EXTENT

PROSPECT RAW WATER PUMPING STATION

PROSPECT RESERVOIR

Statement of Heritage Impact

Prepared for WaterNSW

September 2024 — Final

SYDNEY
MELBOURNE
BRISBANE
HOBART

PEOPLE CENTRED HERITAGE

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1. INTRODUCTION

1.1. Project description

Extent Heritage Pty Ltd (Extent Heritage) have been engaged by WaterNSW to prepare a Statement of Heritage Impact (SOHI) for the installation of electrical equipment, and maintenance of piping and water drainage systems at Prospect Raw Water Pumping Station (PRWPS or "the study area"), located within the State heritage listed curtilage of Prospect Reservoir (SHR #01370). The purpose of this report is to analyse the proposed works and the potential impacts on the heritage significance of Prospect Reservoir.

1.2. Methodology

The methodology used in the preparation of this SOHI is in accordance with the principles and definitions as set out in the guidelines of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS, 2013) and the latest version of the *Statement of Heritage Impact Guidelines* (Department of Planning and Environment, 2023). This SOHI will review the relevant statutory heritage controls, assess the impact of the proposed works to PRWPS, and make recommendations as to the level of impact. This report specifically relates to built heritage and historical archaeology, and includes recommendations and conclusions drawn from the impact assessment.

This SOHI references the *Prospect Reservoir Conservation Management Plan 2021* (Prospect Reservoir CMP 2021) prepared for WaterNSW by EMM Consulting throughout with regards to significance assessment and conservation and management policies. This CMP was prepared for WaterNSW owned land only.

Where relevant this report also references the *Prospect Reservoir Site, Draft Conservation Management Plan 2004* prepared by Sydney Water Corporation for Sydney Water owned land.

1.3. Limitations

The historical overview provides sufficient background information to provide an understanding of the place in order to assess the significance of the PRWPS and provide relevant recommendations, however, it is not intended as an exhaustive history of the PRWPS.

A site inspection was undertaken to the PRWPS on 10 July 2024. The site visit was intended as a visual study only. All images contained in this document were taken by Extent Heritage staff members on 10 July 2024, unless stated otherwise.

This report does not include an assessment of Aboriginal heritage or archaeology.

1.4. Authorship

The following staff members at Extent Heritage have prepared this SOHI:

- [redacted], Senior Heritage Advisor
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- [redacted], Senior Heritage Advisor

This report was reviewed by Kim Watson, Associate and Dr Madeline Shanahan, Director.

1.5. Terminology

List of definitions

Term	Meaning
Consent authority	The person or body with whose approval that act, matter or thing may be done or without whose approval that act, matter or thing may not be done.
Conservation	Conservation means all the processes of looking after a place so as to retain its cultural significance (as defined in *The Burra Charter*).
Development	The erection of a building, carrying out work, use of or subdivision of land.
Heritage significance	Term used in the assessment and understanding of heritage items that have significance in relation to their historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value.
Moveable heritage	A moveable object that is not a relic.
National construction code	A code that sets minimum requirements for design, construction and performance of buildings, as well as plumbing and drainage systems throughout Australia.
Relic	Any deposit, artefact, object or material evidence that is of state or local heritage significance.
Setting	The area around an item, which may include the visual catchment.
State Heritage Inventory	An online database containing heritage items and conservation areas on statutory lists in NSW. This includes the State Heritage Register and local government items.
State Heritage Register	The NSW State Heritage Register. A list of places and items of importance to the people of NSW. Only places of state heritage significance are listed on the State Heritage Register. The State Heritage Register protects these items and their significance.

Term	Meaning
State Heritage Register item	A term to describe a heritage item that is of state heritage significance and is listed on the State Heritage Register.

List of abbreviations

Abbreviation	Meaning
CMP	Conservation Management Plan
DA	Development application
DCP	Development Control Plan
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
EP&A Act	*Environmental Planning and Assessment Act 1979*
HCA	Heritage Conservation Area
Heritage Act	*Heritage Act 1977* (NSW)
LEP	Local Environmental Plan
LGA	Local Government Area
NSW	New South Wales
PRWPS	Prospect Raw Water Pumping Station
S170 Register	Section 170 State Agency Heritage and Conservation Register
SEPP	State Environmental Planning Policies
SHI	State Heritage Inventory, NSW
SHR	State Heritage Register
SOHI	Statement of Heritage Impact

2. THE HERITAGE ITEM

2.1. Site description

PRWPS is located along the southern bank of Prospect Reservoir, to the west of the existing water filtration plant. The Reservoir is situated across the suburbs of Prospect, Wetherill Park, and Horsley Park, and falls within boundaries of three local government areas (LGAs), Blacktown, Cumberland, and Fairfield. The PRWPS is located in the suburb of Horsley Park, and within the Fairfield LGA. The study area is legally defined as part of Lot 1 DP 1188302 and part of Lot 1 DP 1062694. The nearest public roads to the PRWPS are Ferrers Road to the south-west and Chandos Road to the south.

The Prospect Reservoir CMP divides the WaterNSW owned areas into six precincts that reflect the function and geographic location of each built element. The PRWPS is located within Precinct 1 – Inlet (Upper Canal). The precinct is characterised as an area to the south west of Prospect Reservoir that covers the Upper Canal and its associated elements as well as more recent Pumping Station and Recirculation Outlet structures, all managed by WaterNSW (EMM 2021, 40).

Figure 1 below shows the study area. The approximate boundary of the site has been indicated in blue; the individual components of the study area are as follows:

1. Maximum extent of excavation for new switchgear
2. Wet-well
3. Site building and office
4. Existing transformers
5. Site parking
6. Possible laydown areas

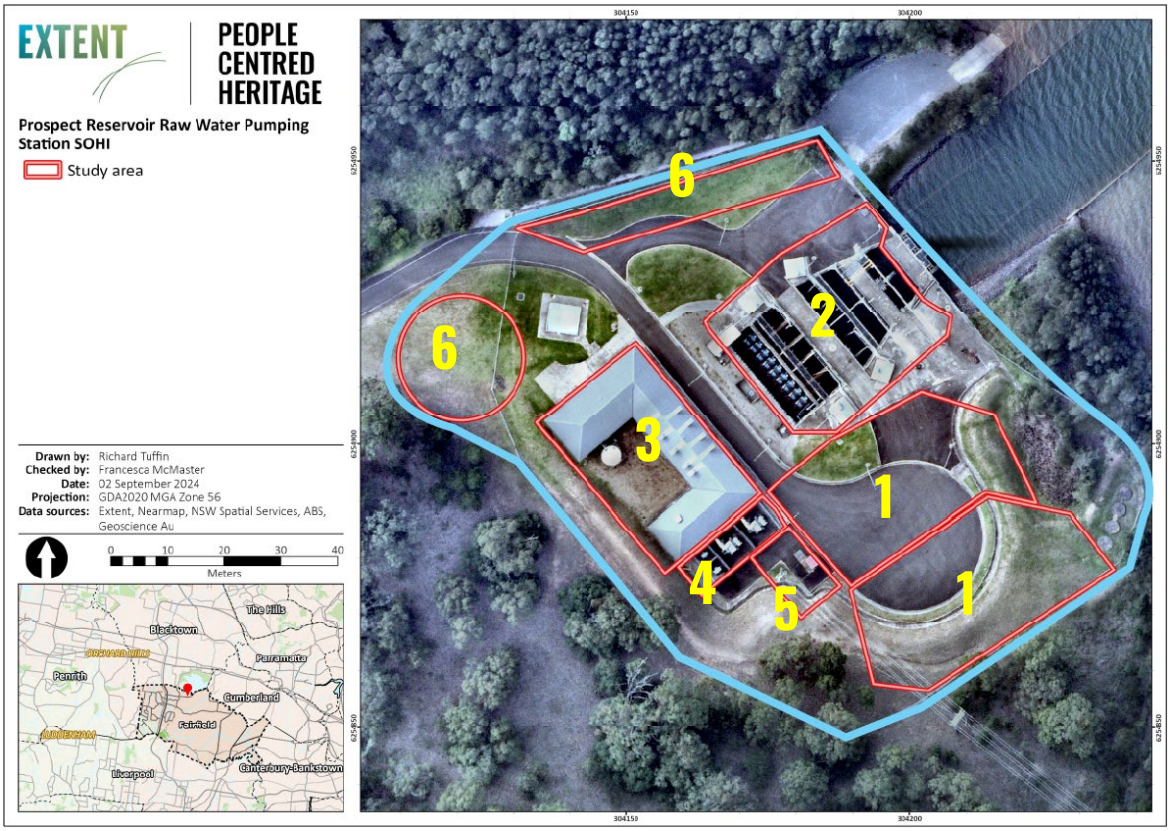


Figure 1. PRWPS study area. Site boundary indicated in blue. *Source:* Nearmaps with Extent Heritage overlay.

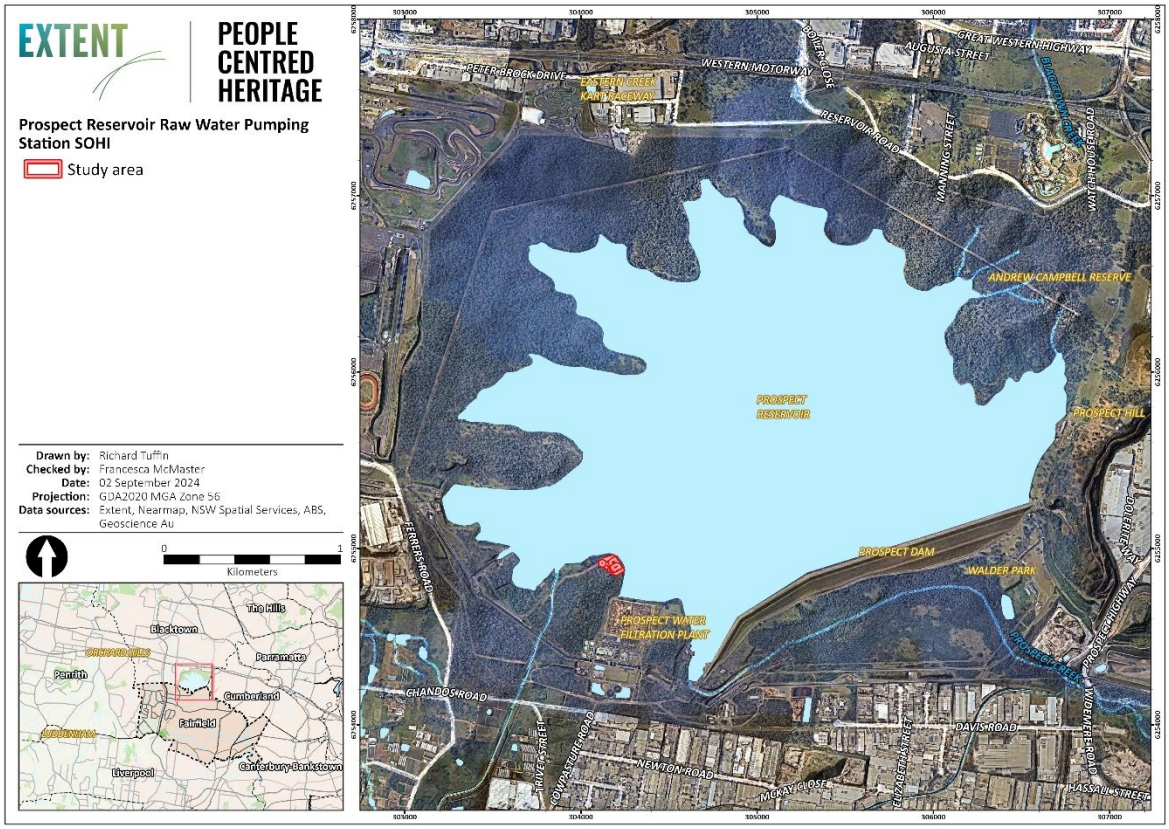


Figure 2. PRWPS study area in relation to Prospect Reservoir. *Source:* Nearmaps with Extent Heritage overlay.

