

Attachment 6 - Wollongong DCP 2009 - Chapter 14 – Innovation Campus Assessment

<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
Part 4 - Development Concept		
<p><i>Objectives</i></p> <p>a) To create a university campus environment supportive of research, business and development activities.</p>	<p>Research and training opportunities will be provided within the CHPC as detailed within Section 1.1 of the report. The plans indicate spatial commitments to facilitate ongoing research, training and learning within the buildings.</p> <p>The applicant advises:</p> <p>“UoW students and research staff will utilise parts of the CHPC both independently and in conjunction with the Dragons for a range of educational and research purposes. with the potential for collaboration and cross-employment between practitioners between these services, the Dragons and UoW research and training functions.”</p> <p>The application provides the following further information around the proposed use:</p> <p>“The proposed development will build on the existing partnership between UoW and the Dragons relating to research and development, and facilitates increased opportunities in the fields of sports science, exercise physiology, health, community development and sports administration to drive innovation and research implementation outcomes, consistent with the planning and development objectives for the UoW Innovation Campus;” and</p> <p>“Locating this facility within the UoW’s Innovation Campus, which is intended to foster collaboration and innovation between UoW and industry partners, will allow direct access to and collaboration between students and researchers of UoW with the high-performance elite sport programs, community outreach programs and sports administration users. UoW staff and students will gain direct access to the CHPC to participate in learning opportunities, direct industry engagement and research activities, whilst the Dragons will benefit from immediate access to implement leading research and innovation outcomes</p>	<p>Yes.</p>

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	<p>generated by UoW's research program," UoW students will be able to gain access to the CHPC for 30-45 hours per week, including opportunities for work experience and internships with the Dragons, PhD scholarships focused on direct collaboration with the Dragons' sports, business and community activities.</p> <p>NRL-related placement programs will offer 300+ student hours per week and ongoing scholarship opportunities for UOW students.</p> <p>The applicant states that the partnership between the Dragons and the UoW is structured through the existing MoU with the stated intention to work together "cooperatively and collaboratively". The MoU provides a partnership framework, the CHPC being a central component because of the opportunity to leverage the project for research, community and student benefits.</p> <p>Conditions of consent are recommended in relation to the implementation of the Management Plan, Collaboration Agreements, oversight by a Governance Committee and the like.</p>	
<p>b) To achieve an appropriate campus scale and character by:</p> <p><i>i) Providing buildings in a landscaped setting.</i></p> <p><i>ii) Providing a well defined pedestrian spine and network to link activity zones and precincts and a series of landscaped features including: - Playing fields; - Parks; - Building forecourts/plazas; - Sculpture forecourt; - Campus green; - Rainforest gully/creek; - Swamp oak forest.</i></p>	<p>The overall scale of the building is not dissimilar to that shown on the precinct plans. The height of the building is well below the maximum permitted height and setbacks are appropriate.</p> <p>The form and massing is generally satisfactory. Setbacks facilitate vegetative screening to boundaries and particularly to Squires Way to the immediate east of the site.</p> <p>The pedestrian spine follows the anticipated direct north-south route indicated on the DCP masterplan, and is considered to be reasonably well defined, connects activity nodes. Pedestrian connectivity to and through the site is satisfactory, as are sight lines.</p>	<p>Yes.</p>
<p><i>iii) Developing a chain of ponds/stormwater management</i></p>	<p>Not relevant to this part of the site.</p>	<p>Yes.</p>

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<i>system as an integral feature of the campus.</i>		
iv) <i>Reducing the visual impact of surface parking by provision of carparks under buildings and multi storey parking facilities.</i>	Parking remains generally at grade, to the immediate south of the building. No basement parking is proposed, which is in part due to site constraints (flooding). The parking area will be screened by vegetation to the east and south.	Yes.
v) <i>Consistency of landscape detail including street furniture, paving, lighting, signage and other elements.</i>	Landscape concept plans provided. Street furniture, paving, lighting, signage to be consistent with that used elsewhere in the Campus.	
vi) <i>Landscaping used as a positive element to unify site.</i>	As per above comment.	
vii) <i>Consistency in architectural design taking into account project objectives and commercial realities.</i>	Architectural design and detailing appropriate for the proposed use – floor plans reflect functional requirements.	
viii) <i>Consistency of buildings scale and height.</i>	CHPC scale is not inappropriate in the context, having regard to the height and setbacks of nearby buildings to the west and south. The building is well under the applicable 24m height limit.	
ix) <i>Providing an accessible and legible campus structure.</i>	Building and field position will not compromise accessibility or legibility. Pathways will be provided or upgraded to ensure good connectivity with the campus, nearby bus stops and walking / cycle paths.	
c) To provide opportunities for formal and informal interaction.	Opportunities for formal and informal interaction provided within the building and throughout the site - within the public domain, at building entries, periphery of the main NRL training field and the community field.	Yes.
d) To develop a sense of community.	As above – forecourt and Field 1 periphery, along with Community Field will offer opportunities for community gathering and interaction.	Yes.
e) To provide a stimulating working environment integrated with social, recreation, cultural and support services.	Satisfactory working environment provided.	Yes.
f) To encourage a positive lifestyle mix of 'work, live and play' activities.	The CHPC will be supported by a good pedestrian / cyclist network which will link with the existing campus and other external	Yes.

