



Shell Cove Boat Harbour Precinct Section 75W modification application



Report prepared for Frasers Property Australia
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VISUAL IMPACT ASSESSMENT

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Background and reason for this report

Richard Lamb and Associates (RLA) have been appointed by Frasers Property Australia to provide independent visual assessment advice in respect of a section 75W modification application, to the NSW Department of Planning (DPE) as the consent authority.

Richard Lamb and Associates (RLA) have extensive experience in visual analysis and visual impact assessment of projects ranging from individual residences to urban release areas. The company specialises in landscape assessment, landscape heritage conservation, visual impacts and strategic planning for visual protection and conservation of cultural landscapes. Dr. Lamb, the principal author of this report, has 30 years' experience in development assessment and strategic planning and has published articles in local and international journals on perception, aesthetic assessment and landscape management. RLA have been engaged to provide independent visual analysis of many Major Projects, planning proposals and development applications in urban settings similar to the subject site (the site).

A CV for Dr Richard Lamb, principal of RLA and author of this report can be viewed or downloaded from the RLA website at www.richardlamb.com.au. A summary CV is attached to this document at Appendix 3.

This report provides an assessment of the visual effects and potential visual impacts of the changes sought in the section 75W application in comparison to the Concept Approval at Shell Cove Boat Harbour. Changes included in this application relate to the increased height of some built forms and relocation of some massing within the commercial precinct. This report also provides certification of the accuracy of the preparation of photomontages prepared that show the Concept Approval and section 75W application when seen from representative public and private domain locations. These photomontages along with fieldwork and desktop analysis, have helped to inform this assessment.

Our advice focusses on an analysis of the comparison of the visibility, visual exposure, and visual effects on views and streetscapes that would occur as a result of the section 75W application, compared to the Concept Approval and is supported by analysis of block model photomontages prepared by Digital Line, architectural illustrators, in December 2017.

The Concept Approval shown in the block-model photomontages reflects the maximum height, bulk and location of built forms that were included in the Shell Cove Boat Harbour Precinct Concept Plan that was approved under part 3A of the Environmental Planning and Assessment Act 1979 (EPA Act) by the DPE following the Concept Plan application in 2010.

1.0 The site and surrounding visual context

The subject site is located generally between Harbour Boulevard to the west and Bass Point Tourist Road to the east and is south of Shellharbour township. It is a small coastal area adjacent to the east coast of Shell Cove and is characterised by low-lying, generally flat land. Topography to the north, west and south immediately surrounding the site is also low-lying and at a similar elevation to it, however from approximately 500m in each direction, land rises in elevation. In this way, Shell Cove occupies a central bowl area surrounded by gentle side slopes. The slopes terminate along local ridgelines that are broadly followed by Shellharbour Road to the north and west and to the south by a local ridgeline in the vicinity of Coolum Parkway.

Topography within the subject site has been much modified over time due to previous quarrying, earthworks and remediation works and on-going boat harbour construction.

The visual context surrounding the site is predominately characterised by one to two storey residential development much of which has been constructed in the last two decades in the setting of the on-going planned development of Shell Cove. The low-lying areas surrounding the site and areas on the lower and side slopes of the two local ridgelines are characterised predominantly by a curvilinear subdivision pattern which includes three main arterial routes ie. Cove Boulevard, Harbour Boulevard and Southern Cross Boulevard. The three main boulevards are characterised with street tree planting which along the entire length of Cove Boulevard includes semi-mature Cook Pine trees. Shell Cove also includes a number of reserves some with significant areas of bush and waterways that form a series of interlinked green spaces throughout the heart of the residential area.

We observed that the settlement pattern in the original Shellharbour settlement north of the site follows a more traditional grid pattern that is arranged either side of the central Addison Street.

Photographs taken from higher vantage points close to the ridgeline that encompasses Shell Cove approximately 1km from the site looking east and south-east, include a foreground characterised by low height but predominantly large one to two storey residential development that is set on small to medium sized lots. The majority of vegetation planted along roads, in reserves and in private gardens has not yet reached maturity, so that residential built form and particular the roofs of dwellings provide a significant visual feature in views at present.

The subject site and construction work in relation to the formation of the boat harbour access and channels is evident in the mid-ground and background of some elevated viewing locations. From elevated locations around the Shell Cove 'bowl' the composition of views also includes newly formed reserves and riparian zones, parts of Shellharbour Reserve and the Boat Harbour that is a heritage item listed in schedule 5 of the Shellharbour LEP 2013, parts of the Shellharbour beach hind dune and vegetation associated with it and the south headland of Bass Point. The southern ridgeline in the wider visual context includes vegetation and landforms in the Killalea State Park.

2.0 The proposal

The key components of the section 75w modification application that are relevant to this visual assessment include the relocation of the massing of the proposed hotel and additional height that is sought for some apartment blocks located close to or within the commercial precinct, as well as some alternative building footprints.

The application includes the relocation of the hotel tower form to the northern edge of the central commercial precinct, from its approved location further to the south-east. The hotel envelope is broadly rectangular but curved so that its short east end presents to the new marina. This form is proposed to increase in height from 9 to 11 storeys. The approved hotel site would be occupied by a lower built form, including a tavern of up to two storeys and apartments of up to 4 storeys.