2.2. Heritage listings

PRWPS is located within the curtilage of the State heritage listed Prospect Reservoir. The below table summarises the listings for Prospect Reservoir that PRPWS falls within the curtilage of.

Table 1. Summary of heritage status.

Register/listing	Item listed (Y/N)	Item name	Item number
Statutory listings			
State Heritage Register	Y	Prospect Reservoir and surrounding area	01370
		Prospect Reservoir Valve House	01371
		Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)	01373
WaterNSW Section 170 Heritage and Conservation Register	Y	Upper Nepean Scheme (including Upper Canal and Prospect Reservoir)	4580004
		Upper Nepean Scheme – Prospect Reservoir	4580067
Cumberland Local Environmental Plan 2021	Y	Prospect Reservoir and surrounding area	I01370
		Prospect Reservoir and surrounding area	A01370
State Environmental Planning Policy (Precincts – Western Parklands City) 2021	Y	Prospect Reservoir and surrounding area	4
		Spotted Gum forest	5
Non-statutory listings			
Register of the National Estate (defunct)	Y	Prospect Reservoir Area	101536
Register of the National Trust (NSW)	Y	Prospect Reservoir	-

2.3. Heritage items in the vicinity

PRWPS is also located within the vicinity of the following heritage items:

Item Name	Address	Register/listing	Item Number
Veteran Hall – House Remains	Great Western Highway, Prospect	State Heritage Register	01351
Prospect Reservoir Valve House	East of Reservoir, Prospect		01371
Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)	Prospect		01373
Group of Hoop Pines	Corner of Chandos Road and Trivet Street	State Environmental Planning Policy (Precincts – Western Parklands City) 2021	6
Upper Canal System	Pheasants Nest Weir to Prospect Reservoir		7
Veteran Hall (house remains)	Great Western Highway		17
Prospect Reservoir valve house	East of reservoir		18

Figure 3. State Heritage curtilage for Prospect Reservoir. *Source*: Heritage NSW.

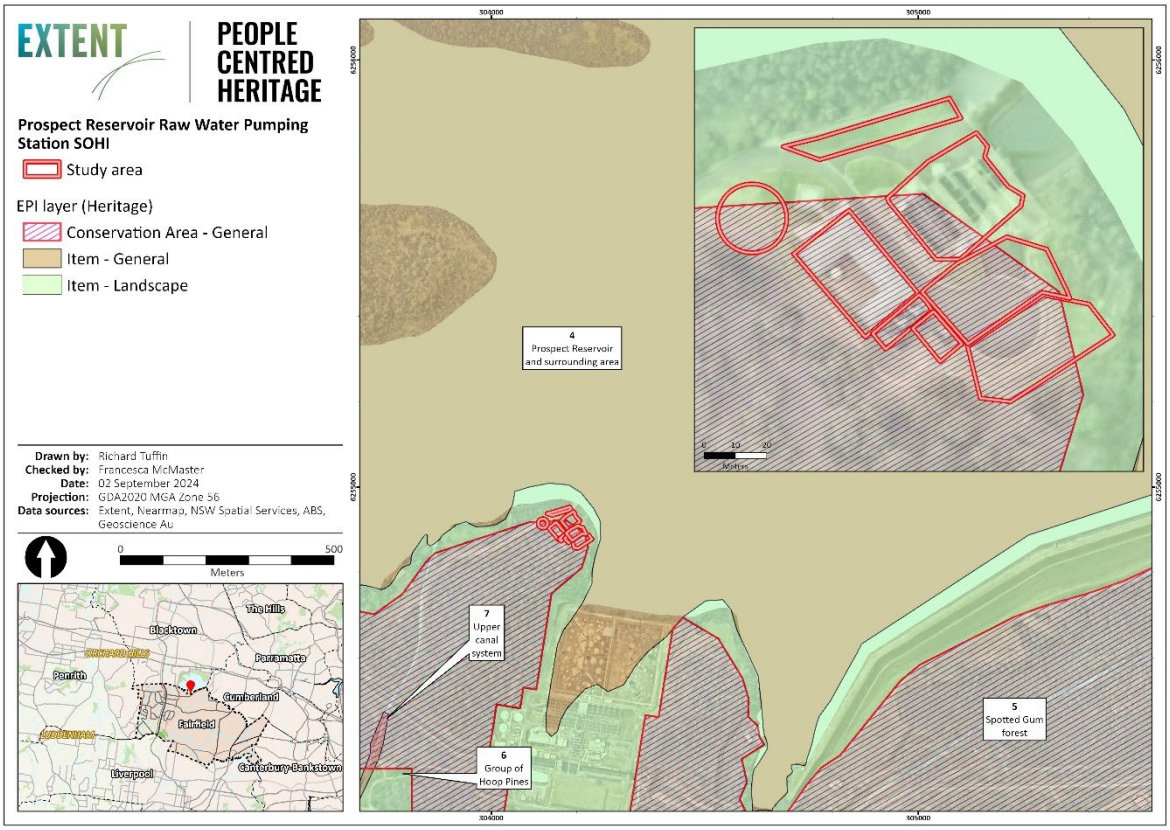


Figure 4. Local heritage items in the vicinity of the study area. *Source:* NSW Planning Portal Spatial Viewer.

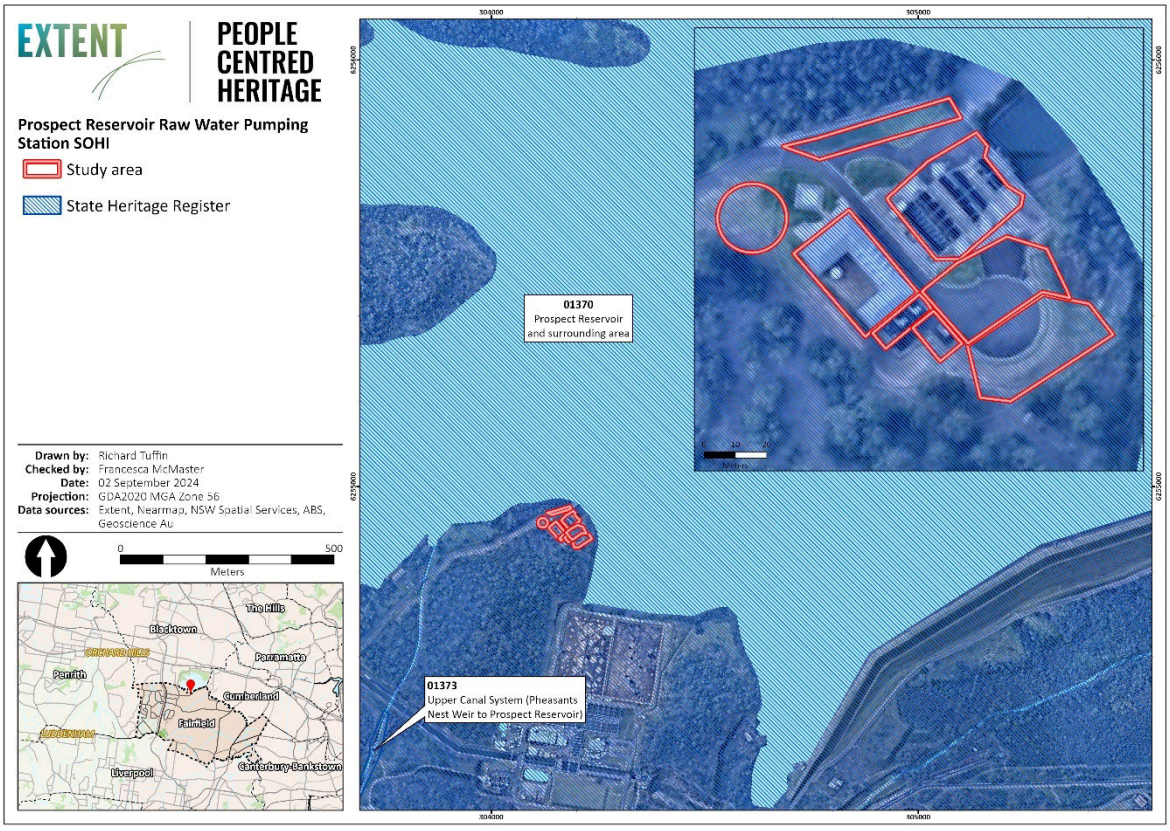


Figure 5. SHR area with study area marked. *Source*: NSW Planning Portal Spatial Viewer.

3. SITE SUMMARY HISTORY

The following historical overview has been drawn from the Prospect Reservoir CMP (EMM 2021) and provides context to the built heritage and archaeological significance of the study area, however it is not intended as an exhaustive history of the PRWPS. It provides a rationale for historical developments in the area and assists in identifying archaeological potential within the study area.

3.1. The local area

Prospect was one of the first areas explored by the British through an exploration party led by Governor Arthur Phillip in April 1788. Prospect Hill is a prominent basalt outcrop, and soils weathered from this basalt cap are richer than the sandstone derived soils of most of the Cumberland Plain. At the time when settling was in a rather experimental stage, this area of relatively high expected agricultural output was chosen by Governor Phillip as the site for a number of relatively small land grants. In July 1791, some twenty land grants for farm use were allocated near Prospect Hill, mostly on its eastern and southern slopes.

The most notable original grants covering the area of Prospect Reservoir were those made to well-known explorer William Lawson (500 acres) and John Brabyn (1200 acres). The study area mostly covers land granted to Brabyn and partially covers land granted to John Hall Junior, both in 1819 (Figure 6).

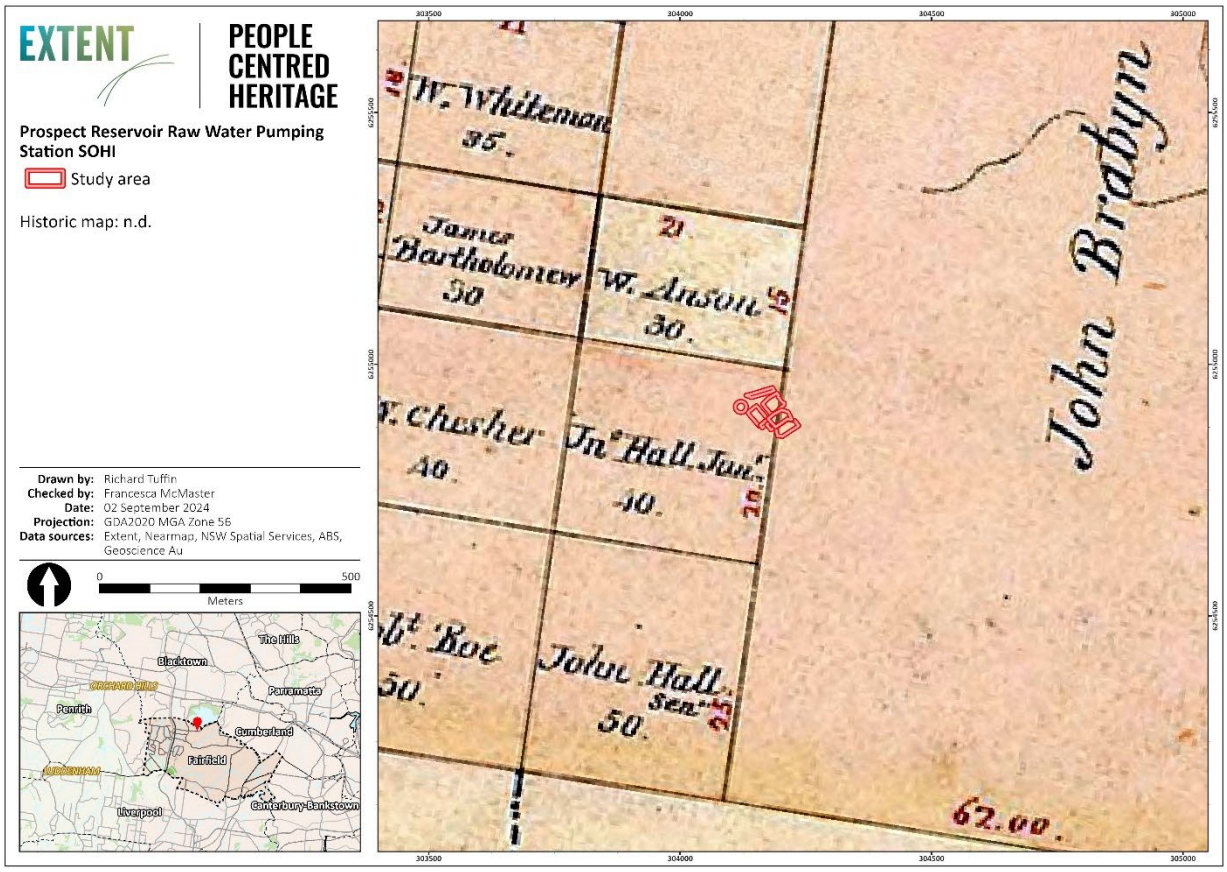


Figure 6. Undated parish map with the study area marked indicating its location within John Brabyn and John Hall Junior's grant. The grants were given in 1819 so the parish map is therefore dated to post-1819. *Source:* HLRV.

