Appendix 5: Technical Studies Assessment - Springfield Road North Planning Proposal

Please note - Should the Local Planning Panel recommend the draft proposal proceed, Council will request the below suite of technical studies are updated to reflect the preferred draft ILP.

	Technical Study	Author	Date
1.	Aboriginal Cultural Heritage Due Diligence Assessment	Austral Archaeology	1 February 2022
2.	Biodiversity Certification Assessment	Anderson Environment and Planning (AEP)	15 March 2022
3.	Riparian Assessment Report	Anderson Environment and Planning (AEP)	15 March 2022
4.	Bushfire Threat Assessment	Anderson Environment and Planning (AEP)	15 March 2022
5.	Preliminary Historical Heritage Assessment	Austral Archaeology Pty Ltd	1 February 2022
6.	Water Cycle Management Strategy Report	Craig & Rhodes Pty Ltd	4 April 2022
7.	Report on Preliminary Site Investigation (Contamination)	Douglas Partners	11 April 2022
8.	Report on Preliminary Salinity Investigation and Salinity Management Plan	Douglas Partners	11 April 2022
9.	Traffic Report	Colston Budd Rogers & Kafes Pty Ltd	March 2022
10.	Land Rezoning - Acoustic Assessment	AECOM Australia Pty Ltd	4 April 2022
11.	Social Infrastructure Plan	WSP	18 February 2022
12.	Servicing and Infrastructure Report	Craig & Rhodes Pty Ltd	March 2022
13	Modelling Methodology Report	Bitzios Consulting	1 August 2024

	Summary	Officer Comment
1. Aboriginal Cultural Heritage Due Diligence Assessment		
	The study area has been subject to minimal assessment and research. A search of the Aboriginal Heritage Information Management System (AHIMS), for an area of 3 kilometres surrounding the study area, reveals that 110 sites in total have been registered. However, no known Aboriginal heritage objects or sites are registered within the SRN site. The most prevalent recorded site feature in the surrounding areas are artefacts relating to isolated finds and artefact scatters. These are common across the Cumberland Plain, particularly in proximity to water. Stone artefacts and artefacts with potential archaeological deposit (PAD) are well represented in surrounding areas, indicating the potential for subsurface archaeological material to be identified within the site. A visual inspection of the study area was undertaken by Stephanie Moore (Senior Archaeologist, Austral) on Monday 6 December 2021. Tharawal Local Aboriginal Land Council (TLALC) were invited to attend; however, they indicated that they did not have a sites officer available to participate. The inspection was limited to properties within the study area for which an access agreement is in place. These properties were utilised as a representative sample of the study area during the physical inspection, with results supplemented by desktop research. The physical inspection was undertaken on foot, using meander transects where access was available across the properties. Paddocks containing livestock were avoided and efforts were made to stay some distance from occupied residences. No Aboriginal objects, sites or areas of archaeological potential were identified within any of the 5 survey units inspected.	Updates to the assessment have not been provided with the revised draft ILP options. The Assessment was referred to Heritage NSW for preliminary consultation. Heritage NSW has advised that the level of assessment undertaken (Due Diligence) is not sufficient in thoroughness for a planning proposal, and does not satisfy the requirements of Ministerial Direction 3.2. Heritage Conservation. Council officers also consider the small sample of lots investigated cannot be relied upon to determine areas of sensitivity across the whole site, and that ridgeline and riparian lands should also be adequately investigated. If the draft proposal were to proceed, the proponent would be requested to provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) that considers the preferred draft ILP option and addresses the matters raised above. The ACHAR would need to be prepared in consultation with the Aboriginal community and include a visual site inspection of all properties within the proposal site. This consultation with the Aboriginal community could also form the basis for the early engagement required to development a Connecting with Country Framework that will

