Department of State Development, Infrastructure and Planning

Ministerial call in - Pacific View Estate

Assessment of Development Application

January 2015
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1. **Introduction**

GHD has been engaged by the Department of State Development, Infrastructure and Planning to assist the Minister in his assessment of a development application lodged under Section 242 of the *Sustainable Planning Act 2009* (SPA). GHD’s commission involves the provision of technical advice on the following matters relevant to the planning scheme:

- Ecology
- Economics
- Geotechnical Engineering
- Stormwater and Flooding
- Traffic

This report has been prepared to respond to each of these items with respect to the planning application.

2. **Purpose**

This report has been prepared for the Department of State Development, Infrastructure and Planning to support its assessment of the Pacific View Estate (PVE) development application. It should not be relied upon by any entity other than the Department of State Development, Infrastructure and Planning and is not intended for any purpose other than the purpose stated.

3. **Project Background**

The PVE development application was lodged with the Council of the City of Gold Coast (Council) in December 2010 for a preliminary approval for a material change of use under section 242 of SPA to vary the effect of the *Gold Coast Planning Scheme 2003* in accordance with the proposed PVE Development Code.

The development application is impact assessable. Council, the Department of Transport and Main Roads and the then Department of Environment and Resource Management issued information requests for the application and the applicant provided a response to the information request.

The information provided by the Department has confirmed that Council did not make a decision about the development application within the required IDAS timeframes and the applicant lodged a deemed refusal appeal in the Planning and Environment Court in October 2014.

On 17 December 2014, the Minister issued a call in notice for the Pacific View Estate development application with the IDAS process to recommence at the decision stage.

4. **Application Details**

PVE is proposed by the developer, Pacific View Farm (Queensland) Pty Ltd over three parcels of land described as follows:

- Lot 28 on SP189559 located at 167 Hinkler Drive, Worongary
- Lot 10 on SP229681 located at 169-331 Hinkler Drive, Worongary, and

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Lot 11 on SP229681 located at Hinkler Drive, Worongary.

The land parcels comprise approximately 342 hectares in combined area. The development proposes for the land to be developed into six precincts which will permit a range of urban land use types such as low density residential, medium density residential, mixed use Village Centre community, active and passive recreation areas and conservation areas.

The development scheme envisages a residential population in the range of 8,000 to 10,000 persons accommodated in approximately of 3,500 dwellings comprised of a wide range of housing products including apartments, attached housing and detached housing on lots ranging from average areas of 250m² to 1,500m². A village centre is proposed with a mixture of residential, commercial, retail and open space uses including a centrally located community green. An east/west corridor is proposed and is intended to provide a central green open space spine that links the various transects of the development. A small area of industrial land is located within the eastern extent of the development.

5. **Relevant Planning Codes**

5.1 **General**

Under section 426(1)(a) of SPA, the Minister has called in the application before the assessment manager has made a decision on the application and the Minister is to assess and decide the application in the place of the assessment manager. In accordance with section 427(1) of the Act, the Minister is the assessment manager from when the application is called in until the Minister gives the decision notice.

The development application comprises a material change of use application pursuant to section 242 of SPA which seeks approval to vary the effect of any local planning instrument for the land. As the application requires impact assessment, section 314 of SPA applies which sets out the following matters to be considered as part of the assessment process to the extent they relate to the development:

- The State planning regulatory provisions
- The regional plan for the designated region
- State planning policies to the extent they are not identified in any relevant regional plan as being appropriately reflected in the regional plan, or any planning scheme as being appropriately reflected in the planning scheme
- A temporary local planning instrument
- A preliminary approval to which section 242 applies
- A planning scheme
- For development not in a planning scheme area—an any planning scheme or temporary local planning instrument for a planning scheme area that may be materially affected by the development
- If the assessment manager is an infrastructure provider—the provider's local government infrastructure plan, if any.

In addition, section 314(3) requires the assessment manager to assess the application having regard to the following:

- The common material
• Any development approval for, and any lawful use of, premises the subject of the application or adjacent premises.
• Any referral agency’s response for the application.

As the development application seeks to vary the planning scheme pursuant to Section 242 of SPA, section 316 of the Act applies in the assessment of the application. Section 316(2) prescribe Section 314 still applies to any part of the application requiring impact assessment, however the assessment manager must assess the part of the application for a preliminary approval mentioned in section 242 having regard to:
• The common material
• The result of the assessment manager’s assessment of any parts of the application requiring code or impact assessment
• All of the following to the extent they are relevant to the application:
  – The State planning regulatory provisions
  – The regional plan for the designated region
  – State planning policies to the extent they are not identified in any relevant regional plan as being appropriately reflected in the regional plan, or any planning scheme as being appropriately reflected in the planning scheme.
• The consistency of the proposed variations with aspects of the local planning instrument, other than the aspects sought to be varied
• The effect the proposed variations would have on any right of a submitter for following applications, with particular regard to the amount and detail of supporting material for the current application available to any submitters
• Any referral agency’s response for the application.

Section 311 of the SPA details that a reference to a planning instrument, code, law or policy is a reference to a planning instrument, code, law or policy in effect when the application was properly made. Notwithstanding that this requires the assessment to consider the codes in place in December 2010, Section 317 of the Act permits that the assessment manager gives weight the assessment manager is satisfied is appropriate to a law or policy that came into effect after the application was made but before the decision stage started. The later the new policy is effected during the application, the less weight is typically applied.

On the basis of the above, the following codes have been considered in this assessment.

5.2 State Planning Regulatory Provision

The South East Queensland Regional Plan 2009 – 2031 State Planning Regulatory Provisions do not apply because the site is located in the urban footprint of the South East Queensland Regional Plan.

The South East Queensland Koala Conservation State Planning Regulatory Provisions (KCSPRP) do not apply because the site is not mapped as an assessable development area, identified koala broad-hectare area or koala assessable development area (Map SPRP_KHV29).

In this regard, the State planning regulator provisions do not apply to this development.
5.3 **SEQ Regional Plan**

The *Gold Coast Planning Scheme* 2003 which was in place at the time the application as lodged does not identify the South East Queensland Regional Plan 2009-2031 as being considered in the planning scheme. In this regard, consideration of the South East Queensland Regional Plan is necessary when undertaking impact assessment for the development application.

The following parts of the South East Queensland Regional Plan require consideration in the assessment of the application:

- The regional vision and strategic directions set out in Part B
- The sub-regional narratives set out in Part C
- The regional policies set out in Part D.

5.4 **State Planning Policies (where not identified in a regional plan or a planning scheme)**

The relevant State planning policies applying at the date the application was made in December 2010 were:

- SPP 2/02 – Planning and Managing Development Involving Acid Sulfate Soils 1.0; and
- SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide 1.0.

Both SPPs are identified in the planning scheme as being appropriately reflected in the planning scheme, and therefore no separate assessment is required.

SPP 2/10 – *South East Queensland Koala Conservation* was also in force when the application was made, however section 2.6 of the policy prescribes the application of the policy is limited to making or amending a local planning instrument or structure plan, and for designating land for community infrastructure for land in the South East Queensland Koala Protection Area. Development assessment requirements relating to koala conservation are identified in the KCSPRP, however these provisions do not apply to the site.

5.5 **Temporary Planning Instruments**

No temporary planning instruments apply.

5.6 **Planning scheme**

*Gold Coast Planning Scheme* version 1.2 amended October 2010 was in effect at the time the application was made. The current version of the planning document is the *Gold Coast Planning Scheme* 2003 version 1.2 amended November 2011. The application seeks to vary the provision of the planning scheme by proposing the PVE Development Code to apply in determining the level of assessment for varying forms of development proposed for the site.

For the purpose of impact assessment of the development application, the Act requires the regional plan prevails to the extent there is an inconsistency between a regional plan and the planning scheme to the extent of the inconsistency. Because a number of planning provisions within the planning scheme are inconsistent with the South East Queensland Regional Plan, the regional plan will prevail with respect to some aspects of the development. Of particular note, Part C Gold Coast Sub Regional Narrative and Part D Regional Policies will require consideration.
5.7 **Other codes impacting on the application**

As the Gold Coast Draft City Plan 2015 has been prepared and has undergone public notification, the Coty principle will apply with respect to this development. In this regard, weight is placed on the Draft City Plan as a most recent statement of written policy intent for land use planning by the local authority. The Concept Land Use Plan CLUM10 within the draft City Plan 2015 identifies the western portion of the land as suburban neighbourhood accommodating larger lots on slopes, with the eastern portion identified as suitable for urban neighbourhood development. An environmental corridor is also shown running through the centre of the site.

5.8 **Review of technical matters**

The key technical matters included in this report have been assessed against the codes referred to above. These have been listed in the following order:

- Ecology
- Economics
- Geotechnical
- Stormwater
- Traffic
6. **Ecology**

### 6.1 General

In responding to the ecological aspects of the briefing document received from DSDIP, the following documents have been reviewed where relevant:

- The development application, including the ecological assessment reports prepared by James Warren and Associates (JWA) in 2010 and 2012
- Information requests
- Applicant's responses to information requests
- Referral and advice agency responses
- Submissions received during the IDAS process
- Representations received during the representation period of the proposed call in
- The proposed call in notice, dated 20 November 2014
- The call in notice.

The investigation area comprises largely remnant vegetation, including endangered and least concern regional ecosystems. Native forestry practices have been undertaken over recent years in the form of timber harvesting. A major watercourse traverses the site in a west-east direction. The site is known to support a number of fauna species of Commonwealth, State and/or local conservation significance, including:

- **Koala** (*Phascolarctos cinereus*)
- **Grey-headed flying fox** (*Pteropus poliocephalus*)
- **Greater glider** (*Petaurus volans*)
- **Red goshawk** (*Accipiter novaehollandiae*)
- **Tusked frog** (*Adelotus brevis*)
- **Glossy black cockatoo** (*Calyptorhynchus lathami*)
- **Powerful owl** (*Ninox strenua*)

### 6.2 Technical aspects

#### 6.2.1 Review of scope

The scope of ecology technical reports prepared by JWA in 2010 and 2012 included the following:

- Determine the suite of Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and Queensland *Nature Conservation Act 1992* (NCA) listed threatened and regionally or locally significant flora and fauna species that occur in the locality from literature and database records
- Ground truth vegetation units and determine their conservation status in accordance with the regional ecosystem (RE) framework under the Queensland *Vegetation Management Act 1999* (VMA)
- Search for and record threatened (EPBC Act and NCA) and regionally or locally significant flora species
• Complete a detailed fauna survey to determine the suite of fauna species occurring on the subject site
• Assess the likelihood of occurrence of threatened fauna species on the subject site
• Assess habitat provided by the site in the context of the surrounding area and make an assessment of the corridor value of the site at a local and regional scale
• Assess the potential impacts of the proposed development and determine appropriate mitigation measures, and
• Address statutory requirements including the EPBC Act, NCA, VMA, KCSPRP and relevant Gold Coast Planning Scheme 2003 codes and policies.

These above scope items are considered appropriate for the purpose of assessing potential ecological impacts as a result of the proposed development, and are consistent with requirements identified by Council’s Policy 8 – Guidelines for Ecological Assessments.

6.2.2 Review of methods

Methods of the assessment detailed in the technical reports prepared by JWA in 2010 and 2012 included the following:

• Eleven days of targeted flora searches were undertaken in winter 2010 in accordance with methods described by Cropper (1993). Taking into consideration the extent of the subject site and the variation in vegetation communities, this survey effort is considered sufficient. The random meander survey method described by Cropper (1993) is widely accepted and deemed appropriate for the purpose of the assessment; this method is the basis of the Flora Survey Guidelines recently released by the Department of Environment and Heritage Protection (no State-prescribed flora species guidelines were available at the time of the survey). One limitation is that the survey may have failed to detected significant species that may only be present or identifiable during spring or summer months.

• Vegetation community mapping was undertaken in accordance with Walker and Hopkins (1998). This method is deemed appropriate for the purpose of the assessment and is prescribed by Council’s Policy 8 - Guidelines for Ecological Assessment.

• The method for RE verification was not clearly described or referenced in the technical reporting, such that it is uncertain whether the assessment was in accordance with the requirements identified in the Queensland Government’s Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland. Nevertheless, it is noted that the Property Map of Assessable Vegetation (PMAV) prepared by JWA for the subject site was accepted by the Department of Natural Resources and Mines (DNRM), and therefore it can be considered that the method was satisfactory for the purpose of RE verification.

• Fauna surveys were undertaken in winter 2010 and autumn 2011 and involved a combination of habitat assessments, active searches, bird surveys, scat searches, call playback, spotlighting, trapping, remote cameras and Anabat detection. These methods are broadly consistent with the Queensland Government’s Terrestrial Vertebrate Fauna Survey Guidelines for Queensland as well as Council’s Policy 8 - Guidelines for Ecological Assessment. The spatial distribution and survey effort are considered appropriate for the purpose of the assessment. One limitation is that the survey may have failed to detected significant species that may only be present or active during spring or summer months.
• Targeted koala surveys in line with industry standards have not been completed, noting that koala was not listed as a nationally threatened species at the time of the survey and that current survey guidelines for this species had not yet been finalised. The Commonwealth Government listed the koala as vulnerable in Queensland under the EPBC Act in 2012. Consideration of EPBC Act requirements is external to the scope of this assessment.

6.2.3 Review of assessment outcomes

The ecological assessment reports identify the ecological characteristics of the site, and describe potential impacts to these as a result of the proposed development. In general, the reports are sound and the technical outcomes appear to be reliable. The following key limitations of the documentation were identified:

• Certain reporting requirements identified by Council’s Policy 8 - Guidelines for Ecological Assessment were not included in the documentation. For example, one limitation is that the assessment does not identify the total area of ecologically significant areas onsite, as required by Council’s guidelines. Nevertheless, these omissions are generally unlikely to affect the outcomes of the assessment.

• Although calculations of habitat for significant species within the site are provided, no spatial representation of this information was provided. This information will be necessary to support subsequent assessments and inform delivery of environmental offsets. Accordingly, a condition relevant to this matter has been recommended for inclusion in any approval issued by the Minister.

• Some components of the assessment against the Gold Coast Planning Scheme 2003 codes within the report have statements that require further consideration. For example, there are statements that development will not occur within an ecologically significant area. However, ecologically significant areas within the site as defined by Policy 8 extend to a greater area beyond the bounds of the proposed corridors and are within zones proposed for development. The inclusion of conditions to require an expansion of the central corridor of protected vegetation as well the inclusion of protected linkages as well as offsetting to address the loss of mapped ecologically significant areas within developable areas will mitigate this impact.

• Assessment outcomes are based on ‘provision of well vegetated and managed buffer zones’ and it is unclear whether the assessment considers the total extent of vegetation clearing that will occur within the green space.

Although the reports were acceptable from a technical perspective, the development plan had a number of notable limitations. Key limitations of the development plan include the insufficient protection of ecologically significant areas defined by the Gold Coast Planning Scheme 2003 (Appendix 5, Policy 8 – Guidelines for Ecological Assessments), habitat for State and local significant species and waterways that meet the definition of a watercourse under the Water Act 2000 (refer to Appendix A for a plan showing the extent of the defined watercourses on the site), as well as failure to provide an ecological corridor that would not be potentially compromised by development.

6.2.4 Review of recommendations

The ecological assessment reports prepared by JWA in 2010 and 2012 provide a suite of recommendations that are appropriate for mitigating environmental impacts of the proposed development. Key short-comings of the recommendations are identified as follows:

• Greater protection of ecologically significant areas and watercourses should be provided to achieve compliance with Council’s codes and Desired Environmental Outcomes.
Although the South East Queensland Regional Plan includes the site within the urban footprint, the South East Queensland Regional Plan acknowledges that not all land included in the urban footprint may be suitable for urban development due to constraints including the need to protect significant biodiversity values. The South East Queensland Regional Plan states that local government planning schemes are the main instrument that will establish and refine the desired land use within the urban footprint.

- The report identifies that environmental offsets will be provided for impact to endangered regional ecosystems. This was included in conditions handed down by the Department of Natural Resources and Mines and reiterated in their third party advice agency response to the Minister. Pursuant to the *Environmental Offsets Act 2014*, the proposed development constitutes a 'prescribed activity' and environmental offsets should also be provided for residual impacts to all other prescribed environmental matters. Prescribed environmental matters under the *Environmental Offsets Act 2014* include Matters of State Environmental Significance as well as Matters of Local Environmental Significance, such that the offsets package should take into account the Queensland Offsets Framework as well as any local Council offset policies relevant at the time subsequent applications for development permits are made.

- With regard to the proposed fauna crossing, insufficient detail was provided in the drawings to confidently judge their viability. In particular, no detail regarding height and width dimensions for underpasses was provided. The overall design appears to be acceptable, provided that the underpasses have sufficient height. No detail regarding substrate was provided. Use of natural substrate, where possible, would be beneficial. It is to be noted that crossing location is as important as design and needs to be based on site assessments of existing habitat use.

### 6.3 Assessment against Codes

#### 6.3.1 SEQ Regional Plan

The current form of the proposal may compromise the achievement of Desired Regional Outcomes 2 (Natural Environment) and 3 (Regional Landscape). This is primarily due to insufficient protection of significant biodiversity values. As noted above, although the site is located within the urban footprint, this does not override the need to protect significant ecological values identified by the local planning scheme or other planning documentation or investigations. Conditions have been recommended to afford greater protection of ecological values, thereby improving consistency with the Desired Regional Outcomes. These include protection of a greater central spine along the watercourse for ecological purposes, protection of linkages and other waterways and the inclusion offsetting requirements amongst others.

#### 6.3.2 Gold Coast Planning Scheme 2003

A summary of relevant desired environmental outcomes (DEOs) has been provided below:

**DEO Ecol.1**

The conservation of areas containing native vegetation of international, national, state, regional or local significance, and of other natural ecosystems, to ensure maintenance of the city’s biodiversity and natural landscape values.

The proposal does not conserve all areas of significant vegetation within the site. Nevertheless, maintenance of biodiversity and natural landscape values can be achieved through protection of the Ecological Corridor, protection of linkages, specific measures employed during construction and the inclusion of offsetting requirements.

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DEO Ecol.2

The protection of natural drainage catchments, river systems and other waterbodies to maintain the ecological values and functions of the ecosystems and health of the human communities that they support, and to enhance their value for maintenance of flora and fauna, recreation and other uses.

The proposal incorporates an Ecological Corridor along the major watercourse within the site, with the intent of protection of natural drainage catchments and river systems. The Ecological Corridor does not encompass the entire extent of the watercourse within Lot 28 as defined under the Water Act 2002, and it has been recommended that a condition is included to state that the entire length of defined watercourse is to be protected. An additional condition has been imposed to protect the watercourse that enters and exits the site via the southern boundary of Lot 28 and Lot 10. Additional measures have been included to buffer the impacts of adjoining land uses on the waterway, including provision of buffer areas and the location of water quality and quantity treatment devices outside of the Ecological Corridor.

Nature Conservation Code

The current form of the proposal does not meet the requirements of the Nature Conservation Code. This is primarily due to proposed disturbance within areas that meet the definition of 'ecologically significant' under the Gold Coast Planning Scheme 2003, and the failure to demonstrate protection of connectivity between the ecological corridor and habitat to the south of the site. Recommendations have been made for inclusion of conditions to improve consistency with the Nature Conservation Code where non-compliance issues were identified.

- **PC 1**: Not applicable
- **PC 2**: Compliance achieved. Field surveys were completed generally in accordance with Council’s Policy 8 - Guidelines for Ecological Assessment
- **PC 3**: Compliance not achieved. Although native fauna habitat is retained within the proposed corridor, site surveys recorded habitat for significant species across a larger area of the site that is proposed for development, and State and Council mapping identifies habitat for significant species over areas of the site that are proposed for development. The ecological reports do not state that offsets for threatened species habitat will be provided. Compliance with this PC can be achieved through adoption of recommended conditions relating to affording a greater protection of areas of habitat, and non-compliance can also be mitigated through provision of environmental offsets.
- **PC 4, PC 5, PC 6 and PC 13**: Compliance not achieved. Although ecologically significant areas are retained within the proposed corridor, a large proportion of areas that meet the definition of 'ecologically significant' are proposed for removal. Compliance with these PCs can be improved through adoption of recommended conditions relating to affording a greater protection of areas of ecological significance.
- **PC 7**: Compliance not achieved. The development incorporates east-west native fauna movement paths, but does not demonstrate the protection of sufficient linkages with habitat to the south of the site. Compliance with this PC can be achieved through adoption of recommended conditions relating to provision of an ecological link to vegetation south of the site.
- **PC 8**: Compliance achieved. Although the proposed buffer width (20 m) is less than that stipulated by the acceptable solution (30 m), the buffer widths were assigned in accordance with ecological advice based on a site assessment. Compliance with this PC can be achieved through adoption of recommended conditions relating to provision of an Ecological Corridor to vegetation south of the Site.
• PC 9: Compliance not achieved. An ecological corridor with a width of 100 m is retained; however, the proposal does not demonstrate the protection of sufficient linkages with habitat to the south of the site.

• PC 10: Compliance achieved. The green space corridor will be dedicated to the Crown as public open space.

• PC 11: Compliance achieved. Preparation and implementation of a rehabilitation plan for each stage of the development will be necessary to achieve compliance; this has been included in the list of proposed conditions of approval.

• PC 12: Compliance achieved. Preparation and implementation of a landscaping plan for each stage of the development will be necessary to achieve compliance; this has been included in the list of proposed conditions of approval.

• PC 14: Compliance achieved. The development incorporates buffer widths that were assigned in accordance with ecological advice.

• PC 15: Compliance achieved. The green space corridor will be transferred to Council as public open space.

• PC 16: Compliance achieved. Preparation and implementation of a landscaping plan for each stage of the development will be necessary to achieve compliance; this has been included in the list of proposed conditions of approval.

Natural Wetland Areas and Natural Waterways

The current form of the proposal does not meet the requirements of the Natural Wetland Areas and Natural Waterways Code. This is primarily due to proposed disturbance within areas that meet the definition of ‘ecologically significant’ under the Gold Cost Planning Scheme 2003, as well as areas that are defined as a watercourse by Council and DNRM. Recommendations have been made for inclusion of conditions to improve consistency with the Natural Wetlands Areas and Natural Waterways Code where non-compliance issues were identified.

• PC 1: Compliance achieved. Field surveys were completed in accordance with Council’s Policy 8 - Guidelines for Ecological Assessment.

• PC 2, PC 3: Compliance not achieved. Construction is proposed within a watercourse defined by DNRM. Compliance with these PCs can be achieved through adoption of recommended conditions relating to protection of the watercourse on Lot 28 as defined under the Water Act 2002. As the watercourse on Lot 11 has already been subject to modifications, no recommendations regarding this portion of the watercourse have been made.

• PC 4: Compliance not achieved. Infrastructure is proposed for construction within the Green Space Corridor surrounding the DNRM defined watercourse. Compliance with this PC can be achieved through adoption of recommended conditions relating to removal of infrastructure from the Ecological Corridor.

• PC 5: Compliance achieved upon preparation and implementation of a rehabilitation plan and landscaping plan.

• PC 8: Compliance not achieved. A buffer is not provided along the entire length of watercourses identified by OM11. Compliance with this PC can be achieved through adoption of recommended conditions relating to protection of the watercourse as defined under the Water Act 2002. As the watercourse on Lot 11 has already been subject to modifications, no recommendations regarding this portion of the watercourse have been made.
• PC 9: Compliance not achieved. The ecological corridor with a width of 100 m is retained; however, the corridor does not extend along the length of the DNRM defined watercourse and does not demonstrate a secure linkage with habitat to the south of the site. Compliance with this PC can be achieved through adoption of recommended conditions relating to protection of the watercourse as defined under the Water Act 2002. As the watercourse on Lot 11 has already been subject to modifications, no recommendations regarding this portion of the watercourse have been made.

• PC 10: Compliance achieved. The green space corridor will be transferred to Council as public open space.

• PC 11: Compliance achieved. The development proposes crossings over the waterway within the corridor, however, fauna friendly design principles will be used in order to maintain fauna movements.

6.3.3 Draft Planning Scheme 2015

Nature Conservation Overlay Code

Consideration has been given to the provisions of the draft City Plan 2015. The proposal does not meet the requirements of the Nature Conservation Overlay Code for several reasons, as outlined below. Recommendations have been made for inclusion of conditions to improve consistency with the Nature Conservation Overlay Code where non-compliance issues were identified:

• PO 1: Compliance achieved. Field surveys were completed in accordance with Council’s Guidelines for Ecological Assessment.

• PO 2: Compliance not achieved. Construction is proposed within areas identified by the overlay as Hinterland to Coast Critical Corridor, and proposed ecological corridors are not 200 m in width. Compliance with this PC can be partly achieved through adoption of recommended conditions relating to increasing the extent of the Ecological Corridor such that Critical Corridors are incorporated. The JWA Report provides justification for the selected corridor width, such that recommendations regarding an increase in the width of the corridor have not been made.

• PO 3: Compliance not achieved. Construction is proposed within areas identified by the overlay as Substantial Remnants. Compliance with this PC can be achieved through adoption of recommended conditions relating to increasing the extent of the Ecological Corridor such that Substantial Remnants are incorporated.

• PO 4: Compliance not achieved. Buffers of stipulated width are not provided along watercourses identified by the overlay. Compliance with this PC can be achieved through adoption of recommended conditions relating to protection of the watercourse as defined under the Water Act 2002. As the watercourse on Lot 11 has already been subject to modifications, no recommendations regarding this portion of the watercourse have been made.

• PO 6: Compliance not achieved. Construction is proposed within areas identified by the overlay as High Value vegetation. Conditions relating to provision of offsets to compensate for impact to High Value vegetation have been recommended.

• PO 7: Compliance not achieved. Construction is proposed within areas identified by the overlay as Medium Value vegetation, and offsets for damage to this vegetation have not been proposed. Compliance can be achieved through adoption of recommended conditions relating to provision of offsets to compensate for impact to Medium Value vegetation.

• PO 8: Not applicable.
• PO 9: Compliance not achieved. Construction is proposed within areas identified by the overlay as High Value vegetation. Conditions relating to provision of offsets to compensate for impact to High Value vegetation have been recommended.

• PO 10: Compliance not achieved. Construction is proposed within areas identified by the overlay as Koala Habitat within Biodiversity Areas. Compliance with this PC can be achieved through adoption of recommended conditions relating to increasing the extent of the Ecological Corridor such that all areas of Koala Habitat within Biodiversity Areas are incorporated.

• PO 11: Compliance not achieved. Construction is proposed within areas identified by the overlay as Koala Habitat, and Koala Habitat offsets have not been proposed. Compliance can be achieved through adoption of recommended conditions relating to provision of offsets to compensate for impact to Koala Habitat.

• PO 12: Compliance not achieved. No connectivity to Koala Habitat mapped to the south of the site has been proposed. Compliance with this PC can be achieved through adoption of recommended conditions relating to provision of an Ecological Corridor to vegetation south of the site.

• PO 13: Compliance will be achieved through preparation and implementation of a fauna management plan.

• PO 14: Compliance will be achieved through preparation and implementation of a fauna management plan.

• PO 15: Compliance achieved. Fauna friendly crossing have been proposed.

• PO 16: Compliance will be achieved through preparation and implementation of a fauna management plan.

• PO 17: Compliance will be achieved through preparation and implementation of a fauna management plan.

• PO 18: Compliance achieved. The green space corridor will be dedicated to the Crown as public open space.

• PO 19: Not applicable.

• PO 20: Compliance will be achieved through preparation and implementation of a rehabilitation plan.

6.4 Conditions of Approval Issued by Third Party Advice Agencies

6.4.1 Conditions from DNRM

The conditions suggested by DNRM are deemed reasonable and have been included in the suggested conditions provided in this report. It is recommended that the wording of the condition regarding provision of offsets be amended to encompass provision of all offsets needed for State and Local Matters of Environmental Significance, i.e.:

Prior to any vegetation clearing, an offset for the significant residual impact to any Matters of State Environmental Significance and Matters of Local Environmental Significance is to be delivered commensurate with each stage of development pursuant to the requirements of the Queensland Environmental Offsets Framework under the Environmental Offsets Act 2014 as well as the latest release of any Council Environmental Offsets Policy in place at the time.
A copy of the conditions issued by the third party advice agencies has been included as Appendix B of this report.

6.4.2 Conditions from Council

It is noted that the minute orchid is no longer listed as a threatened species and therefore Conditions 19, 20 and 21 from Council should not be adopted. All other Conditions from Council relevant to ecology (10 to 18 and 22 to 28) are considered appropriate and have been documented below for inclusions in the Minister's decision.

6.5 Recommendations

6.5.1 Recommended decision

Based on the ecological information reviewed as part of this assessment, there are sufficient grounds to approve the development application from an ecological perspective subject to conditions recommended in Section 6.6 of this report. This recommendation to approve the development has been made on the basis that:

- The site is located within urban footprint nominated in the South East Queensland Regional Plan
- The development can be conditioned to achieve the relevant Desired Regional Outcomes of the South East Queensland Regional Plan
- The draft City Plan 2015 shows the land as being suitable for urban development, and
- The development can be conditioned to achieve the Desired Environmental Outcomes Key Strategies and Policy Codes of the Gold Coast Planning Scheme 2003 and/or the draft City Plan 2015.

6.5.2 Recommended amendments to PVE Code

The amendments listed in Section 6.6 are recommended for the PVE Code and associated plans and tables. Specific reference is made to the inclusion of three additional plans which have been included as Appendix C of this report.

6.6 Conditions of Approval

The following conditions of approval are recommended with regard to ecological matters and have been summarised in the table below:
The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.

An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:

- **All Maps:** The Ecological Corridor is to be presented as a separate precinct from the Green Space. The current designation for Precinct 2 comprises both Green Space and Ecological Corridor and creates ambiguity around the intended use and purpose for the corridor.
- Amend all Place Code Maps, Development Plans and the intent and purpose description to remove all references to infrastructure (apart from road crossings) located within the new precinct (Ecological Corridor Precinct), including but not limited to stormwater infrastructure, sewer infrastructure and recreational activities.
- **All Maps:** The Ecological Corridor Precinct is to be extended to protect values that are recognised as locally significant in order to achieve compliance with the Gold Coast Planning Scheme 2003. At a minimum:
  - Biodiversity Areas and Critical Corridors identified on Attachment 1 are to be included within the Ecological Corridor Precinct;
  - The full extent of the watercourse within Lot 28 defined by DNRM under the Water Act 2000 (and shown as Attachment 2) must be included in the Ecological Corridor Precinct;
  - An Ecological Corridor Precinct linkage will also be provided to habitat south of the site. This will be recommended by the Applicant in order to provide connection from the site to the loose urban corridors evident to the south of the site.
- **Place Code Map 4 – Building Heights:** The map is to be amended to stipulate that buildings will not be constructed within the Ecological Corridor Precinct.
- **New plans** – New maps are prepared and included in the PVE Development Code – Ecological Corridor Values, Koala Habitat Values and Valued Vegetation generally consistent with the details provided in Attachments 1 – 3 of this approval.
- **All Tables of Development:** All development within Ecological Corridor Precinct is to be prohibited, with the exception of necessary road crossings that comprise code assessable operational works.
- **Table of Development F: Operational Work – Vegetation Clearing,** add in the following to exempt development:
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
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<tbody>
<tr>
<td><strong>Ecology</strong></td>
<td>&quot;Vegetation clearing that is less than 3 m from the foundations of an existing building.&quot;</td>
</tr>
</tbody>
</table>

- **Table 8.2.1** - For development applications assessed against the 2003 Planning Scheme – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.2.1** - For development applications assessed against City Plan 2015 – the Nature Conservation Overlay Code and Vegetation Management Code are to be included as constraints codes.
- **Table 8.5.1** - For development applications assessed against the 2003 Planning Scheme – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.5.1** - For development applications assessed against City Plan 2015 – the Nature Conservation Overlay Code and the Vegetation Management Code are to be included as constraints codes.
- **Table 8.6.1** - For development applications assessed against the 2003 Planning Scheme – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.6.1** - For development applications assessed against City Plan 2015 – the Nature Conservation Overlay Code and the Vegetation Management Code are to be included as constraints codes.
- **Section 10**: sub-headings are to be included to clearly define what relates to Self Assessable, Code Assessable or Impact Assessable development.
- Remove PC5 and AS5 and replace with the following:

<table>
<thead>
<tr>
<th>Nature Conservation</th>
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<tbody>
<tr>
<td><strong>PC (new)</strong></td>
</tr>
<tr>
<td>Significant species and their habitat identified through an ecological site assessment prepared in accordance with Council’s Guideline are protected.</td>
</tr>
</tbody>
</table>

| **AS (new)** |
| Development does not occur within areas shown on the Ecological Corridor Precinct map, with the exception of necessary road infrastructure and service infrastructure contained within the road corridor identified on concept plans. |

| **PC (new)** |
| Areas of mapped significant species habitat are protected or offset. |

<p>| <strong>AS (new)</strong> |
| Development does not occur within areas of significant species habitat mapped by either the Council planning scheme in place at the time or |</p>
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</table>
| Ecology      | **PC (new)** Assessable koala feed and shelter trees (non-juvenile koala habitat trees as defined in the South East Queensland Koala Conservation State Planning Regulatory Provisions) are protected or offset when they are located in recognised koala habitat identified on the attached map.  
**AS (new)** Removal of assessable koala feed and shelter trees does not occur when they are located in koala habitat as identified on the Koala Habitat Values map  
**OR** The applicant demonstrates that all attempts have been made to avoid and minimise damage to koala feed and shelter trees within areas shown by the attached map  
**AND** Removal of assessable koala feed and shelter trees is offset in accordance with any Council Environmental Offset Policy in place at the time.  
**AS (new)** Linkages between vegetation on adjoining land and the Ecological Corridor Precinct are to be provided with a minimum width of 50 metres at the approximate locations shown on Place Code – Map 8 – Open Space Plan.  
**AND** | through a site specific ecological assessment. Where development is necessary within these areas, offsets are to be provided in accordance with the Queensland Environmental Offsets Framework under the Environmental Offsets Act 2014 and any Council Environmental Offsets Policy in place at the time. |
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<tr>
<td>Ecology</td>
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Vegetation within linkages is to be protected, with the land being dedicated to Crown.

**AS (new)**

All bridges, roads (including bushfire trails) and infrastructure within the Ecological Corridor Precinct and Green Space Precinct must be designed and constructed to include fauna friendly. The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.

**AS (new)**

Buffers of at least 20 m wide are provided between the development and retained habitat identified through an ecological site assessment or protected within the Ecological Corridor Precinct.

- **PC (new)**
  
  Buffers are provided that protect the long term viability of protected fauna habitat within the site.

- **Vegetation Management**

  - **PC (new)**
    
    Vegetation is protected or offset when it is identified as an endangered regional ecosystem.

  - **AS (new)**
    
    Vegetation clearing of native vegetation or other disturbance activities are not undertaken within endangered regional ecosystems.

