

An aerial photograph of a rural landscape. In the foreground, there is a large, light-colored pond or reservoir. To the left of the pond, there is a brick building with a blue roof, surrounded by trees and a parking lot. The background shows a vast, open field with scattered trees and a small town or village in the distance under a clear sky.

WALKA WATER WORKS

BRIEFING ON CONTAMINATION

maitland

city council

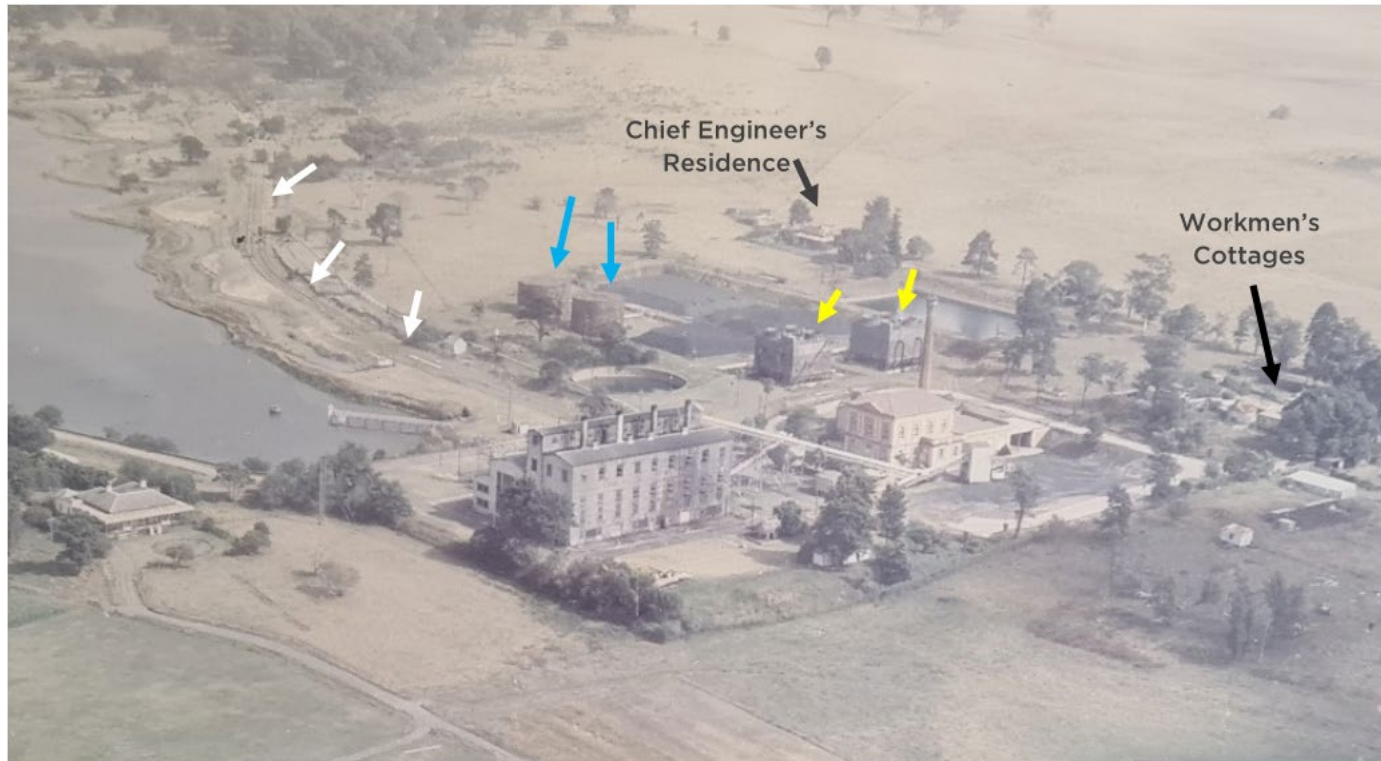
What we will be covering:

- Site Background and its use as a Power Station
- Contamination Investigations Undertaken
- Proposed Remediation Works
- RTAF Project - Remediation Works Planned
- Questions?

