

Bushfire Assessment

In relation to

Proposed Tourist Facility

Lot 1 DP34356

40 Dogwood Road

Bungwahl

Prepared for
Charlotte Bay Pty Ltd

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Project: 4093

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1. Background

On 19 July 2005, the then NSW Department of Infrastructure Planning and Natural Resources (now Department of Planning) granted consent to Development Application 173-7-2004 on the subject land for a staged tourist facility development as outlined below.

Stage 1 of the tourist facility development comprised the following:

- Construction of five (5) buildings including three (3) bunk buildings, amenities block and communal lodge facility;
- On-site sewage management system and disposal area;
- Upgrading of Horse Point Road and Dogwood Road to the main point of access to the property; and
- Construction of bus parking and internal access roads.

Stage 2 of the tourist facility development comprised the following:

- Construction of six (6) ensuite cabins and Reception/café/shop building in the north western part of the property; and
- On-site sewage management system.

Since the original development consent was issued, the land has changed ownership and the preferred development concept has been revised to reflect the intentions of the new owners. As such, it is proposed to modify the consent with respect to Stage 1 of the approved development.

The proposed modification is detailed in Section 3 of this document.

The original development was subject to the requirements of the now superseded NSW Rural Fire Service (RFS) guideline entitled *Planning for Bushfire Protection 2001*.

A Bushfire Threat Assessment, dated July 2004, was prepared in relation to the original development and addressed the requirements of *Planning for Bushfire Protection 2001*, which were entirely prescriptive.

In 2007, *Planning for Bushfire Protection 2001* was replaced by the current performance based RFS guideline entitled *Planning for Bush Fire Protection 2006*.

Conditions G18-G25 of the development consent related to the provision of bushfire protection measures for the approved tourist facility development.

Condition G19 of the consent read as follows:

Recommendations contained within section 8 of the Bushfire Threat Assessment report prepared by Coastplan dated July 2004 shall be complied with, except where amended by the following conditions.

The Bushfire Threat Assessment discussed in Condition G19 did not include any definite set of recommendations, and Section 9 of the Bushfire Threat Assessment discussed the relationship between the development and the prescriptive requirements of *Planning for Bushfire Protection 2001*. The “following conditions” were Conditions G20-G25. These conditions, and the amendments proposed to each (where applicable), are discussed at the relevant sections of this Assessment.

As the bushfire protection guidelines that were applicable at the time of the original development application have now been superseded, it is appropriate that the bushfire protection requirements for the proposed modification be assessed in relation to the current performance based RFS guideline. In particular, it is proposed to reduce the requirements in relation to road widths (including upgrading of Dogwood and Horse Point Road) arising from the conditions of the initial approval to an extent that reflects the relevant performance criteria of the current *Planning for Bush Fire Protection 2006* guideline. The adoption of reduced road widths for Dogwood and Horse Point Road is intended to allow for the reduction of the extent of excavation and vegetation removal that would otherwise be necessary to construct the total 10 metre wide road corridor (formation and shoulders) as required by the current consent conditions.

2. Site Description

The site is located at Lot 1 DP34356, 40 Dogwood Road, Bungwahl.

The land has an area of approximately 12 hectares. An aerial photograph showing the site is at Figure 1.

The site is located on the eastern side of Dogwood Road, with the entire length of the western boundary of the site having frontage to Dogwood Road. The northern boundary of the land adjoins a Crown Reserve that separates the land from the Smiths Lake foreshore.

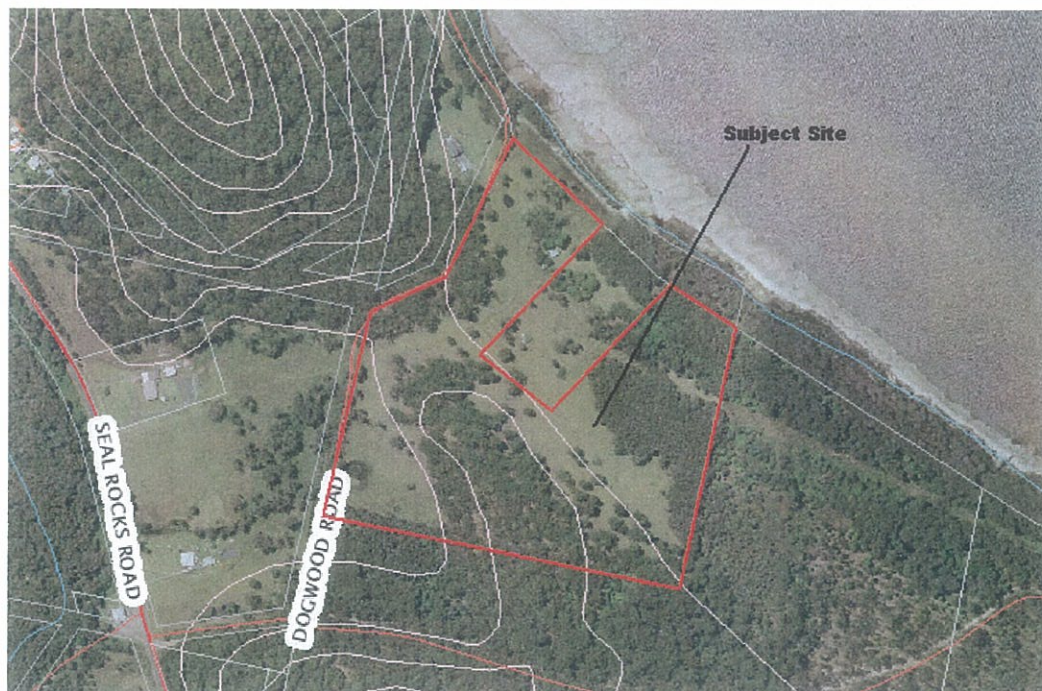


Figure 1: Aerial Photograph showing the site (North to top of page)

Source - NSW Department of Lands SIX Viewer © six.nsw.gov.au

- NSW Regional imagery (Med-High resolution) - © Lands 2008
- East Coast Aerial Photos (Med-High resolution) - © Lands 2006

A map indicating the location of the site is shown in Figure 2.

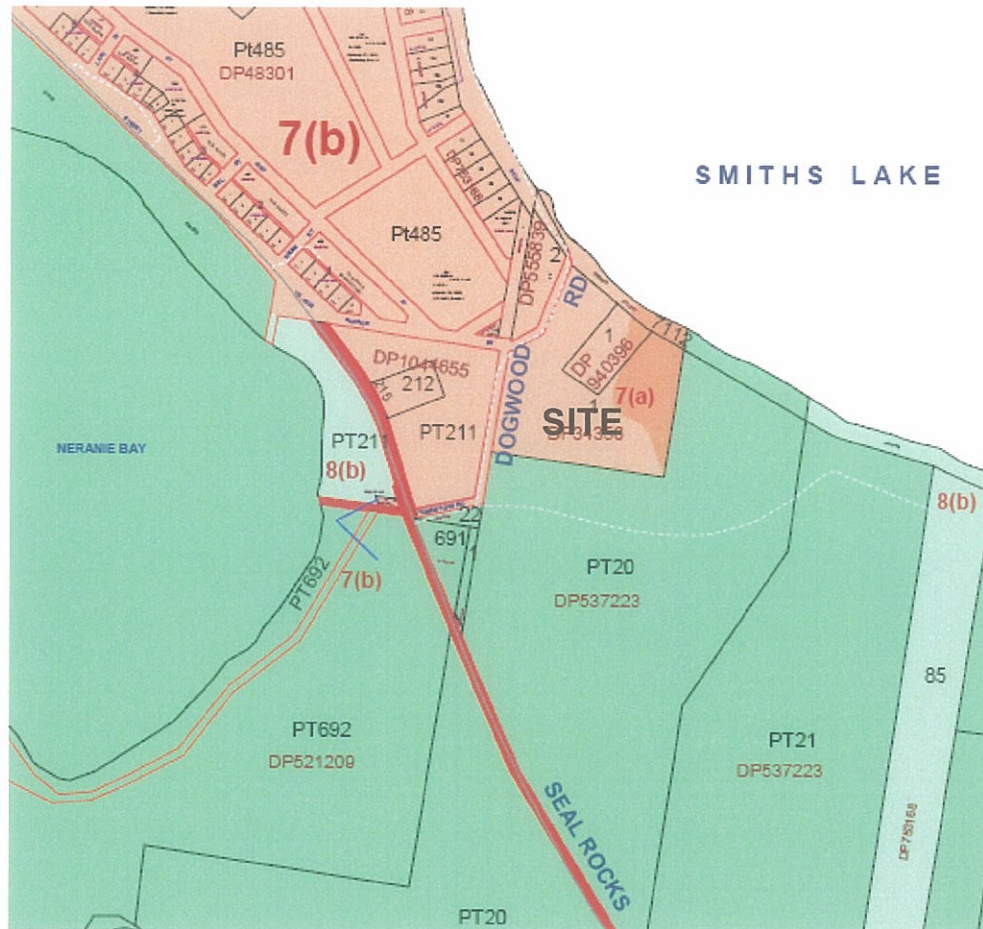


Figure 2: Locality Map (North to top of page)
[Source: Great Lakes Council]

The land on the site is zoned part 7(a) “Wetlands and Littoral Rainforest” and part 7(b) “Conservation” under the provisions of Great Lakes Local Environmental Plan 1996 (the LEP) (see Figure 2).

The portion of the site that is zoned 7(a) is located in the north-east part of the site, with the 7(a) zoning corresponding to the western extremity of a mapped coastal wetland (No.649) under State Environmental Planning Policy 14 – Coastal Wetlands (SEPP14). The SEPP14 wetland, and thus the portion of the site zoned 7(a), is characterised by closed forest vegetation.

The buildings and infrastructure within the proposed tourist facility are to be located on the 7(b) zoned land.

Part of the land within the site is mapped as bushfire prone land. An extract of Great Lakes Council’s Bushfire Prone Land map showing the site is at Figure 3.

