ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

STAGE 1 PRELIMINARY SITE INVESTIGATION, CORNER OF TURNER STREET AND BELL STREET, DENMAN NSW

CM+ ARCHITECTS

16 APRIL 2021
121024
VERSION 2

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

16 April 2021

CM+ Architects
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Attention: **Michael Morony**
Associate Director - Architecture

Stage 1 Preliminary Site Investigation –
Corner of Turner Street and Bell Street, Denman NSW

Please find enclosed a copy of our report entitled as above. Thank you for the opportunity to undertake this work. Should you have any queries, please do not hesitate to contact us on (02) 9922 1777.

For and on behalf of
Environmental Earth Sciences NSW

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EXECUTIVE SUMMARY

Introduction and objectives

Environmental Earth Sciences were commissioned by CM+ Architects to undertake a Preliminary Site Investigation (PSI) for the property located in the northern corner of Bell Street and Turner Street , Denman, NSW (the "site") with Turner Street located both to the north and south of the site. This PSI was commissioned with aims to support their Development Application (DA) to Muswellbrook Shire Council (Council) for developing storage premises. The site is located within the Muswellbrook Shire Council (Council) Local Government Area (LGA) and is formally identified as Lot 42 in Deposited Plan (DP) 771226.

This PSI is required as supporting documentation for the DA and ensures that CM+ complies with requirements of State Environmental Planning Policy No.55 – Remediation of Land (1998 EPI 520) (SEPP55) to identify if there are any potentially unacceptable risk(s) posed by contamination from historical site use or off-site sources which may require specific management for protection of current and future users of each site and the environment.

Findings

Findings from the desktop study and site inspection indicated the following:

- Site inspection and review of historical images indicate potential historic infill of material in parts of the site.
- A stockpile of fill material was observed in the middle of the site, estimated to be approximately ~6 cubic metres (m^3) in volume comprised of generally brown sandy soil with gravels of mixed lithology (e.g. road base (DGB20), concrete, clay tile and bricks). No odour or suspected asbestos-containing material (ACM) was identified. The grass under and immediately surrounding the stockpile was noticeably in poor condition evidenced by yellow colour.
- During site inspection long freight trains were noted to carry coal in uncovered wagons on a regular basis between mines of the upper Hunter Valley and the coal terminal at Newcastle. The rail track within the adjoining rail corridor is 30 m from the eastern site boundary.

Conclusion and recommendations

Based upon results of key findings, main conclusions are listed below:

- General site (area outside of the stockpile):
    - Historical records suggest that the site and immediately surrounding properties have never likely been used for industrial purposes with the exception of the adjoining rail corridor east of the site.

  - Historical aerial photographs do not indicate that there were ever any permanent structures existing onsite.

  - Observations during the site walkover did not identify any visual / olfactory indications of contamination or potential asbestos upon the site surface in areas outside of the stockpile. As such the conceptual site model (CSM) generally assigned a risk status of LOW for the site outside of the stockpile.

- Stockpile:

  - Stockpile of uncontrolled material was observed onsite (approximately 6 m^3), comprised of possible uncontrolled fill material.

  - As there is currently no information on physical / chemical properties of this stockpile the CSM assigned a risk status of MEDIUM.

Based upon findings from the desktop study, review of historical information, site observations and laboratory results, Environmental Earth Sciences considers that the site generally presents a **LOW** risk posed by contamination, however material within the stockpile presents a **MEDIUM** risk to human health and the environment during proposed land use 'Setting D' (commercial/ industrial) as defined within ASC NEPM (2013).

It is recommended to conduct further detailed assessment of the physical and chemical properties of uncontrolled stockpiled material, undertaken either prior to commencement of development or during development. Results and findings should be used to inform management options for either onsite reuse or offsite management as solid waste. Based upon volume estimates of ~ 6 m^3 collection of three samples would be recommended to chemically characterise this material for potential reuse and/or offsite management as solid waste in accordance with the minimum sampling requirements of ASC NEPM (2013).

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1 INTRODUCTION

Environmental Earth Sciences NSW was engaged by CM+ Architects Pty Ltd (CM+) to undertake a Stage 1 Preliminary Site Investigation (PSI) for the property located at the corner of Bell Street and Turner Street, Denman NSW (the "site").The site situated such that Turner Street is located both to the north and south of the site. The site is located within the Muswellbrook Shire Council (Council) Local Government Area (LGA) and is formally identified as Lot 42 in Deposited Plan (DP) 771226. The site locality is illustrated on **Figure 1**.

It is understood that this investigation is to support a development Application (DA) to Council and is a requirement under State Environmental Planning Policy (SEPP) No.55 – Remediation of Land. The assessment is required in order to facilitate contamination assessment / management obligations required by the current DA for upcoming development of a storage premises at the site.

This report should be read in conjunction with the assumptions contained within the proposal (ref: PO121039_V1, 02 March 2021) and the limitations in Section 11 and Environmental Earth Sciences General limitations.

2 OBJECTIVES

The overarching objective of this PSI is to facilitate contamination assessment / management obligations required by Council under the DA are undertaken in accordance with State Environmental Planning Policy No.55 – Remediation of Land (SEP55).

This PSI is will aim to identify if there are any potentially unacceptable risk(s) currently posed by contamination from historical site use or off-site sources which may require specific management to ensure no unacceptable risk(s) are present for protection of human health and he environment.

Findings of this assessment will be used to develop the conceptual site model (CSM) for contamination and inform whether there are any completed risk linkages that may require further Stage 2 detailed site investigation (DSI) and/or remediation planning (if required).

3 SCOPE OF WORKS

3.1 Information searches

A review of the following available desktop information was undertaken by Environmental Earth Sciences NSW:

- Soil, geology, vegetation, topography, hydrology and hydrogeology, acid sulfate soils, salinity and meteorology maps and databases.

- Water NSW records of registered groundwater bores within 500 m of the site, to assess likely groundwater depths and quality (if available).
- Available historic aerial photography.
- Historical title certificates.
- Council planning certificates under Section 10.7 (parts 2 and 5) of the Environmental Planning and Assessment Act 1979 (EP&A Act).
- NSW Environment Protection Agency (EPA) register of notified properties under the Contaminated Land Management act 1997 (CLM Act) subject to investigation / remediation orders.
- NSW EPA search of Environmental Protection Licences under the Protection of the Environment Operation Act 1997 (POEO Act).

3.2 Site inspection

Fieldworks undertaken included the following:

- Preparation of safe work methods statement (SWMS) for fieldworks undertaken.
- Site walkover documenting current conditions, noting key features and visual or olfactory indications of contaminating activities or contamination sources.

3.3 Reporting

Provision of this Stage 1 PSI report with findings and recommendations from the assessment, which will include the potential for additional investigation and remediation (if required).

4 STATUTORY GUIDELINES

This PSI report was prepared in generally accordance with the following guidance endorsed by the NSW EPA under the CLM Act:

- National Environment Protection Council (NEPC) (2013) - *National Environment Protection (Assessment of Contamination) Measure 1999 (Amended 2013)* (ASC NEPM, 2013).
- NSW EPA (2017) - *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3rd edition).*
- NSW EPA (2020) - *Contaminated Guidelines: Consultants report on Contaminated Land*.

5 SITE IDENTIFICATION AND SETTING

5.1 Site identification

Site identification details are provided in **Table 1** below. A plan of the regional locality of the site is provided in **Figure 1**, with site layout, features and sampling locations presented on **Figure 2.**

Table 1: Site identification

Details	Information
Site owner	Muswellbrook Shire Council
Address	Corner of Bell Street and Turner Street, Denman NSW
Lot & Plan number	Lot 42 in DP 771226
Area	~ 6,420 m^2
Zoning	RU5 Village (Rural Zone)
Current land use	Vacant Land
Proposed land use	Storage Premises (commercial/ industrial)
Local Government Authority	Muswellbrook Shire Council
Site location and layout	Figure 1 and Figure 2

5.2 Site surrounds

The surrounding site land uses are summarised in **Table 2**.

Table 2: Surrounding site uses

Direction	Description
North	Turner Street continues to the north of the site, adjacent and parallel to the railway corridor. Residential houses are situated immediately north of site with vacant land ~280 m from the northern border of the site with agricultural fields beyond.
South	Bell Street borders the site to the south and Turner Street extends south from the south-eastern corner of the site, adjacent and parallel to the railway corridor. The recreational area of Denman Oval is situated across Bell Street with sports centre beyond.
East	Rail corridor for the Muswellbrook - Merriwa rail line situated immediately east of site with the rail track running in a northerly direction 30 m from eastern site boundary. Denman Public School and residential area situated approximately 130 m beyond. The Denman works depot and Rural Fire Brigade station are located ~150 m east north east from the site. The residential areas of Denman town are bounded by Sandy Creek, ~700 m from site, flowing in a southerly direction with Hunter River 1.7 km from site, flowing in a south-westerly direction.
West	Residential area immediately west of site. Approximately 700 m from site there is a known mine subsidence district [1] comprising an area of about 700 km^2.

