Australian Government
Department of the Environment and Energy

Title of Proposal - Sydney Science Park, Luddenham

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Residential Development

1.2 Provide a detailed description of the proposed action, including all proposed activities.

Celestino are proposing to develop 444.8 ha of land off Luddenham Road, Luddenham (Figure 1) to ultimately construct the new Sydney Science Park (SSP) and the creation of much sought after knowledge jobs. 288 ha of the site has already undergone a rezoning, with a future rezoning of the remaining 156.8 ha likely in the future. The proposed action involves the development of a fully integrated community that will form a large contribution to creating more than 12,000 knowledge based jobs, cater to over 10,000 students and be home to over 7,500 residents. SSP is planned to attract the world's leading scientific professionals and organisations through providing a centre specialising in clustering leading science based businesses, tertiary institutions, research and development providers in an epicentre environment to advance innovation around the important principles of food, energy and health. The initial stage of works involves super lot subdivision, with associated subdivision establishment works including dam dewatering, cutting and filling.
The draft concept master plan (Figure 2) prioritises key features such as provision of a new Town Centre and an extensive network of open space, as well as:
• approximately 340,000m2 of research and development floor area
• approximately 100,000m2 of education floor area and associated student accommodation
• a Town Centre comprising up to 30,000m2 of retail space
• 3,400 dwellings
• a primary school site
• new roads and infrastructure
• landscaped open space, sporting fields and parks
• a servicing and water strategy
• improved road network

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Study Area	1	-33.835526990187	150.71087658267
Study Area	2	-33.835526990187	150.71083366733

Area	Point	Latitude	Longitude
Study Area	3	-33.833423781012	150.72340786319
Study Area	4	-33.832746465347	150.72941601139
Study Area	5	-33.837024158406	150.74769794803
Study Area	6	-33.837255860667	150.74947893482
Study Area	7	-33.837808378911	150.74853479725
Study Area	8	-33.842370973665	150.75211822849
Study Area	9	-33.842941280881	150.75087368351
Study Area	10	-33.843101679099	150.7499510036
Study Area	11	-33.842852170629	150.74947893482
Study Area	12	-33.842852170629	150.74872791629
Study Area	13	-33.842941280881	150.74799835544
Study Area	14	-33.843262077017	150.74735462528
Study Area	15	-33.843458118508	150.74838459354
Study Area	16	-33.843814556429	150.74780523639
Study Area	17	-33.844153171077	150.74651777607
Study Area	18	-33.844331388773	150.74598133426
Study Area	19	-33.844206636425	150.74565946918
Study Area	20	-33.844652179691	150.74514448505
Study Area	21	-33.841265992602	150.74235498767
Study Area	22	-33.842834348568	150.73978006702
Study Area	23	-33.845543259253	150.73729097705
Study Area	24	-33.844331388773	150.72823583942
Study Area	25	-33.84666600627	150.72774231296
Study Area	26	-33.84547197323	150.71926653247
Study Area	27	-33.844153171077	150.70982515674
Study Area	28	-33.839911480194	150.71044742923
Study Area	29	-33.839697607851	150.69946110111
Study Area	30	-33.836881572086	150.70001900058
Study Area	31	-33.835526990187	150.71087658267

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The site is located within the Western Sydney Priority Growth Area contiguous to and north of the South-West Sydney Growth Centre Precinct; it is approximately 20 km North West of Liverpool city centre and 8 km south of Penrith. The site covers an area of 444.8 hectares and is located in the suburb of Luddenham within the Penrith Local Government Area (LGA) in the west of the Greater Sydney Region. The land is bound by the Water NSW Warragamba to Prospect Water Supply Pipeline to the north, Mulgoa to the west, Luddenham Road to the East and rural properties extending to Luddenham and Badgerys Creek to the south. The land sits approximately 3 km north of the Western Sydney Airport site.

The site is currently used for low intensity cattle grazing activities, which have been carried out onsite for a substantial period of time. There are a series of upstream catchments which are conveyed via watercourses through the subject site (unnamed tributaries) before joining South Creek approximately 4 km to the north. The majority of these watercourses include a series of existing farm dams which have low ecological value. In particular, the central watercourse has been heavily modified and comprises interconnected farm dams in series. These dams are man-made with no connectivity between the dams and no significant or notable riparian vegetation. The subject site drains to the north.

Numerous small patches of heavily modified and degraded vegetation exist within the site. Most patches have been mapped previously by National Parks and Wildlife Services (2002) as Shale Plains Woodland, Shale Hills Woodland and Alluvial Woodland. Dependant on the vegetation condition and patch sizes both Shale Plains Woodland and Shale Hills Woodland can constitute the EPBC Act listed Critically endangered ecological community Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CPW). Aerial photography shows that there are also stands of vegetation likely to have been planted in association with the farm buildings.

1.6 What is the size of the development footprint or work area?

444.8

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. Lot 201, 202, 203 DP 1152191 Lot 5, 6, 7 DP 1152191

1.8 Primary Jurisdiction.

New South Wales

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

No

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2019

End date 01/2039

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal planning legislation that relates to the proposed development. It provides a framework for the overall environmental planning and assessment of development proposals. Various legislative instruments, such as the NSW *Threatened Species Conservation Act, Water Management Act 2000* (WM Act) and *Rural Fires Act 2007* (RF Act) are integrated with EP&A Act and have been reviewed separately.

A substantial array of legislation, policies and guidelines apply to the subject site as listed below;

State

Environmental Planning and Assessment Act 1979 (EP&A Act)Rural Fires Act 1997 (RF Act)Native Vegetation Conservation Act 1997 (NVCA Act)Noxious Weeds Act 1993 (NWA Act)Threatened Species Conservation Act 1995 (TSC Act)Protection of the Environment Operations Act 1997 (POEO Act)National Parks and Wildlife Act 1974 (NPW Act)Heritage Act 1977Water Management Act 2000 (WM Act)Contaminated Land Management Act 1997 (CLM Act)Catchment Management Act 1989 (CM Act)Local Government Act 1993 (LG Act)Fisheries Management Act 1994 (FM Act)Soil Conservation Act 1938Major Development SEPP 2005 LocalPenrith Local Environmental Plan 2010Penrith Development Control Plan 2014

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

Consultation has been undertaken with Council and the Department of Planning and Infrastructure (DoPI). Relevant public authorities were consulted during the post gateway determination process.