	Summary	Officer Comment
		inform the final preferred draft ILP layout, open space design, and future development controls.
2. Biodiversity Certification Assessment Report		
	A desktop assessment was undertaken to determine ecological values within the subject site. Regional vegetation mapping and classification was based Tozer et al 2010,to identify potential vegetation communities occurring within the subject site. This mapping indicated that the site mostly comprised cleared land with two vegetation communities on site including Critically Endangered Ecological Community (CEEC) Cumberland Plain Woodland and Cumberland Shale Hills Woodland. Onsite investigation utilised floristic surveys and landscape assessment to determine vegetation community types and no detailed vegetation assessments in the form of NSW Biodiversity Assessment Plots were utilised to determine plant community type. Only a small portion of lots were subject to onsite investigation and the survey found that the majority of the site comprised non-remnant / cleared land with some native stands of vegetation that were predominantly scattered and canopy only. One patch of native vegetation located in the south eastern corner of the site was more intact and connected, however was assessed as highly disturbed, canopy only and widely fragmented from any other broader patches of vegetation. Assessment of the native vegetation assemblage identified key diagnostic species on site that were commensurate with State and Commonwealth listed threatened ecological community (TEC) Cumberland Shale Plains Woodland. No threatened flora or fauna were identified during field surveys; however, it was noted that there were numerous habitat features within the site, including dams and hollow bearing trees, that would provide suitable foraging and roosting/breeding habitat for Southern Myotis (Myotis macropus) and other species such as arboreal mammals that would utilise the remnant vegetation on site. The study notes that the strategic assessment undertaken for Biodiversity Certification used the following rationale:	Updates to the assessment have not been provided with the revised draft ILP options. Large strands of remnant vegetation that can be viewed on Council's mapping layer and aerial views have not been considered in the study. Council officer review has also identified that adequate ground truthing across the site has not been carried out and that the vegetation remnant is more considerable in size (at approximately at least 12 ha) than is reported in the assessment. Therefore, this vegetation remnant should be further considered for retention. Further opportunities to retain priority vegetation such as Cumberland Plain Woodland (CPW), particularly in the southern part of the site where there is a large area of CPW (Biodiversity Report, p. 10) should also be further investigated. If the draft proposal is supported to proceed, updates are required to the biodiversity assessment to ground truth the whole site of the preferred draft ILP option and to accurately capture all vegetation on the site. A site consistency report to demonstrate compliance with the conditions of the South

	Summary	Officer Comment
	• patches of vegetation that were greater than 4ha in size, had good connectivity and had more than 10% canopy cover, were likely to provide greater biodiversity value and long-term ecological viability as the larger patch sizes were more resilient and had greater management success in the longer term. These patches are classed as high or moderate long-term management viability areas. • patches that are less than 4ha were classed as poor, more likely to be impacted by intense edge effects from urbanisation, and are less viable over long-term management programs. Using this rationale, the study concludes that although the vegetation present on site collectively comprises over 4ha, the vegetation is highly disturbed and impacted by edge effects. Additionally, the native vegetation is canopy only and predominantly fragmented. As a result, under the Growth Centres assessment the native vegetation on site has not met the criteria for conservation and so is subject to Biodiversity Certification.	West Growth Centre Biodiversity Certification Order, would also be required.
3.	**Riparian Assessment Report**	
	The following desktop analyses were conducted for the subject site: • stream orders were determined using the Strahler system, using both API and Water Management (General) Regulation 2018 Hydroline spatial data, 2021 program (refer Appendix A); • regional vegetation mapping (based on Tozer et al, Native vegetation of southeast NSW, NSW Department of Environment & Climate Change, Scientific Services Division), was utilised to identify vegetation communities occurring within the subject site. • survey identification of potential watercourses (Survey ID), shown in Figure 3. • investigations for streams outside of the subject site consisted of broad roadside visual inspections and further desktop analysis. Field surveys were completed on 9 and 10 September 2021 within Lots 3–4 DP215520, Charlesworth Close, Lot 302 DP716446, Lots 10–11, DP618175, and Lots 204–206 DP249147, to assess stream orders within the lots. Additional surveys from Springfield Road, Camden Valley Way and Catherine Fields Road were also undertaken to assess potential stream orders on site for Lot 1 DP51847, Lot 4003 DP1121133, Lot 4 DP203127, and Lot 135 DP27602. General observations from Springfield Road, Camden Valley Way and Catherine Fields Road were also undertaken to assess the broader site where access to lots within the proposal area was not available.	Updates to the assessment have not been provided with the revised draft ILP options. Council officers have identified flaws in the methodology for this study. Not all water bodies were adequately physically investigated and the assessment was based on a constructed drainage system rather than on the natural drainage system that existed prior to the construction of the dams. Council officers consider the existing dams to have once been part of the natural stream, and that they should be returned to their natural form as part of the wider drainage system. If the draft proposal is supported to proceed, the Riparian Assessment is to be updated to address the preferred draft ILP option, methodology concerns and consideration of

