



Infrastructure Services Delivery Plan UWS Project

December 2015 Draft E

A document prepared to describe the Items of Works listed in Schedule 3 of the Planning Agreement between University of Western Sydney, UrbanGrowth NSW and Campbelltown Council

Document Status

Revision	Author	Reviewer/Approver	Comments
	Name	Name	
Draft A	Peter Lawrence	Peter Lawrence Vy Nguyen	Draft issued to UWS and Mick Owens for comment 30 October 2012.
Draft B	Peter Lawrence Vy Nguyen	Peter Lawrence	Issued to Campbelltown City Council for information.
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Purpose

The UWS Project Infrastructure Services Delivery Plan (ISDP) is a document which provides greater detail in respect to the items of work to be delivered by way of the Planning Agreement between the University of Western Sydney (UWS), Landcom (t/a UrbanGrowth NSW) and Campbelltown City Council.

The ISDP is a defined term in the Planning Agreement and is specifically referenced in that document as follows:-

- 1. In Schedule 3 to Clause 11 of the Planning Agreement which lists the Items of Works to be delivered as Development Contributions;
- 2. In Clause 12.2 which provides that the content of the ISDP can be considered in determining whether to approve a variation to the scope or timing for the provision of Development Contributions under the Planning Agreement; and
- 3. In Clause 16.3 which provides that Council cannot require the Developer to make major modifications to the design and specifications in the scope of works to be carried out under the Planning Agreement.

To assist in the interpretation and implementation of the Planning Agreement, this ISDP includes:-

- A more detailed description of the scope of works and/or concept plans showing the general location and configuration of works on the site. This is consistent with and in some cases provides more detail than the Plans at Schedule 4 of the Planning Agreement;
- A budget estimate (ex. GST) for the delivery of the item based on the scope of works or concept plans referenced; and
- A discussion confirming the rationale for the staging or delivery of each item of works based on either a lot threshold or Stage (or sub-stage) of works.

In reading this document, the following should be noted:-

- The Description of the Works outlines the scope of works proposed to be delivered.
- The proposed costs are estimates and are provided only for information purposes. The estimated budgets are outlined to give an understanding and context to the scope of works proposed. There is nothing to stop the same works being delivered at a reduced cost if efficiencies can be negotiated at tender or through the detailed design stage. On the other hand, works will not be reduced if the tendered cost exceeds the budget estimate for the carrying out of works on site, but not for monetary contributions.
- The discussion on costs provided for each Item of Works in this ISDP does not include maintenance and defects liability periods, both of which are covered separately in the Planning Agreement.
- The estimated budget for the delivery of each item excludes an allowance for contingency, professional fees and development application fees. Items identified in the Scope of Works (in Column 3 of Schedule 3 of the Planning Agreement) may be varied or substituted with Works of equivalent value but only with the Agreement of all parties to the Planning Agreement.

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Proposed development

The UWS site incorporates a majority of land within a triangular area bounded by the Hume Highway, Narellan Road, Gilchrist Drive and the Main Southern Railway Line with the notable exception of the TAFE Campus.

The residential development is approximately 118 hectares. The development proposes around 850 dwellings with associated open space, community facilities and service infrastructure.

Timing

The timing of provision or hand over of the works is based on Schedule 3 of the Planning Agreement with the expectation that, in most cases, the Items of Works nominated will be either progressively handed over prior to the release of the Subdivision Certificate for the relevant Development Area or based on a lot threshold. However, it is recognised that the Development Areas identified in the indicative sequencing plan should only be treated as indicative and it may become necessary to modify the sequencing based on the delivery of the proposed development from time to time with the agreement of Council under Clause 12 of the Planning Agreement. Items of material public benefit will be provided in conjunction with the relevant development area.

Part A

Development Contributions – Carrying Out of Works

The following lists the items of works and a discussion on the scope, budget and staging in order as they appear in Schedule 3 of the Planning Agreement.

1. Gilchrist Drive Intersection (GDI)

Public Purpose:	Roads and intersection upgrade.
Staging Rational / Development Area:	Works associated with Gilchrist Drive Intersection will be complete for the release of the Subdivision Certificate for Stage 2.
Description of Works	The development will provide for the relocation of the Gilchrist Road/Gilchrist Drive intersection (north of its current location) and will include the introduction of traffic signals to provide four way movements into and from the site including a separate right hand turn lane from Gilchrist Drive into the site and a short left turn slip lane from Gilchrist Drive into Goldsmith Ave. UrbanGrowth NSW/UWS will also provide for the provision of a shared cycle/pedestrian path to connect to the existing one on Gilchrist Drive and offset works being extension of the left hand turn lane to feed into the existing dual left turn lanes into Narellan Road.
Core Elements	As described above.
Estimated Works Value:	The scope of works above includes works required to cater for the proposed development, Macarthur Gardens North site and growth of the academic campus. The estimated cost to undertake the works as identified above is approximately \$1,800,000.

