



**CULTURALLY  
RESTRICTED REPORT**

**REPORT OF AN ABORIGINAL HERITAGE  
SURVEY OF THE PROPOSED ALKIMOS  
SEAWATER DESALINATION & GROUND  
WATER TREATMENT PLANTS AND TRUNK  
MAIN TO THE WANNEROO RESERVOIR:  
WANNEROO, WESTERN AUSTRALIA**

*A report prepared for the Water Corporation*

**By Mr Brad Goode  
Direct/ Senior Anthropologist  
79 Naturaliste Terrace  
DUNSBOROUGH WA 6281  
[bradnlee@westnet.com.au](mailto:bradnlee@westnet.com.au)**

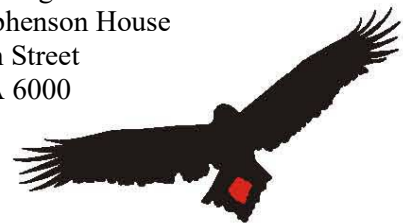
**Ms Natalie Smith  
Consulting Anthropologist  
Brad Goode & Associates Pty Ltd  
[natalie@bradgoode.com.au](mailto:natalie@bradgoode.com.au)**

**Mr Tom O'Reilly  
Consulting Archaeologist  
Brad Goode & Associates Pty Ltd  
[tomoreilly221@gmail.com](mailto:tomoreilly221@gmail.com)**

Report submitted May 2022 to:

Mr Eric Brahim  
Manager Aboriginal Affairs (Acting)  
Aboriginal Affairs Section  
Water Corporation  
629 Newcastle Street  
LEEDERVILLE WA 6007

The Registrar  
Department of Planning,  
Lands & Heritage  
Gordon Stephenson House  
140 William Street  
PERTH WA 6000



79 Naturaliste Terrace, Dunsborough WA 6281  
Phone: 0432 267 443  
Email: [bradnlee@westnet.com.au](mailto:bradnlee@westnet.com.au)  
[www.bradgoode.com.au](http://www.bradgoode.com.au)

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- Ms Jacqueline Harris – Brad Goode & Associates Pty Ltd (Senior Archaeologist)
- Ms Jess Sully – Brad Goode & Associates Pty Ltd (Office Administration)

### Whadjuk Indigenous Land Use Agreement group representatives

- Mr Michael Indich
- Mr Noel Morich Jr
- Ms Bella Bropho
- Mr Paul Garlett Snr
- Mr Trevor Walley
- Mr Kristen Jacobs
- Ms Rachel Humphries
- Ms Jennifer Garlett
- Ms Karen Jacobs
- Mr Brendan Moore
- Ms Kezia Jacobs-Smith

## DISCLAIMER

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**Warning:** This document may contain names, images or material that relates to deceased Aboriginal persons. Permission was sought and granted by the consulted informants to cite this information.

**\*Note:** This report, in terms of its assessment under Section 5 of the Western Australian *Aboriginal Heritage Act 1972*, should be read in conjunction with the archaeological report by O'Reilly (2022).

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## **MAPPING**

Datum Used: GDA 1994 MGA Zone 50. Handheld GPS Unit Garmin 64 ST (+/- 10m)

## **GLOSSARY OF TERMS**

ACMC – Aboriginal Cultural Material Committee

AHA – Western Australian *Aboriginal Heritage Act 1972*

AHIS – Aboriginal Heritage Inquiry System

BGA – Brad Goode & Associates Pty Ltd

CHMP – Cultural Heritage Management Plan

DPLH – Department of Planning, Lands and Heritage

DWER - Department of Water and Environmental Regulation

GWTP – Ground Water Treatment Plant

HIS – Heritage Information Submission

ILUA – Indigenous Land Use Agreement

IWSS – Integrated Water Supply Scheme

Noongar – Aboriginal Australian people of Perth and South West. This spelling is preferred by groups south of the Blackwood River and is used for legal purposes.

NSHA – Noongar Standard Heritage Agreement

NTC – Native Title Claim

Nyungar – Aboriginal Australian people of Perth and South West. Synonym for Noongar. This spelling is preferred north of the Blackwood River.