Internal configuration changes result in a greater number of smaller individual apartment buildings of greater variety in typology, with some of a greater height than in the approved concept plan. These are proposed to be incorporated into the commercial precinct in waterside locations around the south shore of the new boat harbour. At the northern end of precincts C2 and B2 adjacent to the boat harbour, built forms are proposed to increase by 1 or 2 residential storeys compared to the approved heights of up to 4 storeys in the same or similar locations. Two other proposed built forms of up to 6 residential storeys in height are shown in the commercial precinct immediately south of the hotel location. Approved built forms within this precinct in the Concept Approval are currently of up to 4 storeys.

We note that the majority of the approved residential development in precinct C1, of up to a maximum height of 3 storeys has been reduced in height in the proposal to 2 storeys plus attic. We also note that no increased height is sought in relation to the eastern-most precinct H, that includes approved built forms up to a height of 3 storeys or in precinct H2, with built form up to 4 storeys.

3.0 Existing visibility of the site from Shell Cove

3.1 Public Domain

In the field of view loss assessment, it is accepted and acknowledged in statutory and non-statutory planning that public domain views are given greater weight than private domain views. Public domain views are considered as being more sensitive to the potential visual effects and impacts of a development because they attract higher user numbers, often for sustained periods of time and in some cases they affect locations from which there are viewer expectations of high visual quality and character in relation to the composition of views, for example views from a scenic lookout at a National Park. RLA were directed by the DPE and project team following the submissions process, to inspect views from a variety of public domain locations and in addition we observed views from local streets within Shell Cove. This discussion below includes references to the visual effects of built form that has been approved for the subject site and which is shown in block-model montages in Appendix 2. Although such built forms are not yet constructed or present in existing view compositions, the forms have been approved and are part of the reasonable expectations of desired future character for the precinct. The Concept Approval is therefore the appropriate baseline for assessment of the section 75w modification application, notwithstanding its appearance is significantly different from the existing environment.

Map 1 shows locations from which views have been documented and assessed. We observed that the potential visual catchment of the site extends across the majority of the Shell Cove bowl and slopes. However, external visibility of the built form on the site from low-lying parts of the bowl closer to the coast will depend on the road alignments, topography, the location of intervening built form and presence of vegetation along roads and within private gardens.

From within the low-lying bowl area ie from curvilinear residential roads such as parts of Brindabella Drive, Galleon Ave, Shallows Drive and the east end of Lord Howe Avenue, views from the public domain to the site are constrained by intervening residential development and vegetation and local variations in topography. Direct views to parts of the site may be available through side setbacks between dwellings, but overall from a public domain perspective, from elevations similar to the subject site, viewing opportunities are limited. Similarly, in respect of Cove Boulevard, an axial view to part of site is only available from a short section and close range as the road curves towards the north in the vicinity of the Shallows Drive intersection.

Views from the public domain from higher elevation, for example roads in mid-slope locations such as the upper part of Brindabella Drive, Ragamuffin Circuit, Tasman Drive, and parts of Shellharbour Drive, are available only intermittently and from isolated locations, where there is no, or limited, intervening built form and vegetation. Isolated wider, more panoramic views to the site are available from isolated high points around the upper slopes near the ridgeline that encloses Shell Cove for example an axial view along Tasman Drive from James Cook Parkway adjacent to Top Reserve (Location 2 in Appendix 1). This view is one of the few publicly accessible locations that allows visual access over the Shell Cove bowl and the subject site.

Views from the north for example from the eastern part of the Shellharbour boat ramp and Cowrie Reserve to the south-west are potentially over the southern part of the site, against a background of vegetation and slopes within the Killalea State Park. The majority of the site is blocked from view by the low sand dune and vegetation along it including interspersed mature trees. Parts of the approved development rise above the intervening headland and vegetation that is present along it. The mid-ground composition of this view includes part of the harbour, headland, rows of Norfolk Island Pine trees and low scale predominantly single storey built form located in the Shellharbour beachside tourist park.

Views from the south to the north-west, for example from parts of Bass Point tourist road, from Red Sands carpark and from Bass Point itself, will vary depending on the location of the viewer. Views from the vicinity of Red Sands Carpark that is south of the Bass Point quarry travel loader include the majority of Shell Cove and its northern slopes. A low long landform within the Killalea State Park that projects to the north-east forms a mid-ground component in the composition of views and will block some visual access to lower topography within the south-east part of the subject site. Views to north-west to the site from the north side of Beakys Reserve will include parts of the site. This is a distant view that includes landforms and the quarry travel loader in the mid-ground view, both of which will block views to parts of the site.

Direct views to part of the site and proposed development will be available from Bass Point tourist road immediately east of the approved boat harbour. Such visual access from low-lying areas adjacent to the site is expected and has been previously anticipated by the Concept Approval. We observed that views from the north part of Shellharbour South beach to the site are constrained by low sand dunes of approximately 4m in height and a vegetation canopy that is characterised by scrub to an approximate height of an extra 2 to 3m.

Distant views of a small part of the site are available from an elevated location north of the picnic kiosk within the Killalea State Park. The majority of the subject site is obscured from view by intervening landform and vegetation, but we observed that the lower part of the crane that is currently located on the north breakwater near the entrance of the boat harbour is visible.