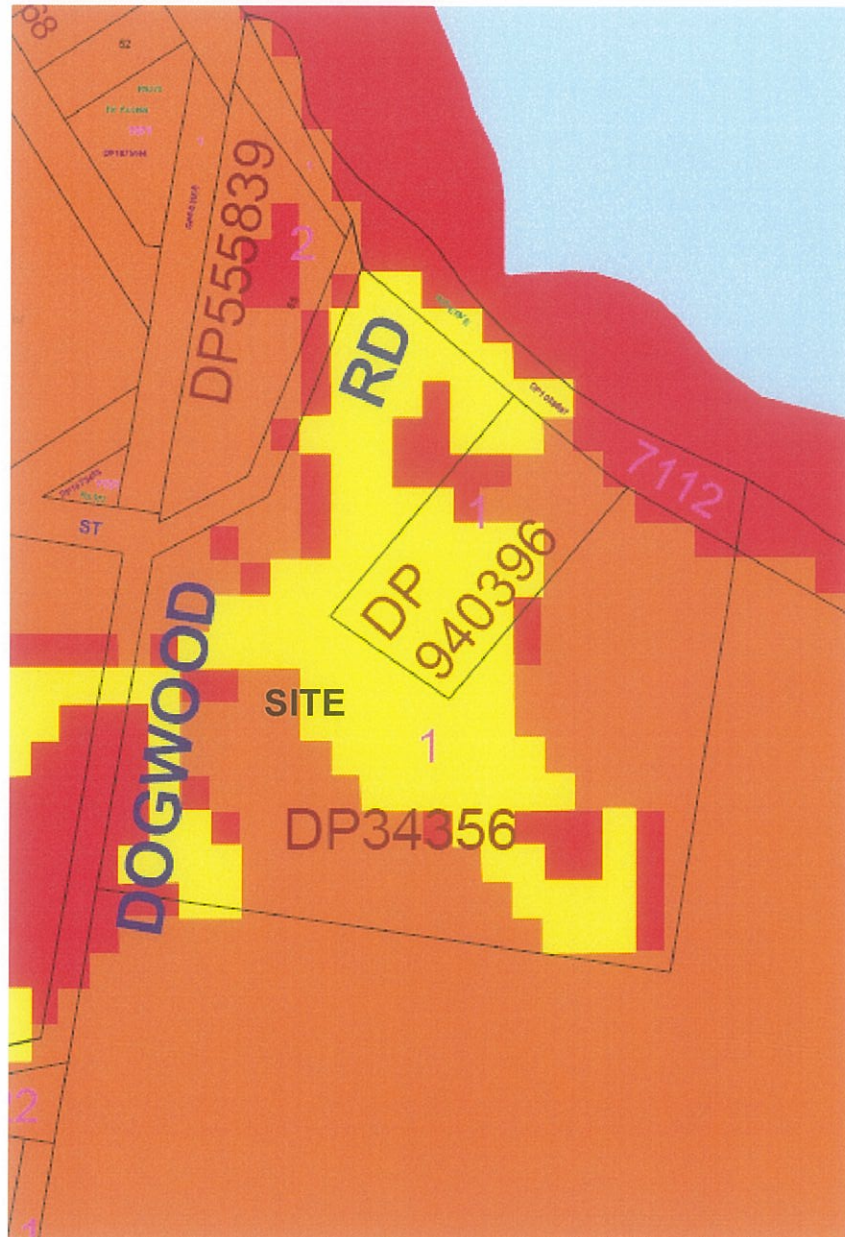


Figure 3: Extract of Bushfire Prone Land Map
[Source: Great Lakes Council]

As indicated in Figure 3, the land within the site is mapped variously as:

- Containing Category 1 vegetation (shown orange);
- Containing Category 2 vegetation (shown yellow); and/or
- Being located within the 100 metre bushfire buffer (shown red) to Category 1 and/or Category 2 vegetation.

The buildings within Stage 1 of the development are located within an area of the site mapped as Category 2 vegetation and these areas are vegetated mainly by grasses.

The buildings within Stage 2 of the development, in the north-western part of the site, are located within an area of the site mapped as Category 2 vegetation and/or as bushfire buffer. These areas are vegetated mainly by grasses.

The site is presently used for agricultural purposes and, with the exception of some sheds in the northern part of the site, is vacant. Vegetation on the major part of the site is grassland. As noted above, an area of closed forest exists in the north-eastern part of the site. This vegetation corresponds to the 7(a) zoned land in that part of the site. Open forest exists on a ridge through the central southern part of the site. A small dam exists in the south-western corner of the site.

Land to the east of the site is relatively heavily vegetated and comprises part of the Myall Lakes National Park. To the west/north-west of the site, the vegetation type is predominantly open forest. The land in the north-eastern part of Lot 2 DP 555839, directly to the west of the buildings within Stage 2 of the development and on the opposite side of Dogwood Road from the site, comprises a substantial cleared area which is occupied by an existing dwelling and associated buildings. Approximately seventeen (17) relatively small allotments exist to the north-west of the site, further along Dogwood Road. The majority of those allotments have been developed for residential purposes.

Services, in the form of electricity and telephone, are available to the land. Reticulated water and sewer are not available to the land.

Electricity transmission lines are located in the western and north-western parts of the site.

These transmission lines cross the western boundary of Lot 1 DP940369, where they intersect to form a single electricity transmission corridor towards the east, into the area of SEPP14 wetland. The electricity transmission lines that travel through the area of SEPP14 wetland effectively sever the closed forest

vegetation in the north-east of the site into distinct northern and southern sections.

Permanent access is presently available to the land via Dogwood Road.

3. The Proposed Modification

The proposed modification relates only to Stage 1 of the approved tourist facility development.

Stage 1 of the approved development proposed the construction of five (5) buildings including three (3) bunk house buildings, a communal lodge facility (dining pavilion) and an amenities block in the eastern part of the property.

The proposed changes involve the redesign and adaption of the accommodation buildings to include an ensuite for each accommodation suite which removes the need for a separate amenities block. In this regard, the three (former bunk house) buildings will now each contain four (4) ensuite accommodation units. The provision of ensuite accommodation will make the provision of additional amenities redundant and, in this regard, the originally approved amenities block has been deleted.

The proposed changes also involve a redesign of the dining pavilion to improve the amenity of that building.

The proposed modification to Stage 1 of the approved tourist facility development is shown on plans prepared by Pacific Blue Design, project pa 67, drawing numbers 3001-3005, dated 30/09/09. These plans are at Appendix 2 to this document.

In summary, the proposed changes replace one (1) amenities building and three (3) bunkhouses (total of nine (9) bunk house rooms), with three (3) ensuite accommodation buildings containing four (4) units each (i.e. a total of twelve (12) accommodation units).

As indicated on the part site plan (Plan No.3002), the originally approved building outlines in Stage 1 of the development are shown dotted in red, and the proposed new building outlines have been superimposed over the approved building footprint to indicate the changes to the development. As is evident from the site plan, the building footprint that will be occupied by the redesigned guest accommodation

buildings will be substantially the same as the building footprint of the originally approved buildings.

The floor plan of the redesigned guest accommodation is shown on Plan Nos. 3003 and 3004. As indicated on Plan No. 3004, the floor plan for pod 12 in Longhouse layout 2 is proposed so as to be suitable for occupation by persons with a disability when required.

The floor plan of the proposed redesigned dining pavilion is shown on Plan No. 3005. Essentially, the changes proposed to the dining pavilion include the incorporation of a small reception area, a toilet area and a verandah to the north-western and north-eastern elevations of that building.

4. Classification of Vegetation

The vegetation types have been identified via the Flora and Fauna Assessment by Natural Impact Ecological Solutions which accompanied the initial development application.

The location of the different vegetation types on the site are shown in Figure 4 on the following page. Figure 4 is reproduced from the Flora and Fauna Assessment by Natural Impact Ecological Solutions. Photos 1-6 later in this section illustrate the prevailing vegetation types on the land in relation to Stages 1 and 2 of the tourist facility development.

The vegetation on the site comprises grassland (in excess of 6 hectares), open forest (approximately 3.1 hectares) and closed forest in the area of SEPP14 mapped wetland (approximately 2.7 hectares).

Vegetation on land to the south and west/north-west (on the opposite side of Dogwood Road) of the site comprises open forest, with closed forest to the east and immediate south-east of the site. With regard to Stage 2 of the development:

- A substantial cleared area, occupied by an existing dwelling and associated buildings, exists directly to the west, on the opposite side of Dogwood Road (on Lot 2 DP 555839); and

- The vegetation on the land within Lot 1 DP940396 comprises grasses and areas of woody vegetation that are generally consistent with the area of closed forest in the north-eastern part of the subject site. In the southern part of Lot 1 DP940396, it is clear that the land has been subject to past vegetation clearing.