Background

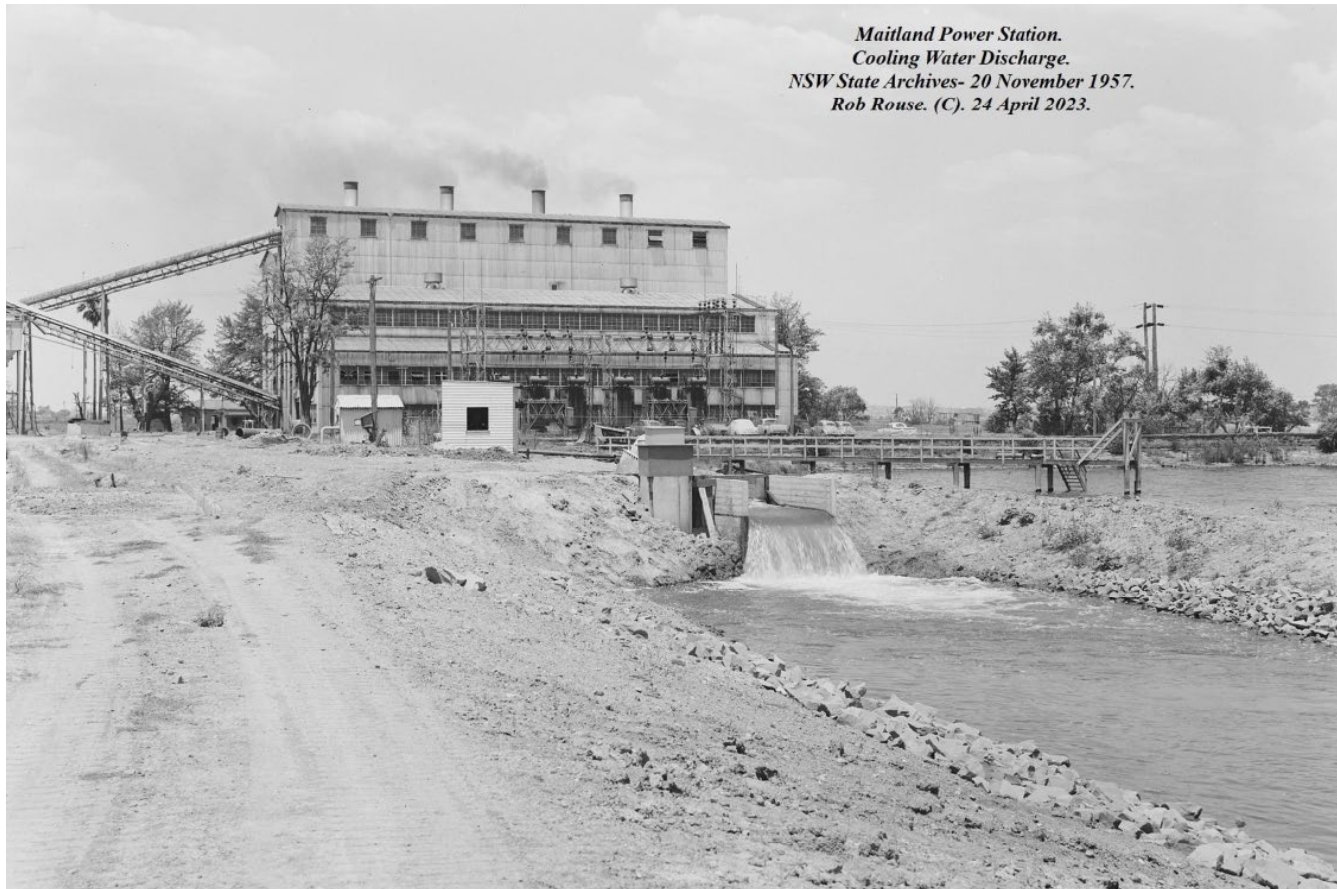
- Between the 1820s-1880s the land was utilised for agricultural usage by European settlers.
- Between 1881-1887, Walka Water Works was constructed and serviced both the Newcastle and Maitland region with closure occurring in 1931.
- In the early 1950s a power station was opened at the Site. Various alterations were made to the site to support the power station operation.
- In 1978 the power station was decommissioned and demolished. This is believed to be the primary source of contamination on the site.