The majority of the smaller grants in the local area were made to emancipated convicts, with some seamen and free settlers. Twenty-nine of these grants comprise the area now occupied by Prospect Reservoir. The smaller grants were often on less productive acreages and thus, in the longer run, more likely to prove non-viable and be absorbed by the adjacent large land holdings. As an illustration, the Lawson's estate, which comprised about 500 acres in the 1840s, swelled to 2144 acres before it was included in the Prospect Reservoir site from 1881.

The settlement at Prospect Hill was varying in its success. Most of the land subject to the 1790s grants had been cleared for agricultural purposes by the 1820s and was used for cereal cultivation for the next 50 years. By the 1860s however, the Cumberland Plain had lost its predominance in wheat production. It appears that in the latter half of the nineteenth century the Prospect Reservoir site was used for grazing and stock holding paddocks. By the 1880s much of the land around Prospect Hill had been amalgamated into larger land-holdings. The twenty-nine original grants had been reduced to ten estates.

Numerous quarries were also operating in the wider area in the late nineteenth century. This activity expanded in the 20th century and quarrying and grazing were the key activities undertaken in the area around Prospect Reservoir throughout this period.

3.2. The Upper Nepean Scheme and Sydney's Water Supply

Until the 1860s, Sydney's water was sourced from the Tank Stream, Busby's Bore, and Botany Swamps. By 1867, increasing population and pressures of drought necessitated a Commission appointed by the Governor Sir John Young to recommend a scheme for a reliable and efficient water supply (Aird 1961). In 1869 the Commission recommended the Upper Nepean Scheme, utilising the waters of the Nepean River and its tributaries (the Cataract, Cordeaux and Avon Rivers) to the south of Sydney.

The scheme proposed diverting the flow of the four rivers high up in the sandstone plateau inland from the Illawarra escarpment to Sydney (Prospect Reservoir) via a system of gravity fed tunnels, aqueducts, canals and pipelines (known as the Upper Canal). In principle it was modelled on similar schemes elsewhere in the Western world, but the sheer size and the audacious engineering effort required to construct it, in an outpost colony not yet 100 years old, made it an outstanding proposal. For the then foreseeable future the scheme promised an almost unlimited supply of water, of far greater quality than the Busby's Bore and Botany supplies, which were becoming contaminated due to the progressive encroachment of urban and industrial developments into the catchments (Cullen 1995, 29).

After a lapse of six years during which no decision was made and a number of alternative proposals were circulated, the government decided to engage an eminent English civil engineer, W. Clark, to review the various proposals. Clark arrived in November 1876, and after reviewing eight schemes, strongly endorsed the Upper Nepean Scheme in May of 1877.

An Appropriation Act was passed in July of 1880 and work on the Upper Nepean Scheme, including Prospect Reservoir commenced in the same year. Construction was carried out by contractors under the direction of the Harbours and Rivers Branch of the Department of Public Works, the head of which was Edward O. Moriarty. Moriarty contributed a great deal to public engineering works of the time and was responsible for both the design and execution of the works, along with a number of engineers who worked for him. His signature appears on most of the plans of the Scheme (Higginbotham 1992, 3-4).

Work proceeded as rapidly as possible once contracts were let, but due to continued dry seasons, by June of 1885 there were only ten days supply remaining in the Botany Swamps. An emergency scheme (The Hudson Brother's Temporary Scheme) was put in place within six months and provided 13,000 megalitres per day. It involved:

- substituting inverted siphons, made from cast iron 30 inch pipes, for the missing aqueducts;
- laying a similar main across the floor of Prospect Reservoir;
- constructing an elevated flume in corrugated iron, on hydraulic grade, from the lower end of the Lower Canal to Campbells Hill south east of Guildford;
- a 30 inch main from there to Potts Hill; and
- a pipeline, of various types of pipes, along the Cooks River valley discharging into the Engine Pond at Botany, thence by the existing system to Crown Street reservoir.

The temporary scheme was in use between 1886 and 1888, and was abandoned and dismantled on completion of the Upper Nepean Scheme.

Initially the Upper Nepean Scheme was a 'run of rivers' scheme because there was virtually no storage behind the Pheasant's Nest and Broughton's Pass weirs. When the Upper Nepean Scheme was completed in 1888, Prospect Reservoir was Sydney's main storage dam. An outstanding feature of the Upper Nepean Scheme as originally envisaged and constructed however, was its potential for progressive development.

Immediately after the completion of the Scheme in 1888, drought and population growth necessitated its further development. This was implemented over a period of nearly fifty years by the construction of major storage dams on the Cataract, Cordeaux, Avon and Nepean Rivers. The provision of these major storage dams changed the role of Prospect Reservoir from being Sydney's first storage reservoir to that of being a vital service reservoir to cover the daily fluctuations of demand in the distribution system (Higginbotham 1992, 23-24). The system was further expanded with the construction of the Warragamba Emergency Scheme in the 1930s, Warragamba Dam in 1960 and Tallowa Dam in 1977.

The Upper and Lower Canals continued their role as the main arteries of the system until the late 1990s, when the Lower Canal was filled in and water from the Upper Canal and Warragamba pipeline was diverted through the Prospect Water Filtration Plant and then on to Pipe Head. Prospect Reservoir was also taken offline at that time and now acts as an emergency backup.

3.3. Establishing Prospect Reservoir

Prospect Reservoir was commenced in 1881 and completed in 1888 as the only storage reservoir in the original Upper Nepean Scheme. It was for many years the major storage dam for Sydney's Water Supply. The original components constructed at the Reservoir site were:

1. An earth dam with a crest length of 7300 feet (approximately 2.2km) consisting of a puddled clay core with shoulders of earth placed in layers 12 inches thick and compacted by rolling with a stone roller of irregular circumference (Pincott's Roller). The upstream face of the dam wall pitched with locally quarried diorite blocks 18 inches thick as protection against wave action. Prospect Reservoir was described by Professor W.H. Warren while the works were still in progress during first meeting of the Australasian Association for the Advancement of Science, held in Sydney in August and September 1888, as follows:

> The water slope is pitched with diorite blocks 18-inch (457mm) deep. The puddle wall is carried down from a distance of about six feet (1.83m) below the top of the bank to the solid shale and is eight feet (2.44m) wide at the top, battering one in eight outwards to ground level, and inwards below the ground level to the shale foundation; it is protected on each side with selected materials, consisting of red and white clay rammed in six layers six inches (152mm) deep sloping 1 in 12 downwards towards the puddle-wall. The remainder of the dam wall consists of similar materials sloping in a similar manner

towards the puddle-wall but rammed in layers 12 inches (305mm) deep (Warren quoted in Henry 1939:59-60);

2. A spillway at the western end of the dam wall with an access bridge over it, possibly associated with the transport of materials during construction;
3. A brick and stone outlet tower (Upper Valve House) to draw water from the dam and feed it through pipes laid in a brick-lined tunnel to the Lower Valve House;
4. The brick and stone Lower Valve House, which controlled the discharge of water into the Lower Canal; and
5. The interconnecting tunnel and pipeline between the outlet tower and valve, routed in a large U running into the hillside and back out again, to skirt around the end of the dam wall. The tunnel is cross-circular in section, and according to drawings is 12 feet (3.7 m) inside diameter. The main tunnel carries a pair of 48 inch (1.2 m) diameter cast-iron pipes laid side-by-side in the bottom half of the tunnel, with a narrow cat-walk between them. (Doring 1993, cited in Cullen 1995, 53).

The end of the Upper Canal and the beginning of the Lower Canal also fall within the boundary of the Reservoir site. All original components of the inlet, storage and outlet system have survived and most (excluding the scour valves and some of the flow monitoring equipment) are still in working order. There have however been modifications and additions to the system over time. Following completion of the reservoir, the study area was situated on a finger of land, close to the waterline. No reservoir infrastructure was constructed within the study area until 2007 when the PRWPS was built.

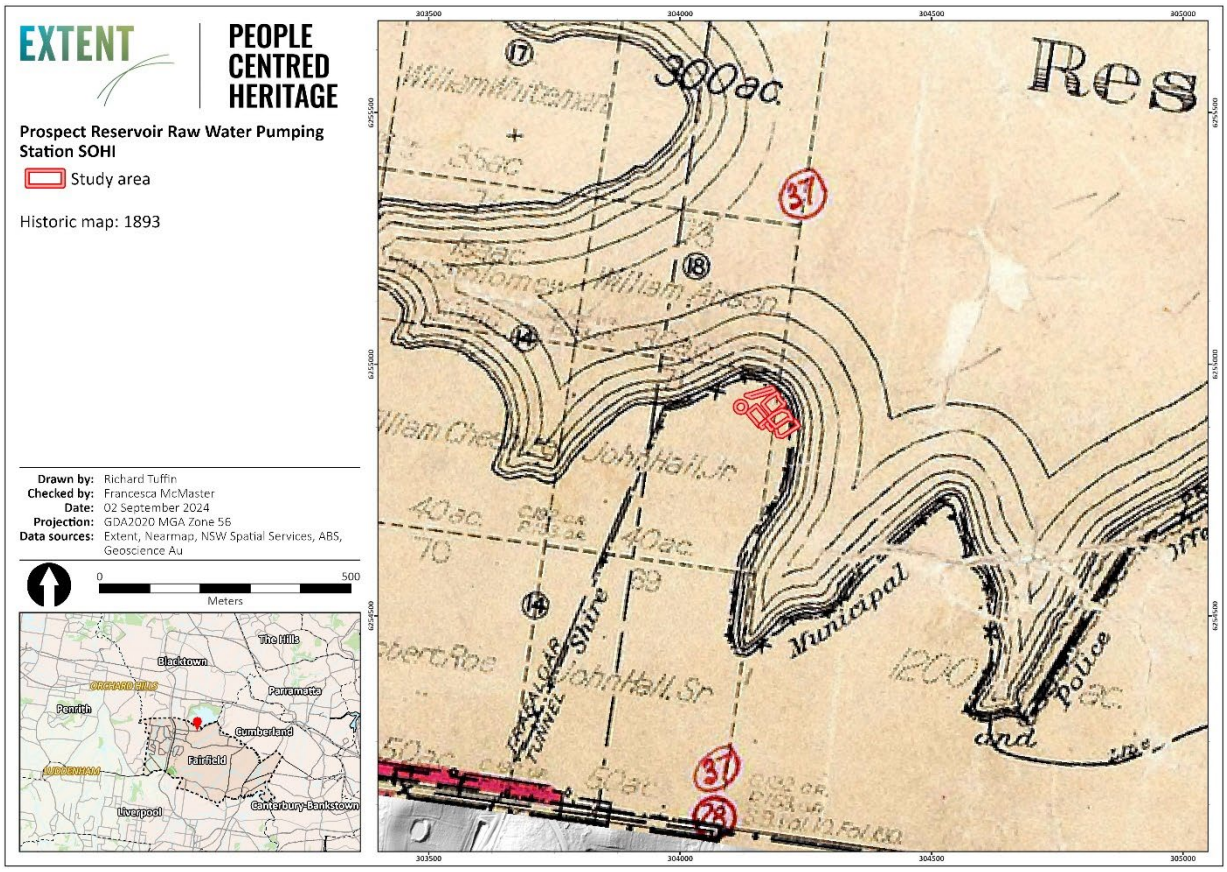


Figure 7. The study area following construction of the reservoir, shown on the edge of the waterline. *Source:* HLRV.