MDDitranium I
BOTANIC CARDELLE

MACARTHURS QUARE SHOPPING CENTRE

MACARTHUR GARDENS

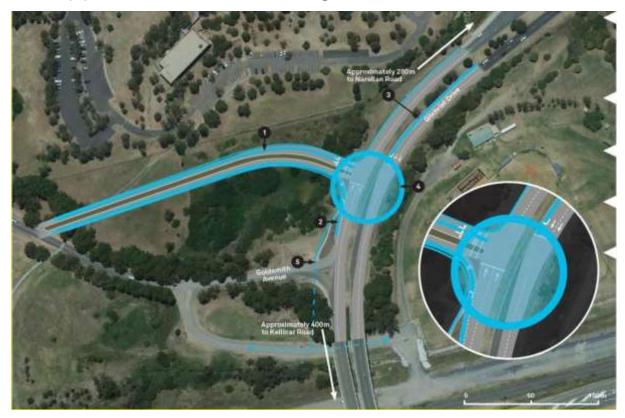
MACARTHUR GARDENS

DAM GENT

LEGEND

The plan below shows the location of the Gilchrist Drive Intersection (GDI).

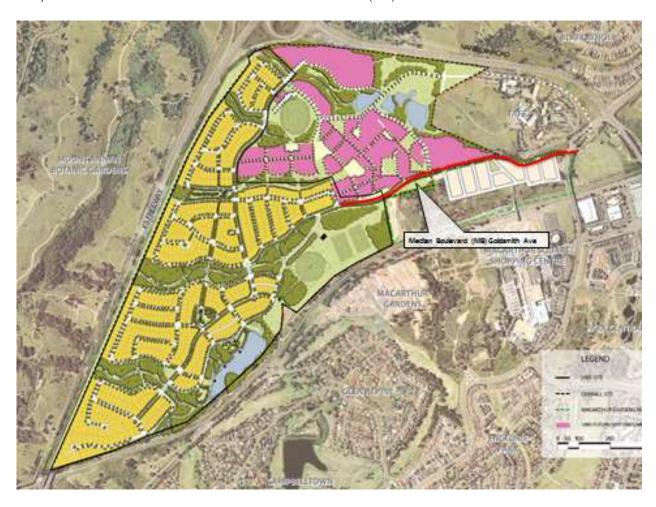
The concept plan of the intersection is shown in the diagram below.



2. Goldsmith Ave (MB)

Public Purpose:	Roads
Staging Rational / Development Area:	Works associated with the delivery of Goldsmith Ave will be completed by the Subdivision Certificate for Stage 2.
Description of Works	Goldsmith Ave will have a varied treatment depending on the road section through the entry, campus or sports precinct, with the intention of slowing traffic and crossing pedestrians in front of the school of medicine/campus precinct. The concept design of Goldsmith Ave was included in the first Development Application.
Core Elements:	Goldsmith Ave - This will be a signature entry road for the subdivision and University and will comprise a landscaped boulevard with tree lined footpath areas and centre planted median capable of achieving connecting canopies over the carriageway. The carriageway will be one trafficable lane in each direction with no provision for parking. On road cycle ways will be located within the carriageway. A new temporary access will be provided from Goldsmith Ave for access to Gilchrist Oval.
Estimated Works Value:	The estimated cost for the construction of Goldsmith Ave is approximately \$3,700,000.

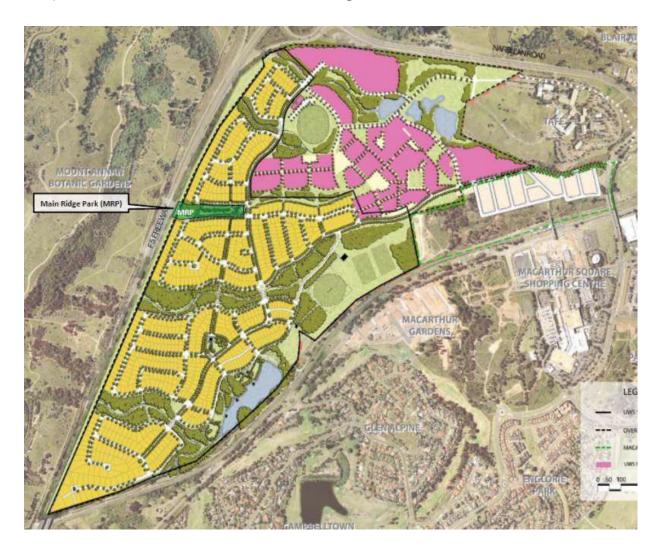
The plan below shows the indicative location of Goldsmith Ave (MB).