  OR

    The applicant demonstrates that all attempts have been made to avoid and minimise damage to
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<td>Ecology</td>
<td>end endangered regional ecosystems</td>
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<td><strong>PC (new)</strong> Vegetation is protected or offset when it is identified as high or medium value shown on the Valued Vegetation map.</td>
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<td><strong>AS (new)</strong> Disturbance activities are not undertaken within high or medium value vegetation shown on the attached map.</td>
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<td><strong>OR</strong> The applicant demonstrates that all attempts have been made to avoid and minimise damage to vegetation as stated above</td>
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<td><strong>AND</strong> Any removal of such vegetation is offset in accordance with the requirements of the Queensland Environmental Offsets Framework under the Environmental Offsets Act 2014.</td>
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<td></td>
<td><strong>AS (new)</strong> Buffers of at least 20 m wide are provided between the development and retained vegetation that is an endangered regional ecosystem and/or high or medium value vegetation as identified on the attached map.</td>
<td></td>
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<td><strong>OR</strong> The applicant demonstrates that all attempts have been made to avoid and minimise damage to vegetation as stated above</td>
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<td><strong>AND</strong> Any removal of such vegetation is offset in accordance with any Council Environmental Offsets Policy in place at the time.</td>
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GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate, 41/28512 | 19
• AS 8.1 amend to – ‘A landscape plan must be prepared by a suitably qualified landscape architect. The plan must demonstrate the provision of landscaping that will provide amenity for site users and passers-by while also protecting and enhancing the ecological character of the local area.’

2 New Development
• Subsequent material change of use, reconfiguring a lot and operational works applications must address the provisions of the PVE Development Code.

3 Ecological Corridor Precinct and Green Space Precincts
• The Ecological Corridor Precinct is to be 100 m at a minimum and the Green Space Precinct is to be 20 m wide at a minimum.
• A total maximum of 10 ha of vegetation clearing can occur within the Green Space Precinct.
• A minimum width of 30 metres shall be retained between the edge of the Ecological Corridor Precinct and the outer bank of the defined watercourse.

4 Offsets
• The State of Queensland will not bear any of the costs associated with the lodging and registration of the offset legally securing mechanism.
• Prior to any vegetation clearing, an offset for the significant residual impact to any Matters of State Environmental Significance and Matters of Local Environmental Significance is to be delivered commensurate with each stage of development pursuant to the requirements of the Queensland Environmental Offsets Framework under the Environmental Offsets Act 2014 as well as the latest release of the equivalent policy to the SC6.8 draft City Plan 2015 Policy - Environmental Offsets available at the time of this decision.

5 Transfer of Ecological Corridor Precinct and Green Space Precinct to the Crown
• The applicant must transfer to the Crown the areas of public open space, including the Green Space and Ecological Corridor Precincts and any linkages commensurate with each stage of development.
  – The land identified must be transferred to the Crown as reserve for ‘Public Open Space’ with the Council of the City of Gold Coast as Trustee.
  – The applicant must lodge the transfer documents with Council.
  – The transfer of the land to Council must be at no cost to Council.
  – Transfer documents are to be lodged with Council at the same time as lodgement of the formal plan of survey for subdivision, or if no plan of survey for subdivision is required, prior to the commencement of the
Development Applications for Vegetation Clearing

- Prior to the commencement of any vegetation clearing, a development application for operational work (vegetation works) must be made to Council for any works proposing clearing or damage to any protected vegetation. The application must be accompanied by a copy of each of the following plans (and, where a plan has already been approved, that plan must be accompanied by the corresponding approval documentation (i.e. decision notice or letter of approval)):
  - The approved material change of use / reconfiguring a lot layout plan
  - The approved bushfire management plan
  - Plans that clearly identify which vegetation is proposed to be removed and which vegetation is proposed to be retained. Tree retention is to be maximised, particularly within the Larger Lot Residential Precinct.
  - A fauna management plan, as required by conditions of this approval
  - A vegetation management plan, as required by conditions of the approval
  - A sediment and erosion control and construction management plan, as required by conditions of this approval
- The vegetation clearing on the land must not cause land degradation in retained endangered regional ecosystem.

Vegetation Management Plan

- The applicant must submit a vegetation management plan (VMP) with each material change of use or lot reconfiguration application in which native woody vegetation will require removal. Clearing of protected vegetation can only occur once a development permit for operational work (vegetation clearing) is secured.
  - ‘Protected Vegetation’ is defined as vegetation that is: equal to, or in excess of, 40 centimetres in girth (circumference) measured at 1.3 metres above average ground level irrespective of the domain, or equal to, or in excess of, four metres in height.
- The VMP must be prepared by a suitably qualified and experienced professional and include the following information:
  - Particulars relating to the land, including the real property description and street address
  - A site analysis plan
  - Scale and north point,
<table>
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<th>Condition No</th>
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| **Ecology** | - Location of existing and approved buildings, structures, services and roads.  
- Location of the protected vegetation on the site and adjacent land, indicating which vegetation is proposed to be retained, relocated, removed or damaged  
- Particulars of vegetation type, including species name, common name, height and girth, radial distance of canopy and root zone  
- The location (to be accurately mapped) of any vegetation on and adjacent to the site that is:  
  - ‘protected vegetation’ under the *Nature Conservation Act 1992* (Qld)  
  - A ‘listed threatened species’ under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or  
  - ‘remnant vegetation’ mapped under the *Vegetation Management Act 1999* (Qld).  
- A statement of the reasons why the damage is necessary and any relevant factors associated with the purpose of the proposed damage  
- Details of how fauna will be managed during vegetation clearing  
- Details of location, size and species of replacement vegetation to compensate for the loss of damaged vegetation  
- Details of strategies and methods to be implemented to protect vegetation to be retained, relocated or pruned from damage, and how site works will be managed to ensure the same  
- Methods for the reuse of felled vegetation from the subject site  
- Disposal methods for remaining debris after the above methods have been employed  
- Details of any proposed rehabilitation to be undertaken  
- Treatment of surfaces adjacent to any vegetation to be retained on site (e.g. grassing, bitumen paving and the like), and  
- For any vegetation to be retained adjacent to hardstand areas or structures, an appraisal prepared by a suitably qualified horticulturist/arborist of the health and vigour of the subject vegetation including stage of growth, predicted gross morphology, crown framework and extent of root system. |
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<td><strong>Ecology</strong></td>
<td>Fauna Management</td>
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- A fauna management plan is to be prepared for each operational works vegetation clearing development application, that includes the following information, and must be prepared by a suitably qualified and experienced professional:
  - Description of the development proposal and clearing works
  - Site description including plans and supporting text providing a description of vegetation communities and fauna habitat values and connections to be cleared and those to be retained.
  - Fauna known to occur at the site (based on the outcomes of the ecological assessment and any additional site inspections) and a brief habitat description/identification of locations that the species are known to occur.
  - Fauna likely to occur at the site (based on outcomes on the ecological assessment and database searches such as WildNet) and a brief habitat description/identification of locations that the species are likely to occur.
  - Identification of significant fauna species known and likely to occur at the site.
  - Identification of known and potential habitat trees (displaying values such as hollows, fissures, nests, drays, arboreal termitaria used as nests, roosts etc.).
  - Identification of general fauna habitat (including weed species that may offer fauna habitat, native vegetation, rivers, creeks, ground resources such as boulders and hollow logs, and including any building materials and/or machinery, etc.).
  - Details for demarking areas that are of high habitat value to be disturbed (e.g. habitat trees, disturbance in sensitive areas etc.).
  - Information on how the clearing will be undertaken including:
    - Whether the clearing will be undertaken in stages
    - Special considerations for clearing (e.g. juvenile vegetation first)
    - Time periods between clearing of staged areas (where applicable) or immature vegetation
    - Direction of clearing, progressively to allow for fauna movement away from the disturbance points
    - Staging of infrastructure (for example nest boxes, installation of fauna friendly crossings etc. taking into consideration temporary movement corridors based on the impacts of construction works), and
    - Temporary methods required (e.g. barrier fencing to prevent fauna fleeing to roads).
Information on how trees are to be inspected for denning or nesting animals including constraints for inspecting trees (to provide acceptable alternative methods).

Considerations relating to time periods for when fauna is to be removed/flushed prior to clearing.

Methods for moving denning or nesting animals and/or capture or flushing of ground dwelling animals.

Summary of removal and relocation methods for each faunal group (including observed species and species likely to occur in the area to be disturbed). Faunal groups that have specialist habitats that differ from the general faunal group (for example ground dwelling birds) further descriptions are required.

Details of special equipment required (such as chainsaws, cameras etc).

Identification of general locations that wildlife will be relocated/translocated to if required (based on habitat requirements).

Information on how the animal is to be protected once relocated.

Methods to euthanise injured animals as well as contact details (including telephone number) and location of the closest vets (and others close by).

Detailed methods for the translocation and protection of significant fauna species known and likely to occur at the site.

Special considerations for nesting times.

- If the fauna management plan proposes the capture and release and/or management of any fauna that is 'protected wildlife' as defined under the Nature Conservation Act 1992, the applicant must provide evidence to Council that the proposed fauna management plan has been endorsed by the Department of Environment and Heritage Protection prior to its submission to Council, or a statement from the Department as to whether a species-specific fauna translocation management plan is required.
- All works must be conducted in accordance with the approved fauna management plan and any conditions imposed on the approval letter.

The applicant shall be responsible for the management and welfare of all wildlife on the subject site for the duration of all material change of use, reconfiguring a lot, operational works and on-maintenance periods. All handling of wildlife shall be in accordance with an approved fauna management plan and by an approved fauna spotter catcher.

Where wildlife is required to be removed from the subject site, or relocated into ecological open space onsite, and no
fauna management plan has been approved for the area, the applicant shall be responsible for notifying Council, and employing the services of a registered Spotter Catcher. This responsibility includes all costs associated with relocation of fauna at the developer’s expense.

Nest Box Management Strategy

- A nest box management strategy for Pacific View Estate that includes the following information must be prepared by a suitably qualified and experienced professional and submitted at the time application is made for operational works involving vegetation clearing, and must include recommendations from standard industry practises:
  - Description of target species and specific habitat/hollow requirements (i.e. greater glider)
  - Literature review on nest box use and nest box requirements for each target species
  - Description of current hollow-bearing tree densities
  - Types of hollows present (i.e. trunk/branch fissures, large >30 cm, small etc.)
  - Number of hollows available for the use of target species
  - Number of nest boxes required to fulfil target species habitat requirements
  - Details of nest box design and dimensions for target species including but not limited to:
    - Size
    - Drainage features
    - Depths, and
    - Hollow configuration, diameter, angle of opening.
  - Details of nest boxes placement onsite, including but not limited to:
    - Nest boxes are not to be placed within 30 m of each other or 30 m of an existing hollow bearing tree. Where this is not possible, the location of each nest box is to be determined by the approved spotter catcher onsite
    - Nest boxes must not be located within the Green Space Buffer and at least 20 m away from forest edges
    - Nest boxes must not be located within 5 metres of any recreation trails (bush trails)
    - Nest box positioning on tree, height, aspect, and
### Ecology

- Placement to deter pest species.
  - Monitoring and management strategies and regimes, including the removal of pest species.
  - Details of how nest boxes are to be attached to trees. Boxes are to be attached to trees in a manner which protects the receiving tree and ensures the longevity of each nest box i.e. use of plastic coated wire configured to expand, no nailing etc.
- The applicant must monitor and maintain all nest boxes onsite for a minimum period of 7 years. The applicant must engage a suitably qualified and experienced professional to perform all monitoring and maintenance duties. The applicant must submit to Council annual nest box monitoring and maintenance reports including the following information:
  - Identification of species utilising nest boxes
  - Approximate rates of occupancy of nest boxes including rates for each species
  - Rate of occupancy of pest or generalist species
  - Actions taken to deter pest or generalist species
  - Details of removal and replacement of nest boxes where failed, and
  - Documentation and data analysis of patterns in use.

### Structures to Allow Fauna Movement

- The development is to incorporate viable native fauna movement paths. All bridges, roads (including bushfire trails) and infrastructure within the Ecological Corridor and Green Space Precinct must be designed and constructed to include fauna friendly crossings. Provisions for fauna movement, including, but not limited to, the design and construction of the fauna crossings must be in accordance with the Department of Transport and Main Roads' Fauna Sensitive Road Design Manual Volume 2: Preferred Practices, dated June 2010, and must ensure the following:
  - Minimum fauna culvert sizes to suit full suite of species onsite
  - Must incorporate the use of fauna furniture
  - Must provide crossing opportunities for arboreal animals via the use of retained canopy cover, rope bridges, glider poles, koala poles, as appropriate
  - Demonstrate that the type and dimension of the fauna crossing ensures that during low flow events, one dry
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<td>Ecology</td>
<td>culvert exists to facilitate fauna movement</td>
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<td>Where necessary, incorporate the installation of slow traffic areas and/or safe fauna crossing areas, including, but not limited to, appropriate fauna signage, maximum speeds of 50 km/per hour, speed humps and fauna fencing</td>
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<td>The applicant must ensure that fauna crossing details are determined in accordance with the consulting hydraulic engineer, and</td>
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<td>All fauna crossing details must be submitted to Council with any future development application relevant to the location and construction of the road or fauna crossing.</td>
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<tr>
<td>Fauna Fencing</td>
<td>A fauna fencing strategy must be prepared by a suitably qualified and experienced professional for all bushland areas including both the Green Space Precinct and Ecological Corridor Precinct. All fencing designs and principles must be in accordance with the Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; and the Queensland Government Koala-Sensitive Design Guidelines. The fauna fencing strategy must nominate where fencing is appropriate, include specific fencing details, dimension and locations and include provisions for the management of specific species. The fauna fencing strategy must be submitted to Council for assessment with any future development application relevant to:</td>
<td>As stated</td>
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<td>- The location and construction of the road or fauna crossing, and</td>
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<td>- Where development occurs directly adjacent the Green Space Corridor or Ecological Corridor precincts.</td>
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<tr>
<td>Site Rehabilitation</td>
<td>All degraded areas within the Green Space Precinct and Ecological Corridor Precinct are to be rehabilitated. A rehabilitation management plan must be prepared for each stage of Pacific View Estate that incorporates the Ecological Corridor and Green Space precincts to outline rehabilitation proposed. The rehabilitation management plans must be prepared in accordance with Appendix 1 (Guideline for the preparation of a Rehabilitation Plan) of Council’s Open Space Management Guidelines: Guideline for the preparation of Reports and Plans associated with the dedication of Public Open Space (November 2007: Version 1) (or the most current version of this at the time of preparation). The rehabilitation management plan must contain the following information (as applicable):</td>
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<td>- Rehabilitation details of species specific habitat</td>
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<td></td>
<td>- Incorporation of Glossy-Black Cockatoo feed tree species</td>
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Details of proposed rehabilitation works including proposed species and planting palette
- Planting modules to demonstrate planting densities
- All weeding works required, including a full list of known weeds on site and how each weed can be adequately managed
- The required ongoing management/maintenance regimes, including:
  - Plans indicating maintenance areas/zones
  - Schedules of works including frequency and tasks
  - Allocation of labour and resources to perform tasks
  - Nomination of key performance indicators/criteria for monitoring purposes (e.g. all revegetation areas minimum 90% weed free, etc.)
  - Time allocated to perform various tasks (e.g. top up mulch, pruning, topdressing, etc.)
  - Defects liability for materials such as replacement of dead plant species of equivalent species and vigour
  - Coordination of services such as irrigation repair or civil infrastructure maintenance (such as stormwater) that may impact on the landscape establishment and maintenance periods
  - Management of bushfire hazard (where approved)
  - Management of domestic farm/feral animals (if appropriate)
  - Management of public access and/or restricted access areas
  - Tree management procedures
  - Management and maintenance regimes for sediment and erosion control devices, and irrigation
  - Proposed future need for infrastructure, including public facilities, and
  - Management and control of declared plants and recognised environmental weeds.

- A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the rehabilitation management plan.

Matters or things against which the document must be assessed

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<tr>
<td><strong>Ecology</strong></td>
<td>- Details of proposed rehabilitation works including proposed species and planting palette&lt;br&gt; - Planting modules to demonstrate planting densities&lt;br&gt; - All weeding works required, including a full list of known weeds on site and how each weed can be adequately managed&lt;br&gt; - The required ongoing management/maintenance regimes, including:&lt;br&gt;  - Plans indicating maintenance areas/zones&lt;br&gt;  - Schedules of works including frequency and tasks&lt;br&gt;  - Allocation of labour and resources to perform tasks&lt;br&gt;  - Nomination of key performance indicators/criteria for monitoring purposes (e.g. all revegetation areas minimum 90% weed free, etc.)&lt;br&gt;  - Time allocated to perform various tasks (e.g. top up mulch, pruning, topdressing, etc.)&lt;br&gt;  - Defects liability for materials such as replacement of dead plant species of equivalent species and vigour&lt;br&gt;  - Coordination of services such as irrigation repair or civil infrastructure maintenance (such as stormwater) that may impact on the landscape establishment and maintenance periods&lt;br&gt;  - Management of bushfire hazard (where approved)&lt;br&gt;  - Management of domestic farm/feral animals (if appropriate)&lt;br&gt;  - Management of public access and/or restricted access areas&lt;br&gt;  - Tree management procedures&lt;br&gt;  - Management and maintenance regimes for sediment and erosion control devices, and irrigation&lt;br&gt;  - Proposed future need for infrastructure, including public facilities, and&lt;br&gt;  - Management and control of declared plants and recognised environmental weeds.&lt;br&gt;  - A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the rehabilitation management plan.</td>
<td><strong>Matters or things against which the document must be assessed</strong></td>
</tr>
</tbody>
</table>
### Condition No | Detail | Timing
--- | --- | ---
**Ecology**
- The planning scheme’s Nature Conservation Constraint Code;
- The planning scheme’s Natural Wetland Areas and Natural Waterways Constraint Code; and
- Appendix 1 (Guideline for the preparation of a Rehabilitation Plan) of Council’s Open Space Management Guidelines: Guideline for the preparation of Reports and Plans associated with the dedication of Public Open Space (November 2007: Version 1); and
- South East Queensland Ecological Restoration Framework.

**Compliance assessor:** Council for the City of Gold Coast

**When the request for compliance assessment must be made**
- Before the earlier of or in conjunction with:
  - A development application (MCU/ROL) for each precinct/stage.
  - The rehabilitation management plan is not an approved plan until a compliance certificate has been issued in respect of it.
- A copy of the compliance certificate for the rehabilitation management plan must be provided with any future operational work development applications.
- The rehabilitation, management and maintenance measures and monitoring required by the approved rehabilitation management plan and any conditions imposed on the compliance certificate must be complied with.
7. Economics

7.1 General

As part of the PVE residential development, a number of non-residential uses are proposed, including:

- Village Centre: Total gross floor area (GFA) of 15,000m², comprising:
  - Retail: 5,000m²
  - Commercial: 2,000m²
  - Tavern / entertainment: 3,000m², and
  - Other: 5,000m².
- Three neighbourhood centres capped at 1,500m² GFA located in:
  - Precinct 5
  - Precinct 6 (north of Precinct 2)
  - Precinct 6 (south of Precinct 2), and
- Industrial development on a 7.09 hectare land parcel, located immediately to the east of the Pacific Motorway.

A number of submissions were received during the public notification stage of the IDAS process regarding economic issues relating to the non-residential uses proposed, including:

- There already exists a surplus of retail in the area to service the residents of the PVE development and the provision of additional retail would be damaging to existing businesses.
- The proposed shopping centre would have a significant impact on existing businesses including those at Worongary Town Centre.
- Worongary Town Centre and Nerang Town Centre area able to meet the retailing needs of PVE, and
- The proposed development has the potential to undermine the identification of Nerang as a Major Regional Activity Centre under the South East Queensland Regional Plan 2009.

The briefing document received from the Department outlined a range of general issues relating to economic and planning need and impact, including:

- The proposed scale and mix of uses in the proposed village centre on other centres.
- The proposed industrial precinct on the industrial employment centres as identified on the Employment, Investment and Service Centres (Activity Centres) Planning Strategy Map PS4, and whether this impact is acceptable, acceptable with amendments or unacceptable, and why, and
- The proposed development on job creation and on employment in existing centres.

The development application was supported by two economics reports. The first report submitted as part of the development application was prepared by KPMG Econtech and assessed the economic stimulus generated by the construction of PVE and the economic contribution of the non-residential components to the Gold Coast regional economy. This report did not address any issues in relation to economic and community need or the impacts of proposed PVE centres on the Gold Coast activity centres hierarchy.
Council requested that the applicant submit an economic need and impact assessment of the proposed centre components. An eight page letter report prepared by MacroPlan Dimasi was submitted by the applicant as part of its response to the Council information request. The MacroPlan Dimasi report provided an estimate of available retail expenditure of a number of trade areas for the proposed PVE centres. This available expenditure analysis was converted into an estimate of supportable floor space. While this analysis forms a basis for the assessment of economic and community need and centres impact, the analysis provided did not fully assess need and provided no formal assessment of potential centre impacts.

7.2 Technical aspects

7.2.1 Review of Common Material

A review of the economic reports submitted as part of the PVE Council requested that the applicant submit an economic need and impact assessment of the proposed centre components. An eight page letter report prepared by MacroPlan Dimasi was submitted by the applicant as part of its response to the Council information request. The MacroPlan Dimasi report provided an estimate of available retail expenditure of a number of trade areas for the proposed PVE centres. This available expenditure analysis was converted into an estimate of supportable floor space. While this analysis forms a basis for the assessment of economic and community need and centres impact, the analysis provided did not fully assess need and provided no formal assessment of potential centre impacts.

7.2 Technical aspects

7.2.1 Review of Common Material

A review of the economic reports submitted as part of the PVE development application and submissions received by Council and the Department indicates that the trade areas relied on for the assessment of the proposed centre activities within PVE have been drawn far too wide and are inconsistent with the scale of trade areas commonly associated with centres purporting to fulfil a Local Centre type function.

The trade areas relied upon in the PVE development application were formulated by MacroPlan Dimasi. Based on these extensive trade areas and the analysis provided by MacroPlan Dimasi, it is clear that centre activities within PVE (particularly the Village Centre), if delivered early in the development's life cycle, would rely heavily on drawing trade from areas external to PVE and that these external areas would constitute the primary trade areas of a number of existing centres. As such, premature delivery of centre activities within PVE would necessarily have significant to severe impacts on the existing, approved and designated centres at certain levels within Council’s nominated hierarchy. A submission made by AHC (owners of Worongary Shopping Centre) commissioned economic analysis by Location IQ which supports this assessment that the trade areas have been drawn too broadly, and that if centre activities proposed within PVE were delivered in the short term, those centre activities would have significant impacts on the centres hierarchy.

While early delivery of centre activities within PVE would be likely to have a significant detrimental impact on the Gold Coast activity centres hierarchy, the development of some 3,500 new dwellings within PVE gives rise to a significant medium to long term community need for centre facilities. Hence, the planning for centre activities within PVE must balance the potential for significant adverse impacts on the activity centres hierarchy with a burgeoning community need which will build over time. In many respects, the proposed centres network outlined in the PVE Development Code is largely consistent with the ultimate centre needs of the PVE development once fully completed. As such, the balancing of centres impact and community needs is best achieved through the linking of acceptable centre development outcomes with the completion and occupation of housing within PVE. This ensures that in the event the intended residential yield of PVE fails to be realised, the development of centre activities would be proportionally constrained.

The technical analysis outlined below highlights the implications of adopting more appropriate trade areas for the stated intended role and function of centre activities within PVE. The analysis also adopts an approach which minimises the potential for impact on existing trading levels of existing centres and also provides capacity for the expansion of the Nerang Major Activity Centre as it seeks to meet its intended role and function.

The proposed conditions outlined below respond to the technical analysis and the overall objective of ensuring community needs are met as and when they emerge, while at the same time ensuring that the centres hierarchy is not adversely impacted in an unacceptable way. As such, the conditions do embody to some extent the precautionary principle. Were a developer...
to seek to develop centre activities over and above the thresholds imposed by the PVE Development Code and the conditions outlined below, the Table of Development enables it to submit an impact assessable application for consideration by Council on its merits.

### 7.2.2 Trade Area Definition

The MacroPlan Dimasi' report that was included as part of the applicant's response to Council's information request dated 11 July 2014 identified three trade areas for the proposed local centre at PVE. These are presented in Figure 1 below.

The trade areas identified are extensive and are inconsistent with what might reasonably be expected for a centre with a role and function similar to a Local Centre. Given the scale of the proposed Village Centre at PVE (5,000m$^2$ of retail GFA, 2,000m$^2$ of office space GFA, 3,000m$^2$ of entertainment / tavern GFA and 5,000m$^2$ of other uses GFA) and the location of existing centres at Nerang and Worongary, the trade areas for the proposed PVE centres would be significantly smaller than that identified by MacroPlan Dimasi.

The geographic definition of the trade areas in the MacroPlan Dimasi report would suggest that the proposed Village Centre would be highly reliant on drawing expenditure from the existing residential areas outside of the PVE. Much of these existing areas represent the primary trade areas of existing centres, most notably those located at Nerang Town Centre and Worongary.

Given the lack of any existing population within the PVE boundary, the MacroPlan Dimasi trade areas imply that the delivery of centre activities within PVE in the immediate to short term would necessarily need to draw significant trade from existing centres. In this regard, the trade areas defined by MacroPlan Dimasi would imply that the PVE centres are anticipated to service an area well beyond PVE.
As part of their submission to the proposed ministerial call in notice, AHC attached a report prepared by Location IQ which also contends that trade areas identified by MacroPlan Dimasi are defined too broadly. Location IQ presented alternative trade areas for the proposed Village Centre at PVE (which are superimposed over the MacroPlan Dimasi trade areas), as outlined in Figure 2 below.

**Figure 1 Trade Area Definition for Proposed Local Centre at Pacific View Estate, MacroPlan Dimasi**

GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate,

41/28512 | 33
Figure 2 Trade Area Definition for Proposed Local Centre at Pacific View Estate, Location IQ

The trade area comparison provided by Location IQ as part of the AHC submission highlights the overstatement of the MacroPlan Dimasi trade areas, which extend north of My Centre Nerang and Nerang Mall and east as far as Emerald Lakes Golf Club and south past the Worongary Town Centre.
The trade areas presented in Location IQ's report are consistent with the intended function of the Village Centre as a local centre to service the convenience needs of local residents, most notably residents within PVE, and have been adopted for the purpose of assessing centre needs for the PVE.

### 7.2.3 Population and Household Projections

Table 1 below outlines the anticipated population and household projections for the revised primary and secondary trade areas, as defined in Figure 2 above.

Upon build out, it is anticipated that the PVE will comprise 3,500 dwellings, housing an estimated 8,750 persons (based on an average household size of 2.5 persons per household, consistent with MacroPlan Dimasi's assumptions). It is anticipated that build out of PVE would occur between 2031 and 2036, but this will ultimately depend on sales volumes at the estate.

In the absence of PVE, it is anticipated there would be very limited population and household growth within the revised trade areas, based on historic residential development trends and the absence of greenfield and brownfield development opportunities.

#### Table 1 Population and Household Projections by Trade Area, 2011-Build Out

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2014</th>
<th>2015</th>
<th>2021</th>
<th>2026</th>
<th>Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary TA</td>
<td>1,850</td>
<td>1,910</td>
<td>1,950</td>
<td>4,950</td>
<td>7,950</td>
<td>10,960</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,080</td>
<td>5,155</td>
<td>5,205</td>
<td>8,230</td>
<td>11,255</td>
<td>14,283</td>
</tr>
<tr>
<td><strong>Households</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary TA</td>
<td>590</td>
<td>613</td>
<td>629</td>
<td>1,691</td>
<td>2,888</td>
<td>4,249</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>1,082</td>
<td>1,094</td>
<td>1,103</td>
<td>1,124</td>
<td>1,146</td>
<td>1,166</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,672</td>
<td>1,708</td>
<td>1,732</td>
<td>2,816</td>
<td>4,034</td>
<td>5,415</td>
</tr>
<tr>
<td><strong>Average Household Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary TA</td>
<td>3.13</td>
<td>3.11</td>
<td>3.10</td>
<td>2.93</td>
<td>2.75</td>
<td>2.58</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>2.99</td>
<td>2.97</td>
<td>2.95</td>
<td>2.92</td>
<td>2.88</td>
<td>2.85</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.04</td>
<td>3.02</td>
<td>3.01</td>
<td>2.92</td>
<td>2.79</td>
<td>2.64</td>
</tr>
</tbody>
</table>

Source: Economic Associates estimates

### 7.2.4 Existing Centres Network

In assessing the economic need and impact of the proposed local centre and neighbourhood centres within PVE, consideration is given to the existing centres network servicing the combined trade areas. The existing centres network as articulated in the Gold Coast Planning Scheme 2003 are based on the PVE land being zoned for rural purposes and hence not contributing to the population of any catchments of existing or designated centres.
There were two regional shopping centres, two sub-regional shopping centres and eleven supermarket based shopping centres identified that service the needs of the combined trade areas, however being higher order centres these were not located within the combined trade areas.

Table 2 below provides a summary of the existing centres network servicing the combined trade areas.

**Table 2 Existing Centres Network**

<table>
<thead>
<tr>
<th>Centre</th>
<th>Estimated Floor Space (m²)</th>
<th>Anchor Tenants (size of tenancies in brackets in m²)</th>
<th>Distance from Pacific View (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional Scale Shopping Centres</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robina Town Centre</td>
<td>135,000</td>
<td>David Jones (15,007), Myer (12,000), Big W (10,496), Kmart (7,843), Target (7,110), Woolworths (4,463), Woolworths (5,196), Coles (3,915)</td>
<td>8.0</td>
</tr>
<tr>
<td>Pacific Fair</td>
<td>104,400</td>
<td>Myer (30,904), Kmart (7,857), Target (6,154), Coles (3,915)</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Sub-Regional Shopping Centres</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southport Park</td>
<td>18,300</td>
<td>Target (8,135), Woolworths (3,292), Aldi (1,303)</td>
<td>12.0</td>
</tr>
<tr>
<td>Australia Fair</td>
<td>59,800</td>
<td>Kmart (8,317), Coles (3,388), Woolworths (3,255)</td>
<td>13.0</td>
</tr>
<tr>
<td><strong>Supermarket Based Shopping Centres</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boonooroo Park Shopping Centre</td>
<td>1,300</td>
<td>FoodWorks (300)</td>
<td>2.0</td>
</tr>
<tr>
<td>Worongary Town Centre</td>
<td>6,800</td>
<td>Coles (3,000)</td>
<td>2.5</td>
</tr>
<tr>
<td>Highland Park</td>
<td>2,100</td>
<td>IGA (300)</td>
<td>3.0</td>
</tr>
<tr>
<td>Nerang Town Centre</td>
<td>9,400</td>
<td>Coles (4,325), Aldi (1,350)</td>
<td>4.0</td>
</tr>
<tr>
<td>My Centre Nerang</td>
<td>8,700</td>
<td>Woolworths (4,146)</td>
<td></td>
</tr>
<tr>
<td>Nerang Mall</td>
<td>4,900</td>
<td>Coles (2,500)</td>
<td></td>
</tr>
<tr>
<td>Mudgeeraba Market Shopping Centre</td>
<td>5,100</td>
<td>Woolworths (2,886)</td>
<td>6.0</td>
</tr>
<tr>
<td>Bell Central Shopping Centre</td>
<td>4,500</td>
<td>Coles (2,200)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1,500</td>
<td>Aldi (1,450)</td>
<td>6.5</td>
</tr>
<tr>
<td>Cararra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coco's Shopping Centre</td>
<td>4,200</td>
<td>Aldi (1,350)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3,000</td>
<td>Woolworths (3,000)</td>
<td></td>
</tr>
</tbody>
</table>
7.2.5 Available Expenditure

The MacroPlan Dimasi’s response to the Ministerial Call In information request dated 12 January 2015, retail expenditure propensities per person were provided for each of the MacroPlan Dimasi trade areas from 2014 to 2031 (which has been adopted as the expenditure propensity at build out).

The revised trade area boundaries adopted for this assessment on the basis of the Location IQ submission do not concord with the MacroPlan Dimasi trade areas but are entirely encompassed by MacroPlan Dimasi’s primary trade area boundary (refer to Figure 2 above). As such, the MacroPlan Dimasi primary trade area expenditure propensities have been adopted as the expenditure propensities for the revised primary and secondary trade areas.

Typically, retail analysts present retail expenditure estimates in real dollars (in this case, 2014 dollars) and make an allowance for retail expenditure growth over and above inflation\(^1\). Real retail expenditure growth of 1.0% per annum has been assumed for all retail categories.

Based on the above assumptions, retail expenditure per person within both the revised primary and secondary trade areas is projected to increase from $12,490 in 2014 to $14,792 at build out.

Table 3 below summarises the annual available retail expenditure per person estimates by product group for the primary and secondary trade areas between 2014 and build out.

<table>
<thead>
<tr>
<th>Table 3 Annual Retail Expenditure per Person by Product Group ($) – Revised Primary and Secondary Trade Areas, 2014-Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food &amp; Liquor</strong></td>
</tr>
<tr>
<td><strong>Food Catering</strong></td>
</tr>
<tr>
<td><strong>Apparel</strong></td>
</tr>
<tr>
<td><strong>Household Goods</strong></td>
</tr>
<tr>
<td><strong>Leisure</strong></td>
</tr>
<tr>
<td><strong>General Retail</strong></td>
</tr>
<tr>
<td><strong>Retail Services</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Source: MacroPlan Dimasi estimates, Economic Associates estimates.

Applying the population projections as presented in Table 1 to the expenditure per person estimates presented in Table 3, translates to annual available expenditure of:

- **Primary trade area**: $23.9 million in 2014, increasing to $162.1 million at build out, and
- **Secondary trade area**: $40.5 million in 2014, increasing to $49.2 million at build out.

Table 4 below summarises annual available retail expenditure within the revised primary and secondary trade areas between 2014 and build out.

\(^1\) However, it is noted that the MacroPlan Dimasi report generated estimates in current / inflated dollars. For simplicity, all estimates in this assessment report are reported in constant 2014 dollars.
Table 4  Annual Available Retail Expenditure within the Revised Primary and Secondary Trade Areas ($m), 2014-Build Out

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary TA</td>
<td>$23.9</td>
<td>$24.8</td>
<td>$66.3</td>
<td>$111.9</td>
<td>$162.1</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>$40.5</td>
<td>$41.5</td>
<td>$43.9</td>
<td>$46.5</td>
<td>$49.2</td>
</tr>
<tr>
<td>Total</td>
<td>$64.4</td>
<td>$66.3</td>
<td>$110.2</td>
<td>$158.4</td>
<td>$211.3</td>
</tr>
</tbody>
</table>

Source: MacroPlan Dimasi estimates, Economic Associates estimates

7.2.6 Supportable Floor Space

Supportable retail floor space estimates provide an indication of the level of retail floor space demand generated by a catchment. However, supportable floor space demand generated by a catchment is typically satisfied through floor space provided both within and outside the catchment. It is anticipated that retail floor space demand generated within the catchment would ultimately be met by the Village/Local Centre and Neighbourhood Centres within the trade areas (such as those proposed as part of PVE) and at higher order centres beyond the trade areas (e.g. Nerang Town Centre). Generally, neighbourhood and local centres fulfil convenience or everyday needs while higher order centres seek to also meet comparison shopping needs.