3.4. Study area

PRWPS sits over the border of two land grants, one to John Hall Junior who was granted 40 acres, and one to John Braybyn who was granted 1200 acres. Both grants were given in August of 1819. As a condition of both grants, a certain portion of the land was to be cultivated, 12 acres in Hall Junior's case and 75 acres in Braybyn's case (HLRV Serial Number 11, Page Number 144; HLRV Serial Number 11, Page Number 163). This, in addition with both grants being referred to as "Hall Junior's Farm" and "Braybyn's Farm" on neighbouring grants, suggests that the land was used for agricultural purposes with no indication of structures being built within the study area at this time. (HLRV Serial Number 11, Page Number 145).

In 1881, both grants were resumed by the Department of Public Works to allow for the construction of Prospect Reservoir. Aerial images dating from 1930-2005 show the land remaining unused until the construction of PRWPS in 2007.

Table 2. Timeline summary.

Date	Event
1819	Land granted to John Hall Junior and John Braybyn
1881	Land resumed by Department of Public Works
1888	Completion of Upper Canal. Completion of Prospect Reservoir dam wall, and flooring of Prospect Reservoir
1907	Completion of Cataract Dam
1926	Completion of Cordeaux Dam
1927	Completion of Avon Dam
1935	Completion of Nepean Dam
1930s	Conversion of Prospect Reservoir as service reservoir
1960	Completion of Warragamba Dam
1998-99	Lower Canal filled in, and Prospect Reservoir converted to back-up water supply
2007	Construction of PRWPS

4. PHYSICAL ANALYSIS

Extent Heritage carried out a physical assessment of the PRWPS on 10 July 2024. The analysis involved an investigation into the built form and setting. It does not provide a detailed investigation of all fabric, but an overview of the elements of the place to assist in determining significance.

4.1. Landscape and setting

The PRWPS is located on the southern embankment of Prospect Reserve, on a small headland area surrounded by a dense bushland to the east, west and south. Owing to the location of the PRWPS within Prospect Reservoir and surrounding vegetation, views to the item are limited to within the immediate operational context and from across the reservoir. In areas accessible to the public, PRWPS is read as an operational element within the reservoir landscape, linking to the nearby Prospect Water Filtration Plant.

Figure 8. View of Prospect Reservoir from behind fence at PRWPS, facing north-east.

Figure 9. View of entry road into the PRWPS, facing south-west.

Figure 10. View of surrounding dense bushland, facing south-east.

Figure 11. View of surrounding dense bushland, facing south.

4.2. PRWPS

PRWPS is located within Precinct 1 – Inlet (Upper Canal), and includes the following operational elements:

- The wet-well and dry-well, and associated piping and structures;
- A U-shaped, single storey rendered building, with a hipped corrugated metal roof and minimal façade openings, which houses the switchboard and variable speed drives, along with functioning as an office;
- Electrical transformers located adjacent to the building, fenced off;
- An entry road and large cul-de-sac;
- A steep embankment surrounding the building and cul-de-sac; and
- A wire-mesh fence surrounding the PRWPS.

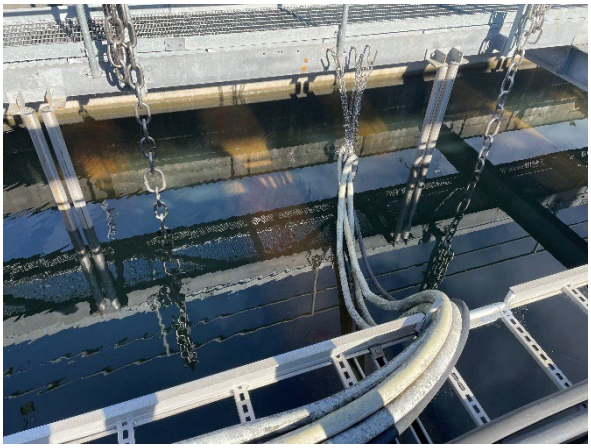


Figure 12. Close view of wet-well showing submerged piping.

Figure 13. View of wet-well, facing west.

Figure 14. View of structures associated with wet-well, facing north.

Figure 15. View of structures associated with wet-well, facing east.

Figure 16. View of structures associated with wet-well from beyond mesh-wire fence surrounding PRWPS, facing south.

Figure 17. View of site building from beyond mesh-wire fence, facing south-west.

Figure 18. View of site building, facing west.

Figure 19. Close view of site building, facing south.

Figure 20. Overview of study area, showing site building, substation and embankment, taken from atop embankment facing north-west.

Figure 21. Overview of study area, showing wet-well and associated structures, and embankment, taken from atop embankment facing north.

Figure 22. View of cul-de-sac and embankment, taken from atop embankment facing north-east.

Figure 23. View of embankment, taken from atop embankment facing east.

5. SIGNIFICANCE

5.1. Summary Statement of significance

The following summary statement of significance is quoted from the Prospect Reservoir CMP prepared by EMM Consulting (2021).

> Prospect Reservoir has STATE heritage significance.
>
> It is an integral operational component of Upper Nepean Scheme..., which has supplied most of Sydney's water since 1888. The Scheme represents a key phase in the development of water supply technology and engineering not only in Australia but globally. It is an excellent example of late nineteenth century hydraulic engineering, supplying a large area of Sydney by gravity feed. Prospect Reservoir derives much of its significance from its function as part of this system.
>
> At the time of its construction, Prospect Reservoir was Sydney's main storage dam. The site retains all its original components, the majority in working order. Apart from augmentation and development in supply and delivery, both the Upper Canal and Prospect Reservoir still function as originally envisaged. The Reservoir site also contains evidence of responses to three periods of significant water shortage in Sydney: the Hudson's Emergency Scheme (1880s); the Warragamba Emergency Scheme (1930s) and the raw water pumping station (2007). The dam itself is a pioneering example of earth clay-core construction. The valves in the Upper Valve House appear to be one of the few surviving examples in the world of this type and size still in situ. The spillway appears to be the earliest surviving example at a dam in NSW. The aesthetic qualities of the waterbody and the historic infrastructure are enhanced by retention of the original bushland setting of the site.
>
> Prospect Reservoir along with the rest of the Upper Nepean Scheme, was an outstanding achievement in civil engineering at the time it was developed. The Reservoir itself is a benchmark site for nineteenth century water supply infrastructure, because the original system is so intact and remains functional.
>
> The site as a whole represents the key phases of modifications within the Sydney water supply network from the 1880s to the present day. The moveable heritage within the valve houses, associated with the operation of the scour outlet system and the original water supply to the Lower Canal enhance the ability of the site to demonstrate its historic use and operation.

5.2. Gradings of significance

Graded levels of significance are a management tool used to assess the relative significance of elements within an item, place or site and to assist in decision-making regarding elements of a place. The gradings of significance that have been used for elements within the study area are based on guidelines established in *Assessing Heritage Significance* (Department of Planning and Environment 2023a, 19).

Table 3. Gradings of significance definitions. *Source*: NSW Heritage Office (2001).

Grading	Justification
Exceptional	Rare or outstanding element directly contributing to an item's local and State significance.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.
Little	Alterations detract from significance. Difficult to interpret.
Intrusive	Damaging to the item's heritage significance

The Raw Water Pumping Station is identified as being of **Little** heritage significance in the 2021 CMP. The significance assessment for the element states that it is a 'Contributory item as evidence of a third period of response to significant water shortage in Sydney'.

6. PROPOSED WORKS

6.1. The proposal

The proposed works are documented in the WaterNSW Plans PL2022-810 – Revision A (Figure 35) and PLG-WCM2250SS-HV (Figure 36) and described below.

Power Supply

The proposal will see the partial excavation of the embankment, and construction of a concrete slab to allow for the installation of two new 11kV RMU Kiosks and two new 1.5MVA generators, along with the installation of associated switchboards and cabling, and the replacement of existing auxiliary transformers. As PRWPS relies on mains power, this additional power supply will ensure that the PRWPS is supported should the existing power supply fail.

The replacement of the existing auxiliary transformers is required, as a recent condition assessment revealed that both transformers were in poor condition, at the end of their serviceable life, and posed a potential hazard risk.

Figure 24. View of embankment showing area of excavation for construction of concrete slab and installation of generators, facing north-east.

Figure 25. View of embankment showing area of excavation for construction of concrete slab and installation of generators, facing south-west.

Figure 26. View of embankment showing area of excavation for construction of concrete slab and installation of 11kV RMU Kiosks, facing south.

Figure 27. Overview of area proposed for construction of concrete slab and installation of generators, showing existing condition of the study area, facing south-east.

Variable Speed Drives

The proposal will see the replacement of nine variable speed drives associated with the nine pumps operating withing the PRWPS. These drives have a life expectancy of 17.5 years, and many components within the drives are approaching the end of their serviceable lives. The proactive replacement of the drives is preferred to a run to failure strategy.

As part of the replacement of the variable speed drives, minor openings are required in the external wall of the site building, to allow for additional air intake and ventilation to the switch room.

Control of Building Drainage

The proposal will see a redesign of the existing drainage roof and ground/surface storm water drainage at the rear of the building. The current subfloor of the switch room is suffering from water ingress and corrosion.

Pipework Repair and Valve Replacements

The proposal will see the pipes within the wet-well cleaned of existing corrosion and repainted and will see nine 800DN pump discharge butterfly and non-return valves within the dry-well replaced.

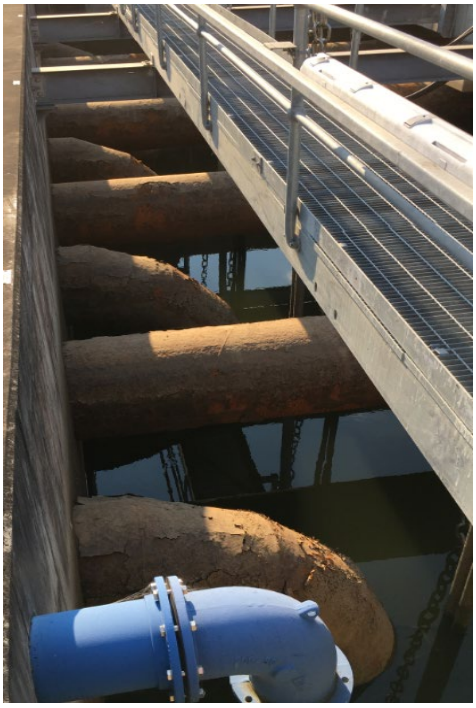


Figure 28 and Figure 29. View of piping within wet-well, showing poor condition of existing paintwork. *Source:* WaterNSW, 2023.