3. Main Ridge Park (MRP)

Public Purpose:	Open space
Staging Rational / Development Area:	Works associated with Main Ridge Park will be complete for the release of the Subdivision Certificate for Stage 2.
Description of Works:	The development of Main Ridge Park (west of Road No 1) will comprise a series of terraces for informal and passive recreation with open lawns and tree planting for shade, together with barbecue facilities and a sculptural play area. It will transition from formal areas adjacent to Road No 1 in the east to natural areas of planting in the west and the terraces will follow the underlying topography of the ridge. The terraces will be retained by rock walls.
Core Elements:	The sculptural play area will double as a public art piece. A shelter and BBQ area will also be provided in this eastern part of the Park. The western part of the park will include a table and seating. A plan of the design included in the Development Application Plan already submitted to Council is at Appendix 3-A . The works also include construction of an adjoining pedestrian access through the Stage 1 subdivision to the park. This work will include concrete stairs 2.5m wide with centre rail and edge landscaping
Estimated Works Value:	The estimated cost to undertake this work as outlined above is approximately \$1,300,000.

The plan below shows the indicative location of Main Ridge Park.



4. Green Corridors (R1 - R5)

Public Purpose:	Open space and drainage
Staging Rational / Development Area:	Works associated with the Bush Link Parks will be complete for the release of the Subdivision Certificate as follows:
	R2 & R3 – (Located between Stages 1 and 4) – Works to be commenced before the issuing of the Subdivision Certificate for sub-stage 4C in the development. Dedication is to occur on or before completion of the works.
	R4 & R5 – Works to be commenced before the issuing of the Subdivision Certificate for sub-stage 4A in the development. Dedication is to occur on or before completion of the works.
	R1 – Works to be commenced before the issuing of the Subdivision Certificate for substage 5B in the development. Dedication is to occur on or before completion of the works.
Description of Works:	The development of the various Green Corridors will include bushland management and revegetation, construction of cycle ways, pedestrian bridges, seating, signage and rain gardens. Works may also include creek line stabilisation works and construction of weirs, pools and riffles as required.
Core Elements:	As above
Estimated Works Value:	The estimated cost to undertake the works as identified above is approximately \$6,400,000.

The plan below shows the indicative location of Bush Link Parks.



5. Sports Precinct (SP)

Public Purpose:	Open Space
Staging Rationale / Development Area:	Works to the Sports Precinct shall be commenced before the issuing of the Subdivision Certificate that creates sub-stage 4C in the development. Dedication is to occur on or before the completion of works. In the interim, the existing sports field and facilities will be adequate for the initial releases.
	Please note that the UWS will separately hold discussions with Council in regards to an in perpetuity lease for the reasonable use of the Sports Precinct by the University during core semester periods, prior to dedication to Council.
	The parties acknowledge that the dedication of land will exclude the land on which the telecommunications equipment is located, also including an easement for access to that equipment.
	The parties also acknowledge the intentions of UWS and Council that the UWS gym and land on which it is located is to be sold to Council on an 'as is where is' basis, pursuant to a separate contractual arrangement that will deal with terms and payment conditions. The parties anticipate that the transfer and payment will occur contemporaneously with registration of the relevant plan of subdivision to create a distinct title for the relevant land.
	The plan below shows the location of the Sports Precinct, along with the UWS gym land that is to be sold to Council.
Description of Works:	The development of the Sports Precinct is intended to provide the structured active recreation and community uses for the residential and campus components of the development. Concept Plans showing the general configuration of uses in this area are at Appendix 6-A .
Core Elements:	 Conversion of the existing oval as a training ground (retain existing flood lighting to field and ensure lighting achieves a minimum of 50 lux).
	 Conversion of the golf driving range area to competition standard ovals including flood lights to a 100 lux standards, irrigation, drainage and turfing. The playing surface may be raised above low intensity flood events subject to the achievement of required stormwater detention/storage in the basins.
	A new access driveway and adjacent 90 degree sealed car park for 80 cars defined by a kerb line will be provided for use by visitors to the sport fields, community meeting space and gymnasium (including any other commercial use of the building or adjoining area).
	 Seating, benches, table/seats, bollards, bins & drinking fountains.
	 Playground (under 5 years old) including slides, swings, incidental seating and soft fall.
	A new amenities building incorporating team change rooms, canteen, toilets

and storage (see **Appendix 6-B** for conceptual layout and siting options).