SDP – Seawater Desalination Plant

SWALSC – South West Aboriginal Land and Sea Council

The Consultant – Brad Goode & Associates Pty Ltd

The Proponent – Water Corporation

The Whadjuk – Whadjuk ILUA

Water Corp – Water Corporation

WWTP – Waste Water Treatment Plant

Cultural Monitor – A senior Whadjuk person who conducts rituals at sacred places prior to ground disturbance and who mitigates spiritual issues by communication with the spirit world when sacred places are impacted by development activities

Archaeological Monitor – A member of the Whadjuk ILUA group engaged to observe ground disturbing activities to identify Aboriginal artefacts or objects as defined by section 5 and 6 of the AHA.

## EXECUTIVE SUMMARY

The Water Corporation is proposing to expand their service infrastructure at the existing Alkimos Waste Water Treatment Plant (WWTP) on Lot 9001 Romeo Road in Wanneroo, Western Australia.

Specifically, at the 30-hectare site the proponent will construct a seawater desalination plant (SDP) (project CW03524) and a groundwater treatment plant (GWTP). As well as the two plants, the proponent will carry out enabling works, such as the construction of a berm (CW03713) to protect the adjoining residential area from noise and to provide a buffer for amenity. The main project area is located adjacent to the current WWTP on Lot 9001 Romeo Road (see maps in figures 1 and 2 and Appendix 3) to the east of the Alkimos coastal area, within Alkimos conservation reserve and north of the Alkimos Beach Subdivision.

Additional infrastructure to service the plants, consisting of intake and outfall pipes under the ocean and reef to the north west of the main project area will be installed. The intake and outfall pipes will be 3.5m in diameter and tunnelled underground, under the seabed and up through the ocean floor beginning from the north west section of the proposed SDP & GWTP south of an existing WWTP outfall pipe. The intake and outfall pipes range in depth between 7- 40m at varying points. The intake pipe will be approximately 2.5km long and the outfall pipe will be approximately 3.9km in length.

In addition, a separate trunk main pipeline (CW03601) going south east from the main project site to Wanneroo Reservoir will be installed. The trunk main is a steel pipeline, 1.4m in diameters, it will be trenched up to 5ms deep and extend approximately 33.5kms. It will require a clear construction corridor of 16 metres in width.

A temporary site office and laydown area for equipment at Coogee Road near Lake Adams is required; and finally, an eventual extension to the WWTP at the main project area within the surveyed area, are also part of the four-to-six-year Water Corporation project plan. Approximately 983 sq. metres is proposed for a temporary site office and equipment laydown areas, to be established approximately 18km south east of the main project area off Coogee Road near Lake Adams.

Further work, installing water bores at sites EG10, EG40 and EG50 will be required to supply water to the Groundwater Treatment Plant. This will allow mixing of mineralised water with desalinated water. One existing water bore site has already been drilled approximately 2km north east of the main project area (EG10). Two additional water bores are to be drilled 30-50m below the ground, requiring an area of 50 x 50m clearance, with the exact locations of these bores to be determined. It is expected that EG50 will be within the north conservation boundary, approximately 500m north of the main project area, and EG40, 500m south east of the main project area.

To remain compliant with the Western Australian *Aboriginal Heritage Act 1972* (AHA), the Water Corporation has commissioned Brad Goode & Associates Pty Ltd (BGA) to conduct a Site Identification Aboriginal Heritage Survey with several nominated representatives from the Whadjuk Indigenous Land Use Agreement (ILUA) group, as determined by the SWALSC under the requirements of the Noongar Standard Heritage Agreement (NSHA).

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) conducted on the **9<sup>th</sup> of December 2021** revealed that there is **one** previously recorded DPLH registered Aboriginal heritage sites, Site ID 3503 Honey Possum Site, and **two** Other Heritage Places, Place ID 22160 Marrynginup, and Place ID 23053 Alkimos Waugal that are potentially affected by the proposal.

Site ID 3503 Honey Possum Site, a mythological storied place, consists of two DPLH polygons. One is located to the north of the pipeline path on the western side of Fairywren St and other on Greenvale Place near the intersection of Lee-Steere Drive.

As the project is currently planned, site ID 3503 Honey Possum Site could potentially be directly affected by the pipeline where it is planned to run down the eastern side of Greenvale Place near the intersection of Lee-Steere Drive.

