council staff planting trees in Onkaparinga, South Australia. City of Onkaparinga.

Page 43 - Figure 18: Nillumbik Shire Council's Community Stadium and Relief Centre in Victoria, featuring rooftop solar, a battery system and an electric vehicle charging station. Nillumbik Shire Council.

Page 44 - Figure 19: Blacktown City Council in Western Sydney is trialing an Australia-first network of 'heat refuges'. Jaaske M. Shutterstock.

Page 45 - Figure 20: Flooded roads, Mcgraths Hill, New South Wales 2021. Harley Kingston. Shutterstock.

Page 50 - Figure 21: Damage from 2011 floods in Brisbane, Queensland. Maythee Voran. Shutterstock.

Page 52 - Figure 22: Dark rooftops and lack of vegetation contribute to the Urban Heat Island Effect. Mikulas1. iStock.

Page 54 - Figure 23: Bushfire smoke blankets Sydney Harbour, New South Wales, 2019. Natsicha. iStock.

Page 58 - Figure 24: Massive bushfire threatens Batemans Bay, New South Wales, 2019. By Flickr user Beyond Coal and Gas. Licensed under CC-by-2.0.

Page 59 - Figure 25: Severe flooding in Kempsey, New South Wales, 2021. Jason O'Brien. AAP Images.

CL22.152 - Attachment 3

Thank you for supporting the Climate Council.

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Planning Report – **S4.55(1A)** Assessment – DS21/1353 – 76 West Cr, Culburra Beach – Lot 298 DP 11892

	Planning Report – **S4.55(1A)** – Environmental Planning & Assessment Act 1979

Parent Consent	DA20/1809
DS Number	DS21/1353
Property	76 West Cr, CULBURRA BEACH – Lot 298 DP 11892
Applicant(s)	Ms Chris Phillips
Owner(s)	S Vidler & C Phillips

Conflict of interest declaration

The assessing officer and supervisor have considered the potential for a conflict of interest under the Code of Conduct and to the best of our knowledge no pecuniary and/or significant non-pecuniary conflict of interest exists.

NOTE: If you determine that a non-pecuniary conflict of interest is less than significant and does not require further action, you must provide a written explanation of why you consider that the conflict does not require further action in the circumstances. This statement should then be countersigned by the section manager.

Detailed Proposal

Original Approval: DA20/1809

Development Consent was issued for 'Relocation of Dwelling to create Detached Dual Occupancy' on 7 October 2020 (Trim Reference: Consent – D20/442425 and Approved Plans – D20/442454).

In accordance with the approved Site Layout Plan below, the land comprises an existing approved dwelling located in the southern part adjacent to West Cr and the construction of a new dwelling to form the dual occupancy in the northern part fronting Wollumboola Ln.

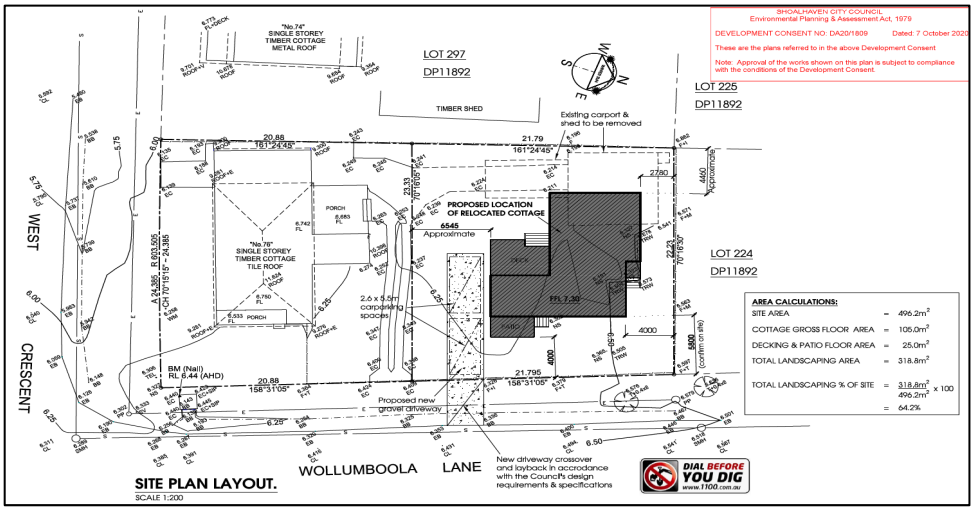

Figure 1 – Site Plan

Planning Report – **S4.55(1A)** Assessment – DS21/1353 – 76 West Cr, Culburra Beach – Lot 298 DP 11892

Current Application: DS21/1353

An application to modify the consent has been submitted in accordance with the provisions of Section 4.55(1A) of the Environmental Planning and Assessment (EP&A) Act 1979.

The application proposes in the submitted documentation to make the following modification to the development consent:

Proposed Deletion of Condition 19 of the Development Consent as follows:

> ***Road Design Standards***
>
> *Concrete integral kerb and gutter with either a minimum 30mm thick 10mm asphaltic concrete on a primer seal or 2 coat bitumen seal with 14mm & 7mm aggregate surfaced shoulder (to match the existing seal) and associated drainage must be designed across the frontage of the proposed new lot(s).*
>
> *a) The kerb and gutter must have a standard upright profile.*
> *b) The alignment must be 3.5m from the boundary on Wollumboola Lane and 7.0m from boundary on the West Cr frontage.*
> *c) The shoulder crossfall to the lip of the gutter must be no less than 2% and no greater than 5%. **A minimum width of 1m** is to be constructed adjacent to the lip of the gutter to facilitate compaction of the new pavement.*
> *d) The shoulder seal is to overlap the existing pavement by a minimum of 300mm with the existing seal to be saw cut and the exposed pavement is to have a tack coat or prime seal if finished with AC.*
> *e) The kerb and gutter must have a minimum grade of 0.5% and the longitudinal design must extend a minimum of 30 metres each end of the development and at least 60m if the grade is <0.5% or ≥ 0.3%. This is to ensure the proposed works will be compatible with the existing longitudinal pavement grade and allow future extension of the kerb without unnecessary modification of existing works.*
> *f) The road shoulder pavement must be designed in accordance with Council's Engineering Design Specifications section D2.04.*
> *g) The road table drain either side of the proposed development is to be reconstructed as required to match the K&G and to prevent ponding of water, including any adjustment or reconstruction of nearby driveways.*
> *h) Subsoil drainage is to be provided behind the kerb line where an outlet to existing underground drainage (or other alternative suitable to Council) is available. Subsoil drainage is to be placed on the high side of the road or both sides if the cross-fall is neutral.*
> *i) Where roadway widening (shoulder construction) is not required, the thickness of the pavement for the new kerb and gutter maybe designed using an adopted CBR of 3.0. If a higher CBR value is used, it must be determined by geotechnical testing in accordance with Council's Engineering Design Specification.*

This condition was recommended for inclusion in the consent by Council's Development Engineer as a standard engineering condition as it is a requirement for both dual occupancy development and subdivision of land under Shoalhaven Development Control Plan (DCP) 2014 Chapters G11, G13 and G21. This requirement has been consistently applied in accordance with the DCP.

Background

The following provides a summary of the applicant's reasons for submission of the application and Council's responses to the items raised:

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a) Environmental impact:

The proposed modification would have no negative environmental impact. The engineer's report prepared by civil engineers Allen, Price Scarratts calculates that the DA will not increase peak stormwater flows compared to the existing structure on the block prior to development. Indeed, removing the condition for concrete kerb and gutter would have a positive environmental impact. Kerb and gutter near the lake would concentrate polluted run-off from the road and channel it directly into the lake, rather than allowing it to disperse and filter through the sandy soil at the side of the road as it currently does. The Lake Wollumboola Protection Society have expressed their opposition to kerb and gutter in this location for this reason as it would have a negative impact on the environment of the lake.

Response: Concern has been flagged regarding the discharge of flow from the end of the constructed gutter on West Cres, however the approval requires table drains to be reshaped to accept the flow from the kerb and gutter and levels would prevent any runoff impacting on adjoining properties. It is also noted that a relatively short section of kerb and gutter would not excessively increase peak stormwater flows during a large storm event where the existing grassed table drains would be saturated.

The requirement for kerb and gutter has been correctly applied in accordance with Council's policies.

b) Detrimental to character of area

The whole area of West Crescent and Wollumboola Lane where the property is located enjoy a natural grassed edge to the roadway without kerb and gutter. This natural aesthetic fits well with the untouched and unspoiled lakeside environs. Forcing one property in the middle of this to install concrete kerb and gutter would stand out – but not in a good way. It would be an eyesore that detracts from the character of the area.

Response: Council undertook a site inspection of the property and surrounding environments of West Cr and Wollumboola Ln on Thursday 24th February 2022 (refer TRIM Ref. No. D22/79471). The site inspection revealed that the southern side of the length of Greenbank Gr has kerb and gutter, and extensive kerb and guttering exists on both the south-western and south-eastern corners of the intersection of Wollumboola Ln and Greenbank Gr located approximately 50m from the site.

Figure 2 provides a site photo and Figure 3 an aerial photo of kerb and gutter within the immediate vicinity of the site on Wollumboola Lane and Greenbank Gr.

Figure 2. Photo looking south towards Wollumboola Ln intersection with Greenbank Gr, showing wide of extent of kerb and guttering within the vicinity of the site (site at the end of the laneway on the right of photo)

Figure 3. Aerial photo indicating parts of the immediate street network with existing kerb and gutter provision (Source: Nearmap).

It is further noted that many of the properties within the immediate vicinity of the subject site are capable of further redevelopment for dual occupancy (both attached and detached) development or Torrens Title subdivision in their own right, meeting the relevant zoning and minimum lot size requirements under Shoalhaven Local Environmental Plan (LEP) 2014. Any application for dual occupancy or subdivision of these lots lodged under the current planning controls would also include a requirement for kerb and guttering and collectively contribute to the delivery of kerb and gutter within the locality.

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c) Stormwater impact on adjacent properties

There is no stormwater drain on West Crescent. So water caught by any kerb & gutter installed on West Crescent will simply be diverted downhill to adjacent properties – potentially creating damage to their verge.

Response: The following excerpt from Council's GIS system indicates the location of Council's existing drainage system (shown in green). The excerpt also demonstrates that the construction of the kerb and gutter at the corner of West Cr and Wollumboola Ln as required by Condition 19 would link in with the existing drainage system in Wollumboola Ln and crossing West Cr.

Location of property (outlined in blue) in relation to existing stormwater drainage line (in green)

As stated above, the approval also requires table drains to be reshaped to accept the flow from the kerb and gutter, where the constructed levels would prevent any runoff impacting on adjoining properties. This is also consistent with the construction ready kerb and gutter plans already submitted by the applicant and approved as part of the Construction Certificate issued by Council (Application Ref No. CC20/1797).

The proposed arrangement as required by Condition 19 would improve the significant pooling of water which occurs within the road verge adjacent to the site during rain events under the current scenario:

Site and road verge from perspective of Wollumboola Ln looking south (site to the right of photo)

Site and road verge from perspective of West Cr looking north (site to the left of photo)

d) Disproportional cost

Kerb and gutter is extremely expensive to install. Not to mention disruptive – it requires tearing up and rebuilding the edge of the roadway, and building up nature strip to match the level of the kerb. The costs are vastly out of proportion to the modest budget of our small development with a budget of under $200,000.

Response: The standard approach taken as part of the assessment of all Development Applications across the Shoalhaven City Council area, is that the onus is on the developer to construct the infrastructure that is required for their development and to ensure their development complies with applicable Acts, plans and policies.

This approach is especially important when considering that Council's Policy No. POL12/65 – Asset Management Plan (accessible on Council's website at https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=POL12/65) indicates that it would take 620 years before all Council's requirements regarding construction of kerb and gutter would be met if funded by Council under Council's current *Resourcing Strategy*.. Council also notes that it receives repeated requests for kerb and gutter and that as a result of the backlog, funding levels have been traditionally low. POL12/65 further outlines that "*All new developments/subdivisions include the provision of K&G (or grass swales) as consent conditions. So population growth is not expected to increase demand*". Should Council exclude certain areas of the LGA from requiring developer's to provide the kerb and gutter for infill development which increases density, this will only serve to intensify the pressure on Council to provide kerb and gutter to existing residential areas of the LGA in the future.

As such, it is important that the community and Council are assisted by developers in providing the infrastructure which is triggered by their development.

e) Resident opposition

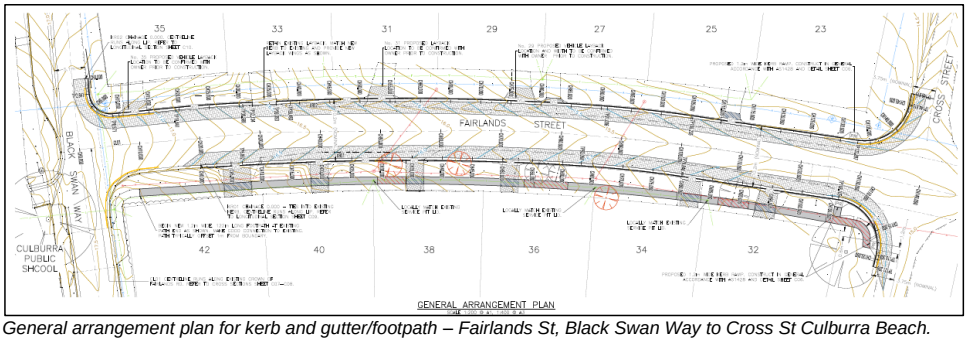
> *The residents of West Crescent are opposed to kerb and gutter for the above reasons – particularly when there are little prospects of any more than one property on the street having concrete kerb and gutter in the foreseeable future.*

Response: The notification undertaken by Council between 20th October and 5th November 2021 resulted in one (1) submission being received, objecting to the applicant's proposed deletion of this condition. This indicates that there is interest from residents within the immediate surrounding locality in requiring the construction of kerb and gutter to address water pooling concerns within the road verge following rain events.

As noted earlier in this report, all properties within the immediate vicinity of the subject site are also capable of development either as dual occupancies under clause 4.1A of Shoalhaven LEP 2014 (being min. 500sqm for attached dual occupancy and 700sqm for detached dual occupancy) or for Torrens Title subdivision in their own right into 500m^2 lots under clause 4.1 of the LEP. Culburra Beach, like most of the Shoalhaven is experiencing accommodation pressures and this type of development is not uncommon, with multiple examples of recent dual occupancy and subdivision development applications within the locality of the site being lodged and under assessment and/or approved.

Aerial photograph of the locality indicating the approx. lot sizes according to Council's records.

As noted in POL12/65, Council has a programmed kerb and gutter strategy. Council's City Services Section have a works schedule that involves planned upgrades to the Culburra Beach road network, and demonstrates that Council's approach moving forward is to construct kerb and guttering over the long term within the locality to improve stormwater disposal for the safety of the community. A current project underway for kerb and gutter construction at Fairlands St, between Black Swan Way and Cross Street (to the west of Culburra Public School some 400m to the north west of the subject site) – a link to this information is available on Council's website: Fairlands Street Culburra Beach - Shoalhaven City Council (nsw.gov.au). The purpose of these upgrades is for kerb, gutter and footpath construction for School safety improvements. Owners of affected properties for this project were charged for proposed kerb and gutter as per Councils Kerb and Guttering – Charges Applicable Policy POL16/148. An excerpt of the plan showing these works is provided below:



General arrangement plan for kerb and gutter/footpath – Fairlands St, Black Swan Way to Cross St Culburra Beach.

f) Existing precedents

We questioned the requirement when it was added to the DA but were advised that council was unable make any exception for this development as it would set a precedent. We have since learned that there are already a number of existing precedents in the area of developments that have not had to meet this requirement. These include 98a & 98b Greenbank Grove, just around the corner from our property, on a road that, unlike ours, predominantly has kerb and gutter.

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Response: Both dual occupancy development and subdivision of land require the construction of kerb and gutter under DCP Chapters G11, G13 and G21. This requirement has been consistently applied in accordance with the DCP. Developers undertaking dual occupancy development and/or subdivision and their consultants are generally aware of this requirement and factor it into the cost of development.

The subdivision at 98 Greenbank Grove is referenced as evidence of a precedent, however this was lodged and approved prior to the implementation of DCP2014 under previous provisions which exempted kerb and gutter on the frontage of the lot containing the existing dwelling (SF10403, lodged 10/07/2014 and approved at Development Committee 19/01/2015). A more recent dual occupancy approved at 34 Greenbank Grove at the corner of Black Swan Way did require full frontage construction of kerb and gutter (DA16/2430, approved 13/04/2017).

The area has precedent of kerb and guttering nearby (kerb and gutter on Greenbank Grove including kerb returns into Wollumboola Lane) which is likely to continue with future redevelopment.

Consultation and Referrals

Internal Referrals

Referral	Recommendation	Comment
Development Engineer	Referral response provided by the Development Engineer on 18th October 2021. Advice provided that the applicant's proposal to delete Condition 19 is not supported as the condition has been correctly applied in accordance with the requirements of Chapters G13, and G21 of the Shoalhaven Development Control Plan (SDCP) 2014). The following specific comments were provided. *Both dual occupancy development and subdivision of land require the construction of kerb and gutter under DCP Chapters G11, G13 and G21. This has been consistently applied since implementation of DCP 2014 and any exceptions are a rarity. Developers undertaking dual occupancy development and/or subdivision and their consultants are generally aware of this requirement and factor it into the cost of development.* *The subdivision at 98 Greenbank Grove is referenced as evidence of a precedent, however this was approved prior to the implementation of DCP2014 under previous provisions which exempted kerb and gutter on the frontage of the lot containing the existing dwelling. A more recent dual occupancy approved at 34 Greenbank Grove at the corner of Black Swan Way did require full frontage construction of kerb and gutter.* *The area has precedent of kerb and guttering nearby (kerb and gutter on Greenbank Grove including kerb returns into Wollumboola Lane) which is likely to continue with future redevelopment.* *There is also evidence of stormwater flow and containment issues (such as previous construction of an informal kerb outside the subject property, and recent photographic evidence of stormwater ponding in the road reserve outside the property) which would be improved through the provision of kerb and gutter. Concern has been flagged regarding the*	Recommendation for refusal based upon non-compliance with Chapters G13 and G21 of the SDCP 2014. Further discussion provided in the Report below.

CL22.153 - Attachment 2

	discharge of flow from the end of the constructed gutter on West Cres, however the approval requires table drains to be reshaped to accept the flow from the kerb and gutter and levels would prevent any runoff impacting on adjoining properties. It is also noted that a relatively short section of kerb and gutter would not excessively increase peak stormwater flows during a large storm event where the existing grassed table drains would be saturated. *The requirement for kerb and gutter has been correctly applied in accordance with Council's policies. The deletion of the condition is not supported.* *It is also noted there are currently construction-ready approved engineering design plans for the kerb and gutter for this development, demonstrating its constructability and ability to comply with Council's standards and the implemented conditions of consent.*	

External Referrals

Nil external referrals required.

Section 4.55(1A) Modification of Consent - Considerations

This application is seeking to modify Development Consent No. **DA20/1809** and is classified as **S4.55(1A) – Modifications involving minimal environmental impact** under the EP&A Act.

The following provides an assessment of the submitted application against the matters for consideration under Sections 4.55(1A) & 4.15(1) of the EP&A Act.

A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

a) it is satisfied that the proposed modification is of minimal environmental impact

Council is satisfied that the proposed modification is of minimal environmental impact.

b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all)

Council is satisfied that the proposed modification would be substantially the same as the development which was originally approved.

The modified development will result in no significant changes and the proposal is considered to be quantitatively and qualitatively the same as the development as originally approved.

c) it has notified the application in accordance with the regulations or a DCP

Notification was undertaken in accordance with the Community Consultation Policy for a period of two (2) weeks between 20 October and 5 November 2021.

d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan

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One (1) submission was received objecting to the proposal. Further details regarding the submission including Council's response is provided in the Report below.

Section 4.55(3) – Matters Relevant to the Application

In determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in section 4.15(1) as are of relevance to the development the subject of the application. The consent authority must also take into consideration the reasons given by the consent authority for the grant of the consent that is sought to be modified.

