APPENDIX E

HISTORIC HERITAGE DUE DILIGENCE REPORT

EXECUTIVE SUMMARY

INTRODUCTION

TransGrid (electricity transmission operator in New South Wales (NSW)) and ElectraNet (electricity transmission operator in South Australia (SA)) are seeking regulatory and environmental planning approval for the construction and operation of a new High Voltage (HV) interconnector between NSW and SA, with an additional connection to Red Cliffs in north-west Victoria. Collectively, the proposed interconnector is known as EnergyConnect.

EnergyConnect aims to secure increased electricity transmission between SA, NSW and Victoria, while facilitating the longer-term transition of the energy sector across the National Electricity Market (NEM) to low emission energy sources.

This report outlines the results of a historical (non-Aboriginal) heritage due diligence assessment prepared for the Victorian component of EnergyConnect (the proposal) which would occur on a section of land approximately 8.44 ha in size, located at Woomera Avenue, Red Cliffs (the study area – Figure 2). The proposal comprises the upgrade of an existing TransGrid 220 kilovolt (kV) single circuit transmission line between the NSW/Victorian border and the Red Cliffs substation in Victoria to a 220kV double circuit transmission line.

This due diligence assessment was commissioned by TransGrid.

This report provides advice on:

- whether any known historical heritage exists in the study area;
- the implications of previous relevant historical assessments for the project;
- the potential for as yet unidentified historical heritage to exist in the study area;
- legislative requirements in relation to historical heritage in light of the proposed works; and;
- recommendations for the management of historical heritage.

RESULTS

Red Cliffs Main Pumping Station

Evidence from the land use history and historical site review has found that no known historical places occur in the study area. However, one historical heritage site has been incorrectly mapped on the Mildura Planning Scheme Heritage Overlay, which shows it extending into the study area. This site, Red Cliffs Main Pumping Station, is listed on the Mildura Planning Scheme Heritage Overlay as HO168. This site, as mapped on the Heritage Overlay, extends over a parcel of land (SPI 1\TP12019) located at the southern end of the study area. This review, and subsequent consultation with Mildura Rural City Council by WSP, has identified that the mapped location of this site on the Heritage Overlay is incorrect, and the overlay instead likely applies to Crown allotments SPI 5A~B1\PP3102, 5B~B1\PP3102 and 5C~B1\PP3102.

It is considered likely that Red Cliffs Main Pumping Station may be eligible for entry on the Victorian Heritage Inventory. While no infrastructure associated with the Red Cliffs Main Pumping Station was identified in the study area during this assessment, based on the available information the presence of such infrastructure in a subsurface context, that could not be viewed during the field inspection, cannot be ruled out.

Old Karadoc (Red Cliffs) wool shed and evidence of pastoral use

The land use history and historical site review has found that it is possible that other historical heritage places, in the form of archaeological remains, may occur in subsurface deposits in the study area related to its earlier use as a pastoral property. It is considered possible that these remains might include evidence of previous structures such as the Karadoc wool shed, which was thought to be extant in or near the study area prior to the Red Cliffs Main Pumping Station being constructed. If present, it is considered that such remains may be potentially eligible for entry on the Victorian Heritage Inventory.

Field Inspection

A field inspection undertaken as part of this assessment identified a historical glass scatter conservatively dated to the 1920s in the southern part of the study area. This scatter does not on its own constitute an archaeological site/s eligible for entry on the Heritage Inventory in its own right. Other archaeological features in the form of a metal artefact and the remains of a timber and centrifugal pump structural were identified outside of the study area.

SUMMARY OF CULTURAL HERITAGE REQUIREMENTS

Obligations concerning historical cultural heritage are summarised in the table below.

Historical Heritage
• Historical research at PROV is required prior to project works commencing, to establish whether any features associated with the Red Cliffs Pumping Station, the Karadoc Wool Shed and/or any other land use practices were once present in the study area. In the event that areas of archaeological potential are identified on this basis, then further assessment or site mitigation measures might apply. • A glass artefact scatter (Figure 18) shall be temporarily fenced off during construction works within close proximity of this item and marked as a No-Go Zone on site maps. • It is recommended that a qualified historical archaeologist monitor all initial soil stripping and excavation works associated with the project and that contingency processes (provided in Appendix 2) are followed should historical heritage be identified during the works program. The monitoring can cease if the archaeologist determines that the subject area does not have (or no longer has) the potential to contain significant historical archaeological remains, and move to an "on-call" program (so long as all on-site workers and contractors are made aware of those provisions and are suitably inducted). • If historical heritage places eligible for listing on the Heritage Inventory are present in the study area, they will attract protections under the Victorian *Heritage Act* 2017 (see Appendix 1). Mandatory submission of Heritage Inventory card(s) must be done within 30 days (as per s.127 of the *Heritage Act* 2017).

Contents

Figures

1. Introduction and Project Brief

1.1 Proposal Context and Overview

TransGrid (electricity transmission operator in New South Wales (NSW)) and ElectraNet (electricity transmission operator in South Australia (SA)) are seeking regulatory and environmental planning approval for the construction and operation of a new High Voltage (HV) interconnector between NSW and SA, with an additional connection to Red Cliffs in north-west Victoria. Collectively, the proposed interconnector is known as EnergyConnect.

EnergyConnect comprises several components or 'sections' (shown on Figure 1). The Victorian Section (referred to as 'the proposal') is the subject of this report.

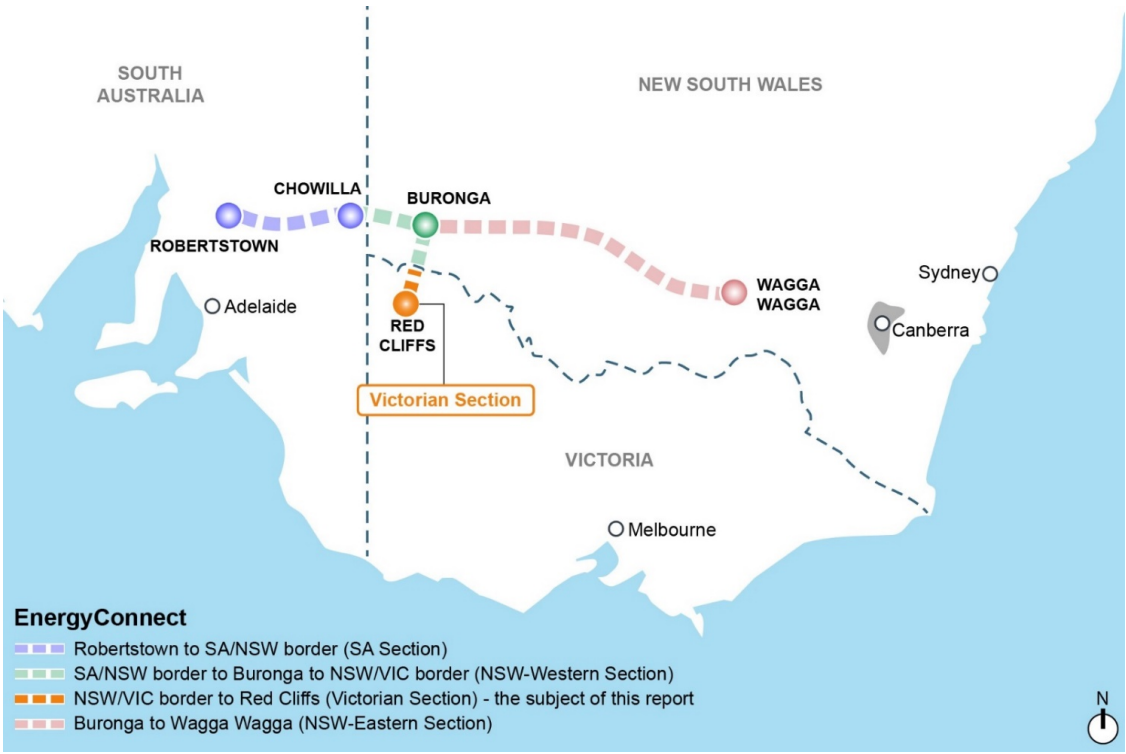

Figure 1: Overview of EnergyConnect

1.2 Overview of report

This report outlines the results of an historical heritage due diligence assessment prepared for the study area, a section of land approximately 8.44 ha in size, located at Woomera Avenue, Red Cliffs (Figure 2). The study area, located to the east of Red Cliffs township on the southern bank of the Murray River, is bordered to the northeast and southeast by the Murray River and to the east and west by the Kings Billabong Park, a Crown reserve of which the bulk of the study area forms a part. This review was commissioned by TransGrid who propose to install an electrical transmission line from the existing Red Cliffs Terminal Station north to the Murray River, as part of the EnergyConnect (Victorian Section).

This report provides advice on:

- whether any known historical heritage exists in the study area;
- the implications of previous relevant historical assessments for the project;
- the potential for as yet unidentified historical heritage to exist in the study area;
- legislative requirements in relation to historical heritage in light of the proposed works; and;
- recommendations for the management of historical heritage.

The basis of the advice in this report was a field inspection (undertaken on the 5th & 6th of August 2020) and a review of the following information undertaken in July 2020:

- The Heritage Victoria Online Database and Victorian Heritage Overlays via VicPlan;
- The Australian Heritage Database, National Trust Register and Victorian War Heritage Inventory;
- The Mildura Rural City Council Heritage Overlay;
- Relevant historical archaeological reports and historical heritage assessments, as detailed in the relevant sections of this report
- Ward, A. 1988. Mildura Conservation Study. Unpublished report prepared for the City and Shire of Mildura by Andrew C. Ward & Associates.
- Context 1997. Victorian Water Supply Heritage Study, 2007. Unpublished report prepared by Context Pty Ltd for Heritage Victoria.

Figure 2: Study area location. Base image source: VICPLAN.

2. Current Conditions in the Study Area

2.1 General Description

The study area, an approximately 8.44 ha area of land at Woomera Avenue, Red Cliffs, is located immediately east of the Murray River and approximately 5 kilometres east-north-east of central Red Cliffs township (Figure 2). Located on the southern bank of the Murray River, the study area is bordered to the northeast and southeast by the river itself, and to the east and west by the Kings Billabong Park – a Crown Reserve. The southern end of the study area is located near the raised river 'cliffs' after which the town of Red Cliffs is named.

The study area contains a northeast – southwest aligned electrical corridor, extending from the Red Cliffs terminal station, which lies adjacent to the southern portion of the study area, the length of the study area and crossing the Murray River to the north. Apart from the electrical corridor, a number of unsealed vehicle tracks are present amongst a moderately vegetated landscape. Drainage lines are present, with vehicle tracks running both parallel and crossing these lines. The degree to which these drainage lines have been modified, or indeed whether they are of entirely artificial construction, is unknown.

The southern part of the study area abuts the Red Cliffs Terminal Station (Figure 3). The Red Cliffs Main Pumping Station is located immediately to the south west of the Red Cliffs Terminal Station.

The field inspection undertaken as part of this review found that while obtrusive historical features associated with the Red Cliffs Pumping Main Pumping Station were located adjacent the study area, the pumping station itself was not located within it.

A contemporary aerial photograph of the study area illustrates the existing conditions (Figure 3).

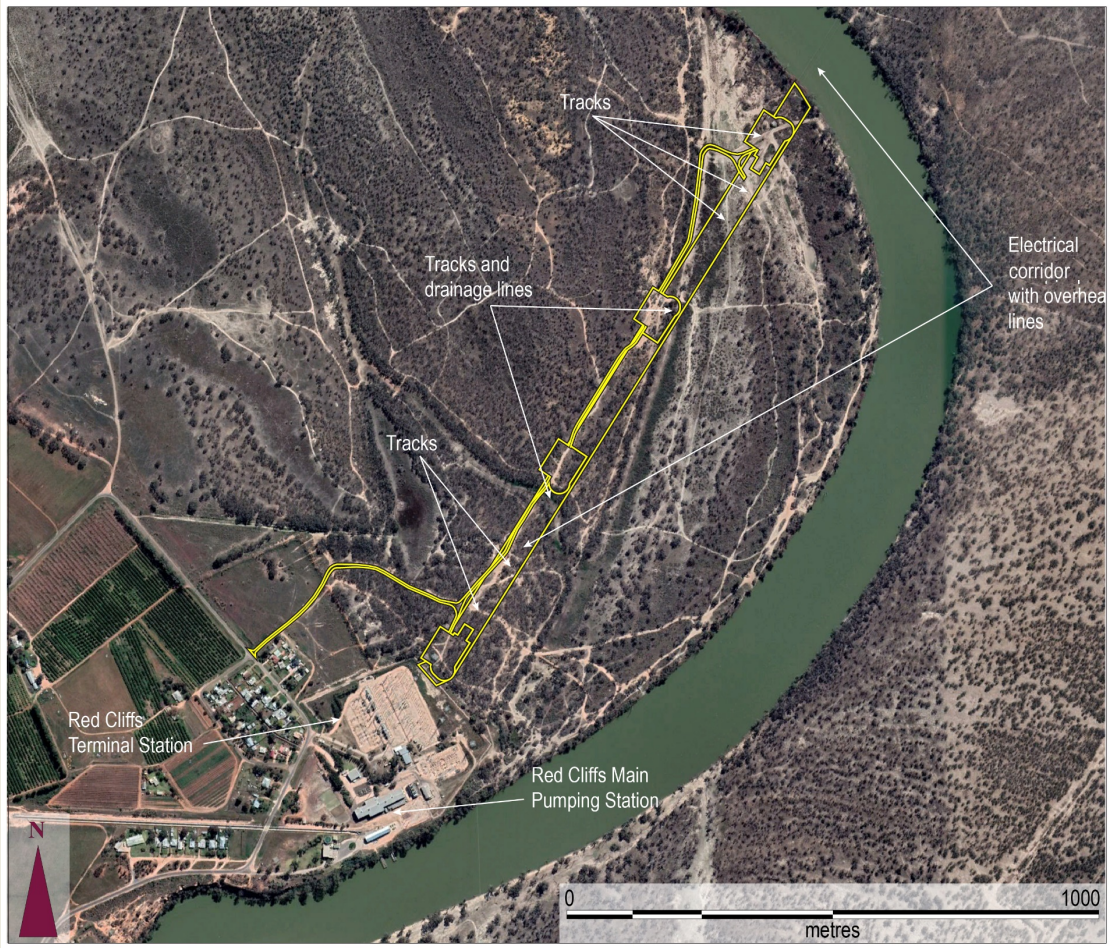

Figure 3: Existing conditions within the study area, as shown on a contemporary aerial (VicPlan).

2.2 Field Inspection

A field inspection was carried out on 5-6th of August 2020 by Krista Whitewood and Karen Kapteinis (Ochre Imprints). This inspection involved a visual assessment of the study area by walking across the planned area for the new transmission line. The field inspection included a larger area around the Red Cliffs Terminal Station, however this area has since been removed from the study area. Nevertheless, some features in this wider area are discussed below.

Summary of existing conditions

The study area consists of open woodland that forms part of Kings Billabong Park. This area is characterised by an undulating floodplain located adjacent the Murray River. The south west end of the floodplain, adjacent to the study area, has been obviously modified during construction of the Terminal Station, and is elevated above the remainder of the study area.

Ground surface visibility at the time of the field inspection varied from low to high. Low to moderate (30-60%) ground surface exposure occurred where longer grasses, shrubs and box trees were present, and moderate to high (60-90%) ground surface exposure was observed where tracks and erosion had occurred on parts of the floodplain. Further areas of high to

moderate ground surface exposure were identified to the north and east of the Terminal Station, where fencing was present and where levee construction had exposed soils.

The construction of Red Cliffs Terminal station was identified as the main agent of disturbance during the assessment. High voltage transmission lines were identified along the centre of the alignment running north to south. Smaller overhead power lines aligned north west to south east were identified adjacent the northern boundary of the Terminal Station.