3.2 Private Domain

Private domain views towards some aspects of the subject site exist from areas adjacent to the site and from more distant mid-slope and ridgetop locations to the north-west, west and south-west.. As discussed above, view access from the closest residential locations to the subject site will be from similar elevations to the subject site itself and many direct views to the approved built forms are likely to be screened by intervening built form and vegetation.

We note that the visual effects and potential impacts on views were considered as part of the Shell Cove Boat Harbour Concept Approval. Furthermore, the controls that apply to the site as part of the approval process, contemplate significant visual change to the bowl area within Shell Cove, including a change in the character of the site from an undeveloped quarry site to a new town, characterised by urban forms such as medium density apartments, taller commercial forms, a hotel tower form, boat harbour and a large marina. In this regard the visual effects and potential visual impacts on views from neighbouring residences and those located on the surrounding slopes, have been anticipated as acceptable consequences of the desired future character.

The existing view access that includes the largely undeveloped subject site also provides views to other external scenic features, including mid-ground and background local horizons for example a horizon formed by the low sand dunes and vegetation east of the subject site. The existing view access available across the site are to some extent fortuitous and a temporary benefit that has been available to residents for the period of time leading up to the Concept Approval.

Some private domain views towards the development site may exist from the wider visual catchment including from south-facing or north-facing ridgeline locations ie. Shellharbour Road and in the vicinity of Brampton Way and Bribie Avenue. Potential views may exist from the first floors of dwellings in the vicinity of these ridgeline locations that have windows orientated towards the subject site. In this regard, views from such locations are likely to include some parts of the approved development.

3.3 Views that may be affected

Given the low elevation of topography immediately surrounding the subject site, in our opinion views from mid-range or distant and elevated slope locations are those potentially most affected by the proposed development. This is because in the close-range views, buildings and landscape between the viewer and the site cause what is generally a high degree of view blocking, regardless of the details of the built form proposed. A large number of potential view locations were visited, analysed and rejected for this reason.

RLA were able to gain access and inspect views from one residence in the close distance range ie 0-500m, one from within the 500m to 1km or medium distance range and one in the distant range ie approximately 1km or further away from the closest approved or proposed built forms.

Judgements made about the potential exposure to views of the proposed built forms for other parts of the visual catchment located within these distance ranges, have been based on observations from public domain locations eg streets or reserves within residential areas.

The views were photographed in a standardised way, taken in clear daylight but hazy conditions with a professional quality DSLR camera (Canon EOS 5D Mark III) in JPG and RAW format, using a lens of 50mm fixed focal length. A Canon GPS was attached to the camera, which has the capability of writing the coordinates of the locations from which individual images had been taken into the metadata of the electronic files. The location of and elevation of the camera lens at locations chosen to be represented in photomontages was also independently and professionally surveyed by Allen Price and Skarratts surveyors who accompanied RLA on the day of views inspections.

Ten view locations that were intended to encompass a range of visual exposures of the Concept Approval and proposed s.75W application were initially selected for analysis and potentially for preparation of photomontages (see Map 1). Many more had been suggested to RLA, but proved not to have substantial views or not to be representative of views from significant locations in the public domain. Images from each of the ten view locations are in Appendix 1. Photomontages were prepared to show the likely visibility of the Concept Approval and s.75W application envelopes from eight of the view locations (locations 1-8). Following analysis of their visual exposure to the built form approved or proposed on the site, photomontages were not prepared for location 9 (Red Sands Carpark at Bass Point) and 10 (Killalea State Park Picnic Kiosk). The reasons for this were that the view from position 9 has a similar composition to the view from position 3, Beakys Reserve, Bass Point, making a photomontage redundant and the view position 10 contained too little of the site to make a photomontage useful in comparing the Concept Approval and s.75W envelopes.

The electronic files of the images for the preparation of photomontages for a representative range of viewing places documented were selected and provided to Digital Line architectural illustrators, who prepared block model photomontages representing built forms in the Concept Approval and the amended built forms proposed in the section 75W modification application (See Appendix 2).

No electronic manipulation was carried out with any of the images.



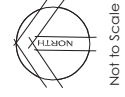
Map 1: Documented view locations

- 1 Shallows Drive Reserve opposite No.50
- 2 James Cook Parkway axial view
- 3 Beakys Reserve Bass Point
- 4 Shellharbour boat harbour near Cowries Reserve
- 5 Shellharbour South Beach

- 6 27 Ragamuffin Circuit
- 7 No. 18 Tasman Drive
- 8 26 Mystics Drive
- 9 Red Sands Carpark
- 10 Killalea State Park picnic kiosk



approximate location of the subject site



4.0 Method of preparation and verification of photomontages

RLA were requested by Cox Architecture and Frasers Property to provide guidance as to the preparation of verifiable analytical block-model photomontages for the requisite view analysis. The following advice was provided.

4.1 Principles of verification of photomontages

For the certification of photomontages, the fundamental requirement is that there is a 3-dimensional (3D) computer model of the proposed building development that can be accurately located and merged with representative photographs taken from key viewing places, to produce a photomontage.

The location and height of the 3D model of the building must be verified with respect to surveyed features of the existing development Site and the location of features of the surrounding environment, interpolated from aerial imagery.