- The use of part of the existing Gym Building as a community room/meeting space (see Appendix 6-C for plans showing the area to be designated for community room/meeting space and area to be retained by UWS for the existing gym and outdoor exercise area).
- 2 courts (either netball, tennis or similar).
- The Gym building, amenities building and car park area are to be linked by pedestrian paths with bollard or other appropriate security lighting.
- Construction works may include retaining structures as well as bio-retention basins. Works may also include widening and/or realignment of the detention bund walls to improve recreation spaces as well as bush regeneration and creek works (excluding Bow Bowing Creek which is addressed separately in this ISDP).

Should Council not proceed with the separate acquisition of the remainder of the Unifit Gym building, the following areas will be excluded from dedication to Council:-

• That part of the Unifit Gym building fitoutted out as a gymnasium, change rooms and ancillary functions. In this event, it is intended to subdivide the existing Gym building and adjoining court exercise area as nominated on the plans to remain in UWS ownership. Appropriate access between the car park and building shall be nominated as required on any plan of subdivision to create the lot to be dedicated to Council. That part of the building nominated as community/meeting, together with the sports field land will be dedicated to Council space (as shown on the plans already referenced at Appendix 6-C).

For clarity, the following areas will be excluded from dedication to Council:-

A small area adjacent to the playing fields will not be dedicated and remain in
the UWS ownership to meet existing commercial arrangements to erect a
telecommunications tower required to meet cellular coverage requirements in
the area. The telecommunications tower will double as a flood light pole for
the sport fields, and licences will be granted in Council's favour for access
and maintenance of the lighting. The location for the telecommunications
tower and ancillary equipment rooms is shown on the concept plan
referenced at Appendix 6-A.

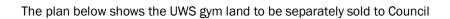
Estimated Works Value:

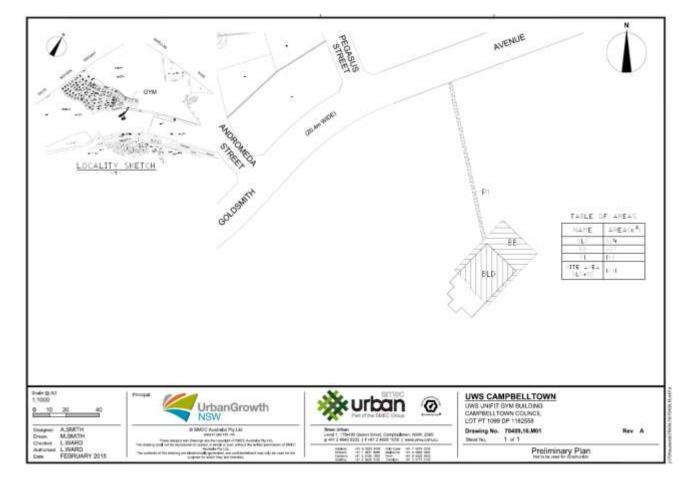
The estimated cost for the delivery of the Sports Precinct inclusive of amenities building and an allowance for works to enable strata of the community meeting room/space within the existing Gym Building as outlined above is approximately \$5,500,000.

The costs exclude reconstruction of Bow Bowing Creek and construction of the Macarthur Regional (Cycle) Trail and upgrades or work to the regional detention basins, which are separately addressed in this document



The plan below shows the location of the Sports Precinct (SP).





6. Bow Bowing Creek (BBC)

Public Purpose:	Drainage
Staging Rational / Development Area:	Works associated with Bow Bowing Creek realignment and naturalisation will occur in conjunction with works to the Sports Precinct and Harrison's Dam Precinct and shall be commenced prior to issuing the Subdivision Certificate that creates sub-stage 4C of the development. Dedication of the land is to occur on or before the completion of works.
Description of Works	The development with the Harrison's Dam Recreation Park Precinct and Sports Precinct will include works to Bow Bowing Creek and re-vegetation of riparian corridors.
Core Elements:	Bow Bowing Creek is generally contained within a concrete channel through the site.
	The works to Bow Bowing Creek will include the realignment of the creek where it traverses across the former golf driving range to run adjacent to the railway line.
	Works will be carried out to return the channel to a more natural creek line and may include installation of rock to create pools and riffles, weed eradication and planting either side of the Creek within the Sports Precinct and Harrisons Dam Recreation Park Precinct.
	The works will generally cease adjacent to the existing Macarthur Gardens North site after it ties back into the more natural Bow Bowing Creek line.
Estimated Works Value:	The estimated costs to undertake this work as outlined above is approximately \$2,100,000.