To determine the supportable floor space generated by the revised trade areas, an assumed centre sales productivity has been applied to annual available expenditure estimates for each trade area (refer Table 4).

Based on an assumed centre turnover of $6,500 per square metre, the combined trade areas currently support an estimated 9,906 m² of floor space, which would increase to 32,503 m² of floor space by build out of PVE.

Between 2021 and build out, the level of floor space capable of being supported by the combined trade areas across the Gold Coast retail network is anticipated to increase by 22,300 m² over and above 2016 levels, largely driven by residential development within PVE.

Table 5 below summarises the level of floor space supportable by the revised primary and secondary trade areas between 2014 and build out.

Table 5  Supportable Floor Space within the Revised Primary and Secondary Trade Areas (m²), 2014-Build Out

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary TA</td>
<td>3,670</td>
<td>3,822</td>
<td>10,198</td>
<td>17,214</td>
<td>24,941</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>6,235</td>
<td>6,380</td>
<td>6,757</td>
<td>7,156</td>
<td>7,562</td>
</tr>
<tr>
<td>Total</td>
<td>9,906</td>
<td>10,203</td>
<td>16,955</td>
<td>24,370</td>
<td>32,503</td>
</tr>
</tbody>
</table>

Incremental Supportable Floor Space (on 2016 levels) (m²)

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary TA</td>
<td>-</td>
<td>-</td>
<td>6,375</td>
<td>13,391</td>
<td>21,118</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>-</td>
<td>-</td>
<td>377</td>
<td>776</td>
<td>1,182</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>6,752</td>
<td>14,167</td>
<td>22,300</td>
</tr>
</tbody>
</table>

Source: Economic Associates estimates

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2 This is marginally below the turnover rate adopted by MacroPlan Dimasi.

38 | GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate, 41/28512
7.2.7 **Supportable Retail Floor Space Provision at Pacific View Estates**

A review of the submissions received regarding the PVE application indicated there were a number of concerns regarding the impact of the proposed new centres on the existing centres network, in particular Worongary Town Centre and Nerang Town Centre. In addition, it was raised in the submissions that the existing Worongary Town Centre and the Nerang Town Centre would be able to meet the needs of PVE.

The existing and planned centres network as articulated in the *Gold Coast Planning Scheme 2003* is based on the PVE land being zoned for rural purposes. Residential development of land within PVE will give rise to an unanticipated demand for centre activities that would need to be met. This new demand cannot be exclusively met by existing centres either because of their distance from PVE or their higher order role and function.

As such, centre activities within PVE should seek to meet the neighbourhood and local level needs of PVE residents (and a small number of existing residents located proximate to PVE), while leaving higher order needs to be met by the Nerang Major Activity Centre and other higher order centres. Additionally, any new centres resulting from the approval of PVE should not seek to draw convenience based expenditures away from existing lower neighbourhood or local order centres.

Therefore, in order to address the need to balance community need for lower order centres generated by residential development at PVE against concerns regarding impact on higher order centres and nearby lower order centres, the assessment of retail needs be focussed on growth in the level of supportable floor space and its implications for local and neighbourhood centre provision locally with PVE.

Typically, neighbourhood centres and local centres (that is, lower order centres) capture a combined 40% of available retail expenditure within a given catchment. Recognising the need to minimise the risk of undue impacts on existing lower order centres, the demand for retail floor space to be located within PVE is based on a capture of 40% of available retail expenditure growth within the combined trade areas.

The remaining 60% of available retail expenditure growth within the combined trade areas is likely to be captured by other higher centres servicing the primary and secondary trade areas, most notably the Nerang Town Centre. The revision of the trade area boundaries to remove the majority of the main catchment area of Worongary Town Centre and the calculation of additional demand based on growth has largely mitigated the potential for impacts on this centre.

This approach is consistent with the stated objective of the PVE Village Centre to ensure impacts on the centre network are not of a sufficient scale to lead to the closure of any existing centres, whilst still allowing for the provision of additional retail floor space to service the needs of residents within the PVE.

Table 6 below reports the estimated retail floor space demand for centres located within PVE over time. These estimates indicate that upon build out, PVE can support an estimated 8,920m² of retail floor space across the proposed Village Centre and Neighbourhood Centres.

**Table 6** **Supportable Retail Floor Space Provision at Pacific View Estates, 2016-Build Out**

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary TA</td>
<td>-</td>
<td>2,550</td>
<td>5,357</td>
<td>8,447</td>
</tr>
<tr>
<td>Secondary TA</td>
<td>-</td>
<td>151</td>
<td>310</td>
<td>473</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>2,701</td>
<td>5,667</td>
<td>8,920</td>
</tr>
</tbody>
</table>

Source: Economic Associates estimates

GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate, 41/26512 | 39

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The estimates presented in Table 6 above would suggest that upon build out, the population of PVE could support the proposed Village Centre (comprising 5,000m² of retail floor space) and two neighbourhood centres, each of a maximum size of 1,500m².

This differs from the PVE Code, which incorporates the Village Centre (5,000m² retail floor space) and three neighbourhood centres, each to have a maximum of 1,500m² of total gross floor area (GFA). Table 6 above indicates that there is insufficient demand within the PVE to support the establishment of the third neighbourhood centre, even at build out.

Table 6 above also highlights that the need for centre facilities within PVE does not arise in the immediate to short term. As such, conditions facilitating a staging of centre development, particularly the Village Centre are required.

7.2.8 Impact Assessment

In assessing the level of supportable floor space at PVE, our approach has relied on growth in the level of supportable floor space. This approach seeks to balance concerns regarding impact on existing centres whilst ensuring additional retail facilities are provided at a local and neighbourhood scale to PVE residents. As such, the staging of a PVE centres network based on this approach mitigates the risk of undue impacts on the activity centres hierarchy.

On the other hand, if the local centre at PVE were to be introduced in the short term, it is anticipated to have severe impacts on the existing centres network.

In AHC’s submission in relation to the Ministerial Call In, Location IQ presented an economic impact assessment, which considered the likely turnover impacts of the proposed local centre at PVE on the existing centres network if it commenced trading in 2016 (see Figure 3 below).

<table>
<thead>
<tr>
<th>Pacific View Local Centre</th>
<th>Unit</th>
<th>Estimated 2014</th>
<th>Projected 2016</th>
<th>Impact 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre Dev. Post Dev.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>n.a. 35.5  n.a.  n.a.</td>
<td>$M %</td>
</tr>
<tr>
<td>Supermarket Based Shopping Centres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nerang Mall</td>
<td>$M</td>
<td>57.0</td>
<td>60.6 50.0</td>
<td>-10.6 -17.5%</td>
</tr>
<tr>
<td>My Centre Nerang</td>
<td>$M</td>
<td>65.0</td>
<td>69.1 58.7</td>
<td>-10.4 -15.0%</td>
</tr>
<tr>
<td>Nerang Fair</td>
<td>$M</td>
<td>25.0</td>
<td>26.6 26.2</td>
<td>-0.4 -1.5%</td>
</tr>
<tr>
<td>Worongary Town Centre</td>
<td>$M</td>
<td>54.0</td>
<td>57.3 45.9</td>
<td>-11.5 -20.0%</td>
</tr>
<tr>
<td>Boonoooroo Park SC</td>
<td>$M</td>
<td>6.5</td>
<td>6.9 6.6</td>
<td>-0.3 -5.0%</td>
</tr>
<tr>
<td>Highland Park</td>
<td>$M</td>
<td>10.5</td>
<td>11.2 10.6</td>
<td>-0.6 -5.0%</td>
</tr>
</tbody>
</table>

*Estimated 2014 to 2016 inclusive & including GST

Figure 3 Indicative Impact of Pacific View Estates Local Centre based on a 2016 commencement - Location IQ estimates

The scale of impacts presented in Figure 3 above appear to be reasonable, assuming that the proposed local centre at PVE were to commence trading in 2016.

Frequently, it is considered that an impact of 15% or more of turnover should be cause for concern. The primary concern is to ensure that the premature or inappropriate introduction of a new centre or centre extension does not jeopardise the current or future delivery of a range of retail goods and services available in a variety of centre types (neighbourhood/convenience, sub-regional, regional) to the community. This concern is not about the impacts upon the profitability of affected centres and retailers, or about affording existing centres and retailers’ protection from healthy competition or from changing market conditions.
The Location IQ assessment identifies significant impacts of 15% or more of centre turnover would be anticipated at the following centres:

- Worongary Town Centre (20% of total turnover)
- Nerang Mall (17.5% of total turnover), and
- My Centre Nerang (15.0% of total turnover).

Based on the scale of impacts outlined above, the development of centre activities within PVE in the immediate to short term would clearly have unacceptable impacts across a range of existing centres within the Gold Coast activity centre hierarchy. This clearly demonstrates the need to condition the approval of the local centre and neighbourhood centres to ensure these facilities are introduced only when there are sufficient households within PVE. This approach would ensure that the local and neighbourhood centres as part of PVE primarily service the convenience needs of local residents, hence restricting impacts on existing centres such as Nerang and Worongary.

The size and scale of the retail anchor is typically the main driver of impacts. Hence, in addition to conditioning the timing of delivery of centre activities within PVE, it is also prudent to condition the maximum size of individual tenancies.

### 7.2.9 Commercial Office Floor Space Assessment

In the MacroPlan Dimasi response to the Council for the City of Gold Coast's information request, no detail is provided on the potential demand for commercial office floor space within PVE.

The analysis presented below provides an assessment of the potential demand for commercial office floor space within PVE at build out, based on a number of labour force assumptions.

The key industry sectors requiring commercial office space are:

- **Financial and insurance services:**
  - Finance
  - Insurance and superannuation funds
  - Auxiliary finance and insurance services, and
  - Finance and insurance services, nfd\(^3\).

- **Professional, scientific and technical services:**
  - Professional, scientific and technical services (except computer services design and related services)
  - Professional, scientific and technical services, and
  - Computer system design and related services.

- **Rental, hiring and real estate services:**
  - Property operators and real estate services.

- **Public administration and safety:**
  - Public administration

- **Information media and telecommunications:**
  - Internet publishing and broadcasting
  - Internet service providers, web search portals and data processing services, and

---

\(^3\) nfd – not further defined
• Administrative and support services:
  – Administrative services.

The following labour market assumptions have been made regarding PVE, consistent with the broader Worongary – Tallai SA2 as of the 2011 Census. All labour market assumptions have been held constant throughout the projection period:

- Unemployment rate: 6.5%
- Labour force participation rate: 81.2%
- % of persons employed within commercial office sectors: 16.9%
- Employment retention within commercial office sectors: 32.3%

Other assumptions made in regards to the labour force characteristics of PVE are as follows:

- The assumed proportion of persons of working age (15+ years) within PVE is consistent with the population projections by age released by the Office of Economic and Statistical Research for the Worongary – Tallai SA2, and

- The proportion of persons employed in commercial office sectors requiring commercial office space in PVE is 75%, consistent with the Worongary – Tallai SA2 estimate of the proportion of employed persons within employing businesses (i.e. businesses other than sole traders). This statistic was sourced from the ABS publication Counts of Australian Businesses, including Entries and Exits, June 2009 to June 2013 (ABS Catalogue Number 8165.0).

Based on the above assumptions, at build out, there is anticipated to be demand for between 2,601m² and 3,468m² of commercial office floor space within PVE. This indicates that delivery of 2,000m² of office within the Village Centre in the early stages of the development would be premature. As such, conditions linking the delivery of office floor space to residential development outcomes within PVE would mitigate the potential for adverse impacts on the activity centres hierarchy.

Table 7 below summarises the estimated demand for commercial office space within PVE between 2021 and build out, based on the above assumptions. The analysis presented in Table 7 below highlights that demand for 2,000m² of office space, as proposed at the PVE local centre, is unlikely to eventuate until at least 2026.

**Table 7 Supportable Retail Floor Space Provision at Pacific View Estates, 2016-Build Out**

<table>
<thead>
<tr>
<th>Population of PVE</th>
<th>2021</th>
<th>2026</th>
<th>Build Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of PVE Population Aged 15+</td>
<td>2,556</td>
<td>5,447</td>
<td>8,750</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>61.2%</td>
<td>81.4%</td>
<td>82.0%</td>
</tr>
<tr>
<td>Participation Rate</td>
<td>6.5%</td>
<td>6.5%</td>
<td>6.5%</td>
</tr>
<tr>
<td>% of Employment in Commercial Office Sectors</td>
<td>63.2%</td>
<td>63.2%</td>
<td>63.2%</td>
</tr>
<tr>
<td>Employment Retention in Commercial Office Sectors</td>
<td>16.9%</td>
<td>16.9%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Projected Commercial Office Sector Employment in PVE</td>
<td>67</td>
<td>143</td>
<td>231</td>
</tr>
</tbody>
</table>

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% of Employment to be Accommodated in Commercial Offices | 2021 | 2026 | Build-Out
---|---|---|---
75.0% | 75.0% | 75.0%

Projected Employment in Commercial Offices in PVE | 50 | 107 | 173

Projected Commercial Office Floor Space Demand in PVE

<table>
<thead>
<tr>
<th>Floor Space (m²)</th>
<th>Employment Density (m² / person)</th>
<th>Estimated Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15m² / person</td>
<td>752</td>
<td>2,601</td>
</tr>
<tr>
<td>20m² / person</td>
<td>1,003</td>
<td>3,468</td>
</tr>
</tbody>
</table>

Source: Economic Associates estimates

### 7.2.10 Employment Outcomes

In order to assess the employment outcomes generated from the proposed development, the following employment ratios have been applied to the development concept:

- **Industrial:** Assumed employment density of 30 persons per hectare across the portion of the subject site proposed for industrial purposes (7.09 hectares) and 50% site cover results in an employment density of 167m² per person.
- **Neighbourhood Centres:** Assumed employment density of 25-30m² per employed person.
- **Local Centre:** Assumed employment densities as follows:
  - Retail: 25-30m² per employed person
  - Commercial: 15-20m² per employed person
  - Entertainment / tavern: 50m² per employed person
  - Other: 100m² per employed person.

Based on the above assumptions, the proposed PVE upon build out will lead to the creation of approximately 690-776 jobs, comprising:

- 213 industrial jobs
- 50-60 jobs in each of the neighbourhood centres (assuming each neighbourhood centre is 1,500m² in size), and
- 377-443 jobs in the local centre.

To assist in maximising the number of new employment opportunities in centre based employment within PVE, the development of centre activities should be conditioned by linking their development to residential development thresholds within the estate. This would then assist in ensuring demand is associated with new residents moving to the area and new businesses opening to satisfy the increasing demand, rather than the transfer of employment from existing centres to the new PVE centres.

Table 8 below outlines the anticipated increase in employment as a result of the PVE development at build out.

| Table 8 Anticipated Employment Increase at Build Out, Pacific View Estate |
|---|---|---|
| Industrial 1 | 35,465 | 167 | 213 |

GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate,
### Table 9 Desired Environmental Outcomes Relevant to the Proposal

<table>
<thead>
<tr>
<th>Desired Environmental Outcome</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEO Econ.1: The provision of an efficient land use pattern that is conducive to business activity, and attractive for new business opportunities, particularly those that complement existing or emerging business activity and those that offer opportunities for sustainable new businesses which diversify the existing economic base of the city.</td>
<td>Based on the PVE Development Code, the proposed local and neighbourhood centres at PVE would detract from the existing centres network if developed prior to the establishment of a significant population base within PVE. It is suggested that the approval be conditioned to ensure that the proposed PVE centres are not constructed prior to appropriate household formation thresholds being met. Restrictions on the timing of development should ensure that the existing centres network are not undermined. In addition, the industrial component of the proposed development represents a logical extension to the existing industrial area located immediately to the south. As stated above, premature delivery of the proposed local and neighbourhood centres at PVE would detract from the existing centres network. However, if the approval is conditional on the construction of the proposed PVE centres being delayed until appropriate household formation thresholds are met, impacts on the existing centres network should be limited. As stated above, the industrial component of</td>
</tr>
<tr>
<td>DEO Econ.2: Enhanced employment and investment opportunities through better integration of residential and business activity, whilst protecting the residential amenity.</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: Assessment assumes industrial buildings have 50% site cover.

### 7.3 Assessment against Codes (or absence of adverse impact where no codes apply)

The Gold Coast Planning Scheme 2003 has a number of Desired Environmental Outcomes (DEOs), including four economic DEOs that are considered relevant to the PVE development. These are summarised in Table 9 below. The performance of the PVE development against these DEOs is also summarised in Table 9.

<table>
<thead>
<tr>
<th>Floor Space (m²)</th>
<th>Employment Density (m²/person)</th>
<th>Estimated Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighbourhood Centre 1</td>
<td>1,500</td>
<td>25-30</td>
</tr>
<tr>
<td>Neighbourhood Centre 2</td>
<td>1,500</td>
<td>25-30</td>
</tr>
<tr>
<td>Local Centre</td>
<td>377-443</td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td>5,000</td>
<td>25-30</td>
</tr>
<tr>
<td>Office</td>
<td>2,000</td>
<td>15-20</td>
</tr>
<tr>
<td>Entertainment / tavern</td>
<td>3,000</td>
<td>50</td>
</tr>
<tr>
<td>Other</td>
<td>5,000</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total Employment</strong></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Desired Environmental Outcome | Comment
--- | ---
DEO Econ.3: The provision of a viable system of Activity Centres (based on service catchments) and Activity Clusters (based on the locational needs of productive business sectors) to ensure that the City’s communities have access to a wide range of suitably planned and located goods and services. | the proposed development represents a logical extension of the existing industrial area located immediately south. The portion of the site anticipated for industrial uses is also buffered from surrounding land uses by the Pacific Motorway and the Gold Coast rail line. Premature delivery of the proposed local and neighbourhood centres at PVE would detract from the existing centres network. However, development of centre facilities in line with community needs generated by residential development within PVE would balance the need for access to a wide range of goods and services while not undermining the viability of any existing or planned activity clusters.

DEO Econ.6: The use and safe operation of existing and committed infrastructure is maximised and future infrastructure is provided efficiently. | While the site is benefitted by existing infrastructure such as the adjacent Pacific Motorway, additional infrastructure will be required in order to develop the residential component of PVE. The subject land is located within the Rural Domain within the Gold Coast Planning Scheme 2003. Approval of residential activities on the subject land would give rise to increased demand for centre and employment activities within the local area. Hence, the centre components of the proposed development are in response to the demand generated by the proposed residential uses. In the draft City Plan 2015, the subject land is zoned Emerging Community, with the land parcel to the east of the Pacific Motorway zoned Future Low Impact Industry. These land designations would suggest that Council has given consideration to future infrastructure provision at the subject site.

7.4 Conditions of Approval Issued by Third Party Advice Agencies

No third party advice agency conditions are relevant to economic impact considerations.

7.5 Recommendations

From an economic impact assessment, the development should be approved subject to conditions.

7.6 Conditions of Approval

The following conditions of approval should be imposed on the proposed non-residential components of the PVE development:

**Village Centre-Intent**

Amend section 5.4.5 of the PVE Development Code to read:

GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate, 41/28512 | 45
A key objective of this precinct is to ensure that as a mixed use Village Centre it does not threaten the viability of any activity centre within the City’s activity centre hierarchy and must be consistent with the objectives of its host precinct.

**Village Centre-Maximum Gross Floor Area**

Amend AS68.1 of the PVE Development Code to read:

*If less than 1,500 dwellings are occupied within PVE:*

- The maximum gross floor area of retail floor space within the Village Centre does not exceed 3,000m²
- The maximum gross floor area of office floor space within the Village Centre does not exceed 1,000m²
- The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 1,500m², and
- The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 7,500m².

*If there are greater than 1,500 dwellings occupied within PVE:*

- The maximum gross floor area of retail floor space within the Village Centre does not exceed 5,000m²
- The maximum gross floor area of office floor space within the Village Centre does not exceed 2,000m²
- The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 3,000m², and
- The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 15,000m².

**Village Centre-Maximum Tenancy Sizes**

Insert new AS68.3 into the PVE Development Code

*If less than 1,500 dwellings are occupied within PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (Precinct 4) is limited to 1,500m² GFA.*

*If more than 1,500 dwellings are occupied within the PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (precinct 4) is limited to 3,000m² GFA.*

**Neighbourhood Centres-Performance criteria (precinct 5)**

Amend PC 76 of the PVE Development Code to read:

A mixed use neighbourhood centre in Precinct 5 must not threaten the viability of any activity centre within the City’s activity centre hierarchy and must be consistent with the objectives of its host precinct.

**Neighbourhood Centres – Performance criteria (Precinct 6)**

Amend PC 80 of the PVE Development Code to read:

A mixed use neighbourhood centre in Precinct 6 must not threaten the viability of any activity centre within the City’s activity centre hierarchy and must be consistent with the objectives of its host precinct.
Neighbourhood Centres – Maximum Gross Floor Area

Amend AS76.1 of the PVE Development Code to read:
One mixed use neighbourhood centre is provided in Precinct 5, with a maximum GFA of 1,500m².

Amend AS80.1 of the PVE Development Code to read:
One mixed use neighbourhood centre is provided in Precinct 6, with a maximum GFA of 1,500m².

Delete AS 80.2

Neighbourhood Centres-Maximum Tenancy Sizes

Insert new AS76.3 into the PVE Development Code
The maximum individual tenancy size within a mixed use neighbourhood centre located in either Precinct 5 is limited to a maximum GFA of 750m².

Create new AS80.2 to read:
The maximum individual tenancy size within a mixed use neighbourhood centre located in either Precinct 6 is limited to a maximum GFA of 750m².

Land Use Definitions

Inclusion of a definition for retail floor space in the PVE Development Code to include:
• Market
• Shop
• Garden centre
• Food and drink outlet
• Service station, and;
• Showroom.

Inclusion of a definition for commercial floor space under the PVE Development Code to include:
• Sales office, and
• Office.

Inclusion of a definition for entertainment floor space in the PVE Development Code to include:
• Bar
• Club
• Food and drink outlet
• Function facility
• Hotel
• Indoor sport and recreation facility, and
• Theatre.

Inclusion of a definition for Shopping Centre in the PVE Development Code as follows:
Any premises used, or intended to be used, primarily for shops, where the increased GFA of Shopping Centre Development results in a total combined GFA of Shopping Centre Development (in both existing and proposed buildings) exceeding 2,000m$^2$ GFA.

**Table of Development A: Material Change of Use: Precinct 3 – Industry**

Amend so that:

- A Garden Centre (<150m$^2$ GFA) is a self-assessable use.
- A Garden Centre (>150m$^2$ but <1,000m$^2$ GFA) is a code assessable use.
- A Garden Centre (>1,000m$^2$ GFA) is an impact assessable use.
- An office that is >100m$^2$ and ancillary to another use is a code assessable use.
- An office that is not ancillary to another use is an impact assessable use.
- A Showroom (<300m$^2$ GFA) is a self-assessable use.
- A Showroom (>300m$^2$ but ≤1,000m$^2$ GFA) is a code assessable use.
- A Showroom (>1,000m$^2$ GFA) is an impact assessable use.

**Table of Development A: Material Change of Use: Precinct 4 – Village Centre**

Amend so that:

- A child care centre is a code assessable use.
- Only a shop ≤1,500m$^2$ GFA where there is no building works is self-assessable.
- A shop >1,500m$^2$ GFA where no building works are necessary are code assessable.
- A showroom ≤300m$^2$ GFA where there is no building works is self-assessable.
- A showroom >300m$^2$ where there is no building works is code assessable.
The following amendments shall be made to the PVE Development Code prior to any subsequent development application being ged over the site.

An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:

**Village Centre-Intent**

Amend section 5.4.5 of the PVE Development Code to read:

A key objective of this precinct is to ensure that as a mixed use Village Centre it does not threaten the viability of any activity centre within the City’s activity centre hierarchy and must be consistent with the objectives of this precinct.

**Village Centre-Maximum Gross Floor Area**

Amend AS68.1 of the PVE Development Code to read:

If less than 1,500 dwellings are constructed within PVE:

- The maximum gross floor area of retail floor space within the Village Centre does not exceed 3,000m²
- The maximum gross floor area of office floor space within the Village Centre does not exceed 1,000m²
- The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 1,500m², and
- The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 7,500m².

If there are greater than 1,500 dwellings are constructed within PVE:

- The maximum gross floor area of retail floor space within the Village Centre does not exceed 5,000m²
- The maximum gross floor area of office floor space within the Village Centre does not exceed 2,000m²
- The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 3,000m², and
- AS 88.2

The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 15,000m².
Village Centre-Maximum Tenancy Sizes

Insert new AS68.3 into the PVE Development Code

If less than 1,500 dwellings are constructed within PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (Precinct 4) is limited to 1,500m² GFA.

If more than 1,500 dwellings are constructed within the PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (precinct 4) is limited to 3,000m² GFA.

Neighbourhood Centres-Performance criteria (Precinct 5)

Amend PC 76 of the PVE Development Code to read:

A mixed use neighbourhood centre in Precinct 5 must not threaten the viability of any activity centre within the City's activity centre hierarchy and must be consistent with the objectives of this precinct.

Neighbourhood Centres – Performance criteria (Precinct 6)

Amend PC 80 of the PVE Development Code to read:

A mixed use neighbourhood centre in Precinct 6 must not threaten the viability of any activity centre within the City's activity centre hierarchy and must be consistent with the objectives of this precinct.

Neighbourhood Centres – Maximum Gross Floor Area

Amend AS76.1 of the PVE Development Code to read:

One mixed use neighbourhood centre is provided in Precinct 5, with a maximum GFA of 1,500m².

Delete AS76.2

Amend AS80.1 of the PVE Development Code to read:

One mixed use neighbourhood centre is provided in Precinct 6, with a maximum GFA of 1,500m².

Delete AS80.2 and AS80.3

Neighbourhood Centres – Maximum Tenancy Sizes

Insert new AS76.2 into the PVE Development Code

The maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 5 is limited to a maximum GFA of 750m².
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economics</strong></td>
<td>Create new AS80.2 to read:</td>
</tr>
</tbody>
</table>

*The maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 6 is limited to a maximum GFA of 750m².*

**Land Use Definitions**

Inclusion of a definition for retail floor space in the PVE Development Code to include:
- Market
- Shop
- Garden centre
- Food and drink outlet
- Service station, and
- Showroom.

Inclusion of a definition for office floor space in the PVE Development Code to include:
- Sales office, and
- Office.

Inclusion of a definition for entertainment floor space in the PVE Development Code to include:
- Bar
- Food and Drink Outlet
- Club
- Function facility
- Hotel
- Indoor sport and recreation facility
- Tourist attraction
- Tourist park
- Nightclub, and
- Theatre.

Inclusion of a definition for Shopping Centre in the PVE Development Code as follows:
Any premises used, or intended to be used, primarily for shops, where the increased GFA of Shopping Centre Development results in a total combined GFA of Shopping Centre Development (in both existing and proposed buildings) exceeding 2,000m$^2$ GFA.

**Table of Development A: Material Change of Use: Precinct 3 – Industry**

Amend so that:
- A Garden Centre (<150m$^2$ GFA) is a self-assessable use.
- A Garden Centre (>150m$^2$ but <1,000m$^2$ GFA) is a code assessable use.
- A Garden Centre (>1,000m$^2$ GFA) is an impact assessable use.
- An office that is >100m$^2$ and ancillary to another use is a code assessable use.
- An office that is not ancillary to another use is an impact assessable use.
- A Showroom (≤300m$^2$ GFA) is a self-assessable use.
- A Showroom (>300m$^2$ but ≤1,000m$^2$ GFA) is a code assessable use.
- A Showroom (>1,000m$^2$ GFA) is an impact assessable use.

**Table of Development A: Material Change of Use: Precinct 4 – Village Centre**

Amend so that:
- A child care centre is a code assessable use.
- Only a shop ≤1,500m$^2$ GFA where there is no building works is self-assessable
- A shop >1,500m$^2$ GFA where no building works are necessary are code assessable
- A showroom ≤300m$^2$ GFA where there is no building works is self-assessable
- A showroom >300m$^2$ where there is no building works is code assessable.

**Table of Development A: Material Change of Use: Precinct 5 – Medium Density Residential**

Amend so that the maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 5 is limited to a maximum GFA of 750m$^2$.

Amend wording in column relating to code assessable development to clarify that only one single neighbourhood centre with a GFA of 1,500m$^2$ can occur as code assessable, and that the nominated uses within the neighbourhood centre defined as code assessable will become impact assessable where located outside of the single neighbourhood centre.
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics</td>
<td><strong>Table of Development A: Material Change of Use: Precinct 6 – Low Density Residential</strong> Amend so that the maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 6 is limited to a maximum GFA of 750m².</td>
<td></td>
</tr>
</tbody>
</table>
8. Geotechnical Engineering

8.1 General

In responding to the geotechnical aspects of the briefing document received from the Department of State Development, Infrastructure and Planning, the following documents have been reviewed where relevant:

- The development application, including the Preliminary Geotechnical Report Pacific View Estate prepared by Shaw and Urquhart
- Information requests
- Applicant’s responses to information requests
- Referral and advice agency responses (none)
- Submissions received during the IDAS process (two)
- Representations received during the representation period of the proposed call in (none)
- The proposed call in notice, dated 20 November 2014
- The call in notice, and
- Landslide hazard mapping carried out by SMEC for Council in 2011 and supplied to GHD on 13 January 2015.

The investigation area comprises alluvial soils which are underlain by weathered metamorphic rocks of the Palaeozoic Neranleigh-Fernvale Beds comprising greywacke, argillite, quartzite, chert, shale, sandstone and greenstone.

Drilling completed in the low lying areas to the east of the site revealed subsurface conditions typically comprising 3m to 4.5m of interlayered gravelly, sandy, silty and clayey alluvial soils underlain by weathered metasandstone and metasiltstone.

The Shaw:Urquhart report also documented a thin surface layer of sandy topsoil was observed in the elevated country comprising steeper slopes and that this was underlain by around 0.8m to 1.0m of residual, red brown to grey mottled, sandy clay/clayey sand grading downwards into extremely weathered metasandstone. The residual soils encountered are underlain by highly to moderately weathered, medium to high strength metasandstone.

8.2 Technical aspects

8.2.1 Review of Common Material

The above documents have, where relevant, been reviewed against the following State and Local planning instruments, in chronological order:

- Guidelines for the Control of Slope Stability within the City of Gold Coast, 2002
- State Planning Policy SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, June 2003
- Gold Coast Planning Scheme 2003 Part 7 Codes: Division 3 Constraint Codes: Chapter 16 Steep Slopes or Unstable Soils, January 2010 and November 2011
- State Planning Policy – July 2014, specifically the relevant development assessment requirements in Part E.
The *Guidelines for the Control of Slope Stability within the City of Gold Coast* is a general document which indicates good engineering practice with regard to landslides and development on sloping ground. The Guidelines include a risk hazard assessment, which has been summarised in Table 10 below. Table 10 describes five hazard ratings, with the Guidelines indicating that development can occur on either “Low hazard” or “Very low hazard”. These ratings are to be determined as the product of likelihood and consequence, as follows, where consequence is the indicative approximate cost of damage based on the value of the property:

**Table 10 Risk Hazard Assessment**

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare</td>
<td>Rare</td>
<td>$5 \times 10^{-6} \Rightarrow 5 \times 10^{-5}$</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Unlikely</td>
<td>$5 \times 10^{-5} \Rightarrow 5 \times 10^{-4}$</td>
</tr>
<tr>
<td>Possible</td>
<td>Possible</td>
<td>$5 \times 10^{-4} \Rightarrow 5 \times 10^{-3}$</td>
</tr>
<tr>
<td>Likely</td>
<td>Likely</td>
<td>$5 \times 10^{-3} \Rightarrow 5 \times 10^{-2}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>Major</td>
<td>60%</td>
</tr>
<tr>
<td>Medium</td>
<td>Medium</td>
<td>20%</td>
</tr>
<tr>
<td>Minor</td>
<td>Minor</td>
<td>5%</td>
</tr>
<tr>
<td>Insignificant</td>
<td>Insignificant</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

This means that no slope with an annual probability of failure of more than $5 \times 10^{-3}$ is acceptable for unmitigated development to occur, and will be considered again in relation to Performance Criteria in the PVE Code.

It is noted that item 3.3 (5) of the project brief refers to making an assessment against the relevant provisions of the State Planning Policy, and that the last section of the Call In Notice refers to SPP 1/03 – *Mitigating against the Adverse Impacts of Flood, Bushfire and Landslide*. This is despite the fact that the *Gold Coast Planning Scheme 2003*, especially the January 2010 and November 2011 versions, was deemed to incorporate all the requirements of the State Planning Policy. It is noted that Appendix 4 Section A4.8 would classify a significant part of the

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site as a natural hazard management area (landslide risk) on the basis that much of it comprises land with a slope of 15% or greater, and that Table C would then require a “site specific geotechnical analysis prepared by a registered professional engineer to demonstrate that the site is not subject to landslide hazard” and that this would be required to accompany any material change of use application.

It would appear that the “site-specific geotechnical analysis” is required with any submission for material change of use application, and cannot be deferred until later. This is considered to be not unreasonable since it could affect the viability of the proposed development.

The Steep Slopes or Unstable Soils Code contained in the Gold Coast Planning Scheme 2003, as amended November 2011, does not appear to have changed from the earlier amendment incorporated into the Geotechnical Report by Shaw:Urquhart. There is no definition of a landslide hazard area as such, but Clause 2.2 refers to “land that is steep or geologically unstable, as identified on Overlay Map OM16 – Areas of Unstable Soils and Areas of Potential Slip Hazard”, and this is marked with coloured circles which, according to the legend, represent areas with moderate risk of instability, high risk of instability or very high risk of instability. It is therefore assumed that these three categories together define a landslide hazard area. The general site slope constraints provide, at PC1, that building work must be responsive to the constraints of steep sloping land, and suggest as the acceptable solution AS1.1.1 that building work is not undertaken on land with a maximum slope exceeding 20% in urban areas. Much of Lot 28 comprises slopes over 20%. In addition to the requirements of AS1.1.1, AS1.1.2 does allow detached dwellings to be constructed with conditions. Slope stability issues covered by PC6 require that all development within the medium, high and very high hazard rated areas identified on Overlay Map OM16 must apply measures to minimise the hazard risk. AS6 states that this requires that a Stability Report, prepared by a registered professional engineer appropriately experienced in slope stability matters, is used to assess the stability of the land and provide construction measures to support the construction of the development. The documentation requirements under PC7 are set out in AS7.1, and AS7.2 also requires a Stability Assessment Report and a Landslide Hazard rating analysis. PC6 requires that all subdivisions containing slope exceeding 25%, and this appears to apply to a significant proportion of the site west of the power lines (the light green shading on the Slope Analysis Plan covers slopes of 20 to 33%), must ensure that a development site suitable for its intended use can be created within each individual lot. AS8 suggests that this requires a Slope Stability Report, again certified by a registered professional engineer, which demonstrates that a site is suitable for building purposes, and (a) identifies the stability risk, and (b) addresses potential stability problems.