Notes:

1. Mine subsidence districts are proclaimed in areas where there are potential subsidence risks from underground coal mining that has occurred or may take place in the future. land zoning tool administered by Subsidence Advisory NSW under the *Coal Mine Subsidence Compensation Act 2017* to help protect homes and other structures from potential mine subsidence damage.

5.3 Sensitive receptors

The nearest sensitive human receptors are anticipated to be:

- Site users (future occupants, visitors, maintenance/ construction workers).
- Staff and students at Denman public School ~130 m east of the site.
- Residents and visitors of adjacent residential properties to the north and west.
- Recreational users of Denman sport centre and oval, immediately across Bell Street to the south of the site.

Onsite sensitive environmental receptors include the ecological communities which inhabit the soil and groundwater beneath the site. The nearest sensitive ecological receptors are anticipated to be:

- Sandy Creek located approximately 690 m east of the site.
- Hunter River approximately 1.3 km southeast of the site.
- Woodlands with residual native cover 1.2 km to the west of the site.

5.4 Regional soils, geology, vegetation and topography

5.4.1 Soils landscape

The soils underlying the site belong to the Sandy Hollow Soil Landscape (**Appendix A**) as classified in the interactive website *eSPADE* from NSW Office of Environment and Heritage (OEH) (2018). A soil landscape is an area of land that has recognisable and specifiable topographies and soils.

On the foot slopes of this soil landscape, where the site is situated, the soils are commonly characterised by very deep (150 – 500 cm), imperfectly drained Red, Yellow and Brown Sodosols (Red Brown Earths, Red and Yellow Solodic Soils). Sodosols have a strong texture contrast between surface (A) horizons and sodic, often dispersive, subsoil (B) horizons.

Limitations of the Sandy Hollow soils include areas of high run-on and the landscape is prone to sheet erosion if the surface is disturbed. If water becomes concentrated and the dispersible sodic subsoils are exposed, gully erosion is likely to occur. Localised salinity may also be present.

5.4.2 Geology

The Rasmus *et al.* (1969) - *Singleton 1:250,000 Geologic Series Sheet SI 56-1* indicates that the site is located upon an area of Quaternary alluvium (gravels, sand, silt and clay) associated with Sandy Creek and Hunter River. The Quaternary alluvium is underlain by the Permian-aged Singleton Coal Measures generally comprising sandstone, shale, mudstone, conglomerate, and coal seams.

5.4.3 Vegetation

The site contains grass cover with no shrubs or trees present apart from three larger trees across the rail corridor fence to the east with canopies extending over the fence line. The area in the vicinity of Denman township has been extensively cleared of former dry sclerophyll forest / woodland, where species would have included *Eucalyptus melliodora* (yellow box), *E. tereticornis* (forest red gum), *E. crebra* (narrow-leaved ironbark), *Callitris endicheri* (black cypress pine) and *Angophora floribunda* (narrow-leaved apple).

5.4.4 Topography

The Sandy Hollow Landscape is characterised by gently inclined concave foot slopes and undulating rises. Slopes <10%, local relief <30 m and elevation 100 - 300 m. Gravelly, colluvial deposits form foot slopes and fans derived from upslope, Narrabeen sandstones intermixed with Permian bedrock-controlled undulating rises. Drainage generally would occur via sheet flow but could also concentrate into gullies.

5.5 Hydrogeology and drainage

5.5.1 Hydrogeology

The bioregional assessment for the Hunter subregion (http://www.bioregionalassessments.gov.au) identified the area of Denman to be dominated by fractured rock aquifers in the Quaternary and Permian sedimentary deposits. Generally, the groundwater flow paths follow the direction of the subregion's topography. The surficial fractured rocks often host local groundwater flow and provide baseflow to streams. The various Permian rock units are commonly fine-grained and have very low primary porosity.

Most groundwater flow in these units occurs preferentially along zones of enhanced secondary porosity, such as fault and fracture networks. Enhanced hydraulic conductivity occurs in some coal seams, for example, focused along cleats (fractures).

5.5.2 Registered groundwater bores

A search of the Australia Groundwater Explorer website (http://www.bom.gov.au/water/groundwater/explorer/map.shtml) indicated that there are four groundwater wells or monitoring bores within 900 m of the site out of which one was confirmed to be decommissioned. All four bores were located to the east and east-southeast of site, ranging in depth between 6.20 - 7.80 m with these used for water supply and irrigation. A summary of the available information is presented in **Table 3**.

Table 3: Registered groundwater bores

Registered Bore ID	Direction from site	Distance from site (m)	Depth of bore (mBGL)	Water bearing zone (m)	Aquifer lithology	Status	Authorised purpose
GW018555.1.1	ESE	400	7.3	----	Gravel	Functioning	Water supply - WSUP
GW040541.1.1	E	615	7.3	----	----	Cancelled	Irrigation
GW040542.1.1	ESE	710	7.8	----	----	Functioning	Water supply, HUSE
GW040543.1.1	ESE	860	6.2	----	----	Functioning	Irrigation

Notes:
mBGL Metres below ground level
--- No available information
WSUP Community Water Supply
HUSE Water supply for household needs e.g. washing, toilet.

5.5.3 Surface water bodies

There were no observed surface water features onsite. The nearest surface water body to site is Sandy Creek, a small tributary to Hunter River which flows in a southerly direction approximately 700 m east of the site.

5.5.4 Onsite drainage

The site surface is unsealed with predominantly grass-cover, with no trees or shrubs. Rainwater would percolate directly into underlying soils onsite. Stormwater drainage infrastructure onsite is comprised of three pits with concrete covers.

5.5.5 Groundwater dependent ecosystems

A search of the groundwater dependent ecosystems atlas (GDE) indicates that there are no known terrestrial, aquatic or subterranean groundwater dependant ecosystems reliant upon the site. Hunter River is the closest aquatic GDE, located approximately 1.8 km to the northwest of the site.

5.6 Acid sulfate soils

The probability of acid sulfate soil risk at the site is low. The site is mapped outside of any known occurrence of acid sulfate soils on both state government and local council acid sulfate soils risk maps (Australian Soil Resources Information System (ASRIS), 2013).

5.7 Salinity risk

A review of information sourced from the interactive eSPADE website, managed by the NSW Department of Planning, Industry and Environment (DPIE), highlights the site as being in an area with high to very high salinity hazard.

5.8 Flood risk

A review of the Sharing and Enabling Environmental Data (SEED) interactive flood planning area did not highlight the site as being in flood prone area that would require additional management.

5.9 Climate and meteorology

Regional meteorological data has been sourced from the Bureau of Meteorology (2020) with monthly rainfall data, received from Muswellbrook (Lindisfarne) – weather station (#061168) located approximately 10 km north northeast of the site. Average monthly rainfall data was calculated from 1960 to present. The mean maximum and mean minimum monthly temperature data were sourced from Scone Airport Weather Station (AWS) (#061363) located approximately 40 km north northeast of the site and calculated from 1990 to current.

The average yearly rainfall in the area is approximately 617.7 mm with year 2018 only receiving 387.8 mm, the lowest recorded yearly average from Muswellbrook (St. Heliers) – weather station. The maximum recorded temperature was in the last year reaching 46.5ºC on 12 February 2017. Average monthly climate data is presented in **Chart A**.