Figure 30. Existing valves within dry-well. *Source:* WaterNSW, 2023.

Laydown Areas

A laydown area will be required during the course of the works. As per Figure 1 in Section 2.1, potential laydown areas have been identified adjacent to the site building and the wet-well.

Figure 31. View of potential laydown area, looking south.

Figure 32. View of potential laydown area, looking south-west.

Figure 33. View of potential laydown area, looking east.

Figure 34. View of potential laydown area, looking east.

6.2. Considerations of alternatives

The above works have adopted a “proactive upgrade” approach to elements in a poor condition at the end of their serviceable lifespan. This method is preferred to a “run to failure” approach, which will result in a series of ad hoc repairs and replacements, at a potentially higher cost. The “proactive upgrade” approach will ensure that the works are completed before plant fails and urgent repairs are required, representing a more cost efficient outcome.

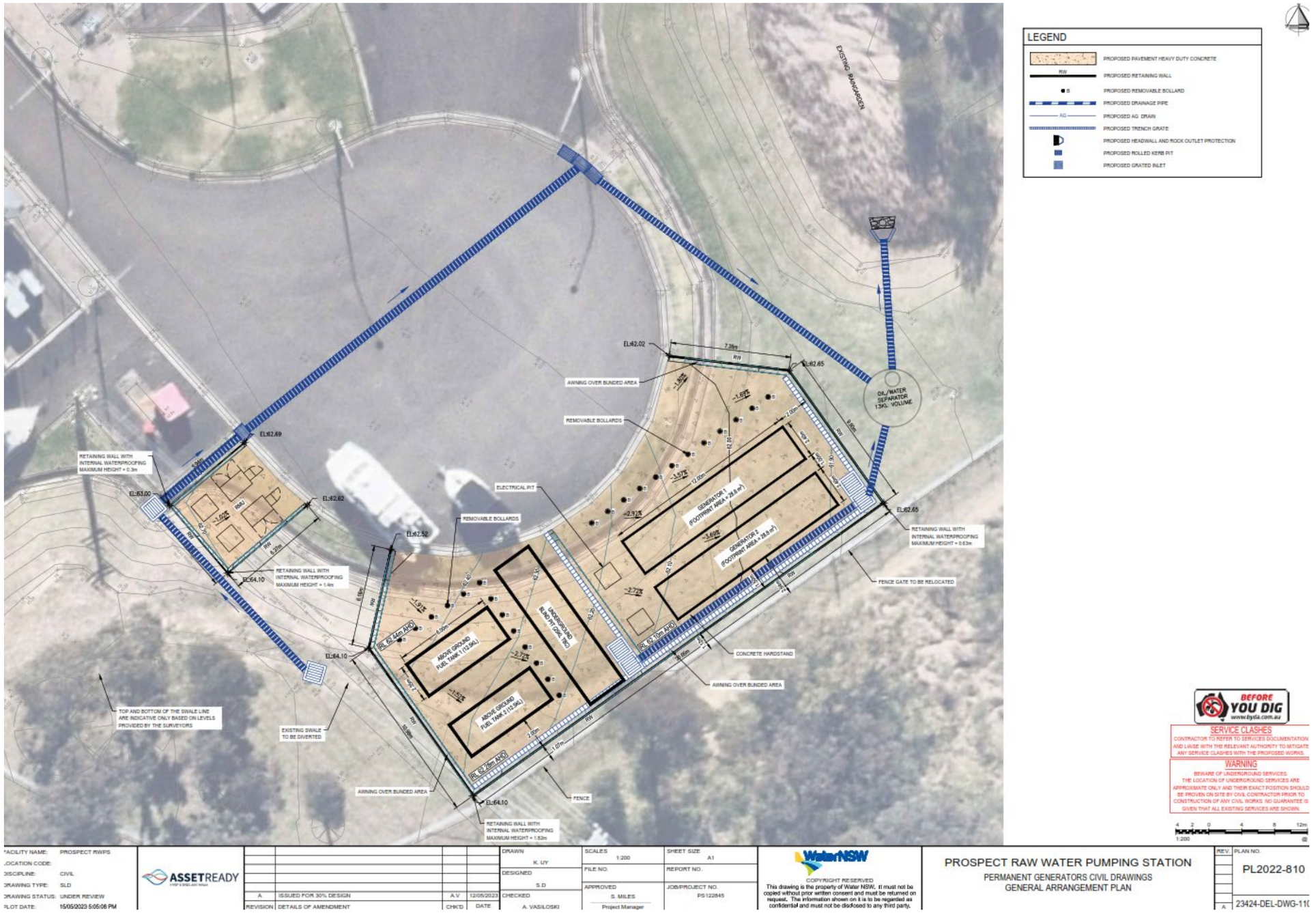
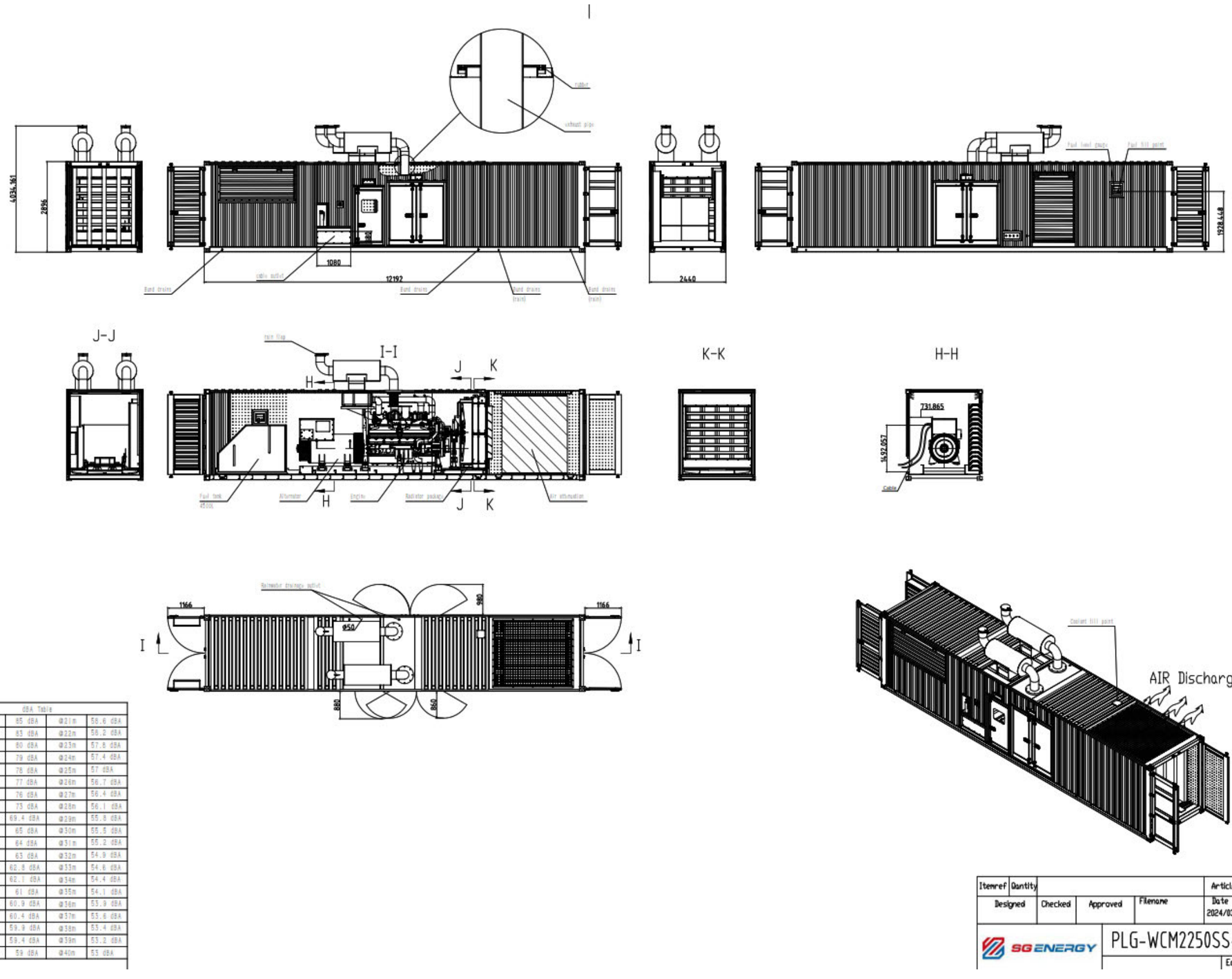


Figure 35. Plans showing proposed location of concrete slab (in orange), generators, and 11kV RMU Kiosks. *Source:* WaterNSW, 2024.



dBA Table			
@1m	85 dBA	@21m	58.6 dBA
@2m	83 dBA	@22m	58.2 dBA
@3m	80 dBA	@23m	57.8 dBA
@4m	79 dBA	@24m	57.4 dBA
@5m	78 dBA	@25m	57 dBA
@6m	77 dBA	@26m	56.7 dBA
@7m	76 dBA	@27m	56.4 dBA
@8m	73 dBA	@28m	56.1 dBA
@9m	69.4 dBA	@29m	55.8 dBA
@10m	65 dBA	@30m	55.5 dBA
@11m	64 dBA	@31m	55.2 dBA
@12m	63 dBA	@32m	54.9 dBA
@13m	62.8 dBA	@33m	54.6 dBA
@14m	62.1 dBA	@34m	54.4 dBA
@15m	61 dBA	@35m	54.1 dBA
@16m	60.9 dBA	@36m	53.9 dBA
@17m	60.4 dBA	@37m	53.6 dBA
@18m	59.9 dBA	@38m	53.4 dBA
@19m	59.4 dBA	@39m	53.2 dBA
@20m	59 dBA	@40m	53 dBA

Figure 36. Plans showing proposed design of generators. *Source:* WaterNSW, 2024.

7. HERITAGE IMPACT ASSESSMENT

This chapter provides an assessment of heritage impact on the significance of Prospect Reservoir as outlined in the *Guidelines for preparing a statement of heritage impact* (Department of Planning and Environment 2023b, 18-20).

7.1. Matters for consideration

Prospect Reservoir is of State heritage significance as an integral component of the Upper Nepean Scheme that represents a key phase of development of water supply technology and engineering. While the PRWPS provides evidence of a third period of response to significant water shortages, it does not make a notable contribution to the wider heritage values of the Reservoir. The upgrades are required to ensure the Reservoir continues to function for its historic purposes as an important reserve water supply for Sydney in the case of an emergency.

Fabric and spatial arrangements	<u>Works to existing fabric</u> All built fabric located within the study area is assessed of little significance. Whilst the PRWPS provides evidence of a third period of response to significant water shortages in Sydney, it is not associated with key periods of historical development. The proposed works to the variable speed drives, valves, transformers, and building drainage will see the removal and replacement of each of these elements; as the area itself, including the site building and all structures associated with the wet and dry wells and pumps, is considered to be of little heritage significance, none of the elements proposed for removal contain fabric associated with the construction of Prospect Reservoir or fabric with any level of heritage significance. As such, the removal and like-for-like replacement of individual plant elements, along with minor penetrations within the site building wall will have no impacts on the heritage significance of Prospect Reservoir. Similarly, the repair works to the piping within the wet-well is routine and required maintenance work that will ensure the continued use of the PRWPS. The works will not impact fabric of any level of heritage significance that is associated with the construction of Prospect Reservoir, and will have a negligible impact on the significance of the Reservoir. <u>New works</u> The proposed construction of a concrete slab and installation of two 1.5MVA generators will have a moderate visual impact within the immediate study area, however, due to the surrounding dense bushland and distance from key elements of significance, the proposed works will have a minimal visual impact on the Reservoir.