As is typical for any rezoning, the community consultation program has included the following by Penrith City Council:

letters to individual land owners, residents and tenants advising of the exhibition and how to make a submissionadvertising through local media to inform the community that the exhibition has started, how long it will run, how information can be obtained and how to make a submissionmedia releases providing the above informationnewspaper articlesfact sheets available at exhibition points highlighting key features of the Planning Proposal, the closing date for the exhibition and how to make a submissiontargeted consultation with relevant public authoritiesstaff available to answer enquiries

As is typical, a number of supporting documents have been exhibited with the Planning Proposal to assist in understanding the planning documents. The supporting documents have included:

a full list of the relevant State Government policies, plans and directions, which have been taken into account when developing the Planning Proposalfact sheetstechnical studies and supporting documentation

SSP is now through the post gateway determination process and is currently working through the process to apply for an AHIP. This will include test pitting works onsite with registered Aboriginal Parties overseeing works.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

Environmental assessments of the proposed action have been considered in relation to the following factors:

transport and access assessmentflora and faunawater cycle management including flooding, surface water, groundwater quality and riparian corridorsservices and utilitiesgeotechnical, soils and contamination assessmentAboriginal heritage assessmentsocial planning assessmenteconomic impact assessmentEuropean heritage assessment

In summary, the assessments found that the planning proposal did not result in any significant adverse environmental impact. The land has been rezoned.

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

No

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
While the Action is unlikely to impact on any	NA

Species	Impact
MNES, this referral has been prepared to ensure the Action is assessed accordingly. One (1) migratory threatened species has been recorded on site, accordingly the following information and data were reviewed to determine potential flora and fauna values within the study area: • BioNet / Atlas of NSW Wildlife (OEH2017a) • EPBC Act Protected Matters Search Tool (DotEE 2017) • NSW Threatened Species Profiles (OEH 2017b) • SEPP 19- Bushland in Urban Areas (SEPP 19) • Penrith City Council Development Control Plan 2014 (DCP) • The Native Vegetation of the Sydney Metropolitan Area. Volume 2: Vegetation Community Profiles (OEH 2013) • Field survey between January 2016 to January 2017 totalling 300 person hours and resulting FFA report (ELA 2017) (Appendix A) Aerial photography of the study area and surrounds were also used to investigate the extent of native vegetation cover and landscape features in the study area. The BioNet / Atlas of Wildlife (10 km radius) and Protected Matters Search Tool (5 km radius) searches were performed around the coordinates -33.84028, 150.72583 on 17 January 2017 (Appendix B). The results of these searches were combined to produce a list of threatened flora, fauna and ecological communities considered likely to occur or utilise the study area. The likelihood of occurrence for each species was determined using recent records, the likely presence of suitable habitat and knowledge of the species ecology. Appendix C provides the likelihood table for species potentially occurring within the site. The following impact table presents an assessment of the impact from the proposed action on species potential or known to occur on site.	
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Potential Cumberland Plain Woodland is an open eucalypt forest with an open shrub later and grassy groundcover. It occurs in clay-loam soils derived from Wianamatta shale and is restricted to the Cumberland Plain, western Sydney. The canopy typically consists of Eucalyptus moluccana (Grey Box), Eualyptus tereticornis (Forest Red Gum), Eucalyptus

Species	Impact
	fibrosa (Red Ironbark) and Eucalyptus crebra (Narrow-leaved Ironbark), with Eucalyptus eugenioides (Thin-leaved Stringybark) and Corymbia maculata (Spotted Gum) occurring less frequently. The midstorey contains Acacia decurrens (Black Wattle), Acacia falcata (Sally Wattle), Acacia parramattensis (Parramatta Wattle), Melaleuca decora (Paperbark), Bursaria spinosa (Blackthorn), Dillwynia sieberi, Daviesia ulicifolia (Gorse Bitter Pea), Indigofera australis (Native Indigo) and Rubus parvifolius (Native Raspberry). Typical groundcover species include Aristida ramosa (Three awn Speargrass), Cymbopogon refractus (Barbed Wire Grass), Dichelachne micrantha (Short-hair Plume Grass), Microlaena stipoides (Weeping Grass), Themeda triandra (Kangaroo Grass), Cyperus gracilis (Slender Flat-sedge), Lomandra filiformis subsp. filiformis (Wattle Mat-rush) and Lomandra multiflora subsp. multiflora (Many-flowered Mat-rush). Brunoniella australis (Blue Trumpet), Dichondra repens (Kidney Weed), Glycine spp., Goodenia hederacea subsp. hederacea (Ivy Goodenia) and Oxalis perennans (Wood Sorrel) are also known to occur. Cumberland Plain Woodland (TSC Act) was found in two condition states within the study area; poor and scattered paddock trees (ELA 2017). Where this community occurred in poor condition it showed signs of previous clearance in the groundcover and midstorey layers, and ongoing management and grazing by cattle. The disturbance has altered both the structure and species diversity of this community. The canopy species were in poor health with minimal foliage cover. The canopy cover consisted of Eucalyptus moluccana. The midstorey was largely absent with Lycium ferocissimum occurring occasionally. The groundcover was comprised of >90% exotic species including Senecio madagascariensis, Pennisetum clandestinum, Plantago lanceolata, Modiola caroliniana, Sida rhombifolia, Chloris gayana, Trifolium repens, Stellaria media and Paspalum dilatatum. One native groundcover species, Einadia hastata was found to occur