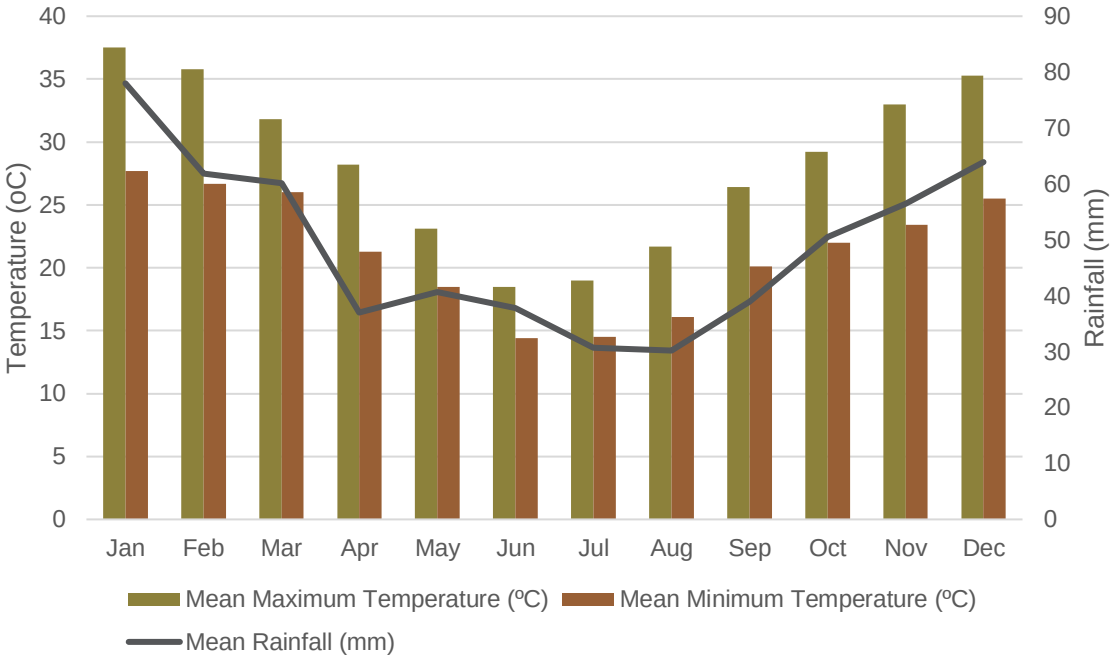

Chart A: Average monthly climate data for Muswellbrook (St. Heliers)

6 HISTORICAL REVIEW

The earliest available historical aerial photograph depicting the site is from 1958, showing the site and surrounding areas to be predominantly used for agricultural purposes. Important features are summarised in **Table 4** and the historical aerial photos are in **Appendix B.**

6.1 Historical aerial photograph review

Table 4: Review of aerial photographs

Year	Colour / B&W	Notes
1958	B&W	**Site:** The image is blurry however it is noted that the site is cleared of vegetation and vacant. A darker colour noted within the northern portion of the site suggests a possible depression or water-logged area. **Site surrounds**: The surrounding areas to the west and north of the site appears to be cleared agricultural fields and a residential building is situated ~35 m to the northwest of the site. Bell Street is present as an un-paved road bordering the site to the south and Denman Oval beyond. Immediately to the east of the site, the Muswellbrook-Merriwa railway corridor, running in a south to north direction, is faintly outlined. The village of Denman with residential buildings is present 200 m southeast of the site.
1967	B&W	**Site:** No significant changes. **Site surrounds:** No significant changes.

Year	Colour / B&W	Notes
1974	B&W	**Site:** At least 50% of the site is now darkly shaded in the image suggesting potential excavation or inundation of the site. Still no development noted. **Site surrounds**: There is a slight increase in residential houses to the east of the site along Paxton Street ~350 m to the east of the site.
1989	Colour	**Site:** The site has now been covered by grass. Tracks upon the ground indicate that the site is used as a thoroughfare for pedestrians and vehicles between Bell Street and Turner Street. **Site surrounds:** There is now a new block of residential buildings along Turner Street and Almond Street to the west, north west and north of the site (the original residential building just northwest of the site is still present). Denman sports centre with adjoining outdoor pool is now present ~300 south of the site. There is significant railway infrastructure (sheds/ storage) along the eastern side of the railway extending approximately 600 m.
1993	Colour	**Site:** More pronounced tracks across the site indicates that the site is a thoroughfare between Bell Street and Turner street and as access to the properties to the west of the site. **Site surrounds:** No significant changes.
2003	Colour	**Site**: No significant changes. **Site surrounds:** Grey Gum Road is now present ~210 m northwest of the site continuing in a westerly direction with residential houses lining the street sitting on larger >4,000 m^2 residential blocks. The shed/ storage facility along the eastern side of the railway is now gone.
2007	Colour	**Site**: No significant changes. **Site surrounds:** No significant changes.
2013	Colour	**Site**: No significant changes. **Site surrounds:** Residential **s**ubdivision along the northern side of Bell Street and west of Almon Street is now in progress with >15 new residential properties present ~200 m west of the site.
2015	Colour	**Site**: No significant changes. **Site surrounds:** Two new residential cul-de-sac streets have been constructed on what used to be an empty field ~300 m north of the site.
2018	Colour	**Site**: No significant changes. **Site surrounds:** No significant changes.
2020	Colour	**Site**: No significant changes. **Site surrounds:** No significant changes.

Notes:

Historical imagery sourced from Land Insight & Resources. The full suite of aerial images is provided in **Appendix B**.

6.2 Title certificates

A summary of information from the review of historical land title certificates is presented in **Table 5**. General land use in Denman since circa 1917 has progressively changed from bushland and rural, to predominantly residential and commercial space. Title certificates are presented in **Appendix C**.

Table 5: Summary of title certificates

Reference type	Date of title	Owner / proprietor	Comments
Gazette	1917 — 1976	Public Transport Commission of NSW	Resumed for railway purposes
Book 3268 No. 281	1976 — to date	The Council of the Shire of Denman (now known as Council of the Shire of Muswellbrook)	Current registered proprietor

6.3 Council planning certificate

A search of the Muswellbrook Shire Council planning certificate made under Section 10.7 [2] & [5] of the EP&A Act indicated that no significant issues in relation to contaminated land, management orders, voluntary management proposals (VMPs), ongoing maintenance orders or site audit statements (SAS) associated with the site are noted. The planning certificate is included in **Appendix D** with relevant information provided below for the site:

- Is **not** significantly contaminated within the meaning of that Act at the date when the certificate was issued.
- Is **not** subject to a management order within the meaning of that Act at the date when the certificate was issued.
- Is **not** the subject of an approved voluntary management proposal with the meaning of that Act when the certificate was issued.
- Is **not** the subject of an ongoing maintenance order within the meaning of that Act when the certificate was issued.
- Is **not** the subject of a site audit statement (SAS) within the meaning of that Act if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

6.4 NSW EPA contaminated land records

A search of the NSW EPA contaminated land public record database showed no records for the site or any other sites within a 1 km radius of the site under the Contaminated Land Management Act (CLM Act) 1997 or Environmentally Hazardous Chemicals Act (1985).

The list of sites notified to NSW EPA indicated that there was one site, a former industrial site (metal industry) located at 9-10 Fontana Way (approximately 640 m northeast of site.

6.5 Underground petroleum storage system regulation – sensitive zones map

Review of the NSW EPA (2010) Underground petroleum storage system (UPSS) regulation sensitive zones map for Muswellbrook Shire Council indicated that the site is located within a sensitive zone. The above-mentioned map is located in **Appendix E**.

7 SITE INSPECTION

7.1 Observations

A site inspection was undertaken by Environmental Earth Sciences on 18 March 2021 to assess the current site condition. The site inspection coincided with a heavy rainfall event. Photographs of the site are presented in plates provided in **Appendix F.** Refer to indicative locations of features illustrated on **Figure 2**.

The site is situated on the foot slope of the landscape with a broadly flat topography although some undulations were noted in the north and east of the site. The landscape begins to slope upwards west of the site towards an unnamed hill that peaks at approximately 300 metres above Australian Height Datum (AHD) ~2.5 km west of the site.

The site has a rectangular shape and is situated immediately west of Muswellbrook-Merriwa Railway corridor with residential buildings to the north and west. At the time of the inspection, the site was grassed with no trees or shrubs, however it is understood that the fence of the rail corridor may not be representative of the lot boundary. Inside the rail corridor, vegetation was predominantly grass but also included trees along the fence line. The site is surrounded by residential buildings to the north and west. It was noted that the undulations on the site had resulted in areas of standing water in the north and east of the site (refer to **Plates 1 – 4, 8** in **Appendix F**). Three circular lidded concrete pits were observed on site and two just off-site, presumed to act as subsurface drainage (refer to **Plate 9** in **Appendix F**).

7.1.1 Stockpile

A stockpile of fill material was observed in the middle of the site, estimated to be approximately ~6 cubic metres (m^3) in volume. This was based on the following approximate dimensions:

- ~7 m (length),
- ~1.5 m (width) and
- ~0.5 m (height) of.