	As PRWPS and Prospect Reservoir is an operational site, the generators will read as part of this function, and will be in line with other operational elements in the vicinity, such as the Prospect Water Filtration Plant. This represents a minor amplification of an existing impact. <u>Laydown areas</u> The potential laydown areas that have been identified are located on land that has been previously disturbed during the construction of the PRWPS. Due to this, and the area surrounding the PRWPS being identified as being of little heritage significance, any laydown area located within the boundary of the study area will have little to no impact on fabric of heritage significance. <u>Overall</u> Overall, the works will have an acceptable impact on the significance of the PRWPS and will not impact on any significant fabric or spatial arrangements associated with Prospect Reservoir.
Setting, views and vistas	The proposed works will not impact on any significant views or vistas identified in the *Prospect Reservoir Conservation Management Plan 2021* or the *Prospect Reservoir Site, Draft Conservation Management Plan 2004* prepared by Sydney Water Corporation. The maximum height of the new generators is approximately 4m and the generators will be positioned in a relatively discreet area which is screened by mature vegetation and will be set within the existing embankment rather than placed on top. The proposed works are located in a visually discreet area of Prospect Reservoir that serves a specific operational function and are not visible from the public domain. The key components that contribute to the setting, views and vistas of Prospect Reservoir will not be impacted by the proposal.
Landscape	The proposed works do not impact on any of the landscape heritage items identified in the *Prospect Reservoir Conservation Management Plan 2021* or the *Prospect Reservoir Site, Draft Conservation Management Plan 2004* prepared by Sydney Water Corporation.
Use	The proposed works will ensure the continued use of Prospect Reservoir as a reserve water supply source for the Sydney region. This is in accordance with Policy 7 of the 2021 CMP which states that the use of Prospect Reservoir as part of Sydney's water supply system is the preferred, ongoing management option.
Demolition	The proposed works are restricted to the removal and like-for-like replacement of existing non-significant elements. No demolition of existing buildings or structures associated with the PRWPS is proposed.

Curtilage	The proposed works do not result in a change to the curtilage of Prospect Reservoir; therefore there will be no impacts to curtilage.
Moveable heritage	The study area is considered to be of little heritage significance, and does not contain identified items of moveable heritage. Due to this, and the long distance between the study area and the identified items of moveable heritage located within the curtilage of Prospect Reservoir, there will be no impacts to any items of moveable heritage.
Aboriginal cultural heritage	This report does not include an assessment of impacts to Aboriginal cultural heritage.
Natural heritage	The study area is located within the heritage listed boundary for the Spotted Gum Forest (Item 5) under the *State Environmental Planning Policy (Precincts – Western Parklands City) 2021*. The study area comprises a fenced area which has already been predominantly cleared of vegetation and it is not proposed to remove any trees as part of the proposed works. Where partial excavation of the embankment is proposed, a tree protection zone must be applied to ensure there are no impacts to trees in the vicinity of the works during the construction phase.
Conservation areas	There are no heritage conservation areas within the study area, or within the vicinity of the study area; therefore there will be no impacts to heritage conservation areas.
Cumulative impacts	The proposed works will not have an adverse cumulative impact on the significance of the Reservoir. They represent a minor amplification of an existing impact, necessary for the continued operation of the site as a reserve water supply source for Sydney.
Other heritage items in the vicinity	Owing to the nature of the proposed works there will be no physical impacts to heritage items in the vicinity. The potential visual impacts are mitigated by the screening of mature vegetation and location of the development as described above.

7.2. Historical Archaeological Assessment

The historical archaeological potential and significance of the study area has been assessed as part of this report. Based on an analysis of the historical records, maps and aerial photographs, the following subsection provides an evaluation of the archaeological potential, significance and impacts in the study area. The historical archaeological significance of the study area has been assessed in accordance with *Assessing Significance for Historical Archaeological Sites and Relics* (Heritage Branch 2009).

7.2.1. Summary of phases of development

The following broad historical phases of site development were identified:

Phase	Summary
Phase 1: **Early land grants** (1819-1880)	The study area forms part of two land grants in the Parish of Prospect made to John Brabyn and John Hall Junior in 1819. Analysis of historical plans and records has not indicated the construction of buildings within the study area during this phase. It appears that both Hall and Brabyn used their land for agricultural purposes. Development within the study area during this phase is likely limited to land clearing, agricultural and pastoral activities, and the establishment of the boundary road and fence line.
Phase 2: **Prospect reservoir development and operation** (1880–2006)	In 1880, following several years of discussion and planning, an Appropriation Act was passed to begin work on the Upper Nepean Scheme. This involved the resumption of land within the proposed area of the Prospect Reservoir, including the study area. While forming part of the Prospect Reservoir, the study area was not built on or altered during the construction or operation of the reservoir during this phase. Figure 37 to Figure 40 below show the unchanging nature of the study area during this phase, remaining lightly vegetated and un-developed.
Phase 3: PRWPS development (2006 – present)	During Phase 3 the RWPS was constructed to the north of the study area. Construction of the PRWPS required development of roadway access, drainage and earth moving including the cul-de-sac, drainage channel and low embankment visible within the below aerial (Figure 41) of the study area. During this phase, ground disturbance for the aforementioned infrastructure was undertaken within the study area including excavation beneath the current cul-de-sac surface to install associated infrastructure and modification of the landscape, potentially removing archaeological remains associated with early phases of development.

Figure 37. 1956 aerial photograph. *Source:* NSW Spatial Services.

Figure 38. 1978 aerial photograph. *Source:* NSW Spatial Services.

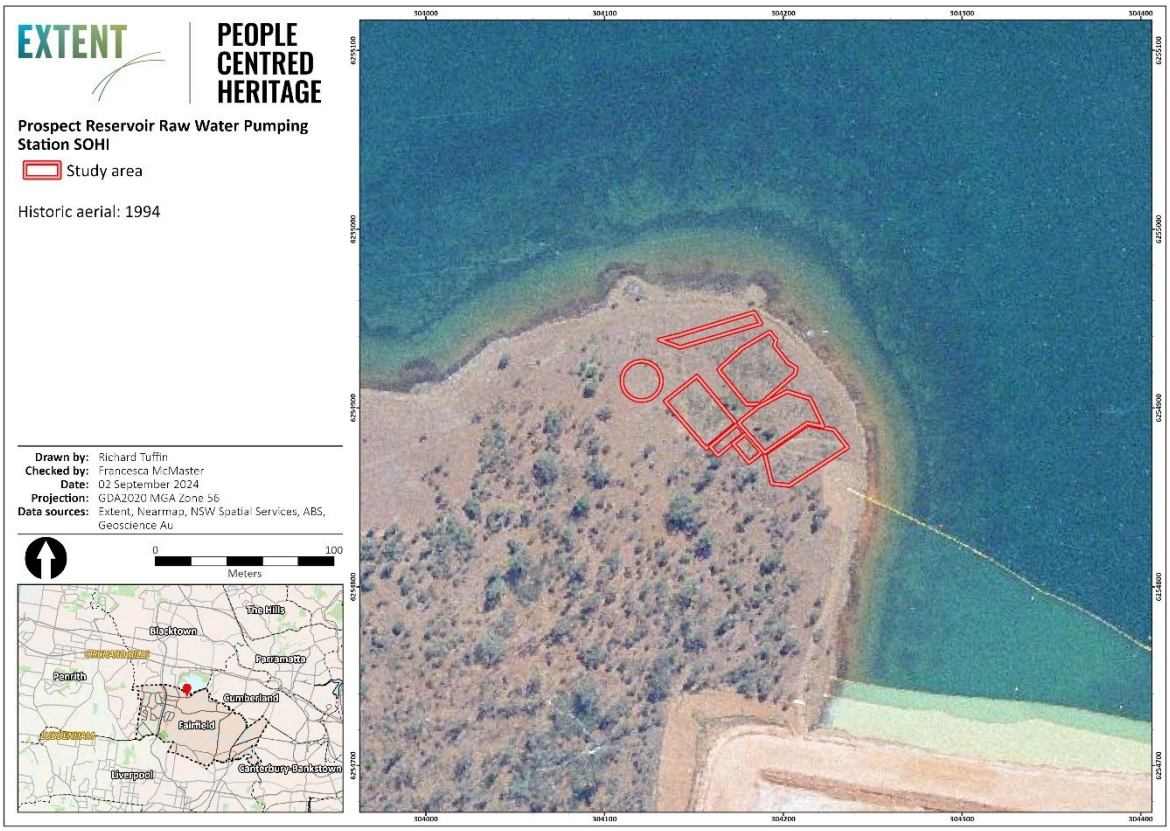


Figure 39. 1994 aerial photograph. *Source:* NSW Spatial Services.

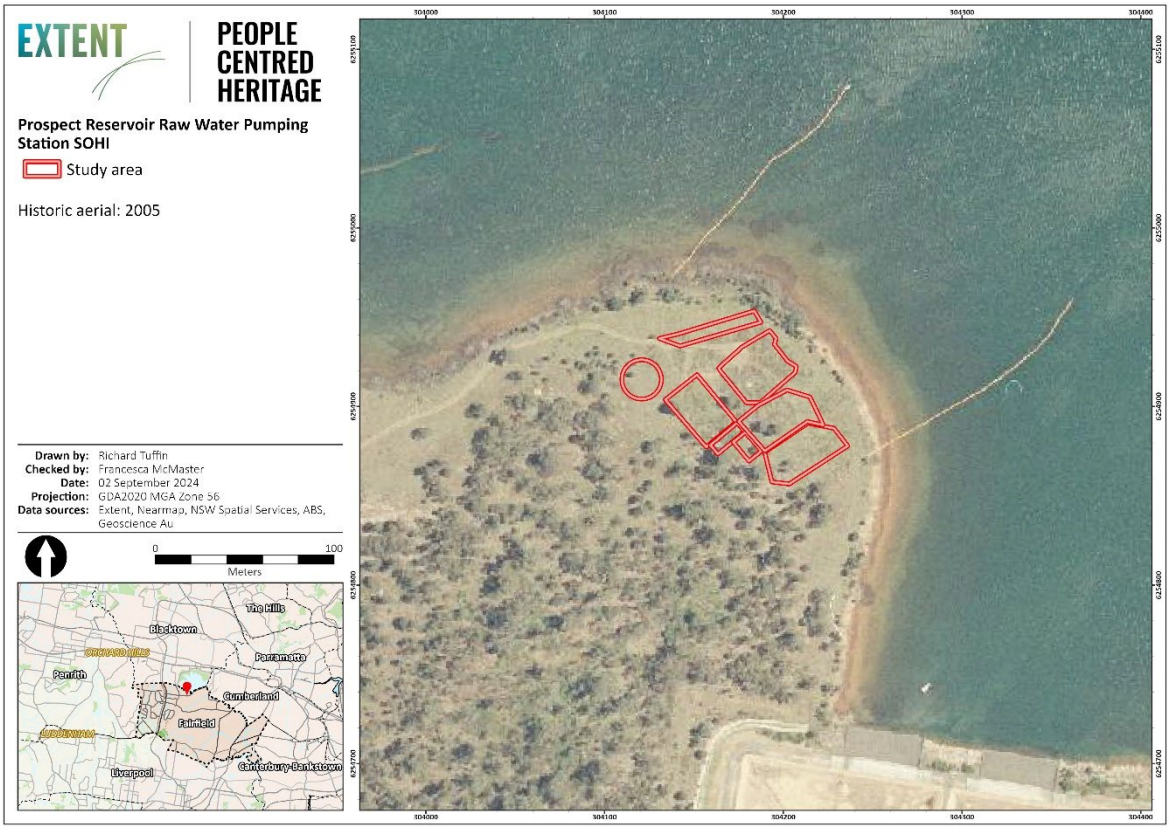


Figure 40. 2005 aerial photograph, taken prior to the construction of the RWPS. *Source:* NSW Spatial Services.