Note: the mapped polygons for site ID 3503 Honey Possum Site on the AHIS is inconsistent with the original recording in McDonald & Murphy (1989). Here the Honey Possum Site, which was associated with the Banksia vegetation occupied a much broader area of up to 10 hectares. Therefore, any work along Greenvale Place where the same vegetation systems are present could potentially affect beliefs held by the Whadjuk people that relate to the significance of the Honey Possum. As such the Water Corporation should consider an alternative path along Neaves Road to avoid the vegetation on the western side of Greenvale Place.

Other Heritage Place ID 22160 Marrynginup, a multifaceted ethnographic heritage area has a DPLH extent that overlaps a portion of the trunk main at Coogee and Rousset Roads. As the place file was restricted advice was sought from DPLH in regard to its actual extent. This advice has determined that DPLH Other Heritage Place ID 22160 Marrynginup could be potentially affected by the pipeline as it is currently planned along Rousset Road south to Lavinia Road. Here Water Corporation should seek advice from DPLH to determine if the actual site boundary is affected. Alternatively, the Water Corporation could move the pipeline path to the west by up to 30m thereby avoiding the site. Should this not be possible then the Water Corporation maybe required to seek consent under section 18 of the AHA to proceed.

Other Heritage Place ID 23053 Alkimos Waugal has a DPLH extent that overlaps a portion of the main project area at Lot 9001 Romeo Rd. Place ID 23053 Alkimos Waugal has been assessed by the APMC as 'stored data', not a site under section 5 of the AHA 1972. Stored data is not protected under the AHA 1972 and the proponent is under no legal obligation in relation to Other Heritage Place ID 23053 Alkimos Waugal unless the Whadjuk community provide further and more detailed information that would lead to the place being reassessed as a site. Water Corporation should be aware that this could be a potential risk in this case, as the place reported is part of a larger mythological story that associates with several sites along this section of the coast (see AIC 2007, McDonald 1990, 2007 & Machin 1989, see also Macintyre & Dobson 2005).

As a result of ethnographic consultations held with eleven representatives of the Whadjuk ILUA group on the 19<sup>th</sup> of January and the 16<sup>th</sup> & 17<sup>th</sup> of February 2022 it was determined that there are **no new** ethnographic sites of significance, as defined by sections 5(b) & 5(c) 39.2 & 39.3 of the AHA 1972, located within the project area at the Alkimos WWTP on Lot 9001 Romeo Road and along the trunk main path to the Wanneroo Reservoir.

During the survey at the WWTP on Lot 9001 Romeo Road the Whadjuk people spoke generally of the importance of water sources (Site ID 3509 Karli Spring), the coastal sand dunes; and the potential for burial sites and camping sites nearby. They also described edible and medicinal plants; and they also spoke of the areas Tuart and Christmas trees spiritual significances. One informant also spoke generally about the regional mythological story of the Shark, Crocodile, Whale, [and Emu Dreaming] (see Machin 1989:8-11) however they could not relate any of these attributes of general significance to any specific place in the landscape within the project area at Alkimos WWTP on Lot 9001 Romeo Road. It must be noted that one informant did identify the reef at Alkimos as being the skeletal remains of the Crocodile or Waugal, however this informant did not think that the project would have any detrimental effects on the reef especially if the intake and outfall pipes came up in the seabed beyond the fringing reef.

In regard to the proposed construction of SDP and a GWTP, as well as the enabling works and additional pipeline and bore water infrastructure, the Whadjuk advised that they were generally supportive of all of the activities proposed by Water Corporation as long as the natural environment was impacted as little as possible and as long as earthworks were monitored by Whadjuk people for artefacts that maybe present.

In relation to the pipeline to the Wanneroo Reservoir the Whadjuk people advised that registered Site ID 3503 Honey Possum should be avoided. The Whadjuk people recommended that the Water Corporation utilise the proposed alternative pipeline route on the northern side of Neaves Road and south along Dempster Place and Adams Road.

If this alternative pipeline route was accepted by the Water Corporation, pending engineering investigations, then caution must be taken regarding any potential effects either directly or indirectly on Place ID 3396 Lake Adams which lies to the southern side of Neaves Road. Lake Adams is of significance to the Whadjuk people however at present is classified as stored data which is not a site under the AHA 1972.