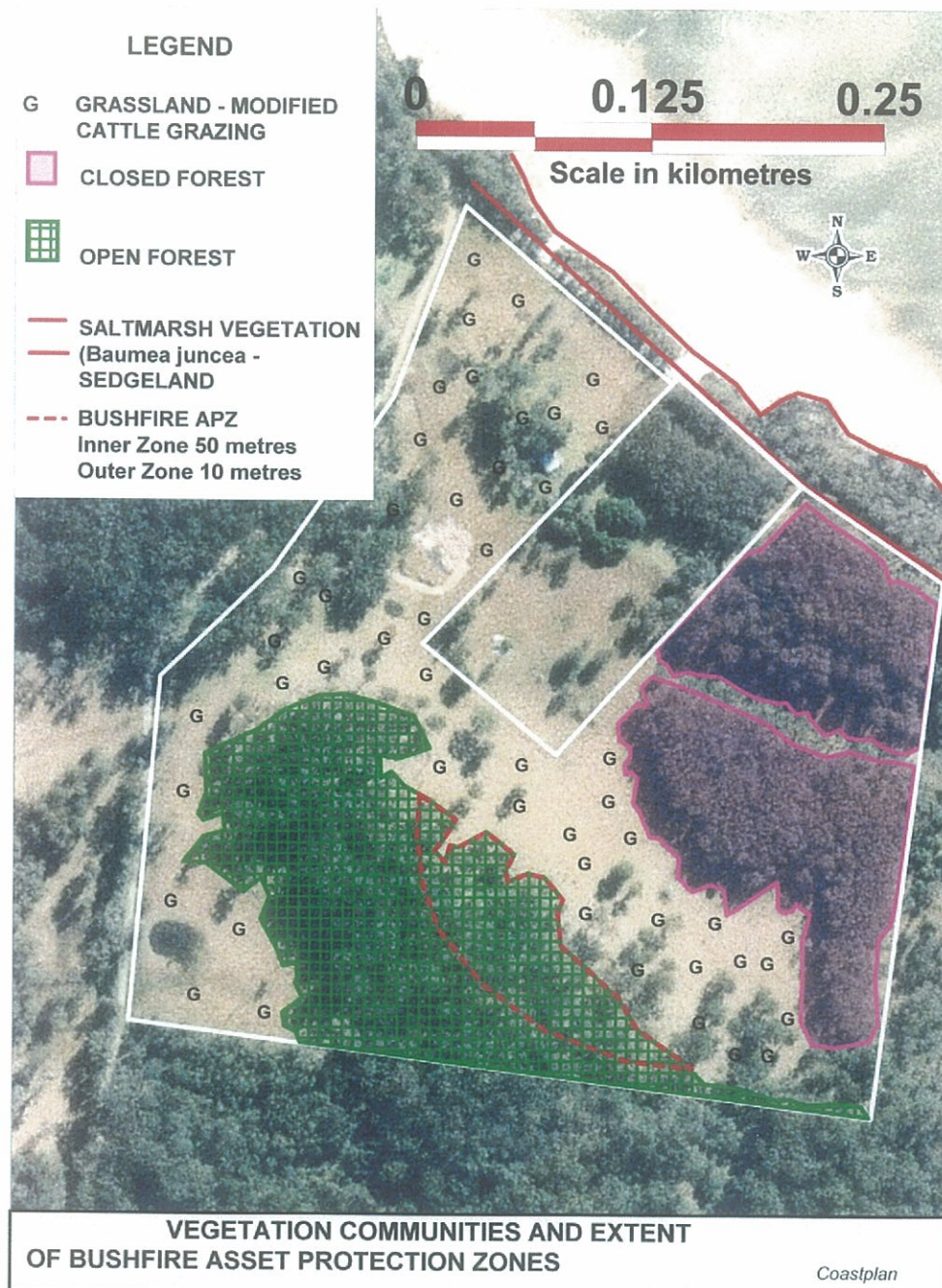


Figure 4 [Source: Natural Impact Ecological Solutions]

Based upon the provisions of *Planning for Bush Fire Protection* 2006, the vegetation formations are classified as:

- open forest to the south of the development in Stage 1 and to the west/north-west of the development in Stage 2;
- closed forest to the east and immediate north-east of the development in Stage 1 of the development and to the east/south-east of the development in Stage 2; and
- Grassland in the remaining part of the site as shown in Figure 4.



Photo 1: View from site of proposed accommodation buildings (in Stage 1) looking south-east



Photo 2: View from site of proposed accommodation buildings (in Stage 1) looking east to the area of closed forest and area of SEPP14 mapped wetland



Photo 3: View to north-west looking over site of proposed accommodation buildings (in Stage 1)



Photo 4: View to west over site of ensuite cabins (in Stage 2)



Photo 5: View to southwest looking over site of ensuite cabins in Stage 2
(boundary/fence with Lot 1 DP940396 shown at left of photo)



Photo 6: View from site of ensuite cabins (Stage 2) looking north towards Smiths Lake

5. Assessment of the Slope of the Land

In relation to Stage 1 of the proposed development, and, with particular emphasis on the proposed accommodation buildings containing the ensuite units, the effective slope of the land (that is, the slope of the land most likely to influence bushfire behaviour for the purposes of calculating Asset Protection Zones) in relation to the area of closed forest located to the north-east and east of the buildings is relatively flat within the area of vegetation.

Again, with reference to Stage 1 of the development, the effective slope of the land in relation to the area of open forest located upslope of the accommodation buildings is upslope (greater than 5°).

The land in the northern part of the site, where Stage 2 of the development is to be located, is relatively flat and low-lying. Levels in this part of the land vary between about 2 metres to 4 metres AHD. The effective slope of the land in relation to Stage 2 of the proposed development, and the vegetation on Lot 1 DP 940396 to the east of the ensuite cabins is relatively flat. To the west of Stage 2, the effective slope of the land is upslope (greater than 5°), that is, the

slope of the land on the western side of Dogwood Road which supports the open forest vegetation.

6. Any Significant Environmental Features

The western extremity of SEPP14 wetland No.649 extends into the north-eastern part of the site and is defined by the closed forest vegetation that exists in that area. The proposed development has been designed and sited in order to eliminate the need for any of the area of the SEPP14 wetland and closed forest to be disturbed or cleared for the provision of Asset Protection Zones.

7. Any Threatened Species

A Flora and Fauna Assessment conducted over the site by Natural Impact Ecological Solutions (April 2004), which accompanied the initial development application, found that there were no endangered populations or ecological communities within the study site.

The Flora and Fauna Assessment noted that three (3) insectivorous bat species listed under the Threatened Species Conservation Act 1995 – the Eastern Bent wing Bat, the Eastern Free tail Bat and the Greater Broad-nosed Bat – used the site. The Assessment found that no other threatened species, flora or fauna, were detected during targeted surveys in March 2004.

The Assessment concluded that the proposed development, and the relatively minor removal of some vegetation to provide Asset Protection Zones, would not have any significant adverse impact on local populations of threatened species, ecological communities or the overall biodiversity of the site.

8. Any Aboriginal Relics

A search of the AHIMS database (National Parks and Wildlife Service/Department of Environment and Conservation) was conducted at the time of the initial development application, with the result being that there are no records of known Aboriginal places/relics on or in the general vicinity of the site.

9. Bushfire Assessment

9.1 The extent to which the development is to provide for setbacks including Asset Protection Zones

The siting of the accommodation buildings within the proposed modified development remains substantially the same as that which was proposed for the approved original development.

The siting of the dining pavilion in Stage 1 of the development is also substantially the same as that which was proposed for the communal lodge facility/dining pavilion in the approved original development. The siting of this building remains to the east of the accommodation buildings within Stage 1 of the development, within a relatively cleared area.

The proposed modifications to Stage 1 of the development do not involve any changes to the siting of the buildings in Stage 2 of the development.

In relation to Stage 2 of the proposed development, the ensuite cabins have been sited so as to achieve a setback of at least 40 metres from the nearest site boundary with Lot 1 DP940396 and a setback in excess of 30 metres from the nearest site boundary of the site with Dogwood Road. The reception/café/shop building is located approximately 20 metres from the western boundary of the site and just in excess of 40 metres from the land on the western (opposite) side of Dogwood Road from the site. As mentioned previously, the land on the western (opposite) side of Dogwood Road from the site – Lot 2 DP555839 – has been developed for residential purposes and a significant cleared area now exists in the north-eastern part of that land. This provides a substantial effective separation distance between Stage 2 of the development and any area of unmaintained vegetation on Lot 2 DP 555839.

The conditions of consent in relation to the provision of Asset Protection Zones for the original development were as follows:

G22 Staging of Development

Staging of the development shall occur so that asset protection zones in accordance with Planning for Bushfire Protection 2001 are provided until the next stage is developed and temporary turning circles are provided until the access road is extended for the next stage of the development.

G24 Asset Protection Zones – Stage 1

Asset Protection Zones for the buildings in Stage 1 shall be provided with 50m from the bushfire hazard to the north and east, 60m from the bushfire hazard to the south, and 80m from the bushfire hazard to the west.

G25 Asset Protection Zones – Stage 2

Asset Protection Zones for the buildings in Stage 2 shall be provided with 20m from the bushfire hazard to the north, east, south and 60m from the bushfire hazard to the west.

The proposed modifications to Stage 1 of the development will involve amendments to each of the above conditions to some extent.

The site is located within the Great Lakes local government area, in the North Coast Fire Weather area, and is subject to an FDI rating of 80 according to Table A2.3 of *Planning for Bush Fire Protection 2006*.

Based upon the provisions of *Planning for Bush Fire Protection 2006*, the asset protection zone required to be provided around the accommodation buildings within Stage 1 (which is proposed to be modified) and Stage 2 are shown in Table 9.1. The asset protection zone values in Table 9.1 are based upon Table A2.6 of *Planning for Bush Fire Protection 2006* and the classification of vegetation formations as described in Section 4 of this Assessment.

Table 9.1

Direction	Stage 1	Stage 2
North	30 metres	30 metres
East	30 metres	30 metres
West	60 metres	To W boundary
South	60 metres	10 metres

Based upon Table 9.1, the amendments to the relevant conditions of consent are as follows:

Staging of Development

Staging of the development shall occur so that asset protection zones in accordance with Planning for Bush Fire Protection 2006 are provided until the next stage is developed and temporary turning circles are provided until the access road is extended for the next stage of the development.

Asset Protection Zones – Stage 1

Asset Protection Zones for the buildings in Stage 1 shall be provided with 30m from the bushfire hazard to the north and east, 60m from the bushfire hazard to the south, and 60m from the bushfire hazard to the west.

Asset Protection Zones – Stage 2

Asset Protection Zones for the buildings in Stage 2 shall be provided with 30m from the bushfire hazard to the north and east, 10m to the south and for the distance between the buildings and the western boundary of the site.

9.2 The siting and adequacy of water supplies for fire fighting

There is no reticulated mains water supply available to the land. To ensure that an adequate water supply is available to protect the proposed development during a bushfire, and that the Rural Fire Service (RFS) can access that water supply for water replenishment for fire-fighting tankers, it will be necessary to provide adequate static water supply reserves in appropriate locations on the site.

Condition G23 of the development consent required as follows:

A tank with a capacity of 10,000 litres for the exclusive use for fire fighting purposes shall be provided to each building. A 65mm Storz fitting and ball gate valve shall be installed in the tank.

The scope of the above condition was that a total of at least 120,000 litres was to be provided on the site, in a series of separate 10,000 litre water tanks to each building. The efficacy of the provision of a water supply in this manner is questionable.

Obviously, there is also a need to provide a potable water supply on the site given the absence of reticulated water supply. Current RFS policy in relation to the provision of water supply no longer requires that water supply for fire fighting purposes be “dedicated” for that purpose.

The proposed modification seeks to provide water supply in a large amalgamated tank in Stage 1. In this manner, water supply tanks can be provided in a manner that provides potable water supply with provision for water supply for fire fighting purposes within the same tank.

For example, at Stage 1, it is proposed to provide a 110,000 litre water supply tank adjacent to the proposed dining pavilion, with another 9,000 litre located to the south of the same building. A similar concept is likely at Stage 2, when development of that stage nears.

Given the above, it is proposed to amend the relevant condition along the lines of the following:

A water supply for fire fighting purposes of at least 60,000 litres is to be provided at each Stage of the development (total 120,000 for the entire development). This water supply may be provided within a water supply tank(s) that is used for other purposes and which allows for the circulation of fresh water. A 65mm Storz fitting and ball valve shall be installed in the tank(s). A “SWS” sign is to be provided at the main entry point to the site from Dogwood Road.