A historical glass artefact scatter was identified on a vehicle track in the central portion of the study area (Figure 4; Plates 11-13). The scatter contained neck and base fragments which appeared to have come from small to medium sized glass bottles. Fragments of coloured and clear glass were identified and ranged in size from small (20mm) to medium (70mm). The scatter was conservatively dated to the 1920s (J. Porter pers comm. to Petra Schell October 2020).

No further historical features or historical archaeological remains were identified within the study area during the course of the inspection, although historical structures thought to be associated with the Red Cliffs Main Pumping Station were identified adjacent to the study area:

- A metal surveyors mark was identified adjacent the western boundary of the terminal station, and is likely associated with the c. 1922 Red Cliffs Main Pumping Station (Figure 4; Plate 14);
- Structural timber remains and a part of a centrifugal pump were located south west of the study area (Plates 15-18, see also Figure 4). A pipe associated with these features is shown buried near the southern boundary of the Terminal Station (Plates 17 & 18), and potentially extends underneath it.

The landscape of the study area (Plates 1-10, see Figure 4 for photo locations) has undergone varying degrees of modification with the following apparent during the field inspection:

- Vehicle tracks (Plates 1 & 2);
- High voltage transmission lines, electrical towers, overhead power lines and associated infrastructure (Plates 1, 3, 5, 7 & 10);
- Electric fencing along the boundary of Red Cliffs Terminal Station (Plates 3-7), adjacent to the study area; and
- Levee construction (Plate 9);

Subsequent to the field inspection, excavation of 1 x 1 m excavation pits and 0.5 x 0.5 m shovel test pits were undertaken in the study area to inform an Aboriginal Cultural Heritage Management Plan, resulting in the excavation of 5.5 sqm. While this was undertaken to identify Aboriginal cultural heritage, it did also demonstrated that no historical material occurred in a subsurface context at the excavated locations, and is therefore relevant to this report.

Plate 1: High voltage transmission lines and central vehicle tracks running through Kings Billabong Park (Karen Kapteinis; 5 August 2020; facing north)

Plate 2: High visibility on tracks and low to moderate visibility where trees and shrubs are present on the floodplain (Karen Kapteinis; 5 August 2020; facing north)

Plate 3: Southern end of Red Cliffs Terminal Station (Krista Whitewood; 6 August 2020; Facing west)

Plate 4: Western boundary of Terminal Station showing elevated floodplain (Karen Kapteinis; 5 August 2020; facing east))

Plate 5: Electrical infrastructure inside Terminal Station (Karen Kapteinis; 5 August 2020; facing east)

Plate 6: Northern end of Terminal Station Karen Kapteinis; 5 August 2020; facing south))

Plate 7: Southern end of Terminal Station (Krista Whitewood; 6 August 2020; Facing east)

Plate 8: Surveyors Mark along southern boundary of Terminal Station (Krista Whitewood; 6 August 2020; Facing north)

Plate 9: Levees north of Red Cliffs Terminal Station (Krista Whitewood; 6 August 2020; Facing south)

Plate 10: High voltage transmission lines (Krista Whitewood; 6 August 2020; Facing east)

Plate 11: Historical glass scatter along the central portion of the floodplain (Karen Kapteinis; 5 August 2020; Facing east)

Plate 12: Historical glass scatter: bottle label (Karen Kapteinis; 5 August 2020; Facing east)

Plate 13: Historical glass scatter: Makers mark (Karen Kapteinis; 5 August 2020; Facing north)

Plate 14: Metal Object potentially associated with the Red Cliffs Pumping Station (Karen Kapteinis; 5 August 2020; Facing east)

Plate 15: Historical timber structure and pipe extending south from Terminal Station (Karen Kapteinis; 5 August 2020; Facing north)

Plate 16: Historical pumping station infrastructure located south of the Terminal Station (Karen Kapteinis; 5 August 2020; Facing south)

Plate 17: Showing pump and timber infrastructure, with pipe partially buried in the direction of the Terminal Station (Karen Kapteinis; 5 August 2020; Facing south west)

Plate 18: Pump and timber infrastructure, view south (Karen Kapteinis; 5 August 2020)

Figure 4: Contemporary aerial of the study area showing locations of photographs taken during the field inspection (numbers reference plate numbers). Base map source: Google Earth.

3. Historical heritage

3.1 Known distribution of known historical heritage

The review established that no historical heritage sites are located in the study area, however one historical heritage site, recorded on the Mildura Planning Scheme Heritage Overlay, is incorrectly mapped as being within the study area. This historical heritage site is recorded as HO168, and identified on the schedule to the heritage overlay as:

Red Cliffs Main Pumping Station

Crown Reserve, Sec B, Red Cliffs

This historical heritage site is potentially eligible for listing on the Victorian Heritage Inventory due to its significance in providing irrigation for the region and its potential to contain archaeological deposits. At the time it was built, the Red Cliffs Main Pumping Station was the Southern Hemisphere's largest pumping station.

The location of the area covered by HO168 (as mapped on VicPlan) is presented in Figure 5 of this report. The bulk of the physical infrastructure associated with the historical Red Cliffs Main Pumping Station, however, appears to have been located to the south and south west of the study area (see Figure 4) as discussed in Section 3.2 of this report. Very little information is available about this Heritage Overlay listing, and how its location and extent came to be mapped on VicPlan. It is noted that the schedule to the overlay lists its address as within section B of an unspecified Crown Reserve, whereas the mapped extent of the overlay covers the property known as SPI 1\TP12019.

Figure 5 also shows the locations of Crown allotment 5A Section B and part of allotments 5C and 5B Section B, in relation to the study area. These allotments (SPI 5A~B1\PP3102, 5B~B1\PP3102 and 5C~B1\PP3102) accord more closely with the property identified in the schedule to the Heritage Overlay, and encompass the bulk of the known historical infrastructure associated with Red Cliffs Main Pumping Station (see Section 3.2). Consultation undertaken by WSP with Mildura City Council has confirmed that the mapping of this heritage site on the Heritage Overlay is incorrect.

Historical heritage in the surrounding region and/or specifically related to water infrastructure has been assessed in the following reports:

- Ward, A. 1988. Mildura Conservation Study. Unpublished report prepared for the City and Shire of Mildura by Andrew C. Ward & Associates.
- Context 1997. Victorian Water Supply Heritage Study, 2007. Unpublished report prepared by Context Pty Ltd for Heritage Victoria.

These reports largely focused on built heritage as opposed to archaeological potential, and formed the basis for nominating, de-listing, altering and retaining heritage sites on the Rural City of Mildura heritage overlay. The only known historical heritage site identified in the vicinity of the study area as part of these assessments is the Red Cliffs Main Pumping Station.

The township of Red Cliffs was established as a soldier-settlement in the period following World War I, and the Red Cliffs Main Pumping Station was essential to the establishment and success of the town, providing water for irrigation. Ward (1988: 39) identified and briefly described the Red Cliffs Main Pumping Station, opened in 1922, as follows:

> It was unusual in a number of respects. The pumps were the first in the district to be powered by steam turbines. The largest, Weymouth pump, with a diameter of 48 inches was designed by J. C. Burnell and reputed to be the largest in the southern hemisphere. It still stands on static display at the entrance to the pumping station complex. Fuel for the boilers was coal and briquettes, rather than the firewood in general use and becoming increasingly costly to procure by this date. It was transported from the railway sidings by the two foot gauge locomotive… and although superseded by electrification is currently being restored for use as an historical display. The plant at one time had a 45 metre high chimney stack, and the concrete rising main was longer than any other and is still in use.
>
> The Red Cliffs A re-lift pumping station is situated along the route of the main concrete lined channel. It is a corrugated iron building retaining its centrifugal pumps of 1922 and is substantially intact. The old urban supply pump house has been preserved alongside and includes its residual oil piston engine built in 1929 by Ronaldson Bros. and TIppett Pty Ltd of Ballarat.

While recommending that the Red Cliffs A Re-Lift Pumping Station and Old Red Cliffs Urban Pump be recognised as having heritage significance at the State, Regional and Local levels (Ward 1988: 9) Red Cliffs Main Pumping Station itself was not identified by Ward as a site of heritage significance – perhaps due to its younger age and/ or alterations made to the pumping station as part of its transfer to electrical power in the 1950s (O'Gorman 2012: 150).

A later study by Context (2007: 40) identified the Red Cliffs Main Pumping Station as an area of potential heritage significance, defined as follows:

> These places are considered to be potentially significant at a State or local level, but require further assessment and comparative analysis. They are listed by Local Government area and include:
>
> - Places that form part of a system where other parts are already included in the HO or VHR, or
> - Places that have been identified and/or assessed by a heritage study, report, register or database, or
> - Key places associated with an important theme, activity or event in Victoria's water supply heritage.

Further, the Red Cliffs Main Pumping Station was identified as part of the Red Cliffs Irrigation District Water Supply Precinct (Context 2007: 62) which also included the Red Cliffs A Re-Lift Pumping Station. Water supply precincts were defined by Context (2007: 56) as:

> These are irrigation, stock or domestic/town supply systems that comprise two or more components and for which a precinct or 'parent' record may eventually be created in Hermes to which individual place or 'child' records may be linked.

Red Cliffs Main Pumping Station appears to have been listed on the Mildura Heritage Overlay sometime after the publication of this report.

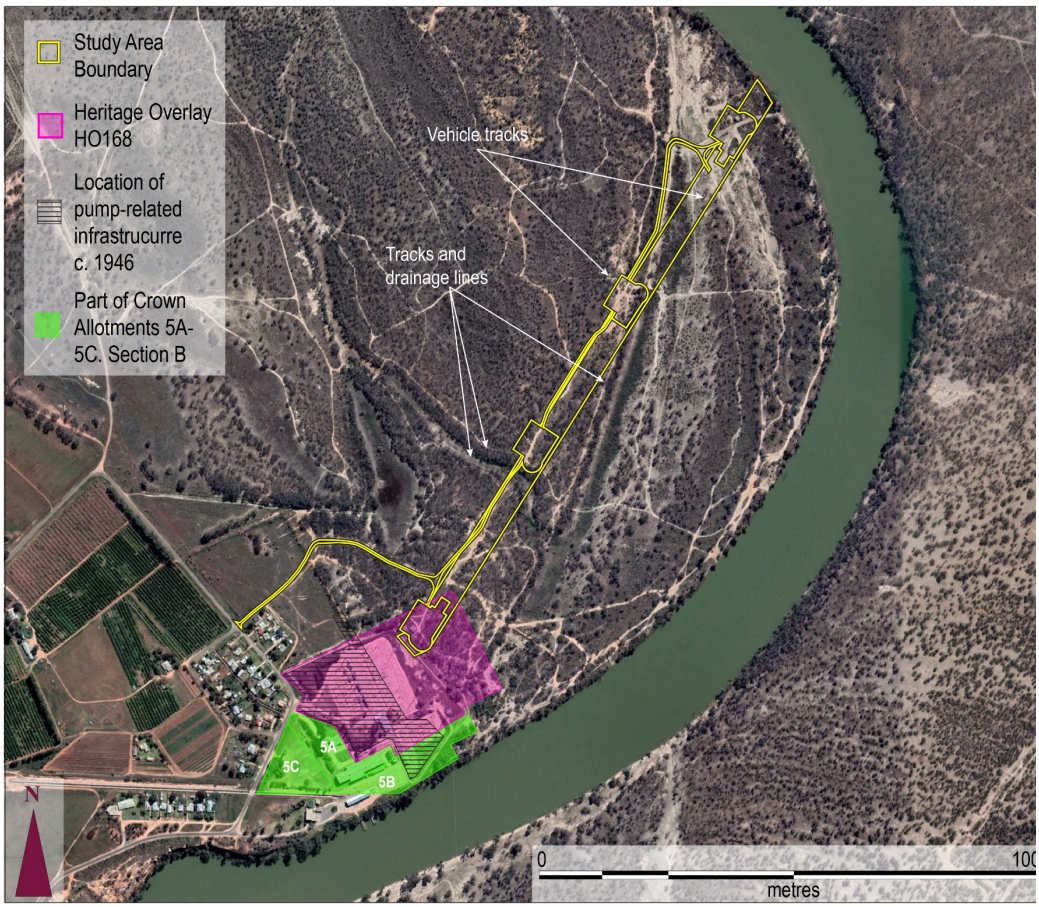

Figure 5: Contemporary aerial of the study area showing locations HO168 as mapped on VicPlan, as well as locations of crown allotments and pumping plant infrastructure in the study area c. 1946. Base map source: VicPlan.

3.2 Land use history

This section reviews historical maps, plans and aerial photography in order to inform a discussion of the likely presence and/or distribution of historical heritage and archaeological features. The historical overview provides a broad outline of the post-contact history of the local region, while the land use history proper discusses historical use of the study area specifically.

Historical Overview

The first post-contact exploration of the Mildura region was undertaken by Charles Sturt, who in 1830 'set out…along the Murrumbidgee from a point near the present township of Hay with a view to discovering the outlet to that river' (Ward 1988: 15) As part of this expedition, Sturt traced the eastern and northern boundaries of the present Mildura Shire, taking in a section of the Murray River which is adjacent to the current study area. Although a 'forbidding' landscape accompanied by a scarcity of water prevented further exploration and settlement in the short term, by 1848 the squatting run *Yerre Yerre* was established, encompassing 150,000 acres of land across what is now Mildura and extending south to include Red Cliffs and the current study area (Spreadborough & Anderson 1983: 255).

Squatting

Although sparsely settled by squatters and thus habitable to a degree, descriptions of the region in the mid to late nineteenth century emphasised the harshness of the landscape, with a particular emphasis on the scarcity of water. Explorer and scientist George Newmayer, for example, remarked in 1862 (quoted in Ward 1988: 13) that 'most people speak of this part of the country with a certain dread' noting the extreme aridity of the region. The Murray River, and the harnessing of its water resource for irrigation 'with the aid of well organised backing' (Ward 1988: 13) was thus crucial to the establishment and growth of post-contact settlement of the region, as was associated infrastructure such as the rail system.

The area around what is now Mildura and Red Cliffs was first occupied by pastoralists in 1846, when 'Frank Jenkins grazed his herds at Mildura' (Ward 1988: 16). Squatting expansion began in earnest in the following year, when 'squatters from South Australian and the Port Phillip district became the first to seriously occupy the river frontage along the south bank' (Ward 1988: 16) of the Murray River, and runs were delineated. By 1848, the *Yerre* squatting run was established by W. Stawell. In 1853 the run changed hands and was operated by E. J. Hogg until taken over by brothers Hugh and Busby Jamieson, who in 1858 requested the name be changed to *Mildura* (Spreadborough & Anderson 1983: 255).

The Jamieson brothers maintained the *Mildura* run for some twenty years, until 1878 when it was passed to Alexander McEdward. McEdward held joint ownership of the run with Frederick Augustus from November 1883, and according to Ward (1988: 19), the run was subsequently purchased by Tapalin Pastoral Company in 1884 – which went into liquidation 'shortly afterwards'. Noting that 'all evidence of the Mildura station…has long since been razed by the irrigationists of later years', Ward (1988: 19) makes mention of the demolition of wool sheds belonging to the station in 1920 'on the banks of the Murray River near present day Irymple and Red Cliffs' – one of which has potential to have been located within the current study area. Ward (1988: 19, 38, Figure 2.10) provides conflicting accounts of whether the Red Cliffs (also known as Karadoc) wool shed was demolished on site or removed to Red Cliffs township (and the Irymple shed instead used for this purpose).