	Summary	Officer Comment
	At the sites that were inspected, the following data was collected to ground-truth the data collected at the desktop level: • Assessing each potential watercourse to determine if defined bed and banks (including locating high bank) are present; • Identifying what type of watercourse is present (in accordance with NRAR Guide – Watercourse types); • Determine and notate watercourse features; • Determine presence of any Lakes or Wetlands; and • Determine and notate any changes in vegetation communities. Investigations revealed 1st order streams occur within the subject site. Other possible watercourses have been assessed and don't correspond to such characteristics.	the original natural drainage system and how this can be reinstated.
4. Bushfire Threat Assessment		
	Assessment has been undertaken in accordance with Planning for Bushfire Protection 2019. The assessment has concluded that the draft planning proposal will be affected by Grassy and Semi-Arid Woodland to the west, south west, east and north of the site and forested wetland within the riparian corridor located on site post rezoning and development. The assessment has identified post development Bushfire Attack Levels (BAL) across the site. A BAL of 12.5 was identified for portions of land along the vegetated boundaries with Springfield Road and Catherine Fields Road. BAL 40 – BAL FZ (Flame zone) was identified along the proposed riparian corridor. The assessment assumes all other vegetation will be removed and so will not create a threat post development. These are shown in Figure 5 of the assessment report . The assessment also notes that BAL construction standards are applicable for the draft proposal are indicative and will be subject to detailed assessment for further development applications for subdivisions and / or residential buildings. Perimeter roads along the interface with riparian areas and the APZs (BAL FZ and BAL 40) can be accommodated within the road reserve and suitable access / egress is provided off Springfield Road, Camden Valley Way, Catherine Fields Road proposed Rickard Road Extension (Future Road) and via the proposed internal road network.	Updates to the assessment have not been provided with the revised draft ILP options. The Bushfire Report and revised draft ILP options have been referred to the NSW Rural Fire Service (RFS) who have identified that proposed school will require a revised bush fire assessment report that considers the provisions for special fire protection purposes (SFPP). RFS also noted that the medium to high density residential areas will need to address the provisions of Chapter 5 and section 8.2.2 of Planning for Bushfire Protection 2019 and that the proposed lots zoned as drainage and open space will need to have a Plan of Management to avoid creating future bush fire hazard. It was also noted that Asset Protection Zones must be wholly within the boundaries of the development site and dead end roads within

	Summary	Officer Comment
		the proposed public road layout must be avoided as much possible. If the proposal is supported to proceed, then an updated Bushfire Assessment and revisions to the preferred draft ILP option are required to address the matters raised by the NSW RFS. Updates would also need to consider any changes made to other relevant technical studies, including the biodiversity and riparian assessments.
5. Preliminary Historical Heritage Assessment		
	There are three heritage items listed in proximity to the study area on both the Camden LEP and State Heritage Register. The items are listed below: • Gledswood – LEP No. I81 – State Heritage Inventory No. 5051540 • Raby – LEP No. I82 – State Heritage Inventory No. 5052613 • Oran Park – LEP No. I137 – State Heritage Inventory No. 5052417 The report provides an assessment of the potential historical archaeological resource through a review of documentary sources including an inspection of title documents, Crown plans and historical aerial images available through NSW Department of Lands. Research was also undertaken through the National Library of Australia, NSW State Library and NSW State Archives. The study area falls within the land that was once part of a large 1,230 acre (497.8 ha) grant awarded to Garnham Blaxcell in 1815 (Primary Application 1746). Aerial imagery from 1947 shows only two structures remaining within the Catherine Fields property, both are clearly located outside the boundaries of the current study area (to the north of the study area with a shed 1.7km away and a small cottage and gardens slightly closer at 750 metres away). No structures of any note can be seen within the study area.	Updates to the assessment have not been provided with the revised draft ILP options. The Assessment was referred to Heritage NSW for preliminary consultation. Heritage NSW have identified that while the assessment states that there will be no visual impact to these properties, the justification for this statement has not been documented in the report. Unless the distance and topography of the study area in relation to the heritage properties entirely rules out any potential visual impacts, it is recommended that a significant views/visual assessment is undertaken to identify significant views from the surrounding properties and the impacts of the proposed development on those views. If the proposal is supported to proceed, the heritage assessment would need to be