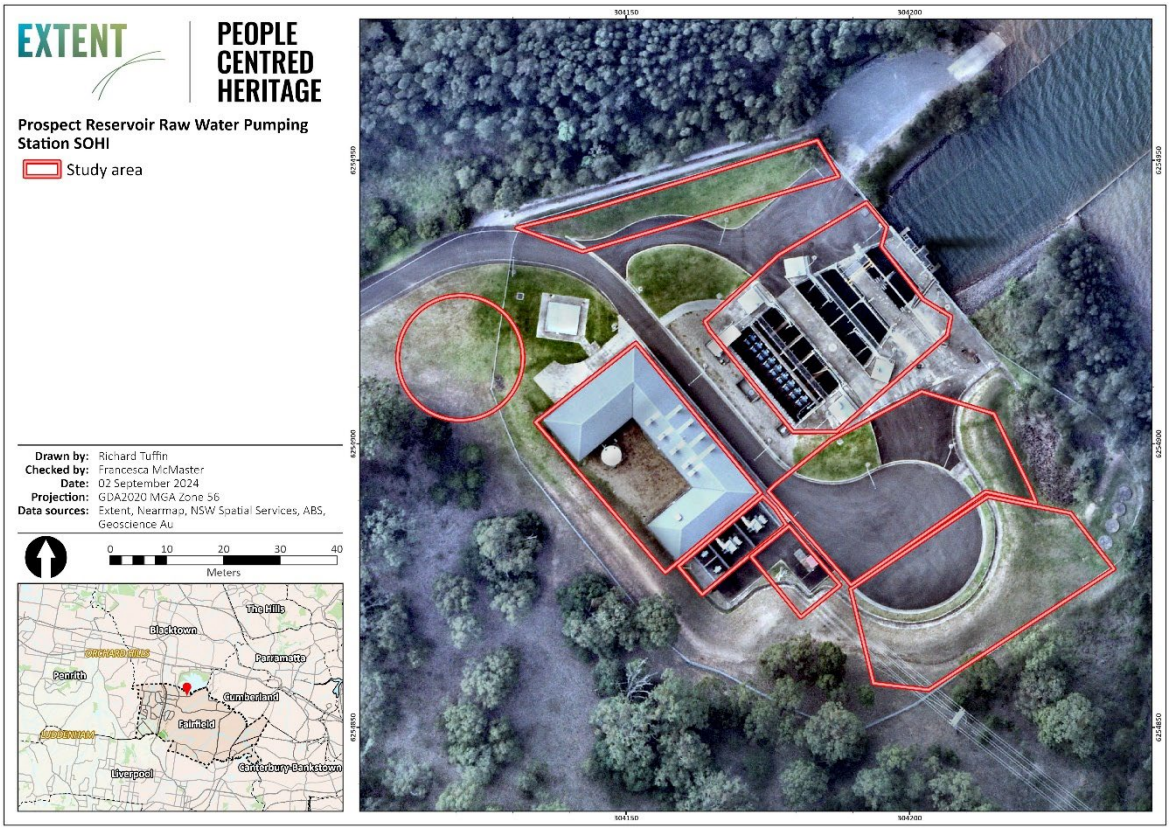


Figure 41. Present day aerial photograph of study area showing the cul-de-sac, drainage and grassed embankment. *Source:* NSW Spatial Services.

7.2.1.1. Previous archaeological assessments

Several previous archaeological assessments have been undertaken for the Prospect Reservoir site more broadly. These reports are discussed below:

EMM Consulting, 2021. Prospect Reservoir Conservation Management Plan

In producing an updated Conservation Management Plan for Prospect Reservoir EMM Consulting considered previous desktop and fieldwork investigations carried out within the Prospect Reservoir curtilage under the management of Water NSW. In considering the potential for historical archaeology, the CMP assessed three areas to have potential archaeology associated with William Lawson's Veterans Hall and evidence relating to use of the site for water supply and construction of the dam wall. These areas are outside of the present study area, over 2km to the east and are indicated in Figure 42 below.

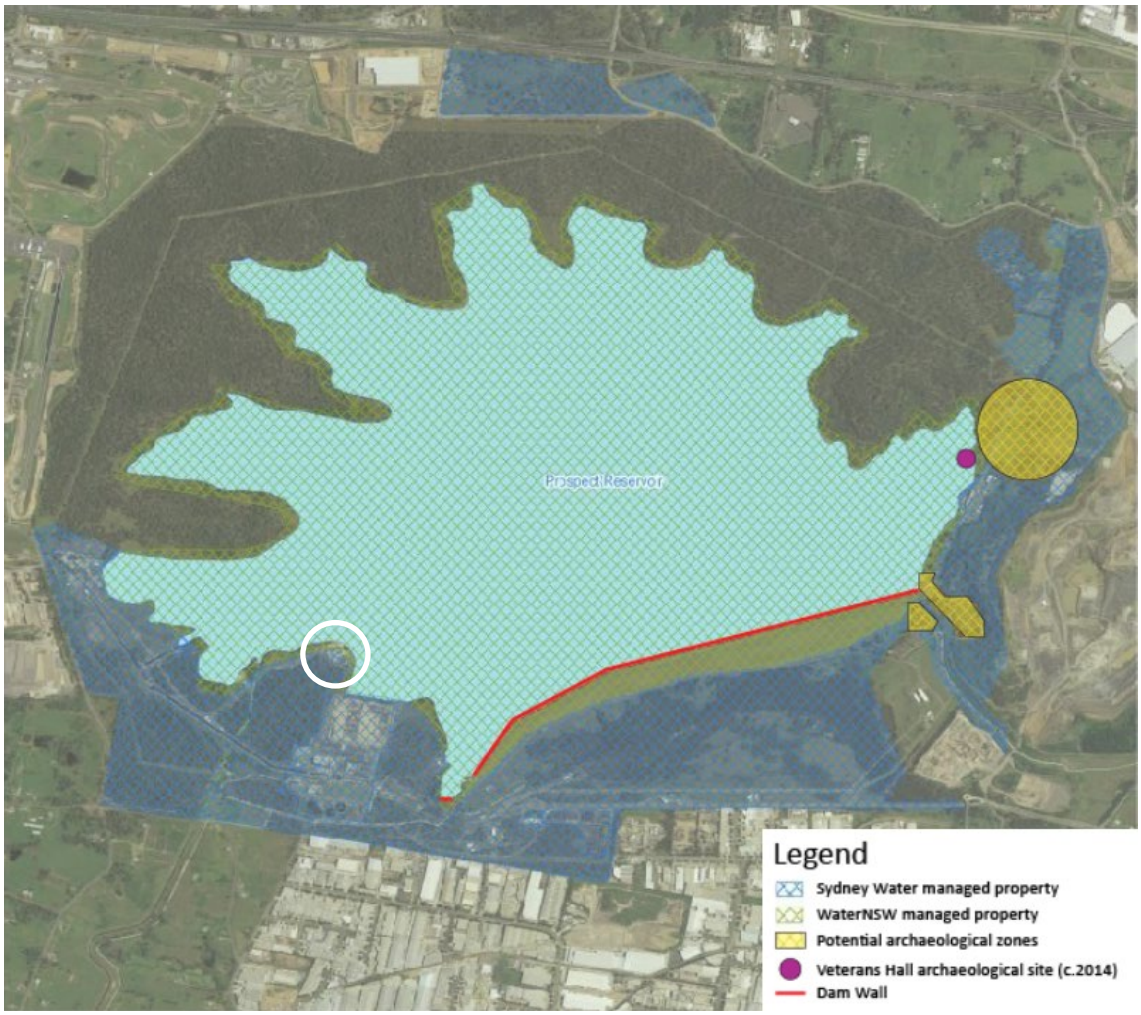


Figure 42. Figure taken from 2021 CMP showing areas with archaeological potential marked in yellow. The location of the current study area is marked with a white circle. *Source:* EMM Consulting 2021 Prospect Reservoir CMP, p. 70.

B Cubed Sustainability, 2006. Prospect Reservoir Proposed Raw Water Pumping Station, Heritage Impact Statement

In 2006, B Cubed Sustainability prepared a Heritage Impact Statement prior to the development of the RWPS. The footprint of the 2006 proposed area of development included the current study area. In assessing the historical archaeological potential of the development footprint, previous geotechnical testing at the site was considered. Geotechnical results indicated that 0.3m layer of topsoil was present across the site, overlying 1.8m of residual soil becoming weathered shale and bedrock at depth. No surface remains were identified during the site inspection for the assessment. As such, the assessment concluded that there was low to nil potential for historical archaeological remains to survive at the study area and that works could proceed under an s57 exemption.

7.2.1.2. Summary of historical archaeological potential

While the study area was used by colonists from the early nineteenth century on, this use was likely limited to land clearing and grazing during Phase 1 (1819-1880) prior to the establishment of the Prospect Reservoir during Phase 2 (1880-2006). Remains from activities such as land clearing and grazing leave only a limited archaeological imprint, consisting of features such as burnt tree boles and tools or other objects deposited through loss or discard. Such remains, in consideration of later phases of development and site disturbance, are unlikely to survive. Following the inundation of the reservoir the study area sat at the water's edge and remained undeveloped throughout Phase 2 (1880-2006), with no recorded activities undertaken in the area to establish or maintain operations of the reservoir until Phase 3 (2006-present) when the RWPS was built. The construction of the RWPS involved significant earthmoving, including subsurface excavation, for the installation of infrastructure, drainage and roadways. An assessment undertaken prior to the construction of the RWPS (2006, B Cubed Sustainability) found that the area had low to nil potential to contain historical archaeological remains. Should archaeological remains, including artefact scatters have been present prior to the construction of the RWPS, the development would likely have resulted in the removal and/or displacement of any artefacts. As such, the study area is assessed to have nil-low potential to contain historical archaeological remains.

7.2.1.3. Historical archaeological significance

The study area formed part of two early land grants, potentially in use as early as 1819. The priorities of early land grants were the clearing, or "improvement', of the grant followed by pastoral or agricultural use of the land. Within the study area it is likely that the land was cleared and used for grazing cattle during Phase 1 (1819-1888). Archaeological evidence from such activities may survive in the form of tools or other objects that have been lost or discarded, however consequent disturbance over the following phases is likely to have decontextualised these remains and therefore would make the objects difficult to interpret and would not meet the threshold for archaeological significance at a local or state level.

7.2.1.4. Potential historical archaeological impacts

The assessment of the historical archaeological potential of the study area has found that there is nil to low potential for archaeological remains associated with Phase 1 (1819-1888) in the study area. Any surviving remains associated with the development of early grants during Phase 1 (1819-1888) would be unlikely to meet the thresholds for archaeological significance. Consequently, the proposed redevelopment and identified laydown areas are likely to have no impact to archaeological remains of local or state significance.

7.3. The conservation management plan

The following table outlines the proposed works consistency with the relevant policies contained in the Prospect Reservoir CMP (EMM 2021).

Table 4. Consistency with the conservation management plan policies.