The State Planning Policy issued July 2014 defines a landslide hazard area as (a) an area identified by a local government in its planning scheme as a landslide hazard area, on the basis of a fit for purpose landslide study of the local government’s area, or (b) if the local government has not identified (landslide) hazard areas in its planning scheme in accordance with paragraph (a) above, an area of land with a slope greater than, or equal to 15 percent. Assuming that the coloured circles on OM16 define the landslide hazard area, this amounts to about 37% of the site west of the electrical corridor spine. Using the slopes marked on Site Analysis – Map 4 – Slope Analysis Plan from the revised submission the slope boundaries are set at 12% and 20%, suggesting that 82% of the site west of the electrical corridor spine is steeper than 12% and 55% steeper than 20%. This might infer that about 75% of that part of the site is steeper than 15%. This implies that the landslide hazard area is between 55 and 75% of the total land area west of the electrical corridor spine.

The State Planning Policy – state interest guideline: Natural hazards, risk and resilience, Technical Manual issued August 2014, assuming that OS1 – identifying natural hazard areas is complete, sets out the State Interest Requirements for OS2 – Include provisions that seek to
achieve an acceptable or tolerable level of risk, based on a fit for purpose natural hazards study and risk assessment. These include reference to a simple 15% slope mapping exercise, or more detailed studies based on the AGS National Guidelines.

The State Planning Policy – state interest guideline: Natural hazards, risk and resilience, sets out, in Part C: Application of interim development assessment requirements, that for all natural hazards the development is to avoid natural hazard areas, or mitigates the risks of natural hazards. It can do this by locating and designing the development so as to avoid or mitigate the risk to people, property and infrastructure to an acceptable or tolerable level. Performance Outcome PO1 requires that the development maintains the safety of people, property and hazardous materials manufactured or stored in bulk from the risk of landslide. It is suggested that this be done by either not carrying out development on slopes exceeding 15%, or by requiring a site-specific geotechnical analysis prepared by a registered professional engineer to demonstrate that the site is not subject to landslide hazard. Since the site includes natural hazard areas and slopes greater than 15%, approval of the development will be premised on a condition that a site specific geotechnical analysis is submitted with any subsequent application for material change of use or lot reconfiguration.

On the basis of the available guidelines and subordinate statute, the requirement for a detailed geotechnical assessment to be prepared during the initial stages of the development appears to be a common theme throughout.

8.3 Assessment against Codes

DEO Scoc. 7 in the Gold Coast Planning Scheme 2003 requires the location and design of development to minimise the potential risk to life and property from known natural hazards. The planning scheme states that for development to proceed in areas subject to natural hazards, the measures needed to effectively mitigate the identified hazard should be carefully appraised against the capacity of the local environment to accommodate those measures in a sustainable manner. The constraints codes are an important mechanism against which Council assesses development applications to achieve consistency with this DEO.

In the original submission, the Preliminary Geotechnical Report by Shaw:Urquhart included Table 5 as a replacement for the Development Requirements of the Council Constraint Codes for Steep Slopes and Unstable Soils. This has proposed a number of changes:

1. AS1.1 has been changed from not allowing building work on land with a maximum slope exceeding 20% in urban areas, to allowing such development if a suitably experienced registered professional engineer assesses the stability of the land and associated risk, and provides recommendations on development constraints and construction and remediation measures to support construction of the development.

2. AS2.1 to AS2.6 set out a range of proposed acceptable solutions for natural slopes of less than 12% slope, which are deemed to have a barely credible likelihood of slope instability. These would appear to comply with the principles of the Gold Coast Planning Scheme 2003.

3. AS3.1 to AS3.5 set out a range of proposed acceptable solutions for natural slopes in the assumed range of greater than 12% but less than 20%, which are deemed to have a rare likelihood of slope instability. Based on the table of Consequence to Property above, any potential landslide must not have the ability to cause damage to a property equivalent to more than 60% of the property value. These would appear to comply with the provisions of Gold Coast Planning Scheme 2003 but, since they include slopes steeper than 15%, may not comply with State planning requirements detailed in SPP 1/03. Notwithstanding, since the Gold Coast Planning Scheme 2003 has received State sign off that it is consistent with SPP 1/03, compliance with the scheme is deemed to be sufficient.
4. AS4.1 to AS4.13 set out a range of proposed acceptable solutions for natural slopes in the assumed range of greater than 20% but less than 33%, which are deemed to have an unlikely likelihood of slope instability. Based on the table of Consequence to Property above, any potential landslide must not have the ability to cause damage to a property equivalent to more than 20% of the property value. These would appear to fail to comply with the provisions of the Gold Coast Planning Scheme 2003 which does not make provision for a development application to propose building work on slopes steeper than 20%.

5. AS5.1 to AS5.5 set out a range of proposed acceptable solutions for natural slopes in the assumed range of greater than 33% and less than 50%, which are deemed to have a possible likelihood of slope instability. Based on the table of Consequence to Property above, any potential landslide must not have the ability to cause damage to a property equivalent to more than 0.5% of the property value. One of the ways in which this is proposed to be accommodated is, according to AS5.1, to avoid building within 10 m of a slope greater than 33%, and within 15 m of a slope greater than 50%. This is taken to mean that, although individual large lots may contain slopes steeper than 33%, they must be of sufficient size that no building is required within 10 m of the steeper slope, and also that the slopes must be assessed on an individual basis to assess the potential hazard from material travelling down the slope and striking the buildings. These buffer zones have been applied to the shaded areas on Map 4 – Slope Analysis Plan, and suggest that 30% of the total land area west of the electrical corridor spine would be excluded.

Of note, and with respect to the original submission, PC86 to PC94 of the PVE Development Code appear to duplicate, and to some extent conflict with, PC1 to PC7 of the Shaw: Urquhart Report.

Council responded on 31 January 2011 that it was not clear how the Performance Criteria and Acceptable Solutions would be applied in practice to different parts of the site. They also made reference, under the Site Analysis, to development on slopes greater than 20% not being appropriate, in accordance with Gold Coast Planning Scheme 2003 Part 7 Division 3 Chapter 16.

In their revised PVE Development Code dated July 2014 all of the previous Performance Criteria and Acceptable Solutions related to geotechnical matters, both in the Shaw: Urquhart Report and in the original Development Code, appear to have been replaced with two simple identical clauses, PC29 and PC31, associated with AS29.1 or AS29.2, and AS31.1 or AS31.2. These allow development on slopes steeper than 20% subject to future geotechnical stability assessments.

Consideration of the information available from the assessment process suggests that the main issue appears to be whether or not some studies should be carried out prior to the granting of the preliminary approval with the view of precluding development in certain areas, or whether this matter can delay consideration until subsequent development applications are lodged with the assessment manager. Since the current application comprises a material change of use for a preliminary approval overriding the planning scheme and the period for seeking additional information from the applicant has expired, it would seem appropriate that this matter can be addressed at a later stage in the development process. Of note, should the area of the developable site be reduced as a result of development preclusion in steep areas, a knock on effect on housing density, population, traffic generation, centres, and quite possibly on the viability of the project may occur. This risk would rest with the applicant.
8.4 Conditions of Approval Issued by Third Party Advice Agencies

No third party advice agency conditions are relevant to geotechnical engineering considerations.

In the draft conditions proposed by Council at 3.a.iv and 3.a.v of their draft assessment report, the acceptable solutions AS29.1 and AS31.1 were to be amended. Apart from some relatively minor differences in wording, the main changes were:

1. A requirement that the proposed development achieve a hazard rating of low or very low with regard to the risk of slope instability
2. A requirement for certification by an RPEQ that the proposed design would achieve that rating
3. A requirement that the development comply with the recommendations of the future geotechnical and slope stability assessment report, as opposed to the existing Shaw: Urquhart Report dated October 2010.

These conditions appear to be reasonable and have been modified to also require additional studies to be submitted prior to subsequent stages of the development process in order to satisfy the assessment manager that risks can be appropriately mitigated onsite.

8.5 Recommendations

From a geotechnical engineering assessment, the development should be approved subject to conditions.

8.6 Conditions of Approval

1. Prior to lodging any subsequent development application over Lot 28 on SP189559, a geotechnical and slope stability assessment report prepared by a suitably qualified registered professional engineer appropriately experienced in slope stability matters must be submitted to council that:
   - Assesses the stability of the land and associated risk of slope instability for all of Lot 28 with due consideration of final developed landform;
   - Provides recommendations on development constraints and construction and remediation measures to achieve a “low” or “very low” slope instability hazard rating for the proposed development site, and
   - Includes certification by a Registered Professional Engineer Queensland (RPEQ) specialising in geotechnical engineering and slope stability that the site will achieve a slope instability hazard rating of “low” or “very low” for long-term conditions, and that the proposed development will not adversely affect the stability and integrity of any adjacent properties, buildings and infrastructure.

Note: Council may commission an independent assessment of the report prepared in compliance with this condition. In accordance with council’s fee schedule the developer will be responsible for the cost of the independent technical review.

2. As part of any future development application for material change of use or reconfiguration of a lot on Lot 28 on SP189559, a report prepared by a suitably qualified person must be submitted to and approved by council. The report is to include:
   - A copy of the report required to comply with condition 1;
   - Factual and interpretative reports on detailed geotechnical investigations;

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- Analyses of any slopes on a lot by lot basis in accordance with the Steep Slopes and Unstable Soils Code or the Landslide Hazard Overlay Code as appropriate; and
- Bulk earthworks drawings, certified by a RPEQ, which clearly shows that the developed landform associated with the relevant stage of Pacific View Estate and surrounding land complies with all recommendations of the report required to comply with condition 1.

3. Any future applications for a development permit for operational works on Lot 28 on SP189559 shall comply with the recommendations of the geotechnical and slope stability assessment report submitted under 1 and 2 above.
## Condition 14

Prior to lodging any subsequent development application over Lot 28 on SP189559, a geotechnical and slope stability assessment report prepared by a suitably qualified registered professional engineer appropriately experienced in slope stability matters must be submitted to Council that:

- Assesses the stability of the land and associated risk of slope instability for all of Lot 28 with due consideration of final developed landform
- Provides recommendations on development constraints and construction and remediation measures to achieve a “low” or “very low” slope instability hazard rating for the proposed development site, and
- Includes certification by a Registered Professional Engineer Queensland (RPEQ) specialising in geotechnical engineering and slope stability that the site will achieve a slope instability hazard rating (as defined in the Australian Geomechanics Society “Practice Note Guidelines for Landslide Risk Management”, Australian Geomechanics Vol. 42 No 1 March 2007) of “low” or “very low” for long-term conditions, and that the proposed development will not adversely affect the stability and integrity of any adjacent properties, buildings and infrastructure.

*Note: Council may commission an independent assessment of the report prepared in compliance with this condition.*

In accordance with council’s fee schedule, the developer will be responsible for the cost of the independent technical review.

## Condition 15

As part of any future development application for material change of use or reconfiguration of a lot on Lot 28 on SP189559, a report prepared by a suitably qualified person must be submitted to Council commensurate with the application and is to include:

- A copy of the report required to comply with condition 14
- Factual and interpretative reports on detailed geotechnical investigations
- Analyses of any slopes on a lot by lot basis in accordance with the Steep Slopes and Unstable Soils Code or the Landslide Hazard Overlay Code as appropriate, and
- Bulk earthworks drawings, certified by a RPEQ, which clearly shows that the developed landform associated with the relevant stage of Pacific View Estate and surrounding land complies with all recommendations of the report required to comply with Condition 14.
<table>
<thead>
<tr>
<th>Condition No.</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotechnical Engineering</td>
<td>Any future applications for a development permit for operational works on Lot 28 on SP189559 shall comply with the recommendations of the geotechnical and slope stability assessment report submitted under conditions 14 and 15 above.</td>
<td>As stated</td>
</tr>
</tbody>
</table>
9. Stormwater

9.1 General

The site is currently undeveloped and predominantly forested for the greater western extent, with some steep slopes away from the waterways which traverse the site. The highest elevation is approximately 160 m AHD at the south western boundary of the site, whilst the lowest point is approximately 5 m AHD at downstream locations in the vicinity of the railway line. Distinctive valleys and associated waterways convey drainage from the west to east, and substantial catchments beyond the development area are found to the north and the south.

The site is subject to flooding from both local catchment and regional flood events around the Nerang River. Council's flood mapping indicates that a small portion of the eastern end of the site would be inundated by backwater during the 100 year ARI (average recurrence interval) flood event. The majority of the catchment drains through Hinkler Drive and the Pacific Motorway before flowing under the railway line.

9.2 Technical aspects

9.2.1 Review of Common Material

In addition to the inclusion of flood reports in the information provided as part of the application for preliminary approval, the applicant also provided a broad hydraulics report and stormwater management plan. The application was subject to an information request made by Council, part of which requested that the proposal be amended to protect, enhance and buffer all natural waterways on the site. The central drainage line was defined as a watercourse by the State government on 22 September 2011. The location of the watercourse is shown on the plan included as Appendix A.

Section 2 of the applicant's response to Section 5a of Council's information request of 31 January 2011 seems to address only ecological matters relating to the watercourse, submitting that:

- The proposed ecological corridor and green space corridor protect the determined watercourse
- Enhance the watercourse by cessation of a number of threatening processes, and
- The proposed Green Space Corridor adequately buffers the watercourse from human interactions.

The applicant's response does not consider the hydrological impacts, and demonstrate that these are mitigated within the watercourse.

The proposed Green Space corridor shown on Place Code - Map 3 - Precinct Plan (Land Use Intent) of the PVE Development Code do not extend over all of the full length of the watercourse and in particular do not extend downstream to, nor include, the defined watercourse entering the site from the south. Further, retarding basins are proposed within the defined watercourses which by definition do not protect the waterway from the impacts of increased flow due to development.

Roads and sewer infrastructure can traverse the central waterway without negatively impacting on the hydrological regimes if:

- They are located above the influences of the floodway (areas of high flow energy or conveyance), or
• Do not reduce floodplain storage volume, and
• Do not cause afflux that would result in real impacts to other properties.

Where roads or sewers are within floodway areas the above conditions relating to hydraulic or hydrologic issues could be met by:
• Placing roads either at the level of the existing surface in the flood prone area or at bridges providing clear opening so as to not cause afflux, scour, or redirection of flow, and
• For sewers, placing them below the existing surface and reinstating existing surface levels, ensuring adequate backfill properties so as to not allow for initiation of erosion of the pipe trench and damage to the pipe or surrounding existing floodway.

The application does not contain any information about the nature of, or effects of the proposed bridges and their proposed provision for conveyance at the bridges.

Further, being a preliminary approval, the application does not provide any designs details for roads, stormwater pipes, or culverts so as to allow for an assessment of their adequacy in regards to impacts on hydrologic and hydraulic regimes of the waterways and flood effected areas.

9.3 Assessment against Codes

9.3.1 General

An assessment of the PVE Development Code against the relevant policies, plans and codes has been undertaken below.

9.3.2 South East Queensland Regional Plan

Section 6 of the South East Queensland Regional Plan includes a number of provisions relating to stormwater management.

Part D – Regional Policies

Total Water Cycle Management (Section 11.1)

11.1.1 Incorporate total water cycle management and water sensitive urban design principles in land use and infrastructure planning.

The proposal includes these principles and makes commitments to achieving relevant quantitative objectives. The application provided some information as to how it is proposed to meet relevant stormwater objectives. The proposal included retarding basins within the determined waterways, which is not consistent with WSUD principles of protecting receiving waterways from the effects of increased frequent flow or peak flows. The requirement to locate all stormwater retention and water quality improvement devices outside of the waterway corridor and associated areas set aside for ecological considerations can be conditioned into any approval to mitigate this conflict.

11.1.2 Ensure that planning and management of urban stormwater complies with the design objectives as set out in the South East Queensland Regional Plan 2009–2031 Implementation Guideline No.7: Water Sensitive Urban Design.

Given the application is for a preliminary approval overriding the local planning scheme, the level of detail provided with the application is insufficient to assess this aspect adequately. Notwithstanding, provision exists for this matter to be considered with each subsequent application for a development permit and this requirement has been recommended to be included as a condition of approval.
Efficient Water Use (Section 11.3)

11.3.2 Exceed the water savings target in broadhectare development, where cost-effective compared with alternative sources of supply.

[New detached houses in South East Queensland must meet the water savings target by supplying 70 000 litres of non-grid water per year, while each townhouse must supply 42 000 litres.]

Roof water tanks are proposed for dwellings in the development however no reporting of water balance has been provided in the application to determine if the above targets are met. This requirement is able to be demonstrated at the time subsequent development applications are lodged with Council.

Waterway Health (Section 11.4)

The application proposes stormwater and flood management methods and infrastructure that would be expected to meet the requirements of policies in this regard. The proposed retarding basins within the determined waterways do not avoid impacts on waterways and associated buffers (Policy 11.4.3) and are to be conditioned to be constructed outside of the waterway and associated areas set aside for ecological protection purposes.

11.4.6 Avoid allocating areas identified as High Ecological Value (HEV) waters for urban purposes.

HEV waters are defined as '...waters where the biological integrity of the water is effectively unmodified or highly valued and the management intent is to maintain the biological integrity. HEV waters often occur in national parks, conservation reserves or in remote and/or inaccessible locations.' (SPP Guideline: Healthy Waters DSDIP 2013). The waters associated with the site are not considered to be HEV waters under this definition.

11.4.7 Ensure that the development of urban land draining directly to HEV waters demonstrates achievement of the relevant urban stormwater design objectives.

The waters associated with the site are not considered to be HEV waters.

Overland flow and flood management (Section 11.6)

Details of proposed overland flow arrangements are not provided in the application. It is anticipated that overland flow can be adequately provided for with suitable design, including dedication of land for overland flow function and appropriate design of roads to serve as overland flow paths. This aspect will automatically be considered with each subsequent development application that will be required to address codes relevant to stormwater management within Council's planning instruments in place at the time application is made.

Flood peak flow attenuation at the site outlet is proposed by way of retarding basins within the determined waterway. Siting of these within determined waterways does not provide for peak flow increase protection to the watercourse. Conditions relating to the location of all stormwater retarding basins and water quality treatment devices outside of the corridor set aside for ecological purposes will assist in addressing this requirement.

The application does not include detailed consideration of climate change impacts on flood, deferring it until subsequent applications and detail design (such as lot reconfiguration or operational works) have been undertaken. An increase in the size of retarding basins, flood depths, and runoff volumes could be expected.

Areas of unacceptable flood risk (depth, depth x velocity product) have not been determined in the application, and the information provided with the application is not clear if development will be precluded from these locations. It is anticipated that with sufficient setback, of development,
these areas can be avoided and recommended conditions of approval require a detailed investigation to be submitted with subsequent development applications.

9.3.3 State Planning Policy

Whilst the State Planning Policy has come into effect subsequent to the application being lodged, it has been enacted prior to the commencement of the decision making stage for the development application. Therefore, considerable weight has been given to the provisions within the policy and details of the key matters of State interest are documented below.

State Interest – Water Quality

Receiving Waters

Stormwater quality treatment is proposed that would be expected to meet the required performance objectives for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS). It is noted however that the application is silent with respect to gross pollutant treatment in the commercial and industrial precincts. It is also noted that the number, distribution, and size of all proposed stormwater treatment is not provided in the information submitted with the application. Additionally a full analysis of potential alteration to flow rates in receiving waters is not provided and therefore a full assessment of the criteria is not possible.

Retarding basins are proposed within the receiving watercourse, and therefore avoidance or minimisation of altered flow impacts to receiving waters (the watercourse) is not achieved. It is however anticipated that such avoidance could be achieved if adequate flow mitigation is provided elsewhere in the development. Conditions requiring the above matters to be addressed prior to the lodgement of subsequent development applications have been recommended in this report.

Appendix 3 SPP Code: Water Quality:

- **P01**: A preliminary stormwater management plan is provided. The document commits to future provision of details and plan for construction phase stormwater management, however no details are provided to assess against the provisions of SPP Appendix 3 Table A.
  The documentation provided presents a concept stormwater quality treatment approach that is likely to achieve relevant design objectives for TN, TP, and TSS in Table B, however no analysis is provided for gross pollutants. It is anticipated that gross pollutant removal objectives can be met however with the inclusion of adequate measures. Conditions requiring the above matters to be addressed prior to the lodgement of subsequent development applications have been recommended in this report.

- **P03**: The application does not contain sufficient information to determine if a non-tidal artificial waterway is proposed – this can be provided at subsequent stages in the development. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

- **P04**: The application does not contain sufficient information to determine if a non-tidal artificial waterway is proposed – this can be provided at subsequent stages in the development. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

- **P05**: The application does not contain sufficient information to determine if a non-tidal artificial waterway is proposed – this can be provided at subsequent stages in the development. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.
A preliminary stormwater management plan is provided. It commits the development to future provision of details and plans for addressing construction phase erosion and sediment control, however no details are provided to assess the preliminary approval against the provisions of SPP. It is anticipated that such impacts can be adequately managed; however it will be difficult due to the steep slopes and extensive earthworks that are likely to be required to develop the site in the manner proposed. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

The proposal contains retarding basins within the determined waterway, and therefore does not avoid or minimise changes to hydrology of the waterway. Placement of retarding basins above the determined waterway would better achieve this PO, however will require larger number of small retarding basins and or less area of development. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

The application does not contain sufficient information to determine if a non-tidal artificial waterway is proposed – this can be provided at subsequent stages in the development. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

Acid Sulphate Soils (ASS)
Details of proposed development in areas that may contain ASS are not provided in the application, and hence this criterion was unable to be assessed. Given the nature of the development approval sought, it is expected that disturbance of ASS could be avoided where development and earthworks are excluded from potential ASS areas, or where ASS is encountered, appropriate management measures can be included in the construction phase to mitigate site impacts. Conditions can be included in the approval to require assessment work to be completed prior to lodgement of subsequent development applications in areas mapped as at risk of containing ASS material, and a detailed management plan prepared and submitted to Council as part of any operational works application where ASS have been encountered. This does not directly fall within the scope of work covered by this commission, however the nature of the conditions would be fairly standard and would be anticipated for an application such as this.

Natural hazards, risk and resilience
Impact on local flood hazards
The application does propose protection of downstream areas from an increase in flood hazard by way of provision of peak flow retardation. It is not possible to fully assess the flood hazards that may come about within the proposed development as the application does not contain sufficient detail to assess. It is expected however, that with sufficient space provision and appropriate design, flood hazards can be minimised to acceptable levels. This will require limitation or exclusion of development in the floodplains.

No assessment is provided in the application of potential impacts on flood hazard for areas upstream of the development in the tributary which discharges into the site at two locations along the southern boundary. Avoidance of an increase to upstream flood risk will require adequate exclusion of floodplain development and minimisation of afflux due to the proposed road crossing of the southern tributary. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report. This will require the applicant adequately identifies the location of the flood plains onsite with respect to future allotments and infrastructure development and includes these provisions in any detailed assessment.

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Impact on Local disaster management and response

The application contains no assessment of this criterion. Details of proposed development are not provided to allow assessment of potential impact on local disaster (flood) response and management. It is expected however, that with exclusion of development and egress routes and evacuation roads from the floodplains, limited impact on local disaster management capability can be minimised.

Maintains or enhances natural processes

The proposed development does not maintain natural processes and protective function of landforms and vegetation, however does propose to replace these with works and infrastructure to mimic the natural flood protection function. Retarding basins are a key element of the proposal in this regard, however the application proposes these to be located within the determined watercourse. This solution does not provide mitigation of the impacts of development on the watercourse. It is anticipated that with adequate space provision, design, and siting of proposed hazard mitigation infrastructure upstream of floodplains and watercourses, an adequate reduction in flood hazard risk can be achieved. Conditions requiring that this matter is addressed prior to the lodgement of subsequent development applications have been recommended in this report.

Part F: Self-assessable development code
Not Applicable.

9.3.4 Gold Coast Planning Scheme 2003 Desired Environmental Outcomes

A number of DEOs relate directly to stormwater management and hydrology. These are listed as follows:

DEO Ecol.2

The protection of natural drainage catchments, river systems and other waterbodies to maintain the ecological values and functions of the ecosystems and health of the human communities that they support, and to enhance their value for maintenance of flora and fauna, recreation and other uses.

Planning objectives to support the DEO include relevant provisions relating to maintaining the integrity of individual catchments, the inclusion of appropriate treatment areas to protect downstream water quality, to buffer riparian vegetation and facilitate rehabilitation where such vegetation has been affected by land use activities. The proposal incorporates an Ecological Corridor along the major watercourse within the site, with the intent of protection of natural drainage catchments and river systems. The Ecological Corridor does not encompass the entire extent of the watercourse within Lot 28 as defined under the Water Act 2002, and it has been recommended that a condition is included to state that the entire length of defined watercourse is to be protected. An additional condition has been imposed to protect the watercourse that enters and exits the site via the southern boundary of Lot 28 and Lot 10. Additional measures have been included to buffer the impacts of adjoining land uses on the waterway, including provision of buffer areas and the location of water quality and quantity treatment devices outside of the Ecological Corridor.

DEO Soc.7

The location and design of development to minimise the potential risk to life and property from known natural hazards.

A number of planning objectives are documented to assist in achieving this DEO. These include locating development away from areas where risk to life and property from the impact of
natural hazards is unacceptable, in terms of either the likely cost of damage or the measures needed to effectively mitigate the risk. In this regard, the exclusion of residential, industrial, retail or commercial activities from the flood plain will be an outcome conditioned into any approval.

Chapter 8 (Section 7.1)

- **Flood Storage PC1:** The application states that flood storage will be retained, but it is not demonstrated where floodplain filling may be undertaken or where and how floodplain storage will be retained. This will require consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **Building Floor Levels PC2:** The proposal does not detail proposed allotment levels or flood level throughout all overland flow paths and main floodways and hence compliance with AS2.1.1 is not demonstrated. This will require consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **Building Floor levels PC3:** Building floor levels or proposed allotment levels are not provided and hence compliance with PC3 is not able to be determined at this stage however it is likely that compliance can be obtained. This will require consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **Overland Flow PC4:** Unable to assess since proposed allotment boundaries, road layouts and overland flow paths are not provided. This will require consideration at subsequent applications in the development and will be conditioned into the approval.

- **PC5:** Not all flood affected areas are determined, and proposed development in such areas is not defined. The application does not demonstrate compliance, but could be made to comply through subsequent stages of the development process. This will require consideration at the stage of subsequent development applications and will be conditioned into the approval.

- **PC6:** Flood storage calculations below the designated flood level are not provided and thus compliance with AS6.1 is not demonstrated. Compliance with AS6.2 is not fully demonstrated. This will require consideration at the stage of subsequent development applications and will be conditioned into the approval.

- **PC7:** Proposed development floor levels or allotment levels are not provided and hence compliance with AS7.1 cannot be assessed. The site does have land sufficiently above the anticipated design flood annual exceedance probability (AEP) to allow for development of the type proposed. This will require consideration at the stage of subsequent development applications and will be conditioned into the approval.

- **PC8:** The application does not demonstrate compliance as no assessment of future climate has been made in regards to hydrologic and hydraulic impacts. This will require consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **PC9:** Compliance has not been demonstrated as no design of development or assessment of flood hazard has been made. This will require consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **PC10:** The application does not demonstrate compliance however it is anticipated that it can be provided if all development is above the defined flood event. This will require
consideration at subsequent applications in the development and will be triggered with respect to the relevant constraints codes under Council's planning scheme.

- **PC11**: Substantial earthworks are likely to be undertaken however no details are provided in the application to allow assessment against this performance criteria or against the provisions of the local Counter Disaster Management Plan. It is anticipated however that the development of the character proposed can be made to comply through assessment at subsequent stages of the development approval process.

- **PC12**: Details of proposed erosion and sediment control are not provided, however it is expected that adequate control can be achieved with implementation of best practice control and construction methods. The generally steep nature of much of the site and large scale earthworks proposed will require that detailed sediment and erosion control provisions are presented as part of any subsequent application for operational works.

- **PC13**: Unable to assess since all flow paths and landscaping concepts are not provided in the application. It is anticipated that this PC can be achieved with good design. This will require consideration at subsequent applications and will achieved as a result of a condition attached to the approval.

- **PC14**: Unable to assess since allotment and proposed building locations are not provided or show in relation to land subject to flooding by the designated flood event. It is anticipated however that the development of the character proposed can be made to comply through assessment at subsequent stages of the development approval process.

**Chapter 9 Natural Wetland Areas and Natural Waterways (Section 7.2)**

- **PC1-3**: This performance criterion has been considered under Section 6 – Ecology in this document.

- **PC4**: Proposed retarding basins within the defined watercourse and Ecological Corridor are not consistent with the requirements of this Performance Criteria, "All development must be set back from any ecologically significant areas, including wetlands, aquatic habitat and riparian communities..." The location of detention basins can be conditioned into the approval.

- **PC5**: This performance criterion has been considered under Section 6 – Ecology in this document.

- **PC6**: Retardation of peak flows within and upstream of the defined watercourse is not consistent with the intention of this performance criterion. Peak flows are not attenuated upstream of the waterway and prior to discharge into the waterway. The size and location of attenuation devices will be required to be submitted for Council consideration as part of subsequent development applications.

- **PC7**: The proposed development includes connection to reticulated sewerage.

- **PC8-10**: These performance criteria have been considered under Section 6 – Ecology in this document.

- **PC11**: AS11.1.1 is not meet. Crossings that are proposed utilising retarding basin walls do not facilitate unimpeded movement of aquatic fauna, and full details of disturbed area are not provided. Disturbed area is likely to be in the order of 30 m to 50 m length. Proposed bridge crossings do facilitate movement of fauna. The application does not comply with both a) and b) of AS11.1.2. The requirements of this performance criterion can be conditioned into this approval. Refer also to Section 6, Ecology.
Chapter 10 Guragunbah Local Area Plan (GLAP) (Section 7.3)

In respect of stormwater and flooding, Council’s Guragunbah Local Area Plan applies to Lot 11 of the development, the parcel of land downstream of the Pacific Motorway. The application material conceptually indicates a proposed bridge across the creek and floodplain in Lot 11. No other detail of proposed works in the GLPA are provided in the application.

- **PC16**: Details of proposed public open space are not provided in the application. This will require consideration at subsequent reconfiguring of a lot applications.
- **PC18**: Details of any proposed modifications to the floodplains are not provided in the application and therefore it is not possible to assess compliance with AS18.1. Details of road and long driveway crown levels are not provided and hence it is not possible to determine compliance with AS18.2. Compliance with these performance criteria will be required to be demonstrated at subsequent stages in the development process.
- **PC19**: Details of all proposed infrastructure and development and its effect on flood afflux, conveyance, and floodplain storage are not provided in the application and will be required to be assessed at subsequent stages in the development.
- **PC20**: Details of all proposed infrastructure and development are not provided in the application to allow assessment against PC20. It is expected however that due to the height above the floodplain of developable land outside of the floodplain, adequate evacuation to safe grounds could be incorporated into the development if development is excluded from the floodplain. Consideration of this aspect will occur through subsequent development applications.

9.4 **Conditions of Approval Issued by Third Party Advice Agencies**

Third party advice agency conditions imposed by TMR and relating to stormwater management are reasonable and are recommended for inclusion in any approval issued by the Minister. A copy of the third party advice conditions has been provided in Appendix B to this document.

Draft conditions relating to stormwater have been proposed by Council. The draft conditions appear to be both reasonable and relevant to the application and have been incorporated into the conditions detailed below.

9.5 **Recommendations**

It is recommended that with respect to stormwater and flooding (not including ecological issues or matters relation to the waterways), the development is approved subject to the conditions listed below.

Ecological matters of waterway and riparian vegetation protection are reported in Section 6 of this document.

9.6 **Conditions of Approval**

The following conditions of approval with regard to stormwater have been developed in response to the assessment of available information against relevant policies, plans and codes detailed above.

1. **No worsening of hydraulic conditions**

The development must be designed and constructed so as to result in:

- No increase in peak flow rates downstream from the site;
• No increase in flood levels external to the site; and
• No increase in duration of inundation external to the site that could cause loss or damage.

2. Alteration of overland flow paths
Overland flow paths on the site must not be altered in a way that inhibits or alters the characteristics of existing overland flows on other properties or that creates an increase in flood damage on other properties.

3. Protected waterway corridor
A waterway corridor is to be established over the full floodplain extent of the existing creek entering and leaving the site along the southern boundary of Lot 28 and Lot 10. Development is to be excluded from that waterway.

4. Waterway crossings
All road crossings of the defined watercourse are in the form of bridges which maintain natural waterway morphology of bed and banks.

5. Hydraulic and stormwater management plan to be amended
The submitted hydraulic and stormwater management plan, being "Pacific View Estate – Integrated Water Management Plan, Revision 2" prepared by BMT WBM, must be amended to address follows issues:
• Hydraulic and hydrologic analyses are to be carried out for all standard storm events up to and including the 100 year ARI storm.
• Include a table with catchment/sub-catchment ID, catchment area, fraction imperviousness, average slope, time of concentration, length of the flow path, etc. for both pre and post development cases. Utilise appropriate fraction imperviousness of all catchment/sub-catchments based on development category in accordance with Table 4.05.1 of QUDM (2005).
• Include pre and post developed topographic and roughness maps and model boundary conditions.
• To be consistent with Council’s recent hydrologic studies for the City’s catchments, initial loss and continuing loss in the hydrologic model for 10 year ARI and greater storm events are to be 0mm and 0.5mm respectively.
• Compare XP-RAFTS hydrologic model against peak flow rates estimated by Rational Method (QUDM (2008)). Adopt the most conservative estimates of the peak flow rates to design stormwater mitigation measures.
• Demonstrate how the increase of peak stormwater runoff from the site due to its proposed development will be mitigated in case a local rainfall burst occurs in the lower part of the site (particularly downstream of electrical easement where no detention devices are proposed).
• Assesses the rate of rise and time from commencement of rainfall to unacceptable flood hazard conditions in areas of public open space designed for public access, and demonstrate that adequate flood warning can be provided to effect evacuation and exclusion of public from such areas.
• Utilise appropriate roughness values (0.08-0.10) for the existing bushland/forest and proposed unmaintained open spaces and/or watercourses in accordance with Table C.3
of Brisbane City Council's Natural Channel Design Guidelines (BCC, 2003) for pre and post development conditions. Incorporate existing roads, bridges and other cross drainage structures in the TUFLOW model.

- Extend the model boundary further downstream (downstream of railway corridor) in order to identify any impacts on the railway corridor as a result of the proposal development. Modelling must demonstrate impacts and safe hydraulic function of all proposed road crossings of the defined watercourse, Hinkler Drive, Pacific Motorway, and the railway line.

- Undertake the impact assessment for low downstream water level (minor event flood levels of the Nerang River system). Also undertake sensitivity analyses considering various other tail water levels (10, 20, and 100 year ARI).

- Include impact maps for velocity and water level for all events. Also identify the flood levels and flood extents for the site on scaled maps for various flood/storm events.

- Include detailed drainage plan and the proposed drainage reserve widths (i.e. width to contain Q100 water level plus the required freeboard as per table 9.03.1 of QUDM) on a scaled plan, in accordance with Section 3.5.6 of Council Land Development Guidelines (2005) and Section 3.05 of QUDM (2008).

