

3.4 Existing Land Uses and Development

An aerial photograph of the site is included above at **Figure 5**. The site is largely vacant. Remnants of military facilities (i.e. cottages, former building slabs, internal roads, training facilities etc) associated with the site's former Defence use are scattered through-out. There are a number of cottages / houses previously used by Defence personnel in an area of the site generally referred to as "Ingleburn and Bardia Villages". The Ingleburn North Public School (1.835 hectares) is located on the southern and the Bambi Preschool on the northern side of Campbelltown Road.

General views of the site are illustrated in **Figure 8**.



Figure 8a - Typical landscape setting at Edmondson Park South



Figure 8b - Riparian vegetation within Edmondson Park South



Figure 8c - View of the Ingleburn Military Heritage Precinct from Campbelltown Road



Figure 8d - View of the Ingleburn Military Heritage Precinct, existing memorials and interpretation



Figure 8e - View of existing pre-fabricated cottages within the former Ingleburn Village



Figure 8f - Typical character of Campbelltown Road near the Ingleburn Military Heritage Precinct

Figure 8 - General views of the site (Source: Edmondson Park South Concept Plan Application Visual Assessment, Hassell, 2010)

Existing land uses are shown on **Figure 9**.

The site is located within close proximity to a number of noise and vibration sources that will need to be appropriately managed as part of the proposed development.

The main sources of noise and vibration are from the future SWRL (connecting Glenfield and Leppington), traffic using the M5 Motorway, and increased traffic along Campbelltown Road and Macdonald Road. It is anticipated that homes adjacent to the rail corridor will require sound attenuation and that built form mitigation treatments for road noise will be required along certain major roads.