Power Station Operation



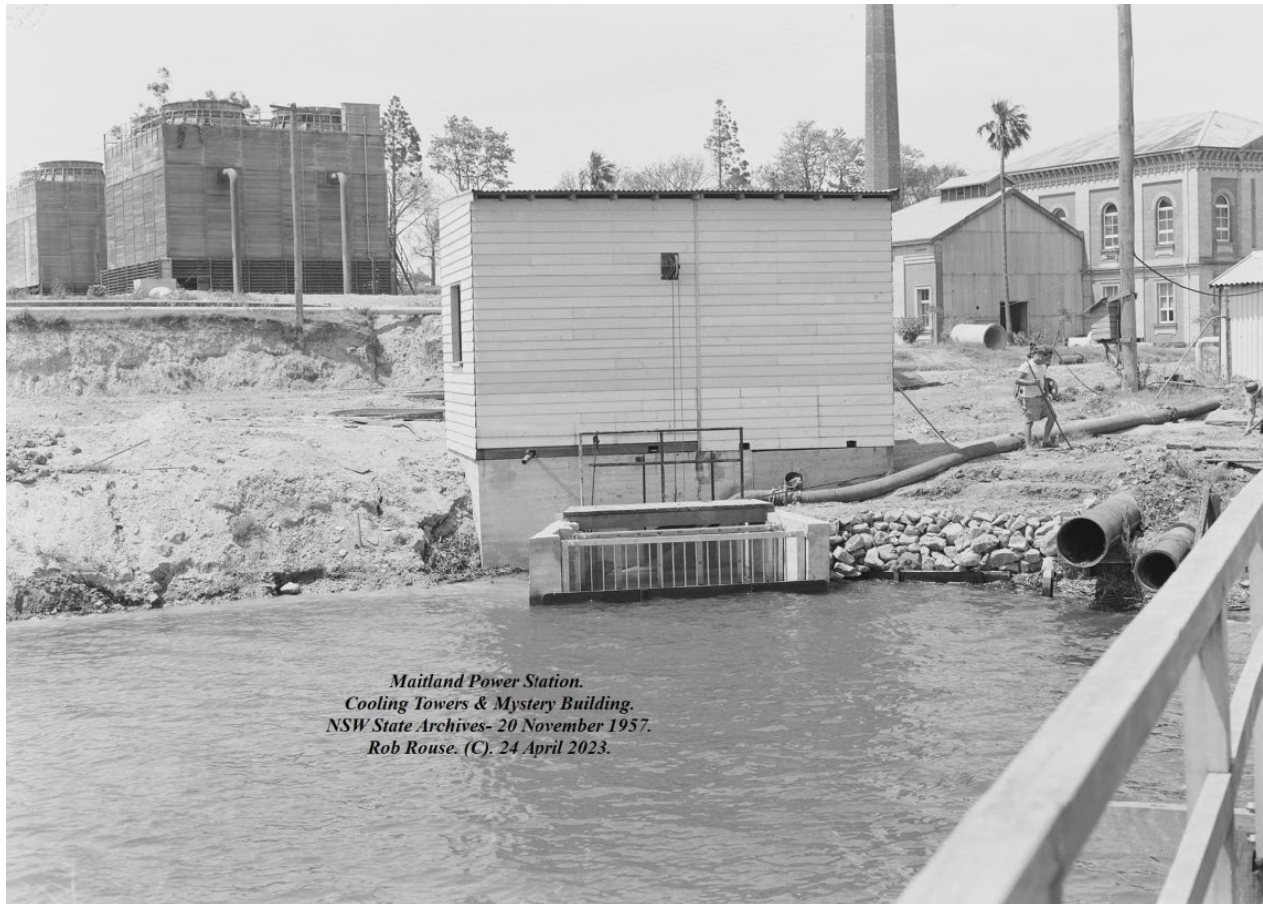
The power station included a modular type of construction and was imported from America, power was generated by 4 x coal/oil fuelled boilers with significant infrastructure added to the site to operate the facility.

Power Station Operation



Looking East toward the power station, currently toward the miniature rail station, beach and playground.