- Incorporate into the report, all catchments' runoff and pollutant generation parameters, and treatment node parameters utilised in the MUSIC model in tabular and/or graphical format. Also include a scaled MUSIC catchment plan identifying the location of treatment devices, direction of stormwater runoff, discharge points etc.

- Demonstrate that each of the catchment/sub-catchment achieves Council's stormwater pollutants reduction targets. Should each of the catchment/sub-catchment fail to achieve Council reduction targets, the applicant demonstrates that the whole catchment will achieve Council’s stormwater pollutants reduction targets and each of the catchment/sub-catchment achieves more than 90% of Council’s stormwater pollutant reduction targets.

- Include a staging plan for the entire site regarding construction of hydraulic and stormwater infrastructures particularly stormwater detention and treatment systems.

- Demonstrates the impact of extreme flood events (probable maximum flood - PMF) on the proposed development, proposed Hinkler Drive intersections and the Pacific Motorway.

- Include date and version / issue of the report on the document control sheet.

6. Compliance assessment of amended hydraulic and stormwater management plan

The amended hydraulic and stormwater management plan is a document requiring compliance assessment under the Sustainable Planning Act 2009. A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the document, in accordance with the following:

Matters or things against which the document must be assessed

- The planning scheme's Changes to Ground Level and Creation of New Waterbodies Specific Development Code;
- The planning scheme's Works for Infrastructure Specific development Code;
- Planning Scheme Policy 11 – Land Development Guidelines; and

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When the request for compliance assessment must be made

Prior to the earlier of any development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for the site.

The amended hydraulic and stormwater management plan is not an approved plan until a compliance certificate has been issued.

7. Compliance certificate with future development applications

A copy of the compliance certificate for the amended hydraulic and stormwater management plan must be provided with any future development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for all stages of the site.

8. Implementation of and compliance with approved amended hydraulic and stormwater management plan

All works must be carried out and completed and all maintenance and monitoring implemented in accordance with the approved amended hydraulic and stormwater management plan and any conditions imposed on the compliance certificate, prior to a request for compliance assessment of the subdivision plan.

9. Stage/site specific stormwater management plan to be submitted with future applications

A detailed stormwater management plan for each stage must be submitted to Council for approval commensurate with each material change of use or reconfiguring a lot application. The detailed stormwater management plan must be prepared in accordance with the approved amended hydraulic and stormwater management strategy and the Council’s policy and guidelines (at the time of the lodgement of application). The plan must include (but not limited to) the following:

• Provide an individual scaled stormwater management layout plan for each of the contributing sub-catchments. The stormwater management layout plans must provide post development contours at 1m intervals and display all proposed piped stormwater drainage, overland flow paths, stormwater detention, stormwater treatment and inter allotment drainage requirements in accordance with the ultimate plan of development.

• The plan shall confirm that all detention basins are located off-line to the waterway and outside the Conservation Sub-precinct and identified Ecological Delineation Line. All stormwater detention and treatment devices shall be located outside of any restricted vegetation clearing areas in order to mitigate the effects of peak flow increase in the defined waterway and downstream of the site.

• Stormwater quality treatment is to be provided upstream of the defined watercourse and ecological corridor, and above the 20% AEP flood extent of retained waterways.

• The defined watercourse through the proposed Village Centre (Lot 10) and proposed Industry zone (Lot 11) be retained as open.

• The report shall include the stage-storage characteristics of each of the basins along with detailed drawings including plan view, long section and cross section views in terms of the Australian Height Datum; inlet and outlet details; spillway details; scour protection measures; and overflow path details for flood events up to and including the ARI 100 years.
• All hydraulic structures across environmental/ecological corridors shall be designed to be fauna friendly and shall be in the form of bridges which maintain natural waterway morphology of bed and banks.

• For any cross drainage structure and for overland flow on the road reserve the report shall demonstrate compliance of QUDM's requirements for public safety (QUDM Section 7.04).

• The defined watercourse through the proposed Village Centre (Lot 10) and proposed Industry zone (Lot 11) be retained as open.

• Provide engineering details (culvert configuration, invert levels, road level, etc.) and hydraulic information (upstream and downstream water levels, peak flow, and flow velocity for flood events up to and including ARI 100 years) for each hydraulic structure where roads are proposed to cross waterways to demonstrate compliance with the requirements of QUDM (or relevant equivalent document at time of lodgement).

• The development application proposes the inclusion of mixed use precincts and therefore the proposed treatment train shall need to incorporate the use of gross pollutant traps and/or trash racks. The detailed report shall identify the location of GPTs and/or trash racks required for the development.

• If any devices (stormwater treatment or flood detention) are to be located within the electricity easement the applicant shall submit a written consent from the relevant authority to construct such devices within the easement. The report shall provide a detailed stormwater quality treatment train showing scaled extents of all stormwater devices.

• Makes an assessment of the hazard category of all proposed retarding basins and undertakes a Failure Impact Assessment for all proposed retarding basins, including an assessment of the combined failure to contain impacts, in accordance with Guidelines for Failure Impact Assessment of Water Dams (DERM 2012) or equivalent later edition.

• Proposes the bridge over the tributary entering Lot 10 from the south causes zero afflux upstream of the allotment boundary.

• Provide scaled diagrams (not generic drawings) of each individual Stormwater Quality Improvement Device (SQID) proposed for the development site. The diagrams shall include cross sections, long sections; plan views and the proposed landscaping within the devices.

• Ensure that all stormwater treatment devices shall be located above the ARI 20 year flood inundation lines as identified in the hydraulic study.

• Submit a MUSIC model demonstrating achievement of the pollutant reduction targets of Table 13.1.5 of Council's Land Development Guidelines Section 13


• All the above issues require the applicant to submit all hydrologic, hydraulic and MUSIC models to Council on CD/DVD for checking and record purposes.

## 10. Ownership and/or maintenance responsibility of stormwater devices

Within the stage/site specific stormwater management plan or associated maintenance management plan the applicant must clearly identify the ownership and maintenance responsibility of the stormwater devices (detention / bio-retention basin, etc.).
Any stormwater device to be transferred to Council as contributed asset must fully comply with Council's design specifications.

11. Public utility (stormwater) easements to be provided

Public utility (stormwater) easements must be provided for the purposes of access, maintenance and construction of services, in favour of and at no cost to Council, over Council stormwater infrastructure, such as inter-allotment drainage systems, located in private land. Such easements must meet the following requirements:

- Easement widths must comply with the requirements specified in Planning Scheme Policy 11 - Land Development Guidelines, Standard Specifications and Drawings for stormwater infrastructure.
- Notwithstanding the easement width requirements specified in Planning Scheme Policy 11 - Land Development Guidelines, Standard Specifications and Drawings, a 400 mm minimum horizontal clearance is required between infrastructures of differing types.
- The applicant must provide to Council a certification from the surveyor that the easements are correctly located over the infrastructure and meet the requirements of paragraph (a) of this condition.
- The terms of such easements shall be to the satisfaction of the Chief Executive Officer, and shall be executed prior to the earlier of compliance assessment of the subdivision plan or commencement of the use of the premises.
- Easement plans and associated documents must be duly signed by the owner of the burdened land (and any mortgagees, if necessary) before they are submitted to Council for execution.
- When registering the easements, the Form 9 document shall refer to the Registered Document No. 707918364.

12. Erosion and sediment control

The applicant must submit a site specific erosion and sediment control plan for each stage of the development to Council for approval. The plan must be prepared in accordance with the Council's Planning Scheme's Sediment and Erosion Control Constraint Codes and the Best Practice Erosion & Sediment Control (IECA Australasia, November 2008). The plan must:

- Ensure that all reasonable and practicable measures are implemented to minimise short and long-term erosion and adverse effects of sediment transport;
- Be prepared by a suitably qualified professional (Certified Practising Soil Scientist, Certified Practitioner in Erosion and Sediment Control or Registered Professional Engineer Queensland with experience and training in erosion and sediment control);
- Relate to each phase of works (including clearing, earthworks, civil construction, services installation and landscaping) and detail the type, location, sequence and timing of measures and action to effectively minimise erosion, manage flows and capture sediment;
- Include the results of all soil investigations undertaken for the site and on which the ESCP is based;
- Be consistent with current best practice standards to the extent that the standards are not inconsistent with the conditions of approval and taking into account all environmental constraints including erosion hazard, season, climate, soil and proximity to waterways; and
Include provision for monitoring to occur, and clearly outline the need to adjust or maintain erosion and sediment control and site management practices to achieve the above requirements.
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<thead>
<tr>
<th>Condition No.</th>
<th>Detail</th>
<th>Timing</th>
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<tr>
<td></td>
<td><strong>PVE Development Code</strong></td>
<td>As stated</td>
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<td></td>
<td>The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.</td>
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<td></td>
<td>An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:</td>
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<td></td>
<td>• The Ecological Corridor Precinct shown on Place Code – Map 3 – Precinct Plan (Land Use Intent) is to be extended to cover the full floodplain extent of the existing watercourse entering and leaving the site along the southern boundary of Lot 28 and Lot 10. Development is to be excluded from that waterway.</td>
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<td></td>
<td><strong>No worsening of hydraulic conditions</strong></td>
<td>On going</td>
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<td>The development must be designed and constructed so as to result in:</td>
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<td></td>
<td>• No increase in peak flow rates downstream from the site</td>
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<td>• No increase in flood levels external to the site, and</td>
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<td>• No increase in duration of inundation external to the site that could cause loss or damage.</td>
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<td><strong>Alteration of overland flow paths</strong></td>
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<td>Overland flow paths on the site must not be altered in a way that inhibits or alters the characteristics of existing overland flows on other properties or that creates an increase in flood damage on other properties.</td>
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<td><strong>Waterway crossings</strong></td>
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<td>All road crossings of the defined watercourse are in the form of bridges which maintain natural waterway morphology of bed and banks. All waterway crossings shall be in accordance with the Department of Transport and Main Roads’ Fauna Sensitive Road Design Manual Volume 2: Preferred Practices, dated June 2010.</td>
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<td><strong>Hydraulic and stormwater management plan to be amended</strong></td>
<td>As stated in Condition 22</td>
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|              | • Hydraulic and hydrologic analyses are to be carried out for all standard storm events up to and including the 100

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- Include a table with catchment/sub-catchment ID, catchment area, fraction imperviousness, average slope, time of concentration, length of the flow path, etc., for both pre and post development cases. Utilise appropriate fraction imperviousness of all catchment/sub-catchments based on development category in accordance with Table 4.05.1 of QUDM (2008).
- Include pre and post developed topographic and roughness maps and model boundary conditions.
- To be consistent with Council’s recent hydrologic studies for the City’s catchments, initial loss and continuing loss in the hydrologic model for 10 year ARI and greater storm events are to be 0mm and 0.5mm respectively.
- Compare XP-RAFTS hydrologic model against peak flow rates estimated by Rational Method (QUDM (2008)).
- Adopt the most conservative estimates of the peak flow rates to design stormwater mitigation measures.
- Demonstrate how the increase of peak stormwater runoff from the site due to its proposed development will be mitigated in case a local rainfall burst occurs in the lower part of the site (particularly downstream of electrical easement where no detention devices are proposed).
- Assess the rate of rise and time from commencement of rainfall to unacceptable flood hazard conditions in areas of public open space designed for public access, and demonstrate that adequate flood warning can be provided to effect evacuation and exclusion of public from such areas.
- Utilise appropriate roughness values (0.08-0.10) for the existing bushland/forest and proposed unmaintained open spaces and/or watercourses in accordance with Table C.3 of Brisbane City Council’s Natural Channel Design Guidelines (BCC, 2003) for pre and post development conditions. Incorporate existing roads, bridges and other cross drainage structures in the TUFLOW model.
- Extend the model boundary further downstream (downstream of railway corridor) in order to identify any impacts on the railway corridor as a result of the proposal development. Modelling must demonstrate impacts and safe hydraulic function of all proposed road crossings of the defined watercourse, Hinkler Drive, Pacific Motorway, and the railway line.
- Undertake the impact assessment for low downstream water level (minor event flood levels of the Nerang River system). Also undertake sensitivity analyses considering various other tail water levels (10, 20, and 100 year ARI).
- Include impact maps for velocity and water level for all events. Also identify the flood levels and flood extents for the site on scaled maps for various flood/storm events.
- Include detailed drainage plan and the proposed drainage reserve widths (i.e. width to contain Q100 water level plus the required freeboard as per table 9.03.1 of QUDM) on a scaled plan, in accordance with Section 3.5.6 of...
Stormwater


- Incorporate into the report, all catchments' runoff and pollutant generation parameters, and treatment node parameters utilised in the MUSIC model in tabular and/or graphical format. Also include a scaled MUSIC catchment plan identifying the location of treatment devices, direction of stormwater runoff, discharge points etc.
- Demonstrate that each of the catchment/sub-catchment achieves Council's stormwater pollutants reduction targets. Should each of the catchment/sub-catchment fail to achieve Council reduction targets, the applicant demonstrates that the whole catchment will achieves Council's stormwater pollutants reduction targets and each of the catchment/sub-catchment achieves more than 90% of Council's stormwater pollutant reduction targets.
- Include a staging plan for the entire site regarding construction of hydraulic and stormwater infrastructures particularly stormwater detention and treatment systems.
- Demonstrates the impact of extreme flood events (probable maximum flood - PMF) on the proposed development, proposed Hinkler Drive intersections and the Pacific Motorway.
- Include date and version / issue of the report on the document control sheet.

Compliance assessment of amended hydraulic and stormwater management plan

The amended hydraulic and stormwater management plan is a document requiring compliance assessment under the Sustainable Planning Act 2009. A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the document, in accordance with the following:

Matters or things against which the document must be assessed

The planning scheme's Changes to Ground Level and Creation of New Waterbodies Specific Development Code;
- The planning scheme's Works for Infrastructure Specific Development Code
- Planning Scheme Policy 11 – Land Development Guidelines, and

Compliance assessor: Council of the City of Gold Coast

When the request for compliance assessment must be made

Prior to the earlier of any development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for the site.

The amended hydraulic and stormwater management plan is not an approved plan until a compliance certificate has
<table>
<thead>
<tr>
<th>Condition No.</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Stormwater</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Compliance certificate with future development applications</strong></td>
<td>As stated</td>
</tr>
<tr>
<td>23</td>
<td>A copy of the compliance certificate for the amended hydraulic and stormwater management plan must be provided with any future development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for all stages of the site.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>Implementation of and compliance with approved amended hydraulic and stormwater management plan</strong></td>
<td>On going</td>
</tr>
<tr>
<td></td>
<td>All works must be carried out and completed and all maintenance and monitoring implemented in accordance with the approved amended hydraulic and stormwater management plan and any conditions imposed on the compliance certificate, prior to a request for compliance assessment of the subdivision plan.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td><strong>Stage/site specific stormwater management plan to be submitted with future applications</strong></td>
<td>As stated</td>
</tr>
<tr>
<td></td>
<td>A detailed stormwater management plan for each stage must be submitted to Council for approval with each material change of use or reconfiguring a lot application. The detailed stormwater management plan must be prepared in accordance with the approved amended hydraulic and stormwater management strategy and the Council's policy and guidelines (at the time of the lodgement of application). The plan must include (but not limited to) the following:</td>
<td></td>
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<td></td>
<td>• Provide an individual scaled stormwater management layout plan for each of the contributing sub-catchments. The stormwater management layout plans must provide post development contours at 1m intervals and display all proposed piped stormwater drainage, overland flow paths, stormwater detention, stormwater treatment and inter allotment drainage requirements in accordance with the ultimate plan of development.</td>
<td></td>
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<tr>
<td></td>
<td>• The plan shall confirm that all detention basins are located off-line to the waterway and outside of the Ecological Corridor Precinct. All stormwater detention and treatment devices shall be located outside of any restricted vegetation clearing areas in order to mitigate the effects of peak flow increase in the defined waterway and downstream of the site.</td>
<td></td>
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<td></td>
<td>• Stormwater quality treatment is to be provided upstream of the defined watercourse and ecological corridor precinct, and above the 20% AEP flood extent of retained waterways.</td>
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<tr>
<td></td>
<td>• The defined watercourse through the proposed Village Centre (Lot 10) and proposed Industry zone (Lot 11) be retained as open waterway (i.e. no underground piping of the waterway will be permitted by Council).</td>
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<td></td>
<td>• The report shall include the stage-storage characteristics of each of the basins along with detailed drawings</td>
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</table>

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Condition No. | Detail | Timing
---|---|---
Stormwater | including plan view; long section and cross section views in terms of the Australian Height Datum; inlet and outlet details; spillway details; scour protection measures; and overflow path details for flood events up to and including the ARI 100 years. | 
- All hydraulic structures across environmental/ecological corridors shall be designed to be fauna friendly and shall be in the form of bridges which maintain natural waterway morphology of bed and banks.
- For any cross drainage structure and for overland flow on the road reserve the report shall demonstrate compliance of QUDM’s requirements for public safety (QUDM Section 7.04).
- Provide engineering details (culvert configuration, invert levels, road level, etc.) and hydraulic information (upstream and downstream water levels, peak flow, and flow velocity for flood events up to and including ARI 100 years) for each hydraulic structure where roads are proposed to cross waterways to demonstrate compliance with the requirements of QUDM (or relevant equivalent document at time of lodgement).
- The development application proposes the inclusion of mixed use precincts and therefore the proposed treatment train shall need to incorporate the use of gross pollutant traps and/or trash racks. The detailed report shall identify the location of GPTs and/or trash racks required for the development.
- If any devices (stormwater treatment or flood detention) are to be located within the electricity easement the applicant shall submit a written consent from the relevant authority to construct such devices within the easement. The report shall provide a detailed stormwater quality treatment train showing scaled extents of all stormwater devices.
- Makes an assessment of the hazard category of all proposed retarding basins and undertakes a Failure Impact Assessment for all proposed retarding basins, including an assessment of the combined failure to contain impacts, in accordance with Guidelines for Failure Impact Assessment of Water Dams (DERM 2012) or equivalent later edition.
- Proposes the bridge over the tributary entering Lot 10 from the south causes zero afflux upstream of the allotment boundary.
- Provide scaled diagrams (not generic drawings) of each individual Stormwater Quality Improvement Device (SQID) proposed for the development site. The diagrams shall include cross sections, long sections; plan views and the proposed landscaping within the devices.
- Ensure that all stormwater treatment devices shall be located above the ARI 20 year flood inundation lines as identified in the hydraulic study.
- Submit a MUSIC model demonstrating achievement of the pollutant reduction targets of Table 13.1.B of Council’s Land Development Guidelines Section 13
<table>
<thead>
<tr>
<th>Condition No.</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
</table>
| 26           | Ownership and/or maintenance responsibility of stormwater devices  
Within the stage/site specific stormwater management plan or associated maintenance management plan the applicant must clearly identify the ownership and maintenance responsibility of the stormwater devices (detention / bio-retention basin, etc.).  
Any stormwater device to be transferred to Council as contributed asset must fully comply with Council’s design specifications. | On going |
| 27           | Public utility (stormwater) easements to be provided  
Public utility (stormwater) easements must be provided for the purposes of access, maintenance and construction of services, in favour of and at no cost to Council, over Council stormwater infrastructure, such as inter-allotment drainage systems, located in private land. Such easements must meet the following requirements:  
- Easement widths must comply with the requirements specified in Planning Scheme Policy 11 – Land Development Guidelines, Standard Specifications and Drawings for stormwater infrastructure.  
- Notwithstanding the easement width requirements specified in Planning Scheme Policy 11 – Land Development Guidelines, Standard Specifications and Drawings, a 400 mm minimum horizontal clearance is required between infrastructures of differing types.  
- The applicant must provide to Council a certification from the surveyor that the easements are correctly located over the infrastructure and meet the requirements of paragraph (a) of this condition.  
- The terms of such easements shall be to the satisfaction of the Chief Executive Officer, and shall be executed prior to the earlier of compliance assessment of the subdivision plan or commencement of the use of the premises.  
- Easement plans and associated documents must be duly signed by the owner of the burdened land (and any mortgagees, if necessary) before they are submitted to Council for execution.  
- When registering the easements, the Form 9 document shall refer to the Registered Document No. 707918364. | On going |
Stormwater

28 Erosion and sediment control

The applicant must submit a site specific erosion and sediment control plan for each stage of the development to Council for approval. The plan must be prepared in accordance with the Council's Planning Scheme's Sediment and Erosion Control Constraint Codes and the Best Practice Erosion & Sediment Control (IECA Australasia, November 2008). The plan must:

- Ensure that all reasonable and practicable measures are implemented to minimise short and long-term erosion and adverse effects of sediment transport.
- Be prepared by a suitably qualified professional (Certified Practising Soil Scientist, Certified Practitioner in Erosion and Sediment Control or Registered Professional Engineer Queensland with experience and training in erosion and sediment control).
- Relate to each phase of works (including clearing, earthworks, civil construction, services installation and landscaping/rehabilitation) and detail the type, location, sequence and timing of measures and action to effectively minimise erosion, manage flows and capture sediment.
- Include the results of all soil investigations undertaken for the site and on which the ESCP is based.
- Be consistent with current best practice standards to the extent that the standards are not inconsistent with the conditions of approval and taking into account all environmental constraints including but not limited to erosion hazard, season, climate, soil and proximity to waterways, and
- Include provision for monitoring to occur, and clearly outline the need to adjust or maintain erosion and sediment control and site management practices to achieve the above requirements.
10. Traffic

10.1 General

The proposed PVE development site is located immediately west of the Gold Coast Rail Line, with the eastern extent of the site bisected by the Pacific Motorway. This road corridor facilitates residential, tourist, freight and commercial vehicle movements and is of local, regional and national significance.

Primary vehicular access between the Motorway and the eastern and western portions of the site is proposed to be via the nearby Worongary North interchange (Exit 75). Additional access to the site is also available via the Nerang South (Exit 73) and the Worongary (Exit 77) interchanges which are located north and south of the site, respectively.

Beyond these interchanges, direct site access will be provided via the local road network. The eastern portion of the proposed development is expected to be accessed via an existing stub road which forms the northern leg of the Elysium Road/Eastlake Street roundabout on the eastern side of Exit 75. This is expected to be the sole access point for all vehicular traffic accessing the eastern portion of the development. Primary vehicular access to the western portion of the proposed development is expected to be provided via three priority intersections (two 'all-movement' and one 'left-in left-out') with Hinkler Drive. As a service road, Hinkler Drive runs parallel to the Pacific Motorway. Two additional vehicular connections are proposed to the existing residential development located immediately north of the western portion of the proposed PVE development. These connections are proposed at Delta Cove Drive and Nabarlek Drive in order to improve inter-suburban connectivity and reduce the amount of PVE traffic using Hinkler Drive.

A potential bus route through the site has been proposed which runs from the site's southern intersection with Hinkler Drive to Delta Cove Drive and the existing residential development to the north. The potential for an additional bus route connecting to the residential development to the north has also been proposed. Bus connections to the large lot residential developments to the south may be provided but these have not been identified by the Applicant.

Similarly, active transport connections are proposed to the north but have not been identified to the southern residential developments.

10.2 Technical aspects

The following items were identified as a result of the review of the scope, methodology, assessment and recommendations as provided in the Traffic and Transport Report:

• The assessment years were identified as 2024 (10 years after anticipated commencement year of construction) and 2031 (ultimate design year)

• A trip discount rate of 26% was applied to the total estimated traffic generation based on assumed levels of active and public transport use. The proposed bus route through the site may not provide sufficient coverage to allow for high levels of public bus transport use. This would affect the accessibility of residents to public transport and may undermine the proposed trip discount rate which was based on relatively high levels of public bus transport use. Further details regarding the trip discount rate will be required prior to any subsequent approval for stages of the PVE development whereas details regarding on-site bus routes and stops will be required to be provided during the preparation of development applications for each stage of the project.
• A trip internalisation rate of 20% was applied to the total estimated traffic generation based on assumed levels of site containment

• Peak hour network traffic modelling was undertaken in 2012 using Paramics modelling software for the 2024 and 2031 design years (AM and PM) in order to identify the queuing and Levels of Service (LOS) on the network

• Peak hour intersection modelling was undertaken in 2012 using SIDRA intersection modelling software for the 2024 design year (AM and PM) in order to identify the degree of saturation (DOS) at each of the assessed intersections. Judgement as to whether an intersection was considered to operate within acceptable performance thresholds was based on DOS only and did not additional performance criteria such as LOS. The consideration of intersection (often including approaches and movements) LOS is normally required. However, a review of LOS modelling indicated that there are potential LOS issues at the following intersections in 2024 (with PVE development traffic) where DOS is considered acceptable:
  - Spencer Drive / Nielsens Road / Nielsens Road interchange overpass intersection
  - Nielsens Road interchange overpass / Northbound Off-Ramp intersection
  - Alexander Drive / Hinkler Road / Nielsens Road interchange overpass intersection.

• An inconsistency was identified between the Paramics and SIDRA modelling. Namely, traffic volumes for the assessment of surrounding intersections were sourced from traffic flows (i.e. the volume of traffic that could access each intersection with respect to congestion and queuing) rather than demand volumes (i.e. the amount of traffic actually wishing to use each of the intersections) in the Paramics model. The use of traffic flows rather than demand volumes results in reduced traffic volumes at the assessed intersections. As a result, there is potential for overestimation of remaining intersection capacity in the existing and future years.

• Criteria was established in the Traffic and Transport Report which provides the basis for identifying "failure" in the road network and thus, justification for providing road improvement measures/mitigation. The criteria is as follows:
  - Traffic on an off ramp extending back to the M1 as a consequence of PVE traffic being added to background traffic
  - Intersections that are operating under capacity without PVE traffic in 2024 operating over capacity with PVE traffic in 2024
  - Intersections when PVE traffic is added now block back into another controlled intersection, thereby impacting on unrelated movements
  - Changes in LOS due to weaving on the M1. More specifically, this involves the shifting of motorway Level of Service from LOS D to E specifically due PVE traffic.

• As a result of the modelling, the northern approach to the western roundabout at Worongary North interchange (Exit 75) was identified as failing by 2022. This was identified as being due to the addition of PVE development traffic

• An improvement to the western roundabout at Exit 75 was identified as being required to be operational by 2022 in order to mitigate the negative impacts on the road network associated with the PVE development

• Additional mitigation measures at the Nerang South interchange (Exit 73). Exit 75 and Worongary interchange (Exit 77) were also identified as being required by 2031 in order to achieve a "no worsening" where the queue lengths identified in the network are, on average, not increased significantly when PVE traffic is added
There is concern that the capacity and operating characteristics of Hinkler Drive will be compromised with the addition of PVE development traffic and signalised intersections.

10.3 Assessment against Codes

10.3.1 General

Information provided in the study findings is based on the Pacific View Estate Traffic and Transport Report for Preliminary Approval Application (P0610.005R dated 26/10/2012) and Pacific View Estate Modelling Report (P0610.003R dated 26/10/2012) and correspondence between the Department of Transport and Main Roads (TMR), Council and the Applicant. For the purpose of this review of traffic and transport issues, the term 'Applicant' refers to both the Applicant, Pacific View Farm (Queensland) Pty Ltd and any other party working for or on behalf of the Applicant.

Given that the application is for a preliminary approval overriding a local planning instrument, the level of information provided by the Applicant is limited to that pertaining to trip generation and impact on specific intersections. In this regard, assessment against specific planning codes with respect to road design and associated infrastructure is more relevant as part of the consideration of subsequent development applications. Particular attention has been given to recommending the Minister impose a condition requiring sufficient documentation relating to traffic impact is included with each subsequent application for a material change of use or lot reconfiguration development permit.

Accordingly, an assessment of the application for preliminary approval has been undertaken with reference to the items specifically raised by the Minister in the project brief (Item 17a). This assessment is provided in Section 10.3.2 to 10.3.9.

The traffic and transport components of the proposed PVE development and the sub-points under Item 17 of the project brief have also been considered against the DEOs from the Gold Coast Planning Scheme 2003 to determine the consistency of the development proposal with the DEOs. Some of the Economic Development and Community Wellbeing DEOs relate specifically to the traffic and transport components of the proposed development. These particular DEOs are replicated below:

DEO Econ.6

The use and safe operation of existing and committed infrastructure is maximised and future infrastructure is provided efficiently.

A number of planning objectives that support this DEO have particular relevance to traffic and transportation, including those relating to the efficient provision of infrastructure to meet the reasonable requirement of business and to protect the integrity of existing and planned infrastructure facilities from incompatible development. The proposed development is in close proximity to the Pacific Motorway and has direct access to a collector road and interchanges associated with the highway.

DEO Soc.5

The maintenance of residential amenity, through the minimisation of any environmental harm or adverse social impacts occurring from the construction and operation of commercial, community, tourism, industrial and extractive industry activities.

The PVE development does not unreasonably constrain significant transport infrastructure due to amenity impacts as adequate design treatments can be included to protect sensitive land uses from noise and other amenity impacts associated with the Pacific Motorway.

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DEO Soc.6

The provision of a safe, clean, accessible and affordable transport system that efficiently connects the various parts of the city, and offers choice and convenience for residents and visitors.

The proposed development does not conflict with a number of planning objectives that support DEO Soc.6, including the following:

- The development proposes the provision of pedestrian and bicycle systems that connect residential areas to local community facilities and other transport modes in a convenient, safe and attractive manner.
- The layout provides opportunities to support the provision of efficient public transport infrastructure and service.
- The development does not compromise the road hierarchy or the efficient use of the existing road network.
- The PVE Development Code with some variation and in concert with Council’s planning instruments provides for adequate car parking, loading and access facilities to service the needs of development within the area affected by the preliminary approval.

The traffic and transport components of the development are generally in accordance with the relevant DEOs. In addition, a table summarising the DEOs and the supporting planning objectives which relate specifically to each of the sub-points under Item 17 has also been prepared. This is provided in Table 11.

### Table 11 Relevant Desired Environmental Outcomes – Traffic

<table>
<thead>
<tr>
<th>Item ID in project brief</th>
<th>Relevant DEO</th>
<th>Relevant planning objective to support each DEO</th>
</tr>
</thead>
<tbody>
<tr>
<td>17a</td>
<td>DEO Community Wellbeing (No. 5)</td>
<td>5.4 and 5.5</td>
</tr>
<tr>
<td>17b</td>
<td>DEO Economic Development (No. 6)</td>
<td>6.3</td>
</tr>
<tr>
<td>17c</td>
<td>DEO Community Wellbeing (No. 5)</td>
<td>5.3</td>
</tr>
<tr>
<td>17d</td>
<td>DEO Economic Development (No. 6)</td>
<td>6.3</td>
</tr>
<tr>
<td>17e</td>
<td>DEO Community Wellbeing (No. 6)</td>
<td>6.1, 6.2 and 6.3</td>
</tr>
<tr>
<td>17g</td>
<td>DEO Community Wellbeing (No. 6)</td>
<td>6.1 and 6.3</td>
</tr>
<tr>
<td></td>
<td>DEO Community Wellbeing (No. 6)</td>
<td>6.4</td>
</tr>
</tbody>
</table>

### 10.3.2 Item 17a – Traffic Impacts on Hinkler Drive

**Issue**

Assess the traffic impact of the proposed development on Hinkler Drive and the applicant’s suggested upgrades.
Study findings

In 2024, the PVE development is expected to generate a total of 1,647 vehicle trips (two-way) in the peak hour (AM/PM) (1,099 peak hour vehicle trips west and 638 peak hour vehicle trips east of the M1). The performance of Exit 75 was predicted to be affected by PVE traffic with queues blocking back from the interchange’s western roundabout through to the PVE’s southern access intersection in 2024. As per the criteria outlined in the Traffic and Transport Report and the Modelling Report, the performance of the north approach to the roundabout located on the western side of Exit 75 was classified as a failure by 2022. This failure is attributed to the addition of PVE traffic to the road network. Further, traffic queuing and congestion was also identified on Hinkler Drive where it intersects with Alexander Drive on the western side of the Nerang South interchange (Exit 73). Increased queuing and congestion at this location was identified as being due to traffic re-routing in the model in response to the failure of the roundabout at Exit 75. The study also found that PVE traffic does introduce additional queuing on Gooding Drive (Exit 77) and on Nielsens Road (Exit 73).

An improvement measure (left slip lane bypass) was proposed at the western roundabout at Exit 75 in order to address the identified failure of the intersection. This measure is required to be operational by 2022 in order to mitigate the impacts of traffic generated by the PVE development on Hinkler Drive and surrounding intersections.

Intersection modelling of the ‘With Development’ scenario (i.e. after the implementation of the aforementioned mitigation measure) suggested that each of the intersections involving Hinkler Drive are expected to operate within acceptable DOS thresholds for each intersection type during both the AM and PM peak hour in 2024. Overall, each intersection involving Hinkler Drive is expected to operate within acceptable LOS thresholds (i.e. LOS D or better) during both the AM and PM peak hour in 2024. The modelling suggested, however, that some movements at the Nielsens Road / Hinkler Road intersection are expected to operate in excess of acceptable performance thresholds (i.e. LOS E) during both the AM and PM peak hour in 2024 for the “Without” and “With” PVE development traffic scenarios.

Beyond 2024, additional mitigation measures at Exit 73, Exit 75 and Exit 77 were also identified as being required by 2031 in order to achieve a “no worsening” where the queue lengths identified in the network are, on average, not increased significantly when PVE traffic is added.

Finally, two primary site access points are proposed along Hinkler Drive. These are proposed to be all-movement priority (i.e. unsignalised) intersections until traffic volumes along Hinkler Drive warrant their upgrading to signals. As this is dependent on traffic volumes, no timeframe has been identified for this upgrade.

GHD response

The study has assessed the impacts of the proposed development on Hinkler Drive, identified parts of the road network where failure may be expected in the future and recommended upgrade measures to mitigate these impacts. Assessment of traffic modelling outputs (i.e. queue length and LOS graphical summaries) provided in the Traffic and Transport Report suggest that by 2014, queue lengths and LOS generally worsen with PVE traffic despite implementation of the proposed improvement measure. According to the Applicant and as the modelling suggests, however, implementation of this measure improves the traffic situation on the northern approach to the western roundabout at Exit 75 enough to avoid failure of the intersection, and therefore no further upgrades are warranted above those proposed.

Based on the findings of the traffic modelling undertaken and reported in the study, the proposed improvement measures appear to improve the performance of the surrounding road network so that the identified failure criteria are not triggered. The traffic impact and suggested upgrades are therefore considered acceptable.

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10.3.3 Item 17b – Vehicle Threshold for Hinkler Drive

Issue

Review the appropriateness of council’s maximum vehicle threshold for Hinkler Drive, given the applicant’s response to the threshold in the information request response dated July 2014.

Study findings

The Applicant has cited the following reasons for disagreeing with Council’s maximum vehicle threshold of 6,000 vpd for Hinkler Drive:

1. Traffic counts undertaken in 2011 suggested that Hinkler Drive already carries in excess of the proposed vehicle threshold (i.e. 6,000 vehicles per day (vpd))

2. The vehicle threshold was developed for an area in Coomera and is considered irrelevant by the Applicant

3. The Worongary North interchange is assumed to remain open until at least 2024. As such, the majority of PVE traffic is expected to use this interchange, rather than accessing Hinkler Drive

4. Modelling on Hinkler Drive (between Barrine Drive north and Barrine Drive south) suggested that by 2024, Hinkler Drive will not have exceeded Council’s identified volume threshold. This is based on a reduction in traffic volumes due to the recent opening of the six lane upgrade between the Exit 73 and Exit 75 interchanges.