A further aid required to assist in verifying the location and height of the proposed building is a 3D wire frame model of visible features of some of the existing features on the Site or in its vicinity, based on a verified site survey.

The 3D models of the survey information and of the proposed building envelopes are then matched to and merged with digital photographic images of the existing environment.

The key to being able to certify the accuracy of the photomontage resulting from merging the 3D model and photographs is being able to demonstrate that the 3D model of the proposed building envelopes has a good fit to known surveyed features of the existing development on the Site and of other fixed features which are visible in the photograph. Such features are either shown on the wire frame models of the survey in 3D, or interpretable from aerial imagery.

These principles for verification of the fit of a computer model to a photograph of the existing environment are reflected in the Land and Environment Court of New South Wales practice note for the preparation of photomontages for use in evidence.

A single image photograph is the best base onto which to fit the computer model of the building. This is because the conventions of perspective which are used by the computer software to generate a 3D image of the proposed development are relatively consistent with the geometry of a single photographic image, because both have a flat ground plane and one centre of view.

4.2 Focal length of lens for photographs

The camera images for the photomontages need to be of sufficient resolution for details to be visible at a relevant scale, taken with a lens of low distortion. The focal length of the lens used needs to be appropriate for the purpose and the focal length of the lens used to take the single frame photographs has to be known and standardised as far as is possible.

The reasons for using a specific focal length is determined by the vertical and horizontal scale of the subject of the view. The subject commonly contains elements of vastly different horizontal and vertical scale, for example a narrow road corridor in the foreground and the proposed buildings, all of which must be visible in each photograph.

It is conventional to use a 'normal' lens to take landscape photographs, for example a 50mm lens on a 35mm format film camera, as when reproduced in large format (eg. A3 size prints), the objects in the image appear of 'normal' scale in relationship to each other in the image. A further reason for choice of focal length with regard to visual impacts concerns the composition of the view containing the view subject. It is necessary for images used to demonstrate the principles of visual impact to contain the components of the view that comprise the composition, context or setting of the subject.

A single frame image, recommended as the base for photomontages, has a single centre of focus and perspective. This is important, because the 3D model prepared in the computer, which is to be merged with the photographic image, must rely on similar geometry and perspective to the lens used, to achieve an acceptable level of fit to the photograph.

In the current project, because views to the site are predominantly from some distance, a focal length of 50mm was used for all photos.

4.3 Requirements for photography

For the purposes of preparing verifiable photomontages, the base photographs must be taken with a professional quality camera, typically a digital SLR, in a standardised way. The camera is mounted on a tripod, levelled horizontally and vertically and the photographs taken with a fixed focal length lens (see above) at high resolution in JPG and also in RAW format. The reason for capturing RAW format images at the same time as JPG is that the RAW images have not been processed, smoothed or otherwise altered in taking the image and are therefore the best images to use if some amendments of colour balance, contrast or colour matching need to be done, post-capture, for the sake of consistency across images.

RLA took the photographs in to be used by Digital Line to prepare the photomontages, using a Canon EOS 5D DSLR full-frame camera mounted on a tripod set at a height of 1.6m to the centre of the lens above ground level. The images were provided in JPG and in RAW format, to Digital Line.

4.4 Requirements for surveying

To satisfy the requirements of the Land and Environment Court of New South Wales practice note for preparation of photomontages, the location and level of the camera lens taking the photographs must be surveyed. The XYZ coordinates of the camera are added by the surveyor to the existing survey and exported to the model that includes the 3D model of the approved or proposed development. The necessary survey work was carried out by Allen Price and Skaratts Pty Ltd surveyors under the direction of RLA.

4.5 Checking the photomontage accuracy

The accuracy of the fit of the computer model to the photographs for the photomontages should be checked in more than one way, following the importing of the survey data and the computer model into the same 3D space. After this process, the survey data and 3D model of the approved or proposed development can be visualised as a wire frame model. The wire frame is then aligned with physical features visible in the photographic image as the first step to demonstrate accurate fit of the proposed building to the base image.

The model is checked for alignment and height with respect to the surveyed fixed features which are visible in the images. The location of the camera can also be checked with respect to the coordinates of the camera location that is provided by the surveyor. In this way, provided there are a requisite number of 3D reference points visible in the photographs for matching, there is a cross check in both directions. Camera matching requires a minimum of five 3D reference points to be visible in any view.

It is not possible for a perfect fit to occur, because of minor distortions that occur with the camera lens in the periphery of the images, abstractions that occur in the survey data and because of significant differences that occur in the visibility of reference objects caused by the distance between the view place and the item used as a reference point.

Given the relatively small visual catchment of the development of concern there are unlikely to be any significant miss-matching errors caused by these factors.

4.6 Method of preparation and alignment of the 3D models

DigitalLine was provided with a 3D computer model of the Concept Approval and proposed section 75 W by Cox, in the form of a Sketchup model containing the maximum approved and proposed envelopes. Cox also provided a site survey.

DigitalLine prepared 3D block models of the approved and proposed envelopes in each view analysed. The models are simple masses that do not contain features such as windows and doors, articulating elements, colours, materials, landscape etc. They do however contain everything that is necessary to establish the effect of the building envelopes on the composition of views from the specific viewing places required to be modelled.