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<p>g) To incorporate best practice ecologically sustainable development principles.</p>	<p>pathways, encouraging walking and cycling.</p> <p>Fields proposed will support active recreation.</p> <p>A Sustainability Report was submitted with the DA which outlines how the proposal intends to address the requirements of the DCP. This includes initiatives for:</p> <ul style="list-style-type: none"> ▪ design to be informed by recognised benchmarks such as Green Star and WELLS. ▪ Section J of BCA requirements; ▪ NABERS/Green Star. ▪ rooftop solar PV. ▪ building will be all-electric. ▪ Integrated Water Management system - efficient water fixtures, rainwater reuse for toilets and irrigation; ▪ use of sustainable building materials and passive thermal design using double glazing and shade screening. ▪ sustainable waste management practises; <p>The proposed sustainability measures are supported however it is noted that provision has not been made for electric vehicle charging which is a shortcoming. The following is to be provided:</p> <ul style="list-style-type: none"> ▪ 50% of parking spaces to be 'EV ready' with cabling to the space, and 10% of the parking spaces on site to be dedicated EV charging spaces from day of opening, and the provision of charging infrastructure for other electric vehicles including E-bikes and scooters. ▪ Provision of car share and bike sharing space is to be incorporated into the development. <p>Conditions are recommended in relation to these matters.</p>	<p>Yes.</p>
<p>h) To create a physical setting which helps to reshape the image of Wollongong as a City of Innovation.</p>	<p>Design is satisfactory.</p>	

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i) To ensure the Wollongong Innovation Campus becomes an integral part of the life of the region.		
j) To rehabilitate riparian corridors to Cabbage Tree Creek, preserve the existing Swamp Oak forest and reinforce the landscaped character of Puckeys Estate.	N/A	N/A
k) To implement a transport and access strategy to encourage pedestrian and cycle access to the site and reduce the dependence on private cars.	Proposal incorporates good pedestrian links which are reasonably direct and safe. Activity nodes, public domain works and interaction with proposed built form will amplify the amenity of the pedestrian spine and activate the space.	Yes.
l) To develop and improve the streetscape character of Squires Way as the main entry to the site.	Streetscape to Squires Way – existing vegetation will remain which will offer screening of the building and parking area. In this way, the landscaped setting of this portion of the site will remain unchanged.	Yes.
m) To reinforce the community character of the existing Campus East student accommodation.	Existing student accommodation will remain unchanged.	Yes.
n) To develop residential development to meet the short, medium and long term needs of students, staff, employees, tenants, visitors and others involved in the activities of the University of Wollongong and the Wollongong Innovation Campus.	N/A; no accommodation proposed.	N/A
The development is to be undertaken in stages generally as shown in the Precinct plan.	The development site is within Stage 3 identified in the DCP notional staging plan.	Yes.
<p><i>Performance Guidelines</i></p> <p>The development of the site must be consistent with the Precinct plan – Development Concept which is shown in the following: Figure 6, Figure 7, Figure 8, Figure 9 and Figure 10.</p>		

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<p><i>Figure 6 - Development Structure</i></p> 	<p>Building position is generally consistent with the envelope shown in Figure 6.</p> <p>Road connection through to Squires Way is not proposed but is not precluded by the proposed development; the provision of this roadway could occur at a later date if stage.</p> <p>Pedestrian spine will continue along the eastern side of Innovation Way, connecting the existing pathway to the south to the pathway in the northern part of the site.</p> <p>Green space is much larger than envisaged in Fig 6. Field location is generally as per Fig 6.</p> <p>Building envelopes are similar to that contemplated in the figure.</p>	
<p><i>Figure 7: Precinct Plan - Landscape Structure</i></p>  <ul style="list-style-type: none"> 2. Existing open playing fields maintained as stormwater control. 3. Existing historic building reused as child care facility 4. Student accommodation precinct 5. Secondary vehicle entry with native street tree planting. 	<p>Green space is much larger than envisaged in Fig 7. Field location is generally as per Fig 7, Field 2 is however in the location of the buildings and car park initially planned for the west of the heritage listed huts. Field 2 will not however preclude the future potential for this development to occur at a later date.</p>	
<p><i>Figure 8: Precinct Plan - Pedestrian Network</i></p>	<p>Pedestrian spine will continue along the eastern side of Innovation Way to the existing pathway in the northern part of the site connecting to Squires Way.</p> <p>Building provided with a forecourt to activate the spine.</p>	

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Figure 9: Precinct Plan – Precincts



<p>Figure 10: Notional Development Sites</p>	<p>The use of the Huts (childcare and alumni bookstore) will remain unchanged with the proposal. Field 1 will occupy the space shown on Fig 9 as being suitable for playing fields and recreation.</p> <p>Proposed CHPC building is generally in the building envelope shown on the plan, however further west and north to account for existing vegetation in this part of the site.</p>	<p>Yes.</p>
	<p>Proposed CHPC building is generally in the E1 building envelope shown on the plan.</p>	<p>Yes.</p>

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Standards/controls	Comment	Compliance
	<p>Building has been sited to maintain existing vegetation as far as is practicable.</p>	
<p>Part 5 - Site Uses</p>		
<p><i>Objective</i></p> <p>a) To provide education and research facilities supported by residential, social, recreational, cultural and commercial services.</p> <p><i>Performance Guidelines</i></p> <p>The following range of site and building uses should be provided:</p> <ul style="list-style-type: none"> • Offices/Research facilities for firms involved in research and development; • Buildings for academic, education and training purposes; • Conference centre/meeting facilities; • Hotel; • Serviced Apartments; • Recreation Facilities; • Gallery / Theatre / Exhibition Areas; • Student Accommodation; • Residential development to meet the short, medium and long term needs of students, staff, employees, tenants, visitors and others involved in the activities of the University of Wollongong and the Wollongong Innovation Campus; • Services/Commercial Facilities ancillary to previous building uses, including: <ul style="list-style-type: none"> – Campus Management Offices / Support; – Sales and Marketing Offices; – Food Services Outlets; – Cafes / restaurants; – Newsagent / convenience store; – 	<p>Researching / education opportunities are sought to be integrated into the CHPC as detailed in Section 1.1 of the report.</p>	<p>Yes.</p>