9.3 The capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency

The proposed modified development will not alter the means of access proposed.

Access to the site is presently available from Seal Rocks Road via Horse Point Road and Dogwood Road. Seal Rocks Road is tar-sealed and is generally in good condition and is capable of handling increased volumes of traffic in a bushfire emergency. Both Horse Point Road and Dogwood Road are gravel roads with varying widths and states of repair. These roads are the sole means of vehicular access to Seal Rocks Road for all properties located along Dogwood Road. It is unlikely that Horse Point Road and Dogwood Road will be capable of handling increased volumes of traffic in the event of a bushfire emergency in their present condition. In view of this, it is proposed to upgrade both Horse Point Road and Dogwood Road from the intersection with Seal Rocks Road to the vehicular access point to the property on the western boundary of the site (approximately 100 metres north from the south-western corner of the site).

Condition G21 of the development consent required as follows:

Dogwood Road and Horse Point Road from the intersection at Seal Rocks Road to the vehicular access point to the subject site shall be upgraded to comply with Section 4.3.1 of Planning for Bushfire Protection 2001.

The implications of the above condition, as outlined in the Bushfire Threat Assessment for the original development was that the requirements of the then RFS guideline, *Planning for Bushfire Protection 2001*, were that roads were to be two-way, that is, at least two traffic lane widths (8 metres minimum) with shoulders on each side, allowing traffic to pass in opposite directions. As the 2001 guideline was prescriptive, there was limited opportunity to vary the requirements.

A review of the requirements in terms of the proposed modifications to the development, and the advent of the performance based RFS

guideline, *Planning for Bush Fire Protection 2006*, indicate that lesser road widths are able to be provided which will achieve the relevant performance criteria of the 2006 guideline, which is:

“public road widths and design that allow safe access for fire fighters while residents are evacuating an area”.

Horse Point Road and Dogwood Road are rural roads which do not contain parking lanes, and there is limited opportunity for vehicles to park along the road and restrict traffic flow.

The RTA's Road Design Guide (February 2000, Issue 1.1) indicates that a minimum width of 6 metres is appropriate for two way traffic flow on rural roads, based upon a traffic flow – expressed in terms of Average Annual Daily Total (AADT) – of 150-500 cars per day (Table 3.2-4). This is a conservative AADT for a rural road such as Horse Point/Dogwood Road given the limited extent of development along the length of the road.

Given the above, it is proposed to vary the relevant condition along the lines of the following:

Dogwood Road and Horse Point Road from the intersection at Seal Rocks Road to the vehicular access point to the subject site (approximately 100 metres north from the south-western corner of the site) shall be upgraded to ensure that the relevant performance criteria outlined in Section 4.1.3 of Planning for Bush Fire Protection 2006 in relation to public roads are met. Specifically, a road width that allows safe access for fire fighters while residents are evacuating the area is required. With regard to the relatively limited traffic flow along Dogwood Road and Horse Point Road, the road width is to be 6 metres.

9.4 Whether or not public roads in the vicinity have two-way access

The relative condition and capacity of public roads in the vicinity of the site was discussed in detail in 9.3 above. The proposed amendment to the relevant condition of consent will ensure that two-way access is available via Dogwood Road and Horse Point Road from the intersection

at Seal Rocks Road to the vehicular access point to the site (approximately 100 metres north from the south-western corner of the site).

9.5 The adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response

The arrangements for access/egress to/from the site are discussed in detail in 9.3 and 9.4 above.

The main entry point to the site is to be located on the western boundary of the site, approximately 100m north from the south-western corner of the site.

An emergency access point is also proposed to be provided at the location of an existing gateway in the north-eastern part of the land, near Stage 2 of the development (when that Stage of the development occurs).

From the main entry point to the site, the internal property road will provide a link between the vehicular access point in the west of the site and an emergency gate in the north-west of the site. All internal property access roads will be constructed to a capacity that is sufficient to carry fully-loaded fire-fighting vehicles (approximately 28 tonnes or 9 tonnes per axle), with a minimum trafficable width of 4 metres.

From the vehicular access point in the west of the site, the internal property road will travel towards the north-west of the open forest vegetation. Where the road reaches the crest of the ridge in the western part of the site, it is proposed that a passing bay be provided. The passing bay will be 20 metres long by 2 metres wide, making a trafficable width of 6 metres at the passing bay. An intersection will be constructed within the site, approximately at the south-western corner of Lot 1 DP940396, and a road constructed to the south-east towards Stage 1 of the development. It is proposed that this intersection be constructed in such a manner that it effectively doubles as a 12 metre radius turning circle.

The road to Stage 1 of the development will travel through cleared areas which will allow sufficient width to allow fire-fighting vehicle crews to work with equipment about the vehicle. It is noted that the length of the road from the main internal property road to the eastern part of the site will slightly exceed 200 metres. Given the nature of the site, and the availability of substantial cleared areas in the area where the Stage 1 buildings are proposed to be erected, however, it is not proposed to construct an alternative access road as to do so would result in the passage of vehicles closer to the vegetated areas and, therefore, the bushfire hazard. A 12 metre radius turning circle will be constructed at the eastern end of the road to Stage 1 of the development and, so as to enable tanker access to the southern side of the accommodation buildings (containing the ensuite units), it is proposed to provide a single loop road around the accommodation buildings.

From the south-western corner of Lot 1 DP940396, the internal property road will continue towards Stage 2 of the development where it will link with the emergency access gate to Dogwood Road in the north-west of the site. The parking area adjacent to the reception building will be capable of serving as a turnaround area for fire-fighting vehicles. A secondary road will also be constructed between the ensuite cabins in Stage 2 to allow for tanker access to those areas.

It is considered that the arrangements for access to and egress from the site for the purposes of an emergency response will be appropriate in the circumstances of the proposed development.

9.6 The adequacy of bushfire maintenance plans and fire emergency procedures for the development site

Condition G18 of the development consent required as follows:

A Bush Fire Evacuation Plan is to be submitted to the NSW Rural Fire Service – Development Control Services for approval prior to occupation. The evacuation plan is to detail the following:

- 1. Under what circumstances will the complex be evacuated;*
- 2. Where will all persons be evacuated to;*

3. *Roles and responsibilities of persons co-ordinating the evacuation;*
4. *Roles and responsibilities of persons remaining with the complex after evacuation; and*
5. *A procedure to contact the NSW Rural Fire Service District Office/NSW Fire Brigade and inform them of the evacuation and where persons will be evacuated to.*

There are no amendments proposed in relation to this condition.

9.7 The construction requirements to be used for building elements in the development

Condition G20 of the development consent required as follows:

*Construction is to comply with AS 3959-1999 level 1
“Construction of Buildings in bushfire prone areas”.*

The location of the buildings in the proposed modified development is substantially the same as that for the original development. As such, there are no amendments proposed in relation to this condition.

9.8 The adequacy of sprinkler systems and other fire protection measures to be incorporated into the development

It is not proposed to install any sprinkler system to the development. Level 1 Construction is proposed, as outlined in the above point, as is the provision of water supply for fire fighting purposes as outlined earlier in this Assessment. It is also proposed to install leafless guttering and/or metal leaf guard with a flammability index of not more than 5 (when tested to AS1530.2) to each building within the development to prevent the build-up of flammable material within the gutters.

10. Compliance: Planning for Bush Fire Protection

The details provided in Section 9 of this Assessment outline the relationship between the proposed tourist facility and the specifications set out in Chapter 4 (Performance Based Controls) of *Planning for Bush Fire Protection* 2006.

10.1 Asset Protection Zones

In relation to the provision of Asset Protection Zones, Table 10.1 assesses the proposed Tourist facility against the relevant performance criteria.

Table 10.1

Performance Criteria	Relationship of proposed Tourist facility to Performance Criteria	Meets performance criteria?
<i>Radiant heat levels of greater than 10kW/m² will not be experienced by occupants or emergency services workers entering or exiting a building.</i>	10.1.1 APZs are to be provided in accordance with Table A2.6 of <i>Planning for Bush Fire Protection</i> 2006, as outlined in Section 9.1 of this Assessment.	Yes
<i>Applicants demonstrate that issues relating to slope are addressed: Maintenance is practical, soil stability is not compromised and the potential for crown fires is negated.</i>	10.1.2 The APZ is located on lands with a slope <18°.	Yes
<i>APZs are managed and maintained to prevent the spread of a fire towards the building</i>	10.1.3 APZs to be maintained in accordance with the requirements of the NSW Rural Fire Service document entitled Standards for Asset Protection Zones (2005).	Yes
<i>Vegetation is managed to prevent flame contact and reduce radiant heat to buildings, minimise the potential for wind driven embers to cause ignition and reduce the effect of smoke on residents and fire-fighters.</i>	10.1.4 All above.	Yes

10.2 Access

In relation to access, Tables 10.2.1 and 10.2.2 assess the proposed Tourist facility against the relevant performance criteria.

Table 10.2.1 – Access: Public Roads

Performance Criteria	Relationship of proposed Tourist facility to Performance Criteria	Meets performance criteria?
<i>Firefighters are provided with safe all weather access to structures (thus allowing more efficient use of fire fighting resources)</i>	10.2.1.1 Public roads serving the site, Horse Point Road and Dogwood Road, are gravel, all-weather roads.	Yes
<i>Public road widths and design that allow safe access for firefighters while residents are evacuating an area.</i>	10.2.1.2 The relevant sections of the public roads serving the site, Horse Point Road and Dogwood Road are to be upgraded as outlined in Section 9.3 of this Assessment so as to allow traffic to pass in opposite directions.	Yes
<i>The capacity of road surfaces and bridges is sufficient to carry fully loaded fire fighting vehicles.</i>	10.2.1.3 The upgrading of the relevant sections of Dogwood Road and Horse Point Road will include the capacity of the roads to carry fully loaded fire fighting vehicles (approximately 28 tonnes or 9 tonnes per axle as the area has no reticulated water).	Yes
<i>Roads that are clearly sign-posted (with easily distinguishable names) and buildings/properties that are clearly numbered.</i>	10.2.1.4 The access point(s) to the site should be clearly signposted.	
<i>parking does not obstruct the minimum paved width</i>	10.2.1.5 Horse Point Road and Dogwood Road are rural roads and do not contain parking lanes, and there is limited opportunity for vehicles to park along the road and restrict traffic flow. 10.2.1.6 All vehicles associated with the proposed tourist facility will park within designated car parking areas on the subject site.	Yes

Table 10.2.2 – Access: Internal Roads

Performance Criteria	Relationship of proposed Tourist facility to Performance Criteria	Meets performance criteria?
<i>internal road widths and design enable safe access for emergency services and allow crews to work with equipment about the vehicle</i>	10.2.2.1 Internal roads are to be provided as outlined in Section 9.6 of this Assessment.	Yes

10.3 Water Supply, Electricity and Gas

Table 10.3 assesses the proposed Tourist facility against the relevant performance criteria for water supply, electricity and gas.