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	A visual inspection of the study area was undertaken by Stephanie Moore (Senior Archaeologist, Austral) on Monday 6 December 2021. The inspection was limited to properties within the study area for which an access agreement is in place. These properties were utilised as a representative sample of the study area during the physical inspection, with results supplemented by desktop research. The physical inspection was undertaken on foot, using meander transects where access was available across the properties. Paddocks containing livestock were avoided and efforts were made to stay some distance from occupied residences. No historic heritage items or areas of historical archaeological potential were identified during the survey.	updated to consider the impact of the proposal on view lines between Oran Park House and Springfield Road and potential visual impacts on Gledswood, Raby and the Upper Canal System. A comprehensive Visual and Scenic Landscape Study, that considers impacts on surrounding state heritage listed items, would also be required.
6. Water Cycle Management Strategy Report		
	The flood risk management approach taken is for all developed areas to be filled at or above the Flood Planning Level. This approach is in accordance with the Growth Centres Development Code (NSW Government, 2006) and the engineering specification (Camden Council, 2009). Post-development TUFLOW modelling was undertaken to simulate the 5% AEP, 1% AEP, and PMF events. The flood extents are contained within the proposed drainage corridor and basins including up to the 1% AEP event, with a minor exception at the proposed roads conveying the upstream catchment flows from the two existing culverts underneath Camden Valley Way at the southern boundary of the site. Results show that it is unlikely that the roadway can contain the entire 1% AEP flows, and that it may potentially impede on the lots. The afflux results show some minor water level increase in the roadside swales of Camden Valley Way downstream of Basin 02 that extends into the local farm dams further downstream on the Catherine Park North development and occurs mainly due to the concentration of overland flows into the culverts and roadside swales of Camden Valley Way. There is also an increase in water levels in a small area at the outlet of Basin 04 north of the site. However, this is a localised impact which occurs due to condensing the two existing culverts under Catherine Fields Road into one basin outlet. A series of offline and online stormwater detention basins and bioretention basins are proposed for the SRN site. The basins have been sized through an iterative design and modelling process to ensure that discharges from the site do not exceed the pre-development scenario results. It	Updates to the assessment have not been provided with the revised draft ILP options. Assessment of the originally submitted draft ILP has identified that the draft proposal is inconsistent with Ministerial Direction 4.1 Flooding and the NSW Flood Prone Land Policy. The NSW State Emergency Services (SES) reviewed the originally submitted draft ILP and Water Cycle Management (WCM) report and noted the following matters from a flood and emergency perspective that required further consideration: • Areas of proposed medium and low density residential areas are situated within the existing 1% Annual Exceedance Probability (AEP) extent.

	Summary	Officer Comment
	should be noted that the final configuration of these proposed basins is subject to detailed design at a later stage. Based on the results of the study, it is concluded that the management measures proposed for the site, including its network of flood detention basins and bioretention basins, are effective in ensuring that there would be no adverse impacts in the entire Upper South Creek catchment from the site to Bringelly Road. The results of the study indicate that the flow attenuation provided by the proposed detention basins is conservative and generally exceeds that required to maintain existing flow conditions in the downstream catchment. On this basis, it is considered that opportunities exist after the rezoning stage to further refine and optimize the basin sizes provided, with scope to match the overall pre-existing peak discharge flows more closely. This may include reducing the footprint or sizes of the basins or modifying some of the basin batter slopes. Overall, the proposed ILP is deemed sufficient to support the planning process.	• Some of the proposed basin outlets will not accommodate a Probable Maximum Flood (PMF) flow. • In the post development scenario, lots near Camden Valley Way may be impacted by flooding (5% AEP) as the proposed culverts will be unable to convey flow during a flood event. • Some roads and lots are showing as being vulnerable to PMF. • The original draft ILP layout also shows some access roads being potentially blocked during a 5% AEP flood event. The NSW SES also noted that the strategy relies on a shelter in place model for some parts of the SRN site during a flood event. This model is not supported by the SES and neither is the use of private evacuation plans, which are also proposed in the model. Ministerial Direction 4.1(2) requires that a planning proposal must not rezone land from a rural zone to a residential zone within a flood planning area unless the rezoning is supported by a flood risk management impact assessment that has been accepted by the relevant planning authority. Updates to the WCM report and modelling have not been provided with the revised draft ILP options. Therefore, it is unclear if the matters raised by NSW SES have been addressed.

	Summary	Officer Comment
		It is also noted that the WCM Strategy and corresponding flood modelling does not cover the full extent of the area proposed in the Option B draft ILP. If the proposal is supported to proceed, revisions to the water cycle management strategy and corresponding flood modelling are required to support the preferred ILP option and to address flooding and evacuation issues raised by the NSW SES. These revisions may also require further amendments to the preferred draft ILP and may result in a reduction in land available for development, which could impact the viability of the draft proposal. A flood impact and risk assessment is also required to support the proposal and final draft ILP. Broader precinct planning for the Catherine Fields Precinct would also help to identify developable land and ensure that land zoned for residential purposes can meet current flood planning policy requirements.
7. Report on Preliminary Site Investigation (Contamination)		
	A desktop investigation was undertaken to establish Potential Areas of Environmental Concern (PAEC) for the site using the following information: • Local topographic, soil, geological, salinity and acid sulphate soils mapping; • An initial ground truthing site walkover investigated accessible portions of the site to confirm PAEC identified during the desktop review; • Development of a preliminary conceptual site model (CSM); and	Updates to the assessment have not been provided with the revised draft ILP options. The study methodology included a desktop assessment and a walkover covering six (6) of the forty-six (46) properties subject to the original draft ILP. These six (6) properties