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<p>Business supplies; – Business Facilities Support; – Serviced Offices; – Student Support Services; – Retail Outlets; – Childcare Facilities; – Medical / Health Services.</p>		
<p>Part 6 – GFA</p>		
<p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • maximum gross floor area as per LEP – 135,000sqm. • indicative schedule of development (the floor areas of various building uses may vary): <p><u>Existing development:</u> Science Centre 2,514sqm Campus East Student Accommodation 18,682sqm Central Facilities/Services 6,642sqm Research / Innovation Offices / Academic / Training - 30,059sqm</p> <p><u>Proposed development</u> Hotel / Conference Centre 8,000sqm Stage 2 Science Centre 2,000sqm Research / Innovation Offices / Academic / Training Facilities - 39,892sqm* Residential development In 'existing' Student Accommodation Area 2,500sqm Squires Way sites 18,000sqm.</p> <p><u>TOTAL 135,000 sqm</u></p> <p>* reduced from 46,603sqm to account for a 6,711sqm research building space constructed since the Masterplan and DCP were last reviewed (2011).</p>	<p>The existing GFA within the Campus is 61,969 sqm. Phase 1 of the Health & Wellbeing Precinct in the southern part of the Campus (DA-2021/101) has the potential to deliver in the order of 46,600sqm of GFA (precise GFA to be confirmed in the detailed DAs for each building). Combining the existing development in the Campus, with the potential maximum capacity of Phase 1 of the H&WP, equates to 108,569 sqm of GFA.</p> <p>The GFA of the proposed development is 4625sqm, leaving the potential for 21,806sqm of GFA to be achieved elsewhere within the campus.</p> <p>It appears that there will be sufficient GFA available to achieve reasonable development on vacant sites. (The upcoming review of the DCP may consider whether a change to the maximum permitted GFA is warranted and appropriate).</p>	<p>Complies.</p>
<p>Part 7 - Building Heights and Floor Levels</p>		
<p><i>Objectives</i></p> <p>a) To meet the density and development floor area objectives required for the project;</p> <p>b) To achieve the character and scale of a university campus by limiting site coverage and providing buildings in a landscaped setting.</p> <p><i>Performance Guidelines</i> Building Height</p> <ul style="list-style-type: none"> • Comply with the LEP maximum heights in the LEP – 24m for this site. 	<p>Building height is well below 24m (~13m) height limit.</p>	<p>Yes.</p>

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
<ul style="list-style-type: none"> • integrate all rooftop exposed structures with the building design and setback 6m from the sides of the building. • Ground levels: <ul style="list-style-type: none"> i) Minimum floor levels must comply with the Floodplain Management Strategy. ii) Buildings adjacent to the main pedestrian spine (nominal RL 6.0 AHD) must provide access at the level of the main pedestrian spine. iii) Buildings on the East / West link should provide access as close as possible to the street levels. iv) The first habitable floor level of all buildings should be as close as possible to finished ground levels and must not be more than 1500mm above finished ground levels. • Building designs must demonstrate: <ul style="list-style-type: none"> i) A positive relationship to the landscape, streets and adjoining pedestrian and public areas; and ii) The effect of the proposed building on views from adjoining areas, the main pedestrian spine, main loop street and from Squires Way. 	<p>Conditions are recommended in relation to screening and concealment of rooftop plant and lift overruns.</p> <p>The plans indicate ground floor levels designed to ensure barrier-free transitions from internal spaces to adjacent public domain areas inclusive of proposed footpaths and forecourt areas.</p> <p>Proposed minimum floor levels comply with applicable requirements pertaining to flooding.</p> <p>The CHPC is designed with a freeboard of 500mm above the PMF.</p>	<p>Yes.</p>
Part 8 – Setbacks		
<p><i>Objectives</i></p> <ul style="list-style-type: none"> • To achieve a university campus character of buildings in a landscaped setting; • To provide riparian corridors to Cabbage Tree Creek and Fairy Creek; and • To locate buildings to reinforce activity on the main pedestrian spine and East / West link. <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> a) 30m setback from Cabbage Tree Creek and Fairy Creek. b) Works within riparian setbacks to be carried out in accordance with the VMP. 	<p>No nearby riparian corridors.</p>	<p>N/A</p>

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<p>c) Works within the riparian setback must be consistent with the Plan of Management and may include:</p> <ul style="list-style-type: none"> i) Stormwater and floodway improvements; ii) Pedestrian access; iii) Landscaping rehabilitation works; iv) Vehicular, pedestrian and cyclist access to Puckey Avenue and Montague Street. 		
<p>d) Setbacks from notional leased site boundaries as shown in Figure 12 and:</p> <ul style="list-style-type: none"> i) Buildings adjacent to the main pedestrian spine must have a zero setback for at least 75% of the frontage. ii) Buildings sharing common leased site boundaries should be setback 10 metres to preserve solar access and environmental conditions. iii) Site coverage within individual leased sites should not exceed 60%. iv) Buildings must address main pedestrian links and forecourts. v) Buildings must reinforce the street character objectives described in section 9.10 of the approved Precinct plan. 	<p>Proposed setbacks seek to achieve a balance of landscape setbacks along with activation of the frontage and the pedestrian spine. Setbacks to Innovation Way allow for pathways and a forecourt at the entry of the building, along with the retention of existing vegetation in this area.</p> <p>The building does not share a common leased site boundary.</p> <p>Site coverage is well below 60%.</p> <p>Building has been oriented towards the west to Innovation Way – building design to provide for forecourt opening onto Innovation Way – addressing the main pedestrian pathway.</p>	<p>Yes</p> <p>Yes.</p> <p>Yes.</p>
<p>e) The connection of buildings across leased sites at various levels may be considered provided the following is demonstrated:</p> <ul style="list-style-type: none"> - The connection is primarily to improve access for occupants of the Wollongong Innovation Campus; - The physical size, height and architectural appearance of the connection is consistent with the building character and appearance objectives outlined in the approved Precinct plan; and - The connection does not significantly impact on solar access or environmental conditions to adjoining buildings or public areas. 	<p>There are no buildings crossing leased site boundaries.</p>	<p>Yes.</p>