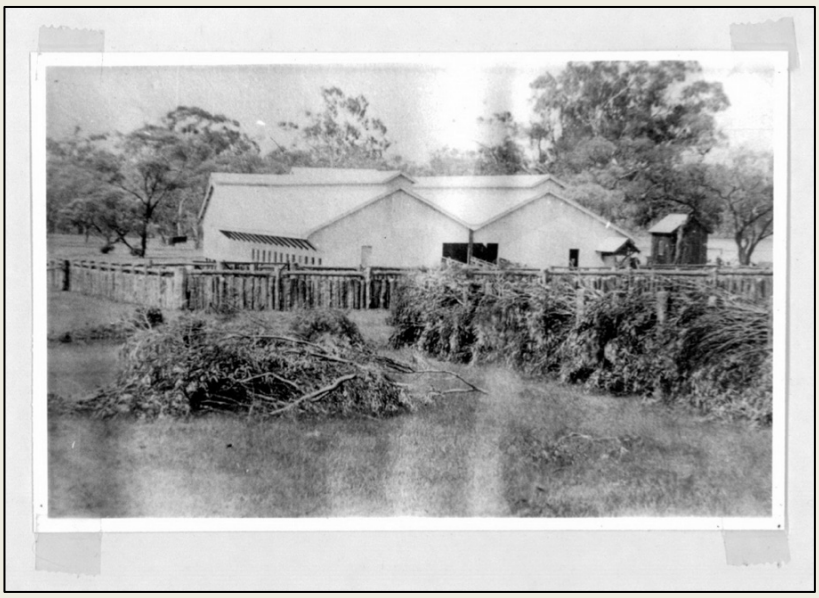

Figure 6: An undated photograph of the old wool shed at Red Cliffs. Image Source: Mildura & District Historical Society, in Ward 1988 (Figure 2.10).

Mildura Irrigation Colony

The history of the Mildura region has been strongly shaped by irrigation infrastructure and by the township's original establishment as an 'irrigation colony'. The Mildura Irrigation Colony was founded by brothers George and William Chaffey in 1887, who had a background in establishing successful irrigation settlements in north America (Ward 1988: 22). These settlements constituted rigorously planned communities with specified layouts, civic and educational structures, and ethos. Central to design of the irrigation settlement was the notion of each acre of land having a 'water right' and water being transported to each property or farm lot from a central source with 'each holder to share in the water proportionately to his holding irrespective of distance from the source' (Ward 1988: 23). The Chaffeys' second irrigation settlement of Ontario, California was visited in 1885 by Alfred Deakin, who was at the time Minister of Public Works and Water Supply for the Service/Berry Coalition. Impressed by 'the scale and nature of the development' (Ward 1988: 23), the Chaffeys were invited to consider the establishment of such a settlement in Victoria.

In 1886 an agreement was reached with the government of the day and the Chaffey brothers were granted two tracts of land 'in conformity with the recently enacted Mallee Pastoral Leases Act' (Ward 1988: 24) in which to develop the Mildura Irrigation Colony (Figure 7). With the intention of using the methods and layout of the successful settlements in north America as their basis, problems were encountered when it came to ensuring the supply of water to the lots (Ward 1988: 24-27). Previously, the Chaffeys had used gravitation to supply water via a network of underground pipes. This method was found to be unsuitable in the case of the Mildura settlement, as

> [i]n the first place, the waters of the Murray River were situated below the level of settlement and therefore could not be run to it by gravitation. In the second place, the lack of available materials and plant prompted the Chaffeys to distribute the water by means of open channels, rather than by cement pipes (Ward 1988: 27).

The water required for the settlement was raised from the Murray River 'by means of up to six lifts…This system of water distribution was known as the Billabong System, and was by far the largest in the district' (Ward 1988: 27). The Billabong system, designed to service the irrigation needs of 40,000 acres, consisted of pumping stations at Psyche Bend, Billabong and Nichols Point (Ward 1988: 28). The notion of a single lift at Red Cliffs was raised as an alternative in these early stages but dismissed by the Chaffeys as unworkable (Ward 1988: 27).

By 1896 problems with the Chaffey brothers water supply system were evident. It became apparent that, 'anxious to encourage sales' the Chaffeys 'had permitted the occupation of land at the furthest extremities of settlement whilst the more conveniently situated blocks remained unsold' (Ward 1988: 32), and they were subsequently unable to meet the irrigation requirements of the colony. Over-extended, the company went into liquidation. A Royal Commission undertaken in 1896 resulted in state assistance for the settlement, and money was loaned 'sufficient to line the existing channels where required and to improve the existing pumping plant' (Ward 1988: 33).

Notwithstanding these complications, by the late 1880s, the Irrigation Colony of Mildura 'presented a progressive appearance sufficient to attract a population over 3,000' (Ward 1988: 30), and by the early twentieth century a number of municipal and civic buildings had been constructed. While initially formed as a temperance colony 'not only in accordance with the Chaffey's agreement by also in line with the principles of the politically well connected temperance movement of the day' (Ward 1988: 31), in the 1890s and into the early twentieth century Mildura saw the establishment of a number of licenced clubs and, later, hotels – putting an end to the inevitable growth of a sly grog trade in the town.

Closer Settlement – Red Cliffs

Increased demand for irrigated blocks, along with pressure by the Returned Soldiers and Sailors Imperial League, prompted the government to consider the Red Cliffs region for development and sale in 1919 (Ward 1988: 38). 'In response to accusations of apathy, the Government resolved late in 1919 that negotiations should proceed for the purchase of the Redcliffs lands, still in the possession of the liquidators of the Chaffey Brothers Limited' (Ward 1988: 38). In order to service the new settlement 'water would be raised at the red cliffs which had proven to be too high above river level for the Chaffeys, some 35 years earlier' (Ward 1988: 38). Work to establish the irrigation and associated infrastructure Red Cliffs township began the following year:

> Clearing began at the nursery site under the direction of J. R. Bailey…The earliest centre of activity was on the Old Karadoc wood shed site where the survey camp and survey camp and nursery was established, workers accommodated and the pumping plant was to be built. Before the end of May, 1920, the camp had been relocated to the future site of the packaging

> sheds which was to grow into a temporary canvas town with the Irymple wool shed as its principal public building… Block sales commenced in the Mildura courthouse on 15th December, 1920, when 51 allotments were offered at auction (Ward 1988: 38).

By the end of 1921 the temporary town centre had been removed and the construction of the permanent centre begun. By 1923 the majority of irrigation allotments had been allocated, although the town layout continued to be developed until 1925. Between 1922 and 1928, with the establishment of settlement in the town, a 'suburban rail motor service' (Ward 1988: 39) ran between the centres of Red Cliffs and Merbein. In the 1930s, it became apparent that a drainage system was required 'to prevent waterlogging and salting' (Ward 1988: 40). The construction of this drainage system between Mildura and Merbein 'became the largest Commonwealth Unemployment Relief project' (Ward 1988: 40) of the depression years, costing over one million pounds.

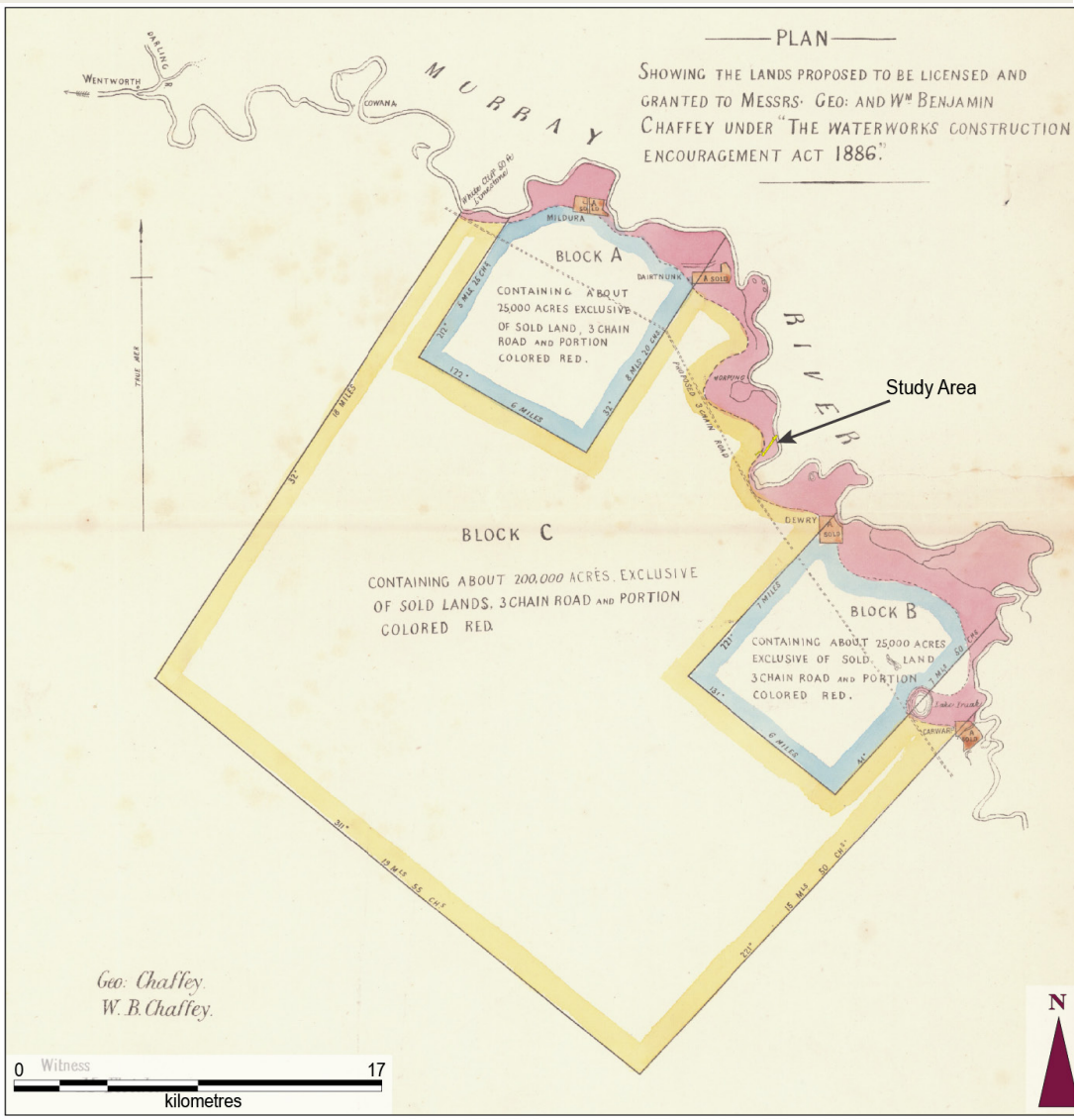

Figure 7: An 1886 plan showing the areas granted to the Chaffey brothers for the Mildura Irrigation Colony (Block A) in relation to the study area. Base Map Source: National Library of Australia.

Red Cliffs Main Pumping Station

The main pumping station at Red Cliffs was opened in 1922. Ward (1988: 39) describes it as follows:

> It was unusual in a number of respects. The pumps were the first in the district to be powered by steam turbines. The largest, Weymouth pump, with a diameter of 48 inches was designed by J. C. Burnell and reputed to be the largest in the southern hemisphere. It still stands on static display at the entrance to the pumping station complex. Fuel for the boilers was coal and briquettes, rather than the firewood in general use and becoming increasingly costly to procure by this date. It was transported from the railway sidings by the two foot gauge locomotive…and although superseded by electrification is currently being restored for use as an historical display. The plant at one time had a 45 metre high chimney stack, and the concrete rising main was longer than any other and is still in use.
>
> The Redcliffs A re-lift pumping station is situated along the route of the main concrete lined channel. It is a corrugated iron building retaining its centrifugal pumps of 1922 and is substantially intact. The old urban supply pump house has been preserved alongside and includes its residual oil piston engine built in 1929 by Ronaldson Bros. and TIppett Pty Ltd of Ballarat.

Figure 8: 'Testing the new turbine', a c. 1922 etching depicting the Red Cliffs Pumping Station. Image Source: National Library of Australia.

Figure 9: A series of photographs taken in the first half of the twentieth century, showing construction and infrastructure associated with the Red Cliffs Main Pumping Station. Images Source: State Library of Victoria.

Initially powered by coal brought in via tram tracks, the Red Cliffs Main Pumping Station was ultimately converted to an electrically powered station, with a large generator constructed on site, adjacent the pumping house. Flooding of the Murray in 1956 put this infrastructure at risk, and 'the Army, along with the SRWAC. SEC, and Commonwealth Government prioritized the highly productive irrigation area, diverting equipment from other places to help protect the Red Cliffs pump and generator (O'Gorman 2012: 151). Levees were raised and reinforced in the vicinity of the pumping station at this time, when 'some shire employees worked on the levee banks 24 hours a day' (O'Gorman 2012: 151).

Historical Plans and Aerial Photography

There are few available historical plans that encompass the study area or describe it in any detail. Aerial photography indicates that the study area has comprised vacant land containing drainage lines and informal vehicle tracks across the remainder, for much of the twentieth century up to the present day. The following discussion reviews evidence of historical land use practices in the study area against available maps and plans, as well as aerial and other still photography.

The 1886 plan showing land granted to the Chaffey brothers (Figure 7) shows an early road which roughly traced the course of the Murray River, located adjacent to the study area at Red Cliffs. An 1892 plan of the Mildura Irrigation Colonies titled 'Plan shewing part of Mildura, blocks D, E, F, G & H now being dealt with' (Figure 10) shows a structure identified as the 'Red Cliffs Pumping Station' located south of the study area. Parts of this plan are annotated, and the channels leading away from the pumping station have clearly been added after printing. It is not clear whether the Pumping Station as marked is present on the original plan and/or whether this structure was marked as a proposed pumping station as part of the management of Block F. The presence of a pumping station at Red Cliffs prior to 1921 does not appear to accord with other accounts of the colony, and while it cannot be discounted that there was a pumping station in existence at that time, it is considered likely that this map represents a planned construction, rather than an existing facility.

An undated, annotated parish plan of Mildura indicates that the southern part of the study area was under the management of the State Electricity Commission, and that the remainder of the study area forms an area of State Forest and part of Kings Billabong wildlife reserve (Figure 11).