Species	Impact
	occasionally throughout the community. The Cumberland Plain Woodland along the creekline at the southern extent of the study area was comprised of a more diverse canopy, including Eucalyptus tereticornis and Casuarina glauca, with Melaleuca styphelioides and Bursaria spinosa occurring occasionally in the midstorey. Despite the higher diversity of canopy and midstorey species, the patches were still found to be in poor condition due to their disturbed nature and lack of native groundcover species. Where this community occurred as scattered paddock trees the canopy consisted of Eucalyptus moluccana. The midstorey layer was absent and the ground cover consisted of >90% exotic species including Senecio madagascariensis, Pennisetum clandestinum, Plantago lanceolata, Modiola caroliniana, Sida rhombifolia and Stellaria media. Due to the previous under-scrubbing and ongoing management of the site, the poor condition patches and scattered paddock trees were not found to represent the typical community structure in all layers. In areas where the community was ?0.5 ha in size, the ground cover was found to contain >90% exotic species. None of the patches within the study area were ?5 ha and were not part of a larger, contiguous patch. For the vegetation to constitute EPBC Act Cumberland Plain Woodland (CPW) it must meet the EPBC Act condition thresholds. These thresholds include the following; the patch must be larger than 0.5 ha, there must be a minimum projected foliage cover of 10%, and the patch must have a majority of native perennial understorey species. Thus, the community was not found to meet the EPBC condition criteria for this community. The patches of poor quality and scattered paddock trees Cumberland Plain Woodland did, however, meet the TSC Act definition of the community. Fieldwork results (Figure 3) have confirmed the existence of approximately 3.5 ha of TSC Act listed CPW within the site, however this is comprised of numerous small patches with only one meeting

Species	Impact
	the minimum patch size to constitute EPBC CPW (i.e. >0.5 ha). This patch is located in the eastern lot and is 1.6 ha in size, however, field validation has shown that this patch has a native perennial understorey of less than 20% and therefore it does not meet the EPBC thresholds. Through proposed restoration works along the central creek, 35.6 ha of mixed native woodland will be created and restored as riparian corridor areas. No EPBC listed CPW was recorded on site. Given the above, the proposed works will not constitute a significant impact on EPBC listed CPW.
Botaurus poiciloptilus Australasian Bittern	The Australasian bittern is a secretive, stocky, heron-like bird, living in wetlands where it forages. Bitterns are very well camouflaged and can be difficult to spot in the reeds and rushes. On occasion they will even sway in time with reeds to blend into their surroundings. The distinctive booming call of males gives them away. This species inhabits well vegetated wetlands from southern Queensland, through New South Wales, Victoria, to south-eastern South Australia along with more isolated populations in Tasmania and south-west Western Australia. The Australasian Bittern has been recorded in both inland and coastal freshwater wetlands. The Australasian Bittern is considered to be partly nocturnal as it actively forages pre-dawn and dusk. It can also be observed during daylight hours, particularly during the breeding season October to February where it usually forages in shallow water up to 30 cm deep with dense wetland vegetation containing sedges, rushes, cumbungi or more common reeds. Threatening factors to the Australasian Bittern include; degradation of wetland habitat through changed water regimes, salinization, and loss of wetland habitat caused by grazing and predator species. The site is considered to contain potential foraging habitat for the Australasian Bittern in the form of dams and associated fringing vegetation. Migratory and wetland bird surveys were conducted at the site by ELA (2017) (Figure 4). Surveys covered the 10

Species	Impact
	better condition areas within the site over five mornings. Surveys were conducted to coincide with the time at which the species are most behaviourally active and likely to be utilising the study area. A total of 30 bird species were identified during targeted wetland bird surveys. The Australasian Bittern was not detected during survey. While the species was not recorded during field surveys, potential foraging habitat does occur on site, in the form of 32.4 ha of vegetated dams and wetlands. The outcomes of the proposed action will be; • 32.4 ha of wetlands (majority as artificial man made dams) impacted throughout bulk earthworks • 10.1 ha restored as wetlands in a large northern waterbody/wetland • 35.6 ha restored as riparian corridor areas • 1.8 ha of riparian corridor retained and managed through a vegetation management plan on the eastern portion of the site The proposed action will lead to the loss of 32.4 ha of potential foraging habitat (majority as artificial man made dams). Within a regional context, this loss comprises a very small proportion of the potential foraging habitat within the Penrith area, large parts of which are protected in reserves, with a total of 47.5 ha to be recreated, restored and protected within the final SSP landscape as an outcome of the proposed action. Based on the above description of potential foraging habitat within the site, the site does not contain habitat critical to the survival of the species. Habitat critical to the survival of the species refers to areas that are necessary: • for activities such as foraging, breeding, roosting or dispersal • for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the ecological community, such as pollinators) • to maintain genetic diversity and long term evolutionary development • for the reintroduction of populations or recovery of the species or ecological community. Critical habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical to the

Species	Impact
	survival of the species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act. There is no critical habitat within the site. Significant impacts to the Australasian Bittern from the proposed development are therefore considered unlikely for the following reasons: • the loss of native vegetation on site will be relatively small, particularly within a regional context, and occurring to the very poor quality vegetation. Additional vegetation areas will be recreated or protected in the resulting development landscape • the Australasian Bittern has not been recorded on site and the area is not recognised as providing habitat critical to the survival of the species • the Australasian Bittern is a highly mobile species that is able to utilise a variety of habitat resources over large areas, making them less sensitive to fragmentation • habitat is to be restored, recreated and conserved throughout the proposed action Given the above, it is considered highly unlikely that any significant impacts, either direct or indirect will occur to the Australasian Bittern or its habitat within the proposed development.
Rostratula australis Australian Painted Snipe	The Australian Painted Snipe is a stocky wading bird around 220-250 mm in length with a long pinkish bill. The species is generally seen singly or in pairs, or less often in small flocks. The species has been recorded at wetlands in all states of Australia. It is most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland, NSW, Victoria and south-eastern South Australia. It has been recorded less frequently at a smaller number of more scattered locations farther west in South Australia, the Northern Territory and Western Australia. The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical

Species	Impact
	sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum or canegrass or sometimes tea-tree. This species eats vegetation, seeds, insects, worms and molluscs, crustaceans and other invertebrates. This species is mainly crepuscular (active at dawn and dusk), preferring to sit quietly under cover of grass, reeds or other dense cover during day, becoming more active at dawn, dusk and during night. They generally remain in dense cover when feeding, although may forage over nearby mudflats and other open areas such as ploughed land or grassland. Threats to the Australian Painted Snipe include; loss and degradation of habitat, prolonged drought, grazing and associated trampling of wetland vegetation by cattle and/or sheep and predation by feral animals. The site is considered to contain potential foraging habitat for the Australian Painted Snipe in the form of dams and associated fringing vegetation. Migratory and wetland bird surveys were conducted at the site by ELA (2017) (Figure 4). Surveys covered the 10 better condition areas within the site over five mornings. Surveys were conducted to coincide with the time at which the species are most behaviourally active and likely to be utilising the study area. A total of 30 bird species were identified during targeted wetland bird surveys. The Australian Painted Snipe was not detected during survey. While the species was not recorded during field surveys, potential foraging habitat does occur on site, in the form of 32.4 ha of vegetated dams and wetlands. The outcomes of the proposed action will be; • 32.4 ha of wetlands (majority as artificial man made dams) impacted throughout bulk earthworks • 10.1 ha restored into a large northern waterbody/wetland • 35.6 ha of land restored as riparian areas • 1.8 ha of riparian corridor retained and managed through a vegetation management plan on the eastern portion of the site The proposed action will lead to the loss of 32.4 ha of potential foraging habitat. Within a regional context, this loss

Species	Impact
	comprises a very small proportion of the potential foraging habitat within the Penrith area, large parts of which are protected in reserves, with a total of 47.5 ha to be recreated or protected within the final SSP landscape. Based on the above description of potential foraging habitat within the site, the site does not contain habitat critical to the survival of the species. Habitat critical to the survival of the species refers to areas that are necessary: • for activities such as foraging, breeding, roosting or dispersal • for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the ecological community, such as pollinators) • to maintain genetic diversity and long term evolutionary development • for the reintroduction of populations or recovery of the species or ecological community. Critical habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical to the survival of the species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act. There is no critical habitat within the site. Significant impacts to the Australian Painted Snipe from the proposed development are therefore considered unlikely for the following reasons: • the loss of native vegetation on site will be relatively small, particularly within a regional context, and occurring to the very poor quality vegetation. Additional vegetation areas will be recreated or protected in the resulting development landscape • the Australian Painted Snipe has not been recorded on site and the area is not recognised as providing habitat critical to the survival of the species • the Australian Painted Snipe is a highly mobile species that is able to utilised a variety or habitat resources over large areas, making them less sensitive to fragmentation • habitat is to be restored, recreated and conserved throughout the proposed action Given the above, it is considered highly unlikely that any significant

Species	Impact
	impacts, either direct or indirect will occur to the Australian Painted Snipe or its habitat within the proposed development.
Chalinolobus dwyeri Large-eared Pied Bat	The Large-eared Pied bat is an insectivorous bat with a distribution from Shoalwater Bay in Queensland through to around Ulladulla in NSW. The species is largely restricted to the interface of sandstone escarpment for roosting habitat, and relatively fertile forests supporting woodlands and forests for foraging habitat. The species forages for insects in and around forest canopies. Important populations for this species occur in the Hunter Valley, Sydney Basin and Southern Tablelands of NSW. There are no sandstone escarpments or caves within or nearby the site – which would provide the required roosts for the species. The site does contain wetlands and dams, which could be used as a foraging resource by the species. This is somewhat unlikely due to the lack of nearby potential roosts. Microbat surveys (Figure 5) were undertaken by ELA (2017) using five ultrasonic Anabat detectors at five sites in close proximity to foraging resources (i.e. dams) and hollow bearing trees. The anabats were left to record over three consecutive nights from 9 – 11 December 2016. Harp trapping was performed at two sites in the study area. Each site was surveyed for two consecutive nights from 10 – 13 January 2017. Five harp traps were set up at each location to align with the location of hollow bearing trees and the closest foraging resource. The traps were checked each morning for any trapped microbats. Stag watches aimed at positively identifying any microbats exiting hollow bearing trees or flying overhead within the study area were conducted at four sites from 10 – 13 January 2017 with each site surveyed for two consecutive nights. Watches commenced at dusk (approximately 8pm) till 9.30pm. Anabat recorders were also used to record any calls of microbats exiting hollows or flying overhead, to allow for species identification. The species was not recorded during field surveys. While the site does contain hollow-bearing trees which may

Species	Impact
	be utilised by the Large-eared Pied Bat for roosting, this would be marginal at best, as the species tends to use caves, sandstone overhangs, tunnels and culverts for roosting and breeding – none of which have been recorded within the study area. The proposed action will lead to the loss of 7.3 ha of potential foraging habitat in the form of fragmented woodland or scattered paddock trees, including 18 hollow bearing trees, as well as 32.4 ha of wetland areas. Within a regional context, this loss comprises a very small proportion of the potential foraging habitat available for the Large-eared Pied Bat, particularly when considering the large expanses of woodland surrounding the site and to the south-east. 2.1 ha of the highest quality woodland will be retained within the development footprint which contains 6 hollow bearing trees, as well as • 10.1 ha restored into a large northern waterbody/wetland • 35.6 ha of land restored as riparian areas • 1.8 ha of riparian corridor retained and managed through a vegetation management plan on the eastern portion of the site Based on the above description of potential foraging habitat within the site, the site does not contain habitat critical to the survival of the species. Habitat critical to the survival of the species refers to areas that are necessary: • for activities such as foraging, breeding, roosting, or dispersal • for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the ecological community, such as pollinators) • to maintain genetic diversity and long term evolutionary development • for the reintroduction of populations or recovery of the species or ecological community. Critical habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical to the survival of the species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act. There is no critical habitat within the site. Significant impacts to the Large-eared Pied