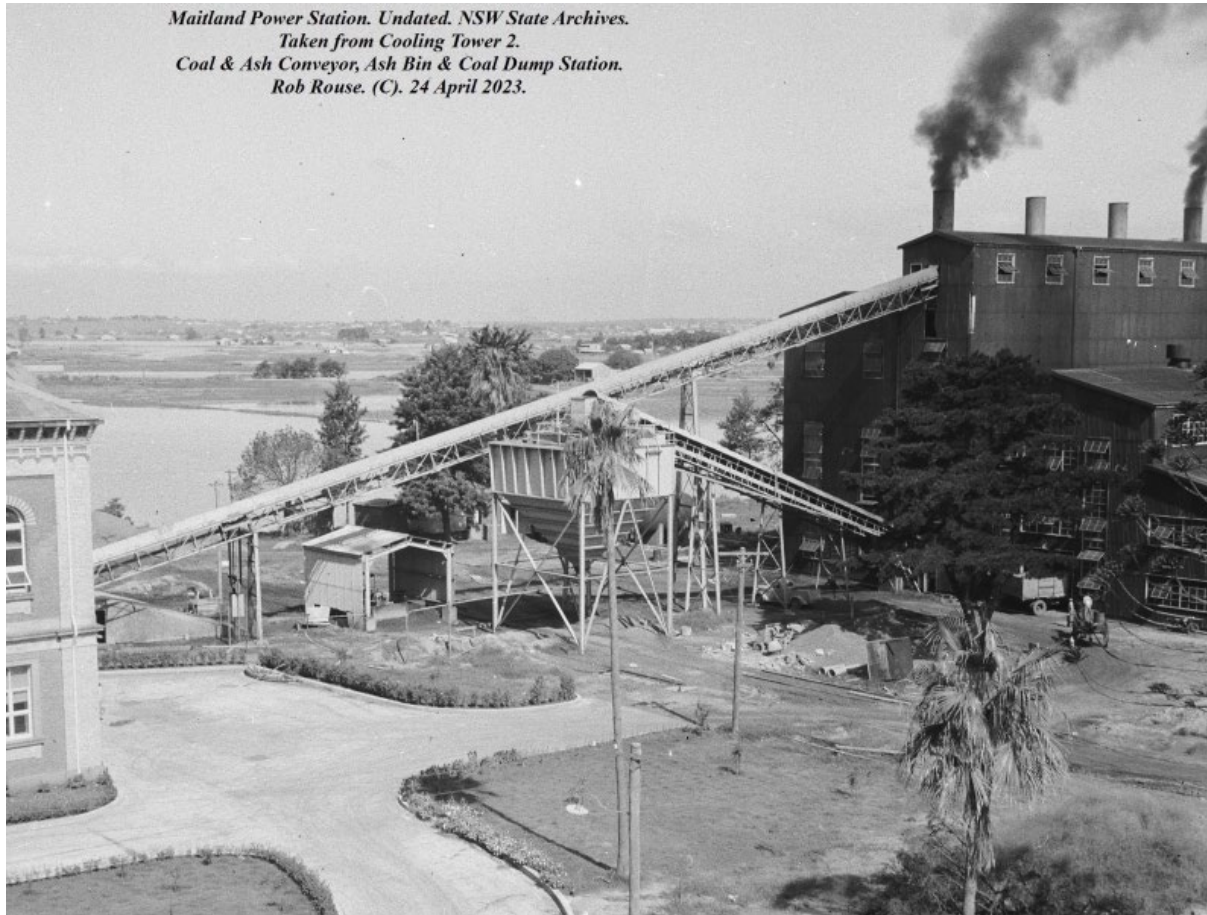
Power Station Operation



*Maitland Power Station.
Cooling Towers & Mystery Building.
NSW State Archives- 20 November 1957.