(a) Any planning instrument, draft instrument, DCP and regulations that apply to the land

i) Environmental Planning Instruments

EPI	Comment
SEPP No. 55 – Remediation of Land	The modification application raises no additional matters for consideration under SEPP No. 55 – noting that there would be no further exposure pathway to potential contaminants over and above that which has already been assessed.
SEPP (BASIX) 2004	The modification application raises no additional matters for consideration under SEPP (BASIX) 2004 – noting that no amendments to the approved BASIX Certificate are required.
SEPP (Coastal Management) 2018	The modification application raises no additional matters for consideration under SEPP (Coastal Management) 2018 – an assessment was already carried out against the policy as part of DA20/1809 which found that no adverse impacts would occur to the 'Coastal Use Area', 'Coastal Environment Area' and 'Proximity Area for Coastal Wetlands', notwithstanding compliance with the approved conditions of consent.
SLEP 2014	The modification application raises no additional matters for consideration under SLEP 2014.

ii) Draft Environmental Planning Instrument

http://www.planning.nsw.gov.au/Policy-and-Legislation/State-Environmental-Planning-Policies-Review

None relevant to the proposed development.

iii) Any Development Control Plan

SDCP 2014 Chapter	Comment
Ch. G1 – Site Analysis	Compliance achieved – no alterations are proposed to the approved Site Plan considered as part of DA20/1809.
Ch. G2 – Sustainable Stormwater Manage. & Erosion / Sediment Control	Compliance is maintained with the requirements of Chapter G2 of the SDCP 2014, subject to construction and completion of the stamped approved stormwater drainage plans issued as part of Construction Certificate No. CC20/1797).

Ch. G7 – Waste Minimisation and Manage. Controls	Compliance achieved – no alterations are proposed to the approved Waste Management Plan.
Ch. G11 – Subdivision of Land	DA20/1809 gave consent to a Dual Occupancy development at the site. However the applicant subsequently applied for and was issued a separate approval for a two lot subdivision of the approved dual occupancy (SF10849) on 19 February 2021. Condition 4 of SF10849 requires compliance with all conditions of consent issued as part of DA20/1809 prior to any Subdivision Certificate being issued. As such, any proposal for the deletion of Condition 19 from the dual occupancy consent would also delete the requirement for integral kerb and guttering from the subdivision approval. Please note that this would result in the development being non-compliant with the following provisions of Chapter G11 – Subdivision of Land: • *A65.4 – Concrete kerb and gutter, together with a concrete layback and footpath crossing, is to be provided to Council's specification for the full frontage of the development. Profiles are to comply with the requirements of Table 3.* • *A113.1 – Provide, to Council's specification, concrete kerb and gutter for the full frontage of the lot together with a concrete layback and footpath crossing. In the case of corner allotments, kerb and gutter is required on each road frontage of the dual occupancy development.* • *Section 6.2.3 (Table 11) – All lots fronting an existing sealed road: Kerb and gutter to be provided.* Whilst it is noted the DA20/1809 did not involve the subdivision of the land, the above information is provided to identify the number of different controls in which the development would be non-compliant with, were Condition 19 of the consent to be deleted.
Ch. G12 – Dwelling Houses	6.3.3 Relocation of Second-Hand Dwellings Compliance achieved – the assessment against DA20/1809 found that the dwelling being relocated is suitable for the desired future and current character of the area and is in a good state of repair. The materials and external finishes are compatible with the surrounding development.
G13 – Medium Density & Other Res. Development.	Compliance is achieved with the built form controls of Chapter G13 of the SDCP 2014.
G21 – Car Parking & Traffic	Compliance is maintained with the vast majority of acceptable solutions contained within Chapter G21 – Car Parking an Traffic of the SDCP 2014. However, the proposed deletion of the integral kerb and gutter construction requirements would result in non-compliance with A16.1/P16 as follows: *Part 6.6 – Construction Standards* *A16.1 The construction of internal driveways, roads, car parks, service areas and works in the road reserve comply with Table 3.* *Table 3 – Dual Occupancy Development* • *Kerb and Guttering* ○ *Concrete kerb and gutter is to be provided to Council's specification for the full frontage of the development together with a concrete layback and footpath crossing.*

	○ *– In the case of corner allotments, kerb and gutter will be required on each road frontage of the development*. Acceptable Solution 16.1 provides a clear description that concrete kerb and gutter is required to be constructed for the full length of the development together with a concrete layback. However given the site is a corner allotment, the proposal is also required to provided kerb and guttering to each road frontage of the development, Condition 19 of the development consent has been implemented in accordance with the requirements of Acceptable Solution A16.1 of Chapter G21. *P16 The construction of internal driveways, roads, car parks, service areas and works in the road reserve is of a suitable standard according to land use type.* The proposed deletion of the requirement for kerb and gutter is also considered to be non-compliant with the listed Performance Criteria given: • The works within the road reserve would no longer be constructed to the suitable standard required under Table 3 for the relevant land use type. • The works would also result in non-compliance with other provisions of Council's DCP which also reflect the requirement for kerb and guttering such as A65.4, A113.1, and Section 6.2.3 of Chapter G11 – Subdivision of Land of the SDCP 2014. Noting that the proposal is non-compliant with both the Acceptable Solution and Performance Criteria, the subject application cannot be determined by way if approval.

iiia) Any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4

There are no planning agreements or draft planning agreements which have been entered into.

iv) Environmental Planning and Assessment Regulation 2000

No additional matters for consideration.

v) REPEALED

(b) The Likely impacts of that development, including environmental impacts on the natural and built environments, and social and economic impacts in the locality

Head of Consideration	Comment
Natural Environment	The modified proposal would not result in any further impacts to the natural environment, noting that no further vegetation is proposed to be removed.
Built Environment	The removal of Condition 19 requiring the installation of integral kerb and guttering has the potential to result in adverse impacts to the surrounding built environment.

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Head of Consideration	Comment
	This would be likely given the potential for deteriation in the condition of Wollumboola Ln, noting the large ponding of water which presently occurs in the pre-constructed condition during heavy rain events. A submission received objecting to the deletion of the condition also reflects Council's concern in relation to this matter.
Social Impacts	The modified proposal would be unlikely to have a significant social impact upon the surrounding locality.
Economic Impacts	The modified proposal would be unlikely to have a significant economic impact upon the surrounding locality.

(c) Suitability of the site for the development

- The approved development would no longer be compliant with applicable provisions of the SDCP 2014, including A16.1 / P16 of Chapter G21 – Car Parking and Traffic.
- The removal of the requirement for kerb and guttering would have the potential to have an adverse impact upon the surrounding built environment.
- The removal of the requirement for kerb and guttering would not be within the public interest.

In this regard, the site suitability is compromised.

(d) Submissions made in accordance with the Act or the regulations

The DA was notified in accordance with Council's Community Consultation Policy for Development Applications. Submissions were received by Council objecting to the proposal. The concerns raised are outlined below:

Summary of Public Submissions	
Objection Raised	**Comment**
Water Hazard • Since they now have roof guttering that disperses now on the edge of the road, it has created a large water hazard every time it rains (noting the present absence of kerb and guttering).	**Water Hazard** • The photographs provided by the applicant (see below) and taken by Council as part of the site inspection confirm a water hazard does exist following the placement of the additional dwelling on the land (noting the present absence of kerb and guttering).
Potential for Deteriation of Road Reserve • This will continue to create damage to the existing road (photos were attached for reference – see below).	**Potential for Deteriation of Road Reserve** • This reflects Council's concerns raised in the Report above – in particular in Council's assessment against impacts upon the built environment and regarding the public interest.

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Excerpt of Photo 1 provided by submitter

Excerpt of Photo 2 provided by submitter

(e) The Public Interest

The public interest has been taken into consideration as part of the assessment of the Modification Application against applicable Acts, EPIs, plans and policies.

The proposed deletion of the requirement for kerb and guttering would not be within the public interest for the following reasons:

- The proposed deletion of the requirement for kerb and guttering would not be within the public interest for the following reasons:
- The additional runoff generated by the additional dwelling, which is already placed on the land, has created a water hazard within the road reserve area – as depicted in the photographs taken as part of Council's site inspection and as depicted in the objection received during the notification period.
- The hazardous pooling of water is likely to result in the deterioration of the condition of Wollumboola Ln outside the site were the requirement for kerb and guttering to be removed.
- Any requests by the owner of the land down the track for repairs to the road are likely to then fall in the hands of Council to fund.
- The removal of the requirement for kerb and guttering would not be consistent with the established kerb and guttering located on the corners of the properties fronting the northern part of Wollumboola Ln and recent determinations issued by Council such as 34 Greenbank Grove.

Planning Report – **S4.55(1A)** Assessment – DS21/1353 – 76 West Cr, Culburra Beach – Lot 298 DP 11892

- The removal of the requirement for kerb and guttering would not be consistent with Council's existing Works Schedule and Council's Policy No. POL12/65 – Asset Management Plan.

Delegations

Guidelines for use of Delegated Authority

The Guidelines for use of Delegated Authority have been reviewed and the assessing officer does not have the Delegated Authority to determine the application.

The Modification Application was called in for determination at the Council Meeting by the Development and Environment Committee of the Council on 5th October 2021

Recommendation

This application has been assessed having regard to the Heads of Consideration for Section **4.55(1A)** under the *Environmental Planning and Assessment Act 1979.* As such, it is recommended that Modification Application No. **DS21/1353** relating to Development Consent No. **DA20/1809** be refused.

City Development
25/02/2022

21 September, 2021

TO WHOM IT MAY CONCERN:

Re: DA 20/1809 – Modification to condition requiring Kerb & Gutter

We are requesting a modification to our Development Application in relation to Council's added condition to our DA that we construct concrete kerb and gutter around the full perimeter on two street frontages.

The condition of the consent to be modified is **Condition 19: Road Design Standards.** The modification meets relevant modification criteria under section **S4.55 1A of the Environmental Protections & Assessment act of 1979** as a modification with minimal environmental impact.

Please see supporting evidence below, including our reasons for modification, supporting letters from West Crescent residents, photographs of natural verge to West Crescent and Wollumboola Lane, and photographs of precedents in the area. Please note, no plan showing the proposed modification is required as kerb & gutter is not referenced on the stamped plans.

We are seeking this requirement be removed for a number of reasons:

1. **Environmental impact:**
   The proposed modification would have no negative environmental impact. The engineer's report prepared by civil engineers Allen, Price Scarratts calculates that the DA will not increase peak stormwater flows compared to the existing structure on the block prior to development. Indeed, removing the condition for concrete kerb and gutter would have a positive environmental impact. Kerb and gutter near the lake would concentrate polluted run-off from the road and channel it directly into the lake, rather than allowing it to disperse and filter through the sandy soil at the side of the road as it currently does. The Lake Wollumboola Protection Society have expressed their opposition to kerb and gutter in this location for this reason as it would have a negative impact on the environment of the lake.
2. **Detrimental to character of area**
   The whole area of West Crescent and Wollumboola Lane where the property is located enjoy a natural grassed edge to the roadway without kerb and gutter. This natural aesthetic fits well with the untouched and unspoiled lakeside environs. Forcing one property in the middle of this to install concrete kerb and gutter would stand out – but not in a good way. It would be an eyesore that detracts from the character of the area.
3. **Stormwater impact on adjacent properties**
   There is no stormwater drain on West Crescent. So water caught by any kerb & gutter installed on West Crescent will simply be diverted downhill to adjacent properties – potentially creating damage to their verge.
4. **Disproportional cost**
   Kerb and gutter is extremely expensive to install. Not to mention disruptive – it requires tearing up and rebuilding the edge of the roadway, and building up nature strip to match the level of the kerb. The costs are vastly out of proportion to the modest budget of our small development with a budget of under $200,000.
5. **Resident opposition**
   The residents of West Crescent are opposed to kerb and gutter for the above reasons – particularly when there are little prospects of any more than one property on the street having concrete kerb and gutter in the foreseeable future.

6. **Existing precedents**
   We questioned the requirement when it was added to the DA but were advised that council was unable make any exception for this development as it would set a precedent. We have since learned that there are already a number of existing precedents in the area of developments that have not had to meet this requirement. These include 98a & 98b Greenbank Grove, just around the corner from our property, on a road that, unlike ours, predominantly has kerb and gutter.

We trust that the specific circumstances and character of the area and the wishes of the residents of the street can be taken into account in order to grant this modification.

Kind regards
Chris Phillips & Steven Vidler

WOLLUMBOOLA LANE - NATURAL VERGE

WEST CRES - NATURAL VERGE

WEST CRES - NATURAL VERGE

WEST CRES / COUNCIL CARPARK - NATURAL VERGE

CL22.153 - Attachment 3

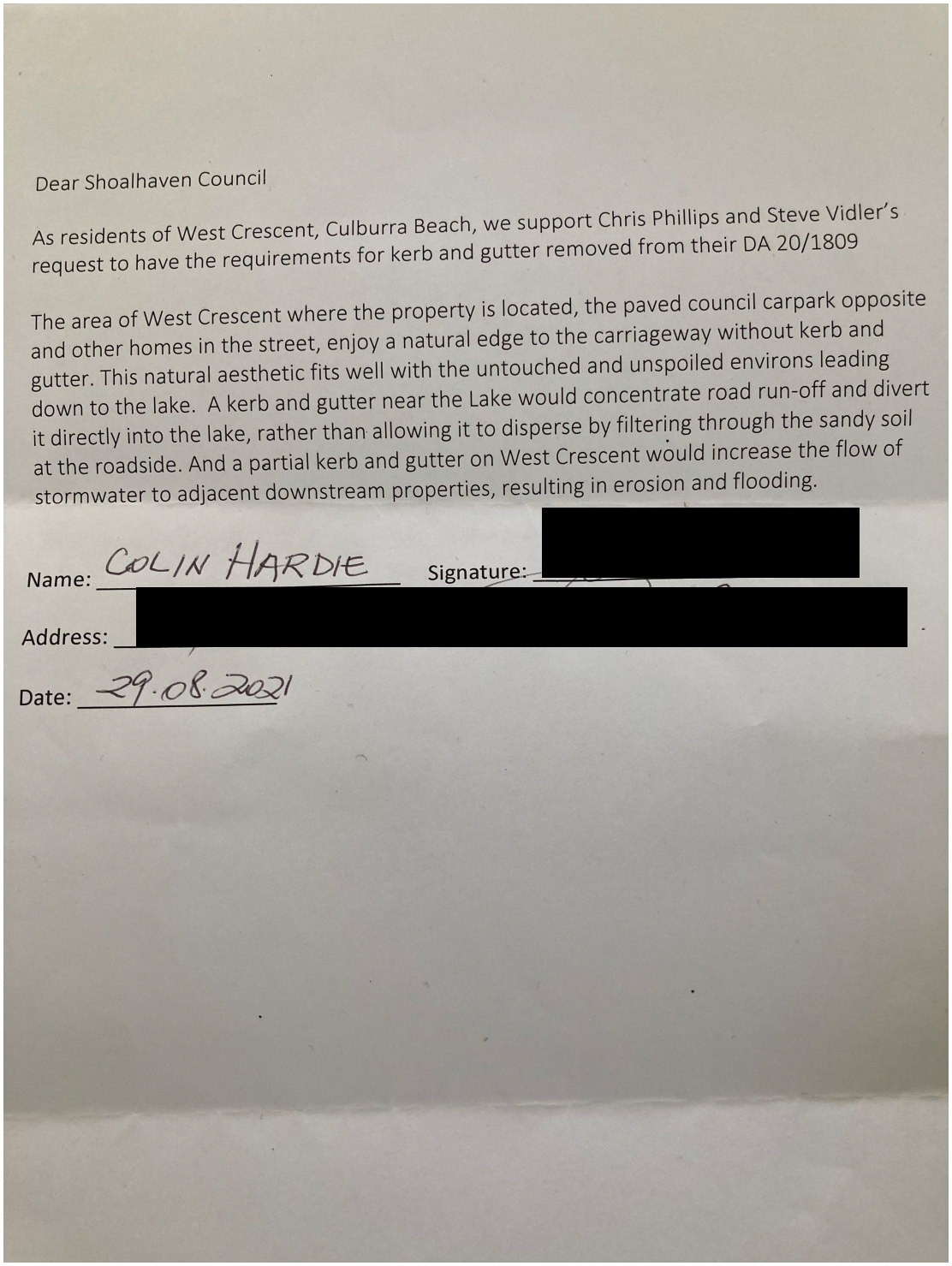
Dear Council

As residents of West Crescent, Culburra Beach, we support Chris Phillips and Steve Vidler's request to have the requirements for kerb and gutter removed from their DA 20/1809

The area of West Crescent where the property is located, the paved council carpark opposite and other homes in the street, enjoy a natural edge to the carriageway without kerb and gutter. This natural aesthetic fits well with the untouched and unspoiled environs leading down to the lake. A kerb and gutter near the Lake would concentrate road run-off and divert it directly into the lake, rather than allowing it to disperse by filtering through the sandy soil at the roadside. And a partial curb and gutter on West Crescent would increase the flow of stormwater to adjacent downstream properties, resulting in erosion and flooding.

LAUREN WHITBREAD
Name: Matthew Whitbread Signature: [redacted]

Address: [redacted]



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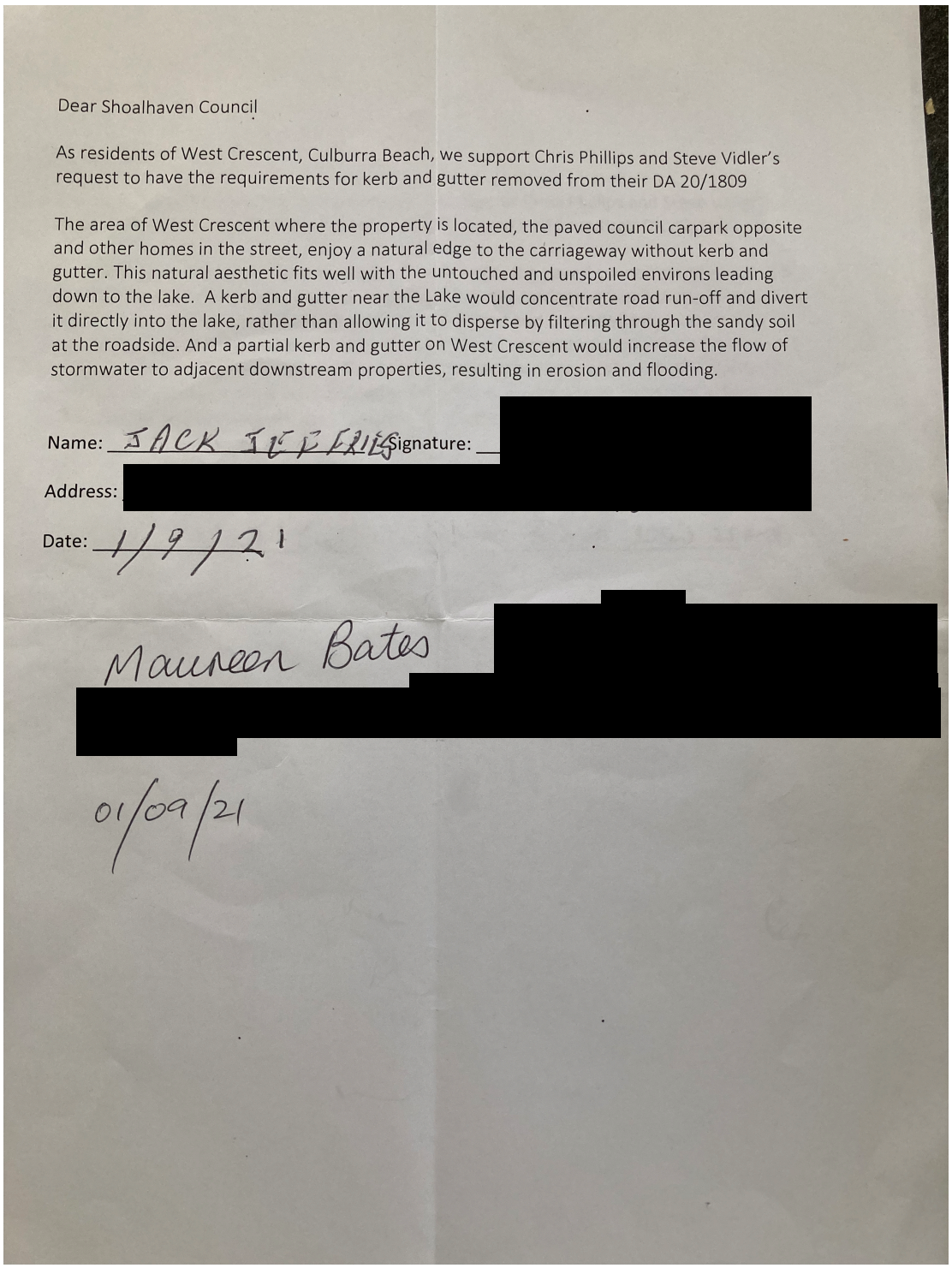
Name: COLIN HARDIE Signature: [redacted]

Address: [redacted]

Date: 29.08.2021



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Name: JACK [illegible] Signature: [redacted]

Address: [redacted]

Date: 1/9/21

Maureen Bates [redacted]

01/09/21

Dear Shoalhaven Council

As residents of West Crescent, Culburra Beach, we support Chris Phillips and Steve V request to have the requirements for kerb and gutter removed from their DA 20/18(

The area of West Crescent where the property is located, the paved council carpark a and other homes in the street, enjoy a natural edge to the carriageway without kerb a gutter. This natural aesthetic fits well with the untouched and unspoiled environs lead down to the lake. A kerb and gutter near the Lake would concentrate road run-off and it directly into the lake, rather than allowing it to disperse by filtering through the sand at the roadside. And a partial kerb and gutter on West Crescent would increase the flow stormwater to adjacent downstream properties, resulting in erosion and flooding.