Species	Impact
	Bat from the proposed development are therefore considered unlikely for the following reasons: • the loss of native vegetation on site will be relatively small, particularly within a regional context, and is already highly disturbed; • the Large-eared Pied Bat has not been recorded on site and the area is not recognised as providing habitat critical to the survival of the species; • the Large-eared Pied Bat is able to utilise a variety of vegetation types over large areas, making them less sensitive to fragmentation.
Litoria aurea Green and Golden Bell Frog	In NSW, the Green and Golden Bell Frog (GGBF) has been found in a wide range of water bodies except fast flowing streams. It inhabits many disturbed sites, including abandoned mines and quarries. Breeding habitat in NSW includes water bodies that are shallow, still, ephemeral, unshaded, with aquatic plants and free of Plague Minnow (Gambusia holbrooki) and other predatory fish, with terrestrial habitats that consist of grassy areas and vegetation no higher than woodlands, and a range of diurnal shelter sites. Breeding occurs in a significantly higher proportion of sites with ephemeral (temporary) ponds, rather than sites with fluctuating or permanent ponds, and where predatory fish are absent. GGBF need various habitats for different aspects of their life cycle including foraging, breeding, over-wintering and dispersal. They will also use different habitats or habitat components on a temporal or seasonal basis. The major threats to the GGBF include habitat removal and fragmentation, habitat degradation, disease such as from the chytrid fungus and predation. ELA field survey (2017) identified that the dams located within the study area generally had a low amount of vegetation both surrounding and within the water body. Species present within the site waterbodies included Juncus usitatus (Common Rush), J. acutus (Sharp Rush), J. subsecundus (Finger Rush), Typha domingensis (Narrow-leaved Cumbungi) and Typha orientalis (Broad-leaved Cumbungi). Targeted survey for the

Species	Impact
	GGBF followed the EPBC Act Survey Guidelines (DEC 2004; DECC 2009) (Figure 6) (ELA 2017). No individuals were identified during survey. The closest known population of the GGBF is in St Marys, approximately 14 km to the north of the study area. This population is separated from the study area by residential development, major roads and farm land. There are no records for this species within a 5 km radius of the study area. Targeted GGBF survey involved diurnal searches of waterbodies and the surrounding vegetation and nocturnal call playback surveys over four consecutive days/nights (Figure 6). At each survey location the fringing vegetation and edge of the water was searched thoroughly for the GGBF and other amphibians. Call playback surveys were performed over three nights between 8 pm – 9 pm at five distinct sites across the study area. At each call playback site, the following methodology was performed (DEC 2004; DECC 2009): • 5 minutes listening • 5 minutes Green and Golden Bell Frog call playback • 5 minutes listening • 5 minutes spotlight over the waterbody and surrounding vegetation. A remaining 10 sites were briefly surveyed by listening for a minimum of five minutes after dusk. During daylight surveys, no amphibians were observed in the vegetation. At some dams, Crinia signifera were heard calling in the late afternoon. No GGBF were observed or heard calling during the diurnal survey. Six species of amphibian were heard calling and/or observed during the survey. No GGBF were observed or heard during the nocturnal call play back survey. Given no Green and Golden Bell Frog individuals were identified during survey, along with the high level of disturbance, presence of Gambusia holbrooki at some dams and lack of fringing vegetation it is not expected that the proposed action will have an impact on the species and it has been concluded that it is highly unlikely that the study area provides suitable habitat for this species. It is considered unlikely that the proposed action will lead to a significant impact on this species for the

Species	Impact
	following reasons: • the potential habitat is unremarkable and within a highly disturbed environment with a lack of crucial over-wintering habitat • there are no records on site and the area does not support important habitat or an ecologically significant proportion of the species • there are a number of larger areas of suitable habitat within the surrounding area which reduces the risk of isolating or fragmenting any individuals that may occur onsite • targeted survey effort did not detect any individuals and concluded that it is highly unlikely that the study area provides suitable habitat for the species
Persicaria elatior Knotweed	Knotweed is an erect herb growing to 90 cm tall, with stalked, glandular hairs on most plant parts. Its tiny flowers are in long, narrow spikes up to 5 cm long. The pink flower-segments are less than 4 mm long. Knotweed is known from the North Coast, Central Coast and South Coast Botanical Subdivisions in NSW and Moreton Pastoral District in south-east Queensland. The closest record of the species to the site is in Picton Lakes – approximately 50km to the south. Targeted survey was undertaken for Persicaria elatior however, it was not identified in the subject site during survey. The species commonly occurs in swampy areas and riparian herblands along watercourses and lake edges, and is generally found in association with Melaleuca sp. Pseudognaphalium luteoalbum, Persicaria hydropiper, Floydia praealta and Cyperus semifertilis. A majority of watercourses within the study area had been previously disturbed by damming and clearing for agricultural purposes resulting in a restricted flow regime through the area. In most areas the aforementioned associated flora species were not present and contained only exotic pasture grasses. Frequent grazing and cattle movement in these areas also decreased the suitability of the study area for Persicaria elatior. Given no Persicaria elatior individuals were identified during field survey and the high level of disturbance to potential habitat within the study

Species	Impact
	area, the proposed action is not considered to present any impacts to the species or its habitat. There will be no direct or indirect impacts to the species as no plants occur onsite.

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?