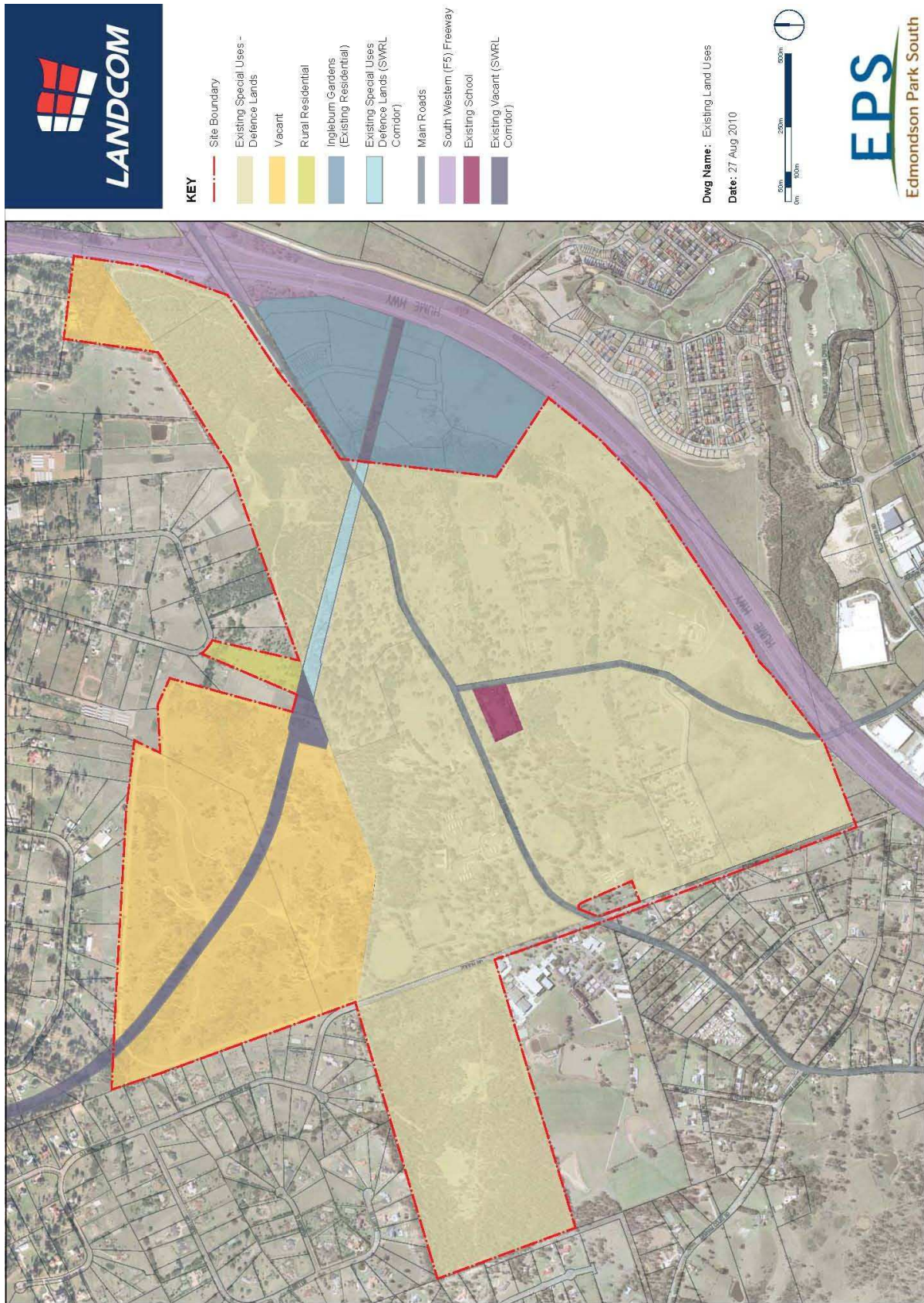


Figure 9 - Existing site land uses

3.5 Topography, Slope and Stability

The site is undulating to steep. It slopes from its highest point (80 m AHD) at the intersection of Zouch and Campbelltown Roads to its lowest point (40 m AHD) at its eastern corner and to a similar elevation adjacent to the M5 Motorway in the south-west corner. The central portion of the site along Campbelltown Road forms a ridge with gentle falls to the north and south. A secondary ridge along Zouch Road gives the site an elevated western boundary.

The site topography is illustrated at **Figure 10**.

Geological mapping and sub-surface investigations have been undertaken by Golder Associates (refer to Geotechnical, Contamination and UXO – Site Suitability Assessment included at **Appendix G**).

The study area is underlain by Bringelly Shale of the Wianamatta Group. Areas of Quaternary alluvial sediments occur along the floodplains of creeks which flow through the site. Maxwells Creek and tributaries flow through the eastern and southern parts of the land, generally flowing to the east and north. The north-eastern corner of the study area includes the upper catchment of Cabramatta Creek.

Three soil landscapes occur across the study area (Bannerman and Hazelton (1990)). The most widespread of these is the Blacktown Soil Landscape, which occurs on gently undulating slopes. The South Creek soil landscape is associated with Quaternary alluvial deposits along creeks. The Luddenham Soil Landscape is found in the south of the study area along Campbelltown Road and Macdonald Road.

In terms of slope stability, the natural ground surface within the site is assessed to be generally as very low risk of instability with the majority of slopes between 0 degrees to 10 degrees gradient. Steeper slopes exist within the southern portion of the site. Previous investigations undertaken by Geotechnique in 2003 indicate the presence of shallow rock (0.7 m to 1.3 m depth) in this area. Soil slope instability is likely to be a low risk given the shallow cover of soil over rock and where slope angles are less than 15 degrees. **Figure 10** provides a site slope analysis.

The majority of the site is classified as either very low or low risk with respect to stability, with construction considered to be relatively straightforward. Slope stability is not considered to present a significant site constraint.

The site is not subject to likelihood of presence of acid sulphate soils.



Figure 10 - Site topography and slope analysis

3.6 Contamination

Localised contamination, potential UXO and small arms ammunition (SAA) has been identified across the Edmondson Park South site (refer to Geotechnical, Contamination and UXO – Site Suitability Assessment, prepared by Golder Associates included at **Appendix G**). Contaminated areas include around existing building margins and building materials, buried waste, presence of underground storage tanks, unexploded ordnance, use and storage of pesticides and herbicides, transformers and switch gear and ground water / surface contamination.

Localised contamination, potential UXO and SAA has been identified through several environmental investigations carried out across that part of the site in the current ownership of the Commonwealth.

Remediation of parts of the site including remediation of the grenade and small arms ranges, underground storage tanks and asbestos containing building materials was carried out by the Commonwealth between 1999 and 2004 (refer to **Appendix G**).

New South Wales (NSW) accredited contaminated land Site Auditors have been engaged by Defence to review the adequacy of investigations, remediation works carried out and the provision of a Site Audit Statement (SAS) in accordance with the Contaminated Land Management Act 1997 (CLM Act 1997) on completion of remediation works. Remediation works carried out to date on this portion of the site have included:

- Remediation (UXO) within former grenade ranges and miniature rifle range;
- Removal of underground storage tanks (USTs) and remediation of localised impacted material;
- Demolition and removal of former structures constructed with asbestos containing fibro cement sheeting; and
- Remediation of former chemical storage areas.