Rob Rouse. (C). 24 April 2023.*

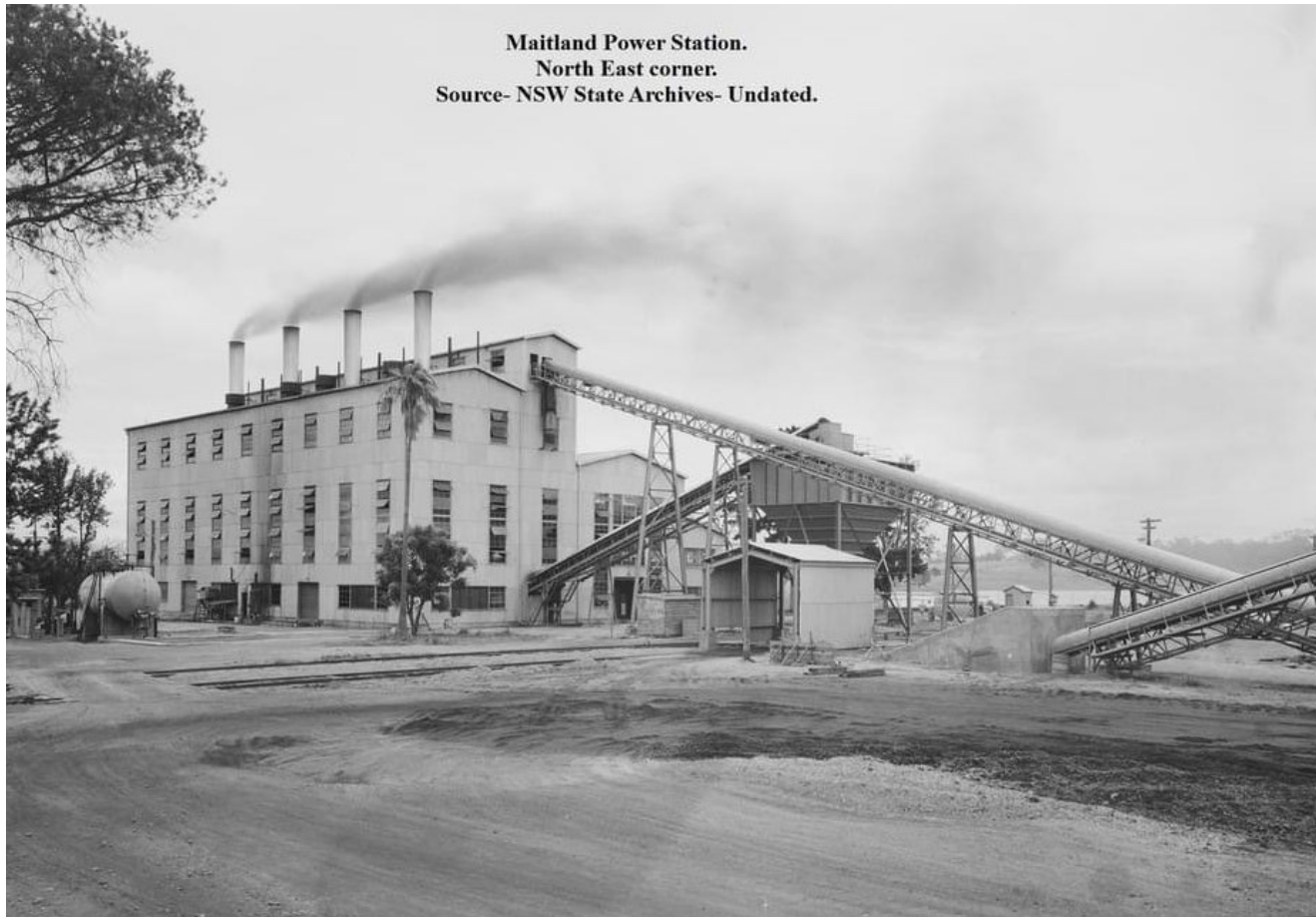
Looking Northeast toward the pump house building, currently toward the beach.