The 3D models were then merged by DigitalLine with the images provided by RL.

The accuracy of the locations of the 3D model of the buildings with respect to the photographic images was checked in three ways:

1. The model was checked for alignment and height with respect to the 3D survey model and reference markers which are visible in the images taken by RL and which were identified on the images sent to DigitalLine.
2. The location of the camera was checked using the Camera Match utility in the 3D Studio Max program, which uses five or more match coordinates to back-check the location, the RL of the camera and the focal length of the lens used.
3. There are sufficient reference points for cross-checking accuracy in every image.
4. The physical location of the camera and its RL is also independently known to survey accuracy. There is therefore a further cross-check that can be performed in the event that the predicted camera location does not match the location calculated by the Camera Match utility in 3D Studio Max.
5. No significant discrepancies were found between the known camera locations and those predicted by the computer software of the Camera Match utility.
6. This is the most accurate method of aligning a 3D model that is currently used in preparing photomontages of these kinds of developments, as it has three formal and other informal cross-checks.

4.7 Accuracy of fit of the 3D model to the photographs

Inspection of the models of the approved and proposed envelopes in relation to site topography and features visible in photographic images and identifiable in the survey data, shows a high level of fit. As there are more than the requisite minimum number of 3D reference points visible in any of the views to assist in testing the fit, it was concluded that the 3D models in each view could then be filled and rendered, confident in the knowledge that the model is accurately located relative to the existing environment shown in the base photographs.

4.8 Block-model photomontages

Photomontages based on the 3D model which was demonstrated to fit accurately into the base photographs were then prepared by merging the computer and photographic images, taking into account the screening effects of retained vegetation or buildings in the foregrounds.

The photomontages show the outline of the massing envelopes as transparently filled, so that, as an aid to assessment, the extent to which the building would hide or obscure the current landscape behind is visible through the fill, for example vegetation or landforms east of the subject site.

5.0 Comparative analysis

This section of the report analyses the public and private domain views and compares the visual effects of the Concept Approval and section 75W envelopes on those views. The existing views are shown in Appendix 1. The existing views are not the appropriate baseline for the comparative analysis, as they are intended to be significantly changed in character and in the visibility of specific features, by the Concept Approval. The pairs of photomontages for the comparison of visual effects of the Concept Approval and section 75W envelopes are in Appendix 2.

It is only proposed envelopes that are compared in the comparative analysis. The envelopes describe the maximum volume within which buildings can be constructed, subject to individual Development Applications (DAs). The final volume of built form will be less than the maximum building envelope, as the environmental impacts of each individual built form has to be determined at the DA stage, generally leading to decreased building volumes, articulation, increased building separation, etc.

Location 1, Shallows Drive (see Appendix 1 for existing view)

The existing view is a public domain axial view that is available from the entrance to a reserve in Shallows Drive approximately opposite 50 Shallows Drive. The reserve steps down in height to lower elevation and in so doing, the existing view reveals a vista through the southern part of the site on the axis of a future major road, including part of the north-east shore and knoll of the excavated area of the boat harbour, with the crowns of some vegetation in the middle distance and a background of ocean. Some recent approved and constructed residential development is visible at either side in this view.

The envelopes of the approved built form in the Concept Approval (see photomontages in Appendix 2) flank and line the axis of this view right and left and envelopes beyond the future boat harbour sit below the background horizon.

The built form proposed in the s75W application massing appears similar to or somewhat lower than the maximum envelope heights in the Concept Approval. There is no significant difference in the view composition between the Concept Approval and section 75W application, other than a cameo view through to the intermediate horizon of land and vegetation canopy, revealed by proposed amendment to the location of envelopes on the axis, north-east of the boat harbour.

Location 2, James Cook Parkway adjacent to Top Reserve (see Appendix 1 for existing view)

This location is an elevated public viewing location, close to the ridgeline that is followed by Shellharbour Road and essentially marks the western edge of the potential visual catchment of the site. This downward view includes a foreground of existing residential development and mid-ground partly comprised of recently constructed development and a substantial area of the existing site.

The envelopes of the approved built form in the Concept Approval (see photomontages in Appendix 2) form a new built mid-ground horizon. The Harbour entrance and coastal features are not visible. The tallest built form is the hotel, approved in the southern part of the central commercial precinct of Shell Cove and approximately in the centre of the view. Vegetation on slightly higher land toward Shellharbour north-east of the site remains visible.

In the section 75w application, the hotel envelope has moved to the north and its re-orientation creates a narrower form in this view. All forms including the hotel, sit at a height that is below the sky-sea background horizon but is above the land-sea mid-ground horizon, as is the case with the Concept Approval. The visual effects of the section 75W application are similar to the approved development with only minor increases being evident in individual buildings or groups of buildings in the view and less roof surfaces visible. The increased height sought in some places does not create significant additional visual impacts on the composition of this view relative to the Concept Approval, nor cause increased or different view loss.

Location 3, Beakys Reserve Bass Point (see Appendix 1 for existing view)

This is a low-lying location south-east and more than 1km in distance from the subject site. The ridgeline surrounding Shell Cove and landforms to the north and west of the site on the southern Illawarra Escarpment are visible well above and behind the subject site.