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<p>f) Buildings adjacent to the main pedestrian spine must provide covered access in the form of undercrofts, covered ways and the like for a minimum width of 2500mm.</p>	<p>No undercrofts or awnings proposed; building is setback ~14m from the pedestrian spine. This allows for the retention of some vegetation forward of the building.</p>	<p>No but approach is supported.</p>
<p>Part 9 – Building Character & Appearance</p>		
<p><i>Objectives</i></p>		
<p>a) To ensure a high standard of urban and architectural design in the development of the site and buildings;</p> <p>b) To ensure buildings contribute architecturally to the university campus character of the development;</p> <p>c) To achieve an overall consistency in the design of buildings and the selection of façade systems, materials and finishes; and</p> <p>d) To encourage innovative design solutions.</p>		
<p><i>Performance Guidelines</i></p>		
<p>a) Buildings must be designed by a qualified and registered architect.</p> <p>b) The siting and design of individual buildings should incorporate the following 'campus character' unifying elements:</p> <p>i) Common scale of buildings;</p> <p>ii) Use of landscape as a unifying feature;</p> <p>iii) Use of common landscape elements including paving, lighting, street furniture and the like;</p> <p>iv) Provision of multiple entries to buildings and simple access to the site pedestrian structure;</p> <p>v) Linking of forecourts and landscaped areas across leased site boundaries;</p> <p>vi) Use of undercrofts and covered ways to facilitate all weather pedestrian access particularly along the main pedestrian spine and East / West link;</p>	<p>Building has been designed by qualified architects.</p> <p>The design of the building incorporates the identified 'campus character' unifying elements with the exception of the undercroft/ covered walkway – this is due to the building being setback to facilitate the retention of existing vegetation and a large forecourt entry to the building which is considered to be acceptable.'</p> <p>The recommended conditions will require common landscape elements including paving, lighting, street furniture and the like to that used in the existing developed parts of the campus.</p>	<p>Yes.</p>

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<p>vii) All sides of the building must have a positive relationship to the streetscape, landscape and pedestrian areas.</p> <p>c) Building design should incorporate the following elements:</p> <ul style="list-style-type: none"> i) Extensive use of glass, expressed steelwork and louvers; ii) Use of panelised materials for general external cladding; iii) A generally monochromatic colour scheme based generally on the use of off-white / light greys / natural / aluminium / stainless steel tones; iv) Contrast or feature elements should be generally organic in character and may include: • timber; • stone faced cladding; • terracotta tiles cladding; • bronze or other metal finish colours. v) Use of strong colours should be generally restricted and considered on merit for each proposed building and application. 	<p>Building design incorporates extensive use of glass, steelwork and aluminium sheet cladding.</p> <p>Colours are largely recessive and monotone though there are some red tones proposed which reflect the colours of the SGID; refer to the render below.</p>	
		
<p>d) The visual impact of facades should be reduced by detailed architectural treatment which may include:</p> <ul style="list-style-type: none"> i) Use of podiums and forecourts at ground level; ii) Attached structures at main access levels; iii) Setbacks and articulation of facades; iv) Modulation of sun-shading and other façade elements. 	<p>Design incorporates these features.</p>	<p>Yes.</p>

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e) For each development, a detailed site analysis must consider a range of listed matters.	Detailed site analysis documentation supplied.	Yes.
Part 10 – Landscape		
10.1 Landscape Character		
<p><i>Objectives</i></p> <ul style="list-style-type: none"> • promote the relationship of the character of the iC to the landscape character of the main UOW campus, the regional coastal landscape and its visual connection to the Illawarra escarpment; • to create a landscape setting which encourages public interaction; • to establish a landscape framework which unifies the various elements and structures of the development; • To reinforce ESD principles in landscape design, plant selection and built form. <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • The landscape character of development must be consistent with the requirements of the DCP. • plant species must be consistent with those found on-site/ in the immediate environment. Plant species should be suited to the existing site conditions and environment. • Consider placing public artwork at key points within the Campus. • A chain of ponds should play a positive role in stormwater management. The ponds provide an opportunity for a consistent landscape approach through the Campus and relate to the character of the main UOW campus. • Landscaping between & around buildings should blur the leased site boundaries and create the sense of an informal campus setting. Landscaping should enhance building entrances and forecourts and facilitate pedestrian movement between built structures. 	<p>Pedestrian links and open space connect the existing campus with the proposed CHPC.</p> <p>The open space/ landscaped areas and community field will encourage public interaction.</p> <p>The setbacks to boundaries and retention of existing substantial vegetation will assist in achieving a landscape setting to the CHPC in line with the vision sought to be achieved for the campus.</p>	Yes.
10.2 Open Space		
<p><i>Objectives</i></p> <ul style="list-style-type: none"> • provide a central open space; 	<ul style="list-style-type: none"> • pedestrian pathway proposed along alignment of pedestrian spine as per DCP requirements. 	Yes.