The plan below shows the indicative location of Bow Bowing Creek (after the proposed re-alignment).



7. Harrison's Dam Recreation Park (HDP)

Public Purpose:	Park and open space
Staging Rationale / Development Area:	Works to the Harrisons Dam Precinct will be commenced before the issuing of the Subdivision Certificate that creates sub-stage 5A in the development. Dedication of the land is to occur on or before the completion of works.
Description of Works:	The development of the Harrison's Farm Dam Recreation site is intended to provide a significant focal point for passive recreation pursuits centred around Harrison's Farm Dam. Concept Plans prepared for this area are at Appendix 8-A which show the general configuration of uses within this Precinct.
Core Elements:	 Two (2) picnic shelters (with roof structure) and facilities including BBQs. Bench seating, bins, bubbler and bike racks. Children's Playground (5 to 12 years) including slides, swings, incidental seating, soft fall and shade structure. Lakeside edge walk adjacent to section of northern bank and separate boardwalk area to west of dam. Pedestrian paths and bridge linking facilities with signage. Construction of retaining walls and rain gardens as required. Regeneration, revegetation and planting of retained remnant Cumberland Plain Woodland. Provision of lawn areas.
Estimated Works Value:	The estimated cost for the Harrison's Farm Dam Recreation Park as outlined above is approximately \$3,900,000. The costs exclude reconstruction of Bow Bowing Creek, works to Harrison's Dam bund wall for detention and construction of the Macarthur Regional Recreation Trail (cycleway), which are all addressed separately below.

The plan below shows the location of the Harrisons Dam Recreation Park (HDP).



8. Macarthur Regional Recreation Trail (MRT)

Public Purpose:	Cycleway
Staging Rationale / Development Area:	Works for key sections of the Macarthur Regional Recreation Trail will occur in conjunction with works to the Sports Precinct and Harrison's Farm Dam Recreation Park Precinct.
	All sections of the Trail are to be commenced before the issuing of the Subdivision Certificate for sub-stage 5B of the development.
	The plan below shows the indicative location of the Macarthur Regional Recreation Trail.
Description of Works:	The development of the Macarthur Regional Recreation Trail (cycleway) through the site will deliver an important link in the planned shared pedestrian and cycleway trail connecting Camden and the Macarthur Railway Station.
Core Elements:	Works to be delivered include construction of a 2.5m or 3.5m wide concrete cycleway as appropriate from the Hume Highway adjacent to the Australian Botanic Gardens, through the Harrison's Farm Dam Recreation Park Precinct and Sports Precinct as an off road construction up to the boundary of the existing Macarthur Gardens North land.
	From this point and as an interim solution, the Macarthur Regional Recreation Trail will connect to an "on road" cycle way provided within the Goldsmith Ave reservation through to Gilchrist Drive. In the longer term, the Macarthur Regional Trail will be extended "off road" through the Macarthur Gardens North site adjacent to Bow Bowing Creek to link with Macarthur Railway Station as part of the development of Macarthur Gardens North land.
Estimated Works Value:	The estimated cost for the construction of the trail within the UWS residential project is approximately \$2,000,000. This cost includes construction a 2.5m / 3.5m wide path and pedestrian/cycle bridges as required through the Sports Precinct and Harrison's Dam Precinct.

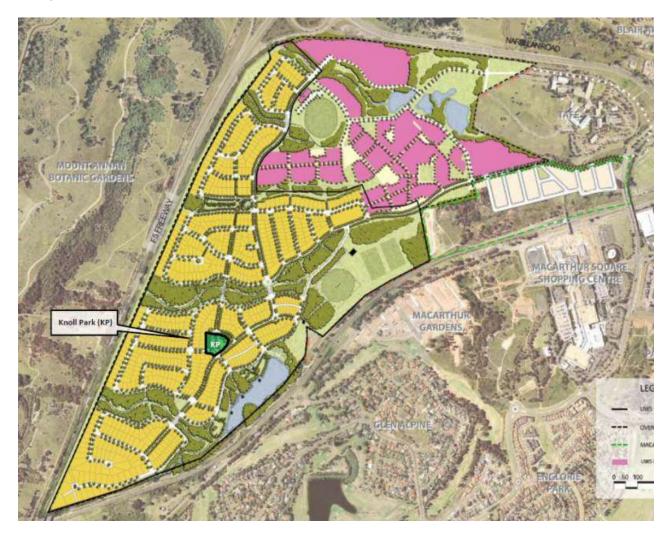
The plan below shows the indicative location of the Macarthur Regional Recreation Trail.