	Summary	Officer Comment
	• Preparation of the Preliminary Site Investigation (PSI) I report, including commentary on the suitability of the site for development and any recommendations for future works with respect to contamination, if any. The site is traversed by two unnamed creek lines, both tributaries of and joining Rileys Creek approximately 1.4 km north of the site. Several smaller dams are present throughout the site on individual lots which likely drain via surface and subsurface (groundwater) flow into the two creeks. A bore (reference GW038092) is located approximately 900 m west of the site, recorded as type 'bore open through rock' for the purpose of exploration and was drilled to a total depth of 240 m below ground level. Based on the regional topography and the flow direction of nearby water courses, the anticipated flow direction of groundwater beneath the site is towards the north west. Given the local geology (i.e., Blacktown soils and underlying Wianamatta Shale), the groundwater in the low yield residual soils and underlying fractured rock beneath the site is anticipated to be of a generally low yield, saline and very low yield. Accordingly, there would be no significant potential beneficial uses of the groundwater. Historical aerial photographs suggest that the site likely comprised vacant agricultural lands until 1961, where a large human-made dam was constructed in the central portion of the site. In 1969, the land was also being used for a mixture of rural residential and market gardens purposes. From 1975, the land use remained relatively unchanged. However, there have been some site feature changes such as the construction of additional houses, sheds, and roads. A site walkover was undertaken by a Senior Environmental Scientist on 21 October 2021 on the accessible portion of the site. The general site topography was consistent with that described in Section 5.1. The site layout appears to have remained unchanged from the 2021 aerial. The following potential sources of contamination were identified: • Fill • Chemical and fuel storage and surficial waste • Former and current buildings and sheds • Transpiration pits and septic tanks: • Market gardens • Asbestos pipes from historical rural residential/pastoral land use	represent less than 20% of the total land subject to the draft proposal. Council has identified (from aerial mapping)that there may be at least 5 commercial businesses located within the larger site that are not mentioned or discussed in the assessment report. These businesses and the remaining properties require an on-site assessment in order to identify and understand if any additional potential contaminants are evident on the land and if they cause potential development constraints. Onsite investigation of land proposed for recreational uses is also required to understand the potential for contamination on each of these sites and if further requirements under Council's Constrained Lands Policy apply. If the draft proposal is supported to proceed, an updated assessment would be required to investigate the matters raised and all land subject to the preferred draft ILP option.

	Summary	Officer Comment
	• Former and current nursery and agricultural land use Based on the results of the desktop study and site walkover, the likelihood for significant contamination constraints to development at the site is low and the site is considered suitable for the proposed rezoning from a contamination perspective. An intrusive investigation (Detailed Site Investigation – DSI) should be undertaken at the development application stage and be informed by the findings of this investigation.	
8. Report on Preliminary Salinity Investigation and Salinity Management Plan		
	The scope of the investigation included a desktop study, a site walkover and an intrusive investigation in accessible portions of the site. The scope of the current investigation is considered adequate to provide a preliminary assessment of soil aggressivity and salinity conditions for rezoning purposes. Field work investigation was completed on 27 October 2021 by a DP Environmental Scientist and comprised the excavation of six test pits (TP1 to TP6) in the accessible portion of the site (refer to Section 3) to depths of up to 3 m, with a JCB 4XC backhoe with a 450 mm bucket. The test pits were logged on site and representative disturbed samples were collected to assist in strata identification and for laboratory testing. The investigation found that the salinity and aggressivity conditions at the site are typical of such conditions observed in soils in the general region. The findings of the Salinity Management Plan indicate the site is suitable for rezoning from a salinity perspective and provides indicative management advice to inform future development designs. The study also recommends that additional investigation should be undertaken to further inform such designs, and the future DAs, and should be undertaken as follows: • across the whole site, including lots not accessible at the time of this investigation; and; • in development areas which are to be excavated deeper than 3 m below current ground level, where direct sampling and testing of salinity has not been carried out. The study also notes that the indicative salinity management strategies will need to be further refined, modified and/or extended following additional investigations at DA stage. The further investigations will make it possible to target the specific areas where salinity exists and may reduce the salinity classifications and management requirements.	Updates to the assessment have not been provided with the revised draft ILP options. The salinity assessment and preliminary management plan is based on limited assessment of 6 properties, representing less than 20% of the total land subject to the draft proposal and original draft ILP. The sampling regime does not attempt to meet the minimum sampling required under the “Site Investigation For Urban Salinity” booklet, where up to 2-4 samples per hectare (shallow profile) and 0.5-1 (detailed profile) is recommended to understand a site where moderately intensive construction is proposed. Further, higher levels of salinity and possible aggressivity to construction materials is expected to be identified on the larger site and this should be more clearly understood prior to rezoning the land. Should the draft proposal be supported to proceed, an updated salinity investigation and management plan would be requested to