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<ul style="list-style-type: none"> • create a visually strong, attractive and safe series of public open spaces; • create a series of pedestrian forecourts and green spaces linked by a pedestrian spine; • provide positive and safe linkages to open spaces adjoining the Innovation Campus; • integrate open space and stormwater design to create a functional and aesthetic landscape; and • provide both passive and active recreation opportunities. <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • Open space must be consistent with the Landscape Precinct plan (Figure 17). • Within main communal landscaped areas active recreation should be included in the form of open grassed areas for informal sporting activities. 	<ul style="list-style-type: none"> • CPTED principles have been addressed in the assessment to ensure open spaces around the building are safe. • Pedestrian forecourt proposed at the entry of the building. • Large recreation areas proposed in the form of 2 playing fields – one of which will be available for community use • Open spaces will be physically and visually well connected. • Positive / safe linkage to open spaces adjoining the Innovation Campus are proposed in the form of new and improved pedestrian pathways, continuing north to connect to the public pathway accessing Squires Way to the north. • stormwater design is integrated. • This development will facilitate the provision of active recreation opportunities; passive recreation opportunities are facilitated in the IC. 	
<p>10.3 Vegetation</p> <ul style="list-style-type: none"> • preserve the “Swamp Oak Forest” at the southern end of the site and preserve, revegetate and rehabilitate the riparian corridor to Cabbage Tree Creek in accordance with the VMP; • create a “green campus” by use of appropriate native vegetation; • integrate the proposed vegetation with that found in Puckeys Estate, the escarpment and the existing UOW; • consider planting locations to maximise solar access to key areas • consider CPTED principles. 	<p>No significant native vegetation will be affected by the proposed development.</p> <p>Landscaping concept plans considered with regard to appropriateness of species selection, CPTED principles and other matters and appear acceptable subject to conditions.</p>	<p>Yes.</p>
<p>10.4 Safety and Security</p> <p><i>Objectives</i></p> <ul style="list-style-type: none"> • Incorporate CPTED principles into the detailed site landscaping; • Provide a safe environment. <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • Design open spaces / courtyards to minimise concealment opportunities. • Adopt CPTED principles • Provide well lit pathways, clear sight lines particularly near accommodation 	<p>CPTED report submitted with DA; recommendations will need to be implemented; conditions require this.</p>	<p>Yes.</p>

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<p>and public transport; connections between carparks and buildings.</p> <ul style="list-style-type: none"> • Provide CCTV to internal road and pedestrian areas and all pedestrian and vehicle entrances. • Provide natural surveillance of carparks. • Building material selection to deter criminal activity and provide protection from criminal actions. • Secure critical service supply points and installations against vandalism. 	Broad site layout and overall landscape concept appears to be consistent with CPTED principles, subject to conditions.	
10.5 Furniture	Conditions to be applied requiring a consistent range of furniture to be used to that elsewhere in the Campus.	Yes, with conditions.
10.6 Lighting	Conditions to be applied requiring consistent lighting to be used to that elsewhere in the Campus. Conditions also require lighting of entries to ensure safety for users at night time.	Yes, with conditions.
10.7 Public Art	No public art specifically proposed in this application but the applicant indicates that this might be considered in the future. The building design and forecourt area offers opportunities for future public art installations.	Yes.
10.8 Signage	Subject to separate DA.	
10.9 Fencing	Fields of play will be fenced and ball nets installed to prevent stray balls from travelling onto roads and towards adjacent buildings.	Fencing is appropriate in the context.
10.10 Streets		
<p><i>Objectives</i></p> <ul style="list-style-type: none"> • Create an accessible, safe, legible and permeable system for vehicular and pedestrian traffic. • Create a hierarchy of streets with characteristics as identified in the DCP. 	<p>No change to street layout is proposed in this application.</p> <p>It is noted that the development does not involve the construction of Road 5 which is planned to connect Innovation Way to Squires Way and provide a fourth entry/exit into and out of the Campus. The position of the building and associated car park will not preclude the future provision of the road link.</p>	

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<ul style="list-style-type: none"> Streets should be constructed to create the street system indicated in Figure 17 and sections should be constructed consistent with the sections set out in Figures 18 – 22. The relevant extract of the campus wide street/ site layout is provided below. 		



Road 5 – is described in the DCP as secondary vehicle entry with native street tree planting.

Part 11 Transport & Access		
<i>Objectives</i>		
<ul style="list-style-type: none"> provide a convenient & safe transport system for users. reduce car dependency by encouraging alternative modes of transport. cater for non-vehicular transport such as cycling and walking. minimise the environmental impact of transport and improve air quality. 		

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<p><i>Performance guidelines</i></p> <p>Transport and access planning must be integrated and implemented to include the following initiatives:</p> <ul style="list-style-type: none"> • Locating bus stops to maximise the patronage catchment and to consider personal safety, lighting and traffic management. • Providing street, footpath and open space networks for multiple pedestrian and cycle routes. • Providing within each building storage and end-of-trip facilities to encourage cycling. • Provide parking incentives such as cheaper rates or reserved spaces for high occupancy vehicles including car pools and community buses. • provide bike facilities at public transport interchanges. • Provide an integrated network of cycleways and walkways. • parking policies to support public transport use, walking and cycling. • Progressively reduce the availability of car parking within the iC. • Promote car pooling and park and ride options. • Provide incentives to employees to encourage journey to work by public transport. • Promoting and/or subsidising cheaper off peak travel by public transport. • Preparation of workplace travel plans. 	<p>Pedestrian and cycle networks are generally consistent with DCP precinct plans.</p> <p>Proposed pedestrian / cycle pathway network will facilitate ease of access to bus stops and will encourage reduced reliance on private vehicles.</p> <p>Storage and end-of-trip facilities to encourage cycling provided within the CHPC.</p> <p>New and upgraded pathways will connect/integrate with existing network.</p> <p>Car parking provision is compliant.</p> <p>Conditions are recommended requiring the provision of car / bike share spaces and EV charging spaces to encourage sustainable transport use.</p>	<p>Yes.</p>
<p><i>Traffic</i></p> <p>DCP refers to a range of road network changes to be implemented to offset the impact of traffic generated by the iC and background growth in the local road network. The timing and nature of the works is subject to detailed evaluation of the traffic growth and Innovation Campus vehicle trip generation.</p> <p>The DCP refers to works completed or underway (at the time of the 2012 Precinct plan review) which have since been completed.</p>	<p>Noted.</p> <p>Detailed traffic modelling has undertaken and a Traffic Impact Assessment was lodged with the DA. The modelling includes TRACKS and SIDRA analysis to assess the traffic impacts of the CHPC to 2031 with the following conclusions made in relation to each relevant nearby intersection:</p> <ul style="list-style-type: none"> • <u>Elliotts Road / Cowper Street</u>: Insignificant impact expected as a result of the proposed development; no upgrades or mitigation is proposed or required. • <u>Squires Way / Elliotts Road / Carters Lane</u>: The existing intersection has 	<p>Yes.</p>