Power Station Operation



Looking Southeast toward the power station, currently toward the amenities building and playground.

Power Station Operation



Maitland Power Station.
North East corner.
Source- NSW State Archives- Undated.

Looking Southwest toward the power station, currently toward the carpark entrance and reservoir wall and beach.

Power Station Operation



Looking Northeast from the power station to what is now the pump house lawn.

Power Station Demolition

The power station was decommissioned and demolished in 1978

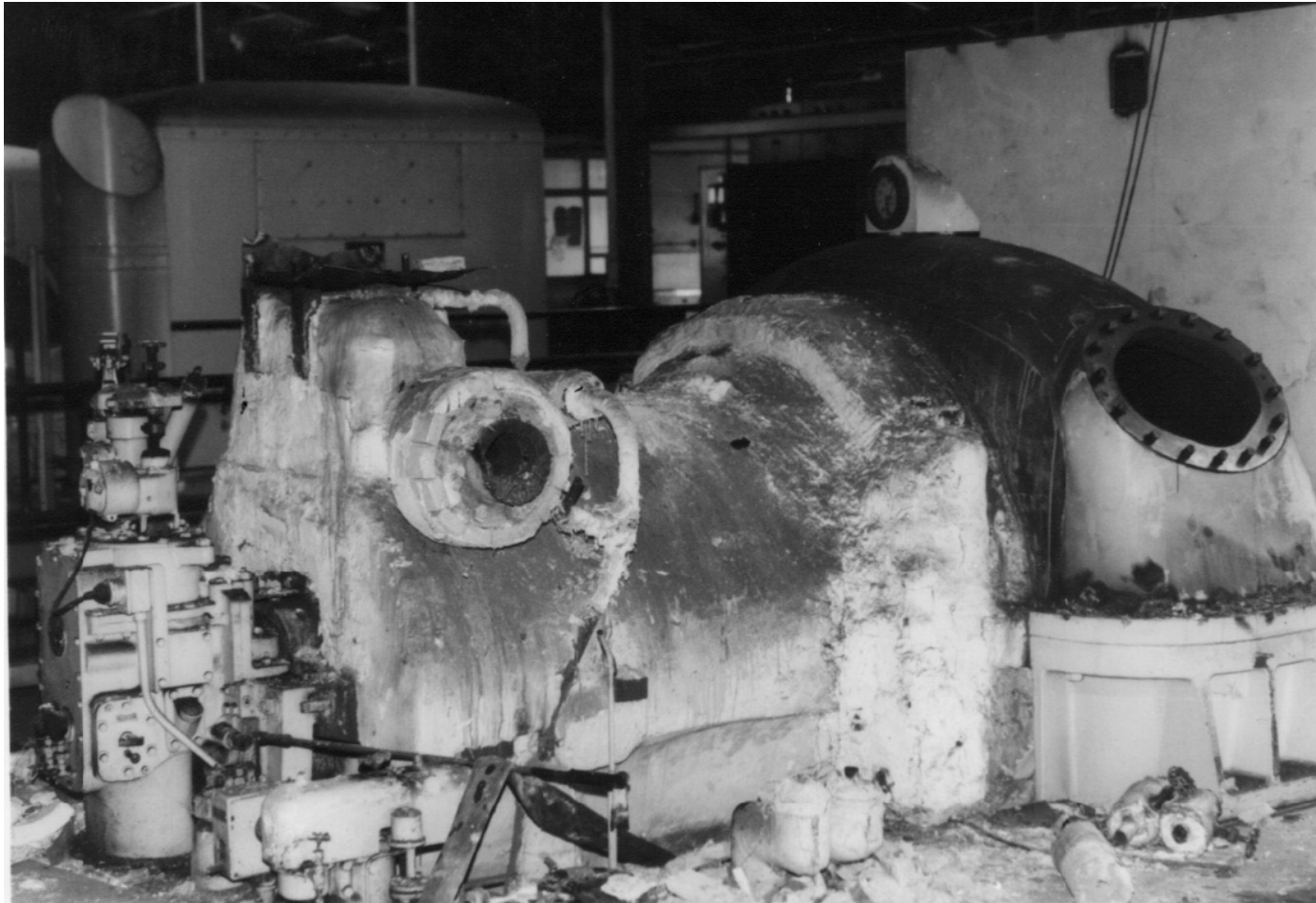
- Based on historical photos, the power station included multiple components that likely included both bonded and friable asbestos materials.
- Demolished materials were stockpiled throughout the working power station site.
- At this point in time, asbestos was not considered a hazardous substance and demolition and removal would not have been controlled to the standards of today.

