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18 December 2024

Dear Petra,

**Re: 204 Hume Highway, Chullora, NSW: Preliminary Historical Archaeological Assessment (FINAL)**  
**Sustainable Heritage Ref#241025**

Sustainable Heritage has been engaged by Heritage 21 (the client) on behalf of Sydney Fuels Pty Ltd (the proponent) to prepare a preliminary historical archaeological assessment (PHAA) for the proposed planning proposal application for 204 Hume Highway, Chullora, NSW (the proposal area) (Figure 1). This PHAA details the historical archaeological potential within the proposal area. Recommendations to manage the impacts of the proposal have also been presented.

## Background

It is understood that the Planning Proposal involves a request to the Strathfield Council (the council) for the proposed addendum to the Strathfield Local Environmental Plan 2012 (the LEP) to enable a 'highway service centre' over land located at 204 Hume Hwy, Chullora NSW 2190 and more formally described as Lot 1 DP547215. It is understood that the planning proposal was submitted and received by Council on 25 March 2021 and a gateway determination report PP-2021-2824 (GDR) was published in October 2022.

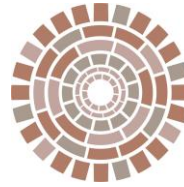
The following was noted in the GDR:

*A state-heritage listed pressure tunnel and shafts (Listing No. 01630) transverses the south western corner of the site. In addition, the western portion of the site within Canterbury-Bankstown LGA (formerly Bankstown) is also affected by a local heritage listing of archaeological significance (site of the previous Royal Arms Inn, Item A2 under Schedule 5 of Bankstown LEP 2015).*

*The following figures provide information on the context and principal planning controls affecting the site. Note that part of the site is state-heritage listed. This is for pressure tunnel and shafts (Listing No. 01630) which transverses the south-western corner of the site. In addition, the western portion of the site within Canterbury-Bankstown LGA (formerly Bankstown) is also affected by a local heritage listing of archaeological significance (site of the previous Royal Arms Inn, Item A2 under Schedule 5 of Bankstown LEP 2015).*

And noted in the recommendations to not proceed with the planning proposal that:

*The proposal has failed to demonstrate consistency with the additional following section 9.1 Ministerial Directions:*



- *3.2 Heritage Conservation*




...

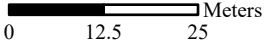
It is noted that 204 Hume Highway Chullora is situated within the Municipality of Strathfield LGA and the Canterbury-Bankstown LGA. As such, both the Strathfield Council Local Environmental Plan (2012) and the Canterbury-Bankstown Local Environmental Plan (2023) have been consulted to prepare this PHAA.





**Legend**

-  Watercourse
-  Subject Land
-  Cadastre



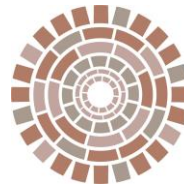
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**Figure 1: Proposal Area**





## Heritage Listing

The following section provides a summary of the relevant legislative framework relating to the protection and management of historical archaeology and heritage in New South Wales. The management and conservation of historical heritage and archaeological sites is subject to a range of statutory provisions in the NSW state government legislation. In NSW non-Aboriginal (historic) heritage is afforded statutory protection under the following Acts:

- the Heritage Act 1977 (NSW); and
- the Environmental Planning and Assessment Act 1979 (the EP&A Act).

The proposal area is located at 204 Hume Highway, Chullora, NSW and the State Heritage Register item (SHR) Pressure Tunnel and Shafts (SHR #01630) traverses sub-surface the southwestern corner of the proposal area (Figure 1). The item is also listed on the Canterbury Bankstown Local Environmental Plan (2023) as Pressure Tunnel, Shaft No 1 and associated infrastructure Item No. I106.