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
<p><i>Pedestrian and Cycle Access</i></p> <ul style="list-style-type: none"> The pedestrian and cycle infrastructure should be extended and upgraded. provide storage, shower and changing facilities for cyclists within each building. 	<p>exceeded its practical capacity; upgrades will be required well before 2031 regardless of the introduction of the CHPC. Changes as a result of the development will be insignificant.</p> <ul style="list-style-type: none"> <u>Puckey Avenue / Squires Way</u>: The future performance of this intersection is acceptable and no upgrades or mitigation is proposed or required; development-generated traffic will have a negligible impact on the future intersection performance. <u>Puckey Avenue/ Innovation Way</u>: negligible increase in traffic generation as a result of the proposed development; no augmentation or upgrades required. <p>Pedestrian pathway will be extended along the eastern side of Innovation Way to the north which is consistent with the masterplan / Precinct Plan. Pedestrian pathways are proposed throughout the site and will connect with existing established paths.</p> <p>End of trip facilities to be provided within the CHPC as required by Chapter E3 of the DCP.</p>	<p>Yes.</p>
<p><i>Rail Infrastructure</i></p> <ul style="list-style-type: none"> The Innovation Campus is within the service area of the Fairy Meadow and North Wollongong railway stations. Connections between the Campus and rail services are achieved through a combination of walking (see Figure 26) or the 'Gong Shuttle' which has dedicated stops at the iC. The DCP refers to ways in which to improve rail accessibility however these are broader strategies that do not apply to individual applications. 	<p>Noted.</p>	<p>Noted.</p>
<p><i>Parking Strategy</i></p> <ul style="list-style-type: none"> Parking within Innovation Campus should be provided to satisfy the Campus demand diversity, including visitors, events, students, residential and staff. Provide parking at an average rate between 1 space per 40 to 80sqm of GFA. Note; at the 2013 review the ratio of spaces to GFA was 1 space per 	<p>The proposal provides for parking within the main car park to the south of the CHPC, in the existing car parking area servicing the childcare centre and alumni bookstore within the heritage huts, and alongside Innovation Way.</p> <p>The overall number of car spaces across the campus, inclusive of the proposed carparking to support the CHPC is 1163. On the basis of the overall GFA of development on the campus, there will be</p>	<p>Yes.</p>

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Standards/controls	Comment	Compliance
<p>60 sqm GFA (with development around 40% of the total permissible).</p> <ul style="list-style-type: none"> • Configure parking provision to provide adequate parking controls and enforcement regimes including: <ul style="list-style-type: none"> i) Identified visitor parking. ii) Centralised staff parking. iii) Secure reserved / allocated parking for staff and residents. iv) Parking bays for service vehicles, taxis, bus bays and the like. • Provide parking spaces generally within development lots and / or in centralised locations such as Multi-Storey Car Parks. Temporary on-grade parking stations will be progressively reduced as the Campus is developed and land is utilised for development. 	<p>1 car space:57.287sqm GFA, which is within the range sought to be achieved by the DCP.</p>	
Part 12 Floodplain Management		
12.1 Flooding		
<ul style="list-style-type: none"> • Set minimum floor levels for the ultimate development at iC at the 100 year ARI flood level + 0.9m freeboard (based on the results of the 2016 flood modelling). • Incorporate flood compatible building materials for all structures at or below the 100 year ARI level + 0.9m freeboard. • All internal roads to achieve trafficability during 100 year ARI storm events. • Protect basement carparks from floodwater. 	<p>Detailed site-specific flood modelling has been undertaken and a site-specific flood study provided in support of the DA which specifies minimum floor levels and requirements for the development; these have been reviewed by Council's Stormwater Engineer and were deemed satisfactory.</p>	<p>Yes.</p>
12.2 Flood Access and Evacuation		
<p>Provide safe refuge within the site including:</p> <ul style="list-style-type: none"> i) Minimum floor levels set at 100 year ARI flood level + 0.9m freeboard. ii) Multi storey buildings with upper floor levels several metres above PMF. iii) The central section of the main pedestrian spine set at a minimum 	<p>Detailed site-specific flood modelling has been undertaken and a site-specific flood study provided in support of the DA which specifies minimum floor levels and requirements for the development . These have been reviewed by Council's Stormwater Engineer and were deemed satisfactory.</p>	<p>Yes.</p>