The avoidance of site ID 3503 Honey Possum Site was tentatively agreed on site by the Water Corporation engineers pending further investigation and relocation of the proposed pipeline to Neaves Road.

Should the alternative route along the northern side of Neaves Road not be possible, the bushland at the Honey Possum Site should only be impacted up to 10 metres from the road seal, as far as GPS point 387612mE 6492322mN, and environmental offsetting carried out, including the relocation of the Xanthorrhoea, or Balga.

Should avoidance of registered Site ID 3503 Honey Possum Site not be possible, and the site be impacted, a S18 approval from the Minister of Aboriginal Affairs is required under the Aboriginal Heritage Act 1972.

Similarly, mythological Place ID 22160 Marrynginup and the surrounding bushland within the site extent should be avoided. As such, it is advised that Water Corporation should consider realigning the trunk main up to 30m to the west of where it runs parallel to the wetland bordered by Rousset Road between Coogee Road and Lavinia Roads to avoid the actual site boundary of Place ID 22160 Marrynginup.

Should this this not be possible, a S18 approval from the Minister of Aboriginal Affairs is required under the Aboriginal Heritage Act 1972.

In relation to Other Heritage Place ID 23053 Alkimos Waugal, the current categorisation as 'stored data' under the AHA 1972 legislation does not protect the places as originally recorded (See Macintyre & Dobson 2005). However, the Water Corporation need to be mindful that the status of the project area may be in the future be upgraded to a site or a significant landscape as a component of the ACHA 2021 Bill. Based upon the values defined it is likely that the project area would be defined as a 'cultural landscapes' whereby the coastal dunes, reefs, and natural botanical features that relate to myth and customary use may become protected. This would then require that the Water Corporation to reach agreement with the Whadjuk people by way of a Cultural Heritage Management Plan/Agreement that then would be required to be submitted to the Aboriginal Heritage Council at DPLH to facilitate and guide approvals given by the Whadjuk during the current surveys.

In relation to Place ID 3396 Lake Adams the Whadjuk group expressed concerns about the potential to pollute the lake by way of utilizing limestone as a hard stand for a laydown area. Here they were concerned that Alkaline run off could alter the PH of a lake that is meant acidic in its natural state. In addition to the potential pollution, there is also the potential to impact Lake

Adams if the Neaves Road pipeline realignment goes ahead. Here the Whadjuk requested that all works directly avoid Other Heritage Place ID 3396 Lake Adams by 30m and that limestone not be used as the laydown surface.

In relation to the Water Corporation wishing to use ground water from water bores as a part of the project the Whadjuk raised concerns that this aspect of the project may have the potential to negatively impact on the water levels of local lakes and especially Site ID 3509 Karli Spring.

In relation to Site ID 3509 Karli Spring and surrounding water body levels, the Whadjuk advised that it was their view that the draw down effects from the proposed bores should be monitored and that the results of water level monitoring be available to them. If the use of water was impacting the water bodies in the area the Whadjuk advised that the water bore use, be discontinued.

Furthermore, the Whadjuk advised that the Water Corporation avoid drilling through the offshore reef where possible. It was requested that by-products of the intake and outfall tunnelling be kept close to their place of origin and recycled rather than discarded. Thus, the slurry taken as a by-product of any tunnelling is to stay close to the ocean and have a productive use. Furthermore, the sand taken from the dunes at the main project area, should be kept close to the main project area and recycled and used for the Berm.

In addition to this, the Whadjuk requested that Aboriginal monitors be present during the ground disturbing works in order to observe any artefacts that may be uncovered as a result of the works.

In regard to environmental offsets intended by the Water Corporation the Whadjuk advised that only endemic plants found already naturally present in work areas should be used for revegetation. Furthermore, the Whadjuk requested that only incomplete canopy be restored to limit ground water loss in the area.