The stockpile as observed to comprise generally brown sandy soil with gravels of mixed lithology (e.g. road base (DGB20), concrete, clay tile and bricks). No odour or suspected asbestos-containing material (ACM) was identified. The grass under and immediately

surrounding the stockpile was noticeably in poor condition evidenced by yellow colour (refer to **Plates 5 - 7** in **Appendix F**).

7.1.2 Railway corridor

During site inspection long freight trains were noted to carry coal in uncovered wagons on a regular basis between mines of the upper Hunter Valley and the coal terminal at Newcastle. The rail track within the adjoining rail corridor is 30 m from the eastern site boundary.

8 POTENTIAL FOR CONTAMINATION AND CONCEPTUAL SITE MODEL

8.1 Introduction

A key component of the investigation/ risk assessment process is the development of a CSM as this drives the risk management and remediation process (if required). This identifies potential sources of contamination, potential migration pathways along which identified contaminants could migrate and potential receptors which may become exposed. The CSM considers all plausible pollutant linkages associated with the identified contamination. By evaluating these linkages proposed controls can be outlined and recommendations developed for appropriate remediation or management.

8.2 Sources of contamination

Historic aerial imagery did not clearly indicate if the site had been filled, however the 1974 image (**Appendix B**) combined with on-site observations suggested potentially some filling likely in the north of the site where topography was more undulating. If filling activities occurred, there were likely shallow to engineer the site levels using readily available materials. Other potential sources of contamination include:

- Uncontrolled stockpile onsite comprising sand, gravel and anthropogenic material (pieces of brick, road base and concrete); and
- Adjoining railway corridor east of site. Rail corridors can be sources of contamination through possible:
    - Spills / uncontrolled releases of heavy oils (e.g. grease, lubricants) and general use of hydrocarbons (e.g. diesel).
    - Diffuse coal dust impact from open-top rolling stock wagons.
    - Uncontrolled fill material from using poor quality materials and dumping / general refuse.

8.3 Pathways

The potential pathways by which contamination could reach potential receptors are considered to be:

- Direct contact.
- Ingestion
- Inhalation.
- Vertical and lateral migration via groundwater.
- Plant uptake

8.4 Completed risk linkages

Based on the results of the desk study, site inspection and sampling of soil undertaken at the site, a summary of the potential pollutant linkages are presented in **Table 6**.

Table 6: Exposure pathway risk evaluation

Source	Potential contaminant	Pathway	Receptor	Risk	Notes
General uncontrolled fill material	Heavy metals, TRH, BTEX, PAH, pesticides, asbestos	Direct contact; Ingestion; and Inhalation	**Human** – current and future site users	LOW	Site history does not suspect that there were ever any contaminating uses onsite, and there were no visual / olfactory indications of contamination noted during site inspection. As such the risk posed by general contaminants in soil is considered to be LOW. During any redevelopment it would be recommended to ascertain risk posed by contaminants and/or hazardous materials in fill material soils if identified.
		Vertical and lateral migration of potential contaminants through the soil	**Ecological –** Underlying soil processes and soil fauna	LOW	
		Leaching and migration via groundwater	**Ecological –** Groundwater	LOW	
		Plant uptake	**Ecological –** Site fauna	LOW	
Stockpile situated at centre of site.	Heavy metals, TRH, BTEX, PAH, pesticides, asbestos	Direct contact; Ingestion; and Inhalation	**Human** – current and future site users	MODERATE	There is no current information on the chemical or physical properties of this stockpile. As such is it recommended that further assessment is undertaken to ascertain risk posed by contaminants and/or hazardous materials.
		Vertical and lateral migration of potential contaminants through the soil	**Ecological –** Underlying soil processes and soil fauna	MODERATE	
		Leaching and migration via groundwater	**Ecological –** Groundwater	MODERATE	
		Plant uptake	**Ecological –** Site fauna	MODERATE	
Railway corridor east of site	Micro particulates coal dust e.g. (PM_5 and $PM_{2.5}$)	Inhalation	**Human** – current and future site users	LOW	Risk posed by micro particulates to site from coal dust is considered to be low as crushing / pulverising processes do not take place upon train carriages.

Notes:

HIGH RISK	Findings of this PSI have identified potentially contaminating site activities warranting need for intrusive works to confirm the presence or absence of contamination.
MODERATE	Desktop review and site inspection cannot rule out the presence of potentially contaminating site activities without undertaking recommended intrusive works.
LOW RISK	Desktop review and site inspection have not identified any potentially contaminating site activities

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9 CONCLUSION

Environmental Earth Sciences were commissioned by CM+ to undertake thus PSI to facilitate contamination assessment / management obligations required by the current DA for upcoming development at the site. Assessment involved a search of available desktop information with a confirmatory site inspection. Based upon results of key findings, main conclusions are listed below:

- General site (area outside of the stockpile):
    - Historical records suggest that the site and immediately surrounding properties have never likely been used for industrial purposes with the exception of the rail corridor located approximately 35 m to the east of the site.
    - Historical aerial photographs do not indicate that there were ever any permanent structures existing onsite.
    - Observations during the site walkover did not identify any visual / olfactory indications of contamination or potential asbestos upon the site surface in areas outside of the stockpile. As such the CSM generally assigned a risk status of LOW for the site outside of the stockpile.
- Stockpile:
    - Stockpile of uncontrolled material was observed onsite (approximately 6 m^3), comprised of possible uncontrolled fill material.
    - As there is currently no information on physical / chemical properties of this stockpile the CSM assigned a risk status of MEDIUM.

Based upon findings from the desktop study, review of historical information, site observations and laboratory results, Environmental Earth Sciences considers that the site generally presents a **LOW** risk posed by contamination, however material within the stockpile presents a **MEDIUM** risk to human health and the environment under proposed land use ‘Setting D’ (commercial/ industrial) as defined with the ASC NEPM (2013).

10 RECOMMENDATIONS

10.1 Stockpile management

10.1.1 Assessment

It is recommended to conduct further detailed assessment of the physical and chemical properties of uncontrolled stockpiled material, undertaken either prior to commencement of development or during development. Results and findings should be used to inform management options for either onsite reuse or offsite management as solid waste. Based upon volume estimates of ~ 6 m^3 collection of three samples would be recommended to chemically characterise this material for potential reuse and/or offsite management as solid waste in accordance with the minimum sampling requirements of ASC NEPM (2013).

10.1.2 Waste classification

It is recommended that if offsite management a solid waste is opted for, a waste classification must be derived in accordance with the NSW EPA (2014) – *Waste Classification Guidelines - Part 1: Classifying Waste*.

10.1.3 Disposal information

All material classified as waste be disposed offsite to a facility that is suitably licensed to accept the particular class of waste. Approval must be sought from the receiving waste facility prior to any waste material leaving the site. Copies of the following information must be kept by the designated waste removal contractor for a minimum period of seven years:

- Weighbridge dockets and/or evidence of overall weight / volume of material that has been lawfully disposed.
- Material inspection record at the receiving facility.
- Environmental Protection Licence (EPL) of the receiving facility.

10.2 General environmental management

In NSW, pollution from building and construction sites is regulated under the POEO Act. Under the POEO Act it is an offence to allow substances other than rainwater to enter a waterway or a stormwater system, covering requisite procedures for mitigation of potential erosion, sedimentation and dust generation ensuring potential nuisance, health issues and harm to the environment are appropriately managed throughout the project.

As such it is recommended that environmental management procedures are documented in a soil management plan (SMP) for construction purposes. This may form a plan in an overarching construction environmental management plan (CEMP). This should specifically include, but not limit the following key areas of management:

- Sedimentation and erosion management.

- Stockpiling and onsite / offsite material tracking management.
- Framework for ensuring the effectiveness of environmental controls.
- Waste disposal management.
- Procedure for management of any unexpected findings of contamination and/or hazardous materials.
- Reporting protocol for environmental incidents and response procedure(s), including, responsible persons and emergency contact information.

The CEMP would be a living document and as such should undergo review, corrective action and continual improvement as needed.

11 LIMITATIONS

This report has been prepared by Environmental Earth Sciences NSW ACN 109 404 006 in response to and subject to the following limitations:

1. The specific instructions received from CM+ Architects Pty Ltd.
2. The specific scope of works set out in PO121039 issued by Environmental Earth Sciences for and on behalf of CM+ Architects Pty Ltd.
3. May not be relied upon by any third party not named in this report for any purpose except with the prior written consent of Environmental Earth Sciences NSW (which consent may or may not be given at the discretion of Environmental Earth Sciences NSW).
4. This report comprises the formal report, documentation sections, tables, figures and appendices as referred to in the index to this report and must not be released to any third party or copied in part without all the material included in this report for any reason.
5. The report only relates to the site referred to in the scope of works being located at the corner of Bell Street and Turner Street, Denman, NSW (the “site”).
6. The report relates to the site as at the date of the report as conditions may change thereafter due to natural processes and/or site activities.
7. No warranty or guarantee is made in regard to any other use than as specified in the scope of works and only applies to the depth tested and reported in this report.
8. Our General Limitations set out at the back of the body of this report.