Table 10.3

Performance Criteria	Relationship of proposed Tourist facility to Performance Criteria	Meets performance criteria?
Non-reticulated water supply areas <i>A water supply reserve for fire fighting purposes is installed and maintained</i>	10.3.1 Reticulated water is not available to the site. 10.3.2 Water supply is proposed as outlined in Section 9.2 of this Assessment. 10.3.3 Storz fittings are to be provided to each water supply tank to allow connection for RFS fire fighting purposes.	Yes
Electricity Services <i>location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings</i>	10.3.4 Any new electrical supply lines are to be installed underground.	Yes
Gas services <i>location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings</i>	10.3.5 Any bottled gas is to be installed and maintained in accordance with AS1596 and the requirements of relevant authorities. Metal piping is to be used. 10.3.6 Any fixed gas cylinders are to be kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation.	Yes

Performance Criteria	Relationship of proposed Tourist facility to Performance Criteria	Meets performance criteria?
	10.3.7 If any gas cylinders need to be kept close to any building, the release valves are to be directed away from the building and at least 2 metres away from any combustible material. 10.3.8 Connections to and from any gas cylinders are to be metal.	

10.4 Emergency and Evacuation Planning

As mentioned in 9.6 above, a Bushfire Evacuation Plan is to be prepared and implemented in accordance with the relevant condition of the original development consent for the tourist facility development.

11. Conclusion/Recommendations

The following recommendations are made in relation to the bushfire protection measures for the proposed modifications to the approved tourist facility development at Lot 1 DP 34356, 40 Dogwood Road, Bungwahl, and are based on the relevant provisions of the NSW Rural Fire Service guideline entitled *Planning for Bush Fire Protection 2006*:

- a) Retain Condition G18 of Development Consent 173-7-2004.
- b) Amend Condition G19 of Development Consent 173-7-2004 to read along the lines of the following:

Recommendations contained within Section 11 of the Bushfire Assessment prepared by Australian Bushfire Assessment Consultants dated November 2009 shall be complied with.

- c) Retain Condition G20 of Development Consent 173-7-2004.
- d) Amend Condition G21 of Development Consent 173-7-2004 to read along the lines of the following:

Dogwood Road and Horse Point Road from the intersection at Seal Rocks Road to the vehicular access point to the subject site (approximately 100 metres north from the south-western corner of the site) shall be upgraded to ensure that the relevant performance criteria outlined in Section 4.1.3 of Planning for Bush Fire Protection 2006 in relation to public roads are met. Specifically, a road width that allows safe access for fire fighters while residents are evacuating the area is required. With regard to the relatively limited traffic flow along Dogwood Road and Horse Point Road, the road width is to be 6 metres.

- e) Amend Condition G22 of Development Consent 173-7-2004 to read along the lines of the following:

Staging of the development shall occur so that asset protection zones in accordance with Planning for Bush Fire Protection 2006 are provided until the next stage is developed and temporary

turning circles are provided until the access road is extended for the next stage of the development.

- f) Amend Condition G23 of Development Consent 173-7-2004 to read along the lines of the following:

A water supply for fire fighting purposes of at least 60,000 litres is to be provided at each Stage of the development (total 120,000 for the entire development). This water supply may be provided within a water supply tank(s) that is used for other purposes and which allows for the circulation of fresh water. A 65mm Storz fitting and ball valve shall be installed in the tank(s). A "SWS" sign is to be provided at the main entry point to the site from Dogwood Road.

- g) Amend Condition G24 of Development Consent 173-7-2004 to read along the lines of the following:

Asset Protection Zones for the buildings in Stage 1 shall be provided with 30m from the bushfire hazard to the north and east, 60m from the bushfire hazard to the south, and 60m from the bushfire hazard to the west.

- h) Amend Condition G25 of Development Consent 173-7-2004 to read along the lines of the following:

Asset Protection Zones for the buildings in Stage 2 shall be provided with 30m from the bushfire hazard to the north and east, 10m to the south and for the distance between the buildings and the western boundary of the site.

NOTE AND DISCLAIMER:

1. *This Assessment has been based on bushfire protection guidelines as outlined in Planning for Bush Fire Protection 2006 (PBP). As noted by PBP, notwithstanding the precautions recommended, it should always be remembered that bushfires burn under a range of conditions and an element of risk, no matter how small, always remains.*
2. *The adoption of bushfire protection measures cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially*

due to the unpredictable behaviour and nature of fire and the difficulties associated with extreme weather and fire weather conditions.

3. *This assessment does not imply or infer any approval for the removal and/or thinning of vegetation for Asset Protection or other purposes. It is the responsibility of the client/land owner to obtain any and all necessary approvals in this regard.*



SIMON CARROLL November 2009

Grad Dip in Design for Bushfire Prone Areas MFPAA

Certified Practitioner (A), Bushfire Planning and Design, FPAA

References

Natural Impact Ecological Solutions (April 2004)

*Flora and Fauna Assessment for Proposed Tourism Resort at Lot 1 DP34356,
40 Dogwood Road, Bungwahl NSW*

NSW Rural Fire Service (2001)

Planning for Bushfire Protection

NSW Rural Fire Service (2006)

Planning for Bush Fire Protection

Roads & Traffic Authority (2000)

Road Design Guide (February 2000 Issue 1.1)

***Appendix 1 – Conditions of Original Consent
(Rural Fire Service)***

APPENDIX 1

G18 Bush Fire Evacuation Plan

A Bush Fire Evacuation Plan is to be submitted to the NSW Rural Fire Service – Development Control Services for approval prior to occupation. The evacuation plan is to detail the following:

1. Under what circumstances will the complex be evacuated;
2. Where will all persons be evacuated to;
3. Roles and responsibilities of persons co-ordinating the evacuation;
4. Roles and responsibilities of persons remaining with the complex after evacuation; and
5. A procedure to contact the NSW Rural Fire Service District Office/NSW Fire Brigade and inform them of the evacuation and where persons will be evacuated to.

G19 Development in Accordance with Bushfire Threat Assessment

Recommendations contained within section 8 of the Bushfire Threat Assessment report prepared by Coastplan dated July 2004 shall be complied with, except where amended by the following conditions.

G20 Construction

Construction is to comply with AS 3959-1999 level 1 “Construction of Buildings in bushfire prone areas”.

G21 Road Works

Dogwood Road and Horse Point Road from the intersection at Seal Rocks Road to the vehicular access point to the subject site shall be upgraded to comply with Section 4.3.1 of Planning for Bushfire Protection 2001.

G22 Staging of Development

Staging of the development shall occur so that asset protection zones in accordance with Planning for Bushfire Protection 2001 are provided until the next stage is developed and temporary turning circles are provided until the access road is extended for the next stage of the development.

G23 Water Tank

A tank with a capacity of 10,000 litres for the exclusive use for fire fighting purposes shall be provided to each building. A 65mm Storz fitting and ball gate valve shall be installed in the tank.

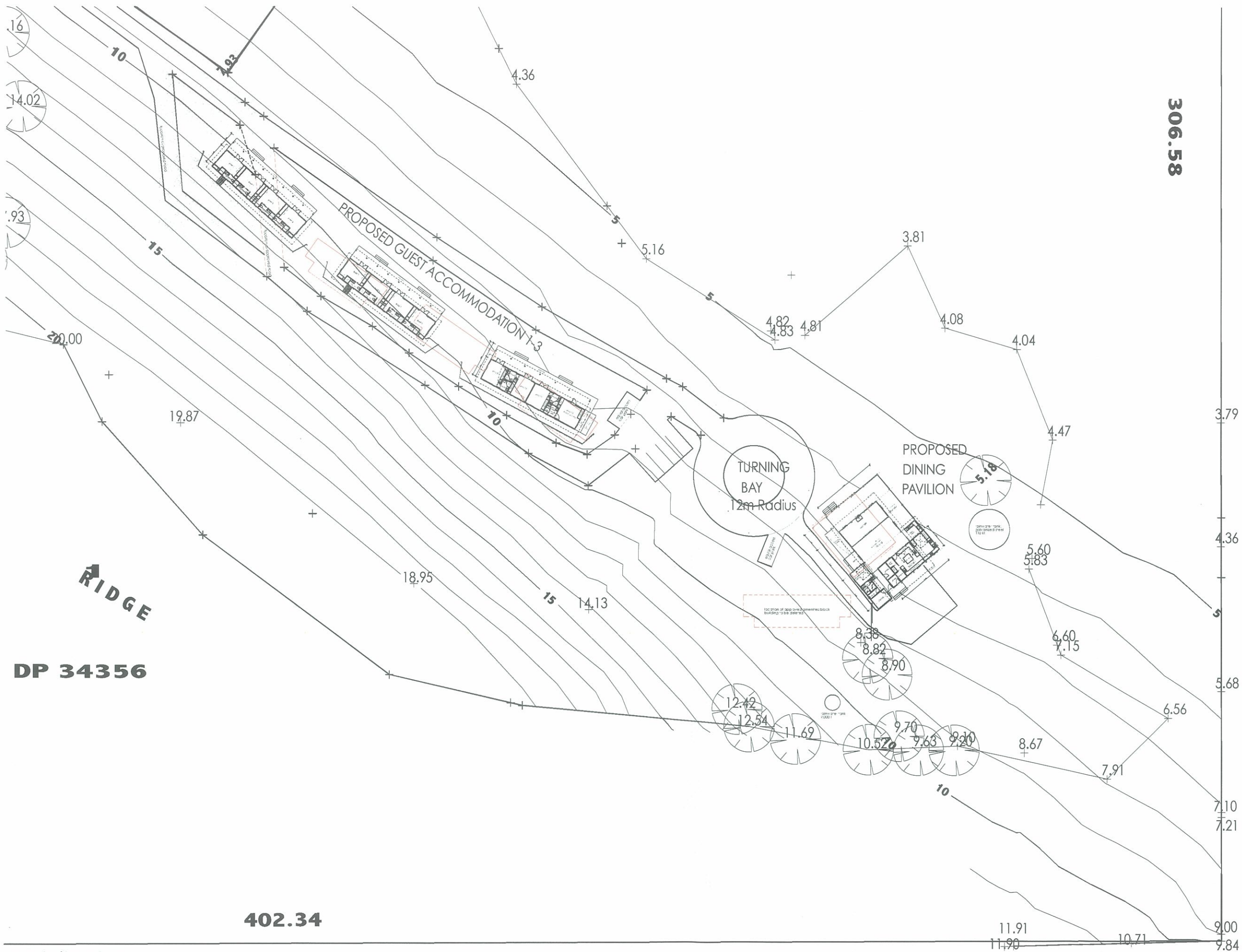
G24 Asset Protection Zones – Stage 1

Asset Protection Zones for the buildings in Stage 1 shall be provided with 50m from the bushfire hazard to the north and east, 60m from the bushfire hazard to the south, and 80m from the bushfire hazard to the west.