9. Knoll Park (KP)

Public Purpose:	Open Space
Staging Rational / Development Area:	Works associated with Knoll Park will be commenced before the issuing of the Subdivision Certificate for sub-stage 4C in the development.
	Dedication of the land is to occur on or before the completion of works.
Description of Works:	The development of Knoll Park will include earthworks to produce recreation and lawn areas defined by paths and retaining walls. The park will include seats, a shelter, bubbler and signage. Concept Plans prepared for this area are at Appendix 10-A .
Core Elements:	The knoll park is a structured lawn area and lawn terraces areas for passive recreation. The park will incorporate edge landscaping and pathways. A focal feature will be provided comprising pavement art, treatment or similar.
Estimated Works Value:	The estimated cost to undertake this work as outlined above is approximately \$700,000.

The plan below shows the indicative location of Knoll Park.



10.Flood Detention Basins (FDB)

Public Purpose:	Drainage
Staging Rational / Development Area:	Works associated with Flood Detention Basins will be complete for the release of the Subdivision Certificate as per the recommendations in the Flood Report prepared for each Stage.
Description of works	The existing detention structures including Harrison's Dam Wall and basin walls (located at the north eastern end of both the playing field and golf driving range) will be upgraded as required to cope with dam break scenario. The works will focus on strengthening, modifying outlets and slightly increasing the height of the detention structures (i.e. bund walls) as identified in the flood mitigation report.
Core Elements:	As described above.
Estimated Works Value:	The estimated total cost to undertake the works as identified above is approximately \$2,200,000.

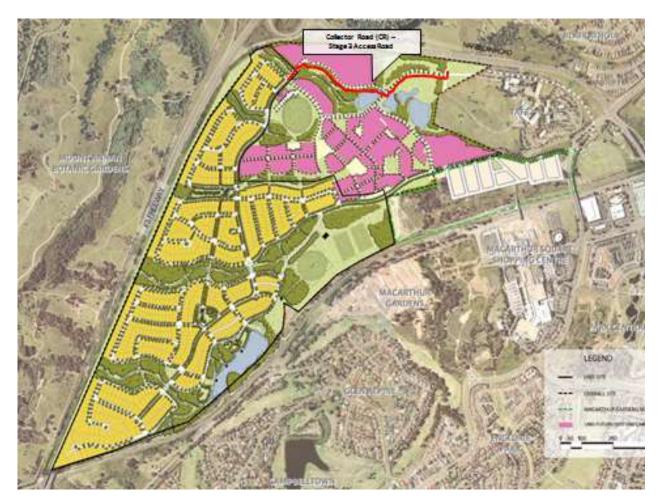
The plan below shows the indicative location of Flood Detention Basins.



11. Local and Collector Roads (CR)

Public Purpose:	Roads
Staging Rational / Development Area:	Works associated with the delivery of local roads and collector roads within each stage will generally be complete for the release of the Subdivision Certificate for the final sub-stage in each Stage. Works associated with the construction of the Stage 3 access road linking Stage 3
	with William Downes Drive has been modelled by AECOM and is to be completed before the issuing of the Subdivision Certificate for sub-stage 4C in the development
Description of Works	The development will include the creation of local and collector roads to be dedicated to Council. The roads within each of the Stages will be designed in accordance with UrbanGrowth NSW's Street Design Guidelines as varied to meet local environmental factors (such as wider roads for bushfire access) and will be constructed to Council standards within each Stage.
Core Elements:	Parts of the two collector roads linking with the surrounding road network and the residential stages (ie the William Downes Drive part of the Stage 3 Access Road) will be constructed to different standards from UrbanGrowth NSW's Street Design Guidelines as follows:-
	William Downes Drive and Stages 2 and 3 Collector Road – This existing William Downes Drive connects the intersection at Narellan Road with the campus development and is one trafficable lane in each direction. The road has no kerb or kerbside parking. Drainage is by grass swale adjacent to the road pavement.
	It is proposed to maintain the existing road profile of William Downes Drive generally between the intersection of the Collector Road which will access Stage 3 and the roundabout located toward the Narellan Road frontage and subject to any widening proposed as part of the Narellan Road entry works.
	The Collector Road from its intersection with William Downes Drive to Stage 3 will be as per the UrbanGrowth NSW Street Design Guidelines
Estimated Works Value:	The estimated cost for the construction of the Stage 2 and 3 Collector Road including William Downes Drive and other local bridges / culverts is \$4,900,000.

The plan below shows the indicative location of the Stage 2 and 3 Collector Road including William Downes Drive. Other local and collector roads (including bridges / culverts) are not shown.