Name: BARRY McGREGOR Signature: _____

Address: [redacted]

Date: 15 SEPT 2021.

Dear Shoalhaven Council

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The area of West Crescent where the property is located, the paved council carpark opposite and other homes in the street, enjoy a natural edge to the carriageway without kerb and gutter. This natural aesthetic fits well with the untouched and unspoiled environs leading down to the lake. A kerb and gutter near the Lake would concentrate road run-off and divert it directly into the lake, rather than allowing it to disperse by filtering through the sandy soil at the roadside. And a partial kerb and gutter on West Crescent would increase the flow of stormwater to adjacent downstream properties, resulting in erosion and flooding.

Name: Simonie Fox Signature: [redacted]

Address: [redacted]

Date: 1/9/2021

SHOALHAVEN HEADS LANDSCAPE MASTER PLAN - Version 2

LANDSCAPE MASTER PLAN DRAWING LIST

Drawing No.	Drawing Title
01	Cover Sheet & Location Photographs
02	Introduction & Master Plan Philosophy
03	LEP Zonings & Census Statistics
04	Streetscape - Pathways
05	Streetscape - Trees
06	Vegetation Planting Scheme
07	Materials, Furniture & Colour Palette
08	Materials, Furniture & Colour Palette
09	Art, Placemaking & Playspace
10	Streetscape - Typical Plan & Section
11	Streetscape - Typical Plan & Section
12	Planting Details
13	Pathway & Paving Details
14	Concept Design - Main Entry
15	Concept Design - Pedestrian Crossing
16	Concept Design - Vic Zealand Reserve
17	Commercial & Community Precinct Plan
18	Concept Design - Community Precinct
19	Concept Design - Commercial Precinct 1
20	Concept Design - Commercial Precinct 2
21	Concept Design - Jerry Bailey Oval
22	Concept Design - CH Gumley Reserve
23	Concept Design - Curtis Park Reserve
24	Concept Design - River Road Reserve
25	Concept Design - River Boat Ramps & Reserves
26	Concept Design - Pepper Reserve

LEGEND
Extent of Master Plan

LOCALITY PLAN

PREPARED BY: SHOALHAVEN CITY COUNCIL
A join project of City Futures Directorate & City Lifestyles Directorate.

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Revision Date: 03/02/2022
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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN COVER SHEET & LOCATION PHOTOGRAPHS 01

CL22.156 - Attachment 3

LOCATION PHOTOGRAPHS

EXISTING FEATURES OF SHOALHAVEN HEADS

Beach Activities

Pump Track

Vineyards & Wineries

Wild Life

Seafood

Sunset over the oyster beds by Andy Hutchinson

Sunset over Shoalhaven River

INTRODUCTION

Purpose of this Landscape Master Plan is to review and revise the previous Shoalhaven Heads Landscape Master Plan completed in 2014 and endorsed by Council. This revised documentation includes projects completed since that time and new proposed projects which have emerged through community consultation and collaboration with Council.

The Landscape Master Plan will continue to provide an overarching approach to the development of the built environment and soft landscape of the village of Shoalhaven Heads. It is intended to be used as a guide to assist in more detailed design work which may arise in the future.

The 2021 Landscape Master Plan includes;

- Local Government Environmental Zoning (refer to LEP2014) & census statistics (refer to Shoalhaven 2020 data).
- Pedestrian Access & Mobility Plan (updated date March 2021) sheet 04.
- Streetscape Tree Planting Plan dated June 2021 sheet 05.
- Vegetation Planting Scheme dated June 2021 sheet 06.
- Materials, Furniture and Colour Palette dated June 2021 sheets 07 & 08.
- Art, Placemaking & Playspace dated June 2021 page 09.

MASTER PLAN PHILOSOPHY

The Shoalhaven Heads village can be found on the northern fringe of the Shoalhaven region. It is approximately 406ha in size and as at 30th June 2020 the population is around 3247.

The vehicular entrance to the town can be either off Gerroa Road (aka the *Sand Track)* or Shoalhaven Heads Road. However, for walkers and cyclists there are many sandy walking tracks through National Parks to the Shoalhaven Beach foreshore or the Shoalhaven River. Whichever entry route you choose the 'Heads topography is typically flat with a comfortable easy grade for cyclists and walkers to explore the town centre and surrounds.

The local population is comprised of young families, retirees, professionals, tradesfolk, artists, musicians, gardeners, sporting fans and community minded people who come together in a vibrant celebration of what makes a town great.

This document helps to frame future open space and streetscape development whilst ensuring the spirit of Shoalhaven Heads and the community are fully included.

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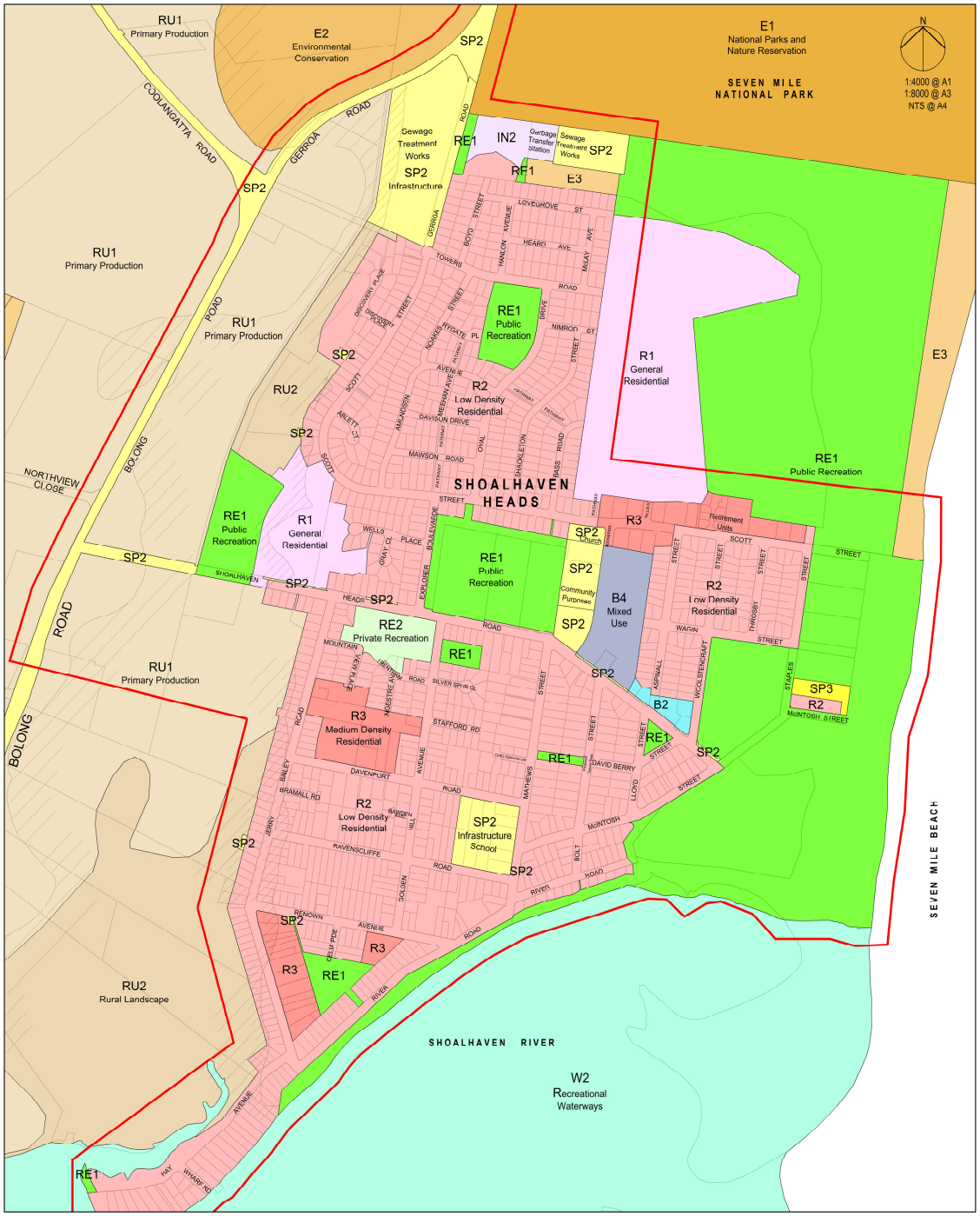

LEP 2014 LAND ZONING - LEGEND

B2	Local Centre	R3	Medium Density Residential
B4	Mixed Use	RE1	Public Recreation
E1	National Parks and Nature Reserves	RE2	Private Recreation
E2	Environmental Conservation	RU1	Primary Production
E3	Environmental Management	RU2	Rural Landscape
IN2	Light Industrial	SP2	Infrastructure
R1	General Residential	SP3	Tourist
R2	Low Density Residential	W2	Recreational Waterways

LEGEND

Extent of Master Plan

Total Area of Shoalhaven Heads is 406 ha

CENSUS 2016 SHOALHAVEN HEADS STATISTICS

People 3,059 (2020 ABS - 3,247)
Male 49.4%
Female 50.6%
Median age 56
Families 834
Average children per family 1.7
All private dwellings 1,703
Average people per household 2.1
Average motor vehicles per dwelling 1.5

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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN LEP ZONINGS & CENSUS STATISTICS **03**

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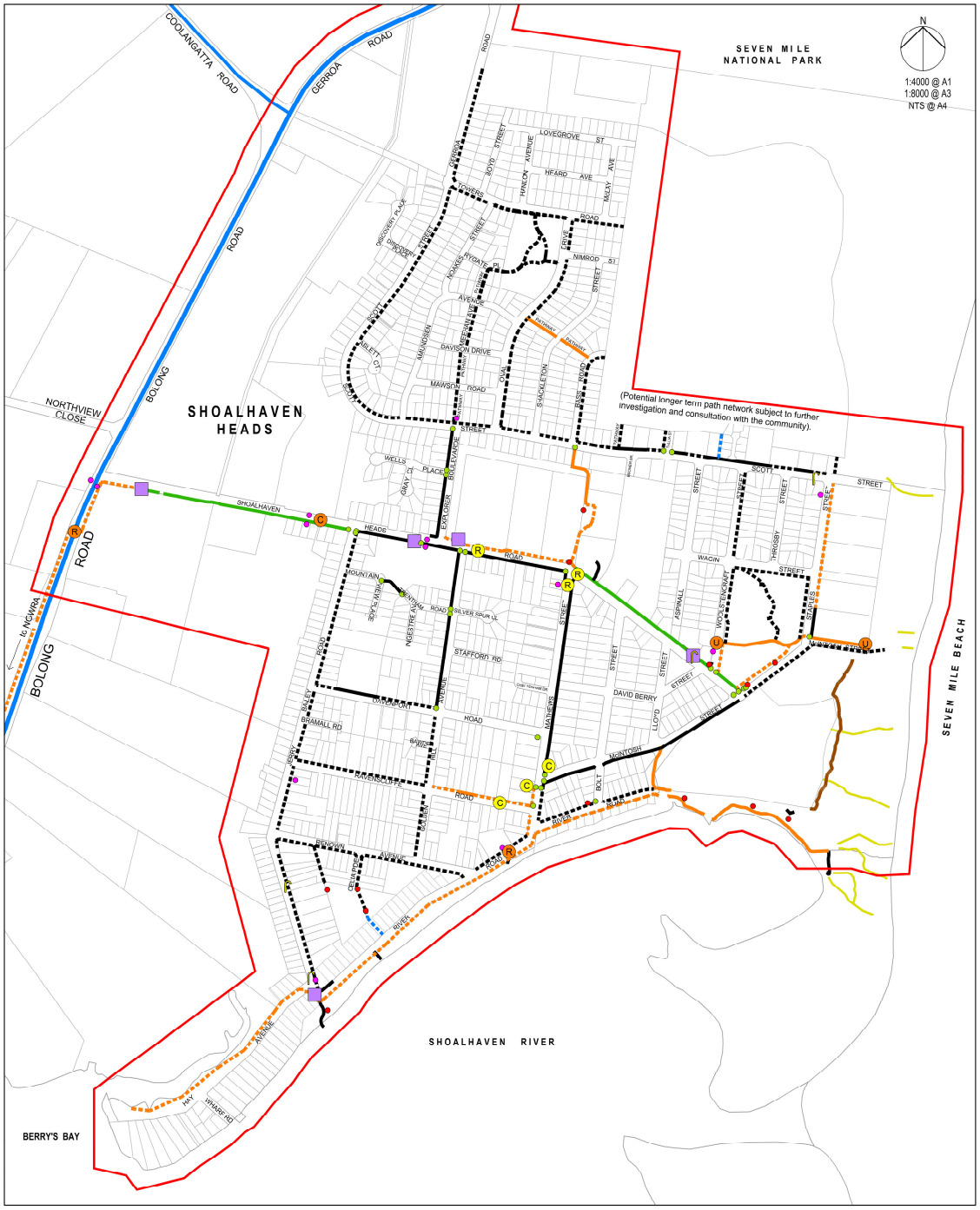

PEDESTRIAN ACCESS MOBILITY PLAN (August 2021) - LEGEND

Features
- Existing Bus Shelter
- Existing J-Pole
- Existing TSN
- Existing Bike Rack
- Existing Kerb Ramp

Proposed Crossings
- (R) Pedestrian Refuge
- (C) Raised Crossing
- (U) Unmarked Crossing

Existing Crossings
- (C) Children Crossing
- (B) Blister
- (R) Pedestrian Refuge

Paths, Tracks and Cycleways
- Existing Footpath
- Existing Footpath to be Upgraded
- Existing Shared Path
- Existing on Road Cycling
- Existing Bushwalk
- Existing Beach Track
- Proposed Footpath
- Proposed Shared Path
- Proposed on Road Cycling

Note: All footpath widths to be determined following further investigation and approvals.

LEGEND
- Extent of Master Plan

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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN STREETSCAPE - PATHWAYS 04

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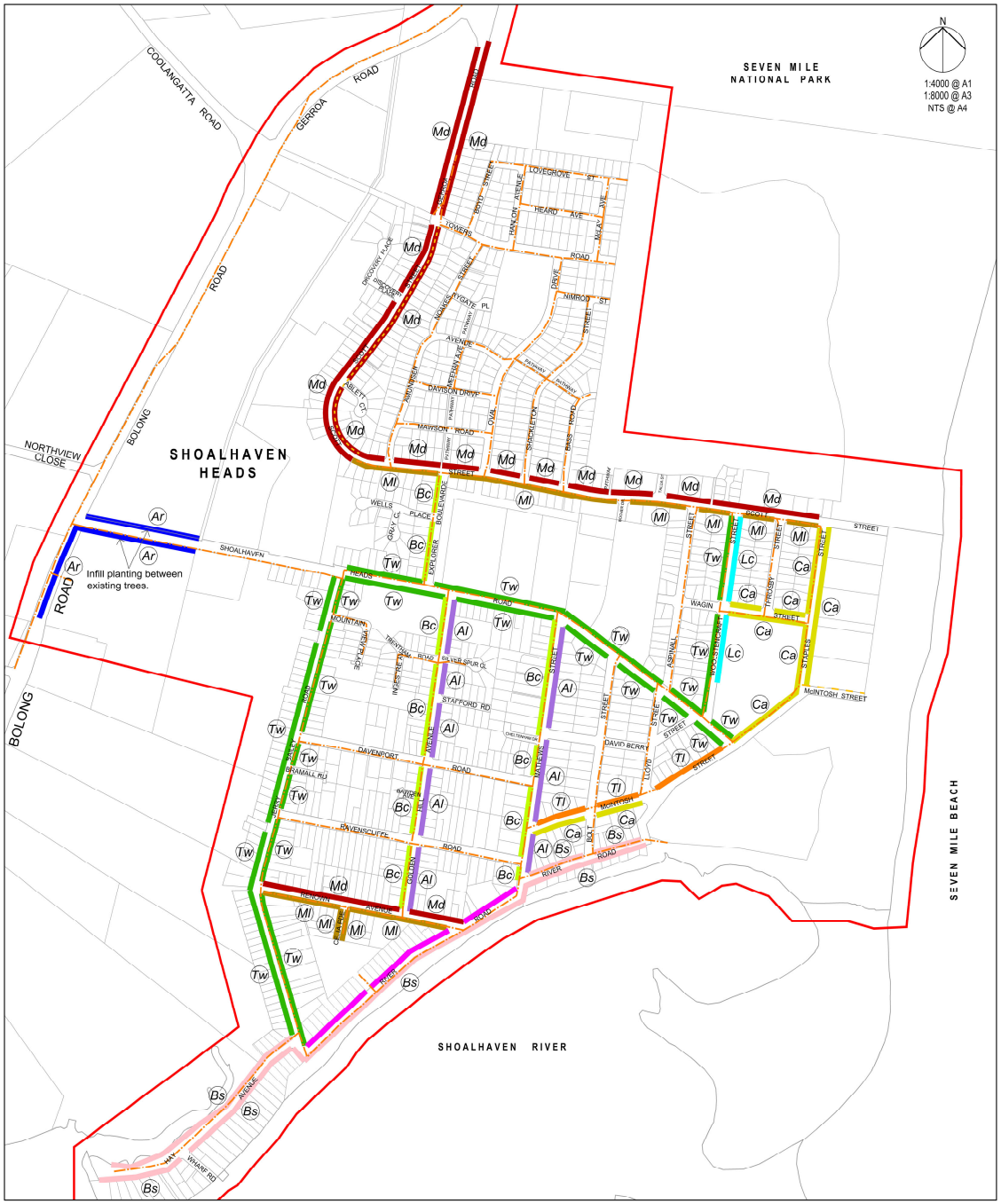

LEGEND - STREETSCAPE - TREE SPECIES

- Ar *Auranticarpa rhombifolia* (syn *Pittosporum rhombifolia*)
- Tw *Tristaniopsis* 'Luscious' - Watergum
- Bc *Backhousia citriodora*
- Al *Acmena luehmannii*
- Lc *Lophostemon confertus* - Brushbox
- Ca *Cupaniopsis anacardioides* - 'Tuckeroo'
- Tl *Tristaniopsis laurina*
- Bi *Banksia integrifolia*
- Bs *Banksia serrata*
- Ml *Melalueca linirifolia*
- Md *Melalueca decora*

LEGEND

- Extent of Master Plan
- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE: Tree location in accordance with Austroads 'Safe Road Design Principles'. Refer to Vegetation - Trees (sheet 06), Streetscape - Typical Plans & Sections (sheets 12 & 13) and Planting Details (sheet 14).