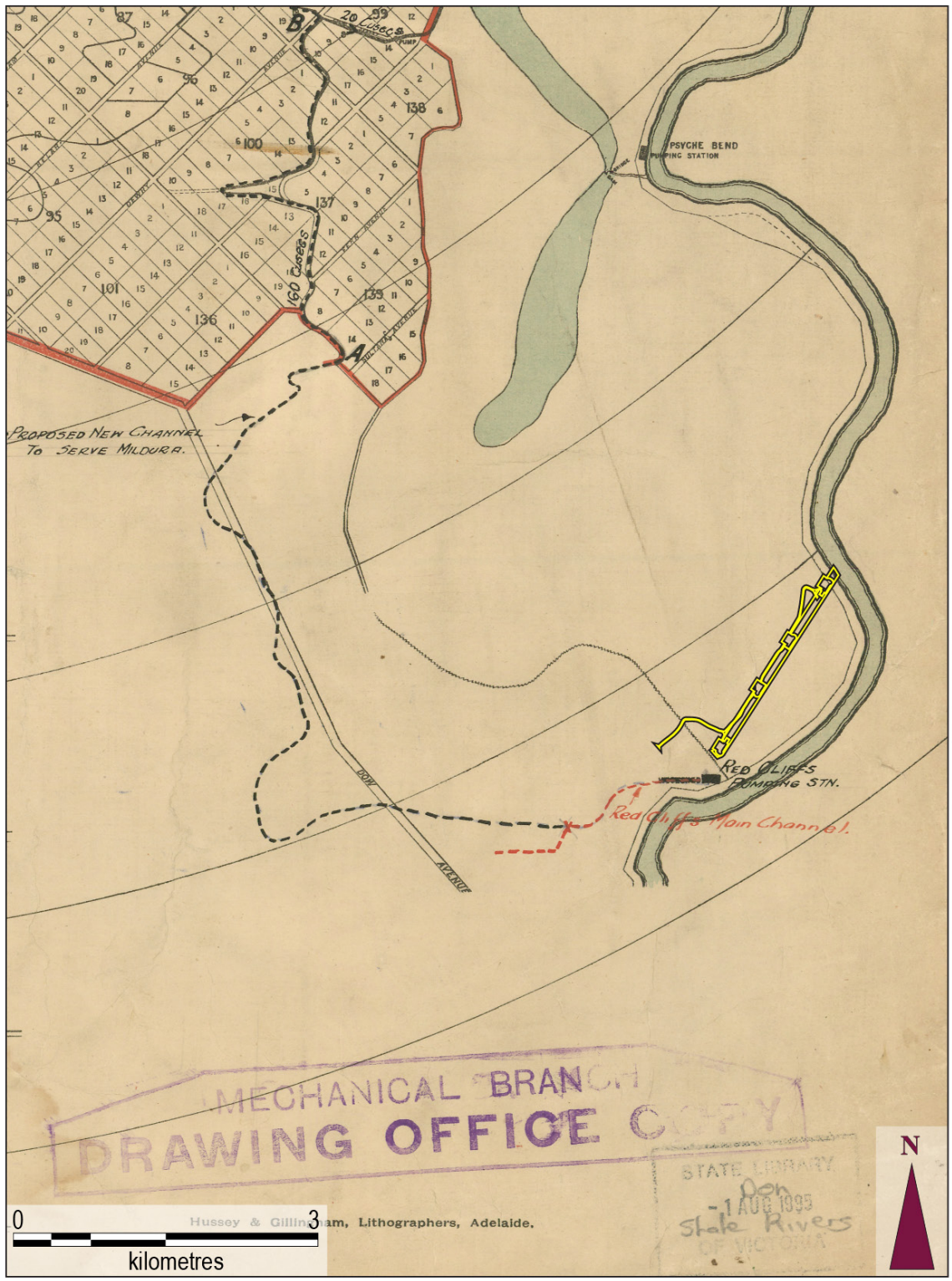

Figure 10: Excerpt from an 1892 plan of the Mildura Irrigation Colony, with the study area overlain. Base map source: State Library of Victoria.

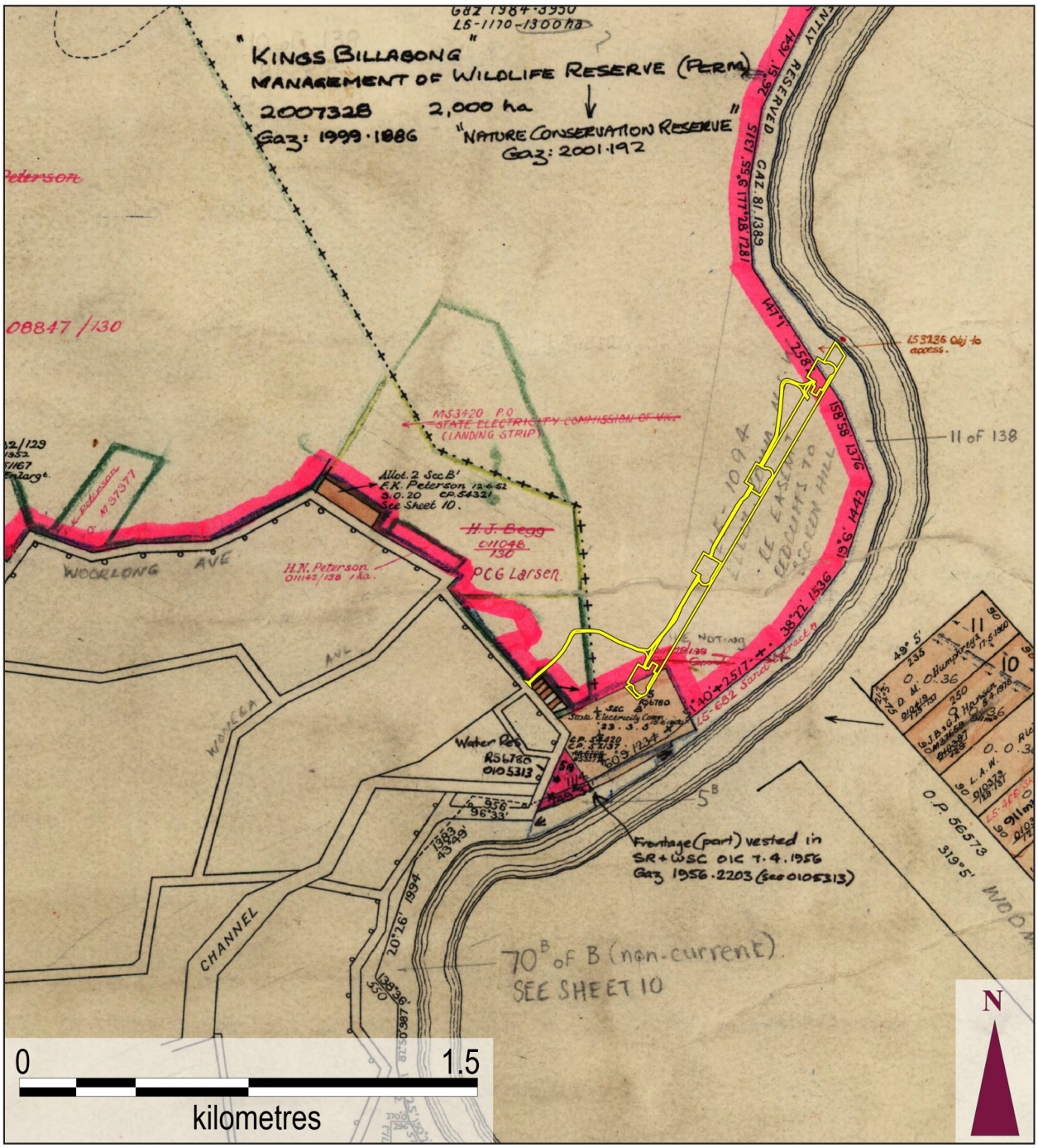

Figure 11: Excerpt from an undated, annotated plan of the Parish of Mildura. Base map source: Public Records Office of Victoria.

Historical photography illustrates the presence of the Red Cliffs Pumping Station on the southern bank of the Murray River from the 1920s (Figure 12), with aerial photography from the 1940s (Figure 13 & Figure 14) demonstrating that the main Pumping House buildings were located to the south of the study area itself. These photographs indicate the presence of significant (and potentially artificially manufactured) drainage lines extending through the study area in its northern part. The area adjacent to the southern portion of the study area has been subject to more disturbance by activities associated with the Pumping House – with rail tracks and coal stores, numerous vehicle tracks and potentially partially excavated concrete irrigation pipe infrastructure visible on Figure 14 (*cf* Figure 5 which shows the extent of this infrastructure in relation to HO168). An undated, pre-1954 aerial (Figure 15) shows another view of the infrastructure present south of the study area at this time, and an oblique aerial c. 1954 (Figure 16) indicates further ground disturbance by this stage, associated with the construction of the electrical terminal.

A c. 1972 aerial photograph (Figure 17) shows the bulk of the study area largely unchanged, while the area south of the study area by this stage contains an established electricity terminal. Infrastructure in this area includes a number of buildings, car parking areas and paved driveways/roadways, two separate terminal grid areas as well as fencing and landscaping. Recent aerial photography showing existing conditions in the study area (Figure 3) shows the study area as largely unchanged with the exception of the installation of an overhead electrical corridor running through the centre of the study area, from the terminal in the south and crossing the Murray River in the north.

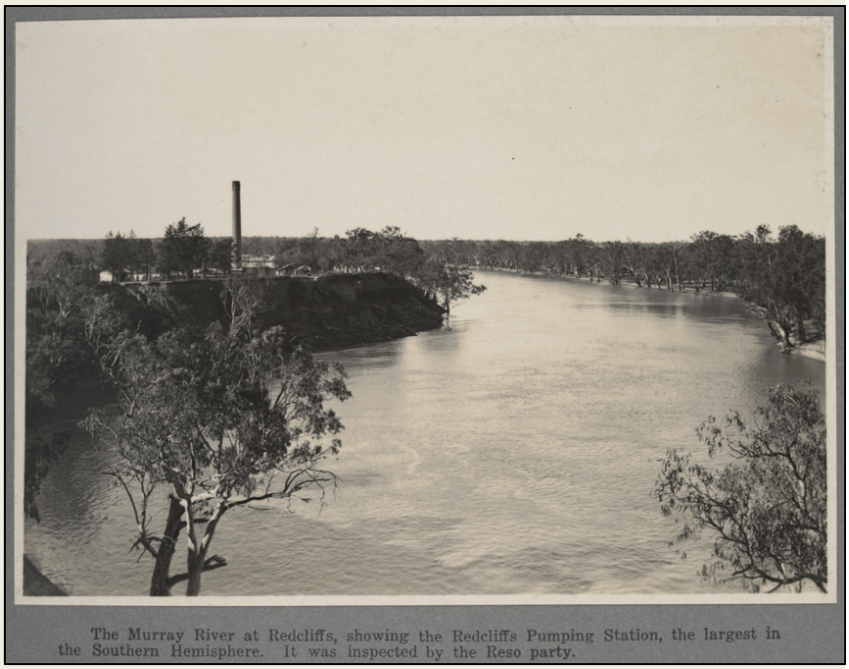

Figure 12: Photograph of Red Cliffs Pumping station on the Murray River, c. 1926. Image Source: State Library of Victoria.

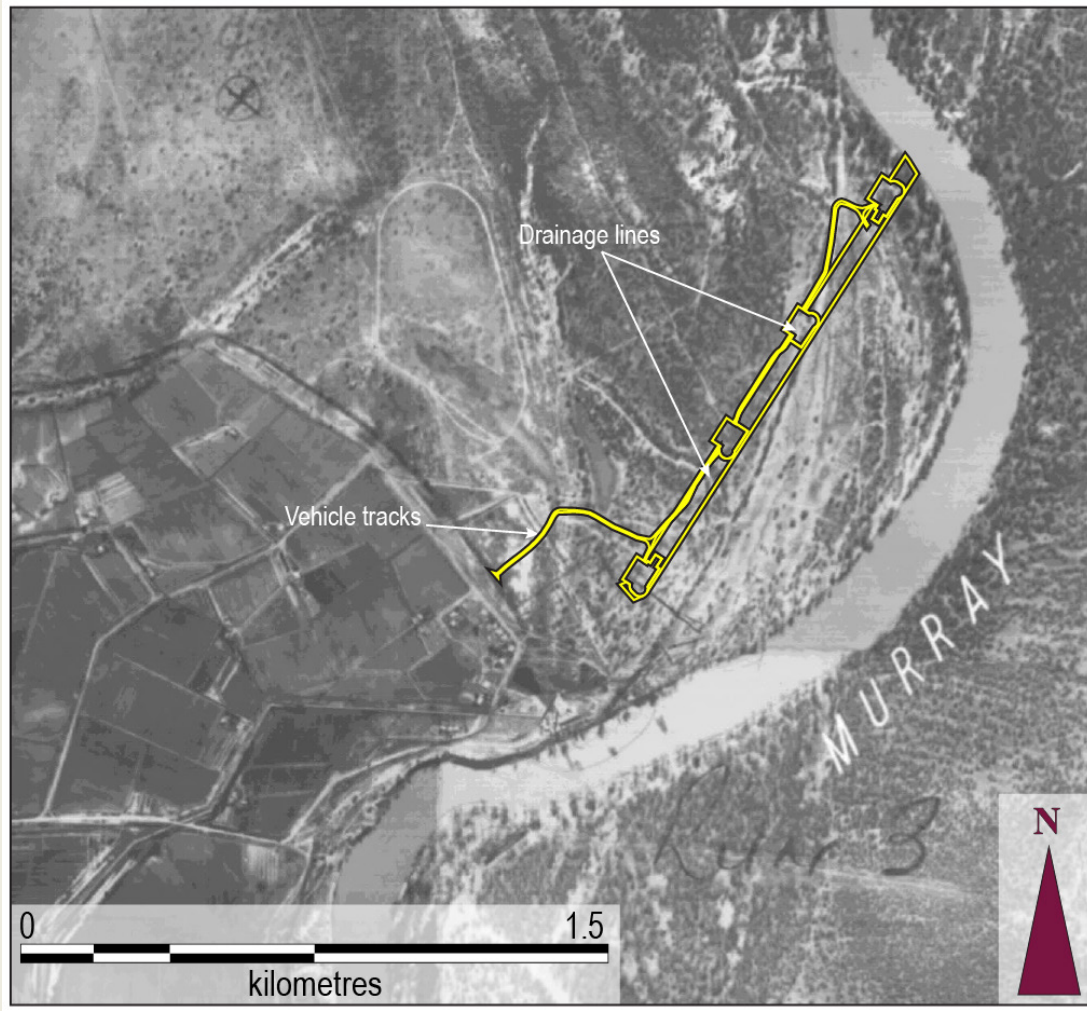

Figure 13: Aerial Photograph c. 1945, with study area overlain. Image Source: land.vic.gov.au.

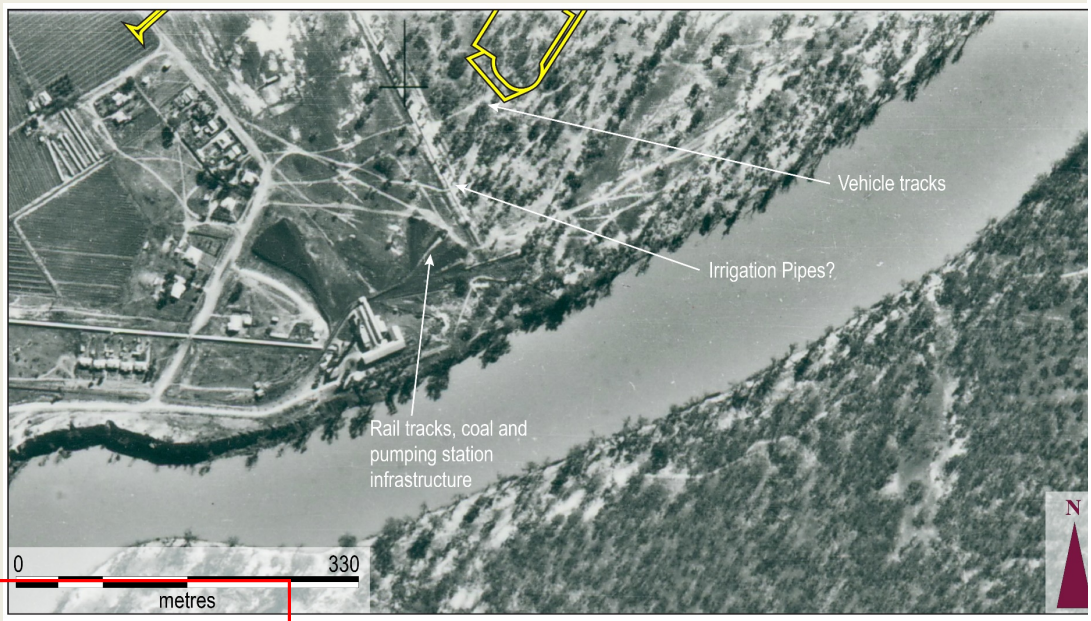

Figure 14: Aerial photograph c. 1946, showing the southern end of the study area. Image source: LANDATA.