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
elevation equal to 100 year ARI flood level +0.9m freeboard.		
Part 13 – Heritage		
<p>13.2 Aboriginal Archaeological Assessment</p> <ul style="list-style-type: none"> • Previous studies stated that there are no known Aboriginal heritage constraints to the proposed development. • Stop works if any Aboriginal relics are identified during works. 	<p>Noted. Due Diligence Assessment has been submitted with DA.</p> <p>Consultation with NSW Heritage and relevant Aboriginal community groups has been undertaken as part of the DA assessment.</p> <p>NSW Heritage has recommended conditions including the implementation of an unexpected finds protocol and staff induction around Aboriginal cultural heritage.</p>	Yes, with conditions.
<p>13.3 European Heritage - Brandon Park</p> <p>i) The peripheral landscape and stream shoreline to the site should be maintained and enhanced.</p> <p>ii) No activity or works should be allowed that would have a substantial detrimental effect on the significance, landscape and environmental qualities of the shoreline.</p>	<p>No works are proposed in the vicinity of the shoreline. Development works are setback from riparian corridors in accordance with applicable controls.</p>	Yes.
<p>13.4 European Heritage – Campus East Background</p> <ol style="list-style-type: none"> 1. The northern end of the site was used as a migrant hostel in the period 1950-1982. 2. In 2004, two Nissen type huts were relocated adjacent to an existing hut to form a heritage precinct. Refer fig. 31. 3. This precinct is listed on the NSW State Heritage Register. <p><i>Performance Guidelines</i> Submit required information with a DA relating to any item of environmental heritage:</p> <ol style="list-style-type: none"> i) A statement of heritage impact. ii) A statement of compliance with the relevant provisions of Wollongong LEP, the Heritage Act 1977 (if relevant) and Wollongong City Council’s Development 	<p>Background noted.</p> <p>Required information has been submitted with the DA.</p>	Yes.

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Standards/controls	Comment	Compliance
<p>Control Plan 2009 Chapter E11 Heritage Conservation.</p> <p>iii) Application made under Section 60 of the Heritage Act 1977 to the NSW Heritage Office.</p>		
<p>Part 14 - Ecologically Sustainable Development</p>		
<p><i>Objectives</i></p> <ul style="list-style-type: none"> • To incorporate into the Innovation Campus site, buildings and infrastructure best practice ESD strategies. <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • Reduce CO2 emissions by applying energy efficient design principles and utilising low or zero carbon technologies; Reduce water use by integrating water re-use strategies, efficient plant, appliances and fittings; • Reduce construction and demolition waste to landfill and enable in use recycling. • Increase the use of sustainable modes of transport; • Improve the capacity of the built structures to operate under the different and changing conditions predicted in the future; • Mitigate the risk of flooding and design for flood resilience; • Material selection that reduce the embodied lifetime environmental impacts. • Reduce unavoidable building related emissions. • Enhance the ecology and biodiversity of the iC by protecting existing habitat and by introducing new habitats for endemic flora and fauna. • Provide for a safer, more accessible, healthy and comfortable campus environment; • Develop a campus and built environment that reduces crime and adverse impacts on neighbours through design and good practice in construction and operation. • The Innovation Campus encourages the adoption of ESD rating tools. • All development in Stage 2, where practical, must be designed to have 	<p>The DA was accompanied by a Sustainability Report which states that the project's design will be informed by recognised sustainability benchmarks within rating tools such as Green Star & WELL demonstrate alignment with 'National Best practice' measures for sustainability and wellness.</p> <p>Refer to discussion in Section 2.4.1 of the report with regard to Chapter E2 of the DCP.</p>	<p>Yes.</p>

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
<p>equal or better rating compared to the previous equivalent type of building / development constructed at iC (eg. Design ABGR of 4.0 Stars; Base building NABERS commitment of 4.5 stars;</p> <ul style="list-style-type: none"> • Base building NABERS commitment of 4.5 star. 		
Part 15 - Environmental Design and Management		
<p>15.1 Acoustics</p> <p><i>Objectives</i></p> <p>a) To minimise the impact of the development on adjoining residential development.</p> <p>b) To generally reduce the background acoustic levels within the site consistent with a campus environment.</p> <p><i>Performance Guidelines</i></p> <p>a) Noise levels at boundaries of the site should not exceed:</p> <ul style="list-style-type: none"> i) Day 40dB(A); ii) Evening 38dB(A); iii) Night 35dB(A). <p>b) Provide an acceptable acoustic environment.</p> <p>c) Demonstrate that external ambient noise from traffic, other buildings and adjoining properties has been considered in determining design details for buildings and site works.</p>	<p>A Noise Impact Assessment was supplied which discusses the potential noise impact of the development upon the nearest affected noise-sensitive receivers. Refer to detailed discussion in Section 2.7 of the report.</p>	<p>Yes.</p>
Part 16 – Services Infrastructure		
<p><i>Performance Guidelines</i></p> <p><i>Water (Sydney Water)</i></p> <ul style="list-style-type: none"> • The site will be serviced progressively utilising a new 150mm dia. Sydney Water Main installed within the iC services spine (adjacent Innovation Way) with connections to Sydney Water's external water main infrastructure. • The internal Sydney Water Main will be a combined Fire and potable Water 	<p>An Infrastructure Report was supplied with the DA which identified the existing utilities / infrastructure within the site and any expected impacts or required upgrades.</p> <p>Endeavour Energy has been consulted and provided comments. No objection has been raised.</p> <p>It will be necessary to obtain the necessary authority approvals prior to undertaking</p>	<p>Yes, with conditions.</p>