Part B Development Contributions – Monetary Contributions

12. Macarthur Station Access

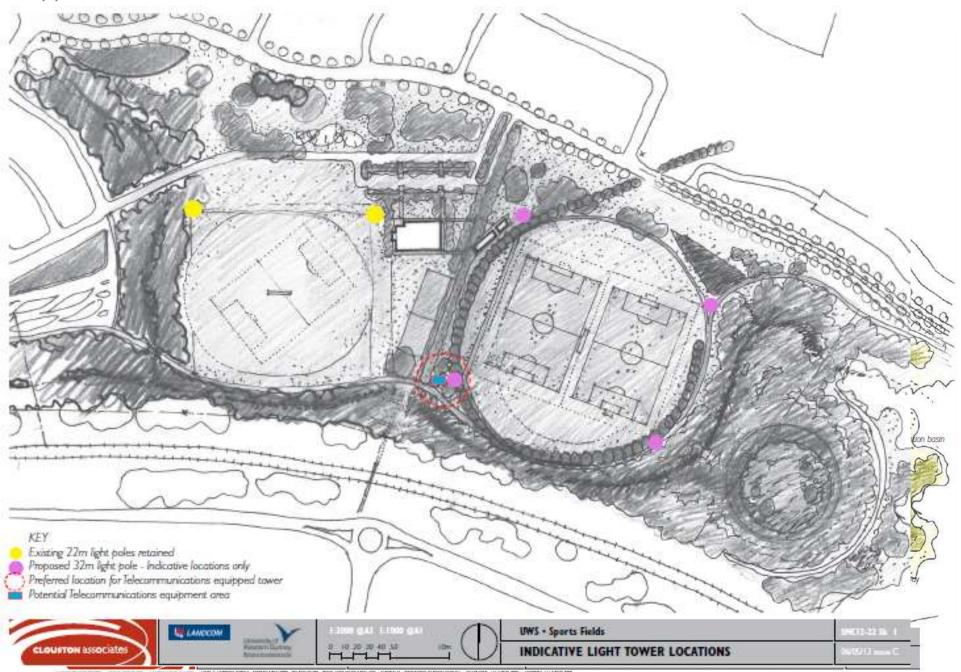
Purpose of Monetary Contribution	There is currently pedestrian access for students, academics and visitors between Macarthur Railway Station and the TAFE and UWS campuses which will be impacted at the time that the Macarthur Gardens North project is delivered. Development Consent (F549/2033 and G111/2003) for the Macarthur Regional Centre Master Plan Condition No. 9 outlines that an agreement shall be developed for the pedestrian bridge linking to the railway station.
	It is intended that construction of the pedestrian upgrades to the railway station be undertaken by the developer of the Macarthur Gardens North site.
	The UWS Residential Project will make a contribution for this pedestrian upgrade of \$100,000 to the developer of the Macarthur Gardens North site.
Payment Rational	Payment of the contribution will be made to coincide with the construction of the pedestrian upgrades on the Macarthur Gardens North site, or by the final release of the subdivision for Stage 5, whichever occurs first.

13. Narellan Road Intersection

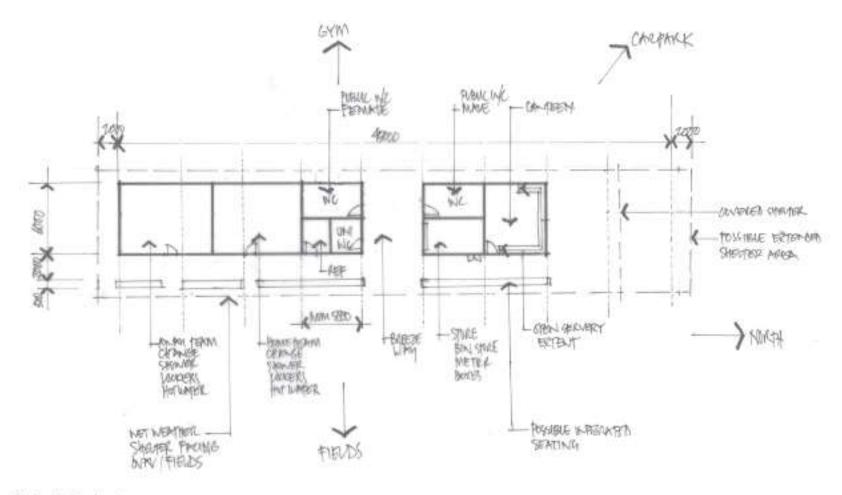
Public Purpose:	Roads and intersection upgrade
Staging Rational / Development Area:	UrbanGrowth NSW/UWS has an agreement with the Roads and Maritime Services to pay a monetary contribution for intersection works of \$2.8M, in accordance with the executed agreement titled 'Transport Infrastructure Contribution Deed'.
Description of Works:	Intersection works at the entry of UWS and TAFE being carried out by Roads and Maritime Services
Core Elements:	Intersection works at the entry of UWS and TAFE being carried out by Roads and Maritime Services
Estimated Works Value:	The monetary contribution as identified above is \$2,800,000.