Other remediation works are currently underway by Defence within its existing landholding, and it is anticipated that a Site Audit Statement will be provided in the near future.

On land in ownership of Landcom, areas of potential UXO have been further assessed and remediated. UXO Clearance certificates have been issued by a suitably qualified UXO consultant where clearance works have been undertaken. Land within the north-west corner of the site has not been remediated. Contamination within this portion of the site includes lead particulate material (from previous rifle range use), asbestos (from fragmented fibro sheeting), waste burial pits and hydrocarbon impacted fill material.

Remaining remediation works will be carried out in accordance with Site Auditor approved RAPs and or managed in accordance with Site Environmental Management Plan (SEMP) prepared for the proposed encapsulation area within the Landcom Site and future regional park as proposed as part of the Concept Plan application.

3.7 Ecological Characteristics and Values

An Ecological Assessment prepared by Ecoogical is included at **Appendix C**. The key ecological characteristics and values of the site are identified below.

Vegetation communities

The majority of the native vegetation on the site is Shale Plains Woodland, a sub-community of CPW. CPW is listed as a critically endangered ecological community under the TSC and EPBC Acts. This community is dominated by Grey Box (*Eucalyptus moluccana*) with Native Blackthorn (*Bursaria Spinosa*) being the dominant shrub species. The greatest diversity of this community occurs in the ground layer where a vast array of grasses, forbs and herbaceous species are present, most notably Kangaroo Grass (*Themeda australis*), Windmill Grass (*Chloris ventricosa*) and Saltbush (*Enardia spp.*).

A large area of Alluvial Woodland, part of the TSCA listed community River-Flat Eucalypt Forest on Coastal Floodplains occurs primarily along Maxwells Creek in the north-eastern part of the site. This community is dominated by a thick canopy of *Casuarina glauca* with a low diversity of understorey species present, the cover primarily comprising of *Microlaena stipoides*. As this community occurs in riparian environments it is typically subject to higher nutrient and water flows providing an environment that is favourable to a number of weed species. Wandering Jew (*Tradescantia fluminensis*) and Madeira Vine (*Anredera cordifolia*) are notable weed species occurring in this environment.

Areas of derived native grassland are also present across the study site. These areas typically comprised a mix of native and exotic species with African Lovegrass (*Eragrostis curvula*) being a common weed species in these environments.

Groundwater dependent ecosystems on the site are principally concerned with riparian zones and floodplains that are vegetated with Alluvial Woodland. There are no natural wetlands on the site.

Existing significant site vegetation is shown at **Figure 11**.



Figure 11 - Existing significant vegetation

Threatened species and populations

The Ecological Assessment details threatened flora species and populations that have been recorded within a 10km radius of the site. In addition to CPW (including native grassland) and Alluvial Woodland, which are present on the site, three threatened flora species are considered to have the potential to occur within the site, namely:

- Downy Wattle (*Acacia pubescens*);
- Spiked Rice-flower (*Pimelea spicata*); and
- Sydney Plains Greenhood (*Pterostylis saxicola*).

Five (5) species of threatened fauna are known to occur on the site, namely:

- Cumberland Plain Land Snail (*Meridolum corneovirens*);
- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*);
- Eastern False Pipistrelle (*Falsistrellus tasmaniensis*);
- Eastern Freetail-bat (*Mormopterus norfolkensis*); and
- Greater Broad-nosed Bat (*Scoteanax rueppellii*).

A further 17 threatened fauna species are likely or have the potential to occur on the site including:

- | | | |
|-----------------------|--|----------------------------------|
| ▪ Varied Sittella | ▪ Grey-headed Flying Fox | ▪ Superb Parrot |
| ▪ Little Lorikeet | ▪ Spotted-tailed quoll | ▪ Speckled Warbler |
| ▪ Little Eagle | Swift parrot | ▪ Yellow-bellied Sheath-tail-bat |
| ▪ Square-tailed Kite | ▪ Black-chinned Honeyeater (eastern subsp) | ▪ Regent Honeyeater |
| ▪ Large-footed Myotis | ▪ Southern Myotis | |
| ▪ Scarlet Robin | ▪ Powerful Owl | |
| ▪ Flame Robin | | |

The majority of these species are highly mobile bird and bat species that may utilise elements of the site on an intermittent basis.