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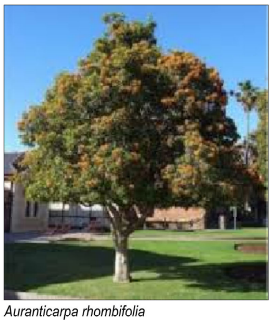
SHOALHAVEN HEADS LANDSCAPE MASTER PLAN — STREESCAPE - TREES — 05

CL22.156 - Attachment 3


Auranticarpa rhombifolia

Tristaniopsis 'Luscious" Water Gum

Backhousia ctriodora

Acmena luehmannii

Melaleuca decora

Banksia integrifolia

Cupaniopsis anardiodes 'Tuckeroo'

Tristaniopsis laurina

VEGETATION PLANTING SCHEME

Street Trees - Selection Principles

- Street trees to be Australian native species &/or cultivar.
- Select trees for appropriate height under powerlines in accordance with 'Essential Energy' - "Plan Before You Plant" - guide to planting and managing trees near powerlines.
- Contribute to the unity of the Shoalhaven Heads streetscape in terms of scale, correct choice for growing conditions, be hardy and resistant to dry seasons.
- Be an appropriate selection for the location by considering existing infrastructure & services, driveways, footpaths, bus stops, shop awnings and drainage lines.
- Consider the lifespan of the tree, the mature height and width of the canopy, the maintenance and establishment requirements.

Tree Spacing Guide

- Small trees - up to 4m at maturity, plant @ minimum 7m centres.
- Medium trees - up to 7m at maturity, plant @ minimum 10m centres.
- Large trees - up to 15 - 20m high at maturity, plant @ 20m centres or as specimen trees.

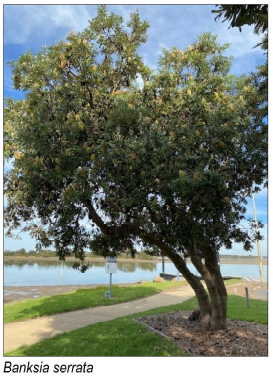
SMALL TREES	MEDIUM TREES	LARGE TREES
Suitable for street trees where overhead wires occur.	Suitable for street trees where no overhead wires are present. Suitable for parks and carparks.	Suitable for large parks and edge of existing vegetation.
Tristania 'Luscious'	*Cupaniopsis anarcardiodes*	*Lophostemon confertus*
Tristania laurina	*Acmena luehmannii*	*Banksia integrifolia*
Backhousia citriodora	*Melaleuca decora*	*Acacia binervata*
Melaleuca linarifolia	*Auranticarpa rhombifolia*	*Angophora floribunda*
	Allocasuarina littoralis	*Aracaria heterophylla*
	Banksia serrata	*Melaleuca quinquenervia*
	Hymosporum flavum	*Toona australis*
	Hibiscus tiliaceus	*Corymbia maculata*
	Eleocarpus reticulatus	

refer to Shoalhaven Species List for Shoalhaven Heads http://scrintranet/portals/0/documents/csp/treespecies/ShoalhavenHeads.pdf

Melaleuca linirifolia

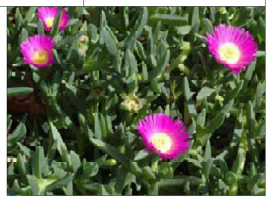
Shrubs and Grasses

SHRUBS	GRASSES & STRAPPY LEAFED PLANTS	CLIMBERS & SCRAMBLERS	EXOTIC ACCENT PLANTS
Eremophila glabra prostrate	*Anigozantus hybrids & cultivars*	*Hibbertia scandens*	*Aloe hybrid* 'Sea Urchin'
Grevillea sp.	*Liriope muscari* 'Silverlawn'	*Carpobrotus sp.*	*Aloe hybrid* 'Mighty Coral'
Liriope sp.	*Liriope muscari* 'Amethyst'	*Hardenbergia violaacea & cultivars*	*Aloe hybrid* 'Mighty Gold'
Lomandra sp.	*Carex appressa*	*Kennedia rubicunda*	*Nandina* 'Flirt'
Rhagodia spinescens 'Aussie Flat Bush'	*Crinum pedunculatum*	*Westringia* 'Low Horizon'	*Lorepetalum* 'Purple Pixie'
Westringia sp.	*Dianella caerulea & cultivars*	*Grevillea* 'Royal Rambler'	*Rhoeo*
Acacia longifolia subsp. longifolia	*Diarrella revulula*		*Strelitsea reginae*
Banksia ericifolia subsp. ericifolia	*Doryanthes excelsa*		
Callistemon sp.	*Ficinia nodosa*		
Correa alba	*Gahnia clarkei*		
Correa reflexa	*Lomandra cultivars*		
Grevillea sp.	*Macrozamia communis*		
Hakea dactyloides	*Isolepsis nodosa*		
Hibbertia scandens			
Rhagodia spinescens 'Aussie Flat Bush'			


Banksia serrata

Anigozanthus 'Big Red'

Westringia 'Aussie Box'


Carpobrotus glaucescens 'Rambler'

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CL22.156 - Attachment 3

MATERIALS, FURNITURE AND COLOUR PALETTE

The materials and colour palette endorsed in Shoalhaven Heads Landscape Masterplan Version 1 (D18/424672) is to be carried through in the current Landscape Masterplan Version 2 with some subtle refinement.

Pathways: *see Pedestrian Access Mobility Plan (March 2021) - sheet 04 for additional information.*

A hierarchy of pathways extending throughout Shoalhaven Heads with various widths, oxides and treatments to signify major pathways from lesser footpaths.

- Streetscape adjacent to commercial zone
  - 3m wide - kerb to boundary, full depth oxide concrete with masonry paver decorative margins.
  Refer to Shoalhaven Development Control Plan - Chapter G18 Streetscape Design for Town and Village Centres - Streetscape Technical Manual.
- Major Pathways
  - 2.5m wide Shared User Path typically with addition of full depth oxide.
- Park Pathways
  - 2m to 2.5m wide for parks, beaches, riverfront, sporting fields and carparks using full depth oxide and / or plain concrete.
- Minor Pathways
  - 1.2m to 1.5m wide for residential areas typically using plain concrete.

Pathway - full depth oxide
Colour: sandstone

Street and Park Furniture:

Street Furniture Australia is an approved Procurement Contractor - LGP308-02

Colours:

Lobster Red Satin YG154A	Sensation Orange Gloss YF049A	Brilliant Yellow Gloss YE087A	Viper Green Gloss YK051A	Bondi Blue Gloss YJ046A	Palladium Silver Satin GY184C	Telemagenta Pink Jotun Telemagenta Gloss RAL4010

SFA Mall Seat with armrests

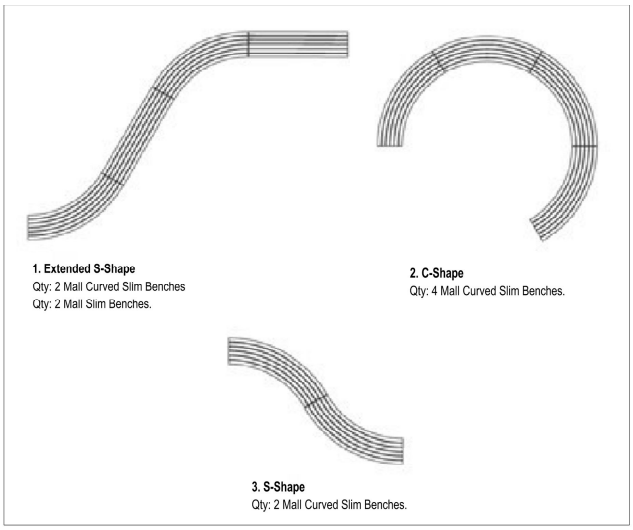
- Code CMM7
- Frame - Palladium Silver, surface mounted
- Legs arch shaped
- Armrests (2 off) elliptical arm using Palladium Silver / Stainless Steel
- Batons and baton ends - aluminium powder coated in colours specified.

SFA Mall Bench with armrests

- Code CMM402
- Frame - Palladium Silver, surface mounted
- Legs arch shaped
- Armrests (2 off) elliptical arm using Palladium Silver / Stainless Steel
- Batons and baton ends - aluminium powder coated in colours specified.

Beach Furniture: SFA Mall Curved Bench (combination of Extended S-shape, C-shape, S-shape)

- Code CMM-M803
- Frame - Palladium Silver
- Legs arch shaped
- Batons and baton ends - aluminium powder coated in colours specified.



1. Extended S-Shape
Qty: 2 Mall Curved Slim Benches
Qty: 2 Mall Slim Benches.

2. C-Shape
Qty: 4 Mall Curved Slim Benches.

3. S-Shape
Qty: 2 Mall Curved Slim Benches.

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SFA Mall DDA Accessible Picnic Setting with Mall Slim Bench

- Table Code CMM605-DDA
- Frame - Mercury Silver
- Legs - post surface mounted
- Batons and baton ends - aluminium powder coated in colours specified.

SFA 240lt Bin Enclosure with curved roof

- Code WBE F240BAT + curved roof + adjustable feet
- Frame - Mercury Silver
- Aluminium powder coated in colours specified.

Landmark Peninsula Series Picnic Shelters

- Code K302 4m x 4m up to K308 10m x 8m (K304 10m x 4m shown)
- Timber supports sub-surface mounted, fixings stainless steel
- Roof 'Colorbond' "Surfmist".

Landmark Angelsea Series Fish Cleaning Station

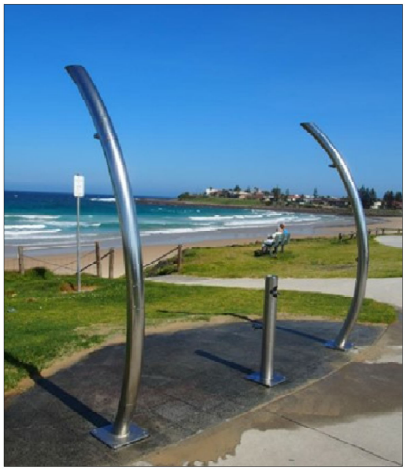
- Code K190
- Timber supports sub-surface mounted.
- Roof 'Colorbond' "Surfmist".

SFA Arqua Drinking Fountain (DDA compliant)

- Code - Arqua Dog Bubbler DF4-DB
- Powder coated in colours specified.

Encat 'Pipeline Pete' Beach Shower

- Marine grade Stainless Steel, surface mount
- Anti vandal shower rose
- Water saving timed flow button.



Notice Board

- Custom designed
- Powder coated in colours specified.

Cora Bike Rack

- Code CBR4B
- Stainless Steel with base plate for surface mount.

Christie BBQ

- Double stainless steel BBQ plate
- DDA compliant cabinet.

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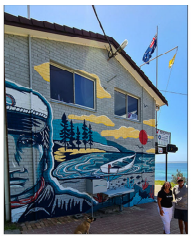
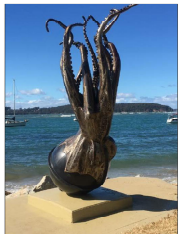
ART, PLACEMAKING & PLAYSPACE

The opportunities for art and placemaking in Shoalhaven Heads are varied and plentiful. From blank walls on the public and privately owned buildings where consent is required before any work commences through to community members bringing life into tired street furniture and shelter sheds, the Shoalhaven Heads residents have embraced the concept of making the 'Heads' a visually exciting place to visit and live.
Ideas to spark interest in developing projects have been included below.

Surf Club House Murals:



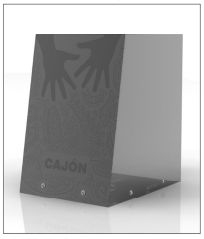
Sculpture for Parks, Riverfront and Beach:

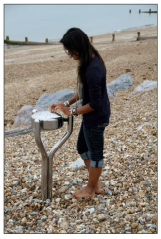


Playzones & Recreational Escape Zones:

Adventure Play Area (Jerry Bailey Reserve eastern side of Pump Track)

Sandstone Sculpture Climbing Garden (Jerry Bailey Reserve near sandstone circle meeting place)




Music Play (Jerry Bailey Reserve near Learn to Ride Zone)

Multi-Sports Cage (Jerry Bailey Reserve near Skate Park)

Outdoor Fitness Equipment (Vic Zealand & Jerry Bailey Reserve)

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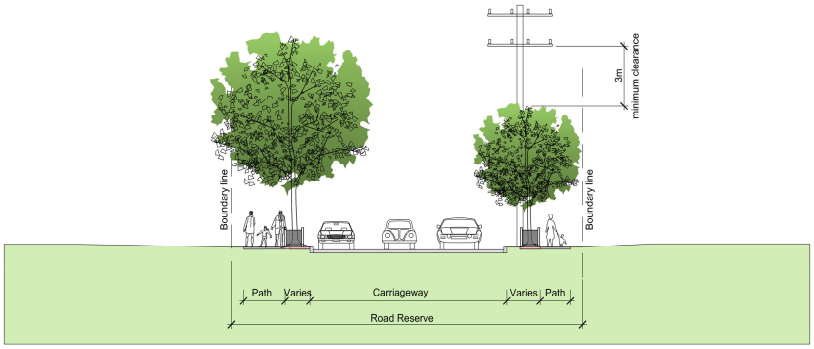
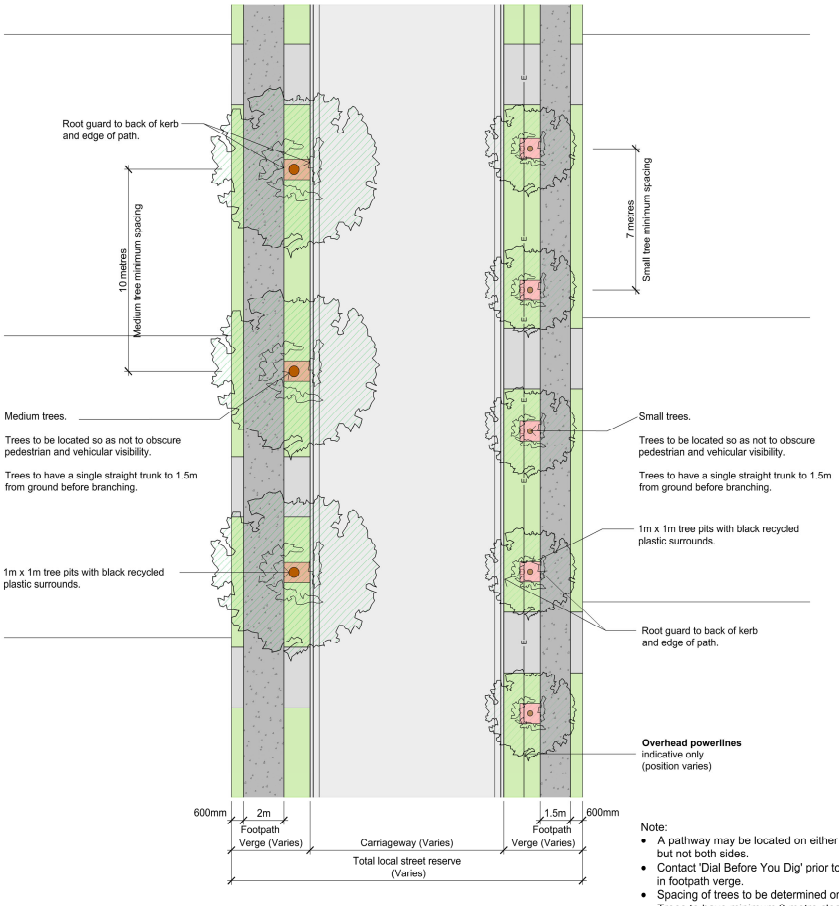


LOCAL STREET TREE PLANTING IN VERGE - CONCEPT DETAIL SECTION



TYPICAL LOCAL STREET TREE PLANTING IN VERGE - CONCEPT DETAIL PLAN
(TYPE 1, 2 & 3 TREE PLANTING)

Note:
- A pathway may be located on either side of the street, but not both sides.
- Contact 'Dial Before You Dig' prior to locating any trees in footpath verge.
- Spacing of trees to be determined on site.
- Trees to have minimum 3 metre clearance to underside of powerlines.

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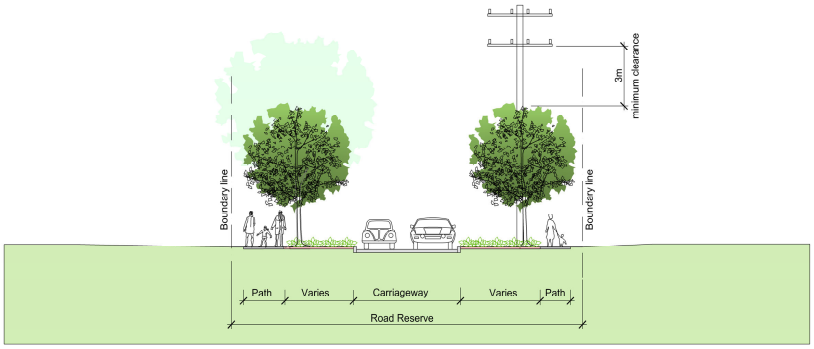
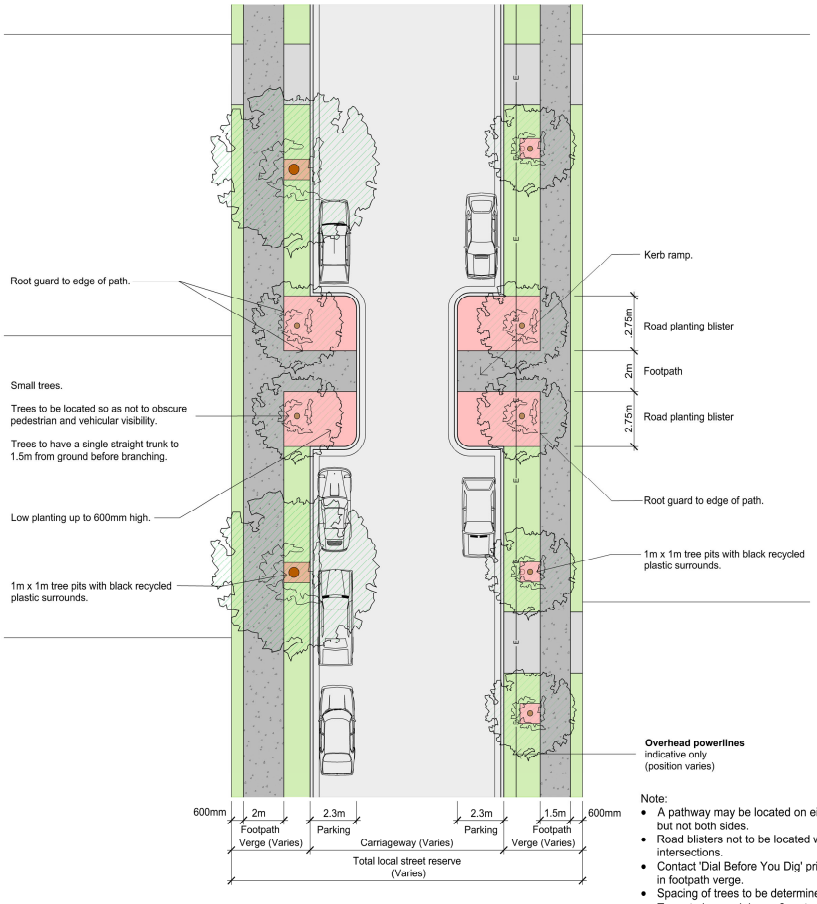


LOCAL STREET TREE PLANTING IN ROAD BLISTER - CONCEPT DETAIL SECTION



Note:
- A pathway may be located on either side of the street, but not both sides.
- Road blisters not to be located within 10 metres of street intersections.
- Contact 'Dial Before You Dig' prior to locating any trees in footpath verge.
- Spacing of trees to be determined on site.
- Trees to have minimum 3 metre clearance to underside of powerlines.