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Standards/controls	Comment	Compliance
<p>Service and each development lot will have their own dedicated connections.</p> <p><i>Electricity (Endeavour Energy)</i></p> <ul style="list-style-type: none"> The site will be serviced progressively with EE infrastructure consisting of high voltage power lines and a series of substations. A high voltage back-bone will be installed within the iC services spine (adjacent Innovation Way). Ultimate development of the iC will require the augmentation of the existing supply arrangements via a dedicated HV feed from their Mount Ousley Zone Substation. Development sites are supplied with power from local pad mounted Endeavour Energy sub-stations. <p><i>Communication Services</i></p> <ul style="list-style-type: none"> A network of communication pathways shall be installed along the main services spines throughout the iC. <p><i>Sewer (Sydney Water)</i></p> <ul style="list-style-type: none"> A network of private sewer infrastructure will be installed throughout the iC to serve the developments. Sewer infrastructure is installed, to suit the staging of the development, within the main services spine (adjacent Innovation Way). The private sewer network discharges to the Sydney Water external sewer infrastructure in Squires Way. <p><i>Gas (Alinta)</i></p> <ul style="list-style-type: none"> A network of private gas infrastructure will be installed throughout the iC to serve the developments. The private infrastructure is connected to Alinta gas supplies at the site boundary. 	<p>works on the site or in the vicinity of existing infrastructure.</p>	
Part 17 – Water Sensitive Urban Design		
<p><i>Objectives</i></p> <p>The iC should:</p>	<p>The submitted Stormwater Management Plan incorporates stormwater quality and water sensitive urban design measures to be implemented in order to maintain water</p>	<p>Yes.</p>

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
<ul style="list-style-type: none"> • Encourage a flexible strategy for water re-use in order to reduce demands on potable supply. • Provide at-source treatment solutions which target pollutants at an early stage within the urban water cycle. • Provide effective control of a range of diffuse urban pollutants including suspended solids, nutrients, heavy metals and oil and grease. There should be no net increase in pollutant loads resulting from the development. • Limit the transport of coarse debris and litter into waterways. • Encourage development of healthy natural aquatic systems through appropriate design of stormwater treatment wetlands. Integrate water quality controls into the built form to meet architectural and landscape objectives. • Minimise long term maintenance. • Balance capital costs against environmental benefits and ensure good environmental ‘value for money’ is achieved. <p><i>Performance Guidelines</i></p> <p><i>Clean water-</i> includes potable water from the reticulated supply system and run-off from ‘clean’ roof surfaces.</p> <ul style="list-style-type: none"> • install water efficient fittings to all new buildings. • dual plumb new buildings to allow an alternative water source to be used for toilet flushing. • Treated (re-used) water plumbing to be extended in buildings to allow future connection to cooling towers. • wastewater or recycled water mains to be continued throughout the iC to allow future flexibility in alternative water source connections to each development. • Use captured rainwater for recycled use within buildings to reduce potable water consumption and improve water quality during storm events. <p><i>Stormwater</i></p>	<p>quality during and after construction. The report states that the development will achieve NoBE (Neutral or Beneficial Effect) for permanent stormwater quality. Using the MUSIC model, the NoBE is met using bioretention, channels and rainwater tanks. Conditions of consent are recommended for imposition in this regard.</p>	

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Standards/controls	Comment	Compliance
<p>Expand and enhance the existing storm water treatment elements.</p> <p><i>Wastewater (Grey and Blackwater)</i></p> <ul style="list-style-type: none"> guidelines for further development shall include a focus on re-use of rainwater for toilet flushing / cooling tower make up purposes rather than grey water reuse; The UOW will update the analysis on sewer mining in the future to see the impact on the revised Legislation. 		
Part 18 – Lifestyle Health		
<p><i>Performance Guidelines</i></p> <p>Provide a walking / jogging track; opportunities for informal group recreation such as half-court basketball; playing fields.</p> <p>Provide staff facilities including lockers for clothing / shoes to encourage staff to cycle to / from work; showers; bike lockers; filtered water drinking fountains; healthy food options; condom vending machines and provide medical services on-site.</p>	<p>The pedestrian/ cyclist network will be augmented and upgraded to service the CHPC and to integrate it with the broader network within the existing IC and that on the western side of Squires Way. This will encourage active lifestyle choices to be made including sustainable transport usage.</p>	Yes.
Part 19 - Disabled Persons' Requirements		
<ul style="list-style-type: none"> Site and building development must comply with the Disability Discrimination Act 1992 (DDA), BCA and applicable Australian Standards. 	<p>Compliance with the NCC and applicable standards will be required.</p> <p>An accessibility report has been provided with the DA which confirms that the development will provide equitable inclusive access for site users in a manner that is consistent with the relevant requirements of the DDA, NCC and WDCP 2009.</p>	Yes.
Part 20 – Forward Planning		
<p><i>Forward Planning Strategy</i></p> <ul style="list-style-type: none"> The UOW co-ordinate the planning and implementation of the works in accordance with the staging outlined in section. 5. The Forward Planning Strategy is linked to the following stages of development: 	<p>Noted. This and other recent development will result in the overall development of the Campus exceeding the 95,000sqm GFA trigger for the review of the masterplan.</p> <p>The UOW and WCC have commenced discussions around the review of the Master plan.</p>	Review to commence.

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<i>Standards/controls</i>	<i>Comment</i>	<i>Compliance</i>
<p><i>Total Development (GFA sqm)</i> 55,000m2 Stage 1 - Complete 95,000m2 Stage 2 135,000m2 Stage 3 (Ultimate) Section 19.2 identifies the general order of works as a notional staging strategy.</p>	<p>Agreement has been reached between WCC and UoW on a program for progressing the DCP review as a priority.</p>	
<p>20.2 Notional Staging Strategy</p> <p><i>Performance Guidelines</i></p> <ul style="list-style-type: none"> • The project should be developed from the centre outwards and should not occur randomly over the site. • Services and site infrastructure works should proceed to meet building requirements. It is not proposed to complete all roadworks or landscaping to the site in the early stages for example. • The Transport and Access Strategy must be reviewed and updated match the impacts of the development and Staging. • The iC should generally be developed in accordance with the notional staging strategy indicated below. 	<p>The development of this northern part of the site is contemplated to occur within the DCP nominated Stage 3. This development is however occurring prior to the completion of the full extent of 'Stage 2'.</p> <p>Council cannot however deny the lodgement of a development application proposing a sequence of development inconsistent with that shown in the DCP.</p>	<p>Yes</p>