Power Station Demolition



Stockpiled material during demolition of the facility.

Power Station Demolition



An example of a boiler/furnace that was likely insulated with asbestos material.

Walka Water Works – Crown Reserve

- Post decommissioning of the power station the Walka Water Works site became a Crown Reserve on 2 November 1984.
- After 1984 and prior to 2007, the reserve was managed by a board of volunteers and Ex Officio members on behalf of the State Government.
- Maitland City Council was appointed to manage the Crown Reserve in 2007.
- As a condition of Council being appointed, Crown Lands are obligated to fund any remediation of contaminated areas found on the site.

Contamination Investigations - 2008

In 2008, GHD were engaged by Council to undertake a high level assessment of the Walka Water Works site.

- Chemical contamination of soil, sediments and water was reported to be below the acceptable health levels for chemical contaminants.
- Asbestos was found in the Pumphouse, Power Station area, Sand Filter Beds and at other areas of the site and at this time any high risk items identified were actioned to ensure the site was suitable for use.



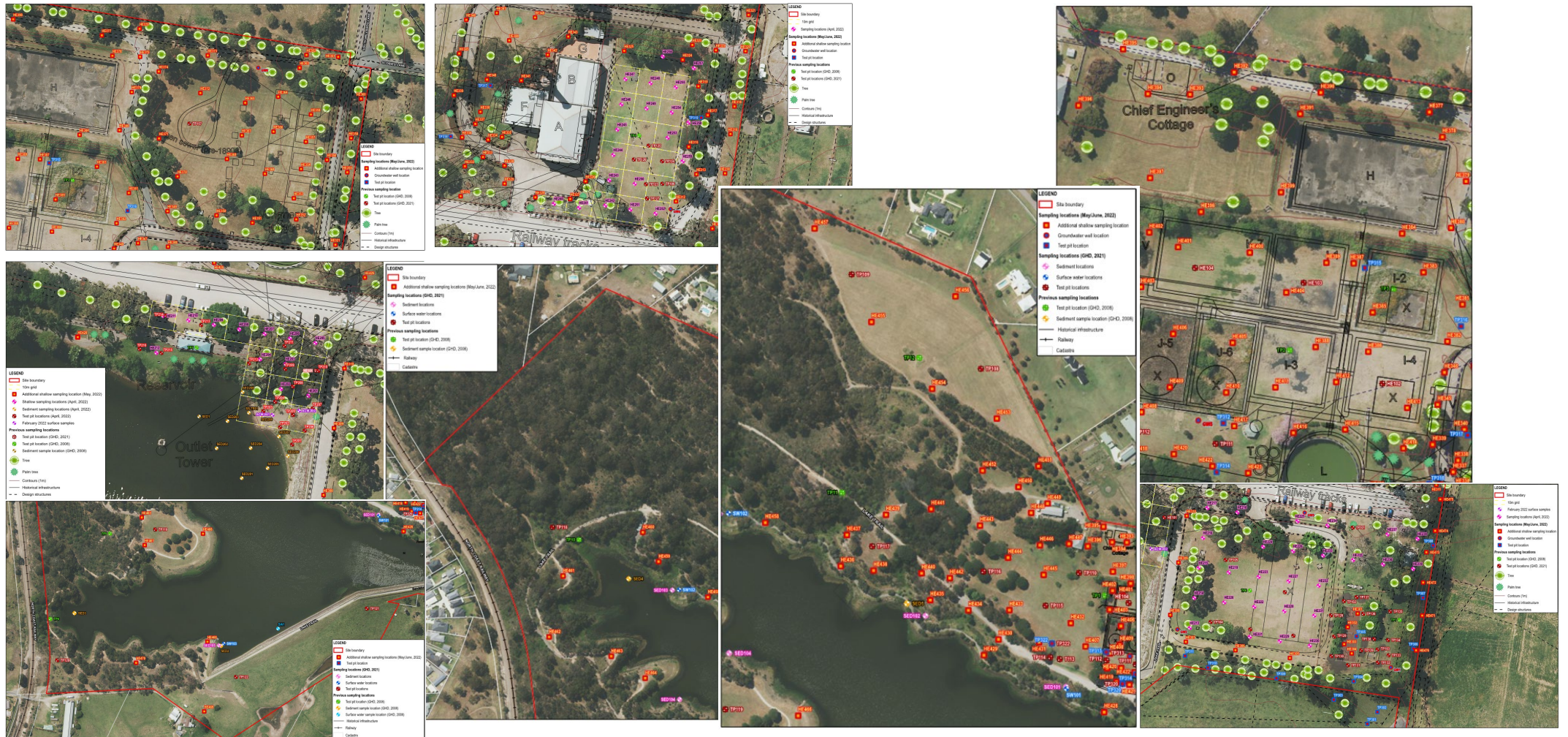
Contamination Investigations – 2021/22

In 2021 GHD were again engaged by Council to provide a detailed assessment of the contamination status regarding the historic infrastructure as part of the Crown Reserves Improvement Fund (CRIF) funded Walka Condition Assessment Project.

The objective of this reassessment was to identify any contamination issues that would prevent safe public use of the property and infrastructure.

- 340 bulk, test pit and shallow soil samples
- 23 sediment samples
- 6 groundwater wells
- 2 surface water samples
- Visual inspections of the trail networks, filter beds and open spaces
- Detailed inspections of all buildings

Contamination Investigations – 2021/22



Contamination Investigations - Results

The contamination assessment identified:

- Chemical contamination in soils, sediments and water was present, but is generally below human health levels and will not affect the suitability of the site for its current use as a recreational facility.
- Asbestos containing material (ACM) present in construction materials within the Pumphouse building.
- Asbestos contamination (ACM fragments) was present on the floor of Sand Filter Bed 2, on the driveway surface near the Caretaker's Residence, on the ground surface near the miniature railway station and on the ground surface near the old workers cottages site.
- Significant asbestos contamination (ACM Fragments, Friable Asbestos) in soil is present throughout the pumphouse lawn, the power station lawn, the embankment to the reservoir beach and to the Northeast of the amenities building.

Contamination Investigations - Results



Site location layout and indicative areas of asbestos in soil contamination

Remediation Options Assessment

Based on the requirements of the EPA accredited auditor, to allow recreational use of the contaminated areas, remediation is required.

- Remediation Options Assessment (ROA) completed as part of a Remediation Action Plan (RAP).
- The volume of contaminated material that needs to be remediated is significant, estimated at 7,700 – 19,000m³ (approximately 13,800 – 34,200T).
- Future use considerations – I.e. Accessibility, heritage, functions, services, landscaping, playground, recreational space, ongoing reserve use.

Remediation Options Assessment

Three feasible remediation options available to the site:

1. Consolidation and containment (preferred)

- \$6.5m - \$7m, high sustainability, minimal disruption to the surrounding land users, future use opportunities available if a mix of site containment and capping in-situ is applied.

2. Offsite disposal and replacement

- Expensive \$12m - \$14m, low sustainability, disruptive to surrounding land users. However, is reliable and presents future use opportunities.

3. Management Strategy

- Only feasible where identified contamination poses a relatively low risk, i.e the broader Walka site

Proposed Remediation Works

Remediation by Consolidation and Containment (subject to approvals and funding) is proposed including a mix of capping in-situ and site containment within the existing water filtration structures to facilitate future use requirements and site constraints.

Due to budgetary constraints and to allow ongoing partial use, remediation activities are proposed to be undertaken in stages.