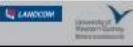




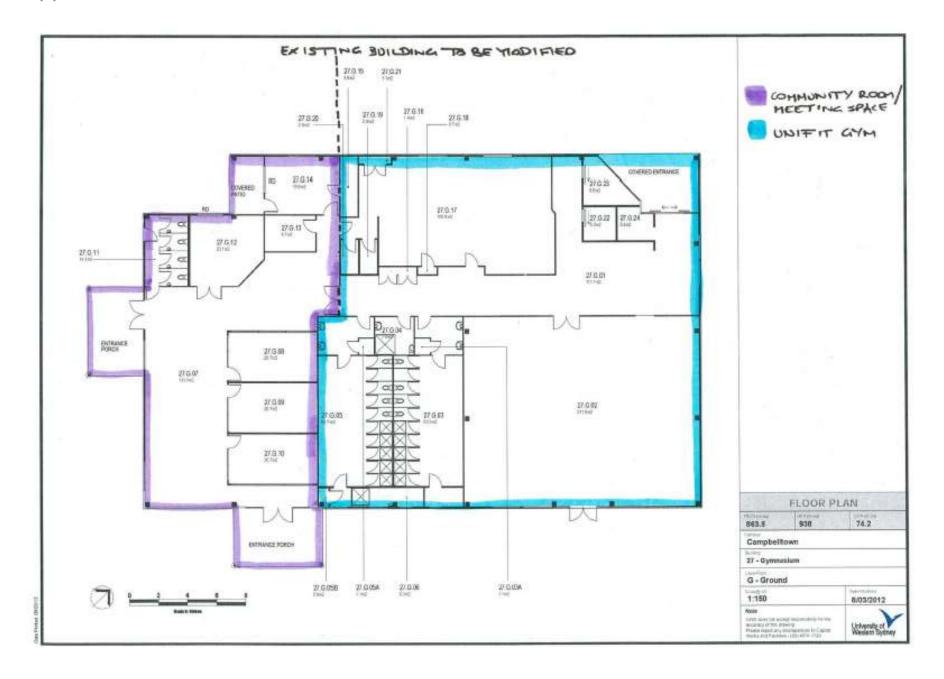


Nominal building layout forn wide x 5m module. Similar to other landcom projects



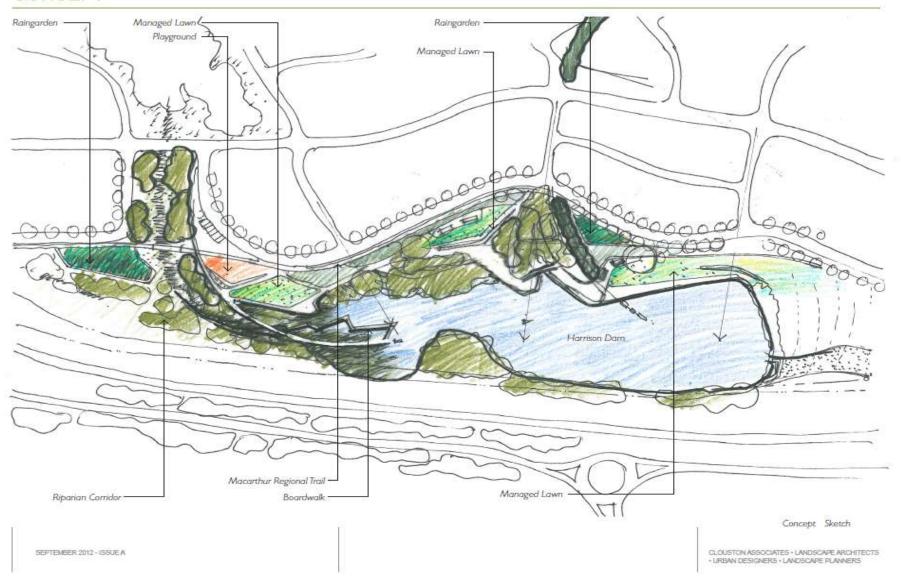






Appendix 8-A ISDP UWS Project December 2015

CONCEPT



Appendix 10-A