GHD response

Hinkler Road was identified as a collector road in a meeting of Council’s Engineering Services Committee on 9 September 2009.

According to Council’s Standard Drawings for Roadworks (road cross-sections) provided in the Gold Coast Planning Scheme 2003, the upper vehicle per day (vpd) limit for a residential collector street is 3,000 vpd. It should be noted that the road characteristics and surrounding land uses of Hinkler Drive, and thus its potential vehicle capacity, varies along its length.

In Chapter 5 Traffic Parameters and Human Factors of the Road Planning and Design Manual (RPDM), TMR define collector roads as having traffic volumes up to 6,000 vpd. The draft City Plan 2015 is generally in accordance with the RPDM, as it states that traffic volumes for a collector street can range from 3,000 - 7,000 vpd depending on the anticipated purpose of the proposed road and its interaction with the surrounding road network.

On the basis of the three references considered, there is a degree of variation and uncertainty regarding the upper vpd limits for collector roads. This may be due to differences in definitions of collector roads or to differences between standards.

As such, depending on the road categorisation adopted, an argument exists for increasing Council’s existing threshold based on the expected carrying capacity of Hinkler Drive.

Significant support can be gained from both the State RPDM as well as Council’s draft City Plan 2015 which has progressed to the final stage of preparation under the process set out in the Act. It is noted, however, that the lower trip threshold of 3,000 vpd proposed by Council was recommended primarily to protect the residential amenity of all properties which have direct allotment access to Hinkler Drive.

Traffic counts undertaken (in the northern part of Hinkler Drive) in 2011 indicated that Hinkler Drive already carried in excess of 6,000 vpd (which is above the proposed vehicle threshold recommended by Council). Given the critical nature of this count data to the study, it is recommended that updated counts (2015) be conducted at various locations along Hinkler Drive to confirm the current traffic volumes and for this information to be used to inform specific traffic assessments required to accompany subsequent development applications associated with the PVE development.
Notwithstanding, GHD considers Council’s proposed 6,000 vpd volume threshold on Hinkler Drive to be acceptable.

10.3.4 Item 17c – Traffic Impacts Associated with Lot 11

Issue
Assess the traffic impacts associated with development on the eastern side of the Motorway (Lot 11 on SP229681).

Study findings
Development of the eastern side of the Motorway is expected to generate a total of 638 vehicle trips (two-way) in the peak hour (AM/PM) in 2024 and is expected to remain constant until the ultimate design horizon (2031).

Intersection modelling did not examine the traffic impact for the eastern portion of the estate as a standalone development but was included in the total site analysis.

Intersection modelling of the ‘With Development’ scenario (i.e. after the implementation of the mitigation measure) suggested that the Elysium Road / Eastlake Roundabout intersection which provides vehicular access to the proposed eastern PVE development is expected to operate within acceptable DOS and LOS thresholds during both the AM and PM peak hour in 2024. No intersection modelling was undertaken for the 2031 design year.

Traffic network modelling undertaken suggested that in general queue lengths and LOS worsened with PVE traffic during both peak hours in 2024. This includes at the Elysium Road / Eastlake Road roundabout which is located close to the eastern development.

The performance of the Elysium Road / Eastlake Roundabout intersection, however, is acceptable against the criteria adopted in the Traffic and Transport Report. Therefore, no improvements have been recommended.

GHD response
Neither the Traffic and Transport Report nor the Modelling Report specifically identifies traffic impacts resulting directly from the development on the eastern side of the Motorway. The traffic modelling and subsequent traffic impacts do not appear to differentiate between the western and eastern portions of the proposed development. Instead, the traffic modelling has been undertaken and traffic impacts have been identified based on one complete development.

Despite the approach adopted for the assessment of traffic impacts, the modelling suggested that the Elysium Road / Eastlake Roundabout intersection which provides vehicular access to the proposed eastern PVE development is expected to operate within acceptable DOS and LOS thresholds during both the AM and PM peak hour in 2024. Based on the findings of this intersection modelling, the traffic impacts associated with development on the eastern side of the motorway appear to be acceptable.

10.3.5 Item 17d – Internal Road Connections to the South and West

Issue
Assess the need for internal road connections to the south (specifically San Fernando Drive) and west of the subject site.

Study findings
The Applicant’s response dated 22/04/14 to Council’s information request details that internal road connections have not been identified to the south or west of the site. According to the Applicant, this is because:

- There is no available or suitable road to connect to in the west

GHD | Report for Department of State Development, Infrastructure and Planning - Ministerial call in - Pacific View Estate,
• It is expected that there will be perceived amenity impacts by residents in the San Fernando Drive area if a connection to PVE was provided

• There is no need for the development to connect to the south as it is anticipated that the small traffic demand originating in the residential areas surrounding San Fernando Drive can adequately be accommodated by Hinkler Drive.

Notwithstanding this, future consideration of the detailed internal road network may allow for the potential for connection(s) to the south, subject to further consideration by Council.

Additionally, concerning potential bus connections the Applicant has informed Council that until such time that the area south of the PVE development is rezoned to higher densities it is unlikely a bus route would be provided into San Fernando Drive. The Applicant is of the understanding that Council's preference, based on resident feedback, is to not provide or even show in any plans any traffic connections between PVE and the San Fernando Drive area. These potential connection options, however, will still be available should Council or TMR choose to pursue them.

**GHD response**

The promotion of transport connectivity and the provision of permeable and legible road networks are design principles which are espoused in the South East Queensland Regional Plan, the SPP, the *Gold Coast Planning Scheme 2003* and the draft City Plan 2015. In general, support for transport connectivity within these documents is typically provided when it has the potential to result in a positive outcome or achieve a desired end. As an example, this may include reducing travel times and congestion or increasing access to existing and future public passenger transport facilities. However, the provision of transport connections to surrounding areas should be considered with regard to the practicality of provision and also the potential for negative outcomes (e.g. on amenity) for the surrounding areas. This last point is consistent, to some extent, with DEO Soc.5 relating to 'Community Wellbeing' in the *Gold Coast Planning Scheme 2003* (refer to Section 10.3.1 for the specific details relating to this DEO).

There appears to be sufficient grounds and support from local and State planning instruments to justify not providing a vehicular connection to areas south and west of the development.

**10.3.6 Item 17e -- Impacts on Local and State-controlled Roads**

**Issue**

Review the impacts on local roads (as described above) and State controlled roads in the context of DTMR's response.

**Study findings**

The PVE application for preliminary approval includes road connections to both Nabarlek Drive and Delta Cove Drive to the north as well as to Hinkler Drive and the State-controlled Pacific Motorway to the east of the proposed development.

The study estimated that minimal PVE traffic (an additional 92 vehicles per day using Nabarlek Drive-Explorers Way) would use Nabarlek Drive as there are no local destinations that would require this link to be used. The minimal increase in traffic would not result in this road exceeding its traffic capacity.

With regard to Delta Cove Drive, the Applicant estimates traffic volumes as shown in Table 12.
Table 12  Delta Cove Drive traffic volumes (vehicles per day)

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>Northern Section</th>
<th>Southern Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Two-way Trips</td>
<td>5380</td>
<td>620</td>
</tr>
<tr>
<td>PVE Trips - Worongary Primary</td>
<td>224</td>
<td>224</td>
</tr>
<tr>
<td>PVE Trips - Shopping</td>
<td>333</td>
<td>333</td>
</tr>
<tr>
<td>Total with PVE</td>
<td>5937</td>
<td>1177</td>
</tr>
</tbody>
</table>

Source: Pacific View Estate Traffic and Transport Report for Preliminary Approval Application (P0610.005R dated 26/10/2012)

The southern section (i.e. south of Worongary Primary School) which has residential frontage will be well below the assumed traffic capacity of a collector street of 3,000 vpd with PVE traffic included. In the northern section, PVE traffic is expected to account for approximately 10% of all traffic in Delta Cove Drive in front of Worongary Primary School (i.e. the northern section) and will have a minimal effect on the capacity of this section.

Overall the volume of traffic generated by Pacific View Estate on Nabarlek Drive and Delta Cove Drive (with PVE fully developed) does not have any significant capacity impacts on these streets.

With regard to Hinkler Drive, daily traffic volumes on this road link immediately north of the site (between Barrine Drive north and Barrine Drive south) are not expected to exceed Council’s identified 6,000 vpd threshold in 2024. This finding is based on the traffic modelling undertaken, including the assumption that:

- The Worongary North Interchange will remain open until at least 2024
- The six lane upgrade between Nerang South and Worongary interchanges has resulted in a decrease in Hinkler Drive traffic which is expected to remain for many years.

The southern end of Hinkler Drive, where it intersects with the existing roundabout west of the Worongary North interchange (Exit 75) is expected to be subject to increases in queue lengths and delays. The performance of Exit 75 was predicted to be affected by PVE traffic with queues blocking back from the interchange’s western roundabout through to the PVE’s southern access intersection in 2024. The Applicant advises that this is expected to have an adverse impact on Hinkler Drive to the north (where it meets Alexander Drive).

With regard to the State-controlled road network, the study found that in no case does PVE traffic cause any of the M1 off ramps to extend beyond their ramp storage areas in 2024. With the addition of PVE traffic the motorway will essentially perform the same as that observed in the base scenario models with similar merge/weave issues issues observed. Furthermore, with the addition of a left slip lane bypass of the western roundabout at Exit 75, PVE traffic does not affect the efficiency or safety of the State-controlled road network.

GHD response

GHD concurs with the assessment that the southern section of Delta Cove Drive is well below the assumed capacity threshold (3,000 vpd) and no upgrades are required. However, no evidence has been provided to support the conclusion that the traffic impacts on the northern section are acceptable. Details are required to support this conclusion and a condition has been recommended for the Minister to impose on any approval requiring subsequent material change of use or lot reconfiguration development applications to be accompanied by a traffic impact assessment to identify potential impacts that may occur on the existing local government controlled road network.

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The link capacity assessment has been conducted for the 2024 design year. No assessment has been conducted for the 2031 ultimate year.

The traffic volumes along Hinkler Drive indicated that future traffic volumes will not exceed 6,000 vpd in 2024. This result has been based on the realisation of the following key assumptions:

- 20% trip internalisation
- 26% trip discount rate (based on assumed rates of active and public transport use)
- Diversion of traffic to the M1 due to upgrades to the motorway.

Further evidence will be required through traffic assessments required to accompany subsequent material change of use and reconfiguring of a lot applications to support the active/public transport and diversion assumptions identified above. Furthermore, an assessment of the performance of, and anticipated traffic volumes along, Hinkler Drive in the 2031 ultimate year has not been conducted. A condition has been recommended for the Minister to impose on any approval requiring subsequent material change of use or lot reconfiguration development applications to be accompanied by a traffic impact assessment to identify potential impacts that may occur on the existing local government controlled road network.

Traffic counts undertaken (in the northern part of Hinkler Drive) in 2011 indicated that Hinkler Drive already carried in excess of 6,000 vpd (above the proposed vehicle threshold). Given the critical nature of this count data to the study, it is recommended that updated counts (2015) be conducted at various locations along Hinkler Drive as part of each submission for subsequent development applications for material change of use or reconfiguring of a lot to confirm the traffic volumes current at the time of submission.

Finally, examination of the traffic model outputs (screenshots from the Paramics model as provided in the Traffic and Transport Report) show no detrimental impacts on the M1 ramps for 2024 and 2031 and has been deemed acceptable.

10.3.7 Item 17f - Triggers for External Works

Issue

Review vehicle per day and timing triggers for external works.

Study findings

According to traffic modelling undertaken, upgrades to the Worongary North interchange will need to be operational by 2022. This was due to a predicted 'failure' occurring in the AM peak period due to vehicles leaving the nearby residential catchments in the morning (including PVE), and accessing the western roundabout at the Worongary North interchange. Failure was defined as the queue extending back from the roundabout on Hinkler Drive to PVE's southern access intersection.

Beyond 2022, the traffic modelling suggested that additional improvements to the surrounding road network are required by 2031 in order to return the traffic network to 2031 base scenario operating conditions. The majority of network upgrades proposed to achieve this were at intersections so as to optimise the capacity of the intersections and for the M1 ramps to cater for vehicles travelling to/from the proposed PVE development. Intersection upgrades were proposed at Exit 73, Exit 75 and Exit 77 in 2031.

GHD response

The timing triggers for external works up to 2031, based on the adopted 'failure' criteria, appear to be acceptable. However, it should be noted that no criteria have been provided which considers the link capacity of either the local or State-controlled road network.
Vehicle per day projections have not been used as a timing trigger. No specific timing has been identified for the upgrading of the development access intersections from priority to signals.

10.3.8 Item 17g – Scheme Parking Provisions

Issue
Review the findings of the Traffic Impact Assessment Report (December 2010) and subsequent applicant response (July 2014) against the requirements of the Car Parking, Access and Integration Code of the 2003 planning scheme and the draft planning scheme.

GHD response
Chapter 4 Car Parking, Access and Integration Code of the Gold Coast Planning Scheme 2003 specifically relates to the requirements and standards for car parking, building access design, internal circulation, etc. There is no relevant requirement in the Code against which the findings of the Traffic and Transport Report can be assessed, with the exception of the parking provision which has been addressed in Item 17h.

10.3.9 Item 17h – Parking Rates in the PVE Development Code

Issue
Review the appropriateness of car parking rates and levels of assessment for land uses in the PVE code, when compared to the 2003 planning scheme and draft planning scheme and any other relevant provision.

Study findings
Car parking rates proposed in the PVE Development Code only differ from the Gold Coast Planning Scheme 2003 and draft City Plan 2015 in relation to the Code or Impact Assessable: Precinct 4 Village Centre component of the PVE Development Code. The proposed minimum car parking rates as per AS71 are as follows:

- For all retail uses (when in a mixed use format) the rate shall be one space per 25m² of GFA, or part thereof.
- For office use (when in a mixed use format; shall be one space per 40m² of GFA, or part thereof.
- For residential apartment use (when in a mixed use format) shall be as follows:
  - One bed = one car park
  - Two beds = one car park
  - Three beds or greater = 1.5 car parks
  - Visitors = Provided on street.

These rates reflect the preferred development form that is consistent with the relevant DEOs relating to transport. In this regard, the PVE Development Code proposes that the type of development anticipated by the provisions of the Code comprises an urban form that reduces the need to travel and minimises the length of trips as well as to ensure that land use patterns support planned transport infrastructure.

GHD response
Chapter 4 Car Parking, Access and Transport Integration of the Gold Coast Planning Scheme 2003 and Chapter 9.4.11 Transport Code of the draft City Plan 2015 provide car parking rates for a range of development types. The parking rates relevant to the PVE Development Code as
sourced from the *Gold Coast Planning Scheme 2003* and the draft City Plan 2015 are shown in Table 13 and Table 14, respectively.

A comparison of the parking rates proposed for Precinct 4 in the PVE Development Code against those provided in the *Gold Coast Planning Scheme 2003* and the draft City Plan 2015 has been conducted and indicates the following:

- Proposed parking provision for retail uses does not meet the minimum rates outlined in the *Gold Coast Planning Scheme 2003* and the draft City Plan 2015.
- Proposed parking provision for office uses does not meet the minimum rates outlined in the *Gold Coast Planning Scheme 2003* and the draft City Plan 2015.
- Proposed parking provision for residential apartments does not meet the minimum rates outlined in the *Gold Coast Planning Scheme 2003*. The proposed parking provision is consistent with the minimum rates for point (a) and (b) as defined for 'multiple dwelling' in the draft City Plan 2015. The draft City Plan 2015 does not specify rates for units with three or more bedrooms. As such, a comparative assessment of the relevant PVE Development Code against the draft City Plan 2015 for this development type cannot be undertaken.

In summary, the rates proposed for Precinct 4 in the PVE Development Code generally do not meet minimum parking provisions in the *Gold Coast Planning Scheme 2003* or the draft City Plan 2015. Should the assumptions on public transport demand or shared use prove to be overstated, the risk of significant parking issues as a result of the reduced requirement for off-street parking proposed by the PVE Development Code may be acute. In this regard the proposed parking rates detailed within the PVE Development Code are considered unacceptable and this is reflected in a condition recommended for the Minister to attach to any approval granted to the current application. Notwithstanding, provision exists for an applicant to request a reduced number of off-street parking spaces in any subsequent development application where the supporting information is able to demonstrate that the performance criteria in the planning scheme can be satisfied with a reduced number of parking spaces provided.

**Table 13 Relevant Gold Coast Planning Scheme 2003 car parking rates**

| RETAIL* |  
|---|---|
| Café | One space per 15m$^2$ of Gross Floor Area (GFA) (including any outdoor dining areas) |
| Convenience Shop | One space per 15m$^2$ of GFA |
| Restaurant | One space per 15m$^2$ of GFA (including any outdoor dining areas) |
| Shop | One space per 15m$^2$ of GFA |
| Take-Away Food Premises | One space per 15m$^2$ of GFA |

| OFFICE |  
|---|---|
| Office | One space per 33m$^2$ of GFA |

| RESIDENTIAL APARTMENT |  
|---|---|
| Apartments | a) for developments with up to 20 apartments, one space per one bedroom apartment, and 2 spaces per 2 bedrooms and larger apartments, plus one (1) space per four apartments for visitor parking.  

b) for developments with more than 20 apartments, requirements for first 20 apartments as in a) plus, one space per apartment and one space per 10 apartments for visitor parking for subsequent units.  

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c) For developments in excess of 20 apartments, the units with 2, 3 or 4 bedrooms shall be considered first in the determination of total parking spaces.

Source: Gold Coast Planning Scheme 2003

Note:
* The Planning Scheme does not provide a specific parking rate for 'retail' uses. As such, a range of relevant parking rates have been sourced to provide a comprehensive view of rates for the types of developments which may be proposed.

### Table 14 Relevant draft City Plan 2015 car parking rates

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail*</td>
<td></td>
</tr>
<tr>
<td>Food and drink outlet</td>
<td>One space per 20m$^2$ of Total use Area (TUA), plus queuing area for 10 vehicles for any drive-thru facility from the collection point</td>
</tr>
<tr>
<td>Shop</td>
<td>One space per 20m$^2$ of TUA</td>
</tr>
<tr>
<td>Office</td>
<td>One space per 33m$^2$ of TUA</td>
</tr>
<tr>
<td>Residential Apartment</td>
<td></td>
</tr>
<tr>
<td>Multiple dwelling</td>
<td>a) one space per one (1) bedroom unit</td>
</tr>
<tr>
<td></td>
<td>b) one space per two (2) bedroom unit</td>
</tr>
<tr>
<td></td>
<td>c) two spaces plus one space per 10 units or dwellings for visitor car parking</td>
</tr>
</tbody>
</table>

Note: 50% of visitor parking to be provided in a single location

Source: draft City Plan 2015

Note:
* The Gold Coast Planning Scheme 2003 does not provide a specific parking rate for 'retail' uses. As such, a range of relevant parking rates have been sourced to provide a comprehensive view of rates for the types of developments which may be proposed.
Parking rates have been converted based on 'one' space to aid comparison against current Gold Coast Planning Scheme 2003 provisions.

### 10.4 Conditions of Approval Issued by Third Party Advice Agencies

#### 10.4.1 TMR Conditions of Approval

Conditions of approval were issued by TMR in relation to the traffic and transport aspects of the proposed PVE development as a concurrence agency, and later as a third party advice agency through the Department of State Development, Infrastructure and Planning in response to a request by the Minister for input into the call in assessment process.

These conditions included a number of matters directly relevant to traffic and transport, such as access to the State-controlled road network, the design of bus, pedestrian and cycle routes, and road network contributions. Additional conditions not relating to GHD’s commission (such as those pertaining to acoustic impacts, etc) were also included. A number of amendments are recommended with respect to the PVE development as identified in Table 15.

Conditions of approval proposed by the third party advice agencies are included in Appendix B of this document.

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Table 15  Proposed amendments to traffic and transport related conditions recommended by third party advice agency

<table>
<thead>
<tr>
<th>Relating to TMR Condition No.</th>
<th>Details</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Bus routes</td>
<td>&quot;(c) At the time subsequent applications are made for material change of use or lot reconfiguration development permits&quot;</td>
</tr>
<tr>
<td></td>
<td>Insert &quot;(c) The applicant is required to provide further details of the public bus transport network to support the public transport mode share assumptions for the development&quot;</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Pedestrian and cycle routes</td>
<td>&quot;(c) At the time subsequent applications are made for material change of use or lot reconfiguration development permits&quot;</td>
</tr>
<tr>
<td></td>
<td>Insert &quot;(c) The applicant is required to provide further details of the pathway network and cycle paths to support the active transport mode share assumptions for the development&quot;</td>
<td></td>
</tr>
</tbody>
</table>

10.4.2 Council Conditions of Approval

Additional draft conditions were proposed by Council in its assessment of the application, but were not finalised. Council’s conditions related to the PVE Development Code as well as to vehicular access to, and interactions with, Hinkler Drive/Council’s draft conditions of approval (as presented in the Preliminary Approval Pursuant to Section 242 to vary the planning scheme to allow development in accordance with the Pacific View Estate Development Code – Lot 28 on SP189559, Lot 10 on SP229681, and Lot 11 on SP229681 – Hinkler Drive Worongary and Elysium Road Carrara – Division 9 – PN291494/01/DA2) have been considered and those deemed both reasonable and relevant to the application have been incorporated into the recommendations proposed to the Minister.

10.5 Recommendations

In relation to traffic, it is recommended that the development be approved subject to the conditions described in Section 10.6.

10.6 Conditions of Approval

The traffic and transport conditions as proposed by the third party advice agency are recommended to be considered by the Minister and attached to any development approval for the PVE development, subject to the amendments identified in Table 15. Additional traffic and transport conditions are also proposed by GHD and are provided below.
<table>
<thead>
<tr>
<th>Condition No.</th>
<th>Condition</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Traffic and Transport</td>
<td>As stated</td>
</tr>
</tbody>
</table>

**PVE Development Code**

The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.

An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:

- Amend PC35 to include:
  - "The paths, crossings, roads, streets, lanes and intersections within and bounding the Pacific View Estate contribute to an internal and external road network that is safe, legible and permeable."
  - "The traffic impact of the proposed development does not have a negative impact on safety, amenity or capacity of the proposed and surrounding local road network."

- Amend AS35 to create 4 points as follows:
  - AS35.1- "The proposed paths, crossings roads, streets and lanes are to be generally located in accordance with the following: a) The movement corridors identified by Place Code Map 6 Movement Plan- Road Network and Place Code Map 7 Movement Plan- Pedestrian and Bicycles.
  - AS35.2- "The paths, roads, streets and lanes shall be designed and constructed in accordance with the approved Pacific View Estate typical road cross sections and Councils Land Development Guidelines where relevant."
  - AS35.3- "Short cut path connections are provided to minimise the actual walking distance between residential areas and access public transport."
  - AS35.4- "A Traffic Impact Assessment (TIA) report prepared by a suitably qualified transport and traffic professional in accordance with the requirements of Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development will be submitted as part of each submission for subsequent development applications for Material Change of Use of Reconfiguring a Lot for the Pacific View Estate."

- Insert new PC after PC35 stating the following:
  - "The traffic impact of the proposed development does not have a negative impact on safety, amenity or
## Traffic and Transport

capacity of the proposed and surrounding local road network.”

- Insert new AS under AS36 which reads as follows:
  - “A Traffic Impact Assessment (TIA) report prepared by a suitably qualified transport and traffic professional in accordance with the requirements of Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development will be submitted as part of each submission for subsequent development applications for Material Change of Use of Reconfiguring a Lot for the Pacific View Estate.”

- Amend AS38 to read as follows:
  - “A bicycle and pedestrian movement network is provided generally in accordance with the movement corridors identified on Place Code Map 7 Movement Plan (Pedestrian and Bicycles).”

- Amend PC39 to read as follows:
  - “In considering access to developments, the following outcomes must be achieved: a) sufficient sight distance is provided at the access point/s to standard, b) vehicle crossings are designed to standard, b) ramp gradients and grade transitions are provided to standard within sites to minimise scraping and bottoming out of vehicles.”
  - The relevant standards to which (a) sufficient sight distance is assessed, (b) vehicle crossings are designed, and (c) ramp gradients and grade transitions are provided have not been identified. It is recommended that the above condition as drafted by Council is inserted but amended so as to require the applicant to identify the relevant standards against which the assessment and designs are to be prepared.

- Amend AS39.1 to read:
  - “Areas traversable by vehicles within sites must be designed and constructed in accordance with the requirements of AS2890.1-2004 Parking Facilities Part 1: Off Street Car Parking.”

- Amend AS39.2 to read as follows:
  - “Vehicle crossings must be designed and constructed in accordance with the requirements of the most recent version of Council’s Land Development Guidelines current at the time of development.”

- Delete AS39.3.
- Delete AS39.5. – The content of this acceptable solution is covered by reference to the Australian Standard for
<table>
<thead>
<tr>
<th>Condition No.</th>
<th>Condition</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic and Transport</td>
<td>driveways in AS39.1.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Delete PC42, AS42.1, AS42.2 and AS42.3. These are now covered by PC35.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Amend AS71 to read as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ “Car parking is provided at the rates set out in the City of Gold Coast current planning scheme applicable at the time of lodging a development application. Where the applicant wishes to make provision for fewer car parking bays, the advice of an experienced professional traffic engineer is to be sought in order to demonstrate how lower parking rates can meet the key objectives and performance criteria of the relevant parking code current at the time of making the application.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Amend PC72 to read as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ “All car parking areas must be designed located and constructed to ensure safety of users and be consistent with the intended predominant village centre character and desired amenity for the precinct.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Amend AS72 to remove reference to point c) which reads as follows: “car parking areas are provided on-street.” Transport will consider on-street car parking on a case-by-case basis subject to consideration of safety, amenity and capacity.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Amend PC74 to read as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ “All development must be provided with adequate facilities for the loading and unloading of goods to meet the needs of the development including both general and refuse servicing requirements.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Delete AS74.2 – Consideration will be given to on street loading on a case-by-case basis. It is desirable that service areas be designed to accommodate loading and unloading onsite before giving consideration to the need for on-street loading.</td>
<td></td>
</tr>
<tr>
<td>Plan/Map Amendments</td>
<td>Amended Pacific View Estate Development Code Maps must be submitted prior to any subsequent development application being lodged over the site showing the following amendments:</td>
<td>As stated</td>
</tr>
<tr>
<td></td>
<td>‒ Show a road network on Map 6 Movement Plan Road Networks that references the road types from the proposed typical road typology names i.e. primary road, secondary road-major, secondary road-minor etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ Amend items 3 and 4 on the legend of Map 7 Movement Plan Pedestrians and Bicycles to remove references to bicycle awareness zones and shared bikes and vehicles. Designated on road bike lanes will be</td>
<td></td>
</tr>
</tbody>
</table>

As stated
Traffic and Transport

- Amended Pacific View Estate typical road, street and lane typologies and cross sections must be submitted showing and acknowledging the following amendments:
  - No direct lot access to primary or secondary major roads unless otherwise approved by the Chief Executive Officer.
  - Widen the median width on the primary road to a minimum of 6m to allow for two stage turns from the minor roads and storage of right turn vehicles from the major roads and any associated infrastructure requirements.
  - No on street car parking on the primary and secondary major roads.
  - Remove all references to use of the Bicycle Awareness Zone (BAZ) on the secondary road minor and inclusion of a designated 2m wide bicycle lane.
  - A minimum verge width of 4.5m on all roads, streets unless otherwise approved by Council.
  - Provision for 3m wide bus indents on all roads suitable for bus routes, spaced at approximately 400m intervals.
  - For pavement design and traffic volume purposes provide a separate residential access and collector street profile.
  - Rename the rear lane product for application to residential products only and not encouraging use by pedestrians and cyclists.
  - Submit a new rear lane typology for commercial land uses for consideration and endorsement by Council. The lane is to be designed around a maximum of 500 vehicles per day.
  - Remove all references to "varies subject to detailed design." Exceptions will be considered on a case by case basis.

Access Restriction and Design – Hinkler Drive

- Hinkler Drive access restrictions
  - At all times, for any subsequent application lodged under this preliminary approval, no direct lot access between the subject site (Lot 28 on SP189559 and Lot 10 on SP229681) and Hinkler Drive is permitted.
### Traffic and Transport

- Any subsequent application lodged and assessed against the Pacific View Estate Development Code will require the following to be provided to Council with respect to the proposed Hinkler Drive access intersections:
  - Provide a functional design layout of all proposed new intersections to Hinkler Drive with adequate dimensions to show compliance with Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections and any other relevant standard.
  - Submit a plan showing any land dedication required to achieve the intersections mentioned above.
  - Demonstrate sufficient approach and safe intersection sight distance at all intersections in accordance with the requirements of Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections.
  - Demonstrate adequate queue storage capacity in turn lanes and satisfactory intersection operation justified by a Sidra intersection analysis for ten year design horizon from anticipated year of opening.

Demonstrate that all intersections are capable of accommodating future signal infrastructure.

### Assessments

- With reference to the condition to amend AS36 under Condition 29, each updated TIA shall be based on recent traffic volumes and shall include, but will not be limited to the following information:
  - Assessment of the traffic impacts on the surrounding and adjoining road network (including the full extents of Delta Cove Drive and Nabarlek Drive).
  - Assessment of the traffic impacts anticipated in the ultimate design year.
  - Plans outlining proposed active and public transport use on site and how the trip discount rate is to be realised.
  - A review of the sufficiency of the number of access points with regards to emergency situations and consideration of emergency vehicle access to, from and within the site so that any portion of the site can be accessed in an appropriate timeframe.

- Updated TIAs are required as part of each submission for subsequent development applications for material change of use or reconfiguring of a lot for the Pacific View Estate.

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**As stated for Condition 29**
## 11. Consolidated Conditions of Approval

<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td><strong>PVE Development Code</strong></td>
<td>As stated</td>
</tr>
<tr>
<td></td>
<td>The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>All Maps:</strong> The Ecological Corridor is to be presented as a separate precinct from the Green Space. The current designation for Precinct 2 comprises both Green Space and Ecological Corridor and creates ambiguity around the intended use and purpose for the corridor.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Amend all Place Code Maps, Development Plans and the intent and purpose description to remove all references to infrastructure (apart from road crossings) located within the new precinct (Ecological Corridor Precinct), including but not limited to stormwater infrastructure, sewer infrastructure and recreational activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>All Maps:</strong> The Ecological Corridor Precinct is to be extended to protect values that are recognised as locally significant in order to achieve compliance with the Gold Coast Planning Scheme 2003. At a minimum:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Biodiversity Areas and Critical Corridors identified on the Nature Conservation – Biodiversity Areas Map are to be included within the Ecological Corridor Precinct;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- The full extent of the watercourse within Lot 28 defined by DNRM under the Water Act 2000 (and shown as attachment XX) must be included in the Ecological Corridor Precinct;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- An Ecological Corridor Precinct linkage will also be provided to habitat south of the site. This will be recommended by the Applicant in order to provide connection from the site to the loose urban corridors evident to the south of the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>New plans</strong> – New maps are prepared and included in the PVE Development Code – Ecological Corridor Values, Koala Habitat Values and Valued Vegetation generally consistent with the details provided in Attachments 1 – 3 of this approval.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Place Code Map 4 – Building Heights:</strong> The map is to be amended to stipulate that buildings will not be constructed within the Ecological Corridor Precinct.</td>
<td></td>
</tr>
</tbody>
</table>
**Condition No** | **Detail** | **Timing**
---|---|---

- **All Tables of Development**: All development within Ecological Corridor Precinct is to be prohibited, with the exception of necessary road crossings that comprise code assessable operational works.
- **Table of Development F: Operational Work** – Vegetation Clearing, add in the following to exempt development: ‘Vegetation clearing that is less than 3 m from the foundations of an existing building.’
- **Table 8.2.1 – For development applications assessed against the 2003 Planning Scheme** – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.2.1 – For development applications assessed against City Plan 2015** – the Nature Conservation Overlay Code and Vegetation Management Code are to be included as constraints codes.
- **Table 8.5.1 – For development applications assessed against the 2003 Planning Scheme** – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.5.1 – For development applications assessed against City Plan 2015** – the Nature Conservation Overlay Code and the Vegetation Management Code are to be included as constraints codes.
- **Table 8.6.1 – For development applications assessed against the 2003 Planning Scheme** – the Nature Conservation Code and the Natural Wetland Areas and Natural Waterways Code are to be included as constraints codes.
- **Table 8.6.1 – For development applications assessed against City Plan 2015** – the Nature Conservation Overlay Code and the Vegetation Management Code are to be included as constraints codes.
- **Section 10**: sub-headings are to be included to clearly define what relates to Self Assessable, Code Assessable or Impact Assessable development.
- **Remove PC5 and AS5 and replace with the following**:

<table>
<thead>
<tr>
<th>Nature Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PC (new)</strong></td>
</tr>
<tr>
<td>Significant species and their habitat identified through an ecological site assessment prepared in accordance with Council’s Guideline are protected.</td>
</tr>
<tr>
<td><strong>PC (new)</strong></td>
</tr>
<tr>
<td>Areas of mapped significant species habitat are protected or offset.</td>
</tr>
<tr>
<td><strong>AS (new)</strong></td>
</tr>
<tr>
<td>Development does not occur within areas shown on the Ecological Corridor Precinct map, with the exception of necessary road infrastructure and service infrastructure contained within the road corridor identified on concept plans.</td>
</tr>
</tbody>
</table>

**Nature Conservation**

**PC (new)**
Significant species and their habitat identified through an ecological site assessment prepared in accordance with Council’s Guideline are protected.

**PC (new)**
Areas of mapped significant species habitat are protected or offset.

**AS (new)**
Development does not occur within areas shown on the Ecological Corridor Precinct map, with the exception of necessary road infrastructure and service infrastructure contained within the road corridor identified on concept plans.