Finally, as per the new Aboriginal Cultural Heritage Act 2021, the Whadjuk asked that further negotiations take place with the Water Corporation in order to determine a Heritage Management Plan/ Agreement to guide the project through construction. This plan should include opportunities for Aboriginal businesses as well as art and education projects between the Whadjuk and the Water Corporation in order for the broader community to benefit from the transmission of cultural beliefs about Water Wise practices held by Noongar people. Ideally the plan should also accommodate access to work site Environmental Management Plans as well as architectural drawings for each of the work locations so that all parties are fully informed about the project activities and mitigation strategies to protect cultural values present in the landscape.

As a result of the ethnographic survey the following recommendations in relation to the *Aboriginal Heritage Act 1972* are made:

**It is recommended** that the Water Corporation can proceed with their plans to construct a seawater desalination plant (SDP) (project CW03524) an intake and outfall in the ocean, a groundwater treatment plant (GWTP), a berm (CW03713), a bore field and a trunk main to the Wanneroo Reservoir without risk of a section 17 breach of Aboriginal Heritage Act 1972 occurring in relation to ethnographic sites.

**It is recommended** that the Water Corporation avoid Site ID 3503 Honey Possum Site with the installation of the trunk main at Greenvale Place and re-align the pipeline along Neaves Road, to the east.

If this option is not possible due to engineering constraints, **it is recommended** that Site ID 3503 Honey Possum Site should only be minimally impacted and trenched no than 10 metres from the road seal in line with GPS point 387612mE 6492322mN.

If the Greenvale Place alignment progresses, **it is recommended** that the Water Corporation will be required to seek consent under section 18 of the AHA 1972 in order to carry out the proposed trunk main installation.

Should the Greenvale Place alignment progress under ministerial consent pursuant to section 18 of the AHA 1972 **it is recommended** that the Water Corporation offset the habitat loss for the Honey Possum and rehabilitate the road reserve with suitable Banksia species and also relocate the Xanthorrhoea or Balga trees affected.

**It is recommended** that the Water Corporation Water Corporation should seek advice from DPLH in regard to the pipeline path and its intrusion into the actual site boundary Place ID 22160 Marrynginup.

Alternatively, **it is recommended** that the Water Corporation trench the section of the trunk main 30m to the west that runs from the intersection of Coogee Road along Rousset Rd to Livian Street in order to avoid Place ID 22160 Marrynginup.

If avoidance is not possible, **it is recommended** that the Water Corporation will be required to seek consent under section 18 of the AHA in order to carry out the proposed trunk main installation within the extent of Place ID 22160 Marrynginup.

**It is recommended** that all works avoid Place ID 3396 Lake Adams by 30m, and that limestone not be used as the laydown surface.

**It is recommended** that the Water Corporation consider conducting the work adjacent to Place ID 3396 Lake Adams during the summer when the lake is dry.

**It is further recommended** that the Water Corporation give due consideration to the Whadjuk ILUA group representatives' heritage mitigation and management requests:

- That water run off go back into the land and not pollute water bodies or near rivers in the surrounding vicinity.
- That tunnelling avoids the reef where possible due to the sacred dreamtime stories associated with it.
- That groundwater resources be used as little as possible and the impacts to surrounding lakes, such as Karli springs and surrounding water bodies be minimised, monitored and the results shared with the Whadjuk group.
- That Aboriginal archaeological monitors be present for any ground disturbing works and vegetation clearing in order to observe any artefacts that may be uncovered as a result of the works and oversee the cultural impacts of the work and advise on rehabilitation.
- That vegetation near Other Heritage Place ID 3396 Lake Adams be protected where possible.
- That only endemic plants found naturally present in work areas be used for revegetation purposes and that only incomplete canopy restored, rather than 100% which would contribute to earth warming and inevitably ground water loss in the area.
- That the by-products of the tunnelling and sand excavation from the dune for example, be kept near to its place of origin and recycled where possible.
- That water is not transported far from its origin, or mixed with other water sources, where possible.

**It is finally recommended that** the Water Corporation in line with the sentiment of the new Aboriginal Cultural Heritage Act 2021 conduct further negotiations with the Whadjuk people to determine an Aboriginal Heritage Management Plan/Agreement to guide the project in order to mitigate any adverse effects to cultural values enshrined in the cultural landscape of the project areas. This plan should also include processes for the engagement of Aboriginal businesses as suppliers for the project. The plan would also outline strategies for arts and interpretation.