LOCAL STREET TREE PLANTING IN ROAD BLISTER - CONCEPT DETAIL PLAN
(TYPE 4 TREE PLANTING)

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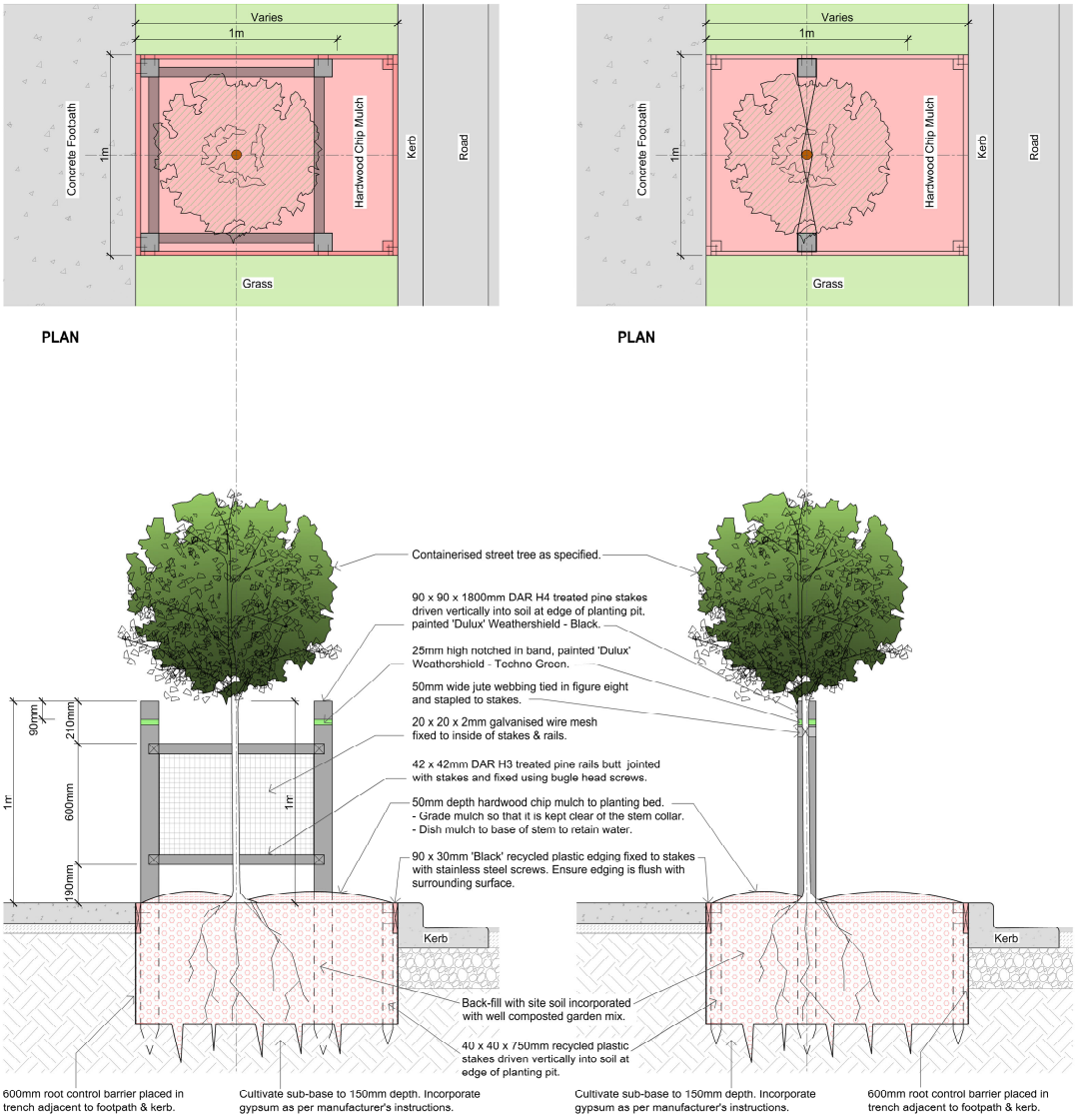

TYPE 1 - PLANTING IN GRASS VERGE (SHOALHAVEN HEADS ROAD)

TYPE 2 - PLANTING IN GRASS VERGE / ROAD BLISTER

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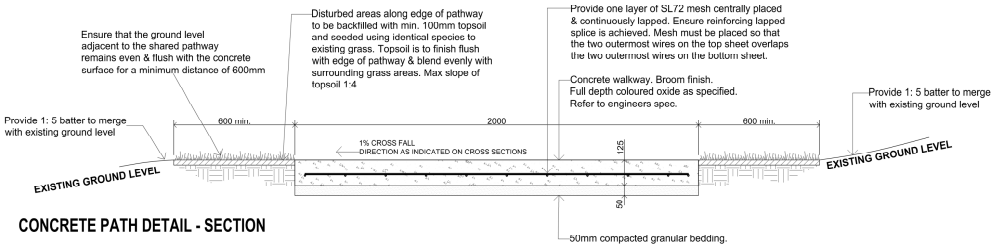


CONCRETE PATH DETAIL - SECTION

Typical Notes:

Concrete 32mpa concrete (due to colour)
Provide full depth colour oxide with a maximum 20mm aggregate size as specified.
Colour:Sandstone

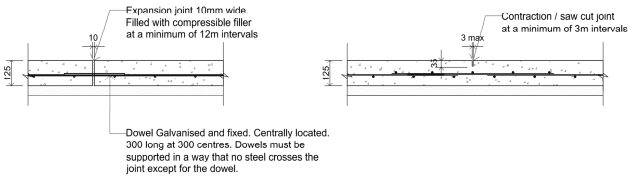
Broom finish. Ensure minimum slip resistance of R10 is achieved.

Finish concrete flush with adjoining surfaces.

Provide expansion joints at 6m intervals or as indicated on plans.
Provide contraction joints at 3m intervals or as indicated on plans.These cuts should be made within 12hrs of concrete placement or as soon as the concrete is strong enough to support the sawing equipment.

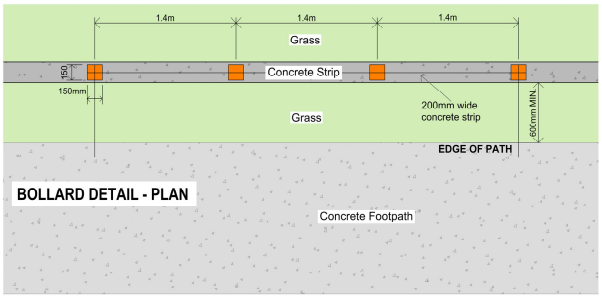
Typically 1% cross falls or as indicated on plans / cross section.

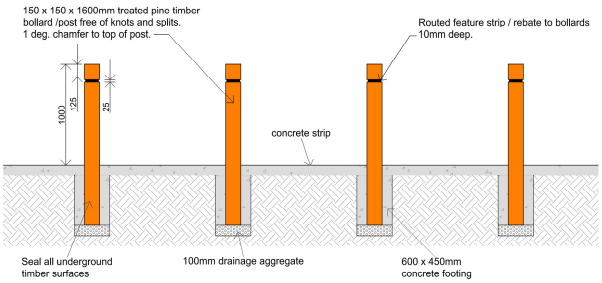
All dimensions are in millimeters unless noted otherwise.



CONCRETE PATH EXPANSION JOINT DETAIL

CONCRETE PATH CONTRACTION JOINT DETAIL





BOLLARD DETAIL - SECTION

Timber Bollard Notes:
Install bollards a minimum distance of 1m from edge of pathway.
All cut edges (including ends of posts) should be resealed with "protium reseal" prior to staining. Coat all timber with wattyl "forestwood - sagebrush". The stain must be an oil based product to adhere to the reseal. Recoat yearly to maintain colour.

Example of Preferred Bollard Treatment On Shared User Pathways

Bollards in Shared User Pathways:
If bollards are used on Shared User Pathways, they must;

- Be properly marked with reflective tape.
- Have suitable unbroken centreline linemarking.
- Provide adequate clearances from the bollards for riders and pedestrians.
- Not be used within a path travel lane.

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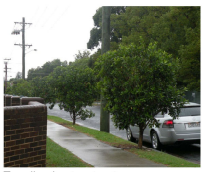
Existing Dairy Shed - Artwork painting

Garden bed with sandstone edging

Proposed town banners



Tree lined entry street

Existing village entry sign

(A possible village entry sign on the northern village entrance could be considered in the future, subject to community consultation, design and council approval).

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Existing pathway.
- Garden Bed Entry - Westringia 'Aussie Box' at 400mm spacings & Lomandra 'Crackerjack' at 400mm spacings.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13).

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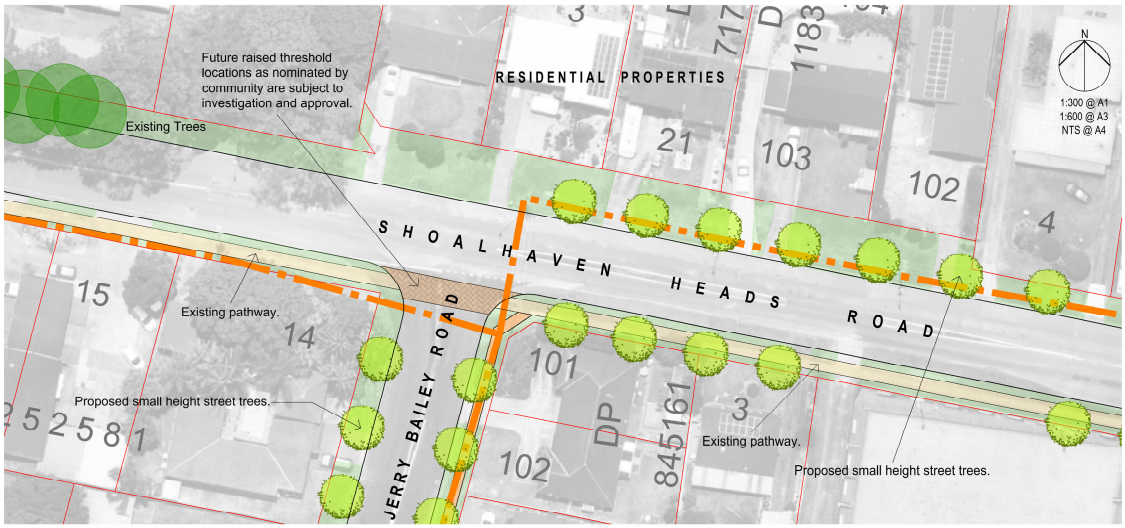
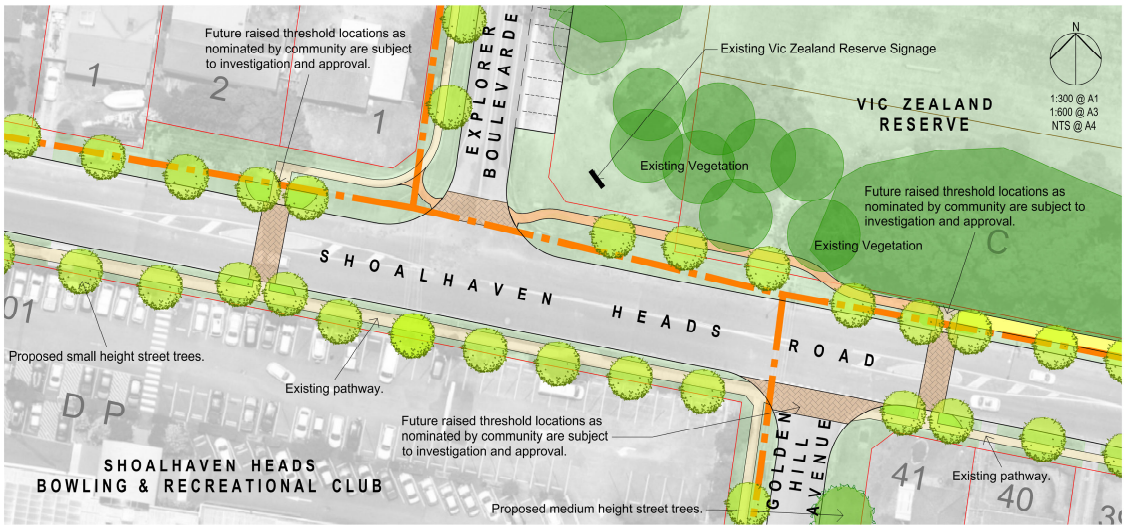
SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - MAIN ENTRY 14



PEDESTRIAN CROSSING LOCATION - AREA 1



PEDESTRIAN CROSSING LOCATION - AREA 2

Landscaped pedestrian threshold

Pedestrian threshold bollards

Landscaped pedestrian threshold

Landscaped pedestrian threshold

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
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Active recreation

Pathway to activate recreational area

Proposed outdoor fitness equipment station

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
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Art / Banners / Lighting

Shared user pathway along green spine precinct

Green spine precinct

Outdoor dining spaces

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Draft plans on community and commercial land (public & private) are indicative of potential should development occur. The diagrams are also to assist in upgrading infrastructure.
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
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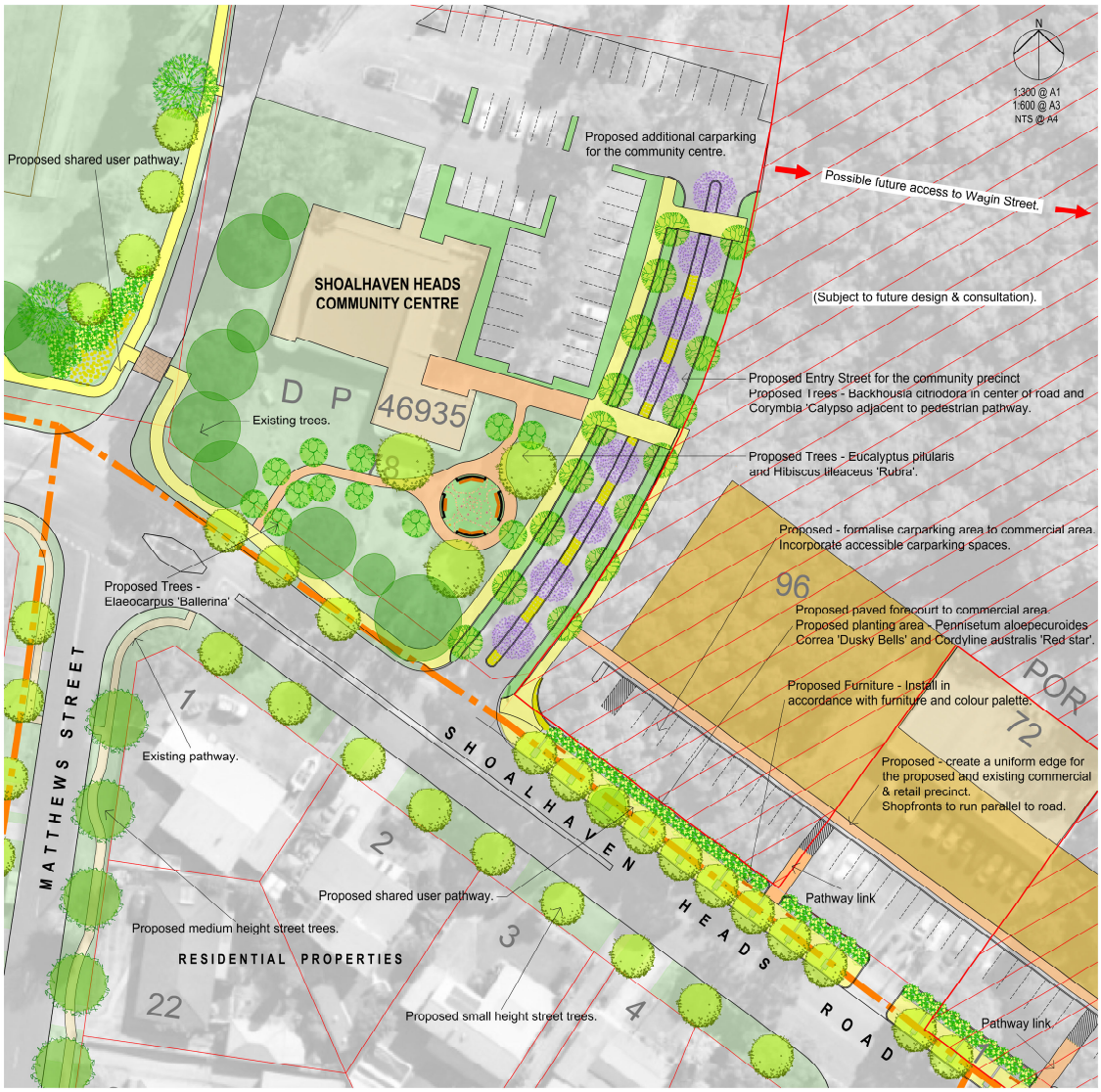

Parents meeting area

Formal entry statement to the community centre

Paving treatment

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Draft plans on community and commercial land (public & private) are indicative of potential should development occur. The diagrams are also to assist in upgrading infrastructure.
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - COMMUNITY PRECINCT 18

Shared user pathway along green spine precinct

Landscaping embellishments including street furniture and bin enclosures

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Draft plans on community and commercial land (public & private) are indicative of potential should development occur. The diagrams are also to assist in upgrading infrastructure.
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - COMMERCIAL PRECINCT 1 **19**

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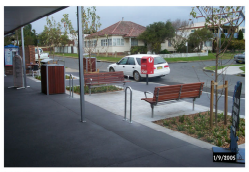
Existing retail precinct upgrade

Mural for rear or side of building

Integration of trees in road verge

Community gathering space

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
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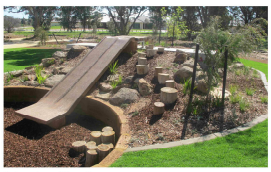
SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - COMMERCIAL PRECINCT 2 **20**

Proposed Picnic Shelter

Proposed Multi-Sports Cage

Proposed Music Play Area


Adventure Play Area

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
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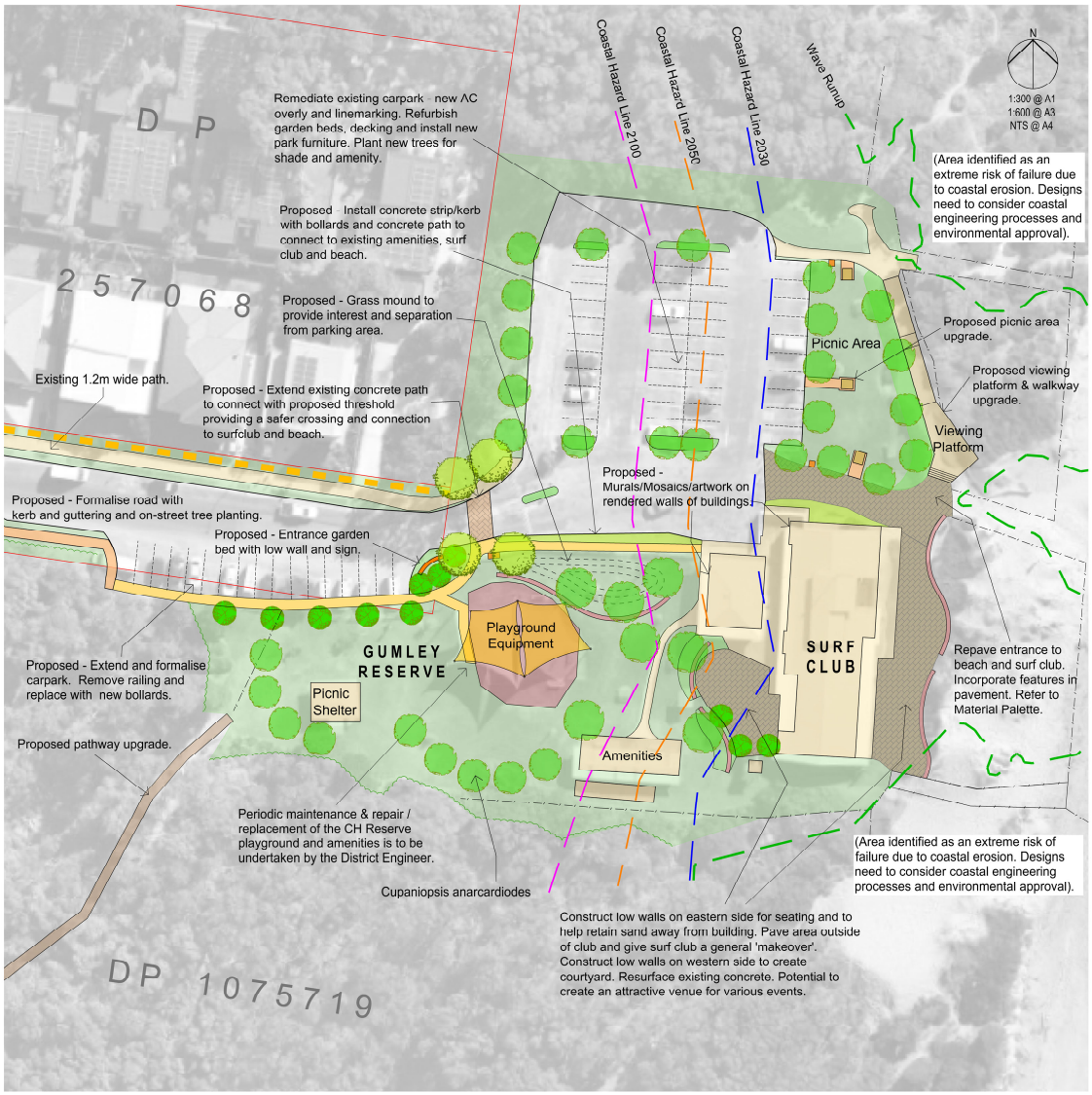

Gumley Reserve playground

Viewing platform & walkway upgrade

Picnic area upgrade (furniture & bins)

Proposed pathway upgrade

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Location and layout of pedestrian thresholds and bus stop is in draft format only. Detailed design to conform with Austroads guidelines and Shoalhaven City Council's DCP100 following input from Traffic Unit.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13).