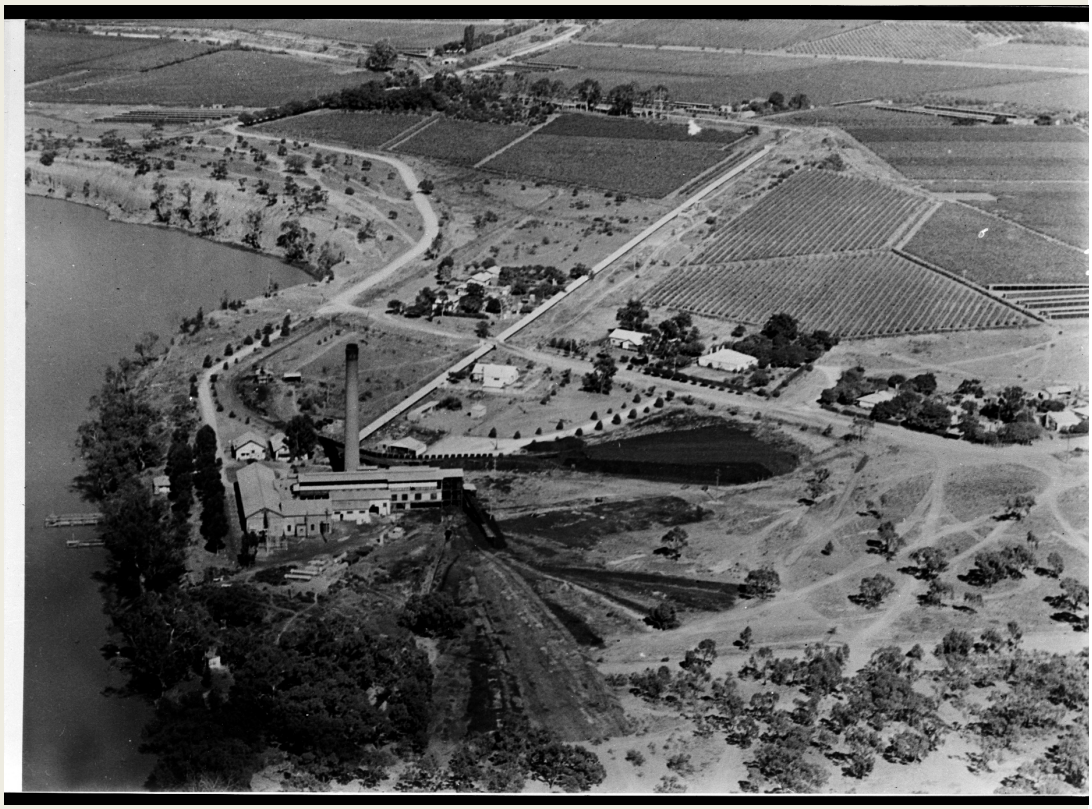

Figure 15: Undated (pre-1954) oblique aerial facing south, showing Red Cliffs Pumphouse and southern part of the study area (in yellow) overlain. Image source: Public Records Office of Victoria.

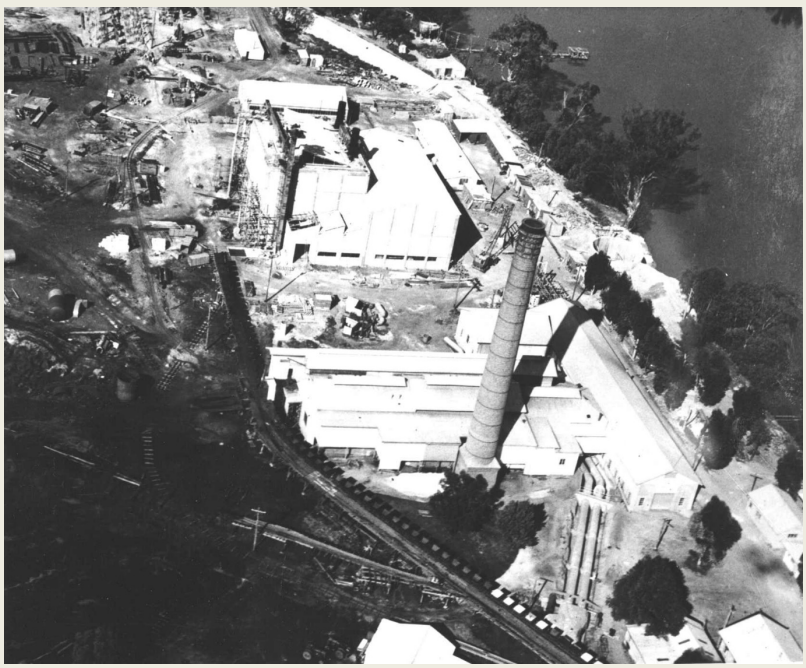

Figure 16: Oblique aerial c. 1954, facing north, showing part of the Red Cliffs Pumping Station and State Electricity Commission Power House, with part of the southern portion of the study area overlain (in yellow). Image source: State Library of Victoria.

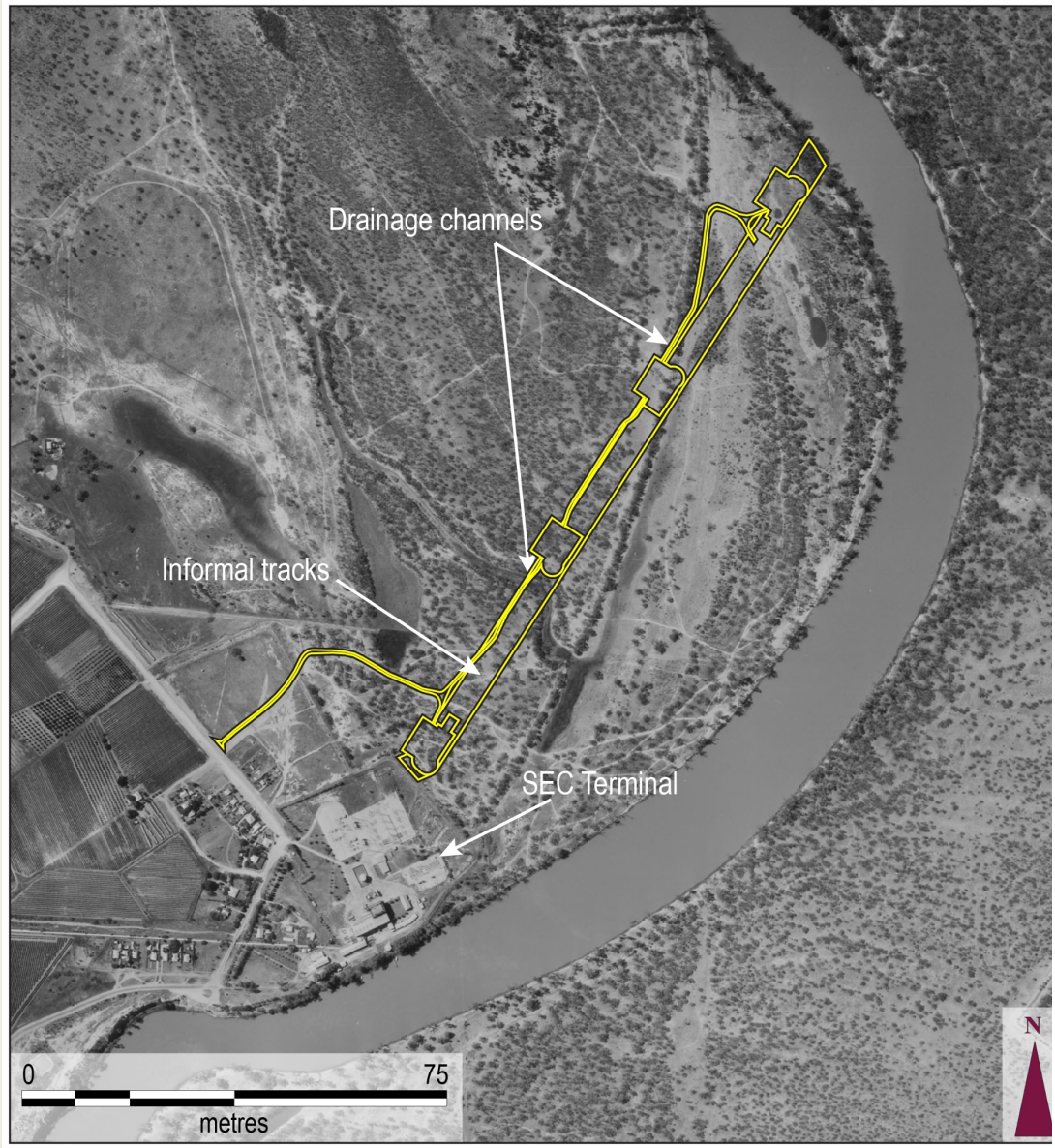

Figure 17: Aerial photograph c. 1972 with the study area overlain. Image Source: LANDATA.

3.3 Potential for further historical heritage

There is one known historical heritage place located adjacent to the study area which is listed on the Mildura Planning Scheme Heritage Overlay. It is incorrectly mapped on the Heritage Overlay as occurring in the study area. This historical heritage place, known as Red Cliffs Main Pumping Station and listed as HO168, is described on the schedule to the heritage overlay as 'Red Cliffs Main Pumping Station, Crown Reserve Sec B, Red Cliffs (Map 38HO). No further information about this registration has been found, except for its identification as a site of potential significance by Context as part of a wider study of Victorian Water Supply Heritage (2007). The information in this report, which is presumed to have been the catalyst for its addition to the Mildura Planning Scheme Heritage Overlay, is limited to an identification of its potential and a recommendation for further research.

All known infrastructure related to the pumping station is located outside of the study area and no historical features associated with it were identified in the study area during the field survey. Nevertheless, there is potential that as yet unrecorded historical heritage places relating to the Red Cliffs Main Pumping Station are present within the study area more broadly – including evidence of drainage works and levee construction. Additionally, there is low potential for historical archaeological remains to occur within the study area related to its use prior to the establishment of the Red Cliffs pump station. In particular, it is possible that archaeological remains associated with a wool shed once present at Red Cliffs (which sources state was either demolished or transferred to the town site to act as a temporary centre) and its yards are present within the study area. Should such remains occur on the property, they may be eligible for listing on the Victorian Heritage Inventory.

Historical archaeological sites as defined by the Victorian *Heritage Act 2017* are eligible to be listed on the Victorian Heritage Inventory provided they meet thresholding requirements. Historical archaeological sites are protected under the *Act* whether or not they are listed on the Inventory, unless they have been found to have low archaeological value. The results of this assessment indicate low potential that archaeological sites eligible for listing on the Victorian Heritage Inventory are present within the study area related to Red Cliffs Main Pumping Station, and/or historical archaeological material reflective of the study area's previous use as a pastoral property.

3.4 Implications for the proposed development

The project involves both the installation of a new power transmission line and decommissioning of an existing power transmission line. The development plan includes:

- site establishment works including vegetation clearance, minor access track improvements and construction of tower pad and laydown areas;
- construction of about 1.3 kilometres of new double circuit 220kV transmission line, with four new transmission line pole locations. At two of the four locations, a double arrangement (i.e. two poles) would be installed. At the remaining locations only a single pole structure would be installed;
- the decommissioning and removal of the existing 220kv single circuit transmission line and towers once the new line is operational. Decommissioning activities would include removal of all existing towers, fittings and conductors from the corridor. Some sub surface footings would be left in place to minimise excavation and disturbance
- the establishment of a formal 50 metre wide corridor for the new transmission line and poles;
- vegetation removal required to maintain appropriate clearances between ground vegetation and transmission lines. Removal of vegetation with growth heights above four metres in height, within a 50-metre corridor below transmission lines would be required during the construction phase and require ongoing maintenance throughout

the operation to ensure electrical safety clearances and protection zones are maintained. The required clearance of vegetation within the corridor would be undertaken in accordance with TransGrid maintenance guides; and,

- upgrade of access tracks for use during construction and operation
- establishment of small sections of new access tracks.

Activities that would occur during the course of the works include, but are not limited to:

- geotechnical testing;
- site preparation, including clearance of vegetation and fencing;
- earthworks, including stripping and removal of topsoil for the construction of transmission tower foundations;
- soil excavation and the grading of soil during track construction;
- soil excavation for service trenches.

The development footprint is shown in relation to known historical features in the study area, a glass artefact scatter, in Figure 17. The implications of the development footprint in relation to historical values are discussed below.

Red Cliffs Main Pumping Station

Evidence from the land use history and historical site review has found that no known historical places occur in the study area. However, one historical heritage site has been incorrectly mapped on the Mildura Planning Scheme Heritage Overlay, which shows it extending into the study area. This site, Red Cliffs Main Pumping Station, is listed on the Mildura Planning Scheme Heritage Overlay as HO168.

It is considered likely that Red Cliffs Main Pumping Station may be eligible for entry on the Victorian Heritage Inventory. While no infrastructure associated with the Red Cliffs Main Pumping Station was identified in the study area during this assessment, based on the available information the presence of such infrastructure cannot be ruled out.

Old Karadoc (Red Cliffs) wool shed and evidence of pastoral use

The land use history and historical site review has found that it is possible that other historical heritage places, in the form of archaeological remains, may occur in the study area related to its earlier use as a pastoral property. It is considered possible that these remains might include evidence of previous structures such as the Karadoc wool shed, which was thought to be extant in or near the study area prior to the Red Cliffs Main Pumping Station being constructed. If present, it is considered that such remains may be potentially eligible for entry on the Victorian Heritage Inventory. Further research is required to establish whether any prior structures associated with post-contact land use practices prior to the Red Cliffs Main Pumping Station

occur in the study area. This research should be undertaken at PROV, which was closed while the background research was undertaken due to Covid-19 restrictions.

Glass Scatter

A historical glass scatter identified in the study area sits outside of the development footprint. This scatter is not eligible for listing on the Heritage Inventory on its own merit, however if it was associated with the Red Cliffs Main Pumping Station, then it may fulfill the criteria for a Heritage Inventory listing and attract protection under the Victorian *Heritage Act 2017* (see Appendix 1). Further research is required to establish whether there is a link with any prior structures of the Red Cliffs Main Pumping Station that have not been identified in this due diligence report. This research should be undertaken at PROV.