G25 Asset Protection Zones – Stage 2

Asset Protection Zones for the buildings in Stage 2 shall be provided with 20m from the bushfire hazard to the north, east, south and 60m from the bushfire hazard to the west.

Appendix 2 – Amended plans (Stage 1)



part site plan
scale 1:500
- levels by Calver deWitt & Taylor, Gloucester to approx. AHD

- all levels and dimensions must be checked and confirmed on site
- within dimensions to be taken instead of scaled figures
- ground lines and levels are approximate only
- materials supplied and building practices used to comply with SCA and relevant Australian Standards
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Tourist Facility
Dogwood Road

for
Charlotte Bay Pty. Ltd.

40 Dogwood Road
Bungwahl
Lot 1, DP 34356

Part site plan

project
pa 67

plan
3002

issue
Section 96/a

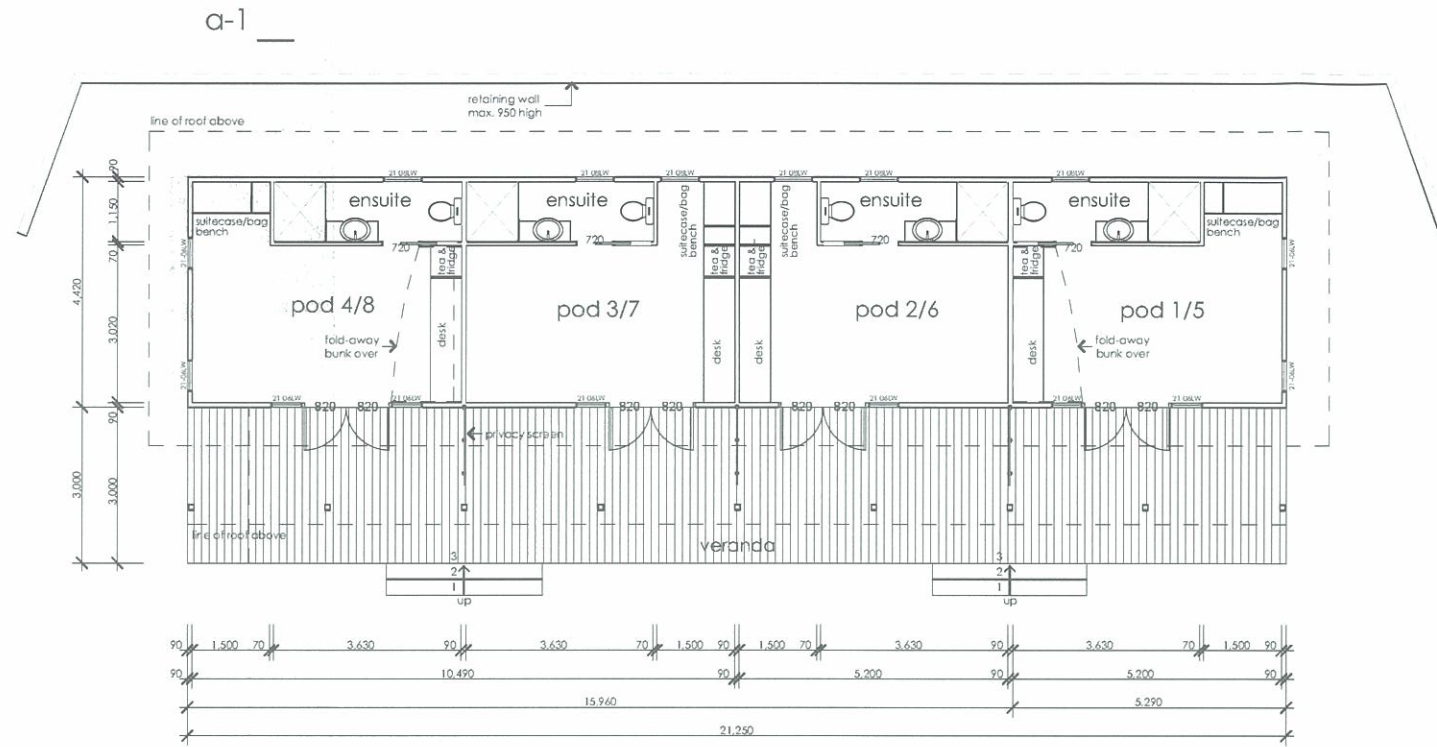
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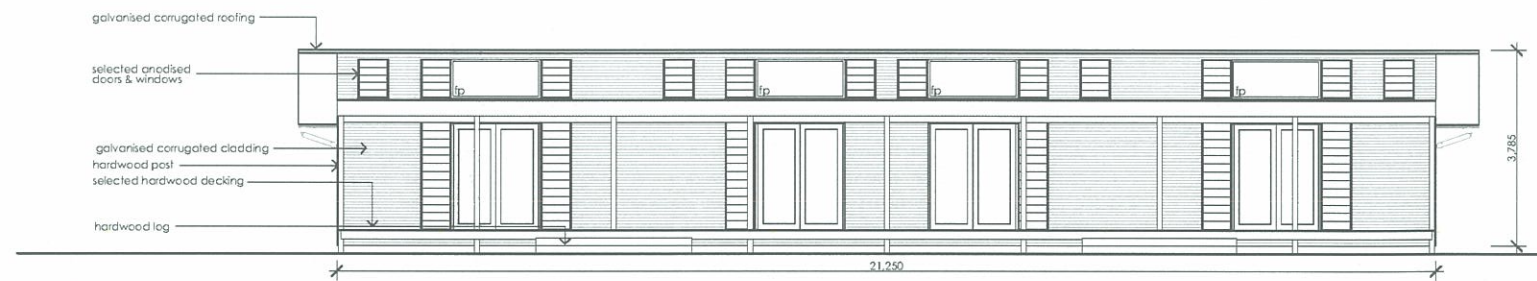
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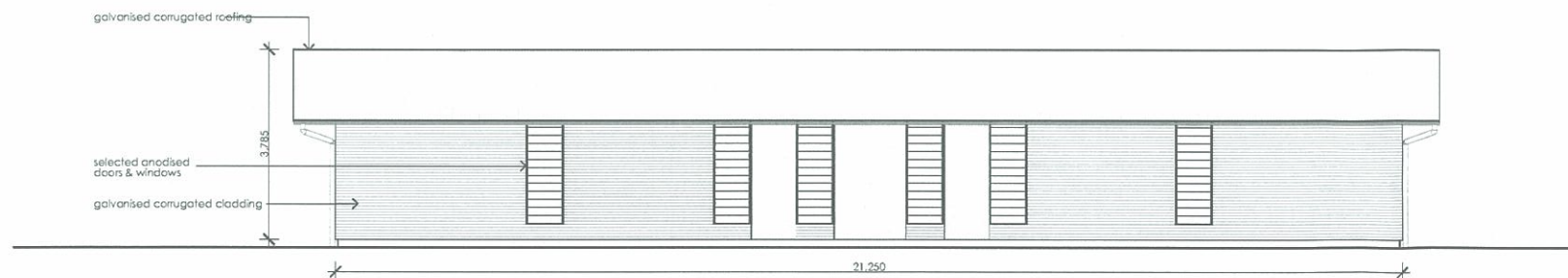
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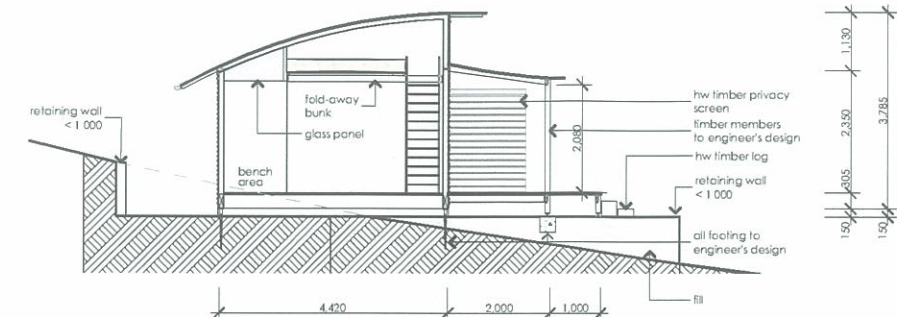
α-1
floor plan - longhouse layout 1 scale 1:100