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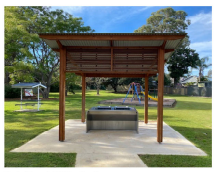
SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - CH GUMLEY RESERVE **22**

CL22.156 - Attachment 3

Native Botanic Garden

Existing Gazebo

Men's Shed mural


Existing BBQ shelter

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13).

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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - CURTIS PARK RESERVE **23**

River Road Reserve jetty

Shared user pathway

Fitness equipment

Amenities building mural

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
River Road Reserve landscape installation is complete. Periodic maintenance and repair / replacement is to be undertaken by the District Engineer.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13).

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SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - RIVER BOAT RAMPS & RESERVES **24**

CL22.156 - Attachment 3

Existing street tree - *Banksia serrata*

River Road viewing platform

River Road stairway platform

Proposed street trees - *Banksia integrifolia*

LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.
- Future pedestrian crossing / raised threshold locations as nominated by community, subject to investigation and approval.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
River Road Jetty landscape installation is complete. Periodic maintenance and repair / replacement is to be undertaken by the District Engineer.
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13).

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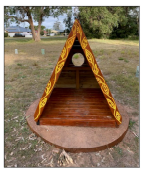
Drawing No.: 5267_14A
Revision Date: 03/02/2022
Version Number: 02

SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - RIVER ROAD 25

Existing Adventure Matrix

Existing Meeting Place

Existing Nature Playground



LEGEND

- Medium street trees (no overhead wires) - at 10m minimum spacings.
- Small street trees - at 7m minimum spacings
- Existing trees.
- Proposed shared user pathway.
- Proposed pathway.
- Existing pathway.

LEGEND

- Existing Street Lights & OverheadPower Lines
- Existing Street Lights & Underground Services

NOTE:
Tree location in accordance with Austroads 'Safe Road Design Principles'.
Refer to Streetscape - Pathways (sheet 04), Vegetation Planting Scheme (sheet 06), Streetscape Typical Plans & Sections (sheets 10 & 11), Planting Details (sheet 12) and Pathway & Paving Details (sheet 13). Draft Copy Only

Shoalhaven City Council
Trim File No.: 46953E
Drawing No.: 5267_14A
Revision Date: 12/10/2021
Version Number: 02

SHOALHAVEN HEADS LANDSCAPE MASTER PLAN CONCEPT DESIGN - PEPPER RESERVE **26**

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Environmental Impact Assessment
Part 5 Assessment EP&A Act 1979

DOG OFF-LEASH ACCESS

NARRAWALLEE BEACH, NARRAWALLEE

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1. INTRODUCTION

This document provides the environmental assessment for a dog off-leash area and associated works in Narrawallee, in line with requirements for such activities under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It relates to the impact of the proposal on the community and the environment, specifically regarding threatened shorebirds and migratory birds known or predicted to occur in the Narrawallee area.

The use of parts of Narrawallee Beach for dog walking, whether on-leash or off-leash, and for dog walking trials constitutes an "activity" under Part 5 of the EP&A Act.

Stakeholder engagement, including the NSW National Parks and Wildlife Service and broader community was considered in the preparation of this assessment.

This document will provide general details of the proposal, legislative context, and potential environmental impacts to satisfy the due diligence and legislative requirements of Shoalhaven City Council (Council). Measures to mitigate potential impacts of the proposal are detailed in section 2.4.

2. PROPOSED ACTIVITY

2.1. Location

Narrawallee Beach is an open-coast beach located in the township of Narrawallee, 3 kilometres north of Ulladulla. The beach is approximately 1.4 kilometres in length. Narrawallee Creek Nature Reserve and Narrawallee Inlet are located approximately 1 kilometre and 600 metres, respectively, north of the off-leash area of Narrawallee Beach (see Figure 1 below). Threatened shorebirds are known to nest in these areas.

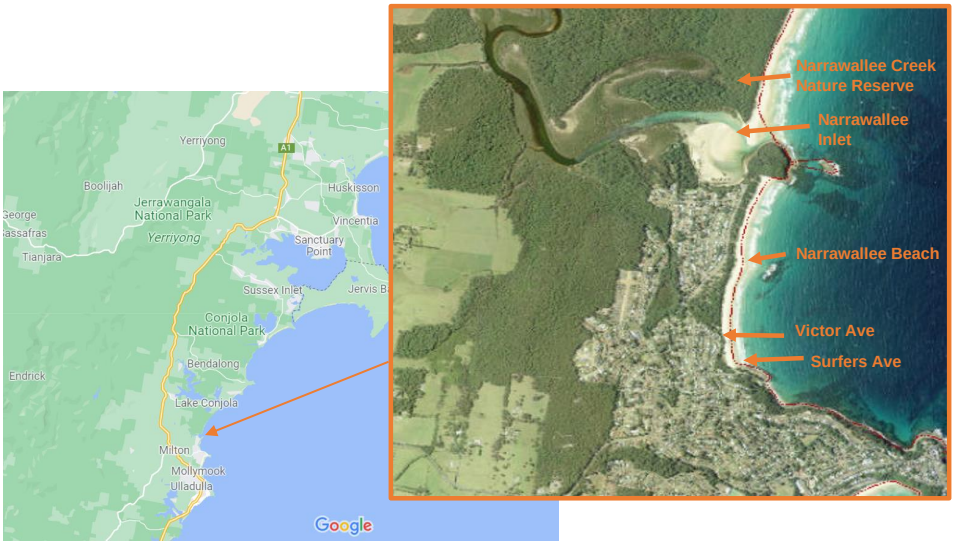

Figure 1: Location of Narrawallee Beach, north of Ulladulla on the southeast coast of Australia.

2.2. Proposal

The subject site assessed in this Review of Environmental Factors (REF) is shown in Figure 3. The proposal includes:

- The on-leash transit area between Surfers Avenue and Victor Avenue access points where dogs can be walked on-leash to access the timed off leash area to the north.
- The timed off-leash dog area, where dogs can be off-leash during off-peak times (4pm-8am Australian Eastern Daylight Saving Time, 3pm-10am Australian Eastern Standard Time) to limit impacts to other beach users.
- The dog prohibited area between Narrawallee Creek Nature Reserve and the timed off-leash area which provides a buffer area to mitigate impacts of off-leash dogs to shorebird habitat at the Narrawallee Creek Inlet and Nature Reserve.

The installation of signage as part of the proposed activity will include replacing signs on existing posts. No new post will be installed as part of the activity.

2.3. Historical context

Discussions around a dog off-leash area at Narrawallee Beach began in 2000, whereby the entirety of Narrawallee Foreshore Reserve and Beach was recommended for dog off-leash use before 8am and

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after 6pm. Significant feedback was received that opposed the designation of Narrawallee as a dog off-leash area, resulting in proposed off-leash area being abandoned.

As part of an amendment to Council's historical Off-Leash Exercise Areas for Dogs Policy, which created a new draft Policy being the Access Areas for Dogs Policy, Narrawallee Beach and reserve was again recommended for inclusion as "all-leash access". After community consultation, Council resolved in 2005 under the first Access Areas for Dogs Policy to adopt a number of dog-prohibited areas for inclusion into the new Policy, including Narrawallee Beach and reserve from Narrawallee Creek to Surfers Avenue excluding the area between north of Victor Avenue to the unnamed Island which became an on-leash area.

From July 2015, a number of trials and changes occurred at the dog access area at Narrawallee Beach with summer and winter time amendments, but the most significant being the designation of a ~540 metre stretch of the beach as an off-leash dog area, from the unnamed island to the rocks at the Victor Avenue access point (BA8 to BA2 in Figure 2 and Figure 3). On-leash access was allowed to access the off-leash area from the southern-most beach access point being Surfers Avenue.

In August 2019, Council resolved a six-month trial for dog access to the off-leash area through the prohibited area from Surfers Avenue via the Shoalwater accessway, located at the time adjacent to the escarpment. However, in December 2019, Council resolved to commence a twelve-month trial to redesignate a 10m wide strip between the Surfers Avenue unformed beach access and the Victor Avenue stairs to the north for dog on-leash access to the off-leash area. The twelve-month trial concluded in December 2020, with a report presented to Council's Strategy & Assets Committee in February 2021 which summarised the community feedback and outcome of the twelve-month trial.

During the trial period (from December 2019 to December 2020), Councillors and Council staff had various liaisons with local individuals and interest groups in relation to the trial. During the trial period, Council staff received correspondence from approximately 100 individuals and groups in relation to the trial and its operations (Section 6.4). Based on the trial and feedback received, Council resolved to reinstate the southern boundary of the off-leash area in line with the Victor Avenue steps (BA2), retain the northern boundary (BA8), and provide new signage communicating these changes in 17 access points in the Narrawallee Beach and Inlet area. A timeline for permitted dog access on Narrawallee Beach is provided in Table A1 in Appendix 1.

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Figure 2: Map indicating existing off-leash dog access and locations of beach and inlet access points (2015-present)

Figure 3: Map indicating proposed off-leash dog access and locations of beach and inlet access points

The proposal also includes the environmental impact mitigation measures listed in section 2.4 below.

This REF assesses the environmental impact of the proposed activity.

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2.4. Environmental Safeguards and Measures to Minimise Impacts

- A dog prohibited buffer area between the dog off-leash area and shorebird nesting areas to the north will be maintained, including approximately 600 metres from Narrawallee Inlet and 1 kilometre from Narrawallee Creek Nature Reserve.
- The on-leash transit area between Victor Avenue and Surfers Avenue at the south end of Narrawallee Beach will mitigate the impact of the off-leash area on members of the public using this popular part of the beach.
- Signage clearly detailing the transit areas, off-leash area and dog prohibited areas will ensure dog owners are aware of these restrictions.
- New signage will utilise existing posts only. No digging or other on-ground work is required.
- The off-leash area is limited to off-peak times (4pm-8am Australian Eastern Daylight Saving Time, 3pm-10am Australian Eastern Standard Time) to limit impacts to other beach users.
- A Council Environmental Assessment Officer or other suitably qualified person shall undertake pre-works shorebird surveys prior to the commencement of any work.
- Regular monitoring by Council Rangers will include a minimum of one inspection every two days (during off-leash hours) to enforce compliance, and to provide additional assurance especially to monitor for the presence of dogs in the prohibited area at Narrawallee Inlet and to determine if on-leash transit areas are being appropriately utilised. The presence of Council Rangers will enable the provision of education to the community.
- A penalty infringement notice will be issued, following an initial caution, for any repeat offenders observed during regular inspections.
- Educational signage regarding the presence of and threat of dogs on threatened shorebirds will be installed at access points to Narrawallee Inlet and Narrawallee Creek Nature Reserve.
- Plastic bags and rubbish bins will be provided at main access points to the off-leash area for collection and disposal of dog faeces.
- Council's Environmental Services will liaise with National Parks and Wildlife Service (NPWS) South Coast Shorebird Recovery Program Coordinator on a regular basis, including key breeding season times. This will enable the provision of further subject matter expertise and a regulatory influence from NPWS, to inform adaptive management of controls.
- Mitigation measures will be revised, as required, to ensure threatened and migratory shorebirds are adequately protected. Council will collaborate with NPWS South Coast Shorebird Recovery Program Coordinator regarding any revised mitigation measures. Additional measures to be considered will include, reducing the northern boundary of the off-leash area in response to seasonal shorebird nesting sites, increased presence of Council Rangers at key times, and fencing nest sites to clearly demarcate the presence of nesting shorebirds.

2.5. Limitations

This REF has been informed by:

- Database searches;
  - NSW Bionet
  - Birdata (including Birdlife Australia's shorebird monitoring program survey data)
  - Council's GIS Enquiry
  - Aboriginal Heritage Information Management System (AHIMS)
  - Consultation with NPWS Shorebird Ranger
  - Consultation with Council's Rangers
- Onsite surveys for the presence of Aboriginal objects on 29 July 2021 and a survey for presence of threatened shorebirds on 16 December 2021.

Based on the nature of the site and proposed activity, the above listed habitat assessment, literature review and database searches were considered an appropriate means of assessing the likelihood of species presence and potential impact.

3. EXISTING ENVIRONMENT

Narrawallee Beach is an open-coast beach located north of Ulladulla, and is approximately 1.4 kilometres long. The beach is flanked by an intertidal rock shelf at the southern end (Surfers Avenue), and the sandstone headland of Preservation Rock and Narrawallee Inlet at the northern end.

Sandy beaches, such as Narrawallee Beach, are key foraging and roosting sites for shorebirds and seabirds. The subject site has records of threatened shorebirds including Sooty Oystercatcher, Pied Oystercatcher, Eastern Hooded Dotterel, Eastern Curlew and Little Tern, and provides habitat for 13 migratory shorebirds recorded onsite or within the locality. Optimal shorebird breeding and foraging habitat is approximately 600 metres to the north of the restricted dog access area and includes Narrawallee Inlet and Narrawallee Creek Nature Reserve.

In the context of this environmental assessment the area to be affected by the proposed activity:

- is mapped as low risk for acid sulphate soils
- is subject to undetermined Aboriginal Land Claims.
- is known to contain threatened species listed under the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Species and EEC are listed in Section 7 and shown in **Error! Reference source not found.** and Figure 5.
- is not mapped on the Biodiversity Value Map (BV Map) which identifies land with high biodiversity value as defined by the *Biodiversity Conservation Regulation 2017,* however a small patch to the north at Narrawallee Inlet is mapped under the BV map as Protected Riparian Land
- is not an Aboriginal Place in the context of the NSW *National Parks and Wildlife Act 1974.*

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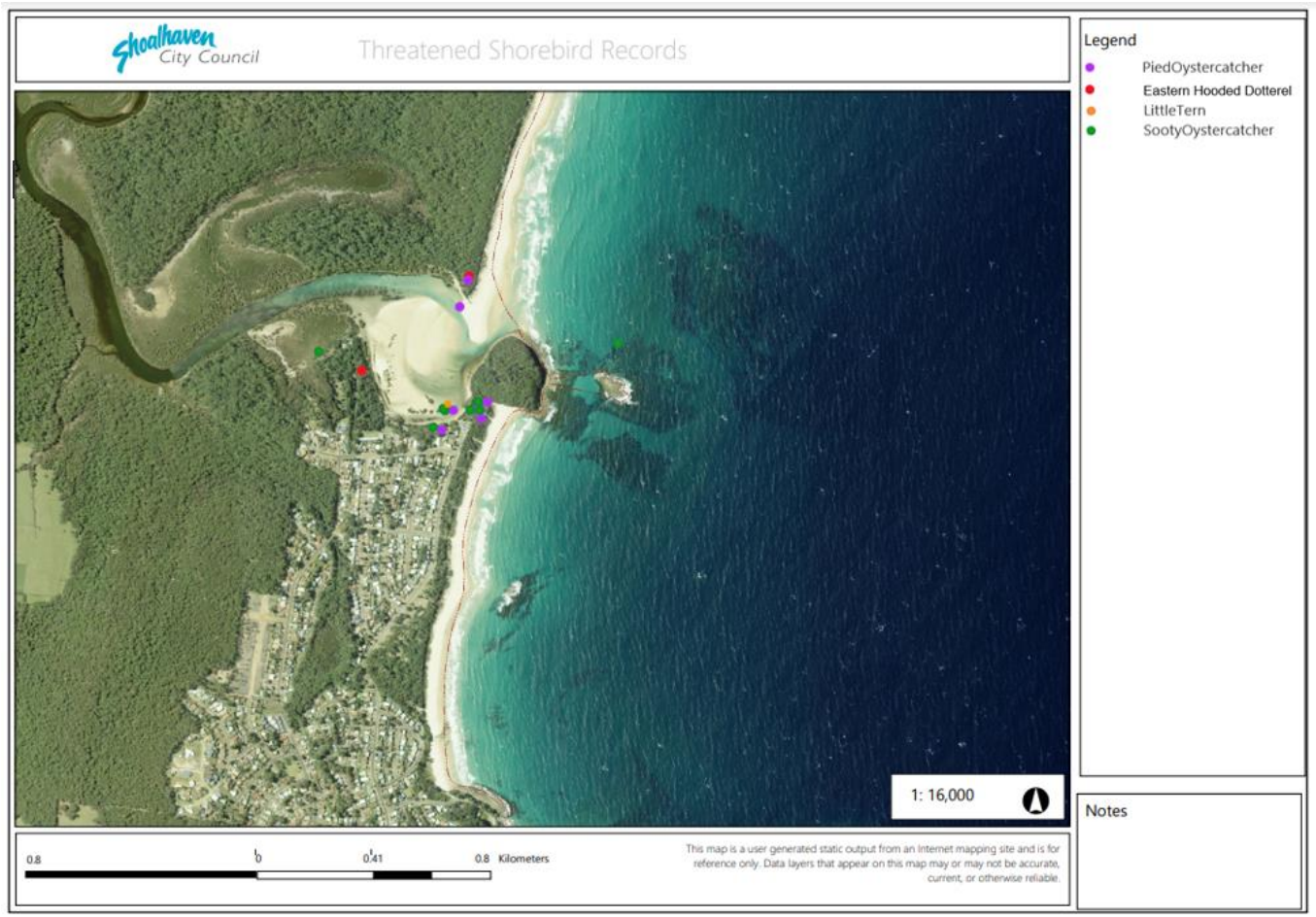

Figure 4: Location of records of BC Act listed threatened shorebirds (Bionet, Birdata 2021).

Figure 5: Endangered Ecological Community mapping (Bangalay Sand Forest in the Sydney Basin and South East Corner Bioregions) and Narrawallee Beach and Inlet access points

4. PERMISSIBILITY

The proposed activity is permissible under all relevant legislation (see *Table **1*** below).

Table 1: Summary of legislation and permissibility

NSW State Legislation
***Environmental Planning and Assessment Act 1979* (EP&A Act)**
Permissible √ Not permissible ☐
Part 4 of the EP&A Act does not apply as development consent is not required for the proposal. Continual use of Narrawallee Beach as permitted dog access is demonstrated in 1, which provides a timeline of continual use of dog access since 2005. As such Section 4.68(1) of the EP&A Act *Continuance of and limitations on other lawful uses* applies. Dog access on Narrawallee Beach constitutes an activity as defined under Part 5 of the EP&A Act. Section 5.5 of the Act *Duty to consider Environmental Impact* requires Council *examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity*. This REF assesses all potential impacts of the proposal. All aspects of the proposal are documented in Section 2.2. Potential impacts of the proposal are detailed in Section 7. Table 4 includes an assessment against factors a) – p) in Clause 228 of the *Environmental Planning and Assessment Regulation* (2000). Section 5.7 of the EP&A Act requires Council to examine and consider an environmental impact statement (EIS) in respect of the activity. Specific assessments for threatened species listed under the BC Act and EPBC Act, and migratory species listed under the EPBC Act are conducted in Section 7. These assessments find mitigation measures, listed in Section 2.4, are adequate to ensure the proposal does not constitute a significant impact to listed threatened or migratory species. As such an EIS is not required.
Crown Land Management Act 2016
Permissible √ Not permissible ☐
Council is the appointed crown land manager (CLM) of Narrawallee Beach (Crown Land reserve R91246 - Lot 7009 DP 1116370). Where a Plan of Management (PoM) exists for Crown Land it may identify and authorise certain works that can be undertaken by a public authority and the pre-conditions (if any) for implementing those works. The PoM pertaining to the land is the *Generic Community Plan of Management – Natural Areas* *https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=D16/208141* . The Core Objectives for management of community land categorised as foreshore that are set out in the Act and the PoM are: · *To maintain the foreshore as a transition area between the aquatic and the terrestrial environment, and to protect and enhance all functions associated with the foreshores' role as a transition area, and* · *To facilitate the ecologically sustainable use of the foreshore, and to mitigate impact on the foreshore by community use*. The proposal is in line with the first objective, as the proposed change will not impact on the foreshores' role as a transition area between the aquatic and terrestrial environment. The proposal also meets the second objective, in that dogs will continue to be excluded from the sensitive environment area at Narrawallee Inlet, where threatened shorebirds are known to breed. The PoM as well as Council's Foreshore Reserves Policy (POL16/242) does not preclude the activity.
Coastal Management Act 2016
Permissible √ Not permissible ☐

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The *Coastal Management Act 2016* establishes the framework and overarching objects for coastal management in New South Wales. The Act provides for the preparation of Coastal Management Programs (CMP) which set the long-term strategy for coordinated management of the coast with a focus on achieving the objects of the Act.