The envelopes of the approved built form in the Concept Approval (see photomontages in Appendix 2) form a new and continuous built element behind the coastal edge, above and behind which existing development remains visible to the north-west and south-west of Shell Cove. Views to Bass Point and Beakys Reserve promontory and the adjacent coastline will remain available from residential development in those locations.

The taller built form proposed in the section 75W application is evident in the central and left (southern) part of the view. The proposed amended envelopes do not obscure views to the Shell Cove ridgeline or Illawarra Escarpment or to intervening landforms in the distant background. The additional height does not appear to increasingly blocks views to residential development located across some of the lower parts of the south-facing slopes of Shell Cove and does not create significantly greater visual effects or potential visual impacts relative to the Concept Approval.

Location 4, Shellharbour boat harbour (Cowies Reserve) (see Appendix 1 for existing view)

Views from the boat ramps and car turning area in this vicinity do not include the existing development constructed on the site. From this low-lying location and view orientation, views of existing development are blocked by intervening landforms, development and vegetation.

In the Concept Approval, the roofline of a minimal area of development on the south-west of the site below the Killalea State Park, which is barely visible on the horizon between trees associated with the Shellharbour Caravan Park, is visible. At the far right of the view, part of a building is visible above foreground buildings but in reality, would be likely to be partly screened by vegetation between Shellharbour and the site.

In the section 75W application photomontage, the massing envelope is also barely visible in the same locations, but appears similar to or slightly lower than in the Concept Approval.

Overall, there would be no detectable difference in the views between the envelopes approved in the Concept Approval and those in the section 75W application.

Location 5, North end of Shellharbour South Beach (see Appendix A for existing view)

This location is lower relative to the subject site so that views from the beach are at a slight upward angle. In this regard low dunes, scrub and trees located along this landform block the site in views from this vicinity toward the south and south-west.

All built form whether as approved in the Concept Approval or as proposed in the section 75W application (see photomontages in Appendix 2) is located relatively lower in the view line than the horizon formed by the height of vegetation and landform on the right-hand side (northern part) of the view. The photomontages have been prepared in this case to show the envelopes of the nearest parts of the built form in both Concept Approval and the section 75W application, as though the foreground of sand dune and vegetation was transparent. The envelopes are shown dashed to indicate their location behind the dune and vegetation that would hide them. This has been done to show where the development is located in the models of the development and why the buildings would not be visible in reality. The hotel in the Concept Approval would not be visible. The hotel in the s.75W application would also not be visible as it is further to the right of this view line and hidden behind higher topography of sand dunes and vegetation.

Location 6, 27 Ragamuffin Circuit (see Appendix 1 for existing view)

The view shown is part of a wider panoramic view available from the front, first floor (south-facing) balcony at this address. The view is south-east towards the subject site from an elevated, sloping location approximately 1km from the nearest part of the site. The composition of this part of the view was chosen to analyse, at it includes the majority of the site in a single frame photograph.

The existing view includes some existing buildings on the edges of the site. Most of the site is currently unoccupied by any existing buildings. The breakwater currently under construction and none of the adjacent shoreline features or beaches are visible. Vegetation along the hind dunes of the beach and on the southern fringes of Shellharbour, is visible on the left side of the view, forming an intermediate and partial horizon below the ultimate ocean horizon in the distance. Most of the mid-ground topography has been constructed to support the future commercial centre, boat harbour, marina and residential development planned, although it is currently vacant.

The building envelopes in the Concept Approval (see photomontages in Appendix 2) occupy the middle distance of the view and form a new and continuous, built horizon. Bass Point remains visible on the right, as does the existing hard rock quarry. The hotel as the tallest approved form slightly exceeds the height of the background ocean-sky horizon. None of the features along the shoreline between the development area and the ocean are visible.

The section 75W envelopes appear slightly different if considered in detail but they occupy essentially the same middle ground of the view and block the same access to views of existing coastal features and also retain the view toward Bass Point. One part of the profile of the proposed section 75W envelope, to the right of the proposed hotel envelope and in the centre of the view, appears higher than the maximum envelope in the Concept Approval. Seen through the transparent envelope, it is evident that what is blocked compared to the lower envelope of the Concept Approval, is a narrow band of water, but not coastal landform or individual scenic items.

The hotel, in the more northerly location proposed in the section 75W application, appears slimmer than in the Concept Approval and only slightly taller. It exceeds the height of the background horizon as it does in the Concept Approval. Overall, in our opinion, there is only a qualitative difference between the Concept Approval and the section 75W application in appearance. The section 75W application does not lead to a significant difference in view available or the character or quality of the view.

Location 7, 18 Tasman Drive (see Appendix 1 for existing view).

This view is from a mid-slope location approximately 700m west of the nearest part of the subject site. The view is constrained on the right and left by roofs of buildings in the foreground. The view is accessible from the rear first floor balcony of the residence, between and above the roofs of residential development that predominantly forms the foreground and mid-ground composition of the view. The view includes some existing, new buildings on the edges of the site but most of the site is unoccupied by any existing buildings. Vegetation along the hind dunes of the beach and on the southern fringes of Shellharbour, is visible on the left side of the view, forming an intermediate horizon, with an ocean horizon beyond.