**AS (new)**
Development does not occur within areas of significant species habitat mapped by either the Council planning scheme in place at the time or
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC (new)</td>
<td>Assessable koala feed and shelter trees (non-juvenile koala habitat trees as defined in the South East Queensland Koala Conservation State Planning Regulatory Provisions) are protected or offset when they are located in recognised koala habitat identified on the attached map.</td>
</tr>
<tr>
<td></td>
<td>through a site specific ecological assessment. Where development is necessary within these areas, offsets are to be provided in accordance with the Queensland Environmental Offsets Framework under the Environmental Offsets Act 2014 and any Council Environmental Offsets Policy in place at the time.</td>
</tr>
<tr>
<td></td>
<td>AS (new) Removal of assessable koala feed and shelter trees does not occur when they are located in koala habitat as identified on the Koala Habitat Values map OR The applicant demonstrates that all attempts have been made to avoid and minimise damage to koala feed and shelter trees within areas shown by the attached map AND Removal of assessable koala feed and shelter trees is offset in accordance with any Council Environmental Offset Policy in place at the time.</td>
</tr>
</tbody>
</table>
|              | Linkages between vegetation on adjoining land and the Ecological Corridor Precinct are to be provided with a minimum width of 50 metres at the approximate locations shown on Place Code – Map 8 – Open Space Plan. AND Vegetation within linkages is to be protected, with the
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Buffers are provided that protect the long term viability of protected fauna habitat within the site.</td>
<td></td>
</tr>
</tbody>
</table>

- Remove PC6 and AS6 and replace with the following:

**Vegetation Management**

<table>
<thead>
<tr>
<th>PC (new)</th>
<th>Vegetation is protected or offset when it is identified as an endangered regional ecosystem.</th>
<th>AS (new)</th>
<th>Vegetation clearing of native vegetation or other disturbance activities are not undertaken within endangered regional ecosystems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS (new)</td>
<td>Buffers of at least 20 m wide are provided between the development and retained habitat identified through an ecological site assessment or protected within the Ecological Corridor Precinct</td>
<td></td>
<td>OR</td>
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<td></td>
<td>The applicant demonstrates that all attempts have been made to avoid and minimise damage to endangered regional ecosystems</td>
<td></td>
<td>AND</td>
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<td></td>
<td>Any removal of such vegetation is offset in</td>
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<tr>
<td>Condition No</td>
<td>Detail</td>
<td>Timing</td>
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<tr>
<td>PC (new)</td>
<td>Vegetation is protected or offset when it is identified as high or medium value shown on the Valued Vegetation map.</td>
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<tr>
<td>AS (new)</td>
<td>Disturbance activities are not undertaken within high or medium value vegetation shown on the attached map.</td>
<td></td>
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<tr>
<td>OR</td>
<td>The applicant demonstrates that all attempts have been made to avoid and minimise damage to vegetation as stated above</td>
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<tr>
<td>AND</td>
<td>Any removal of such vegetation is offset in accordance with any Council Environmental Offsets Policy in place at the time.</td>
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<tr>
<td>PC (new)</td>
<td>Buffers are provided that protect the long-term viability of protected vegetation within the site.</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>AS (new)</td>
<td>Buffers of at least 20 m wide are provided between the development and retained vegetation that is an endangered regional ecosystem and/or high or medium value vegetation as identified on the attached map.</td>
<td>Ongoing</td>
<td></td>
</tr>
</tbody>
</table>

**New Development**
- Subsequent material change of use, reconfiguring a lot and operational works applications must address the provisions of the PVE Development Code.

**Ecological Corridor Precinct and Green Space Precincts**
- The Ecological Corridor Precinct is to be 100 m at a minimum and the Green Space Precinct is to be 20 m wide
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>at a minimum.</td>
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<td></td>
<td>- A total maximum of 10 ha of vegetation clearing can occur within the Green Space Precinct.</td>
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<td></td>
<td>- A minimum width of 30 metres shall be retained between the edge of the Ecological Corridor Precinct and the outer bank of the defined watercourse.</td>
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<tr>
<td>4</td>
<td><strong>Offsets</strong></td>
<td>Ongoing</td>
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<td></td>
<td>- The State of Queensland will not bear any of the costs associated with the lodging and registration of the offset legally securing mechanism.</td>
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<td></td>
<td>- Prior to any vegetation clearing, an offset for the significant residual impact to any Matters of State Environmental Significance and Matters of Local Environmental Significance is to be delivered commensurate with each stage of development pursuant to the requirements of the Queensland Environmental Offsets Framework under the <em>Environmental Offsets Act 2014</em> as well as the latest release of the equivalent policy to the SC6.8 draft City Plan 2015 Policy - Environmental Offsets available at the time of this decision.</td>
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<tr>
<td>5</td>
<td><strong>Transfer of Ecological Corridor Precinct and Green Space Precinct to the Crown</strong></td>
<td>As stated</td>
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<tr>
<td></td>
<td>- The applicant must transfer to the Crown the areas of public open space, including the Green Space and Ecological Corridor Precincts and any linkages commensurate with each stage of development.</td>
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<td></td>
<td>- The land identified must be transferred to the Crown as reserve for 'Public Open Space' with the Council of the City of Gold Coast as Trustee.</td>
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<td>- The applicant must lodge the transfer documents with Council.</td>
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<td></td>
<td>- The transfer of the land to Council must be at no cost to Council.</td>
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<td></td>
<td>- Transfer documents are to be lodged with Council at the same time as lodgement of the formal plan of survey for subdivision, or if no plan of survey for subdivision is required, prior to the commencement of the use.</td>
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<tr>
<td>6</td>
<td><strong>Development Applications for Vegetation Clearing</strong></td>
<td>As stated</td>
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<tr>
<td></td>
<td>- Prior to the commencement of any vegetation clearing, a development application for operational work (vegetation works) must be made to Council for any works proposing clearing or damage to any protected vegetation. The application must be accompanied by a copy of each of the following plans (and, where a plan has already been approved, that plan must be accompanied by the corresponding approval documentation (i.e. decision notice or letter of approval)):</td>
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<td></td>
<td>- The approved material change of use / reconfiguring a lot layout plan</td>
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<td>- The approved bushfire management plan</td>
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<td></td>
<td>- Plans that clearly identify which vegetation is proposed to be removed and which vegetation is proposed to be retained. Tree retention is to be maximised, particularly within the Larger Lot Residential Precinct.</td>
<td></td>
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</tbody>
</table>
**Condition No** | **Detail** | **Timing**
---|---|---
- | A fauna management plan, as required by conditions of this approval | 
- | A vegetation management plan, as required by conditions of the approval | 
- | A sediment and erosion control and construction management plan, as required by conditions of this approval | 
- | The vegetation clearing on the land must not cause land degradation in retained endangered regional ecosystem. | 

**Vegetation Management Plan**

- The applicant must submit a vegetation management plan (VMP) with each material change of use or lot reconfiguration application in which native woody vegetation will require removal. Clearing of protected vegetation can only occur once a development permit for operational work (vegetation clearing) is secured. 
- "Protected Vegetation" is defined as vegetation that is: equal to, or in excess of, 40 centimetres in girth (circumference) measured at 1.3 metres above average ground level irrespective of the domain, or equal to, or in excess of, four metres in height.
- The VMP must be prepared by a suitably qualified and experienced professional and include the following information:
  - Particulars relating to the land, including the real property description and street address
  - A site analysis plan
  - Scale and north point, and
  - Location of existing and approved buildings, structures, services and roads.
  - Location of the protected vegetation on the site and adjacent land, indicating which vegetation is proposed to be retained, relocated, removed or damaged
  - Particulars of vegetation type, including species name, common name, height and girth, radial distance of canopy and root zone
  - The location (to be accurately mapped) of any vegetation on and adjacent to the site that is:
    - "protected vegetation" under the *Nature Conservation Act 1992* (Qld)
    - A "listed threatened species" under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or
    - "remnant vegetation" mapped under the *Vegetation Management Act 1999* (Qld).
  - A statement of the reasons why the damage is necessary and any relevant factors associated with the purpose of the proposed damage
<table>
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<tr>
<th>Condition No</th>
<th>Detail</th>
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</table>
| 8            | - Details of how fauna will be managed during vegetation clearing  
|              | - Details of location, size and species of replacement vegetation to compensate for the loss of damaged vegetation  
|              | - Details of strategies and methods to be implemented to protect vegetation to be retained, relocated or pruned from damage, and how site works will be managed to ensure the same  
|              | - Methods for the reuse of felled vegetation from the subject site  
|              | - Disposal methods for remaining debris after the above methods have been employed  
|              | - Details of any proposed rehabilitation to be undertaken  
|              | - Treatment of surfaces adjacent to any vegetation to be retained on site (e.g. grassing, bitumen paving and the like), and  
|              | - For any vegetation to be retained adjacent to hardstand areas or structures, an appraisal prepared by a suitably qualified horticulturalist/arborist of the health and vigour of the subject vegetation including stage of growth, predicted gross morphology, crown framework and extent of root system.  

**Fauna Management**
- A fauna management plan is to be prepared for each operational works vegetation clearing development application, that includes the following information, and must be prepared by a suitably qualified and experienced professional:
  - Description of the development proposal and clearing works  
  - Site description including plans and supporting text providing a description of vegetation communities and fauna habitat values and connections to be cleared and those to be retained.  
  - Fauna known to occur at the site (based on the outcomes of the ecological assessment and any additional site inspections) and a brief habitat description/identification of locations that the species are known to occur.  
  - Fauna likely to occur at the site (based on outcomes on the ecological assessment and database searches such as WildNet) and a brief habitat description/identification of locations that the species are likely to occur.  
  - Identification of significant fauna species known and likely to occur at the site.  
  - Identification of known and potential habitat trees (displaying values such as hollows, fissures, nests, drays, arboreal termitaria used as nests, roosts etc.).  
  - Identification of general fauna habitat (including weed species that may offer fauna habitat, native vegetation,
rivers, creeks, ground resources such as boulders and hollow logs, and including any building materials and/or machinery, etc.).

- Details for demarking areas that are of high habitat value to be disturbed (e.g. habitat trees, disturbance in sensitive areas etc.).

- Information on how the clearing will be undertaken including:
  - Whether the clearing will be undertaken in stages
  - Special considerations for clearing (e.g. juvenile vegetation first)
  - Time periods between clearing of staged areas (where applicable) or immature vegetation
  - Direction of clearing, progressively to allow for fauna movement away from the disturbance points
  - Staging of infrastructure (for example nest boxes, installation of fauna friendly crossings etc. taking into consideration temporary movement corridors based on the impacts of construction works), and
  - Temporary methods required (e.g. barrier fencing to prevent fauna fleeing to roads).

- Information on how trees are to be inspected for denning or nesting animals including constraints for inspecting trees (to provide acceptable alternative methods).
- Considerations relating to time periods for when fauna is to be removed/flushed prior to clearing.
- Methods for moving denning or nesting animals and/or capture or flushing of ground dwelling animals.
- Summary of removal and relocation methods for each faunal group (including observed species and species likely to occur in the area to be disturbed). Faunal groups that have specialist habitats that differ from the general faunal group (for example ground dwelling birds) further descriptions are required.
- Details of special equipment required (such as chainsaws, cameras etc).
- Identification of general locations that wildlife will be relocated/translocated to if required (based on habitat requirements).
- Information on how the animal is to be protected once relocated.
- Methods to euthanise injured animals as well as contact details (including telephone number) and location of the closest vets (and others close by).
- Detailed methods for the translocation and protection of significant fauna species known and likely to occur at the site.
- Special considerations for nesting times.
- If the fauna management plan proposes the capture and release and/or management of any fauna that is
### Nest Box Management Strategy

- A nest box management strategy for Pacific View Estate that includes the following information must be prepared by a suitably qualified and experienced professional and submitted at the time application is made for operational works involving vegetation clearing, and must include recommendations from standard industry practises:
  - Description of target species and specific habitat/hollow requirements (i.e. greater glider)
  - Literature review on nest box use and nest box requirements for each target species
  - Description of current hollow-bearing tree densities
  - Types of hollows present (i.e. trunk/branch fissures, large >30 cm, small etc.)
  - Number of hollows available for the use of target species
  - Number of nest boxes required to fulfil target species habitat requirements
  - Details of nest box design and dimensions for target species including but not limited to:
    - Size
    - Drainage features
    - Depths, and
    - Hollow configuration, diameter, angle of opening.
  - Details of nest boxes placement onsite, including but not limited to:
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
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<tbody>
<tr>
<td>• Nest boxes are not to be placed within 30 m of each other or 30 m of an existing hollow bearing tree. Where this is not possible, the location of each nest box is to be determined by the approved spotter catcher onsite.</td>
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<tr>
<td>• Nest boxes must not be located within the Green Space Buffer and at least 20 m away from forest edges.</td>
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<td>• Nest boxes must not be located within 5 metres of any recreation trails (bush trails).</td>
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<td>• Nest box positioning on tree, height, aspect, and placement to deter pest species.</td>
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<tr>
<td>• Monitoring and management strategies and regimes, including the removal of pest species.</td>
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<tr>
<td>• Details of how nest boxes are to be attached to trees. Boxes are to be attached to trees in a manner which protects the receiving tree and ensures the longevity of each nest box i.e. use of plastic coated wire configured to expand, no nailing etc.</td>
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</tr>
<tr>
<td>• The applicant must monitor and maintain all nest boxes onsite for a minimum period of 7 years. The applicant must engage a suitably qualified and experienced professional to perform all monitoring and maintenance duties. The applicant must submit to Council annual nest box monitoring and maintenance reports including the following information:</td>
<td></td>
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<tr>
<td>• Identification of species utilising nest boxes.</td>
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<td>• Approximate rates of occupancy of nest boxes including rates for each species.</td>
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<tr>
<td>• Rate of occupancy of pest or generalist species.</td>
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<tr>
<td>• Actions taken to deter pest or generalist species.</td>
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<tr>
<td>• Details of removal and replacement of nest boxes where failed, and documentation and data analysis of patterns in use.</td>
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</table>

**Structures to Allow Fauna Movement**

- The development is to incorporate viable native fauna movement paths. All bridges, roads (including bushfire trails) and infrastructure within the Ecological Corridor and Green Space Precinct must be designed and constructed to include fauna friendly crossings. Provisions for fauna movement, including, but not limited to, the design and construction of the fauna crossings must be in accordance with the Department of Transport and Main Roads’ *Fauna Sensitive Road Design Manual Volume 2: Preferred Practices*, dated June 2010, and must ensure the following:
  - Minimum fauna culvert sizes to suit full suite of species onsite.
<table>
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<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
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<tbody>
<tr>
<td>11</td>
<td><strong>Fauna Fencing</strong>&lt;br&gt;• A fauna fencing strategy must be prepared by a suitably qualified and experienced professional for all bushland areas including both the Green Space Precinct and Ecological Corridor Precinct. All fencing designs and principles must be in accordance with the Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; and the Queensland Government Koala-Sensitive Design Guidelines. The fauna fencing strategy must nominate where fencing is appropriate, include specific fencing details, dimension and locations and include provisions for the management of specific species. The fauna fencing strategy must be submitted to Council for assessment with any future development application relevant to:&lt;br&gt;- The location and construction of the road or fauna crossing, and&lt;br&gt;- Where development occurs directly adjacent the Green Space Corridor or Ecological Corridor precincts.</td>
<td>As stated</td>
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<tr>
<td>12</td>
<td><strong>Site Rehabilitation</strong>&lt;br&gt;• All degraded areas within the Green Space Precinct and Ecological Corridor Precinct are to be rehabilitated. A rehabilitation management plan must be prepared for each stage of Pacific View Estate that incorporates the Ecological Corridor and Green Space precincts to outline rehabilitation proposed. The rehabilitation management plans must be prepared in accordance with Appendix 1 (Guideline for the preparation of a Rehabilitation Plan) of Council’s Open Space Management Guidelines: Guideline for the preparation of Reports and Plans associated with the dedication of Public Open Space (November 2007: Version 1) (or the most current version of this at the time of preparation). The rehabilitation management plan must contain the following information (as applicable):</td>
<td>As stated</td>
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<tr>
<td>Condition No</td>
<td>Detail</td>
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<tr>
<td></td>
<td>Rehabilitation details of species specific habitat</td>
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<td></td>
<td>Incorporation of Glossy-Black Cockatoo feed tree species</td>
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<td></td>
<td>Details of proposed rehabilitation works including proposed species and planting palette</td>
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<td>Planting modules to demonstrate planting densities</td>
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<td>All weeding works required, including a full list of known weeds on site and how each weed can be adequately managed</td>
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<td></td>
<td>The required ongoing management/maintenance regimes, including:</td>
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<td>• Plans indicating maintenance areas/zones</td>
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<td>• Schedules of works including frequency and tasks</td>
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<td>• Allocation of labour and resources to perform tasks</td>
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<td>• Nomination of key performance indicators/criteria for monitoring purposes (e.g. all revegetation areas minimum 90% weed free, etc.)</td>
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<td></td>
<td>• Time allocated to perform various tasks (e.g. top up mulch, pruning, topdressing, etc.)</td>
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<td></td>
<td>• Defects liability for materials such as replacement of dead plant species of equivalent species and vigour</td>
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<td></td>
<td>• Coordination of services such as irrigation repair or civil infrastructure maintenance (such as stormwater) that may impact on the landscape establishment and maintenance periods</td>
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<td></td>
<td>• Management of bushfire hazard (where approved)</td>
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<td></td>
<td>• Management of domestic farm/feral animals (if appropriate)</td>
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<td></td>
<td>• Management of public access and/or restricted access areas</td>
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<td></td>
<td>• Tree management procedures</td>
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<td>• Management and maintenance regimes for sediment and erosion control devices, and irrigation</td>
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<td></td>
<td>• Proposed future need for infrastructure, including public facilities, and</td>
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<td></td>
<td>• Management and control of declared plants and recognised environmental weeds.</td>
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<td></td>
<td>• A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the rehabilitation management plan.</td>
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</tbody>
</table>

Matters or things against which the document must be assessed
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Economics</th>
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<tbody>
<tr>
<td></td>
<td>The planning scheme's Nature Conservation Constraint Code;</td>
<td>PVE Development Code</td>
</tr>
<tr>
<td></td>
<td>The planning scheme's Natural Wetland Areas and Natural Waterways Constraint Code; and</td>
<td>The following amendments shall be made to the PVE Development Code prior to any subsequent development application being ged over the site.</td>
</tr>
<tr>
<td></td>
<td>Appendix 1 (Guideline for the preparation of a Rehabilitation Plan) of Council's Open Space Management Guidelines: Guideline for the preparation of Reports and Plans associated with the dedication of Public Open Space (November 2007: Version 1); and</td>
<td>An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments.</td>
</tr>
<tr>
<td></td>
<td>South East Queensland Ecological Restoration Framework.</td>
<td>Village Centre-Intent</td>
</tr>
<tr>
<td></td>
<td>Compliance assessor: Council for the City of Gold Coast</td>
<td>Amend section 5.4.5 of the PVE Development Code to read:</td>
</tr>
<tr>
<td></td>
<td><strong>When the request for compliance assessment must be made</strong></td>
<td>A key objective of this precinct is to ensure that as a mixed use Village Centre it does not threaten the viability of any activity centre within the City's activity centre hierarchy and must be consistent with the objectives of this precinct.</td>
</tr>
</tbody>
</table>

- A copy of the compliance certificate for the rehabilitation management plan must be provided with any future operational work development applications.
- The rehabilitation, management and maintenance measures and monitoring required by the approved rehabilitation management plan and any conditions imposed on the compliance certificate must be complied with.

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<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Village Centre-Maximum Gross Floor Area</strong></td>
<td>Amend AS68.1 of the PVE Development Code to read:</td>
</tr>
<tr>
<td></td>
<td><strong>If less than 1,500 dwellings are constructed within PVE:</strong></td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of retail floor space within the Village Centre does not exceed 3,000m².</td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of office floor space within the Village Centre does not exceed 1,000m².</td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 1,500m².</td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 7,500m².</td>
</tr>
<tr>
<td></td>
<td><strong>If there are greater than 1,500 dwellings are constructed within PVE:</strong></td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of retail floor space within the Village Centre does not exceed 5,000m².</td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of office floor space within the Village Centre does not exceed 2,000m².</td>
</tr>
<tr>
<td></td>
<td>• The maximum gross floor area of entertainment floor space within the Village Centre does not exceed 3,000m².</td>
</tr>
<tr>
<td></td>
<td>• AS 68.2</td>
</tr>
<tr>
<td></td>
<td>The maximum gross floor area of non-residential floor space within the Village Centre (including retail, office and entertainment floor space) does not exceed 15,000m².</td>
</tr>
<tr>
<td><strong>Village Centre-Maximum Tenancy Sizes</strong></td>
<td>Insert new AS68.3 into the PVE Development Code:</td>
</tr>
<tr>
<td></td>
<td><strong>If less than 1,500 dwellings are constructed within PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (Precinct 4) is limited to 1,500m² GFA.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>If more than 1,500 dwellings are constructed within the PVE, the maximum individual tenancy size of any shop or showroom within the Village Centre (precinct 4) is limited to 3,000m² GFA.</strong></td>
</tr>
<tr>
<td><strong>Neighbourhood Centres-Performance criteria (Precinct 5)</strong></td>
<td>Amend PC 76 of the PVE Development Code to read:</td>
</tr>
<tr>
<td></td>
<td>A mixed use neighbourhood centre in Precinct 5 must not threaten the viability of any activity centre within the City’s activity centre hierarchy and must be consistent with the objectives of this precinct.</td>
</tr>
<tr>
<td><strong>Neighbourhood Centres – Performance criteria (Precinct 6)</strong></td>
<td>Amend PC 80 of the PVE Development Code to read:</td>
</tr>
<tr>
<td>Condition No</td>
<td>Detail</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>A mixed use neighbourhood centre in Precinct 6 must not threaten the viability of any activity centre within the City's activity centre hierarchy and must be consistent with the objectives of this precinct.</td>
</tr>
<tr>
<td></td>
<td><strong>Neighbourhood Centres – Maximum Gross Floor Area</strong></td>
</tr>
<tr>
<td></td>
<td>Amend AS76.1 of the PVE Development Code to read:</td>
</tr>
<tr>
<td></td>
<td><em>One mixed use neighbourhood centre is provided in Precinct 5, with a maximum GFA of 1,500m².</em> Delete AS76.2</td>
</tr>
<tr>
<td></td>
<td>Amend AS80.1 of the PVE Development Code to read:</td>
</tr>
<tr>
<td></td>
<td><em>One mixed use neighbourhood centre is provided in Precinct 6, with a maximum GFA of 1,500m².</em> Delete AS80.2 and AS80.3</td>
</tr>
<tr>
<td></td>
<td><strong>Neighbourhood Centres – Maximum Tenancy Sizes</strong></td>
</tr>
<tr>
<td></td>
<td>Insert new AS76.2 into the PVE Development Code</td>
</tr>
<tr>
<td></td>
<td><em>The maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 5 is limited to a maximum GFA of 750m².</em> Create new AS80.2 to read:*</td>
</tr>
<tr>
<td></td>
<td><em>The maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 6 is limited to a maximum GFA of 750m².</em></td>
</tr>
<tr>
<td></td>
<td><strong>Land Use Definitions</strong></td>
</tr>
<tr>
<td></td>
<td>Inclusion of a definition for retail floor space in the PVE Development Code to include:</td>
</tr>
<tr>
<td></td>
<td><em>Market</em></td>
</tr>
<tr>
<td></td>
<td><em>Shop</em></td>
</tr>
<tr>
<td></td>
<td><em>Garden centre</em></td>
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<tr>
<td></td>
<td><em>Food and drink outlet</em>                                                                dat</td>
</tr>
<tr>
<td></td>
<td><em>Service station, and</em></td>
</tr>
<tr>
<td></td>
<td><em>Showroom.</em></td>
</tr>
<tr>
<td></td>
<td>Inclusion of a definition for office floor space in the PVE Development Code to include:</td>
</tr>
<tr>
<td></td>
<td><em>Sales office, and</em></td>
</tr>
<tr>
<td></td>
<td><em>Office.</em></td>
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<tr>
<td></td>
<td>Inclusion of a definition for entertainment floor space in the PVE Development Code to include:</td>
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<td>Condition No</td>
<td>Detail</td>
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</tr>
<tr>
<td></td>
<td>Bar</td>
</tr>
<tr>
<td></td>
<td>Food and Drink Outlet</td>
</tr>
<tr>
<td></td>
<td>Club</td>
</tr>
<tr>
<td></td>
<td>Function facility</td>
</tr>
<tr>
<td></td>
<td>Hotel</td>
</tr>
<tr>
<td></td>
<td>Indoor sport and recreation facility</td>
</tr>
<tr>
<td></td>
<td>Tourist attraction</td>
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<td></td>
<td>Tourist park</td>
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<tr>
<td></td>
<td>Nightclub, and</td>
</tr>
<tr>
<td></td>
<td>Theatre</td>
</tr>
</tbody>
</table>

Inclusion of a definition for Shopping Centre in the PVE Development Code as follows:

Anything premises used, or intended to be used, primarily for shops, where the increased GFA of Shopping Centre Development results in a total combined GFA of Shopping Centre Development (in both existing and proposed buildings) exceeding 2,000m² GFA.

Table of Development A: Material Change of Use: Precinct 3 – Industry

Amend so that:

- A Garden Centre (<150m² GFA) is a self-assessable use.
- A Garden Centre (>150m² but <1,000m² GFA) is a code assessable use.
- A Garden Centre (>1,000m² GFA) is an impact assessable use.
- An office that is >100m² and ancillary to another use is a code assessable use.
- An office that is not ancillary to another use is an impact assessable use.
- A Showroom (<300m² GFA) is a self-assessable use.
- A Showroom (>300m² but ≤1,000m² GFA) is a code assessable use.

A Showroom (>1,000m² GFA) is an impact assessable use.

Table of Development A: Material Change of Use: Precinct 4 – Village Centre

Amend so that:

- A child-care centre is a code assessable use
- Only a shop ≤1,500m² GFA where there is no building works is self-assessable
- A shop >1,500m² GFA where no building works are necessary are code assessable
Condition No | Detail |
--- | --- |
• A showroom ≤300m² GFA where there is no building works is self-assessable.
• A showroom >300m² where there is no building works is code assessable.

**Table of Development A: Material Change of Use: Precinct 5 – Medium Density Residential**

Amend so that the maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 5 is limited to a maximum GFA of 750m²:

Amend wording in column relating to code assessable development to clarify that only one single neighbourhood centre with a GFA of 1,500m² can occur as code assessable, and that the nominated uses within the neighbourhood centre defined as code assessable will become impact assessable where located outside of the single neighbourhood centre.

**Table of Development A: Material Change of Use: Precinct 6 – Low Density Residential**

Amend so that the maximum individual tenancy size within a mixed use neighbourhood centre located in Precinct 6 is limited to a maximum GFA of 750m²:

**Geotechnical Engineering**

14. Prior to lodging any subsequent development application over Lot 28 on SP189559, a geotechnical and slope stability assessment report prepared by a suitably qualified registered professional engineer appropriately experienced in slope stability matters must be submitted to Council that:

- Assesses the stability of the land and associated risk of slope instability for all of Lot 28 with due consideration of final developed landform.
- Provides recommendations on development constraints and construction and remediation measures to achieve a “low” or “very low” slope instability hazard rating for the proposed development site, and
- Includes certification by a Registered Professional Engineer Queensland (RPEQ) specialising in geotechnical engineering and slope stability that the site will achieve a slope instability hazard rating (as defined in the Australian Geomechanics Society “Practice Note Guidelines for Landslide Risk Management”, Australian Geomechanics Vol. 42 No 1 March 2007) of “low” or “very low” for long-term conditions, and that the proposed development will not adversely affect the stability and integrity of any adjacent properties, buildings and infrastructure.

*Note: Council may commission an independent assessment of the report prepared in compliance with this condition. In accordance with council’s fee schedule the developer will be responsible for the cost of the independent technical review.*
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>• As part of any future development application for material change of use or reconfiguration of a lot on Lot 28 on SP189559, a report prepared by a suitably qualified person must be submitted to Council commensurate with the application and is to include:</td>
<td>As stated</td>
</tr>
<tr>
<td></td>
<td>  A copy of the report required to comply with condition 14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>  Factual and interpretative reports on detailed geotechnical investigations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>  Analyses of any slopes on a lot by lot basis in accordance with the Steep Slopes and Unsuitable Soils Code or the Landslide Hazard Overlay Code as appropriate, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>  Bulk earthworks drawings, certified by a RPEQ, which clearly shows that the developed landform associated with the relevant stage of Pacific View Estate and surrounding land complies with all recommendations of the report required to comply with Condition 14.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>• Any future applications for a development permit for operational works on Lot 28 on SP189559 shall comply with the recommendations of the geotechnical and slope stability assessment report submitted under conditions 14 and 15 above.</td>
<td>As stated</td>
</tr>
</tbody>
</table>

**Stormwater**

<table>
<thead>
<tr>
<th>PVE Development Code</th>
<th>As stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.</td>
<td></td>
</tr>
<tr>
<td>An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:</td>
<td></td>
</tr>
<tr>
<td>• The Ecological Corridor Precinct shown on Place Code – Map 3 – Precinct Plan (Land Use Intent) is to be extended to cover the full floodplain extent of the existing watercourse entering and leaving the site along the southern boundary of Lot 28 and Lot 10. Development is to be excluded from that waterway.</td>
<td></td>
</tr>
</tbody>
</table>

**No worsening of hydraulic conditions**

The development must be designed and constructed so as to result in:

• No increase in peak flow rates downstream from the site
• No increase in flood levels external to the site, and
• No increase in duration of inundation external to the site that could cause loss or damage.
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td><strong>Alteration of overland flow paths</strong>&lt;br&gt;Overland flow paths on the site must not be altered in a way that inhibits or alters the characteristics of existing overland flows on other properties or that creates an increase in flood damage on other properties.</td>
<td>On going</td>
</tr>
<tr>
<td>20</td>
<td><strong>Waterway crossings</strong>&lt;br&gt;All road crossings of the defined watercourse are in the form of bridges which maintain natural waterway morphology of bed and banks. All waterway crossings shall be in accordance with the Department of Transport and Main Roads' <em>Fauna Sensitive Road Design Manual Volume 2: Preferred Practices</em>, dated June 2010.</td>
<td>On going</td>
</tr>
<tr>
<td>21</td>
<td><strong>Hydraulic and stormwater management plan to be amended</strong>&lt;br&gt;The submitted hydraulic and stormwater management plan, being &quot;Pacific View Estate – Integrated Water Management Plan, Revision 2&quot; prepared by BMT WBM, must be amended to address the following issues: &lt;ul&gt;&lt;li&gt;Hydraulic and hydrologic analyses are to be carried out for all standard storm events up to and including the 100 year ARI storm.&lt;/li&gt;&lt;li&gt;Include a table with catchment/sub-catchment ID, catchment area, fraction imperviousness, average slope, time of concentration, length of the flow path, etc. for both pre and post development cases. Utilise appropriate fraction imperviousness of all catchment/sub-catchments based on development category in accordance with Table 4.05.1 of QUDM (2008).&lt;/li&gt;&lt;li&gt;Include pre and post developed topographic and roughness maps and model boundary conditions.&lt;/li&gt;&lt;li&gt;To be consistent with Council's recent hydrologic studies for the City's catchments, initial loss and continuing loss in the hydrologic model for 10 year ARI and greater storm events are to be 0mm and 0.5mm respectively.&lt;/li&gt;&lt;li&gt;Compare XP-RAFTS hydrologic model against peak flow rates estimated by Rational Method (QUDM (2008)). Adopt the most conservative estimates of the peak flow rates to design stormwater mitigation measures.&lt;/li&gt;&lt;li&gt;Demonstrate how the increase of peak stormwater runoff from the site due to its proposed development will be mitigated in case a local rainfall burst occurs in the lower part of the site (particularly downstream of electrical easement where no detention devices are proposed).&lt;/li&gt;&lt;li&gt;Assesses the rate of rise and time from commencement of rainfall to unacceptable flood hazard conditions in areas of public open space designed for public access, and demonstrate that adequate flood warning can be provided to effect evacuation and exclusion of public from such areas.&lt;/li&gt;&lt;li&gt;Utilise appropriate roughness values (0.08-0.10) for the existing bushland/forest and proposed unmaintained open spaces and/or watercourses in accordance with Table C.3 of Brisbane City Council's <em>Natural Channel Design Guidelines</em> (BCC, 2003) for pre and post development conditions. Incorporate existing roads, bridges and other cross drainage structures in the TUFLOW model.&lt;/li&gt;&lt;li&gt;Extend the model boundary further downstream (downstream of railway corridor) in order to identify any impacts&lt;/li&gt;&lt;/ul&gt;</td>
<td>As stated in Condition 22</td>
</tr>
</tbody>
</table>
Condition No | Detail | Timing
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22 | on the railway corridor as a result of the proposal development. Modelling must demonstrate impacts and safe hydraulic function of all proposed road crossings of the defined watercourse, Hinkler Drive, Pacific Motorway, and the railway line. | 

- Undertake the impact assessment for low downstream water level (minor event flood levels of the Nerang River system). Also undertake sensitivity analyses considering various other tail water levels (10, 20, and 100 year ARI).
- Include detailed impact maps for velocity and water level for all events. Also identify the flood levels and flood extents for the site on scaled maps for various flood/storm events.
- Include detailed drainage plan and the proposed drainage reserve widths (i.e. width to contain Q100 water level plus the required freeboard as per table 9.03.1 of QUDM) on a scaled plan, in accordance with Section 3.5.6 of Council Land Development Guidelines (2005) and Section 3.05 of QUDM (2008).
- Incorporate into the report, all catchments' runoff and pollutant generation parameters, and treatment node parameters utilised in the MUSIC model in tabular and/or graphical format. Also include a scaled MUSIC catchment plan identifying the location of treatment devices, direction of stormwater runoff, discharge points etc.
- Demonstrate that each of the catchment/sub-catchment achieves Council's stormwater pollutants reduction targets. Should each of the catchment/sub-catchment fail to achieve Council reduction targets, the applicant demonstrates that the whole catchment will achieve Council's stormwater pollutants reduction targets and each of the catchment/sub-catchment achieves more than 90% of Council's stormwater pollutant reduction targets.
- Include a staging plan for the entire site regarding construction of hydraulic and stormwater infrastructures particularly stormwater detention and treatment systems.
- Demonstrates the impact of extreme flood events (probable maximum flood - PMF) on the proposed development, proposed Hinkler Drive intersections and the Pacific Motorway.
- Include date and version issue of the report on the document control sheet.