	Summary	Officer Comment
		address these matters and to address the preferred draft ILP option.
9. Traffic Report		
	The study notes that in the vicinity of the subject site, the following works have either been completed, are under investigation or are planned future works: • upgrade of Camden Valley Way to a dual carriageway (completed); • traffic signals at the intersection of Camden Valley Way/Springfield Road (completed); • traffic signals at the intersection of Camden Valley Way/Catherine Fields Road (completed); • upgrade and extension of Rickard Road between Bringelly Road and Oran Park Drive to a 4 lane sub-arterial road (under investigation – to be completed in stages); and • upgrade of Catherine Fields Road to a 2-lane collector road (future works). The study concludes that as the broader traffic effects on the regional road network have been assessed as part of the broader SWGA, only local traffic effects of the draft planning proposal on the adjacent road network are considered in the report. Proposed access to the sites is as follows: *Springfield Road (two locations)* 1) Eastern access to provide for all movements via either a roundabout or traffic signal controlled intersection and connect to future development on the southern side of Springfield Road. 2) Western access via Charlesworth Close at a priority controlled t-intersection; Rickard Road extension – all access connection via a roundabout or traffic signal controlled intersection. *Catherine Fields Road (two locations)* 1) Eastern access to provide for all movements via either a roundabout or traffic signal controlled intersection and connect to future development on the northern side of Springfield Road.	Updates to the assessment have not been provided with the revised draft ILP options. The revised draft ILPs (Options A and B) propose a new local centre and primary school site. Further consideration of the impact of these uses on the network and pedestrian safety are also required, should the proposal proceed. Draft ILP Option A is inconsistent with the Rickard Road alignment exhibited by TfNSW. Draft ILP Option B appears to be consistent with this alignment. If the proposal is supported to proceed, then further assessment on the preferred draft ILP option will be required to understand the traffic impact on proposed and future intersections, current and future road corridors and proposed residential densities. It is also noted that Council officers are currently working on a design for the realignment and widening of Springfield Road and so the final design will need to be incorporated into the updated study and the preferred draft ILP option. If the proposal is supported to proceed, further work and assessment on the preferred draft ILP option is also required to understand how the SRN site will connect to the SRS site. This will need to include

	Summary	Officer Comment
	2) Western access at a priority controlled t-intersection. ***Subdivision*** The subdivision road network will provide collector and local roads that are designed in accordance with Section 3.3 of Camden Growth Centres Precinct DCP. Section 3.3 sets out the following standards: • collector roads – 11 or 13 metre wide carriageways in a 20 metre road reserve (carriageway width depends on whether a cycleway is provided on road or off road); and • local roads – 7.4 or 9 metre wide carriageways in a 14.4 or 16 metre carriageway (wider road provided in busier locations). ***Public and Active Transport*** The proposed subdivision would provide pedestrian and cycle connections with footpaths and cycleways on and off road. The study also notes that bus services will be provided as the area develops. Buses are anticipated to operate along Springfield Road, Catherine Fields Road and the Rickard Road extension (along the northern, southern and western boundaries of the site) in addition to existing services that operate along Camden Valley Way. There is also potential for buses to operate along the north south collector road that connects Springfield Road and Catherine Fields Road. With appropriately located bus stops on these roads, dwellings within the site would be located within 400 metres walking distance of bus services. ***Traffic Effects*** Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network. The draft proposal (some 2,080 lots) would generate some 2,060 vehicles per hour (two way) in the weekday morning peak hour and some 1,980 vehicles per hour (two way) in the weekday afternoon peak hour.	consideration of the most appropriate intersection control method for connecting the site to Springfield Road and Catherine Fields Road, and how multiple intersections will connect the SRN and SRS sites. Further updates to the report and modelling would also be required to consider how the preferred draft ILP option responds to: • the movement and place framework; • bus service routes and bus stop locations along collector road networks; • pedestrian safety and permeability in and around the school and proposed local centre and broader SRN site. • pedestrian and cycle path network to service the proposed development and provide a link to existing / future proposed shared paths within the surrounding network; • separation between the proposed road network (service roads) that runs alongside existing surrounding roads (Catherine Fields Road, Springfield Road, Rickard Road and Camden Valley Way); • no direct access to properties from the surrounding sub arterial roads, and • forecasting SIDRA modelling to understand surrounding future growth potential and associated traffic generation.