The 2018 *Coastal Zone Management Plan for the Shoalhaven Coastline, https://doc.shoalhaven.nsw.gov.au/DisplayDoc.aspx?record=D18/379377,* which is likely to provide the basis for the CMP, addresses the need to manage the impacts of pest species and dogs on beaches, particularly in regards to the protection of threatened shorebirds. The implementation of the NSW South Coast Shorebird Recovery Program is listed as high priority.

The proposed activity is considered consistent with these strategies, because dogs will continue to be prohibited in the Narrawallee Inlet area with a ~600 metre buffer, where nesting of threatened shorebirds occurs.

State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP)

Permissible √ *Not permissible*

Clause 13 and 14 of the Coastal Management SEPP provides that the proposal is permitted, as long as the consent authority is satisfied that the below conditions are taken into account:

- The development is designed, sited and will be managed to avoid an adverse impact (e.g. to the integrity of the biophysical, hydrological and ecological environment; to coastal environmental values and natural coastal processes; water quality; marine and native vegetation; Aboriginal cultural heritage)
- Unavoidable impacts will be minimised
- Impacts that cannot be minimised will be mitigated

Providing mitigation measures as detailed in Section 2.4 are implemented the proposal will be in accordance with these conditions.

***Shoalhaven Local Environmental Plan 2014* (SLEP)**

Permissible √ Not permissible ☐

In circumstances where development consent is not required the SLEP does not apply. However all relevant factors of consideration as outlined in Part 5 of the EP&A Act are required to be complied with. In this instance this REF , including Section 7.7 Clause 228 Matters of Consideration, fulfils this requirement.

Protection of the Environment Operations Act 1997

Permissible √ Not permissible ☐

The proposed activity does not constitute scheduled development work or scheduled activities as listed in Schedule 1 of the Act. The proposed activity therefore does not require an environmental protection licence.

***National Parks and Wildlife Act 1974* (NPW Act)**

Permissible √ Not permissible ☐

The Department of Planning, Industry and Environment (DPIE) administers the NPW Act, which manages:

- Conservation of nature
- Conservation of objects, places and features of cultural value
- Public appreciation, understanding and enjoyment of nature and cultural heritage
- Land reserved under this Act.

The NPW Act binds all activities and responsibilities of the Crown. DPIE must consider the objectives listed above, the public interest and appropriate management of the subject land. The NPW Act controls activities

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carried out in designated Parks, Reserves and Aboriginal areas. The NPW Act also requires consideration of impacts to all native birds, reptiles, amphibians and mammals protected under the Act. Additional consideration is required for potential impacts to Aboriginal cultural heritage. Such impacts are addressed in Section 5 and 7.

***Biodiversity Conservation Act 2016* (BC Act)**
Permissible √ Not permissible ☐
The proposed activity is; · Unlikely to have a significant impact on species and communities listed in the schedules of the Act (refer to Section 7 of this REF). · Not within an area declared to be of "outstanding biodiversity value" as defined in the Act. · Unlikely to have a significant impact on threatened species and/or threatened ecological communities listed in the schedules of the Act · Not considered to have a *serious and irreversible impacts on biodiverstiy values*. The proposed activity therefore is not deemed to be *likely to significantly affect threatened species* and a Biodiversity Development Assessment Report (BDAR) and entry into the Biodiversity Offset Scheme (BOS) is not required.
***Heritage Act 1977* (Heritage Act)**
Permissible √ Not permissible ☐
The Heritage Act is concerned with all aspects of the conservation of heritage places and items. Heritage items of state significance are listed on the State Heritage Register. The Heritage Act provides protection for non-Aboriginal historic artefacts and/or sites (older than 50 years). A review of potential impacts to non-Aboriginal heritage is given in section 5.
Protection of Environmetal Operations Act 1997
Permissible √ Not permissible ☐
The *Protection of Environment Operations Act 1997* regulates and controls pollution of land, air, water, and the emission of noise and provides for environment protection licences, notices and offences. Impacts associated with contamination and pollution or waste management are considered unlikely to result from the proposed activity.
Local Land Services Act 2013
Permissible √ Not permissible ☐
No clearing of vegetation is proposed. No separate authorisation under the Act is required.
Water Management Act 2000
Permissible √ Not permissible ☐
Local councils are exempt from s.91E(1) of the Act in relation to all controlled activites that they carry out in, on or under waterfront land (by virtue of clause 41 of the *Water Management (General) Regulation 2018).* The proposal would not interfere with the aquifer and therefore an interference licence is not required (s.91F).
Aboriginal Land Rights Act 1993
Permissible √ Not permissible ☐
There are unresolved land claims on the subject site, however the Act does not preclude the activity taking place on the subject land. The Crown reserve has lawfully been used as recreational area prior to the lodgement of the land claim. The activity would not affect or complicate the assessment of the land claim as it is temporary in nature and would not diminish the size or nature of the land.

Therefore, despite the activity, the land would remain as 'claimable land' as defined in the Act.
Commonwealth Legislation
***Environment Protection and Biodiversity Conservation Act 1999* (EP&BC Act)**
Permissible √ Not permissible ☐
The proposed activity would not be undertaken on Commonwealth land and no Matters of National Environmental Significance are likely to be significantly impacted by the proposed activity (see Section 7.6). The proposed activity does not require Commonwealth referral.
Native Title Act 1993
Permissible √ Not permissible ☐
The *Native Title Act 1993* recognises traditional interests in land of Aboriginal and Torres Strait Islander people and provides an avenue for land title claims against Crown land. The proposed activity can be undertaken as a valid act under Subdivision 24LA *Low Impact Future Acts* as the act does not consist of, authorise, or otherwise involve: a) the grant of a freehold estate b) the grant of a lease c) the conferral of a right of exclusive possession d) the excavation or clearing of any of the land or waters (see note below) e) mining f) the construction of placing on the land, or in the waters, of any building, structure, or other thing (other than fencing or a gate), that is a fixture, or g) the disposal or storing, on the land or in the waters, of any garbage or any poisonous, toxic or hazardous substance. The non-extinguishment principle applies to the act and no referral or request for comment to NTSCORP is required.

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5. HERITAGE

5.1. Indigenous

Under Section 86 of the NPW Act, it is an offence to disturb, damage, or destroy any Aboriginal heritage object without an Aboriginal Heritage Impact Permit (AHIP). The NPW Act, however, provides that if a person who exercises 'due diligence' in determining that their actions will not harm Aboriginal objects has a defence against prosecution if they later unknowingly harm an object without an AHIP (Section 87(2) of the NPW Act). To effect this, the NSW Department of Environment, Climate Change and Water have published the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (hereafter referred to as 'Due Diligence Code') to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects and to determine whether they should apply for an AHIP.

In accordance with Step 1 of the Due Diligence Code, a search on AHIMS indicated that there were no recorded Aboriginal heritage sites with the proposed works areas (Figure 6: *AHIMS search results*.

Step 2 of the Due Diligence Code then requires a consideration of whether Aboriginal objects are likely to be in the area of the proposed activity with consideration to certain landscape features listed in the Code to have higher propensity for objects, *i.e.:*

- within 200 metres of waters; or
- located in a sand dune system; or;
- located on a ridge top, ridge line or headland; or
- located within 200 metres below or above a cliff face; or
- within 20 metres of or in a cave, rock shelter, or cave mouth.

The proposed activity area does comprise such landforms (within 200 metres of waters and sand dune). Consequently, an on-site inspection of the area was conducted on 29 July 2021 to include a search for any surface artefacts or mounded areas that could comprise a shell midden, potential archaeological deposit, or a 'lens' of stratified cultural material within the exposed earth of the shoreline. Nothing was found in the area.

A literature search was conducted utilising Council's document archive and AHIMS. A report titled *Milton / Ulladulla Sewerage Scheme Augmentation EIS – Cultural Heritage Component* by Navin Officer Heritage Consultants in 2000 describes surveys undertaken in the vicinity of the SPS and associated rising and gravity mains. No Aboriginal cultural heritage sites were found by these archaeologists.

The beach environment could also be described as 'disturbed land' as defined by the Due Diligence Code), i.e.:

> *Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as stormwater drainage and other similar infrastructure) and construction of earthworks."*

The proposed activity is within disturbed land as the lands have been subjected to continued disturbance through active, natural coastal processes.

In consideration of the above, it is reasonable to conclude that there is a low probability of objects occurring in the area of the proposed activity. As a result, an AHIP is not required and the activity can proceed.

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AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Narrawallee
Client Service ID : 620507

Shoalhaven City Council - Nowra
Date: 08 September 2021

PO Box 42 Bridge Rd
Nowra New South Wales 2541
Attention: Geoffrey Young

Email: geoff.young@shoalhaven.nsw.gov.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 270091.0 - 270174.0, Northings : 6088837.0 - 6089430.0 with a Buffer of 0 meters, conducted by Geoffrey Young on 08 September 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

Figure 6: AHIMS search results

5.2. Non-Indigenous

The proposed activity would not involve or come within proximity to items of local heritage significance and any items on the state heritage list or the SLEP. No further consideration is warranted.

6. CONSULTATION

6.1. Department of Primary Industries (NSW Fisheries)

No dredging or impact on fish habitat, consultation is not required.

6.2. Department of Planning, Industry and Environment (DPIE)

The NPWS Shorebird Ranger for the Shoalhaven region was consulted during the development of this REF. Recommendations made include ranger presence to encourage compliance, and educational signage regarding threatened shorebirds in the area. These have been incorporated into the Environmental Safeguards and Measures to Minimise Impacts (section 2.4).

6.3. Council Departments

This REF has been prepared by Council's Environmental Assessment Team in consultation with Council's Ranger Services and Social Infrastructure Planning Team. Ranger Services have confirmed a monitoring presence will continue at Narrawallee Beach, including a minimum of one inspection every two days, and can respond to any community concerns within one day. The mitigation measures in section 2.4 have been developed in accordance with this consultation.

6.4. Community

Council has received correspondence from over 100 individuals and groups in relation to the Narrawallee Beach off-leash dog area.

Submissions received were both in support and raised concerns with the trial, including issues such as;

- Signage – confusion regarding the transition zone between Surfers Avenue and Victor Avenue, inconsistent or confusing messaging, lack of signage.
- Compliance – ranger presence, dog off-leash activity outside of designated hours, people not picking up after their dogs.
- User conflict and safety – conflict between beach-users with and without dogs, conflict between dogs and native fauna.

The mitigation measures in section 2.4 have been developed in accordance with this consultation, notably;

- Increased ranger presence.
- Increased and improved signage.
- ~600 metre dog prohibited buffer between off-leash area and threatened shorebird nesting sites.
- The provision of plastic bags and rubbish bins for dog faeces.
- Off-peak time restrictions to reduce conflict with other beach-users.
- Liaison with NPWS South Coast Shorebird Recovery Program Coordinator.

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7. ASSESSMENT OF LIKELY ENVIRONMENTAL IMPACTS

7.1. Aquatic and Beach Environment

The proposal is not likely to have any environmental impact on the aquatic and beach environment.

7.2. Dune Vegetation

The proposal is not likely to have any environmental impact on dune vegetation.

7.3. *Biodiversity Conversation Act 2016* and *Environment Protection and Biodiversity Conservation Act 1999* – Listed Fauna

This section has been informed by desktop analysis (including databases searches of Bionet, Birdlife Australia's *Birdata*, the EPBC Protected Matters Search Tool and Council's GIS Enquiry), consultation with relevant agencies including NPWS (detailed in section 6), and a site inspection conducted on 16 December 2021 by Council's Environmental Assessment Officer.

Shorebirds and potential impact to shorebird habitat at Narrawallee Creek Inlet and Nature Reserve are the focus of this assessment regarding threatened fauna species. Narrawallee beach including the off-leash and transit area may provide limited foraging resources. The impact of the proposal on these areas is considered to be negligible. Other fauna species are not considered to utilise habitat with the subject site, or are not considered to be at risk of impact by the proposal.

Threatened shorebirds listed in the NSW BC Act and/or the Commonwealth EPBC Act recorded within 5km of the site (the locality), or predicted to occur by the EPBC Protected Matters Search Tool, are shown in Table 2 below.

Table 2: Threatened shorebirds likely to occur within the subject site

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Recorded/ predicted onsite	Habitat Type
Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable		Recorded onsite	Potential nesting and foraging habitat
Haematopus longirostris	Pied Oystercatcher	Endangered		Recorded onsite	Potential nesting and foraging habitat
Charadrius mongolus	Lesser Sand-plover	Vulnerable	Endangered	Recorded within the locality	Potential nesting and foraging habitat
Thinornis cucullatus cucullatus	Eastern Hooded Dotterel	Critically Endangered	Vulnerable	Recorded onsite	Potential nesting and foraging habitat
Sternula albifrons	Little Tern	Endangered		Recorded onsite	Potential nesting and foraging habitat
Calidris canutus	Red Knot		Endangered, Migratory	Predicted	Foraging and roosting habitat. Migratory, northern

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Scientific Name	Common Name	BC Act Status	EPBC Act Status	Recorded/ predicted onsite	Habitat Type
					hemisphere breeding.
Numenius madagascariensis	Eastern Curlew		Critically Endangered	Recorded onsite	Foraging and roosting habitat. Migratory, northern hemisphere breeding.
Charadrius leschenaultii	Greater Sand Plover		Vulnerable, Migratory	Predicted	Foraging and roosting habitat. Migratory, northern hemisphere breeding.
Charadrius mongolus	Lesser Sand Plover		Vulnerable, Migratory	Predicted	Foraging and roosting habitat. Migratory, northern hemisphere breeding.
Limosa lapponica baueri	Nunivak Bar-tailed Godwit		Vulnerable	Predicted	Foraging and roosting habitat. Migratory, northern hemisphere breeding.

BC Act-listed threatened shorebirds recorded within the subject site include Eastern Hooded Dotterel, Little Tern, Pied Oystercatcher and Sooty Oystercatcher (Figure 4). Birdata also includes records of EPBC Act-listed Eastern Curlew at Narrawallee Inlet from 2015 and prior. All species listed in Table 2 have potential to occur within the subject site. Whilst known nesting sites are limited to the Narrawallee Inlet and Narrawallee Creek Nature Reserve to the north, foraging may occur along Narrawallee Beach. During the site inspection in preparation for this REF, three Sooty Oystercatchers were observed foraging on the rocks at Narrawallee Inlet.

EPBC Act listed migratory shorebirds recorded within 5km of the site or predicted to occur within the locality are shown in Table 3 below.

Table 3: Migratory shorebirds known or with potential to occur within the subject site.

Scientific name	Common name	Scientific name	Common name
Actitis hypoleucos	Common Sandpiper	*Limicola falcinellus*	Broad-billed Sandpiper
**Arenaria interpres*	Ruddy Turnstone	*Limnodromus semipalmatus*	Asian Dowitcher
**Calidris alba*	Sanderling	***Limosa lapponica*	Bar-tailed Godwit
**Calidris canutus*	Red Knot, Knot	*Limosa lapponica baueri*	Nunivak Bar-tailed Godwit
**Calidris ferruginea*	Curlew Sandpiper	*Limosa limosa*	Black-tailed Godwit
Calidris melanotos	Pectoral Sandpiper	***Numenius madagascariensis*	Eastern Curlew

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Scientific name	Common name	Scientific name	Common name
**Calidris ruficollis*	Red-necked Stint	*Numenius minutus*	Little Curlew
**Calidris tenuirostris*	Great Knot	***Numenius phaeopus*	Whimbrel
**Charadrius bicinctus*	Double-banded Plover	*Pluvialis fulva*	Pacific Golden Plover
Charadrius leschenaultii	Greater Sand Plover	***Sternula albifrons*	Little Tern
Charadrius mongolus	Lesser Sand Plover	*Tringa brevipes*	Grey-tailed Tattler
Charadrius veredus	Oriental Plover	*Tringa glareola*	Wood Sandpiper
**Gallinago hardwickii*	Latham's Snipe	**Tringa nebularia*	Common Greenshank
Gallinago megala	Swinhoe's Snipe	*Tringa stagnatilis*	Marsh Sandpiper
Gallinago stenura	Pin-tailed Snipe		

**	Recorded at Narawallee Inlet (Birdata)
*	Recorded within the locality (Birdata)

All species listed in Table 3 are predicated to occur within the subject site using the EPBC Protected Matters Search Tool. Species recorded within the locality and subject site are as shown above.

The Department of Planning, Industry and Environment notes “Disturbance of nesting shorebirds and direct predation of eggs and chicks by domestic dogs” as a threat for all threatened shorebirds known to occur at the subject site (2021, 2017).

In a review of the impacts of dogs on nesting shorebirds, Maguire (2018) details the following impacts:

- Disturbance: “chasing and the unpredictable movement, proximity and speed of unrestrained dogs” can lead to the prolonged absence of adult shorebirds from the nest.
- Egg predation.
- Egg crushing.
- Chick predation.

Maguire (2018) concludes that, while dog-free areas are the most effective at protecting shorebirds, this must be combined with alternative off-leash areas to promote greater compliance in more environmentally sensitive areas where dogs are prohibited.

7.4. Threatened Flora Species and Endangered Ecological Communities

The EEC *Bangalay Sand Forest in the Sydney Basin and South East Corner* was also identified in the Matron Porter Drive Reserve and along the Narrawallee Beach foreshore, confirming Council's GIS mapping (Figure 5).

The threatened flora species Sand Spurge *Chamaesyce psammogeton* has not been recorded onsite however the site is considered to provide potential habitat for this species.

7.5. Test of Significance (5-Part Test)

Section 1.7 of the EP&A Act 1979 applies the provisions of Part 7 of the NSW *Biodiversity Conservation Act 2016* that relate to the operation of the Act in connection with the terrestrial and aquatic environment. Each are addressed below.

Part 7 Biodiversity Conservation Act 2016

Based on the habitat of the site (beach and frontal dunes) BC Act listed threatened species or endangered ecological communities that have the potential to occur at the site are:

- Sand Spurge *Chamaesyce psammogeton.*

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- Shorebirds:
  - Eastern Hooded Dotterel *Thinornis cucullatus cucullatus.*
  - Little Tern *Sternula albifrons.*
  - Pied Oystercatcher *Haematopus longirostris.*
  - Sooty Oystercatcher *Haematopus fuliginosus.*
  - Lesser Sand Plover *Charadrius mongolus.*
  - Greater Sand Plover *Charadrius leschenaultii.*
- Endangered ecological community *Bangalay Sand Forest in the Sydney Basin and South East Corner Bioregions.*

The presence of transient and mobile species is possible occasionally (e.g. White-bellied Sea-Eagle *Haliaeetus lecogaster*), however the site is not considered useful or important habitat for these species. Any potential impact to these species is expected to be negligible.

Sand Spurge is a herb that grows on dunes and sea strandline, and is also unlikely to be affected by the proposed activity.

Section 7.3 of the BC Act provides a '5-part' test to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. Each part is addressed below:

Part 1: In the case of a threatened species, where the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is to be placed at risk of extinction.