**Compliance assessment of amended hydraulic and stormwater management plan**

The amended hydraulic and stormwater management plan is a document requiring compliance assessment under the Sustainable Planning Act 2009. A request for compliance assessment must be made in accordance with the Sustainable Planning Act 2009 for a compliance certificate approving the document, in accordance with the following:

**Matters or things against which the document must be assessed**

The planning scheme's Changes to Ground Level and Creation of New Waterbodies Specific Development Code;

- The planning scheme's Works for Infrastructure Specific development Code
- Planning Scheme Policy 11 – Land Development Guidelines, and
<table>
<thead>
<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
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<tbody>
<tr>
<td></td>
<td><strong>Compliance assessor:</strong> Council of the City of Gold Coast</td>
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<tr>
<td></td>
<td><strong>When the request for compliance assessment must be made</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prior to the earlier of any development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The amended hydraulic and stormwater management plan is not an approved plan until a compliance certificate has been issued.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>Compliance certificate with future development applications</strong></td>
<td>As stated</td>
</tr>
<tr>
<td></td>
<td>A copy of the compliance certificate for the amended hydraulic and stormwater management plan must be provided with any future development applications for material change of use, reconfiguration of a lot and operational works (works for infrastructures or change to ground level) for all stages of the site.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>Implementation of and compliance with approved amended hydraulic and stormwater management plan</strong></td>
<td>On going</td>
</tr>
<tr>
<td></td>
<td>All works must be carried out and completed and all maintenance and monitoring implemented in accordance with the approved amended hydraulic and stormwater management plan and any conditions imposed on the compliance certificate, prior to a request for compliance assessment of the subdivision plan.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td><strong>Stage/site specific stormwater management plan to be submitted with future applications</strong></td>
<td>As stated</td>
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<tr>
<td></td>
<td>A detailed stormwater management plan for each stage must be submitted to Council for approval with each material change of use or reconfiguring a lot application. The detailed stormwater management plan must be prepared in accordance with the approved amended hydraulic and stormwater management strategy and the Council's policy and guidelines (at the time of the lodgement of application). The plan must include (but not limited to) the following:</td>
<td></td>
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<td></td>
<td>• Provide an individual scaled stormwater management layout plan for each of the contributing sub-catchments. The stormwater management layout plans must provide post development contours at 1m intervals and display all proposed piped stormwater drainage, overland flow paths, stormwater detention, stormwater treatment and inter allment drainage requirements in accordance with the ultimate plan of development.</td>
<td></td>
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<td></td>
<td>• The plan shall confirm that all detention basins are located off-line to the waterway and outside of the Ecological Corridor Precinct. All stormwater detention and treatment devices shall be located outside of any restricted vegetation clearing areas in order to mitigate the effects of peak flow increase in the defined waterway and downstream of the site.</td>
<td></td>
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<tr>
<td></td>
<td>• Stormwater quality treatment is to be provided upstream of the defined watercourse and ecological corridor precinct, and above the 20% AEP flood extent of retained waterways.</td>
<td></td>
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<tr>
<td></td>
<td>• The defined watercourse through the proposed Village Centre (Lot 10) and proposed Industry zone (Lot 11) be</td>
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</table>
condition

No

detail

retained as open waterway (i.e. no underground piping of the waterway will be permitted by Council).
• The report shall include the stage-storage characteristics of each of the basins along with detailed drawings including plan view, long section and cross section views in terms of the Australian Height Datum; inlet and outlet details; spillway details; scour protection measures; and overflow path details for flood events up to and including the ARI 100 years.
• All hydraulic structures across environmental / ecological corridors shall be designed to be fauna friendly and shall be in the form of bridges which maintain natural waterway morphology of bed and banks.
• For any cross drainage structure and for overland flow on the road reserve the report shall demonstrate compliance of QUDM's requirements for public safety (QUDM Section 7.04).
• Provide engineering details (culvert configuration, invert levels, road level, etc.) and hydraulic information (upstream and downstream water levels, peak flow, and flow velocity for flood events up to and including ARI 100 years) for each hydraulic structure where roads are proposed to cross waterways to demonstrate compliance with the requirements of QUDM (or relevant equivalent document at time of lodgement).
• The development application proposes the inclusion of mixed use precincts and therefore the proposed treatment train shall need to incorporate the use of gross pollutant traps and/or trash racks. The detailed report shall identify the location of GPTs and/or trash racks required for the development.
• If any devices (stormwater treatment or flood detention) are to be located within the electricity easement the applicant shall submit a written consent from the relevant authority to construct such devices within the easement. The report shall provide a detailed stormwater quality treatment train showing scaled extents of all stormwater devices.
• Makes an assessment of the hazard category of all proposed retarding basins and undertakes a Failure Impact Assessment for all proposed retarding basins, including an assessment of the combined failure to contain impacts, in accordance with Guidelines for Failure Impact Assessment of Water Dams (DERM 2012) or equivalent later edition.
• Proposes the bridge over the tributary entering Lot 10 from the south causes zero afflux upstream of the allotment boundary.
• Provide scaled diagrams (not generic drawings) of each individual Stormwater Quality Improvement Device (SQID) proposed for the development site. The diagrams shall include cross sections, long sections; plan views and the proposed landscaping within the devices.
• Ensure that all stormwater treatment devices shall be located above the ARI 20 year flood inundation lines as identified in the hydraulic study.
• Submit a MUSIC model demonstrating achievement of the pollutant reduction targets of Table 13.1.B of Council’s Land Development Guidelines Section 13
• Water Sensitive Urban Design, and in accordance with Council’s MUSIC Modelling Guidelines (2006) (or...
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<tr>
<th>Condition No</th>
<th>Detail</th>
<th>Timing</th>
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<tbody>
<tr>
<td>26</td>
<td><strong>Ownership and/or maintenance responsibility of stormwater devices</strong>&lt;br&gt;Within the stage/site specific stormwater management plan or associated maintenance management plan the applicant must clearly identify the ownership and maintenance responsibility of the stormwater devices (detention / bio-retention basin, etc.).&lt;br&gt;Any stormwater device to be transferred to Council as contributed asset must fully comply with Council’s design specifications.</td>
<td>On going</td>
</tr>
<tr>
<td>27</td>
<td><strong>Public utility (stormwater) easements to be provided</strong>&lt;br&gt;Public utility (stormwater) easements must be provided for the purposes of access, maintenance and construction of services, in favour of and at no cost to Council, over Council stormwater infrastructure, such as inter-allotment drainage systems, located in private land. Such easements must meet the following requirements:&lt;br&gt;- Easement widths must comply with the requirements specified in Planning Scheme Policy 11 – Land Development Guidelines, Standard Specifications and Drawings for stormwater infrastructure.&lt;br&gt;- Notwithstanding the easement width requirements specified in Planning Scheme Policy 11 – Land Development Guidelines, Standard Specifications and Drawings, a 400 mm minimum horizontal clearance is required between infrastructures of differing types.&lt;br&gt;- The applicant must provide to Council a certification from the surveyor that the easements are correctly located over the infrastructure and meet the requirements of paragraph (a) of this condition.&lt;br&gt;- The terms of such easements shall be to the satisfaction of the Chief Executive Officer, and shall be executed prior to the earlier of compliance assessment of the subdivision plan or commencement of the use of the premises.&lt;br&gt;- Easement plans and associated documents must be duly signed by the owner of the burdened land (and any mortgagees, if necessary) before they are submitted to Council for execution.&lt;br&gt;- When registering the easements, the Form 9 document shall refer to the Registered Document No. 707918364.</td>
<td>On going</td>
</tr>
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<td>28</td>
<td><strong>Erosion and sediment control</strong>&lt;br&gt;The applicant must submit a site specific erosion and sediment control plan for each stage of the development to Council for approval. The plan must be prepared in accordance with the Council’s Planning Scheme’s Sediment and Erosion Control Constraint Codes and the Best Practice Erosion &amp; Sediment Control (IECA Australasia, November 2008). The plan must:</td>
<td>As stated</td>
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<td>Condition No</td>
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<td></td>
<td>• Ensure that all reasonable and practicable measures are implemented to minimise short and long-term erosion and adverse effects of sediment transport</td>
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<td></td>
<td>• Be prepared by a suitably qualified professional (Certified Practising Soil Scientist, Certified Practitioner in Erosion and Sediment Control or Registered Professional Engineer Queensland with experience and training in erosion and sediment control)</td>
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<td></td>
<td>• Relate to each phase of works (including clearing, earthworks, civil construction, services installation and landscaping/rehabilitation) and detail the type, location, sequence and timing of measures and action to effectively minimise erosion, manage flows and capture sediment</td>
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<td>• Include the results of all soil investigations undertaken for the site and on which the ESCP is based</td>
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<td></td>
<td>• Be consistent with current best practice standards to the extent that the standards are not inconsistent with the conditions of approval and taking into account all environmental constraints including but not limited to erosion hazard, season, climate, soil and proximity to waterways, and</td>
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<td></td>
<td>• Include provision for monitoring to occur, and clearly outline the need to adjust or maintain erosion and sediment control and site management practices to achieve the above requirements.</td>
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</tbody>
</table>

**Traffic**

**PVE Development Code**

The following amendments shall be made to the PVE Development Code prior to any subsequent development application being lodged over the site.

An amended development code generally in accordance with the Pacific View Estate Development Code dated July 2014 must be submitted to Council prior to lodgement of any subsequent development application showing the following amendments:

- Amend PC35 to include:
  - "The paths, crossings, roads, streets, lanes and intersections within and bounding the Pacific View Estate contribute to an internal and external road network that is safe, legible and permeable."
  - "The traffic impact of the proposed development does not have a negative impact on safety, amenity or capacity of the proposed and surrounding local road network."

- Amend AS35 to create 4 points as follows:
  - AS35.1- "The proposed paths, crossings roads, streets and lanes are to be generally located in accordance with the following: a) The movement corridors identified by Place Code Map 6 Movement Plan- Road Network and Place Code Map 7 Movement Plan- Pedestrian and Bicycles."
- **AS35.2** - "The paths, roads, streets and lanes shall be designed and constructed in accordance with the approved Pacific View Estate typical road cross sections and Council’s Land Development Guidelines where relevant."

- **AS35.3** - "Short cut path connections are provided to minimise the actual walking distance between residential areas and access public transport."

- **AS35.4** - "A Traffic Impact Assessment (TIA) report prepared by a suitably qualified transport and traffic professional in accordance with the requirements of Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development will be submitted as part of each submission for subsequent development applications for Material Change of Use of Reconfiguring a Lot for the Pacific View Estate."

- Insert new PC after PC35 stating the following:
  - "The traffic impact of the proposed development does not have a negative impact on safety, amenity or capacity of the proposed and surrounding local road network."

- Insert new AS under AS36 which reads as follows:
  - "A Traffic Impact Assessment (TIA) report prepared by a suitably qualified transport and traffic professional in accordance with the requirements of Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development will be submitted as part of each submission for subsequent development applications for Material Change of Use of Reconfiguring a Lot for the Pacific View Estate."

- Amend AS38 to read as follows:
  - "A bicycle and pedestrian movement network is provided generally in accordance with the movement corridors identified on Place Code Map 7 Movement Plan (Pedestrian and Bicycles)."

- Amend PC39 to read as follows:
  - "In considering access to developments, the following outcomes must be achieved: a) sufficient sight distance is provided at the access point/s to standard, b) vehicle crossings are designed to standard, b) ramp gradients and grade transitions are provided to standard within sites to minimise scraping and bottoming out of vehicles."
  
  - The relevant standards to which (a) sufficient sight distance is assessed, (b) vehicle crossings are designed, and (c) ramp gradients and grade transitions are provided have not been identified. It is recommended that the above condition as drafted by Council is inserted but amended so as to require the applicant to identify the relevant standards against which the assessment and designs are to be prepared.
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<tr>
<th>Condition No</th>
<th>Detail</th>
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<tr>
<td></td>
<td>Amend AS39.1 to read:</td>
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<td>- &quot;Areas traversable by vehicles within sites must be designed and constructed in accordance with the requirements of AS2890.1-2004 Parking Facilities Part 1: Off Street Car Parking.&quot;</td>
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<td>Amend AS39.2 to read as follows:</td>
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<td>- &quot;Vehicle crossings must be designed and constructed in accordance with the requirements of the most recent version of Council's Land Development Guidelines current at the time of development.&quot;</td>
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<td>Delete AS39.3.</td>
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<td>Delete AS39.5. – The content of this acceptable solution is covered by reference to the Australian Standard for driveways in AS39.1.</td>
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<td></td>
<td>Delete PC42, AS42.1, AS42.2 and AS42.3. These are now covered by PC35.</td>
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<td>Amend AS71 to read as follows:</td>
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<td>- &quot;Car parking is provided at the rates set out in the City of Gold Coast current planning scheme applicable at the time of lodging a development application. Where the applicant wishes to make provision for fewer car parking bays, the advice of an experienced professional traffic engineer is to be sought in order to demonstrate how lower parking rates can meet the key objectives and performance criteria of the relevant parking code current at the time of making the application.&quot;</td>
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<td>Amend PC72 to read as follows:</td>
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<td>- &quot;All car parking areas must be designed located and constructed to ensure safety of users and be consistent with the intended predominant village centre character and desired amenity for the precinct.&quot;</td>
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<td>Amend AS72 to remove reference to point c) which reads as follows: &quot;car parking areas are provided on-street.&quot; Transport will consider on-street car parking on a case-by-case basis subject to consideration of safety, amenity and capacity.&quot;</td>
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<td>Amend PC74 to read as follows:</td>
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<td>- &quot;All development must be provided with adequate facilities for the loading and unloading of goods to meet the needs of the development including both general and refuse servicing requirements.&quot;</td>
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<td></td>
<td>Delete AS74.2 – Consideration will be given to on street loading on a case-by-case basis. It is desirable that service areas be designed to accommodate loading and unloading onsite before giving consideration to the need for on-street loading.</td>
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**Plan/Map Amendments**

- Amended Pacific View Estate Development Code Maps must be submitted prior to any subsequent

As stated
<table>
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<tr>
<th>Condition No</th>
<th>Detail</th>
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<td></td>
<td>development application being lodged over the site showing the following amendments:</td>
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<td></td>
<td>- Show a road network on Map 6 Movement Plan Road Networks that references the road types from the proposed typical road typology names i.e. primary road, secondary road-major, secondary road-minor etc.</td>
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<td></td>
<td>- Amend items 3 and 4 on the legend of Map 7 Movement Plan Pedestrians and Bicycles to remove references to bicycle awareness zones and shared bikes and vehicles. Designated on road bike lanes will be accepted.</td>
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<td></td>
<td>- Amended Pacific View Estate typical road, street and lane typologies and cross sections must be submitted showing and acknowledging the following amendments:</td>
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<td></td>
<td>- No direct lot access to primary or secondary major roads unless otherwise approved by the Chief Executive Officer.</td>
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<td></td>
<td>- Widen the median width on the primary road to a minimum of 6m to allow for two stage turns from the minor roads and storage of right turn vehicles from the major roads and any associated infrastructure requirements.</td>
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<td></td>
<td>- No on street car parking on the primary and secondary major roads.</td>
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<td></td>
<td>- Remove all references to use of the Bicycle Awareness Zone (BAZ) on the secondary road minor and inclusion of a designated 2m wide bicycle lane.</td>
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<td></td>
<td>- A minimum verge width of 4.5m on all roads, streets unless otherwise approved by Council.</td>
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<td></td>
<td>- Provision for 3m wide bus incents on all roads suitable for bus routes, spaced at approximately 400m intervals.</td>
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<td>- For pavement design and traffic volume purposes provide a separate residential access and collector street profile.</td>
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<td></td>
<td>- Rename the rear lane product for application to residential products only and not encouraging use by pedestrians and cyclists.</td>
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<td></td>
<td>- Submit a new rear lane typology for commercial land uses for consideration and endorsement by Council. The lane is to be designed around a maximum of 500 vehicles per day.</td>
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<td></td>
<td>- Remove all references to &quot;varies subject to detailed design.&quot; Exceptions will be considered on a case by case basis.</td>
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</table>

**Access Restriction and Design – Hinkler Drive**

- Hinkler Drive access restrictions

Ongoing and as stated
At all times, for any subsequent application lodged under this preliminary approval, no direct lot access between the subject site (Lot 28 on SP189559 and Lot 10 on SP229681) and Hinkler Drive is permitted.

- Any subsequent application lodged and assessed against the Pacific View Estate Development Code will require the following to be provided to Council with respect to the proposed Hinkler Drive access intersections:
  - Provide a functional design layout of all proposed new intersections to Hinkler Drive with adequate dimensions to show compliance with Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections and any other relevant standard.
  - Submit a plan showing any land dedication required to achieve the intersections mentioned above.
  - Demonstrate sufficient approach and safe intersection sight distance at all intersections in accordance with the requirements of Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections.
  - Demonstrate adequate queue storage capacity in turn lanes and satisfactory intersection operation justified by a Sidra intersection analysis for ten year design horizon from anticipated year of opening.
  - Demonstrate that all intersections are capable of accommodating future signal infrastructure.

Assessments

- With reference to the condition to amend AS36 under Condition 29, each updated TIA shall be based on recent traffic volumes and shall include, but will not be limited to the following information:
  - Assessment of the traffic impacts on the surrounding and adjoining road network (including the full extents of Delta Cove Drive and Nabarlek Drive)
  - Assessment of the traffic impacts anticipated in the ultimate design year
  - Plans outlining proposed active and public transport use on site and how the trip discount rate is to be realised
  - A review of the sufficiency of the number of access points with regards to emergency situations and consideration of emergency vehicle access to, from and within the site so that any portion of the site can be accessed in an appropriate timeframe

Updated TIAs are required as part of each submission for subsequent development applications for material change of use or reconfiguring of a lot for the Pacific View Estate.
Appendices
Appendix A – Map of Watercourses
Appendix B – Third Party Advice Conditions
**Attachment 1 — Amended DNRM Conditions that should attach to any development approval**

<table>
<thead>
<tr>
<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The vegetation clearing on the land must not cause land degradation in</td>
<td>At all times during vegetation clearing.</td>
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<td></td>
<td>retained endangered regional ecosystem.</td>
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<tr>
<td>2.</td>
<td>Soil erosion and sediment control measures must be employed during</td>
<td>At all times during construction.</td>
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<td></td>
<td>any works to provident soil erosion on the land.</td>
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<tr>
<td>3.</td>
<td>An offset for the significant residual impact to endangered regional</td>
<td>Prior to clearing of any endangered regional ecosystem as a whole or on a staged</td>
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<td></td>
<td>ecosystem is to be delivered pursuant to the requirements of the</td>
<td>basis.</td>
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<td></td>
<td>Queensland Environmental Offsets Framework, in particular Part 6 of the</td>
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<td></td>
<td>Environmental Offsets Act 2014, by either:</td>
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<tr>
<td></td>
<td>a. a proponent-driven offset; or</td>
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<td></td>
<td>b. a financial settlement offset; or</td>
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<tr>
<td></td>
<td>c. a combination of a proponent-driven offset and a financial settlement</td>
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</tr>
<tr>
<td></td>
<td>offset.</td>
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<td></td>
<td>The offset may be provided as a whole or on a staged basis related to</td>
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<td>the clearing of endangered regional ecosystem for the relevant stage of</td>
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<td></td>
<td>the Pacific View Estate Development.</td>
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</table>
## Attachment 2 — DTMR Conditions that should attach to any development approval

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<thead>
<tr>
<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>State transport matters</td>
</tr>
<tr>
<td>1.</td>
<td>Generally in accordance with plans and reports</td>
<td>Prior to the commencement of use and to be maintained at all times and prior to the submitting the Plan of survey to the local government for approval for each stage of the development.</td>
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<td></td>
<td>Development must be carried out generally in accordance with the following plans and reports, except as modified by these concurrence agency conditions:</td>
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<tr>
<td></td>
<td>• Pacific View Estate Development Code prepared by UPS and dated December 2010;</td>
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<tr>
<td></td>
<td>• Place Code — Map 3 — Precinct Plan (Land Use Intent), prepared by DBI Design, Drawing No. PA-PC-M3. Rev G dated 19 November 2010</td>
<td></td>
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<tr>
<td></td>
<td>• Place Code — Map 6 — Movement Plan (Road Networks), prepared by DBI Design, Drawing No. PA-PC-M6. Rev G dated 19 November 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pacific View Estate Integrated Water Management Plan prepared by BMT WBM ref no R.M7519.003.02.IWMP.doc dated November 2010.</td>
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<tr>
<td></td>
<td>• Pacific View Estate Traffic and Transport Report for Preliminary Approval Application prepared by Bitzios Consulting ref no. P0610.005R dated 26/10/2012.</td>
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<td></td>
<td>• Pacific View Estate Modelling Report prepared by Bitzios Consulting ref no. P0610.009R dated 26/10/2012.</td>
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<tr>
<td>No.</td>
<td>Conditions</td>
<td>Condition timing</td>
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<td></td>
<td>• Attachment 1 titled “PVE Proposed Public and</td>
<td>Prior to submitting the first development application to the local government for a development permit for reconfiguring a lot or material change of use, whichever occurs first.</td>
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<td></td>
<td>• Active Transport Connections” of letter prepared by Bitzios Consulting ref no P0610.001 dated 2 July 2012.</td>
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<td></td>
<td>2. Place Code Amendments</td>
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</table>
| 2.1 | The applicant must provide an amended Pacific View Estate Development Code, dated December 2010 and prepared by UPS, to the Department of Transport and Main Roads which makes the following change to Section 8.1 Pacific View Estate – Table of Development, A Material Change of Use for Precinct 3 – Industry (page 14 of 59):  
- Remove ‘Transit Centre’ and ‘Transport Terminal’ from the Self Assessable column and inserts ‘Transit Centre’ and ‘Transport Terminal’ in the Code Assessable column. | |
| 2.2 | The applicant must provide an amended Pacific View Estate Development Code, dated December 2010 and prepared by UPS, to the Department of Transport and Main Roads which makes the following change to Section 9.72 Pacific View Estate – Place Code (page 31 of 59)  
- Change the numbering of PC39 – Village Centres so that it applies to self-assessable, code assessable and impact assessment development. | Prior to submitting the first development application to the local government for a development permit for reconfiguring a lot or material change of use, whichever occurs first. |
| 2.3 | The applicant must provide an amended Pacific View Estate Development Code dated December 2010 and prepared by UPS to the Department of Transport and Main Roads which inserts the following acceptable solution under Traffic – All Precincts:  
- AS 61.3 Proposed bus routes are in accordance with the Schedule – Code for IDAS, Part 2 – Development Standards of the Transport Planning and Coordination Regulation 2005 and designed to accommodate a 12.5m single unit rigid bus and Pacific View Estate standard road cross sections shown in Pacific View Estate Traffic and Transport Report for Preliminary Approval Application prepared by Bitzios Consulting ref no. P0610.005R dated 26/10/2012, identified as:  
  • Figure B1: Primary Loop Road; or  
  • Figure B2: Secondary Loop Road –  
  • Option – Four Lane Urban; or  
  • Figure B4: Secondary Loop Road –  
  • Option Two Lane with Service Lane; or  
  • Figure B5: Other Loop Road. | Prior to submitting the first development application to the local government for a development permit for reconfiguring a lot or material change of use, whichever occurs first. |

3. Plan Amendments  
(a) The applicant must provide an amended Place Code Map 6 Movement Plan (Road Networks), Drawing No. PA-PC-M6, Revision G and amended Place Code – Map 7 – Movement Plan (Pedestrians & Bicycles), Drawing No. PA-PC-M7, Revision G, both prepared by DBI Design and dated 19/11/2010 to the Department of Transport | (a) Prior to submitting the first development application to the local government for a development permit for reconfiguring a lot or a material change of use, whichever occurs first. |
## Conditions

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<th>No.</th>
<th>Conditions</th>
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<tr>
<td>4.</td>
<td>Access Restriction – State-controlled road</td>
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<td></td>
<td>(a) Direct vehicular access between the Pacific Motorway and Lot 11 on SP229681 is not permitted. Direct vehicular access to Elysium Road service road is maintained.</td>
<td>(a) At all times.</td>
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<td></td>
<td>(b) The applicant must provide a pedestrian and vehicle barrier along the state-controlled road frontage of Lot 11 on SP229681 in accordance with the Department of Transport and Main Roads' <em>Road Planning and Design Manual</em> including the <em>Interim Guide to Road Planning and Design Practice</em>.</td>
<td>(b) Prior to submitting the Plan of Survey to the local government for approval for each stage of the development.</td>
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<td>5.</td>
<td>Road Network Contributions</td>
<td>Prior to submitting the Plan for Survey to the local government for approval for each stage of the development.</td>
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<td></td>
<td>The applicant must provide a monetary contribution towards mitigating the impact of the proposed development on the safety and efficiency of the state-controlled road network. In particular, the contribution is required to upgrade the Pacific Motorway/Elysium Road Interchange environs.</td>
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<td>This contribution must be $1,169.00 per dwelling and must be paid to the Department of Transport and Main Roads, South Coast Region Office.</td>
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<td>The contribution shall be indexed based on the Road and Bridge Construction Index, Queensland – Class 3101, published quarterly by the Australian Bureau of Statistics (ABS Cat No. 6427, Series ID A2333727L).</td>
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<td>The indexation adjustment shall be calculated using the formula:</td>
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<td>$1,169.00 \times \left( \frac{\text{index B}}{\text{index A}} \right)$</td>
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<td>where &quot;index A&quot; is the published index for June 2013 and &quot;index B&quot; is the published index for the quarter immediately preceding the date that the payment is provided to the department.</td>
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<td>6.</td>
<td>Noise Attenuation Measures</td>
<td>(a) Prior to the commencement of use and to be maintained at all times.</td>
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In particular, this includes noise attenuation treatments for the development not covered by the Queensland Development Code – MP 4.4 – Buildings in a Transport Noise Corridor are in accordance with *Australian Standard AS3671 Acoustic – Road traffic noise intrusion – building siting and construction.*

(b) The applicant must provide RPEQ certification that the development has been designed and constructed in accordance with part (a) of this condition.

### No. 7. Drainage – State-controlled road network

(a) The development must be in accordance with the *Pacific View Estate: Integrated Water Management Plan*, prepared by BMT WBM Pty Ltd and dated November 2010.

The applicant must ensure that the management of stormwater quantity and quality post development achieves a no worsening impact on the state controlled road network for all flood and stormwater events that exist prior to development and up to a 100 year Average Recurrence Interval (ARI). In particular, stormwater management for the development including for each stage must ensure no worsening or actionable nuisance to the state controlled road network caused by peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, and sedimentation and scour effect.

(b) Without prior approval from the Department of Transport and Main Roads, any excavation, filling, paving, landscaping, construction or any other works to the land must not:

- Create any new discharge points for stormwater runoff onto the state-controlled road;
- Interfere with and/or cause damage to the existing stormwater drainage on the state controlled road;
- Surcharge any existing culvert or drain on the state-controlled road;
- Reduce the quality of stormwater discharge onto the state-controlled road.

(c) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with parts (a) and (b) of this condition.

### No. 8. Drainage – Railway Corridor Land

(a) The development must be in accordance with the *Pacific View Estate: Integrated Water Management Plan*, prepared by BMT WBM Pty Ltd and dated November 2010. The applicant must ensure that the management of stormwater quantity and quality post development achieves a no worsening impact on the rail corridor land for all flood and stormwater events that exist prior to development and up to a 100 year Average Recurrence Interval (ARI). In particular, stormwater management for the development

(a) & (b) Prior to the commencement of use and to be maintained at all times and prior to submitting the Plan of Survey to the local government for approval for each stage of the development.
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<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
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<tr>
<td>9.</td>
<td>must ensure no worsening or actionable nuisance to the rail corridor land and rail transport infrastructure caused by peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, sedimentation and scour effects.</td>
<td>(c) Prior to obtaining a final inspection certificate or certificate of classification, whichever is applicable, or prior to the commencement of use, whichever occurs first and prior to submitting the Plan of Survey to the local government for approval for each stage of the development.</td>
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<td></td>
<td>The development must not:</td>
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<td>• Cause a net increase or concentration of stormwater or flooding flows discharging on the rail corridor land and rail transport infrastructure during construction or thereafter; and</td>
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<td></td>
<td>• Cause ponding or nuisance from stormwater runoff on the rail corridor land and rail transport infrastructure.</td>
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<td>(b) Without prior approval from the Department of Transport and Main Roads, any excavation, filling, paving, landscaping, construction or any other works to the land must not:</td>
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<td></td>
<td>• Create any new discharge points for stormwater runoff onto the rail corridor land; and</td>
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<td>• Interfere with the existing stormwater drainage on the rail corridor land.</td>
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<td></td>
<td>(c) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with parts (a) and (b) of this condition.</td>
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<td>10.</td>
<td>Environmental Nuisance</td>
<td>To be maintained at all times during construction.</td>
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<td></td>
<td>No dust/debris from the subject site must enter the Pacific Motorway and Railway Corridor during the construction phase of the development.</td>
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<tr>
<td>10.1</td>
<td>Railway Corridor Land</td>
<td>(a) Prior to the commencement of use and to be maintained at all times and prior to submitting the Plan of Survey (for Precinct 3 – Industry) to the local government for approval.</td>
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<td>(a) Fencing must be provided on the site adjacent to the rail corridor land in accordance with the Guide for Development in a Railway Environment and Queensland Rail Standard Drawing:</td>
<td>(b) Prior to obtaining a final inspection certificate or certificate of classification, whichever is applicable, or prior to the commencement of use, whichever occurs first and prior to submitting the Plan of Survey to the local government for approval.</td>
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<td></td>
<td>• 2542 - Standard High Security Fence, or</td>
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<td></td>
<td>• 2544 - Standard Security Fence.</td>
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<td></td>
<td>(b) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with part (a) of this condition.</td>
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### Condition Timing

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<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
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| 10.2 | (a) The applicant must provide RPEQ certified plan/s to the Department of Transport and Main Roads in accordance with the Guide for Development in a Railway Environment, Part B.12 — Excavation, retaining and other ground disturbance showing that:  
  • The design of proposed excavation works, retaining works and other works involving ground disturbance abutting the rail corridor land does not de-stabilise rail transport infrastructure;  
  • Temporary structures and batters do not encroach into rail corridor land; and  
  • Retaining structures necessary to stabilise any excavations to the development are located outside the rail corridor land boundary.  
  (b) The development must be in accordance with the certified plan/s required in part (a) of this condition.  
  (c) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with parts (a) and (b) of this condition.  
  (d) The development must not store any fill, spoil or any other material on the rail corridor land at any stage of construction. | (a) Prior to obtaining development approval for building work or operational work, whichever occurs first.  
(b) Prior to the commencement of use and to be maintained at all times and prior to submitting the Plan of Survey (for Precinct 3 – Industry) to the local government for approval.  
(C) Prior to obtaining a final inspection certificate or certificate of classification, whichever is applicable, or prior to the commencement of use, whichever occurs first and prior to submitting the Plan of Survey (for Precinct 3 – Industry) to the local government for approval.  
(d) At all times during construction. |
| 10.3 | (a) The buildings and/or structures (including any solid fences) directly abutting the rail corridor land must be protected by an anti-graffiti coating.  
(b) The applicant must provide written notification from a suitably qualified and experienced registered architect to the Department of Transport and Main Roads verifying that the buildings and/or structures directly abutting the rail corridor land have been constructed to include an anti-graffiti coating. | (a) & (b) Prior to the commencement of use and to be maintained at all times and prior to submitting the Plan of Survey (for Precinct 3 – Industry) to the local government for approval. |
| 10.4 | (a) Development on land adjacent to the rail corridor land must be:  
  • Setback horizontally a minimum of 3 metres from any existing or planned OHLE (overhead line equipment);  
  • Setback horizontally a minimum of 3 metres from any existing or planned viaduct structures; and | (a) Prior to the commencement of use and to be maintained at all times. |
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<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
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<td>• Designed with setbacks that provide for an accessway abutting the rail corridor land to facilitate building maintenance.</td>
<td>(b) Prior to obtaining a final inspection certificate or certificate of classification, whichever is applicable, or prior to the commencement of use, whichever occurs first.</td>
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<td></td>
<td>(b) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with part (a) of this condition.</td>
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<td>10.5</td>
<td>(a) Opening windows, doors, balconies and other areas that afford the opportunity for objects to be thrown onto the rail corridor and located less than 10 metres from the rail corridor boundary or less than 20 metres from the centreline of the closest existing or planned railway track must include anti-throw protection screens.</td>
<td>(a) and (b) Prior to the commencement of use and to be maintained at all times.</td>
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<td>(b) The anti-throw screens must be in accordance with the Guide for Development in a Railway Environment Part B.8 as follows:</td>
<td>(c) Prior to obtaining a final inspection certificate or certificate of classification, whichever is applicable, or prior to the commencement of use, whichever occurs first.</td>
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<td>• Anti-throw screens must extend 2.4 metres vertically above the highest toe-hold if</td>
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<td>• see-through, or 2 metres if non see-through, noting that expanded metal is considered to be see-through;</td>
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<td>• See-through anti-throw screens must not have openings greater than 25 mm x 25 mm; and</td>
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<td>• Anti-throw screens must be returned a minimum of 2 metres at each end accessible to the public, to prevent climbing onto the back of the screen.</td>
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<td>(c) The applicant must provide written notification from a registered architect or RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with parts (a) and (b) of this condition.</td>
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<tr>
<td>10.6</td>
<td>(a) The development must be designed so that access to the rail corridor land is not required to conduct maintenance of the development.</td>
<td>(a) and (b) Prior to the commencement of use and to be maintained at all times.</td>
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<td></td>
<td>(b) Services or utilities associated with the development are not located in the rail corridor land.</td>
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<td>(c) Pipework (for example, water or sewer pipes) must be designed so as not to penetrate through any soffit or side of a proposed building or structure built to the boundary with rail corridor land.</td>
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<td>(d) Services and their attachments to buildings and structures built to the boundary with the rail corridor land must be designed so that they can be repaired or replaced with minimal interference with railway operations.</td>
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<td>(e) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with parts (a) – (d) of this</td>
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<td>No.</td>
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<td></td>
<td><strong>Bus Routes</strong></td>
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<td>(a) The roads identified as “future potential bus routes” and “proposed bus routes (early stages)” on Figure 9.3 PVE Proposed Public and Active Transport Connections of the Pacific View Estate Traffic and Transport Report for Preliminary Approval Application, Project No. P0610, Version No. 005, prepared by Bitzios Consulting and dated 26/10/2012 must be in accordance with the Schedule – Code for IDAS Part 2 – Development Standards of the Transport Planning and Coordination Regulation 2005 and Pacific View Estate standard road cross sections shown in Pacific View Estate Traffic and Transport Report for Preliminary Approval Application prepared by Bitzios Consulting ref no. P0610.005R dated 26/10/2012, identified as:</td>
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<td>• Figure B1: Primary Loop Road; or</td>
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<td>• Figure B2: Secondary Loop Road –</td>
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<td></td>
<td>• Option – Four Lane Urban; or</td>
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<td>• Figure B4: Secondary Loop Road –</td>
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<td>• Option Two Lane with Service Lane; or</td>
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<td></td>
<td>• Figure B5: Other Loop Road.</td>
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<td>(b) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the roads identified as “future potential bus routes” and “proposed bus routes (early stages)” have been designed and constructed in accordance with part (a) of this condition.</td>
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<td>(a) Prior to submitting the Plan of Survey to the local government for approval for each stage of the development.</td>
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<td></td>
<td>(b) Prior to submitting the Plan of Survey to the local government for approval for each stage of the development and prior to the commencement of use and to be maintained at all times.</td>
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|     | **Pedestrian and Cycle Routes** |
|     | (a) The development must provide a pathway network and cycle paths generally in accordance with: |
|     | • Place Code – Map 7 – Movement Plan (Pedestrians & Bicycles) Drawing No. PA-PC-M7, Rev G dated 19 November 2010; and |
|     | • Attachment 1 titled “PVE Proposed Public and Active Transport Connections” of letter prepared by Bitzios Consulting ref no P0610.001 dated 2 July 2012. |
|     | The pathway network and cycle paths are to be in accordance with the |

(a) & (b) Prior to submitting the Plan of Survey to the local government for approval for applicable stage where pathway network and cycle paths are proposed.
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<th>No.</th>
<th>Conditions</th>
<th>Condition timing</th>
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<td>following standards:</td>
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<td></td>
<td>(b) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the development has been designed and constructed in accordance with part (a) of this condition.</td>
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Appendix C – Attachments 1 – 3 for the PVE Development Code