The building envelopes in the Concept Approval (see photomontages in Appendix 2) occupy the middle distance of the view and form a new and continuous, built horizon. The hotel which is about 900m east of the dwelling, as the tallest approved form, appears slightly lower than the height of the background ocean-sky horizon, although this was difficult to assess, due to smoke haze on day of photography. None of the features along the shoreline between the development area and the ocean are visible.

The canopy of Cook Pines trees that line both sides of Cove Boulevard present in the foreground of the view provide some filtering of views to the subject site and will do so to a greater extent as they continue to grow in height.

The section 75W envelopes appear only slightly different if considered in detail but they occupy essentially the same middle ground of the view and block the same access to views of the same features as in the Concept Approval. Slightly less roof surface would be visible. One part of the profile of the proposed section 75W envelope, in the vicinity of and in front of the proposed hotel envelope and another to the far right in the view, appears slightly higher than the maximum envelope in the Concept Approval. Seen through the transparent envelope, it is evident that what is blocked compared to the lower envelope of the Concept Approval, is a narrow band of water, but not coastal landform or individual scenic items.

The hotel in the section 75W application, appears slimmer than in the Concept Approval and it exceeds the height of the background horizon. The extra height sought for the hotel does not cause any significant view blocking compared to the envelope approved in the Concept Approval.

Overall, in our opinion, there is only a qualitative difference between the Concept Approval and the section 75W application in appearance. The section 75W application does not lead to a significant difference in view available or the character or quality of the view.

Location 8, 26 Mystics Drive (see Appendix 1 for existing view)

This is a north-east view from a lower slope location that is less elevated than the other two private domain view locations assessed. The view is from the close-range distance category approximately 400m south-west of the western boundary of the subject site and 750m south-west of the approved hotel location in the Concept Approval.

In this existing view some approved built forms located in the northern part of the subject site are visible between the roofs of earlier, intervening residential development that exists in the foreground composition of the view. Most of the site is screened by intervening development located along the north side of Mystics Drive as it rises in elevation to the east.

The background horizon of the view is the existing southern edge of Shellharbour township and vegetation surrounding the caravan park south of the town and in a ribbon of residential development south of this.

The approved built form in the Concept Approval (see photomontage in Appendix 2) occupies the mid ground of the view. The approved hotel form in the Concept Approval will rise above the horizon and will be silhouetted against an area of ocean and sky. Some vegetation canopy remains visible above the envelope.

In the section 75W proposal, the built form proposed on the north-east part of the site blocks more of the district view of the southern outskirts of Shellharbour, but otherwise makes no significant difference to the visibility of existing items. There is a qualitative difference in the appearance of the view compared to the Concept Approval, but no substantial loss of quality and there is a minor impact on the character of the view. In our opinion, the proposed changed envelope in the section 75W application does not cause an impact on individually scenic or significant items.

5.1 Assessments of effects on private domain views

5.2 View sharing principles

We have undertaken an assessment of the potential visual effects and impacts of the proposed development pursuant to the planning principles in the judgment of Roseth SC of the Land and Environment Court of New South Wales in *Tenacity Consulting v Warringah [2004] NSWLEC 140 - Principles of view sharing: the impact on neighbours (Tenacity)*.

Each of the steps in the planning principle is predicated on the preceding step exceeding the threshold that is necessary before proceeding to the next step. This information is to provide clarity in relation to the conclusions of the assessment.

The first part of this section of this report includes our assessment of the application in relation to the initial threshold step in *Tenacity* which, if met, may require the remaining steps of the planning principle to be applied.

Relevantly, we note that *Tenacity* is not case law and the planning principle in *Tenacity* is not to be interpreted in that way. Indeed, the principle, which is often described as a four-part test, is not a 'test' at all. In legal terms a 'planning principle' is described by the Court as a statement of a desirable outcome from a chain of reasoning aimed at reaching a planning decision, or a list of appropriate matters to be considered in making a planning decision. The importance of the principle is in citing relevant matter to be taken into account and in highlighting the relationships among them.

In the preamble to the four-step principle in *Tenacity*, Roseth SC states at Paragraph 25:

The notion of view sharing is invoked when a property enjoys existing views and a proposed development would share the view by taking some of it away for its own enjoyment. (Taking it all away cannot be called view sharing, although it may, in some circumstances, be quite reasonable).

The implementation of the Concept Approval of the Shell Cove Boat Harbour Precinct Concept Plan will result in loss of views to the benefit of occupants of some of the buildings in the precinct, which will thereby share the views. That is the baseline against which to judge the environmental impact on view sharing of the section 75W application in comparison to the Concept Approval. In the circumstances, it is a valid base assumption that the level of view loss that will result from the Concept Approval is reasonable, as it reflects a deliberate and approved intention to transform the existing environment into an urban and maritime setting with a variety of built forms and attributes that are fundamentally different from the existing situation. View loss will occur as a consequence of that transformation and has to be accepted as not only reasonable but also the intended outcome of implementation of the Concept Approval.

The assessment of view sharing in the circumstances of this assessment is therefore not an assessment of the effects of the Concept Approval on the existing view. It is an assessment of the difference in view sharing between the Concept Approval, as it would be implemented when completed, compared to the proposed section 75W application.