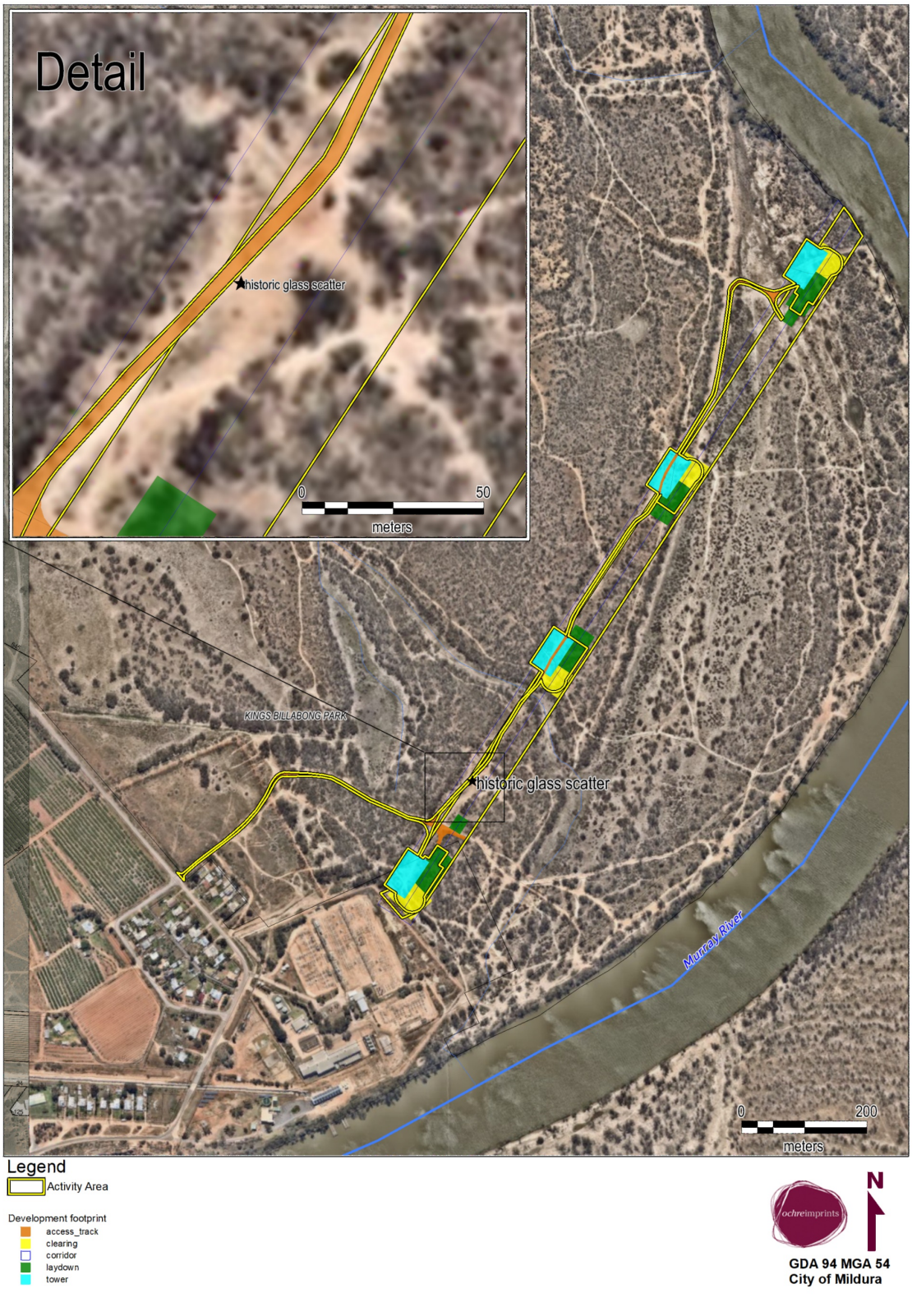

Figure 18: Historical features in relation to the proposed development footprint

3.5 Consultation with Heritage Victoria

Heritage Victoria were consulted about appropriate site mitigation responses, particularly due to the uncertainty around PROV opening prior to development works proceeding. A summary of the key points from the meeting, which was held with Jeremy Smith (Heritage Victoria), Emma Taylor (WSP), Will Parker (WSP), Krista Whitewood (Ochre Imprints) and Petra Schell (Ochre Imprints), is provided in Appendix 3 while the main outcomes of the meeting are summarised below:

- the evidence presented by Ochre Imprints does not indicate that there is strong archaeological potential or the need to pursue historical heritage registration or approvals at this stage.
- Jeremy Smith confirmed an unexpected finds protocol would be appropriate and that there may not be the need for a permanent field archaeologist on site for the entirety of works if appropriate call in procedures are in place. This should be followed up with a small report to HV post construction documenting the outcomes of any monitoring irrespective of whether heritage is identified or not.
- Jeremy Smith noted that if the PROV does reopen prior to construction, for completeness information at PROV needs to be reviewed to establish whether any further information regarding historical heritage is available.

Jeremy Smith provided feedback on Section 4 of the report via email on 22/12/2020.

4. Summary of Cultural Heritage Requirements

Obligations concerning historical cultural heritage within the study area are summarised in the tables below.

Historical Heritage
• Historical research at PROV is required prior to project works commencing, to establish whether any features associated with the Red Cliffs Pumping Station, the Karadoc Wool Shed and/or any other land use practices were once present in the study area. In the event that areas of archaeological potential are identified on this basis, then further assessment or site mitigation measures might apply. • A glass artefact scatter (Figure 18) shall be temporarily fenced off during construction works within close proximity of this item and marked as a No-Go Zone on site maps. • It is recommended that a qualified historical archaeologist monitor all initial soil stripping and excavation works associated with the project and that contingency processes (provided in Appendix 2) are followed should historical heritage be identified during the works program. The monitoring can cease if the archaeologist determines that the subject area does not have (or no longer has) the potential to contain significant historical archaeological remains, and move to an "on-call" program (so long as all on-site workers and contractors are made aware of those provisions and are suitably inducted). • If historical heritage places eligible for listing on the Heritage Inventory are present in the study area, they will attract protections under the Victorian *Heritage Act* 2017 (see Appendix 1). Mandatory submission of Heritage Inventory card(s) must be done within 30 days (as per s.127 of the *Heritage Act* 2017).

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Unknown. 1926. *The Murray River at Redcliffs [i.e. Red Cliffs], showing the Redcliffs [i.e. Red Cliffs] pumping station*. Photograph accessed online via State Library of Victoria.

Appendix 1 –Cultural Heritage Legislation

Historical Heritage

Historical (non-Aboriginal) sites and places of cultural heritage are protected by State and Commonwealth legislation. The legislation is summarised below.

Commonwealth Government

Australian Heritage Council Act 2003

The Australian Heritage Council is a Commonwealth Statutory body, established by the Australian Heritage Council Act 2003. One of the functions of the Council is to maintain lists of heritage places. These are:

- The National Heritage List of places of national heritage significance. Listed places are protected by the E*nvironment Protection and Biodiversity Conservation Act 1999* (EPBC Act). There are currently 28 historic places listed in Victoria. Examples of these types of places are the Eureka Stockade, Castlemaine Diggings National Heritage Park and Sidney Myer Music Bowl.
- The Commonwealth Heritage List of heritage places owned or managed by the Commonwealth. Listed places are protected as Australian Government agencies will be obliged to properly manage heritage listed places under their control. There are currently 43 historic places listed in Victoria, including places such as Victoria Barracks, Customs House and a number of Post Offices across Victoria.

The Council has a role in providing expert advice on heritage strategies and management plans made under the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) for heritage places on the National Heritage List.

In relation to the Commonwealth Heritage List, management plans are prepared by the relevant Commonwealth agencies, these are submitted to the Environment Minister, and the Minister must, before making, amending or replacing a management plan, seek and consider comments from the Council.

The Environment Protection and Biodiversity Conservation Act 1999.

Any action that is likely to have a significant impact on sites listed in the National Heritage List and the Commonwealth Heritage List must be referred to the Australian Government Minister for the Environment and Water Resources (the Minister) for consideration.

The purpose of the referral process is to determine whether or not a proposed action will need formal assessment and approval under the EPBC Act. A referral form and accompanying instructions can be found on the Department's website.

https://www.environment.gov.au/epbc/publications/factsheet-submitting-referral-under-epbc-act

The completed referral will be the principal basis for the Minister's decision as to whether approval under national environment law is necessary and if so the type of assessment that will be taken.

State Government.

Heritage Act 2017

Historical archaeological sites in Victoria are primarily protected under the auspice of the *Heritage Act* 2017. Its purpose is to provide for the protection and conservation of places and objects of cultural heritage significance to the State of Victoria.

Heritage Register and Inventory at a glance.

The Victorian Heritage Register (VHR) and Inventory (HI) are lists of heritage sites maintained by Heritage Victoria. The VHR lists sites of state significance. They are recorded with a H prefix, eg H201. The HI lists archaeological sites, places and relics over 75 years old that meet archaeological thresholding requirements. They are recorded with a H and 100,000 map series number prefix eg. H7221-. The new *Heritage Act 2017* permits listing of archaeological sites less than 75 years old if they reach thresholding requirements for archaeological significance.

Specifically, the *Heritage Act* 2017 serves to protect all places and objects of historic cultural heritage relating to the non-Aboriginal settlement of Victoria. Under the Act, 'place' includes an archaeological site, a building, a garden, a tree, a precinct, a shipwreck and land associated with any of the above. The Act defines an archaeological site as place (other than a shipwreck) which:

a) contains an artefact, deposit or feature which is 75 or more years old; and
b) provides information of past activity in the State; and
c) requires archaeological methods to reveal information about the settlement, development or use of the place; and
d) is not associated only with Aboriginal occupation of the place.

There are two categories of listing provided for under the *Heritage Act* 2017; the Victorian Heritage Register and the Heritage Inventory.

The Victorian Heritage Register

The heritage register is a register of all heritage places, relics, buildings, objects or shipwrecks deemed to be of outstanding cultural significance to the State of Victoria. Section 87 of the *Heritage Act* 2017 states that it is an offence to knowingly or recklessly remove, relocate or demolish, damage or despoil, develop or alter, or excavate, all or any part of a registered place or a registered object in the absence of a permit. In addition, Section 88 states that it is an offence to negligently remove, relocate or demolish, damage or despoil, develop or alter, or excavate, all or any part of a registered place or object without a permit.

Under Section 93 of the Act, a person may apply to the Executive Director for a permit to carry out works or activities in relation to a registered place or registered object. An application for a permit must be in the prescribed form and be accompanied by the prescribed fee. The Executive Director must determine a permit application within 60 days (s97). The Heritage Council may extend the period of days by a further period of 60 days on application of the Executive Director.

A proponent can apply for a permit via the Heritage Victoria website or using a paper based form which can both be found at https://www.heritage.vic.gov.au/permits/apply-for-a-permit. Consent fees vary and can also be accessed at the link provided above.

To complete the Online Heritage Permit Application form proponents need to supply:

- details of proposed works, including a Heritage Impact Statement and Plans;
- a copy of the certificate of title issued within the last 30 days (unless your site is on Crown Land) - (for permit applications only);
- contact details and written consent of the owner / land manager;
- contact details and written consent of the body corporate manager (where relevant)
- a copy of an approved cultural heritage management plan (if applicable).

The Heritage Inventory

The Heritage Inventory records all archaeological heritage sites, other than archaeological sites which are determined by the Executive Director as having low archaeological value (s118).

Under section 130 of the Act, the Executive Director may recommend to the Heritage Council that a place be approved as a site of archaeological value if, in the Executive Director's opinion, the place:

- contains an artefact, deposit or feature which is less than 75 years old; and
- provides information of past activity in the State; and
- requires archaeological methods to reveal information about the settlement, development or use of the place; and
- is not associated only with Aboriginal occupation of the place; and
- has archaeological value.

In this instance, the Heritage Council must determine criteria for assessing whether a place has archaeological value.

Under section 123 of the Act it is an offence to knowingly or negligently deface, damage or otherwise interfere with, or carry out an act, likely to endanger:

- a site recorded in the Heritage Inventory; or
- an archaeological site which is not recorded in the Heritage Inventory.

Offences are punishable by a fine and/or imprisonment

Under section 124 of the Act a consent is required form the Executive Director, Heritage Victoria to excavate, uncover, damage or disturb a site recorded on the Heritage Inventory. Consents for archaeological investigations are only issued to qualified historical archaeologists. Heritage Victoria advises proponents to employ an archaeologist to facilitate the consent process. A consent application must be submitted to, and approved by, the Executive Director of Heritage Victoria prior to any disturbance of a historical archaeological site. The application form is provided on the Heritage Victoria website (https://www.heritage.vic.gov.au/archaeology-and-shipwrecks/archaeology-forms-and-guidelines) and must be completed in accordance with the *Guidelines for Investigating Historical Archaeological Artefacts and Sites*.

An application for a consent must be in the prescribed form and be accompanied by the prescribed fee. The Consent Application Fee Schedule (also provided on the link provided above) provides details on which class the proposed works fall under and how to make a payment.

Local Government.

Victorian Planning and Environment Act 1987 and the Planning Schemes Act 1996

The Victorian Planning and Environment Act 1987 and the Planning Schemes Act 1996 provides local governments with the power to implement heritage controls over significant buildings or places.

One of the objectives of the Planning and Environment Act (1987) is to "…conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest or otherwise special cultural value' (Section 4 (d)). Applications for planning permits submitted to local governments may be forwarded to Heritage Victoria as referral authorities but only if the body determining the planning application believes there is cause to do so. A requirement for a Heritage Assessment can be included as a condition for the issue of a Planning Permit by the determining Authority (Section 62).

Part 2 of the Planning Schemes Act 1996 sets out guidelines for use by local government for determining a planning application, which includes reference to cultural heritage including archaeological sites. Site and places may be protected within a planning scheme by the use of a Heritage Overlay and Significant Landscape Overlays and the attached schedules.

Most Victorian local governments have Heritage Overlays in place, however there are some areas where Heritage Overlays are still being developed. All heritage registered sites are automatically included in Heritage Overlays, however many Heritage Inventory listed sites are often overlooked. In practice this means there is potential for some heritage sites to be missed when undertaking desktop survey alone.

In the event that a place is to be impacted contact will need to be made with Strategic Planning on 03 5018 8419 or email planning.services@mildura.vic.gov.au.

Appendix 2 –Historical Heritage Contingencies

Contingency Measures for the Discovery of Historical Archaeological Features and Deposits.

The development works will involve ground disturbing works including stripping, levelling and excavation of soils. These works have the potential to impact on any as yet unidentified historical archaeological features and deposits (if present). The following process must be followed in the event that historical archaeological features and/or deposits are discovered during the course of the development works taking place:

- all excavation work will stop within an area of 10 m of the discovery. The works can continue outside of this area with supervision by an archaeologist with experience in investigating and recording historical archaeological sites.
- an archaeologist with experience in investigating and recording historical archaeological sites will attend the location of the unexpected find to assess the nature and significance of any discovery of artefacts or *in-situ* features or deposits.

If the assessment determines that the features and/or deposits do not constitute an archaeological site/s eligible for entry on the Heritage Inventory in its own right, then:

- the features and/or deposits will be recorded as per Heritage Victoria's *Guidelines for Investigating Historical Archaeological Artefacts and Sites* (2014);
- A small letter/report will be prepared documenting the features and/or deposits and describing how the contingency process was followed. This letter/report must be provided to Heritage Victoria;
- Works can recommence once the features and/or deposits have been recorded and consultation with Heritage Victoria has established that no further on-site requirements apply.

If the assessment determines that the discovery is of significant archaeological potential or value, such as *in-situ* structural features and remains, and would be eligible for entry on the Heritage Inventory, then:

- Heritage Victoria (HV) will be immediately notified of the discovery of the historical heritage by the attending archaeologist.
- Consultation will HV as to the most appropriate course of action which may include:
    - Consideration of site mitigation measures;
    - Registration of features and/or deposits on the Heritage Inventory involving the completion of a Heritage Inventory site card which would be lodged with Heritage Victoria within 30 days;
    - Further research and/or historical archaeological excavation in the event that site mitigation measures are not possible. Prior to historical excavation proceeding complete, and lodge with Heritage Victoria, an 'Application for consent to undertake works or activities on an archaeological site'.

- An application for Consent to Damage the Heritage Inventory site would need to be completed and processed by Heritage Victoria, prior to development works recommencing within 10 m of the site. This consent will likely include conditions that must to be fulfilled during and after the works program. These could include the requirement for further archaeological excavation, archaeological monitoring of specified works, the management of any excavated heritage fabric and reporting requirements.