Yes

2.5.1 Impact table

Species	Impact
Gallinago hardwickii Latham's Snipe	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. The species has been recorded along the east coast of Australia form Cape York Peninsula through to south-eastern South Australia. The range extends inland over the eastern tablelands in south-eastern Queensland, and to the west of the Great Dividing Range in NSW. The species is widespread in Tasmania and is found in all regions of Victoria except for the north-west. Most birds spend the non-breeding period at sites located south of the Richmond River in NSW. This species does not breed in Australia and arrives between July-November from its breeding grounds in Japan and far-eastern Russia, and departs by late February. It feeds in mud or in very shallow water with low, dense vegetation. Roosting occurs on the ground near or in foraging areas beside or under clumps of vegetation, among dense tea-tree, in forests, in drainage ditches or plough marks, among boulders, or in shallow water if cover is unavailable. Estimates of the number of locations in which the species occurs is

Species	Impact
	problematic given that the species is highly mobile, will readily move between locations as conditions become more or less favourable, has a widespread distribution and, in wet years (when potentially many wetland areas are available), can have a widely dispersed population. One (1) individual was detected foraging at a site dam, on the muddy banks and within fringing vegetation during ELA (2017) migratory bird survey (Figure 4). The species was not recorded again during further survey. It is considered that the Latham's Snipe may occasionally use the site in a transient opportunistic nature at limited times throughout the year. As such it is not considered that an ecologically significant proportion of the population has been observed within the small area. Given the wide range of habitat available for the species, significant impacts to this migratory species as a result of the proposed development are considered to be unlikely. Furthermore, the site habitat is degraded and partially cleared and is not considered to meet the criteria for 'important habitat' nor will the removal of this habitat seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) or an ecologically significant proportion of a population of this species.
Tringa nebularia Common Greenshank	The Common Greenshank is a heavily built, elegant wader, 30-25 cm in length, with a wingspan of 55-65 cm and weight up to 190 g. The bill is long and slightly upturned and the legs are long and yellowish-green. In flight, all plumages show uniformly dark upperwing and contrasting white rump extending in a white wedge up the back, whitish tail and tips of toes projecting slightly beyond the tip of the tail. The Common Greenshank does not breed in Australia, however, the species occurs in all types of wetlands and has the widest distribution of any shorebird in Australia. In NSW, the species has been recorded in most coastal regions. It is widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie

Species	Impact
	Marshes, and north-west regions. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores. ELA survey (2017) (Figure 4) did not detect any Common Greenshank however there is a record of one induvial within the largest site dam from 2006 (Bionet Atlas 2016). It is considered that the Common Greenshank may occasionally use the site in a transient opportunistic nature at limited times throughout the year. As such it is not considered that an ecologically significant proportion of the population has been observed within the small area. Given the wide range of habitat available for the species, significant impacts to this migratory species as a result of the proposed development are considered to be unlikely.

2.5.2 Do you consider this impact to be significant?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Will there be any impact on a water resource related to coal / gas / mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

The site has a relevant history of agricultural use and has been largely cleared as a result. The site consists of grazing land, a few scattered trees and farm dams. There are four highly degraded vegetation communities on the site (Travers Ecology 2010):

cleared / pastoraldisturbed Grey Box / Forest Red Gum Open Woodlanddisturbed Swamp Oak Woodland – Forestdams and creeks with fringing vegetation

The understorey of these areas comprises mostly of exotic pastoral weeds, with no native mid-storey species.

Flora survey (Travers Ecology 2010) identified 111 flora species with only 50 of these comprising native species. The native species included several non-endemic planted species. There were no threatened species found during the flora surveys and it was concluded that no suitable habitat for threatened flora species is present. A site inspection undertaken by Cumberland Ecology (2013) concluded that suitable habitat for most threatened flora species with potential to be found in the area does not exist on the site, especially under the existing grazing regime.

Fauna surveys by Travers Ecology identified 63 fauna species within or near the site, with 12 of these being exotic species. A conservative approach was applied during surveys in the context of dams providing habitat for the threatened Green and Golden Bell Frog (*Litoria aurea*) on site, they did not find the species during their amphibian survey. During the fauna surveys there were no EPBC Act listed threatened species detected. This is similar to the surveys conducted by ELA (2017) which also concluded that the site does not contain and GGBF or any EPBC listed flora. The only EPBC Act listed species recorded on site was a single Lathams Snipe (migratory).

3.2 Describe the hydrology relevant to the project area (including water flows).

A number of dams exist within the two water courses traversing through the site, the largest of which is within the north-eastern portion of the site. The water courses flow in a north-easterly direction forming an unnamed tributary to Blaxland Creek before flowing onto South Creek, approximately 4 km to the north.

As part of the NSW Office of Water guidelines, water course orders have been classified under the “Strahler” system using current 1:25,000 topographic maps. Water courses within the site have been classified as 1st to 4th order water courses.

A detailed stream classification and ground truthing study of the site by Worley Parsons in 2011, confirmed that all of the existing riparian corridors within the site have little ecological significance and as such removal and / or reclassification of all riparian corridors was recommended. The central watercourse is the only flow path which was recommended to be reconstructed as a fully vegetated riparian corridor.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The Penrith Geological Map shows the site is underlain by Triassic Bringelly Shale which consists of shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, and rare coal and tuff. Geology adjacent to tributaries running through the site is characterised by Quaternary fine grained sand, silt and clay.

The regional soils map shows that the site was characterised by two soil groups, the residual soils of the Blacktown Group and fluvial soil from the South Creek Group. The Blacktown Group soils are shallow to moderately deep (<100 cm) with a hard setting mottled texture. They contrast from red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. These soils are moderately reactive, have highly plastic subsoil, low soil fertility and drain poorly.

The South Creek Group soils are found adjacent to tributaries running through the site and consist of very deep layered sediments over bedrock or relict soils.

Review of the NSW Natural Resource Atlas (NRA 2013) indicated that for the site, there are no known occurrences of acid sulphate soils.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The site is not considered to contain any outstanding natural features.

3.5 Describe the status of native vegetation relevant to the project area.

The site contains degraded native vegetation and exotic pastures.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The site is undulating with many hills and low lying areas. The regional topographical data

indicated that the site lies between 60 m and 90 m in Australian Height Datum (AHD). The majority of Lot 201 and part Lot 202 is sloped in toward the creek running through Lot 202. A small portion of Lot 201 located in the south-eastern corner slopes to the east/southeast towards Luddenham Road.