	Summary	Officer Comment
	The traffic generated by the draft proposal has been accounted for within the strategic traffic planning for the area and will be accommodated by the completed and future road works.	Transport for NSW are currently preparing a South Western Sydney Transport Structure Plan (TSP). The TSP seeks to align future land uses with transport infrastructure and service delivery. If the draft proposal is supported to proceed, it would need to be assessed against the TSP. In addition, if the proposal is supported to proceed, updates to the assessment are required to consider the preferred draft ILP option and the matters raised above.
10. Land Rezoning - Acoustic Assessment		
	The study presents conceptual noise control measures and management strategies which are likely to be required to minimise adverse impacts on future residential receivers within the SRN site. Road traffic noise levels are likely to exceed the criteria presented in the State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) in proposed residential areas in close proximity to Camden Valley Way, and to a lesser extent on Rickard Road, Springfield Road and Catherine Fields Road. Mitigation measures may need to be implemented at these locations. Potential treatments include noise barriers, buffer zones, building and architectural layouts and building construction materials. The residential development directly adjacent to Camden Valley Way, Rickard Road, Springfield Road and Catherine Fields Road, will provide some acoustic shielding to other parts of the development set back further from these roads. Recommendations will be confirmed at the subdivision development application stage.	Updates to the assessment have not been provided with the revised draft ILP options. The revised draft ILP options and the acoustic assessment have been referred to the NSW Environmental Protection Authority (EPA). The EPA have noted that the proposal area has a frontage along Camden Valley Way (a state road) which connects Greater Sydney to Camden, and that noise from Camden Valley Way has the potential to impact on future residential receivers within the proposed SRN site (as outlined in the original ILP). The EPA advise that the noise assessment needs to be reviewed to ensure the development will comply with applicable noise limits. The EPA recommends using Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008), for guidance.

	Summary	Officer Comment
		If the proposal is supported to proceed, then updates to the acoustic assessment are required to consider the preferred draft ILP option, the proposed local centre and school, residential areas and the impact of current and future road corridors.
11. Social Infrastructure Plan		
	The study uses provision rates comparable to those used for the Catherine Fields Part (CFP) Precinct. ***Open Space*** The study proposes the following open space rates to support the future community: • one double playing field (with an area of 4-5 hectares inclusive of amenities building and car parking). It recommends that this be provided in the northern portion of the site, closer to future public transport opportunities. • At least 1-2 larger parks (1-1.5ha each) to be provided in the south/east areas of the site that are further away from the proposed sports fields, to ensure all residents are within 400m of open space. • Another 2-3 smaller parks (0.5ha each at least) to be provided in the remaining areas of the site. ***Schools*** The study identifies that proposal will generate less than 50% of a requirement for a primary school and about 11% of a requirement for secondary school. It also notes that some existing primary schools still have some capacity and that several new schools, and upgrades to existing schools, are currently being planned in the area. The study states that these school facilities could service the proposed population. ***Health Services*** The study concludes that there is no immediate health need in the area and that the site is within 15 minutes of two existing hospitals (Liverpool and Campbelltown). The study also notes that the South West Sydney Local Health District (SWSLHD) are currently developing an approach for the location and a model for future services in the area.	Updates to the plan have not been provided with the revised draft ILP options. The Camden Spaces and Places Strategy 2020 identifies key benchmarks for provision of social infrastructure and open space within new communities. The NSW Government's Guide to the South West Growth Area also establishes minimum benchmarks which align with the Camden Spaces and Places Strategy. The study has disregarded Council's benchmarks and has elected to use rates comparable to the provision rates in the Catherine Field Part Precinct. This approach is not supported. If the draft proposal is supported to proceed, additional open space provision, in line with the Spaces and Places Strategy, is required. The Social Infrastructure Report identifies extra capacity within local schools to service future school populations. However, advice from SINSW has indicated that already planned development will take up these extra places. SINSW have also advised that a new primary school is required within the proposal site.

	Summary	Officer Comment
	Community Facilities The study notes that the site is within 800m-2km of six existing community facilities. This includes the regional Oran Park Library which also provides community floorspace that could be utilised. The study also notes that there could be opportunity to co-locate community floorspace as part of a sports amenities building within the proposed sports precinct and that this could be explored in detailed design and in consultation with Council.	A new primary school is shown in draft ILP Options A and B. Further assessment is required to ensure that it meets Council's locational and size requirements and SINSW's school design guidelines. SINSW have also advised that a future high school will be needed to service the Catherine Field Precinct and that a suitable site should be identified for this school. This presents a challenge as broader precinct planning is still required. Without this broader scale planning, there is no current understanding of the future precinct layout. This in turn makes it difficult to select a strategic location for a future high school that caters for the future Catherine Field Precinct, including the SRN site. If the draft proposal is supported to proceed, the Social Infrastructure Assessment and preferred draft ILP will need to be updated to reflect Council policy and the requirements outlined above.
12. Servicing and Infrastructure Report		
	Water Potable Water Supply is provided through the Leppington Elevated Water Supply Zone (WSZ). Sydney Water has advised that there is limited capacity to service growth associated with the proposed residential development. Trunk water main extensions and amplifications may be required to be delivered by the developer. Exact specifications will be articulated by Sydney Water in its Notice of Requirements when the developer makes an application for a Section 73 Certificate as part of the DA process.	Updates to the assessment have not been provided with the revised draft ILP options. <u>Drinking Water and Wastewater</u> Water and Wastewater servicing is a major issue for the SRN site. Sydney Water's most recent advice notes that the anticipated delivery of drinking water services to the area