12 REFERENCES

Assessment of Site Contamination National Environment Protection Measure (ASC NEPM) 2013, Schedule B (1): Guidelines on the Investigation Levels for Soil and Groundwater.

Bureau of Meteorology, Australian Government website (accessed 26 March 2021) http://www.bom.gov.au/

NSW EPA (2020) - *Contaminated land: Guidelines for consultants reporting on contaminated sites*.

NSW EPA Contaminated Land Register 2018 (accessed 25 March 2021) https://apps.epa.nsw.gov.au/prclmapp/searchregister.aspx

NSW EPA (2014) - *Waste classification guidelines.*

NSW EPA (2016) - *Addendum to the Waste Classification Guidelines (2014) part 1: Classifying waste*.

NSW Government (2018) - Sharing and Enabling Environmental Data (SEED), (accessed 26 March 2021), https://www.seed.nsw.gov.au/

NSW Office of Environment & Heritage (OEH) (2011) - eSPADE, (accessed 26 March 2021), https://www.environment.nsw.gov.au/eSpade2Webapp

NSW Department of Agriculture (2021) - Water and the Environment 2018, Bioregional Assessment Program (accessed 26 March 2021), http://www.bioregionalassessments.gov.au

Rasmus P.L. & Rose D. M. (1969) – *Singleton 1:250,000 Geologic Series Sheet SI 56-1*, Geological Survey of New South Wales, Maitland.

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

ENVIRONMENTAL EARTH SCIENCES GENERAL LIMITATIONS

Scope of services
The work presented in this report is Environmental Earth Sciences response to the specific scope of works requested by, planned with and approved by the client. It cannot be relied on by any other third party for any purpose except with our prior written consent. Client may distribute this report to other parties and in doing so warrants that the report is suitable for the purpose it was intended for. However, any party wishing to rely on this report should contact us to determine the suitability of this report for their specific purpose.

Data should not be separated from the report
A report is provided inclusive of all documentation sections, limitations, tables, figures and appendices and should not be provided or copied in part without all supporting documentation for any reason, because misinterpretation may occur.

Subsurface conditions change
Understanding an environmental study will reduce exposure to the risk of the presence of contaminated soil and or groundwater. However, contaminants may be present in areas that were not investigated, or may migrate to other areas. Analysis cannot cover every type of contaminant that could possibly be present. When combined with field observations, field measurements and professional judgement, this approach increases the probability of identifying contaminated soil and or groundwater. Under no circumstances can it be considered that these findings represent the actual condition of the site at all points.

Environmental studies identify actual sub-surface conditions only at those points where samples are taken, when they are taken. Actual conditions between sampling locations differ from those inferred because no professional, no matter how qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden below the ground surface. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from that predicted. Nothing can be done to prevent the unanticipated. However, steps can be taken to help minimize the impact. For this reason, site owners should retain our services.

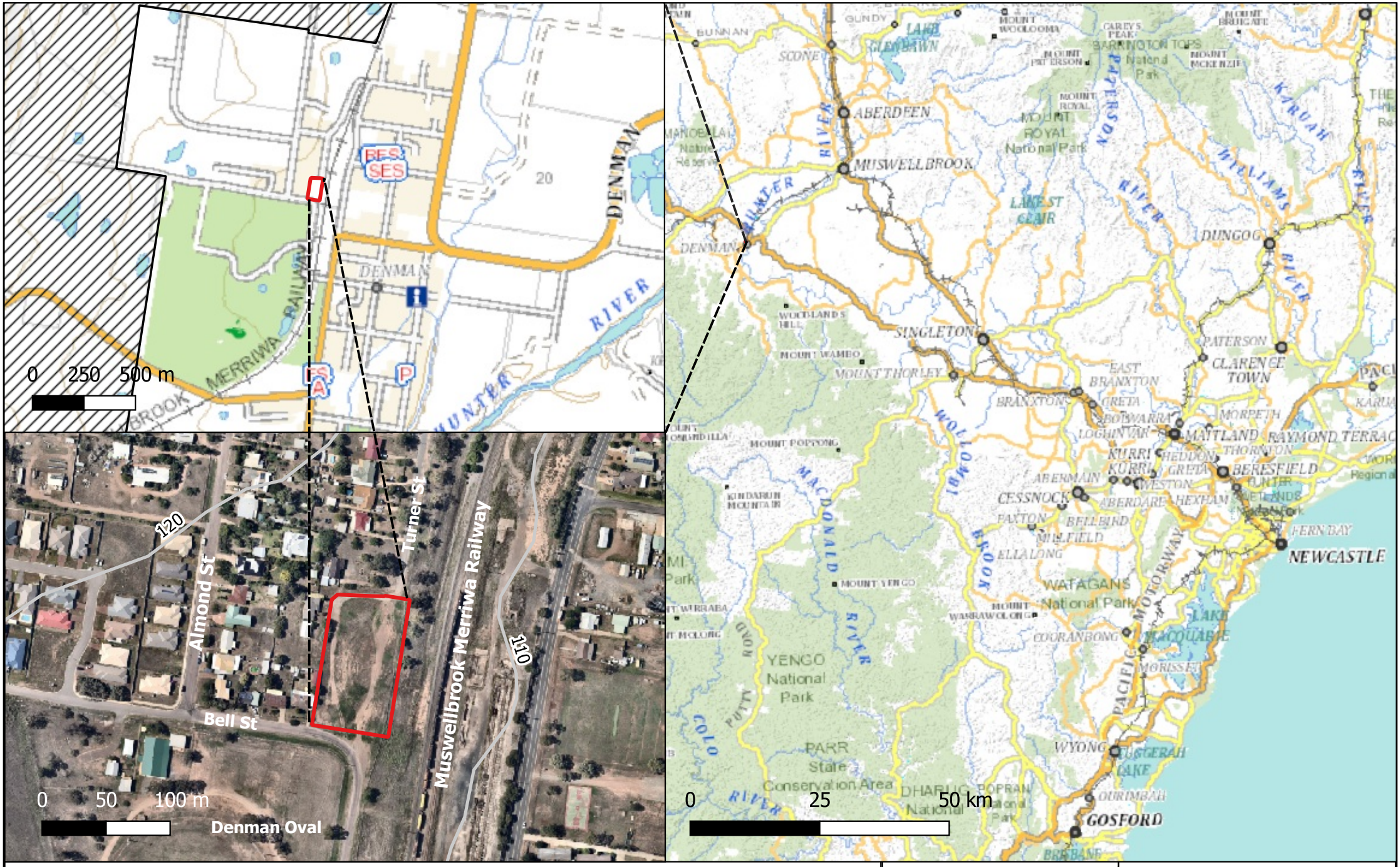
Problems with interpretation by others
Advice and interpretation is provided on the basis that subsequent work will be undertaken by Environmental Earth Sciences NSW. This will identify variances, maintain consistency in how data is interpreted, conduct additional tests that may be necessary and recommend solutions to problems encountered on site. Other parties may misinterpret our work and we cannot be responsible for how the information in this report is used. If further data is collected or comes to light we reserve the right to alter their conclusions.

Obtain regulatory approval
The investigation and remediation of contaminated sites is a field in which legislation and interpretation of legislation is changing rapidly. Our interpretation of the investigation findings should not be taken to be that of any other party. When approval from a statutory authority is required for a project, that approval should be directly sought by the client.

Limit of liability
This study has been carried out to a particular scope of works at a specified site and should not be used for any other purpose. This report is provided on the condition that Environmental Earth Sciences NSW disclaims all liability to any person or entity other than the client in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by any such person in reliance, whether in whole or in part, on the contents of this report. Furthermore, Environmental Earth Sciences NSW disclaims all liability in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by the client, or any such person in reliance, whether in whole or any part of the contents of this report of all matters not stated in the brief outlined in Environmental Earth Sciences NSW's proposal number and according to Environmental Earth Sciences general terms and conditions and special terms and conditions for contaminated sites.