As detailed at Section 1.1, the Edmondson Park Precinct is subject to a Biodiversity Certification Order conferred on the Growth Centres SEPP in 2007. **Figure 12** illustrates the extent of certified and non certified lands within the Edmondson Park South site. A full copy of the Biodiversity Certification Order and relevant accompanying maps is included in the Ecological Assessment prepared by EcoLogical at **Appendix C**.

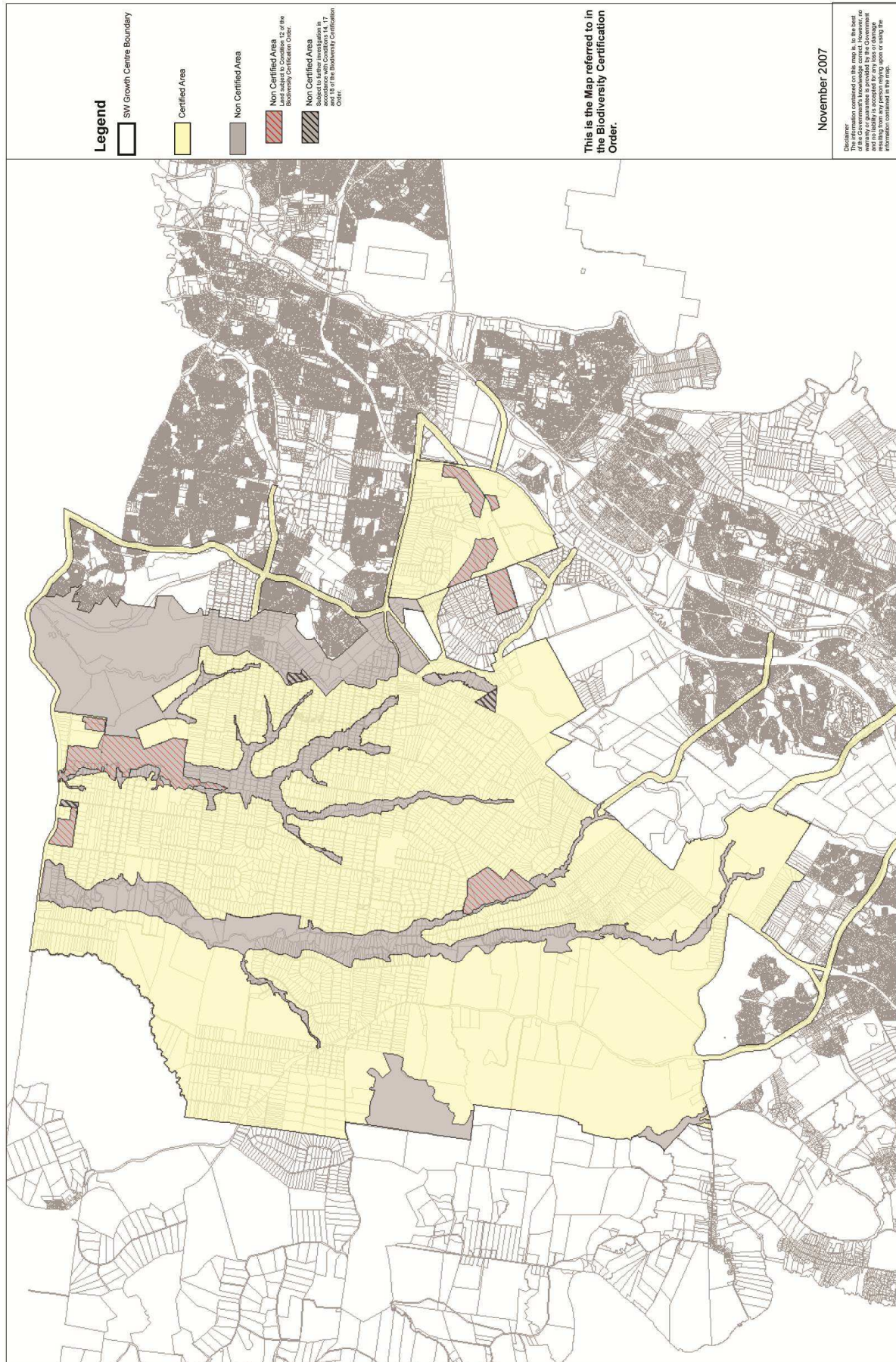


Figure 12 - Edmondson Park South Certified and Non-Certified Lands