Policy no.	CMP policy	Assessment
5.3.5. Ongoing Use		
7	The use of Prospect Reservoir as part of Sydney's water supply system is the preferred, ongoing management option.	The proposed works allow for the ongoing continued safe use of the PRWPS as an operational component of Prospect Reservoir, and ensure the continued use of the Reservoir as part of Sydney's water supply system is protected. The proposed works are consistent with this policy.
5.3.7 Managing Change		
18	Ensure changes to the place are preceded by a heritage impact assessment to NSW Heritage Manual guidelines and using the policies in this Plan. Formally assess more substantial changes to the place in a heritage impact statement by a heritage specialist prior to implementation. Ensure recommendations in the statement about how to minimise or mitigate impacts are followed.	This report fulfils the requirements of this policy.
5.3.8 Types of Change		
31	Where possible, focus alterations or additions on elements or in areas of the Prospect Reservoir site which have been identified as being of low significance or intrusive.	The proposed works are located within Precinct 1 in conjunction with the PRWPS which has been identified as an area of low significance. The alterations to the existing plant will not be impacting fabric of moderate, high, or exceptional heritage significance. As such, the proposed works are compliant with this policy.
34	New work should be readily identifiable as such, but must respect and have minimal impact on the cultural significance of the place.	The proposed works will read as contemporary, in line with the existing contemporary

Policy no.	CMP policy	Assessment
		appearance of the PRWPS. As such, the new works will be identifiable as elements that contribute to the operations of the Reservoir as a water supply source, but will have negligible impacts on the cultural significance of the Reservoir. As such, the proposed works are compliant with this policy.
49	Wherever possible locate new development in areas of the Prospect Reservoir site that have been identified as being of low significance or intrusive.	The proposed works are located within Precinct 1 in conjunction with the PRWPS which has been identified as an area of low significance. The new power supply infrastructure will not impact fabric of moderate, high, or exceptional heritage significance. As such, the proposed works are compliant with this policy.
60	Excavation of land managed by WaterNSW can proceed without archaeological supervision, except within the areas identified as archaeological sites or of archaeological potential.	This report has assessed the study area to have nil-low potential to contain archaeological remains which would be unlikely to be meet the criteria for local or state significance. As such, works can proceed without archaeological supervision.
61	Should unexpected relics be located during works on site, cease work in the affected area until professional archaeological advice has been obtained and if necessary any approval granted by the NSW Heritage Council.	This has been included in the recommendations of this report.
5.3.9 Archaeological Management		
62	The historical archaeological potential of the site must be conserved in situ where possible.	This report has assessed the study area to have nil-low potential to contain archaeological remains which would be unlikely to be meet the criteria for local or state significance. As such, works

Policy no.	CMP policy	Assessment
		can proceed without further archaeological management.
63	An archaeological assessment by a suitably qualified historical archaeologist, experienced in working on State significant sites, must be carried out as part of the assessment process prior to Heritage Council of NSW approval of any works that may disturb archaeological relics identified within the SHR curtilage.	This report fulfills the requirements of this policy.
70	Should any unexpected archaeology be uncovered during excavation works, the Heritage Council of NSW must be notified in accordance with section 146 of the Heritage Act 1977. Works must stop and a suitably qualified archaeologist experienced in working on State significant sites, must be brought in to assess the finds. Depending on the results of the assessment, additional approvals may be required before works can recommence on site. It may be preferable that the relics are preserved in situ and the development modified to avoid or reduce impacts.	This has been included in the recommendations of this report.

7.4. Assessment against statutory and non-statutory controls

7.4.1. Heritage Act 1977 (NSW)

The *Heritage Act 1977* (NSW) (Heritage Act) provides protect for items of state heritage significance included on the State Heritage Register (SHR), and archaeological relics. Works proposed for items protected by the Heritage Act are approved by the Heritage Council of NSW or its delegates, as appropriate.

The PRWPS is located within the curtilage of State heritage listed item *Prospect Reservoir and surrounding area* (SHR #01370) and as such the provisions of the Heritage Act apply.

Section 57 – Standard Exemptions

Section 57(2) of the Heritage Act provide for exemptions to Section 52(1) approval requirements. Minor activities do not require approval under the Heritage Act is they are undertaken in accordance with the guidelines set out in the Standard Exemptions for Work Requiring Heritage Council Approval.

Agency specific exemptions for WaterNSW were gazetted on 4 November 2022. The exemptions apply to activities related to water supply and/or drainage sites listed on the State Heritage Register, to allow usual maintenance and some activities related to maintaining equipment associated with water supply and drainage operations to go ahead without the need for Heritage Council approval.

For the application of Standard Exemptions and Site-Specific Exemptions, the activities or work must have little to no impact on the item's heritage significance and support its ongoing management.

Section 60 – Heritage approval

For works not included as a Standard or Agency-Specific Exemption, approval is required from Heritage NSW through an application under Section 60 of the Heritage Act. Section 60 applications can be made under two pathways:

- Fast track approval
- Major works

The fast track approval is for works that will have little or no adverse impact on the heritage significance of the item, are not listed as an exemption under the Heritage Act and have a cost of works of up to $150,000. Major works approval applies to works that have, or would have the potential to have, a moderate or greater impact on the heritage significance of a State heritage item.

Extent Heritage comment

The scope of works has been assessed against the Heritage Act provisions. The proposed works are located in an area of Prospect Reservoir that is considered to be of little heritage significance and have been assessed as having a negligible impact on the heritage values of the Reservoir.

The proposed repair and replacement works to the piping in the wet-well, valves, variable speed drives, transformers, and building drainage, along with the minor penetrations to the external wall of the site building to allow for ventilation, are considered exempt under s57(2) of the *Heritage Act 1977* (NSW) as the proposed activities are in accordance with the intent and conditions of the following WaterNSW specific exemptions:

- **Exemption 3: General Maintenance and Repair**

Specified activities / works:

a) Repairing SHR/IHO items which are required because material or fabric is at End of life.

Relevant standards:

(d) Activities must be below the Material Threshold.

(e) The repair must maximise protection and retention of Significant Fabric and conserve existing detailing.

(f) The repair must be sympathetic to existing fabric in appearance, material and method of affixing.

- **Exemption 5: Excavation**

Specified activities / works:

(i) Excavation or disturbance of land for the purpose of:

(i) Creating temporary stockpiles; and/or

(ii) Exposing, inspecting, testing, replacing, installing, maintaining, and/or repairing WaterNSW infrastructure and assets.

Relevant standards:

(J) activities/ works must be below the Material Threshold.

(K) Excavation or disturbance of land is only permissible within existing trenches, or within an area of previous disturbance, or an area assessed as having no known Archaeological Significance.

(l) Excavation or disturbance of land is not permitted in areas assessed as having Archaeological Significance.

(m) Excavation or disturbance of land must not compromise the structural integrity of any structure listed on the SHR or subject to an IHO, including Significant landscape elements, as identified in a SHR listing, CMP and/or similar document.

In addition to the WaterNSW standard exemptions, the following standard exemptions apply:

- **Exemption 2: Repairs to non-significant fabric**

The proposed installation of the new power supply generators has been assessed against the Standard Exemptions and against the WaterNSW Agency Specific Exemptions. While the excavation required to install the generators is not considered to impact any areas of archaeological significance and does not require approval under s60, it is considered that the installation of the power supply generators does not comply with the Standard Exemptions or the WaterNSW Agency Specific Exemptions due to the introduction of new fabric and the construction of new structures. As such, approval for these works is required through an application under Section 60 of the Heritage Act.

As this report has assessed that the installation of new power generators will have a negligible impact on the heritage significance of Prospect Reservoir, the works may meet the provisions of the s60 fast track approval process, dependent on the cost of the works.

7.4.2. Environmental Planning and Assessment Act 1979

Environmental planning instruments made under the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) include state environmental planning policies (SEPPs), which deal with matters of state or regional environmental planning significance, and local environmental plans (LEPs), which guide planning decisions for local government areas. The relevant state environmental planning policies are the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPPTI), and the *State Environmental Planning Policy (Precincts – Western Parkland City) 2021*.

7.4.2.1. State Environmental Planning Policy (Precincts – Western Parklands City) 2021

Clause 5.10 of the SEPP (Precincts) 2021 applies to heritage conservation and 5.10 (4) requires that, before granting consent, the consent authority must assess the effect of a proposed development on the heritage significance of the item or conservation area concerned.

Clause 5.10 (5) specified that the consent authority may, before granting consent, require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area, or land that is within the vicinity of a heritage item or HCA.

Extent Heritage comment

Prospect Reservoir is listed on the State Heritage Register, and as such, Heritage NSW becomes the approval authority. Development consent under this SEPP is not required, however, this SOHI may be provided to the relevant consent authority as a courtesy.

7.4.2.2. State Environmental Planning Policy (Transport and Infrastructure) 2021

The EP&A Act provides multiple approval pathways under both Part 4 and Part 5. Developments, works, and activities undertaken by public authorities are usually assessed under Part 5 of the EP&A Act or are enabled through the SEPPTI.

The SEPPTI establishes and defines infrastructure development that does not need consent and infrastructure works and activities that are Exempt of Complying development. It can only apply where a proposed activity or work is consistent with its specified development controls and standards.

Extent Heritage comment

This SOHI has assessed that the proposed works will have a negligible impact on the significance of Prospect Reservoir, meeting the requirements for exempt development under Clause 2.20(2)(e) of the SEPPTI.

The proposed repair and replacement works to the existing plant at PRWPS (that is, repair of the piping, redesign of building drainage, and replacement of the transformers, variable speed drives, valves) align with the definition of exempt development in connection with a water supply system carried out by or on the behalf of a public authority as identified in Clause 2.162(b) and (l) of the SEPPTI.

8. SUMMARY AND RECOMMENDATIONS

8.1. Conclusions

This Statement of Heritage Impact has assessed the proposed works against the heritage significance of Prospect Reservoir. Prospect Reservoir has cultural significance at the State level as an integral operational component of Upper Nepean Scheme, now operating as a reserve water supply source for Sydney. The Reservoir site contains evidence of responses to three periods of significant water shortage in Sydney: the Hudson's Emergency Scheme (1880s); the Warragamba Emergency Scheme (1930s) and the raw water pumping station (2007).

The proposed upgrades to the PRWPS will involve the replacement of contemporary operational equipment with the provision of additional power supply infrastructure in an area assessed to be of little heritage significance. The raw water pumping station supplies water from the Reservoir to the Prospect Water Filtration Plan. The upgrades are required to ensure the PRWPS remains in a safe and operational condition, securing the functional use of the Reservoir as a reserve water supply source for Sydney. The proposed works are consistent with the policies contained in the 2021 CMP which provide for the ongoing use of Prospect Reservoir and the addition of new development within areas of little significance.

The study area was historically used for pastoral purposes with no known site development beyond land clearing. Subsequent phases of development are likely to have removed and/or displaced any artefactual remains associated with loss or discard during Phase 1 (1819-1888). As such, there is nil-low potential for archaeological remains to survive at the study area. Any surviving remains would be unlikely to meet the threshold for local or state significance.

This SOHI has found that the proposed works constitute an acceptable level of change within Prospect Reservoir, resulting in a negligible impact to items identified as little significance.

8.2. Recommendations

Best-practice conservation approach

- All works should be guided by the conservation policy of 'do as much as necessary, as little as possible.'

Prior to works

- Contractors must be briefed on the heritage sensitive nature of the site and informed of any recommended mitigation measures or controls required.

During works

- All laydown areas are to be located within the identified study boundary.
- In the event that unexpected historical archaeological remains not identified in this report are discovered at within the study area, all works in this area should cease, WaterNSW should be notified, and the WaterNSW Unexpected Heritage Finds Procedure should be followed.
- The study area is located within the heritage listed boundary for the Spotted Gum Forest (Item 5) under the State Environmental Planning Policy (Precincts – Western Parklands City) 2021. Impacts to the trees including the roots should be mitigated by providing an adequate tree protection zone as part of the proposed works and during construction works.
- Any accidental damage to heritage items is to be treated as an incident, with appropriate recording and notification.
- Unauthorised removal of heritage fabric or the undertaking of works not outlined and assessed in this SOHI is not permitted.
- All areas affected by works must be cleaned and made good by contractors after works are completed.

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