To the maximum extent permitted by law, we exclude all liability of whatever nature, whether in contract, tort or otherwise, for the acts, omissions or default, whether negligent or otherwise for any loss or damage whatsoever that may arise in any way in connection with the supply of services. Under circumstances where liability cannot be excluded, such liability is limited to the value of the purchased service.

FIGURES



Legend:

- Lot boundary
- Mines subsidence district
- Elevation (mADH)

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

Title: Site Locality		
Client: CM+ Architects		
Location: Cnr Turner St and Bell St, Denman, NSW		Figure 1
Project Manager: Natalie Eldridge	Scale: As Shown	Job No: 121024
Drawn By: Karin Azzam	Date: March 2021	

Legend:

- Lot boundary
- Stockpile
- Ponding of water
- Concrete subsurface drainage pits
- Elevation (mADH)

0 25 50 m

Features are indicative only

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

Title: Site features

Client: CM+ Architects

Location: Cnr Turner St and Bell St, Denman, NSW

Project Manager: Natalie Eldridge | Scale: As Shown | Job No: 121024

Drawn By: Karin Azzam | Date: March 2021

Figure 2

APPENDIX A: SANDY HOLLOW SOIL LANDSCAPE

syu	SANDY HOLLOW	Transferral

Landscape— Gently undulating plain to undulating rises comprised of drainage plains and footslopes on Triassic and Permian sedimentary rocks and derived colluvium in the central western part of the Hunter Region. Slopes <10%, local relief <30 m, elevation 100 - 300 m. Extensively cleared open-forest and woodland.

Soils— Moderately deep to deep (50 - <150 cm), rapidly drained Tenosols and Rudosols (Earthy Sands and Siliceous Sands); moderately deep to deep (50 - <150 cm), well-drained Red Kandosols (Red Earths); and very deep (150 - 500 cm), imperfectly drained Red, Yellow and Brown Sodosols (Red Brown Earths, Red and Yellow Solodic Soils).

Qualities and limitations— localised recharge zone, localised discharge zone, localised salinity hazard, localised gully erosion hazard, widespread sheet erosion hazard, widespread high run-on, localised poor drainage, widespread seasonal waterlogging, localised flood hazard.

LOCATION AND SIGNIFICANCE

Deep, depositional/colluvial material derived from Narrabeen Sandstones overlying Permian Sediments of the Upper Singleton Coal Measures in the Hunter Region. Type location is at Sandy Hollow (MGA grid reference 271164E, 6419702N, grid zone 55).

Variants

None.

Included landscapes

Areas of bedrock-controlled undulating rises of Permian sediments of the Benjang (bju) soil landscape.

LANDSCAPE

Landform

Gently inclined footslopes and undulating rises. Slopes <10%, local relief <30 m and elevation 100 - 300 m. This unit is geomorphologically complex with deep gravelly (quartz) colluvial deposits forming footslopes and fans derived from the rugged Narrabeen Sandstones upslope intermingled with Permian, bedrock controlled, undulating rises. Footslopes and fans are usually concave whilst rises are usually convex. Drainage is primarily via sheet flow but can become concentrated into gullies.

Geology

Colluvial materials are largely derived from Narrabeen Group sedimentary rocks consisting of pebbly lithic-quartz to quartz sandstone, red-brown to green mudstone and sporadic lenses of quartz paraconglomerate. Bedrock rises consist of Permian Wollombi Coal Measures comprised of coal seams, tuffaceous claystone, siltstone, sandstone, conglomerate. Also present are the medium to coarse-grained sandstone of the Watts Sandstone and Permian undifferentiated sediments consisting of coal seams, claystone, siltstone, sandstone, conglomerate, tuff and shale.

Source: DMR (2002).

Vegetation

Extensively cleared dry sclerophyll forest or woodland. Species include Eucalyptus melliodora (yellow box), E. tereticornis (forest red gum), E. crebra (narrow-leaved ironbark), Callitris endicheri (black cypress pine) and Angophora floribunda (narrow-leaved apple).

Land use

Mainly used for grazing on improved pasture and some cropping.

Land degradation

Hardsetting A2 horizons and sodic, often dispersible, subsoils are common. This soil landscape has areas of high run-on and is prone to sheet erosion if the surface is disturbed. If water becomes concentrated and the dispersible sodic subsoils are exposed, gully erosion is likely to occur. Localised salinity may also be present.

Existing erosion

Land use	Non-concentrated flows	Concentrated flows	Wind
cropping	high	high	moderate
grazing modified pastures	moderate	moderate	slight

SOILS

Soil variation and distribution

Moderately deep to deep (50 - <150 cm), rapidly drained Tenosols and Rudosols (Earthy Sands and Siliceous Sands) occur adjacent to Lees Pinch (lpt) soil landscape. Moderately deep to deep (50 - <150 cm), well-drained Red Kandosols (Red Earths) below some sandstone outcrops. Very deep (150 - 500 cm), imperfectly drained Red, Yellow and Brown Sodosols (Red Brown Earths, Red and Yellow Solodic Soils) are common on footslopes.

QUALITIES AND LIMITATIONS

Land capability

Urban Capability	B (C)	**Soil Regolith Class**	R4 (R2)

Limitations to land use

Grazing	slight to moderate	**Cultivation**	moderate to high
Urban	moderate		

Landscape

Steep slopes	not observed	**Mass movement hazard**	not observed
Rock outcrop	not observed	**Rockfall hazard**	not observed
Foundation hazard	not observed	**Woody weeds**	not observed
Complex terrain	not observed	**Productive arable land**	not observed
Dieback	not observed		

Soils

Shallow soils	not observed	**Complex soils**	not observed
Poor moisture availability	not observed	**Non-cohesive soils**	not observed

Hydrology

High run-on	widespread	**Poor drainage**	localised
Permanently high watertables	not observed	**Permanent waterlogging**	not observed
Seasonal waterlogging	widespread	**Flood hazard**	localised

Erosion

Wind erosion hazard	not observed	**Wave erosion hazard**	not observed
Gully erosion hazard	localised	**Sheet erosion hazard**	widespread
Streambank erosion hazard	not observed		

Salinity

Recharge zone	localised	**Discharge zone**	localised
Salinity hazard	localised	**Seepage scalds**	not observed
Salt stores	moderate		

FACETS

syu(1)— Footslopes

Soils Very deep (150 - 500 cm), imperfectly drained Red, Yellow and Brown Sodosols (Red Brown Earths, Red and Yellow Solodic Soils).

Type Profile(s) Soil Landscapes of the Singleton 1:250 000 Sheet (1000216) profile 34

Hunter Soil and Land Resources (1005268) profile 36

syu(2)— Footslopes near Sandstone outcrop

Soils Moderately deep to deep (50 - <150 cm), rapidly drained Tenosols and Rudosols (Earthy Sands and Siliceous Sands) and moderately deep to deep (50 - <150 cm), well-drained Red Kandosols (Red Earths).

Type Profile(s) Soil Landscapes of the Singleton 1:250 000 Sheet (1000216) profile 36

REFERENCES

DMR 2002. New South Wales Statewide Geology coverage – 1:250 000 scale. Department of Mineral Resources, Sydney.

NOTES

(1) This report describes reconnaissance soil landscape information mapped at 1:100,000 scale and does not negate the need for site assessment at a scale suitable to the land use or development under consideration.

(2) 'Not observed' means unlikely to be found. 'Localised' means observed to a level considered significant for land management. 'Widespread' means prevalent and significant over most of the landscape. 'None recorded' means no occurrence has been recorded. 'Not assessed' means no result has been recorded for this attribute and it may or may not be present in the soil landscape.