Appendix 3 – Heritage Victoria Meeting Notes

Meeting: 21 October 2020

Attendees: Jeremy Smith (Heritage Victoria), Emma Taylor (WSP, Will Parker (WSP), Krista Whitewood (Ochre Imprints) and Petra Schell (Ochre Imprints)

- Emma Taylor introduced the project and provided contextual background information about the planning process;
- Petra Schell provided a run-down of the heritage elements associated with the proposal site. Including:
  - Inaccuracy of the heritage overlay HO168;
  - Low probability finding historical archaeology identified in the desktop assessment;
  - Elements of the previous pump station (outside of study area)
  - Elements identified during the field inspection; glass scatters, metal and debris, none qualifying as requiring registering on the Heritage Inventory.
- Petra Schell discussed the how the due diligence has not been able to consult the Public Record Office of Victoria (PROV) (due to COVID restrictions) to exhaust all avenues of desktop assessment and in the absence of this information posed the question whether it is appropriate to apply protocols for unexpected finds during construction.
- Jeremy Smith noted that due diligences need to consider whether existing plans or site inspections identify whether heritage values requiring permitting or registering are likely to be there
- Jeremy Smith suggest that the evidence provided the in the desktop and site assessment does not indicate strong archaeological potential or need to pursue registration or approvals at this stage.
- Jeremy Smith confirmed an unexpected finds protocol would be appropriate. Depending on Ochre's recommendations, there may not be the need for a permanent field archaeologist on site for the entirety of works if appropriate call in procedures are in place.
- Jeremy Smith flagged if heritage fabric/archaeological deposits are identified during construction then it may need to be added to the Heritage Inventory (and subject to legislative requirements).
- Jeremy Smith noted that providing a small 2-3 page report to HV post construction would be appropriate to document outcomes of any monitoring irrespective of whether heritage is identified or not.
- Jeremy Smith can review and provide comment on draft unexpected finds protocols before they are finalised.
- Petra Schell noted they would finalise the due diligence, with the inclusion of unexpected finds protocols and provide to Jeremy Smith for review.

- Jeremy Smith noted that if the PROV does reopen prior to construction, for completeness it would be worth a visit to see whether any further information is available.
- Jeremy Smith asked whether HO168 would require approval through council.
- Will Parker noted council were aware of the discrepancy and will manage during the process of the permit application.

ADDENDUM TO HISTORICAL ARCHAEOLOGICAL DUE DILIGENCE REPORT

ENERGY CONNECT, VICTORIAN SECTION

Additional Historical Research

12th May 2021

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Contents

Introduction

The background research undertaken for the historical archaeological due diligence assessment carried out for EnergyConnect – Victoria Section (Gilchrist, Whitewood and Schell 2021) was undertaken in 2020, at a time when the Public Records Office Victoria (PROV) was closed due to restrictions aimed at supressing the COVID-19 virus. As a result, it was not possible to access all information available at the PROV, or to determine whether information relevant to the project was held there. As a result of these constraints, the following recommendation was made in the Due Diligence report:

- Historical research at PROV is required prior to project works commencing, to establish whether any features associated with the Red Cliffs Pumping Station, the Karadoc Wool Shed and/or any other land use practices were once present in the study area. In the event that areas of archaeological potential are identified on this basis, then further assessment or site mitigation measures might apply (Gilchrist, Whitewood and Schell 2021).

As the PROV archives are again open to researchers, Ochre Imprints has had an opportunity to review additional information pertaining to the study area. The additional research was undertaken by historian Barabara Minchinton. This research focussed on determining:

- whether additional plans of the pump station and associated infrastructure exist, and whether such plans indicate the presence of pumping station-associated structures within the activity area; and
- the location of the Karadoc Wool Shed and the likelihood that remains of the wool shed exist in the activity area.

It should be noted that the shape of the study area (or activity area in the Cultural Heritage Management Plan) has been reduced since the original due diligence assessment was carried out, and is contained within the previous study area. The proposed works footprint associated with the project is contained within the study area boundary and is shown in Figure 5 of the Cultural Heritage Management Plan prepared by Ochre Imprints (Kapteinis & Gilchrist 2021).

1.1 Additional mapping

A number of plans available at the PROV and the Victorian Land Registry Service were examined for evidence of historical structures located within the study area. There are a number of relatively early plans that show the study area and surrounding region, but despite these showing the presence of relatively small structures (for example the 'huts' marked on *Yerre Yerre* Run on the 1854 plan, see Figure 1) no structures are indicated inside or near the activity area. The only landscape modification evident in these plans is the presence of a track that wound its way roughly along the course of the river. In the 1854 plan this track passes the activity area to

the west. The 1881 plan appears to indicate that a track may have passed through the southern portion of the study area (

). Note also on this plan that a parcel of land to the south of the activity area is marked as 'proposed reserve C'.

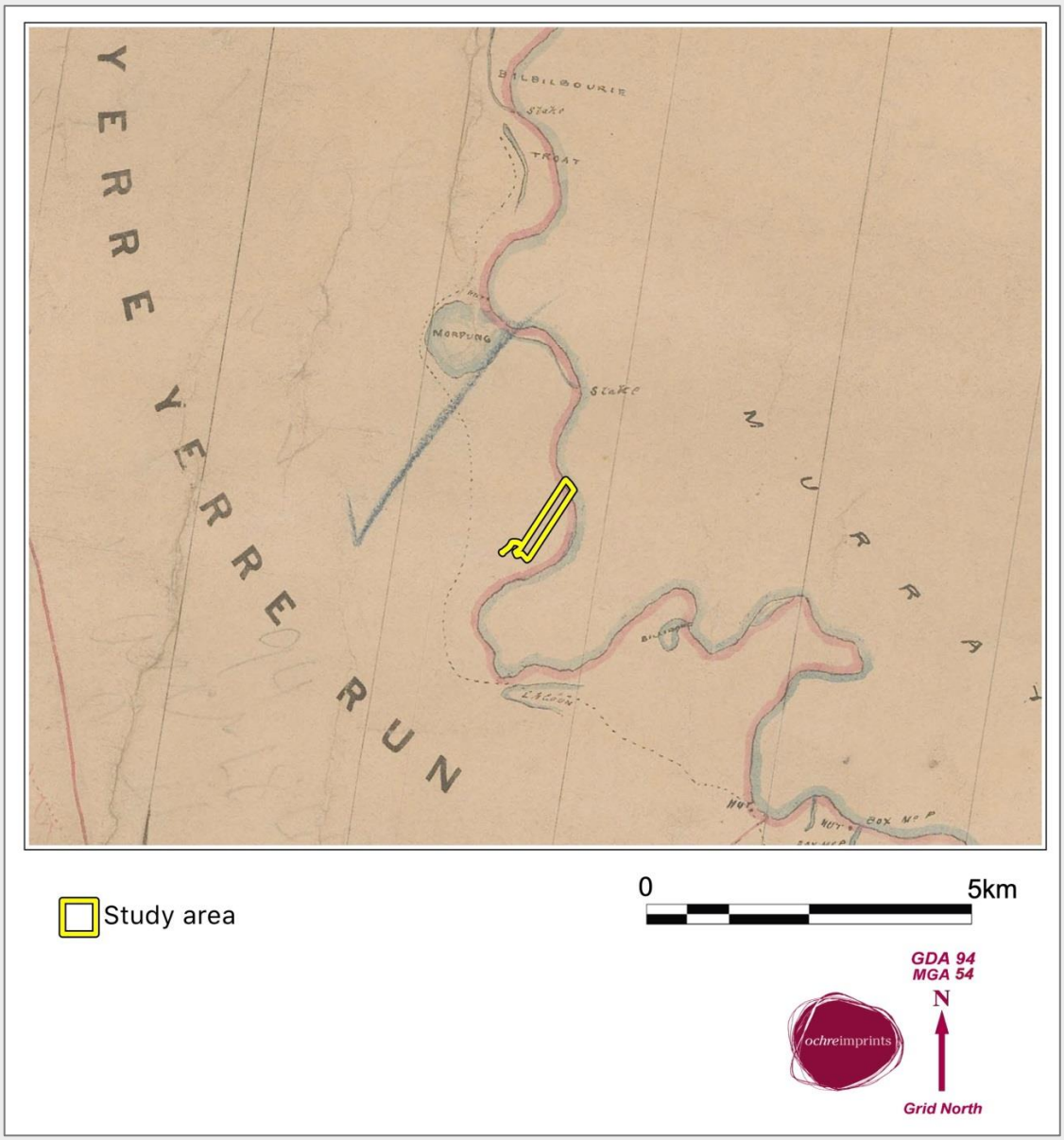

Figure 1 – 1854 plan of the region surrounding the activity area. Note the 'huts' marked along the river in the southeastern corner of the plan (PROV VPRS 8168/P5 RUN 343 Wimmera District Sheet 6).

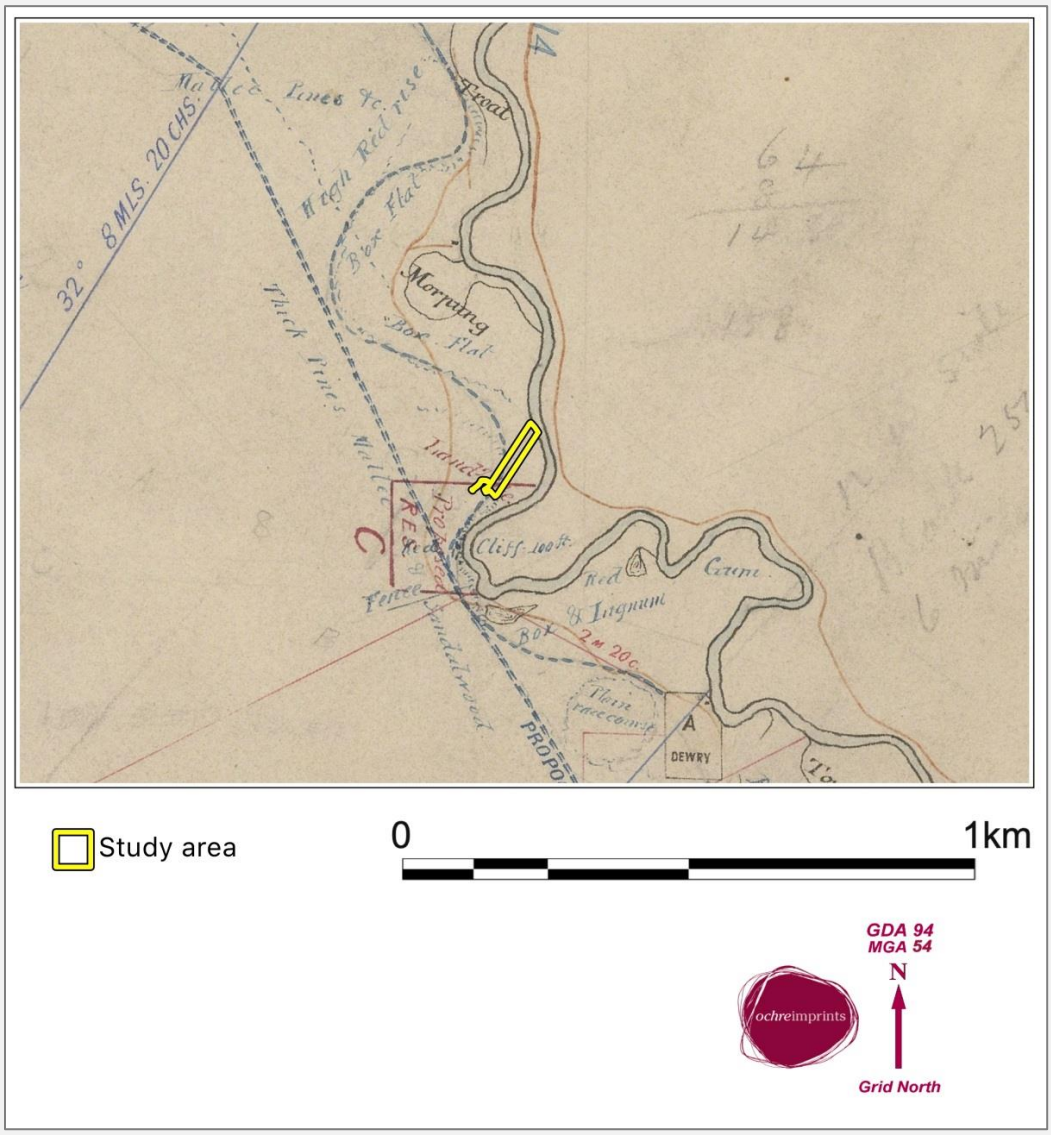

Figure 2 – 1881 to 1886 Plan showing the region surrounding the activity area (PROV VPRS 8168/P5 Murray 46 Murray River from Olney to Carwarp).

The pumping station building and associated easements are visible on several of the Victorian Land Registry Put-away Plans. It should be noted that Put-away Plans are not dated because they were working documents, added to over often lengthy periods of time, until they became too crowded, at which point they were put away, and a new plan started, drawn from the latest information on the old plan. It is therefore not possible to determine the exact date of any particular feature occurring on a Put-away plan.

The Mildura Put Away plans (series Mildura M556) show both the earliest pumping station footprint in the 1920s (Figure 4) and a later, expanded footprint (Figure 5). The larger footprint

may have been associated with the redevelopment or expansion of the station when it was converted from wood-fired to coal-fired (*The Age* 2/1/1924: 5).

The Figure 5 plan also shows the easement or reserve set aside for the route of the rising main travelling in an east-west direction to the west of the pumping station towards Channel No. 1 which, in turn, took a somewhat circuitous route toward Mildura to the northwest.

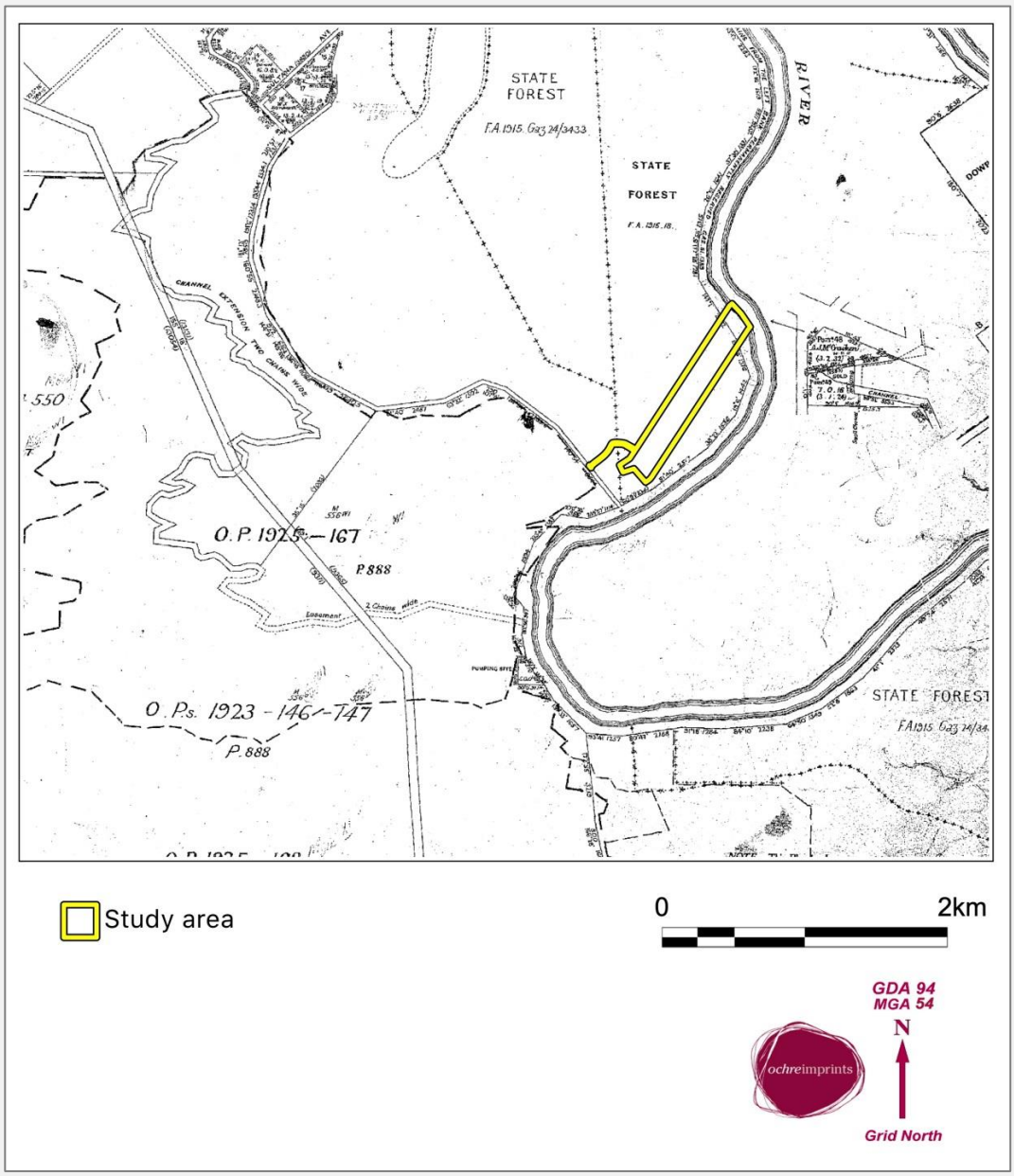

Figure 3 – c1903 onwards plan showing the location prior to the construction of the pumping station. No structures are visible in the study area, but a reserve for an earlier 'pumping site' is shown along the river to the south (M556-10-5).