The key areas of contamination and the proposed associated remediation stages are:

- Re-opening the site under controls (Stage 1 – completed)
- Eastern Lawn adjacent the pump house (Stage 2)
- Carpark and roadway (Stage 3)
- Power Station Lawn, south of Carpark (Stage 4)
- Reservoir Beach and area east of Miniature Rail Station (Stage 5)
- Former water treatment system and filter beds (Stage 6, but included in stages 2 - 5)

Proposed Remediation Works



Proposed remediation stages 2 – 6

RTAF Project – Remediation Works Planned

Remediation activities planned to be undertaken with the current grant funding include:

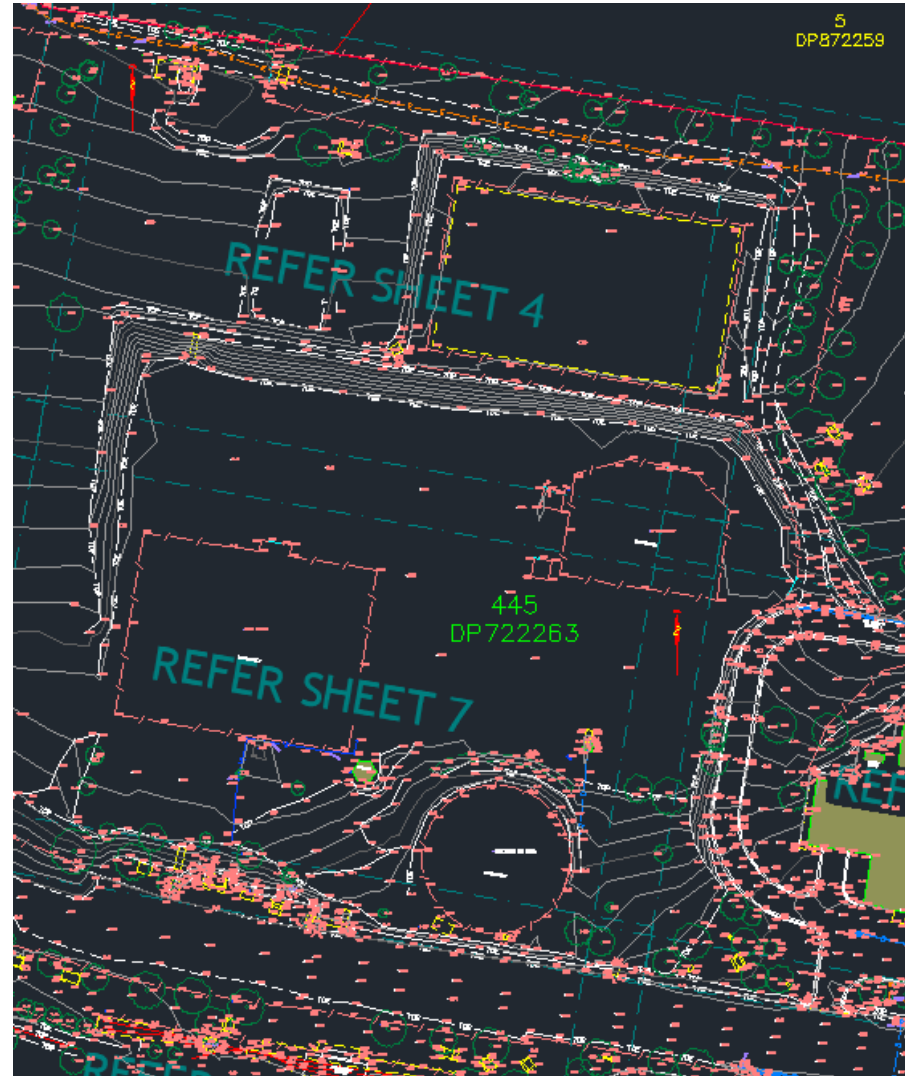
- Remediation of the pump house eastern lawn to allow weddings to recommence (Stage 2).
- Partial remediation of the carpark and roadway associated with service and drainage upgrades along the Northern perimeter (partial Stage 3).

Prioritisation of the remaining remediation activities (subject to future funding) is:

- Remaining carpark and roadway (Stage 3)
- Power Station Lawn, south of Carpark (Stage 4)
- Reservoir Beach and area east of Miniature Rail Station (Stage 5)
- Former water treatment system and filter beds (Stage 6, but included in stages 2 - 5)

Containment on site

- Discussions with Heritage NSW
- Interpretive Landscape design responding to the Heritage Significance of the site
- Integrated Development Application and Section 60 Approval





Questions?

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