5.3 Application of ***Tenacity*** planning principle

Roseth SC in *Tenacity* defines a four-step process to assist in the determination of the impacts of a development on views from the private domain. The steps are sequential and conditional as noted above, meaning that proceeding to further steps may not be required if the conditions for satisfying the preceding threshold is not met in each view or in relation to each residence considered.

Step 1: Views to be affected

The first step quoted from the judgement in *Tenacity* is as follows:

The first step is the assessment of views to be affected. Water views are valued more highly than land views. Iconic views (eg of the Opera House, the Harbour Bridge or North Head) are valued more highly than views without icons. Whole views are valued more highly than partial views, eg a water view in which the interface between land and water is visible is more valuable than one in which it is obscured.

Step 1, in the context of *Tenacity* judgement, is not simply mechanical, ie. listing what would be lost in the view. The notion of views to be affected is to be understood in the context of the principle itself, which focusses entirely on view sharing, a cornerstone of which is understanding what is valued about views and how much of the value of a view could be shared. In that context, if there is no substantive loss, or if the items lost are not considered to be valued in *Tenacity* terms, the threshold is not met and there is no justification for proceeding to Step 2, or other steps beyond Step 2. In other words, the proof that something will be lost to view is not sufficient for the remainder of the principle to have any work to do, unless there is potential for the other steps to be relevant.

An important issue in the circumstances of this assessment is the existing level of view loss caused by the Concept Approval and the items of the view that would be lost to view. If the degree of loss is essentially the same, or if the same items are affected, but to the same effect and/or simply in different places in the view, in our opinion there is no valid reason to continue with the *Tenacity* steps beyond Step 1.

In our opinion in each of the three private domain views inspected, the proposed development will take away a small additional horizontal section of view. In the case of 26 Mystics Drive, this is predominantly part of a district view of the outskirts of Shellharbour. In each view, part of the view composition that is occupied by an undifferentiated view of water is lost. The additional horizontal section of views lost are caused by one or two additional residential storeys of height. The relocation of the tower form of the hotel to the north and its re-orientation make it appear slimmer and the amount of view lost horizontally is less in the section 75W application than in the Concept Approval. The increased height of some approved building envelopes where they have an additional effect, will block views to a minimal additional horizontal section of undifferentiated areas of ocean.

The compositional elements that are blocked by the approved hotel in the Concept Approval are similar to those that will be blocked if it is moved to the proposed location. The additional view blocking effects caused by the increased height sought for the hotel on private domain views will be areas of open sky. We do not consider that to constitute view loss in *Tenacity* terms.

Therefore, in our opinion although the proposed development will take away views of an item (water) that is identified as more valued than land in Step 1 of *Tenacity*, that is not the end of it. The principle also states in relation to water views that whole views are more valued (ie where the land-water interface is visible). The land-water interface is not lost to view to any greater extent in the section 75W application. In addition, the whole view as a composition of horizontal water expanse, horizon of water, etc. is not negatively affected by the section 75W application compared to the Concept Approval. The same whole view of ocean horizon is retained.

The water lost is simply part of a narrow, horizontal band, undifferentiated from other areas of the same feature and the horizon formed by it is retained above the built form proposed to the same extent in the section 75W application as in the Concept Approval.

In our opinion, the visual impacts of the section 75W application are not substantively different from the Concept Approval and further that the planning principle in *Tenacity* has no work to do, as the threshold for proceeding past Step 1 is not met and therefore the application of the *Tenacity* principle is not required.

6.0 Conclusions

The potential visual catchment of the envelopes in the proposed section 75W development is the same as for the Concept Approval. It is constrained by the same topography, individual landforms, vegetation and built forms.

The differences between the section 75W application envelopes and those approved in the Concept Approval will primarily be evident in mid-slope locations in the visual catchment to the west of the site, or distant views from the coast of Bass Point. The exception would be the tallest building, the hotel, which would be more widely visible.

The built form sought in the section 75W application represents a minor increase in height relative to the built form approved in the Concept Approval, for only some parts of the site. In other parts, the overall heights are decreased.

The analysis of views and of photomontages prepared shows that there would be a minor quantitative increase in view loss of undifferentiated ocean in parts of the views looking east or north-east across the site from existing residential areas that are sufficiently elevated to have views over the site. The overall composition of the views in the section 75W application and in the Concept Approval are qualitatively similar.

The proposed envelopes in the section 75W application would appear compatible and consistent with the intended future character for the site established by the Concept Approval.

The increased height sought for some building envelopes in the section 75W application will not create significant changes in the composition of views, relative to the built forms that have been approved in the Concept Approval.

The development proposed in the section 75W application will add a minor amount of additional height to some forms within subject site, in particular in the commercial precinct. The additional height leads to less visibility of roof surfaces from some elevated viewing places but no significant increase in view loss.

The increased height sought for the hotel in the Section 75W application, in its proposed location further north, does not cause a significant increase in view blocking compared to the Concept Approval and the re-orientation of the envelope causes a decrease in horizontal bulk visible from the residences assessed.

The planning principle in *Tenacity* was applied to the extent that it is relevant to three private residential views. In our opinion, the section 75W application does not cause significantly greater view loss than the Concept Approval. The differences in terms of views available are minor and not significant.

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