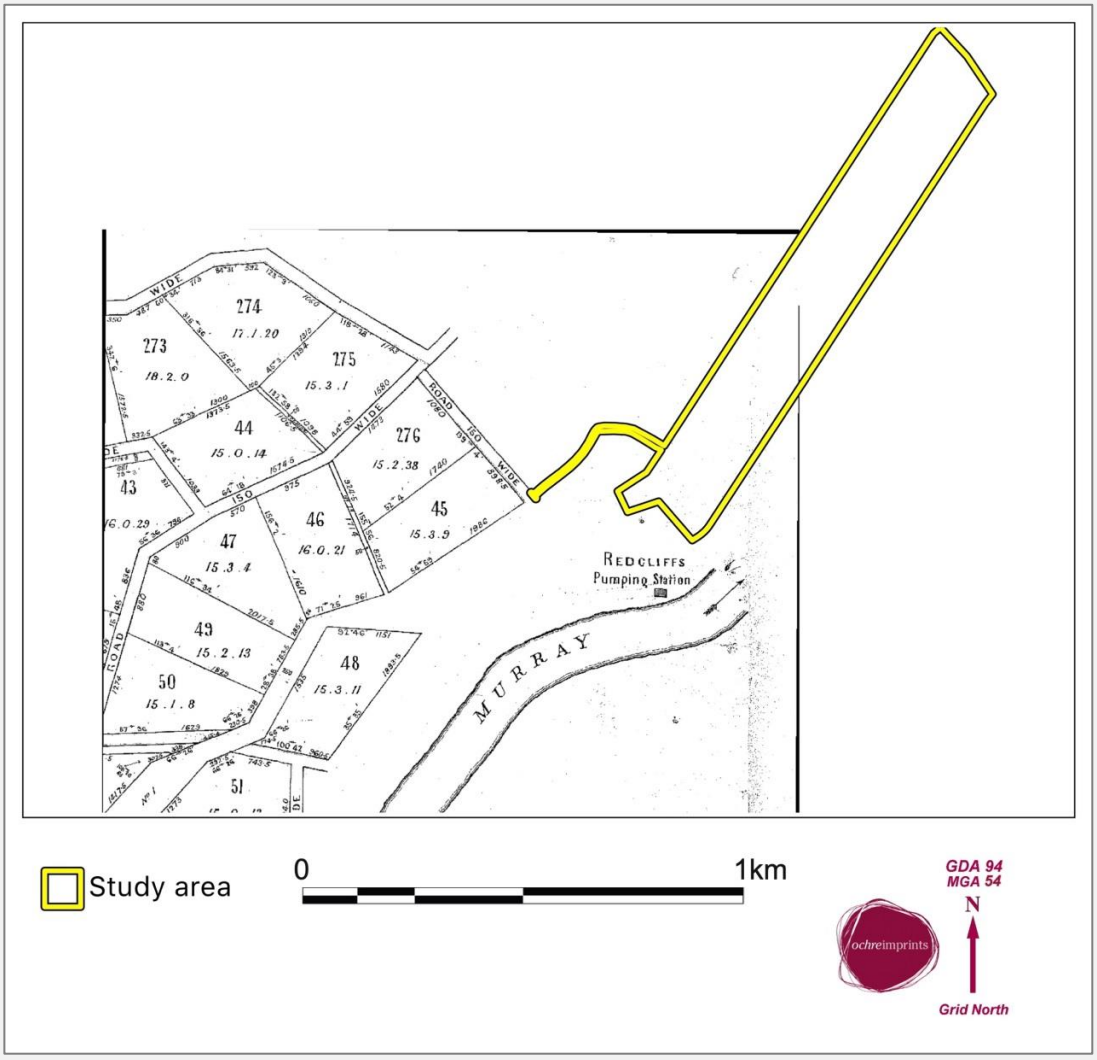

Figure 4 – c.1922-1925 showing the footprint of the earliest pumping station building (built about 1921, opened 1922) (M556-U-5).

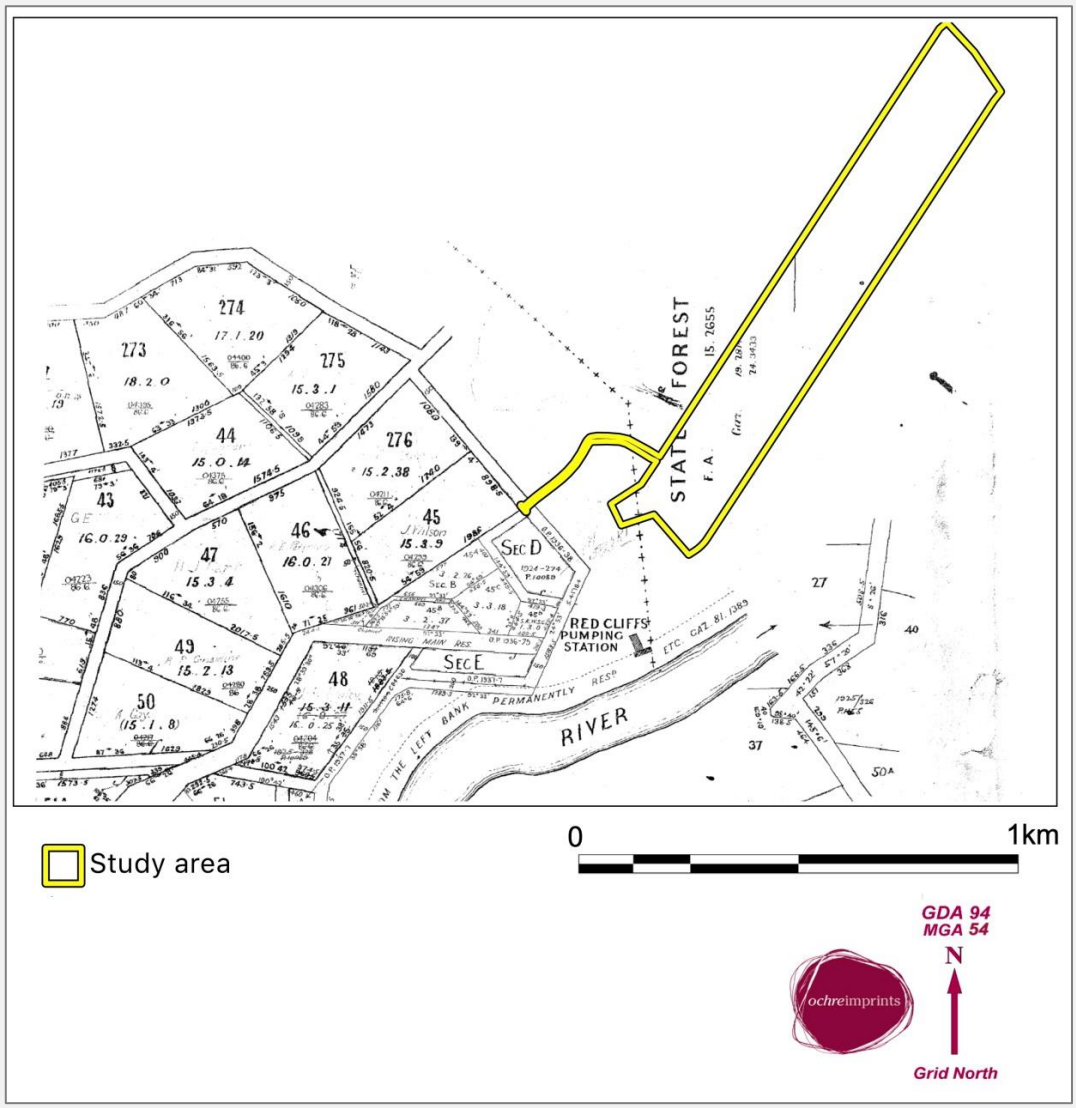

Figure 5 – Dated to after 1935 showing the updated pumping station building outline (possibly undertaken in 1924) (M556-W-1).

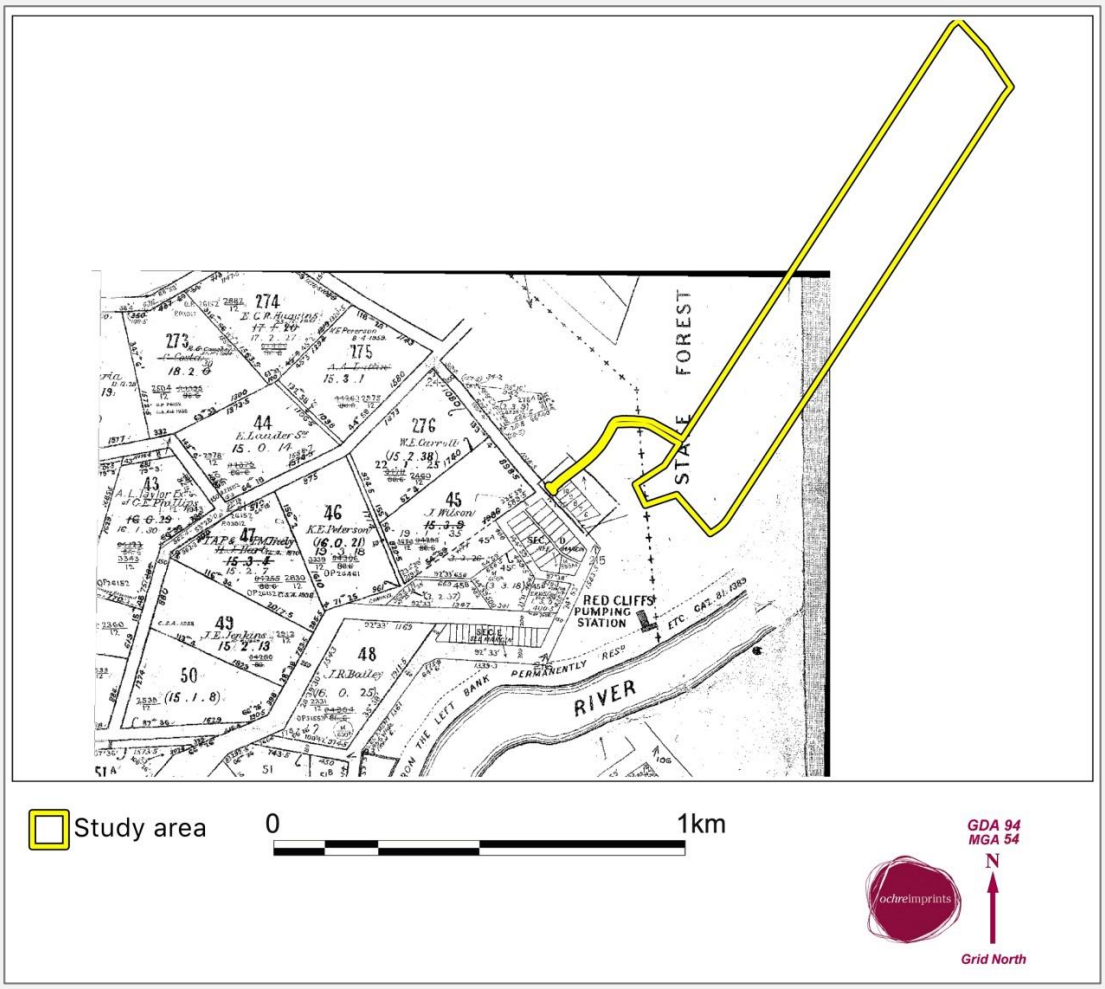

Figure 6 – c. 1970 Put-away plan showing the pumping station in much the same configuration (M566 – W3).

The examination of plans held at the Public Records Office has not resulted in the discovery of any evidence of the pumping station itself or pumping station-associated structures overlapping with the activity area.

1.2 Karadoc Woolshed

No plans showing the location of the Karadoc woolshed were found. Additional historical research has, however, confirmed that the woolshed was located in virtually the same position as the later pumping station. In 1920, when the Red Cliffs irrigation settlement was in the planning stages, *The Argus* recorded that the pumping station was 'to be erected on the site of the Caradoc woolshed' (24/2 1920: 8). On the 9th of March 1920 *The Mildura Telegraph and Darling and Lower Murray Advocate* reported on a tour of inspection when, 'on arriving at Karadoc woolshed the party stopped and Mr Kenyon pointed out the proposed site for the pumping station' (p.9). On the 22nd of May *The Mildura Cultivator* reported that the writer drove 'up by the fast-disappearing woolsheds, past the tents and cottage, on the cliffs'; he reported that 'the last

portions of that familiar landmark, "The Woolshed," were being pulled down … to be carted over [to Red Cliffs] and converted into a big accommodation house' for settlers (p.4). On 18 March 1921, after the woolshed had been moved, the *Sunraysia Daily* reported that 'The pumping station will occupy almost the exact site of the old Karadoc Woolshed' (p.2).

The location can be confirmed and further refined by an article in 1924 describing the route of the Kulkyne Road:

> When one follows today the Murray frontages road to Kulkyne, after leaving Mildura and crossing Karadoc flats, one sees, exactly where the picturesque woolshed stood at the near end of the up-to-date pumping plant … [*Sunraysia Daily*, 17/5/24: 1]

This description indicates that the woolshed was located to the north-west of the pumping station building, which places it probably outside HO168 and definitely outside the study area.

Conclusion

No evidence that the Red Cliffs pumping station or the Karadoc woolshed or associated structures existed within the study area was found during the additional historical research undertaken in the Public Records Office Victoria. This has confirmed the tentative findings of the original due diligence that 'all known infrastructure related to the pumping station is located outside the study area'.

There remains the possibility that material associated with the pumping station construction (for example, the remains or workers camps) or other activities, or associated with early rural industries exists in the study area. The historical heritage recommendations made in the due diligence report do not require any change as a result of this additional research and address the risk of proposed works potentially harming as yet unidentified historical heritage.

References

Newspapers

The Age 2/1/1924

The Argus 24/2 1920

The Mildura Cultivator 22/5/1920

The Mildura Telegraph and Darling and Lower Murray Advocate 9/3/1921

Sunraysia Daily 18/3/1921, 17/5/1924

Maps - PROV

PROV VPRS 8168/P5 RUN 343 Wimmera District Sheet 6

PROV VPRS 8168/P5 Murray 46 Murray River from Olney to Carwarp

Put-away plans (Victorian Land Registry Services, LANDATA)

M556-10-5

M556-U-5

M556-W-1

M566 – W3

Unpublished Reports

Kapteinis, K and Gilchrist, A. 2021. Transmission Line: EnergyConnect (Victorian Section), Red Cliffs. CHMP 17314. Unpublished report to NSW Electricity Networks Operations Pty Ltd (referred to as TransGrid).