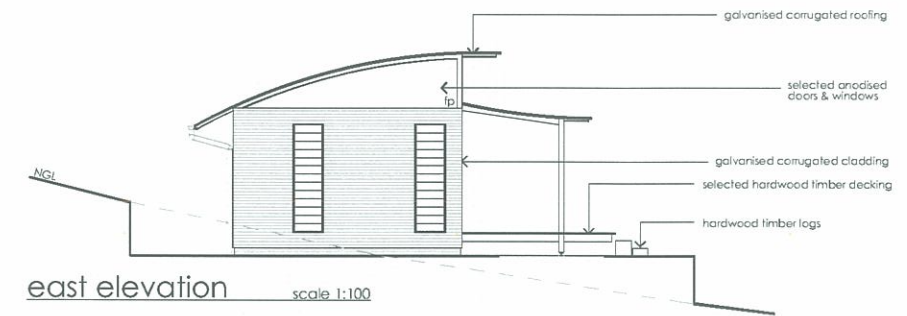
north elevation scale 1:100



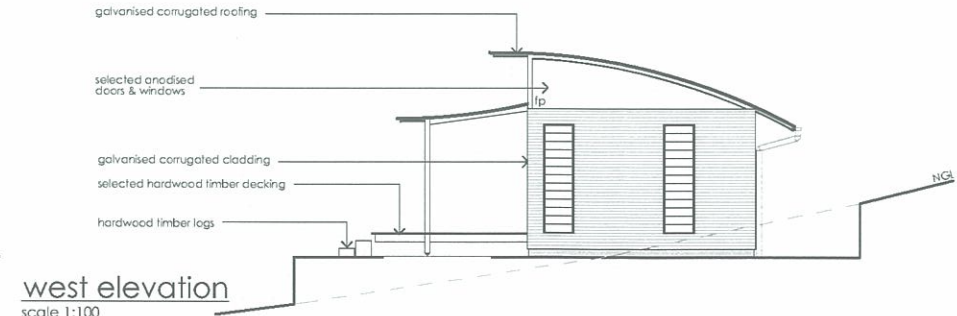
south elevation scale 1:100



section a1 scale 1:100



east elevation scale 1:100



west elevation scale 1:100

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Dogwood Road

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Longhouse layout 1

project
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plan
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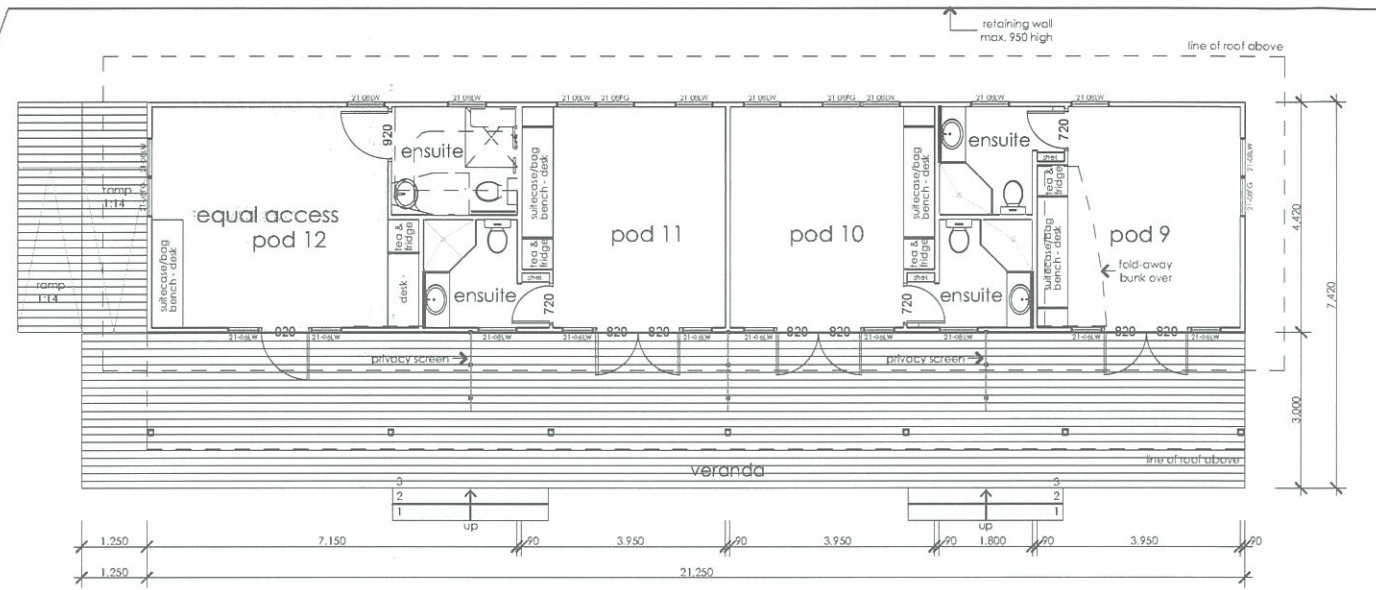
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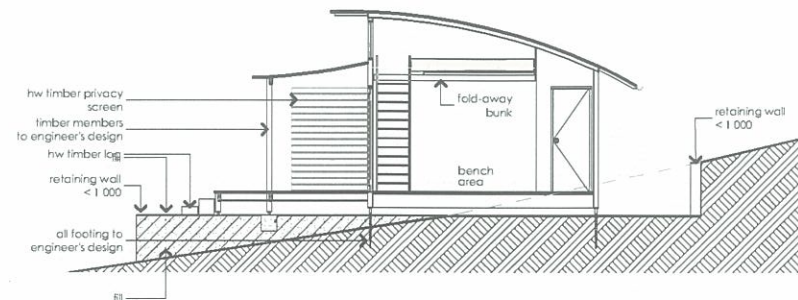


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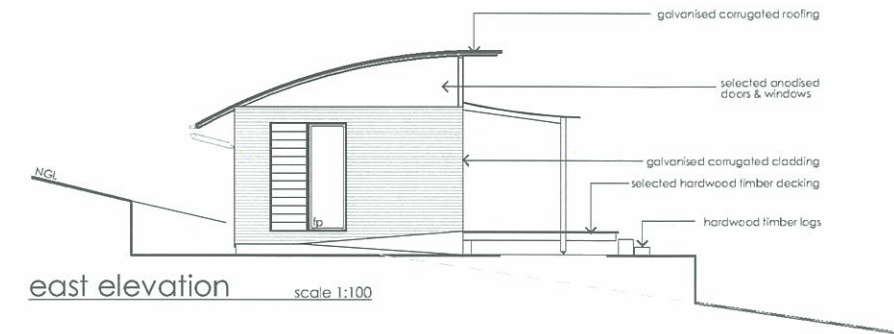
floor plan - longhouse layout 2 scale 1:100



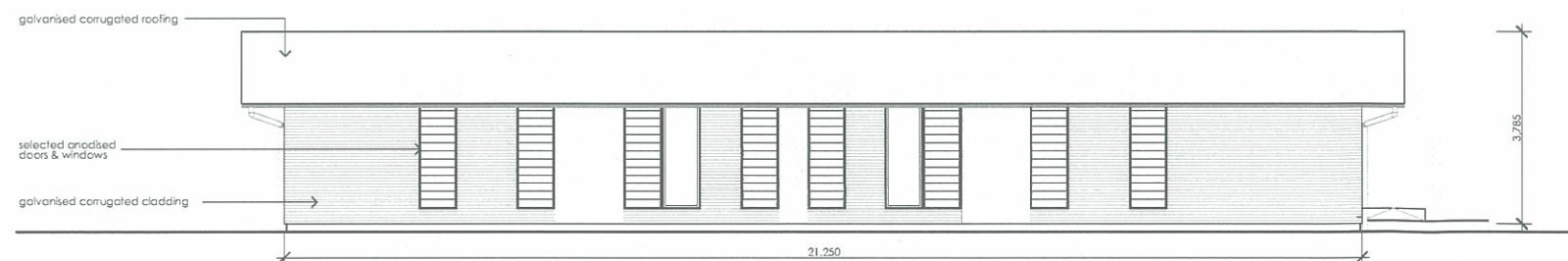
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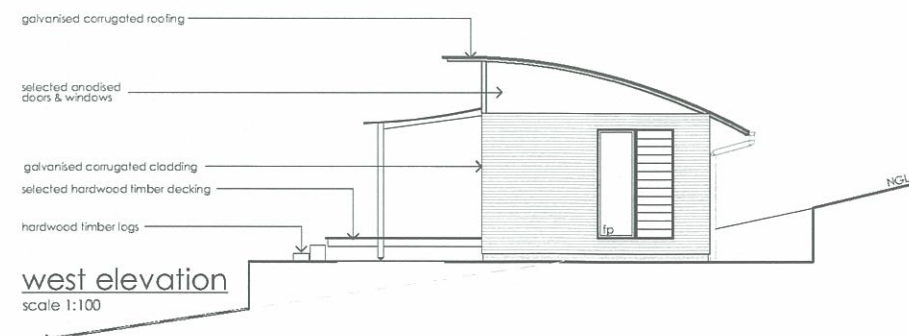
north elevation scale 1:100



east elevation scale 1:100



south elevation scale 1:100



west elevation scale 1:100



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Tourist Facility
Dogwood Road

for
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40 Dogwood Road
Bungwahl
Lot 1, DP 34356