	Summary	Officer Comment
	Wastewater The subject site is located within the South Creek catchment for wastewater treatment. Sydney Water have advised that there is no capacity in the existing wastewater network to service the proposed development prior to 2026-28. Sydney Water has further stated that the South Creek catchment is currently serviced via transfer to the West Camden Wastewater Network, and there is limited capacity in this network, despite the planned SPS 1209. An alternative servicing strategy that will provide services for initial development is proposed, with land owned or under option to be serviced initially (400 lots). This would be via a temporary pumping station and rising main of approximately 670 metres that would connect to a carrier discharging to SPS 1156. This would be funded by the developer and delivered to Sydney Water's specifications. The number of lots serviced could be increased and the location adjusted pending other landowner's development intentions, and Sydney Water's network model of the precinct. The rest of the precinct can be serviced once the Riley Creek and South Creek carriers are delivered by Sydney Water in 2026-2028. Given the anticipated lot production of 200 per year, the proposed servicing strategy enables an orderly number of lots to be delivered to market until the ultimate servicing strategy has been delivered. ***Electricity*** Endeavour Energy has proposed the delivery of new 11 kV feeders, and the new Catherine Park Zone Substation (ZS) located in the Catherine Field (Part) Precinct to create additional capacity. The delivery of the Catherine Field ZS is not expected until 2024. A technical review was conducted by Endeavour Energy (Attachment C), and it has been determined that the following infrastructure is required to service the proposed development: Establishing a temporary mobile zone substation at the Catherine Park ZS site. ***Telecommunications*** NBN Co. is the default Statutory Infrastructure Provider (SIP) providing most Australian premises with superfast broadband and voice telephone services. According to the NBN Co. network map and advice, telecommunication services are available for the entirety of the study area, which is serviced by NBN's fixed line infrastructure.	is 2031, and 2030/2031 for waste water services (subject to funding and approvals). Sydney Water has also advised that they continue to work with the proponent to identify a suitable interim servicing arrangement. However, recent modelling work for both drinking water and wastewater servicing (that was submitted by the proponent), has not been fully completed as per Sydney Water's criteria. In addition, the proponents' consultants have not yet proposed viable options for interim drinking water and wastewater services. Based on this advice, the draft proposal does not currently demonstrate that there is adequate sewer and water infrastructure to support the proposed development. Additionally, the rezoning of land prior to additional servicing infrastructure being delivered for the whole SRN site could delay the construction of homes or use existing capacity within the network (earmarked for other areas), which is inconsistent with Section 9.1 Ministerial Direction - 6.1 Residential Zones. In line with this, it is recommended that the draft proposal is not progressed until wastewater and water servicing infrastructure can be confirmed for the entire SRN site. However, if the proposal is supported to proceed, then updates to the report are required to identify a suitable servicing

	Summary	Officer Comment
	Natural Gas There is currently no known suitable residential natural gas network traversing through the study area. Correspondence with Jemena Gas has confirmed that suitable natural gas infrastructure is available on the eastern side of Camden Valley Way, at the corner of The Hermitage Way, that would need to be extended across Camden Valley Way through Springfield Rd and Charlesworth Close to service this precinct. It is anticipated that the developer will deliver trenching and restorations during the construction phase for Jemena, and a financial contribution may be required to assist with project viability.	arrangement for drinking water and wastewater that is supported by Sydney Water, and to demonstrate how the proposal is consistent with Section 9.1 Ministerial Direction - 6.1 Residential Zones. <u>Electricity</u> Consultation with Endeavour Energy has confirmed that servicing is achievable due to their planned infrastructure upgrades, subject to the proponent undertaking works along Springfield Road. If the proposal is supported to proceed, updates to the assessment are required to address the preferred draft ILP option and the matters raised above.
13. Modelling Methodology Report		
	The report outlines the proposed process for the traffic modelling that will assess the impacts of the proposed development and potential traffic mitigation measures. The purpose of the report is to gain TfNSW's approval to commence traffic modelling using the proposed methodology.	If the proposal is supported to proceed, updates to the traffic modelling are required to consider the preferred draft ILP option and the relevant matters raised above. Further consultation with TfNSW will also be required.