3.7 Describe the current condition of the environment relevant to the project area.

The site and its surrounds currently contain areas of native vegetation and exotic pastures. The site has predominantly been used for grazing livestock and thus contains large areas of cleared paddocks. Pockets of residual vegetation are located sparingly within the site. The land is approximately 98.5% cleared.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

The site does not contain any Commonwealth Heritage Places or other places recognised as having heritage values.

3.9 Describe any Indigenous heritage values relevant to the project area.

An Aboriginal Heritage Assessment Report, prepared by Kelleher Nightingale Consulting Pty Ltd included background research and an archaeological field survey conducted in accordance with the Office of Environment and Heritage (OEH) requirements including;

due diligence Code of Practice for the Protection of Aboriginal Objects in NSWcode of practice for Archaeological Investigations of Aboriginal Objects in NSW

Four Aboriginal archaeological sites were identified in the study area. In accordance with the significance assessment criteria established in the Australia ICOMOS Burra Charter 1999, the sites were considered to be of low to moderate archaeological value and none of the identified sites warrant conservation.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The site is legally owned by Sydney Science Park Pty Ltd. The single ownership provides a unique opportunity to develop the land in a streamlined way, which is rare given the fragmented land ownership patterns within the Western Sydney Priority Growth Area.

3.11 Describe any existing or any proposed uses relevant to the project area.

The site is currently used for low intensity farming, primarily grazing land for cattle. It also contains two rural residences, outbuildings and a number of dams. A 60 m wide electricity transmission corridor bisects the site north to south.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

The indicative concept master plan for SSP allows for the provision of an extensive passive and active open space and landscape / vegetation network that shapes an identity and character responsive to the topography of the site and integrates a liveable, robust network of parks, reserves, corridors and streetscapes. More specifically, public open space and restored wetlands will exist in the form of:

5.2 ha of sporting fields0.8 ha of native woodland to be protected10.1 ha waterbody to be reinstated and restored in the north of the site59.1 ha of vegetated corridors, district and local parks, including 35.6 ha of restored riparian corridors and 1.8 ha of retained riparian corridors to be subject to a Vegetation Management Plan

The central drainage area within the site has been rezoned predominantly RE1 Public Open Space and as such under the *Local Government Act 1993* (LG Act) a Plan of Management will be prepared and implemented for this land. This will reduce the impact through the avoidance of the better quality environmental features. This plan will include the identification of ongoing management of habitat resources, ecological communities, weeds, future landscaping and site works to retain trees.

As a requirement of the relevant DCP, the development must provide an overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent location, and detailed landscaping requirements for both the private and public domain. A Vegetation Management Plan (VMP) will be implemented to guide the revegetation of the riparian corridor and pocket parks.

Dam decommissioning studies have been carried out to support drainage of the larger water bodies on site to mitigate impacts on aquatic and semi-aquatic wildlife. Of particular importance is the relocation of native fauna species that will occur during decommissioning of the dams. Exotic fauna species (carp, mosquito fish) will be appropriately euthanized. Dam dewatering will be managed to minimise impact to migratory birds.

In respect to potentially occurring threatened or migratory species, the collective retention of the central drainage corridor, the restored native vegetated fringes to this drainage corridor, reinstated large waterbody, nearby connective remnants and nearby hollows will ensure a reduced impact.

Any restoration of the central drainage corridor will be so that open water areas will not be consumed by aquatic vegetation. Outlier areas (not inundated) will be revegetated as River-flat Eucalypt Forest or Cumberland Plain Woodland.

Standard *Phytophthora cinnamomi* protocol will apply to the cleaning of all plant, equipment, hand tools and work boots prior to delivery onsite to ensure that there is no loose soil or vegetation material caught under or on the equipment and within the tread of vehicle tyres. Any equipment onsite found to contain soil or vegetation material will be cleaned in a quarantined work area or wash station and treated with anti-fungal herbicides.

Erosion control measures will be in place to reduce temporary erosion and sedimentation risks to adjacent retained vegetation and any nearby drainage channel.

A Construction Environmental Management Plan will be prepared for the project and will incorporate all mitigation measures required for retained vegetation and fauna habitat, including buffer zones and delineation fencing. The plan will span the project duration and be adaptive to subsequent building stages to allow for phased removal of vegetation where appropriate.

Tree protection fencing will be placed around all trees to be retained within 5 m of the subject site. High visibility orange safety mesh should be used at a distance of 1 m radius from the trunk of the tree. Clear “No Go Area” signage will be attached to the fencing. Any threatened species (flora or fauna) discovered during vegetation clearance works will result in all work stopping immediately and the Project Manager notified. Works will only recommence once the impact of the species has been assessed and appropriate control measures provided.

A hollow bearing tree felling protocol will be implemented to ensure any hollow bearing trees that require removal are felled in a way which reduces potential to harm of any fauna. Hollow bearing trees to be removed will be offset prior to felling at a 1:1 habitat box to hollow ratio.

In addition to the installation of habitat boxes, hollows to be cleared will be salvaged and strapped to trees of the same species (where possible) in the patches of native vegetation to be retained in the study area. (it is noted, in addition to habitat boxes, the proponent is committed to salvaging and relocating all hollows from cleared trees on site).

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

The development layout provides for a large amount of open space. As discussed above, this will total approximately 80 ha and includes several wetlands and drainage corridors. Of note is the central watercourse, which will become a key feature of Sydney Science Park. The central watercourse will be re-established and improved in condition through planting of appropriate

wetland species, ongoing management of habitat resources, ecological communities, weeds, future landscaping and site works to retain trees. The riparian corridors will contribute to sustaining a natural corridor of wetlands in the locality. This will allow migratory birds to utilise the site as a stepping stone to higher quality habitat.

The provision and improvement of the riparian corridor within the development layout ensures positive environmental outcomes are achieved. This is of particular relevance for wetland birds as they have a strong need for corridors as they spend much of their time in the air rather than on the ground. The central riparian corridor will provide an improved potential resting and feeding habitat, and ensure that species are able to continue on their migratory journey without encountering large gaps of unsuitable habitat.