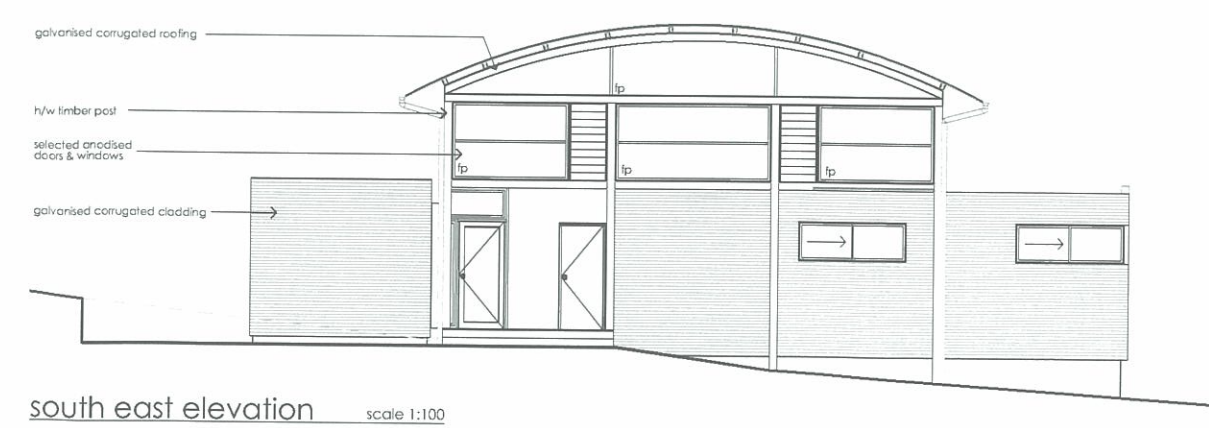
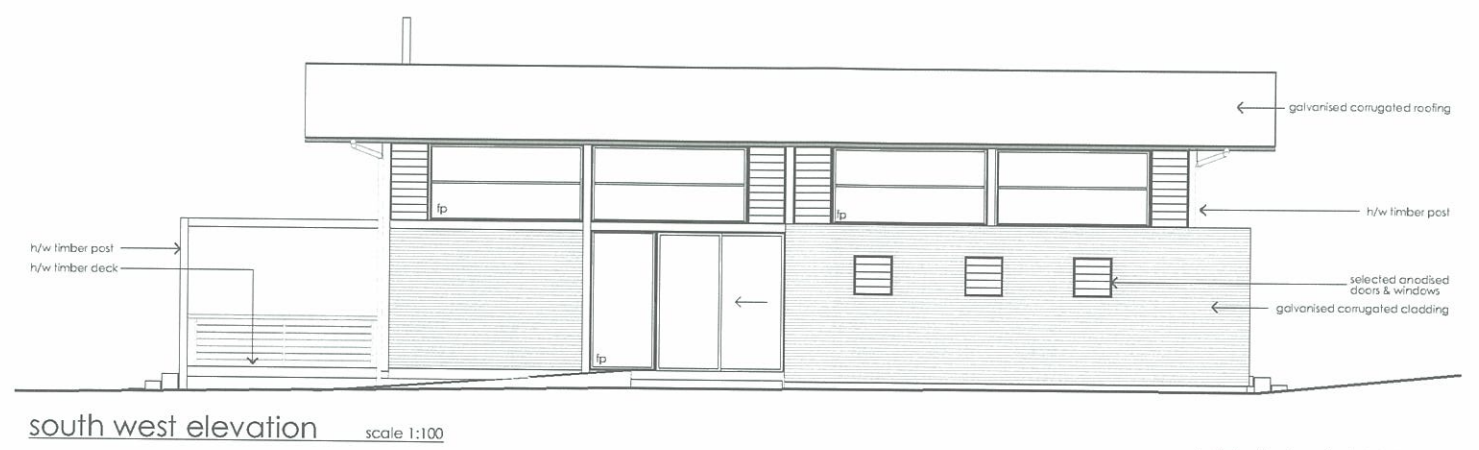
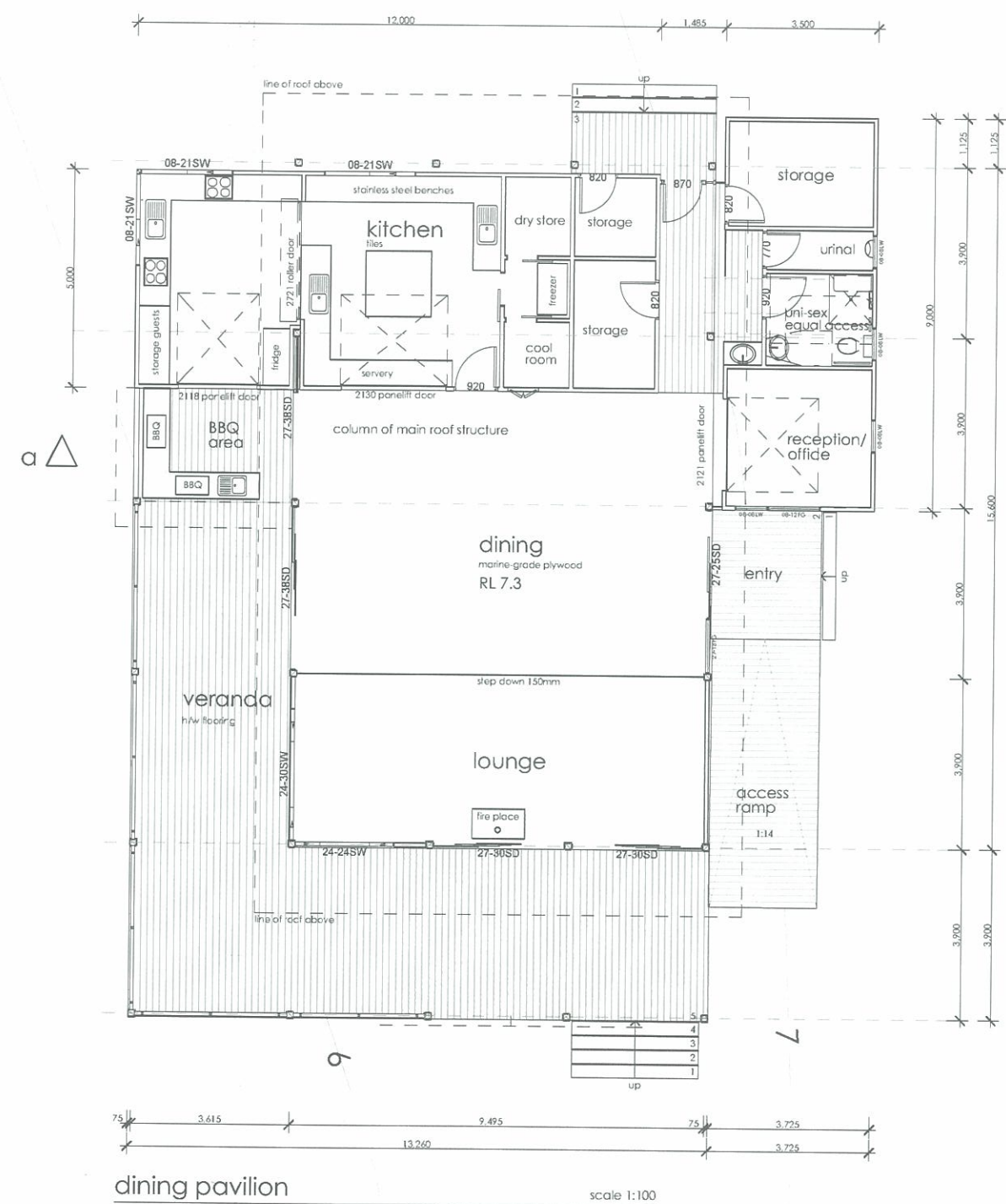
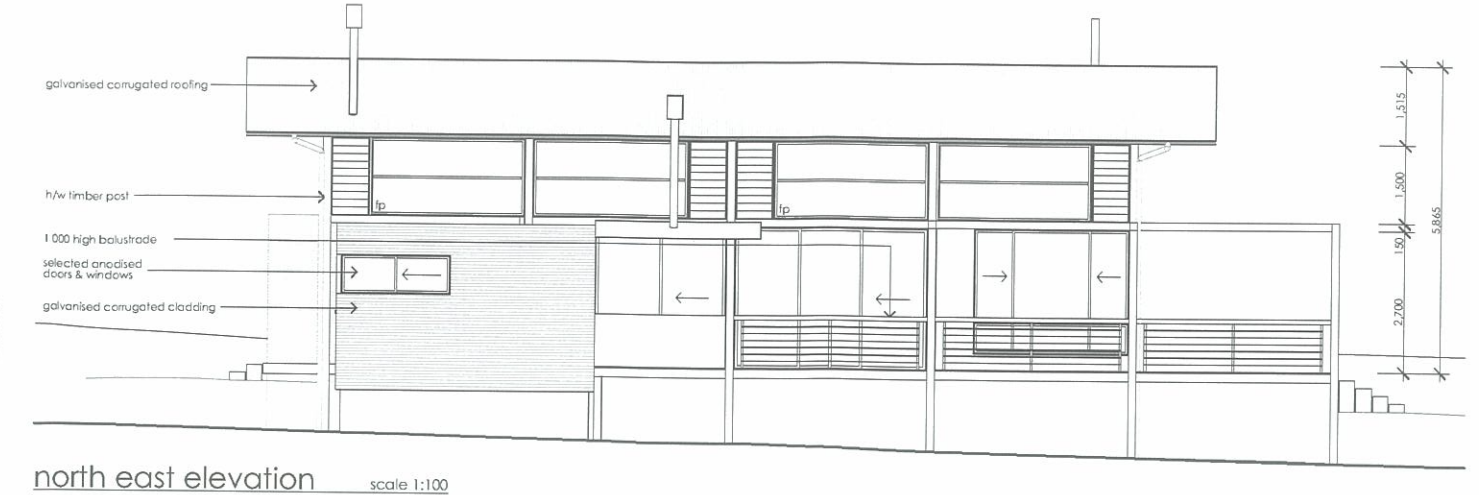
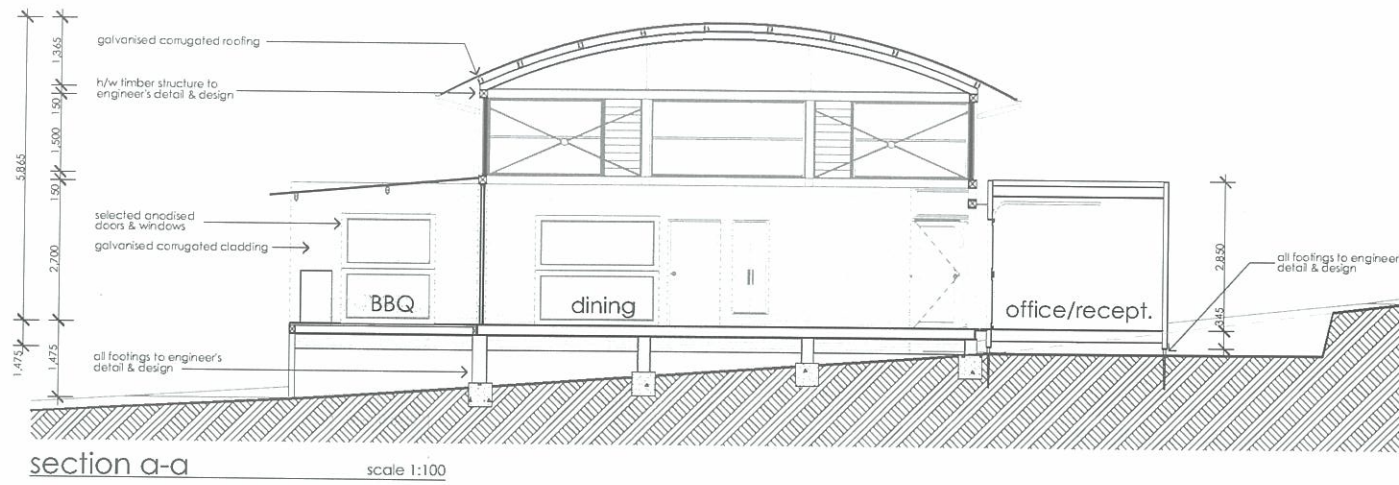
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Tourist Facility
Dogwood Road

for
Charlotte Bay Pty. Ltd.

40 Dogwood Road
Bungwahl
Lot 1, DP 34356

Dining pavilion

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