Shorebirds – Eastern Hooded Dotterel, Lesser Sand Plover, Greater Sand Plover, Little Tern, Pied Oystercatcher, Sooty Oystercatcher

The potential for impact to these species during signage installation works is considered unlikely due to the following factors:

- Works (signage installation) to occur during the nesting periods for threatened shorebirds (generally November to February) have minimal impact and are highly unlikely to cause any disturbance.
- A Council Environmental Assessment Officer or other suitably qualified person shall undertake pre-clearance surveys prior to works commencing. If any of these species are detected in the vicinity of the works, works will stop immediately and not resume until the bird has vacated the site of its own accord.
- If a nest or nesting birds are detected, works will cease, and mitigation measures will be adapted in consultation with the NPWS Shorebird Recovery Coordinator (or similar expert), to minimise risk of disturbance to the birds and ensure their protection.

Narrawallee Beach has already been used as an off-leash dog area for several years, and so is not considered a viable nesting location for shorebirds. Threatened shorebirds are known to nest in the Narrawallee Inlet area, with the current off-leash dog area. The extension of this area away from the Inlet (south) will therefore not have a significant impact on nesting threatened shorebirds. Maguire et al. (2018) note the positive impact of diverting dog walkers to specific areas, as dogs are then less likely to be present in more sensitive, prohibited areas.

Foraging habitat is also critical in the life cycle of shorebirds. Foraging habitat for shorebirds along Narrawallee Beach will be reduced by the presence of dogs within the southern portion of the beach however more optimal areas of foraging habitat to the north at the inlet and nature reserve will be unaffected. Mitigation measures detailed in Section 2.4 are expected to avoid impacts to these optimal areas of foraging habitat.

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As such, the proposed activity is unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is to be placed at risk of extinction. A species impact statement (SIS) or entry into the BOS is not required.

Part 2 In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:
(a) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
(b) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

The beach and frontal dune area, where dogs are proposed to be permitted off-leash, does not comprise an endangered ecological community. However, part of the vegetated area at Matron Porter Drive and Surfers Avenue where signage is proposed to be installed is classified as the endangered ecological community *Bangalay Sand Forest in the Sydney Basin and South East Corner Bioregions* (Figure 5). The proposed works within this community (installation of 4 signs) will not have an adverse effect on the extent of the ecological community or substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction. The signage posts are already installed. The reinstatement of the Victor Avenue steps as the southern boundary of the off-leash dog area is likely to reduce the level of pedestrian and dog traffic through the Bangalay Sand Forest EEC at Matron Porter Drive Reserve.

A SIS or entry into the BOS is not required.

Part 3 In relation to the habitat of a threatened species or ecological community:
(a) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
(b) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
(c) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.

No habitat of a threatened species or ecological community is likely to be removed/modified or become fragmented or isolated from other areas of habitat as a result of this proposal.

Part 4 Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value have been declared in the City of Shoalhaven.

Part 5 Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The proposal will not contribute to any key threatening process listed under the NSW BC Act.

7.6. Assessment Against EPBC Significant Impact Criteria

Seven EPBC listed threatened species are predicted or known to occur within the subject site (Table 2). Twenty-nine migratory species are predicted to occur within the subject site (Table 3). The Commonwealth Significant Impact Guidelines 1.1 details criteria to assess whether the proposal is

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likely to have a significant impact to matters of national environmental significance (MNES), and whether referral to the Commonwealth Department for further assessment and approval is required.

The Significant Impact Guidelines provide varying criteria depending on the conservation status. The relevant criteria for threatened and migratory shorebirds are assessed below.

Numenius madagascariensis Eastern Curlew has been recorded in the subject site and is listed as critically endangered under the EPBC Act. *Calidris canutus* Red Knot has been recorded within the locality and is listed as endangered under the EPBC Act.

Eastern Curlew is a northern hemisphere breeding migratory shorebird that distributes widely along eastern Australia and New Zealand to forage outside of breeding seasons and prior to breeding maturity.

Red Knot is a northern hemisphere breeding shorebird that distributes widely to forage outside of breeding seasons around Australia and visits most continents (Birdlife Australia). Optimal foraging habitat for these species is restricted to the Narrawallee Inlet and Narrawallee Creek Nature Reserve in the northern extent of the subject site. Mitigation measures, including a 600m buffer between restricted dog access and these areas, as well as regular Ranger patrols and signage (Section 2.4) are expected to avoid impacts from the proposal to these areas and to these species. While foraging habitat within the southern portion of Narrawallee Beach will be modified by the restricted dog access, this is not expected to significantly reduce foraging resources for these species such that the life cycle of the species would be impacted. The proposal is not expected to introduce any invasive species or disease to potential habitat for these species. As such, the proposed dog access as detailed in Figure 3 is unlikely to have a significant impact on these species. Based on the review above, the proposal will not result in the below factors listed in the EPBC Significant Impact Guideline:

- *Lead to a long-term decrease in the size of a population.*
- *Reduce the area of occupancy of the species.*
- *Fragment an existing population into two or more populations.*
- *Adversely affect habitat critical to the survival of a species.*
- *Disrupt the breeding cycle of a population.*
- *Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.*
- *Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat.*
- *Introduce disease that may cause the species to decline.*
- *Interfere with the recovery of the species.*

Thinornis cucullatus cucullatus Eastern Hooded Dotterel has been recorded in the subject site and is listed as vulnerable under the EPBC Act. *Charadrius leschenaultia* Greater Sand Plover and *Limosa lapponica baueri* Nunivak Bar-tailed Godwit is predicted to occur within the locality and is listed as vulnerable under the EPBC Act.

Eastern Hooded Dotterel is reported to be as rare as 64 individuals within NSW and 5,000 individuals as a total population across Australia (OEH Threatened Species Profile). The species' known northern limit is Jervis Bay making any population that occupies the subject site significant in terms of proximity to the northern extent of the species distribution. Any impact leading to reduction in the population of this species would be significant.

Greater Sand Plover and Nunivak Bar-tailed Godwit have not been recorded within the subject site or locality. While the subject site does provide potential foraging and roosting habitat for these species, an important population for these species does not occur. Potential foraging habitat impacted is limited to the southern portion of Narrawallee Beach. More optimal foraging and roosting areas, and nesting habitat for Eastern Hooded Dotterel, is restricted to the Narrawallee Inlet and Narrawallee Creek Nature Reserve in the northern extent of the subject site are not expected to be impacted. The proposal is not expected to introduce any invasive species or disease to potential habitat for these species. As such the proposed dog access as detailed in Figure 3 is unlikely to have a significant impact on these species. Based on the review above, the proposal will not result in the below factors listed in the EPBC Significant Impact Guidelines:

- *Lead to a long-term decrease in the size of an important population of a species.*
- *Reduce the area of occupancy of an important population.*
- *Fragment an existing important population into two or more populations.*
- *Adversely affect habitat critical to the survival of a species.*
- *Disrupt the breeding cycle of an important population.*
- *Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.*
- *Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.*
- *Introduce disease that may cause the species to decline.*
- *Interfere substantially with the recovery of these species.*

Migratory Species listed in Table 3 have been assessed against the relevant criteria detailed in the Significant Impact Guidelines 1.1.

Thresholds for defining internationally and nationally important habitat for migratory shorebirds is detailed in the *EPBC Act Policy Statement 3.21 Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species*. Birdlife Australia have mapped international and nationally important habitats based on these thresholds. This mapping includes habitat within the Shoalhaven River as the most southern nationally important habitat. Narrawallee Creek, including the inlet, and Narrawallee Beach are not mapped as being of international or nationally important habitat. As such the proposal is not considered to modify, destroy or isolate important migratory shorebird habitat.

The proposed dog access is not expected to exacerbate the process of invasive species.

With regard to life cycle, all species listed in Table 3 are migratory species breeding in the northern hemisphere, other than the Little Tern. While breeding habitat for these species will not be impacted foraging habitat is important to the lifecycle of migratory shorebirds and is critical to these species ability to make the flight to northern hemisphere breeding grounds. Dog access onto Narrawallee beach will reduce foraging habitat within the southern portion of the beach were restricted access is permitted (Figure 3). Provided mitigation measures (Section 2.4) are implemented, the impact of the proposal to areas of optimal foraging habitat approximately 600 metres to the north, at Narrawallee Inlet and Narrawallee Creek Nature Reserve is expected to be avoided. Reduction/modification of foraging habitat within areas of restricted dog access is not expected to disrupt the life cycle of migratory shorebirds.

Mitigation measures detailed in Section 2.4, including a minimum of 600m buffer as well as signage and regular monitoring by Council Rangers will ensure impacts to optimal breeding habitat for Little Tern, demonstrated by records (Figure 4) at Narrawallee Inlet and Narrawallee Creek Nature Reserve

are avoided. Impact to potential foraging habitat resulting from restricted dog access is not expected to impact Little Tern such that the life cycle of the local occurrence of the species will be affected.

The proposed dog access as detailed in Figure 3 is unlikely to have a significant impact on migratory shorebirds. Based on the review above the proposal will not result in the below factors listed in the EPBC Significant Impact guideline:

- *Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.*
- *Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.*
- *Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.*

7.7. Clause 228 Matters of Consideration

Clause 228(2) of the *Environmental Planning and Assessment Regulation 2000* lists the factors to be considered when consideration is being given to the likely impact of an activity on the environment under Part 5 of the EP&A Act. The following assessment deals with each of the factors in relation to the proposed activity.

Table 4: Clause 228 (EP&A Regulation) Matters

DOES THE PROPOSAL:	ASSESSMENT	REASON
a) Have any environmental impact on a community?	Negligible/Positive	The proposed activity would not impact the community's access to, and amenity of Narrawallee Beach. The proposed activity would not impact views, community services and infrastructure such as water, waste management, educational, medical or social services.
b) Cause any transformation of a locality?	Negligible	The locality will remain a beach and coastal foreshore reserve.
c) Have any environmental impact on the ecosystem of the locality?	Negligible	No food resources critical to the survival of a particular species would be removed. Aquatic ecosystems are not likely to be affected by the proposed activity and there will be no impact through the input of sediment and nutrient into the ecosystem. Protected vegetation and fauna are unlikely to be significantly affected by the proposed activity. The vegetation on the dune and beach does not comprise an endangered ecological community and comprises common species and species that are not natural to the area.

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DOES THE PROPOSAL:	ASSESSMENT	REASON
d) Cause a diminution of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	Negligible/positive	There would be no impact to these factors. The site will remain a public beach and recreation opportunities would not be diminished.
e) Have any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, or social significance or other special value for present or future generations?	Negligible	Narrawallee Beach and Inlet are identified as the local heritage area Silica Wharf and Tramway (remnants) under Schedule 5 of the SLEP 2014. Off-leash dogs are unlikely to affect this heritage listing. The site is not within an Aboriginal Place declared under the National Parks and Wildlife Act 1974. The proposed activity is unlikely to harm Aboriginal heritage sites (refer to Section 5.1)
f) Have any impact on the habitat of protected fauna (within the meaning of the *Biodiversity Conservation Act 2016*)?	Negligible	The Test of Significance provided in section **Error! Reference source not found.** above concludes that the proposed activity would not have a significant impact upon threatened fauna and flora.
g) Cause any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	Negligible	There are no species likely to rely on the site of the proposed activity to the extent that modification would put them further in danger. The Tests of Significance provided in Section **Error! Reference source not found.**, concludes that the proposed activity would not have a significant impact upon threatened fauna including fish.
h) Have any long term effects on the environment?	Negligible/positive	The sign installation will improve understanding and awareness of prohibited behaviour, and the threat to shorebirds in the area. The works involved in signage installation would be very short term and the noise generated will occur during normal working hours. There are no sensitive receivers in the vicinity of the proposed works. The proposed activity would not use hazardous substances or use/generate chemicals which may build up residues in the environment.

DOES THE PROPOSAL:	ASSESSMENT	REASON
i) Cause any degradation of the quality of the environment?	Low adverse	The environmental safeguards (section 2.4) to be undertaken will minimise impacts and risks to the quality of the environment. The proposal would not intentionally introduce noxious weeds, vermin, or feral animals into the area or contaminate the soil.
j) Cause any risk to the safety of the environment?	Negligible / positive	The proposed activity would not involve hazardous wastes and would not lead to increased bushfire or landslip risks. The activity is not going to affect flood or tidal regimes, or exacerbate flooding risks.
k) Cause any reduction in the range of beneficial uses of the environment?	Negligible/positive	The site is used for beach and ocean related recreation opportunities, as well as access to them. The proposed activities would have no effect on this beneficial use. The off-leash dog area adds to the beneficial uses of the environment (showed through results of community consultation) and having this activity confined to off-peak hours allows for the continued use of the beach and foreshore by the wider community without disruption from dogs.
l) Cause any pollution of the environment?	Low adverse	The activity is not expected to result in the oxidation of acid sulphate soils and subsequent leaching back into the waterways. It is unlikely that the activity (including the environmental impact mitigation measures) would result in water, noise or air pollution, spillages, dust, odours, vibration or radiation. Under the assumption that dog owners clean up faeces, waste pollution from dogs is unlikely to have an impact on the natural environment. Dog waste bag dispensers and garbage bins are located at main access points to the off-leash zone to promote compliance. The proposal does not involve the use, storage or transportation of hazardous substances or the use or generation of chemicals which may build up residues in the environment.
m) Have any environmental problems associated with the disposal of waste?	Low adverse	As above: Under the assumption that dog owners clean up faeces, waste pollution from dogs is unlikely to have an impact on the natural environment. Doggy bag dispensers and garbage bins are

DOES THE PROPOSAL:	ASSESSMENT	REASON
		located at main access points to the off-leash zone to promote compliance.
n) Cause any increased demands on resources (natural or otherwise) which are, or are likely to become, in short supply?	Negligible	No resources (aside from the signs) are required for the proposed activity.
o) Have any cumulative environmental effect with other existing or likely future activities?	Negligible	The assessed impacts of the proposal are not likely to interact.
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	Negligible	The proposal is not likely to have any impact on coastal process or coastal hazards.

8. DETERMINATION

This Review of Environmental Factors has assessed the likely environmental impacts, in the context of Part 5 of the Environmental Planning and Assessment Act 1979, of a proposal by Shoalhaven City Council to permit dogs off-leash on a stretch of Narrawallee Beach, including the associated sign installation.

Shoalhaven City Council has considered the potential environmental effects of the proposal and the effectiveness and feasibility of measures for reducing or preventing detrimental effects. It is determined that:

1. The proposed safeguards identified in the report (section 2.4) shall be adopted and implemented.

2. It is unlikely that there will be any significant environmental impact because of the proposed activity and an Environmental Impact Statement is not required for the proposed activity.

3. The proposed activity is not likely to significantly affect threatened species or ecological communities, or their habitats and entry into the Biodiversity Offset Scheme or preparation of a Species Impact Statement is not required.

4. The proposed activity is not a 'controlled action' for the purposes of the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* and referral to the Commonwealth Environment Minister is not required.

Michael Roberts

Manager, Environmental Services

Shoalhaven City Council Date: 28/01/2022

Document Review

	Name	Signature	Date
Author	Rachel Anderson		13/01/2022
Reviewer	Ben Coddington		28/01/2022

9. REFERENCES

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APPENDIX 1 Timeline for Permitted Dog Access on Narrawallee Beach

Table A1 Timeline for Permitted Dog Access on Narrawallee Beach

Date	TRIM Ref.	Policy	MIN	Access Area Arrangement	Notes
25/01/2005		POL05/39	MIN05.79	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. • Narrawallee Beach and reserve from the northern end of Victor Avenue to Surfers Avenue. On-Leash 24hr: • Unnamed island to northern end of Victor Avenue	First iteration of the Access Areas for Dogs Policy which superseded: • Off-Leash Exercise Areas for Dogs (Min. 03.954) • Animal Control Dogs - Council Caravan Parks and Public Beaches (Min. 80.276) • Animal Control Dogs – Prohibited Specific Beaches and Areas (Min. 96.613) • Camping Areas – Council Dog Control Caravan Parks & Camping Areas (Min78.730).
2008?		POL08/403			
21/06/2013	D13/161655	POL12/5		Prohibited area: • Narrawallee Beach and reserve from Narrawallee Creek to unnamed Island.	2013 Policy does not list a specific off-leash area for Narrawallee. The area from Victor Ave Steps to unnamed island was a 24hr on-leash area at this time

				• Narrawallee Beach and reserve from the Northern end of Victor Avenue to Surfers Avenue. On-Leash 24hr: • Unnamed island to northern end of Victor Avenue	
24/06/2015	D15/175104		MIN15.368	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island between 4pm and 9am On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave.	MIN15.368 resolved to conduct a trial for a dog off-leash area from July - October 2015 between 4pm and 9am. From Victor Ave Steps to Unnamed Island At this time, the southern area from Victor Ave was changed to on-leash to provide access to off-leash area.
04/11/2015	D15/325244		MIN15.704	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash:	Council resolved to extend the trial period to the upcoming consultation and policy review in 2016. Change the summer off-leash times to 6pm-8am. Report back on outcomes of Policy review in August 2016.

				• Beach access steps off Victor Avenue to the un-named Island between 6pm and 8am On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave.	
19/07/2016	D16/215930		MIN16.541	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island 1 October – 30 April – off leash from 6pm – 8am 1 May to 30 September - off leash from 3pm – 10am On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave.	Council resolved to defer the Policy review and to finalise the Narrawallee trial - to continue with the off-leash area at Narrawallee. Provided details on summer and winter times
Declared final: 25.07.2016 Adopted:		POL16/80		Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island.	

17.02.2015				• Narrawallee Beach and reserve from the northern end of Victor Avenue to Surfers Avenue. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island *01 October – 30 April – off leash from 6pm – 8am* *1 May to 30 September - off leash from 3pm – 10am*	
Declared final: 26.07.2017 Adopted: 17.02.2015		POL16/173		Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. • Narrawallee Beach and reserve from the northern end of Victor Avenue to Surfers Avenue. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island *1 October – 30 April – off leash from 6pm – 8am* *1 May to 30 September - off leash from 3pm – 10am*	

27/08/2019	D19/286036		MIN19.578	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island *1 October – 30 April – off leash from 6pm – 8am* *1 May to 30 September - off leash from 3pm – 10am* On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave.	Council resolved to conduct a six months trial for dog to access Narrawallee Beach from Surfers Avenue via the ShoalWater access then against the escarpment
10/12/2019	D19/400331		MIN19.924	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island *1 October – 30 April – off leash from 6pm – 8am*	Council resolved a twelve-month trial to commence prior to Christmas, to create a 10m wide Dog On-leash strip passing from the Surfers Avenue to the Dogs On-Leash area on Narrawallee Beach

				1 May to 30 September - off leash from 3pm – 10am On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave via 10m strip.	
09/02/2021	D20/548246		MIN21.68	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. • Narrawallee Beach and reserve from the most southern Narrawallee Inlet Reserve entrance to Surfers Avenue. Off-Leash: • Immediately south of the most southern Narrawallee Inlet Reserve entrance to the un-named Island. *AEDT 4pm – 8am* *AEST 3pm-10am*	Resolved to adopt the trial provisions, with amendments such as amending dates and times to AEDST and AEST. Boundary amended to remove Victor Ave stairs and the access from Surfers Ave.
09/03/2021	D21/80012		NOM MIN21.120	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash:	Resolved to reinstate access to the off-leash area via Surfers Ave as per the previous trial, until Policy review completed

				• Immediately south of the most southern Narrawallee Inlet Reserve entrance to the un-named Island. *AEDT 4pm – 8am* *AEST 3pm-10am* On-Leash • On-leash access to the off-leash area from Surfers Ave.	
Finalised 28.09.2021		POL21/22		Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. • Narrawallee Beach and reserve from the northern end of Victor Avenue to Surfers Avenue. Off-Leash: • Beach access via Narrawallee Inlet Reserve (Matron Porter Drive Reserve) to the un-named Island *1 October – 30 April – off leash from 6pm – 8am* *1 May to 30 September - off leash from 3pm – 10am*	

02/11/2021	D21/423401		MIN21.804	Prohibited: • Narrawallee Beach and reserve from Narrawallee Creek to the unnamed Island. Off-Leash: • Beach access steps off Victor Avenue to the un-named Island *AEDT 4pm – 8am* *AEST 3pm-10am* On-Leash • On-leash access to the off-leash area between Surfers Ave and Victor Ave.	<u>Current situation</u> Reinstate the southern boundary of the off-leash area in line with Victor Ave steps. Retain Northern boundary at the Unnamed Island. Retain the timed beach off-leash area. Retain transit zone from Surfers Ave to the dog off-leash area

CL22.158 - Attachment 1