APPENDIX B: HISTORICAL EARIAL PHOTOGRAPHS

HISTORIC AERIAL PHOTOGRAPH - 1958

Imagery Insight

LIR-01753 Aerial Photograph 1958 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 1967

Imagery Insight

LIR-01753 Aerial Photograph 1967 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 1974

Imagery Insight

LIR-01753 Aerial Photograph 1974 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 1989

Imagery Insight

LIR-01753 Aerial Photograph 1989 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 1993

Imagery Insight

LIR-01753 Aerial Photograph 1993 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2003

Imagery Insight

LIR-01753 Aerial Photograph 2003 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2007

Imagery Insight

LIR-01753 Aerial Photograph 2007 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2013

Imagery Insight

LIR-01753 Aerial Photograph 2013 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2015

Imagery Insight

LIR-01753 Aerial Photograph 2015 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2018

Imagery Insight

Subject area

0 200m

LIR-01753 Aerial Photograph 2018 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Land Insight RESOURCES

HISTORIC AERIAL PHOTOGRAPH - 2020

Imagery Insight

LIR-01753 Aerial Photograph 2020 09 03 2021. Data source: Please refer to 'Digital Data Sources' in the Product Guide

Subject area

0 200m

Land Insight RESOURCES

APPENDIX C: HISTORICAL LAND TITLES

triSearch®

Summary of Owners Report

Address: - Turner Street, Denman

Description: - Lot 42 D.P. 771226

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
19.01.1917 (1917 to 1976)	Public Transport Commission of New South Wales (Resumed for Railway purposes)	Gazette
21.12.1976 (1976 to date)	# The Council of the Shire of Denman Now # Council of the Shire of Muswellbrook	Book 3268 No. 281

 # Denotes current registered proprietor

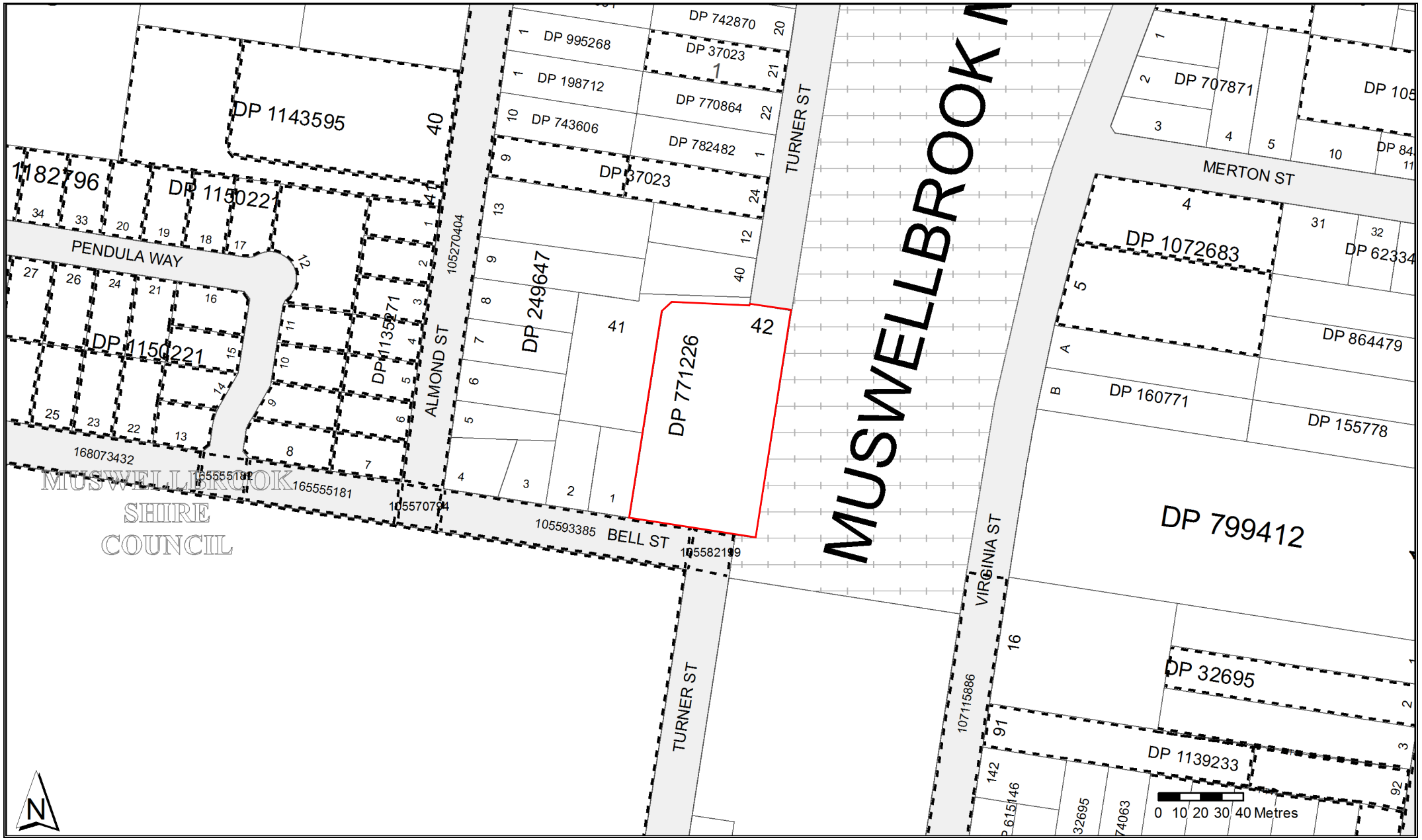
Leases & Easements: - NIL

Yours Sincerely
Mark Groll
15 March 2021

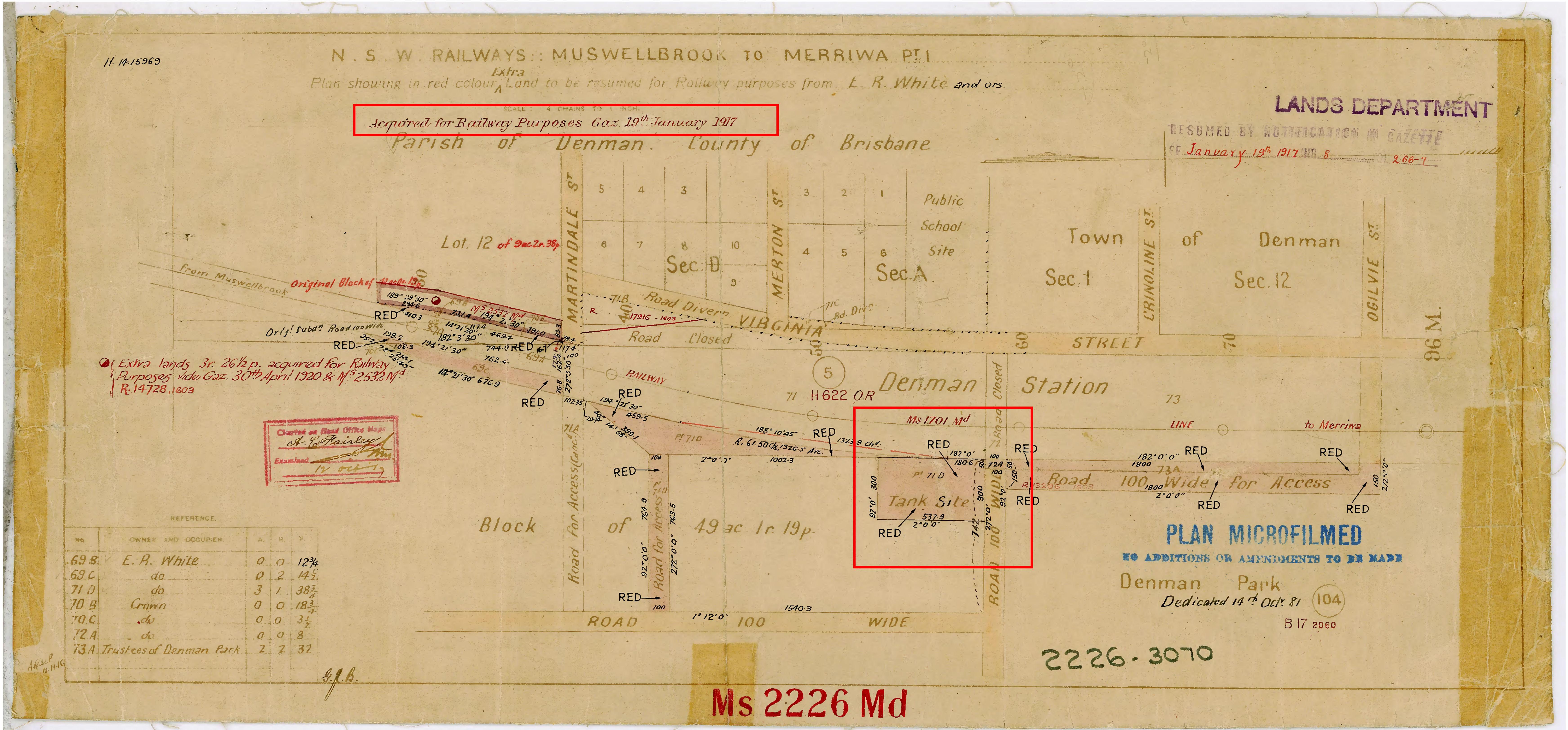
Cadastral Records Enquiry Report : Lot 42 DP 771226