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

The proposed action IS NOT considered a controlled action for the reasons listed in section 2 and 4.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Yes. Celestino is an Australian-owned family business with high standards for all of their developments. They take pride in exceeding expectations in regards to respecting the environment through all stages of their projects to create a carefully designed development inclusive of built and natural form.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

Not applicable.

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

Celestino do not have an environmental policy or planning framework however they are committed to the implementation of industry leading environmental practices.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

1. Teviot Brook / Riverbend

2. RESIDENTIAL AND COMMERCIAL DEVELOPMENT BOX HILL NORTH, NSW (EPBC 2014/7119)

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Department of the Environment (2017). Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed Mon, 20 Mar 2017 14:40:00 +1100	High. All information on this site is from peer reviewed journals and provided by DotEE.	Nil.
Eco Logical Australia (2017). Flora and Fauna Assessment, Sydney Science Park West. Prepared for Celestino Pty LTD.	High. All information gathered by highly qualified ecologists and reviewed under ELA quality assurance program. All relevant MNES survey was undertaken in accordance with the EPBC Act guidelines.	Nil.
Penrith City Council (2014). Planning Proposal Sydney Science Park Volume 1	High. This report provides a government prepared summary of all site assessments that had occurred at SSP until 2014. The accuracy of this information is required to be high as it provides the foundations of the gateway approval process.	Nil.
Commonwealth of Australia (2016) Commonwealth Environment Protection and Biodiversity Conservation Act 1999. Commonwealth Consolidated Acts. Available at: http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/ (last accessed 25 October 2016).	High.	Nil.
Commonwealth of Australia (DotE 2013) Significant Impact	High.	Nil.

Reference Source	Reliability	Uncertainties
Guidelines 1.1 - Matters of National Environmental Significance.		
Commonwealth of Australia EPBC Act Protected Matters Search Tool. (2017a) Last accessed 17 January 2017. Available at: http://www.environment.gov.au/webgis-framework/apps/pmst/pmst.jsf	High.	Nil.
Department of Environment and Climate Change (2004) Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft.	High.	Nil.
Department of Environment and Climate Change (2007) Threatened species assessment guidelines. The assessment of significance.	High.	Nil.
Department of the Environment (2015) Referral guideline for 14 birds listed as migratory species under the EPBC Act.	High.	Nil.
Department of the Environment, Water, Heritage and the Arts (2010) Survey Guidelines for Australia's Threatened Birds. Accessed 11 November 2016. Available at http://www.environment.gov.au/system/files/resources/107052eb-2041-45b9-9296-b5f514493ae0/files/survey-guidelines-birds.pdf	High.	Nil.
Mills, D. J., Norton, T. W., Barnaby, H. E., Cunningham, R. B., and Nix, H. A. (1996). 'Designing surveys for microchiropteran bats in complex forest landscapes - a pilot study from south-east Australia.' Special issue: Conservation of biological diversity in temperate and boreal forest ecosystems 85,	High.	Nil.

Reference Source	Reliability	Uncertainties
149-161.		
NSW Government (1987) Environmental Planning and Assessment Act 1979. NSW Legislation. Accessed 10 February 2017. Available at: http://www.legislation.nsw.gov.au/#/view/act/1979/203	High.	Nil.
Office of Environment and Heritage (2017a). BioNet: Atlas of NSW Wildlife. Accessed 17 January 2017. Available at http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx	High.	Nil.

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

There are no alternative locations, time frames or activities that form part of the referred action.

Alternate sites that were evaluated didn't have the same opportunities presented as the site proposed. The site proposed was selected because of its competitive advantages:

the size of its landholding and tenure (not fragmented land)the land is already 98.5% clearedindustry preference for land in Western Sydneylocated within the Western Sydney Priority Growth Area comprising the Western Sydney Employment Area (WSEA) and Draft Broader WSEA Structure Planproximity to future Western Sydney Airport and future transport infrastructuresite not restricted by existing uses and can expand over time without potential boundary conflicts

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Development Director

9.2.2 First Name

Chris

9.2.3 Last Name

Gantt

9.2.4 E-mail

chris.gantt@celestino.net.au

9.2.5 Postal Address

PO Box 438
Pendle Hill NSW 2415
Australia

9.2.6 ABN/ACN

ABN

67607351842 - CELESTINO DEVELOPMENTS SSP PTY LIMITED

9.2.7 Organisation Telephone

02 9842 1218

Australian Government
Department of the Environment and Energy

9.2.8 Organisation E-mail

info@celestino.net.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, CHRIS GANTT, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: C W Sit Date: 14/06/17

I, _____, the person proposing the action, consent to the designation of N/A as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date: .....

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Development Director

9.5.2 First Name

Chris

9.5.3 Last Name

Gantt

9.5.4 E-mail

chris.gantt@celestino.net.au

9.5.5 Postal Address

PO Box 438
Pendle Hill NSW 2145
Australia

9.5.6 ABN/ACN

ABN

67607351842 - CELESTINO DEVELOPMENTS SSP PTY LIMITED

9.5.7 Organisation Telephone

02 9842 1218

9.5.8 Organisation E-mail

info@celestino.net.au

Proposed designated proponent - Declaration

I, _____, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Australian Government
Department of the Environment and Energy

Signature:..... Date: 14/06/17

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Senior Approvals Consultant

9.8.2 First Name

Brendan

9.8.3 Last Name

Dowd

9.8.4 E-mail

brendand@ecoaus.com.au

9.8.5 Postal Address

Suite 204, Level 2,

62 Moore Street
Austinmer NSW 2515
Australia

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Australian Government
Department of the Environment and Energy

Referring Party - Declaration

I, _Brendan Dowd_____, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:  Date: 14 Jun 2017

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. appendix_b_pmst.pdf
2. appendix_c_likelihood_table.pdf
3. attachment_1_figures_v2.pdf