Ref : Turner Street, Denman

Locality : DENMAN
Parish : DENMAN
LGA : MUSWELLBROOK
County : BRISBANE



This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps


H. 14.15969
N. S. W. RAILWAYS : MUSWELLBROOK TO MERRIWA PT I
Plan showing in red colour Extra Land to be resumed for Railway purposes from E. R. White and ors.
Acquired for Railway Purposes Gaz 19th January 1917
Parish of Denman County of Brisbane
LANDS DEPARTMENT
RESUMED BY NOTIFICATION IN GAZETTE
OF January 19th 1917 NO. 8
Lot. 12 of 9ac 2r 38p
From Muswellbrook
Original Block of
MARTINDALE ST
MERTON ST
CRINOLINE ST
OGILVIE ST
Sec. D
Sec. A
Public School Site
Town of Denman
Sec. 1
Sec. 12
Road Divern.
VIRGINIA STREET
Road Closed
Orig! Subd? Road 100 wide
Extra lands 3r. 26½p. acquired for Railway Purposes vide Gaz. 30th April 1920 & Ms 2532 Md
R. 14728, 1603
RAILWAY
Denman Station
H 622 O.R
Ms 1701 Md
LINE
to Merriwa
Tank Site
Road 100 Wide for Access
Road for Access (Canc.)
Road for Access
Block of 49 ac 1r 19p.
ROAD 100 WIDE
Charted on Road Office Maps
A. E. Fairley
Examined
12 Oct.
PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE
Denman Park
Dedicated 14th Oct. 81
104
B 17 2060
96 M.
2226-3070
Ms 2226 Md

REFERENCE.

No.	OWNER AND OCCUPIER	A.	R.	P.
69 B	E. R. White	0	0	12¾
69 C	do	0	2	14½
71 D	do	3	1	38¾
70 B	Crown	0	0	18¾
70 C	do	0	0	3½
72 A	do	0	0	8
73 A	Trustees of Denman Park	2	2	32

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
15/3/2021 8:17AM

FOLIO: 42/771226

First Title(s): OLD SYSTEM
Prior Title(s): CA25502

Recorded	Number	Type of Instrument	C.T. Issue
30/11/1987	CA25502	CONVERSION ACTION	FOLIO CREATED EDITION 1
14/9/2015	AJ811575	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

Turner Street, Denman PRINTED ON 15/3/2021

Received: 15/03/2021 08:17:48

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 42/771226

SEARCH DATE	TIME	EDITION NO	DATE
15/3/2021	8:17 AM	1	30/11/1987

LAND

LOT 42 IN DEPOSITED PLAN 771226
AT DENMAN
LOCAL GOVERNMENT AREA MUSWELLBROOK
PARISH OF DENMAN COUNTY OF BRISBANE
TITLE DIAGRAM DP771226

FIRST SCHEDULE

THE COUNCIL OF THE SHIRE OF MUSWELLBROOK (CA25502)

SECOND SCHEDULE (1 NOTIFICATION)

---

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Turner Street, Denman PRINTED ON 15/3/2021

APPENDIX D: COUNCIL PLANNING CERTIFICATE

PLANNING CERTIFICATE UNDER SECTION 10.7 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Enquiries	Planning
Contact	02 6549 3700
Receipt no.	1311609
Your reference	Application

Date: 24 March 2021

Assessment: 65300 **Cert No: 22498**

Environmental Earth Sciences
PO Box 380
NORTH SYDNEY NSW 2059

Owner (as recorded by Council)
Muswellbrook Shire Council

Property Description: Turner Street DENMAN 2328
Lot: 42 DP:771226

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 10.7(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT	Muswellbrook Local Environmental Plan 2009
LAND USE ZONING	RU5 Village

PERMITTED WITHOUT CONSENT

Home occupations

PERMITTED WITH CONSENT

Amusement centres; Attached dwellings; Boarding houses; Camping grounds; Car parks; Caravan parks; Child care centres; Commercial premises; Community facilities; Dual occupancies; Dwelling houses; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Exhibition homes; Exhibition villages; Flood mitigation works; Function centres; Group homes; Health services facilities; Heavy industrial storage establishments; Highway service centres; Home-based child care; Home businesses; Home industries; Hostels; Information and education facilities; Mortuaries; Multi dwelling housing; Neighbourhood shops; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Research stations; Residential flat buildings; Respite day care centres; Roads; Schools; Secondary dwellings; Semi-detached dwellings; Seniors housing; Service stations; Sewage reticulation systems; Shop top housing; Signage; Storage premises; Tourist and visitor accommodation; Vehicle repair stations; Veterinary hospitals; Water recycling facilities; Water supply systems; Wholesale supplies Veterinary hospitals; Water recycling facilities; Water supply systems; Wholesale supplies.

Date: 24 March 2021

Cert No: 22498

PROHIBITED

Restricted premises; Any other development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size IS NOT TO BE LESS than 750m2.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 10.7(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

YES. Complying development specified in the General Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 3A Rural Housing Code

Not applicable to the land to which this certificate relates.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must careful consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable

rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

SEPP (Educational Establishments and Child Care Facilities) 2017 - The aim of this Policy is to facilitate the effective delivery of educational establishments and early education and care facilities across the State by, regulatory certainty and efficiency through a consistent planning regime for educational establishments and early education and care facilities, and simplifying and standardising planning approval pathways for educational establishments and early education and care facilities (including identifying certain development of minimal environmental impact as exempt development), and establishing consistent State-wide assessment requirements and design considerations for educational establishments and early education and care facilities to improve the quality of infrastructure delivered and to minimise impacts on surrounding areas.

SEPP(Vegetation in Non-Rural Areas) 2017 - The aims of this Policy are to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

SEPP (Concurrences) 2018 – Outlines the roles of the Planning Secretary acting as concurrence authority.

SEPP (Primary Production and Rural Development) 2019 - The aims of this Policy are to facilitate the orderly economic use and development of lands for primary production, to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources, to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations, to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts, to encourage sustainable agriculture, including sustainable aquaculture, to require consideration of the effects of all proposed development in the State on oyster aquaculture, to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

Hunter Regional Plan 2036
Upper Hunter Strategic Land Use Regional 2012

Date: 24 March 2021

Cert No: 22498

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993, or
(b) Any environmental planning instrument, or
(c) Any resolution of the council.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council: that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Development on the land or part of the land IS NOT subject to flood related development controls.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

NATIVE VEGETATION CLEARING SET ASIDES

The land IS NOT affected by a set aside area under Section 60ZC of the *Local Land Services Act 2013*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

(a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

(b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

(c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

(d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

(e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

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SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(a) There are NO building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and

(b) There are NO notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact
Planning, Environment & Regulatory Services
on (02) 6549 3700.

F Plesman
General Manager

Per:

Cert No: 22498

APPENDIX E: UPSS SENSITIVE ZONES MAP

150° 150.25° 150.5° 150.75° 151° 151.25° 151.5°

-31.5° -31.75° -32° -32.25° -32.5°

GUNNEDAH

Nundle

Quirindi

Wallabadah

TAMWORTH REGIONAL

WALCHA

Blackville

LIVERPOOL PLAINS

Willow Tree

WARRUMBUNGLE

UPPER HUNTER

GLOUCESTER

Scone

Merriwa

Aberdeen

Muswellbrook

DUNGOG

MUSWELLBROOK

MID-WESTERN REGIONAL

Denman

SINGLETON

UPSS Regulation - Sensitive Zones Map

UPPER HUNTER SHIRE COUNCIL

Legend

- Council Area
- Main Road
- Railway
- Sensitive Zone

Datum/Projection: GCS GDA 1994

Jan 12, 2010

0 20
Kilometres

Department of Environment, Climate Change and Water NSW

Scale at A3
1 cm equals 5.1 km

N

APPENDIX F: PHOTO PLATES

Photo Plate 1: Turner Street - facing south.

Photo Plate 2: Northeast corner – facing southwest.

Photo Plate 3: Northwest corner of site – facing southeast.

Photo Plate 4: Bell Street facing east – Looking towards rail corridor.

Photo Plate 5: Stockpile of fill material at centre of site with surrounding dead grass - facing southwest.

Photo Plate 6: Fill material in stockpile consisting of brown sandy soil, mixed gravel, road base material, pieces of brick etc.

Photo Plate 7: Fill material of mixed gravel in stockpile.

Photo Plate 8: Eastern portion of site facing north showing water logging.

Photo Plate 9: Subsurface concrete drainage pit in southwestern corner of site – facing west.

Photo Plate 10: Facing east across the fence towards rail line, showing train with uncovered coal wagons. Scrap metal and other fill material in railway corridor.