The below is the Statement of Significance as presented in the Pressure Tunnel and Shafts SHR listing #01630:

*The Pressure Tunnel is of high historical and technical significance as it represents a successful engineering response to the difficulties of increasing the volume of water from the Potts Hill Reservoir to the Pumping Station at Waterloo, a historically critical link in the water supply of Sydney. It is the third largest pressure tunnel in the world, representing a significant achievement in the provision of a dependable water supply by the Government and Water Board during the inter-war period.*

SHR Criteria E of the listing also states:

*The construction of the tunnel was delayed when the two tunnelling machine imported from England were unable to tunnel through the sandstone bedrock. The sandstone was far too hard for the cutting tools and manual labour was used instead. The fractures that resulted under full head provided a better understanding of the substrata and its properties.*

It is noted that the physical description of the listing sheet that the pressure tunnel was constructed between 1921 and 1935 and that:

*...the tunnel passes under the suburbs of Chullora, Bankstown, Enfield, Canterbury, Ashfield, Petersham, Marrickville, Erskineville, and Waterloo at a depth below ground level varying for 15m to 67m beneath high ground at Ashfield. Its maximum grade is 1 in 100, and its minimum is 1 in 2000. Its total length is approximately 16 kilometres...*

Table 1 below outlines the relevant legislation and associated listings:

*Table 1: Relevant legislation and associated listings*






<b>Legislation</b>		<b>Listing in the proposal area</b>
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	National Heritage List (NHL)	No
	Commonwealth Heritage List (CHL)	
NSW Heritage Act 1977	State Heritage Register	Yes. Pressure Tunnel and Shafts (SHR #01630)
	Section 170 Heritage and Conservation Register	No
Environmental Planning and Assessment Act 1979 (EP&A Act)	Strathfield LEP 2012	No
	Canterbury-Bankstown LEP 2023	Yes. Pressure Tunnel, Shaft No 1 and associated infrastructure Item No. I106

It is noted that the GDR referenced an archaeological item listed under Schedule 5 of the Bankstown LEP the previous Royal Arms Inn, Item A2 under Schedule 5 of the 2015 LEP. This item is not listed on the Canterbury-Bankstown LEP 2023 and detail on this is provided below.

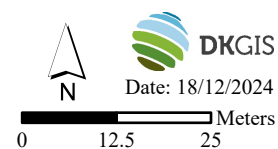




## Legend

-  Watercourse
-  Subject Land
-  Cadastre
-  Item - General
-  State Heritage Register

**Figure 2: Heritage Items and Proposed Works**

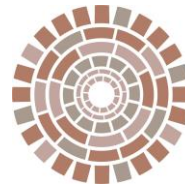


Coordinate System: GDA2020 MGA Zone 56



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## Concise historical context

The following historical overview contextualises the site-specific history and is comprised of an overview of the surrounding area and a brief summary of the area's growth and development. The history of the proposal area and its surrounds has been extensively covered in Longworth & ARHS (2009) Boilers, Beauforts and Bogies: Chullora locomotive and rolling stock workshops, 1913-2000, the Godden Mackay Ply Ltd (1990) Chullora Railway Workshops Heritage Assessment and the Austral Archaeology (2013) Historical Archaeological due diligence heritage assessment: LOT 12 DP 834734, Hume Highway, Chullora, NSW. This PHAA only provides a concise history that details the development within the proposal area and as such detailed historical context should be sought in the aforementioned documents.

Chullora was originally part of the region called by early European colonists as 'Liberty Plains', in the Parish of the same name within the County of Cumberland. The etymology of the name is believed to be due to the number of free settlers granted land in the area in the early years of the settlement (Wood 1985:3). The district was named Banks' Town in honour of Sir Joseph Banks in 1798; however, Bankstown did not become its own municipality until 1895 (Peters et al. 1990:10). These boundaries of Liberty Plains were defined by three major roads: Parramatta Road along the north, Liverpool Road (later to become Hume Highway) along the south and Dog Trap Road (later to become Woodville Road) to the west (Wotherspoon 2011).

After a considerable failure of the farming in the region, which led many settlers to leave the area and move to Parramatta Governor Macquarie commenced work on the Great South Road (Liverpool Road) in 1814 which led to a temporary influx of farmers, woodcutters and other businesses (Wood, 1985).

In 1826 William Jackson a freed convict purchased 170 or 180 acres of land from HG Douglas (the original land grantee of the area which included the proposal area). In 1827 Jackson married Caroline Turner and they erected a public house called The Kings Arms which was also known as the Royal Arms Inn. Previous investigations note that the Inn fronted the original alignment of Liverpool Road (now Hume Highway). The previous investigations into the potential for archaeological relics of the Inn noted that the northward expansion would have significantly damaged any archaeological remains which had not already been impacted by earlier levelling. Additionally, the location of the Inn was outside the boundary of the current proposal area.

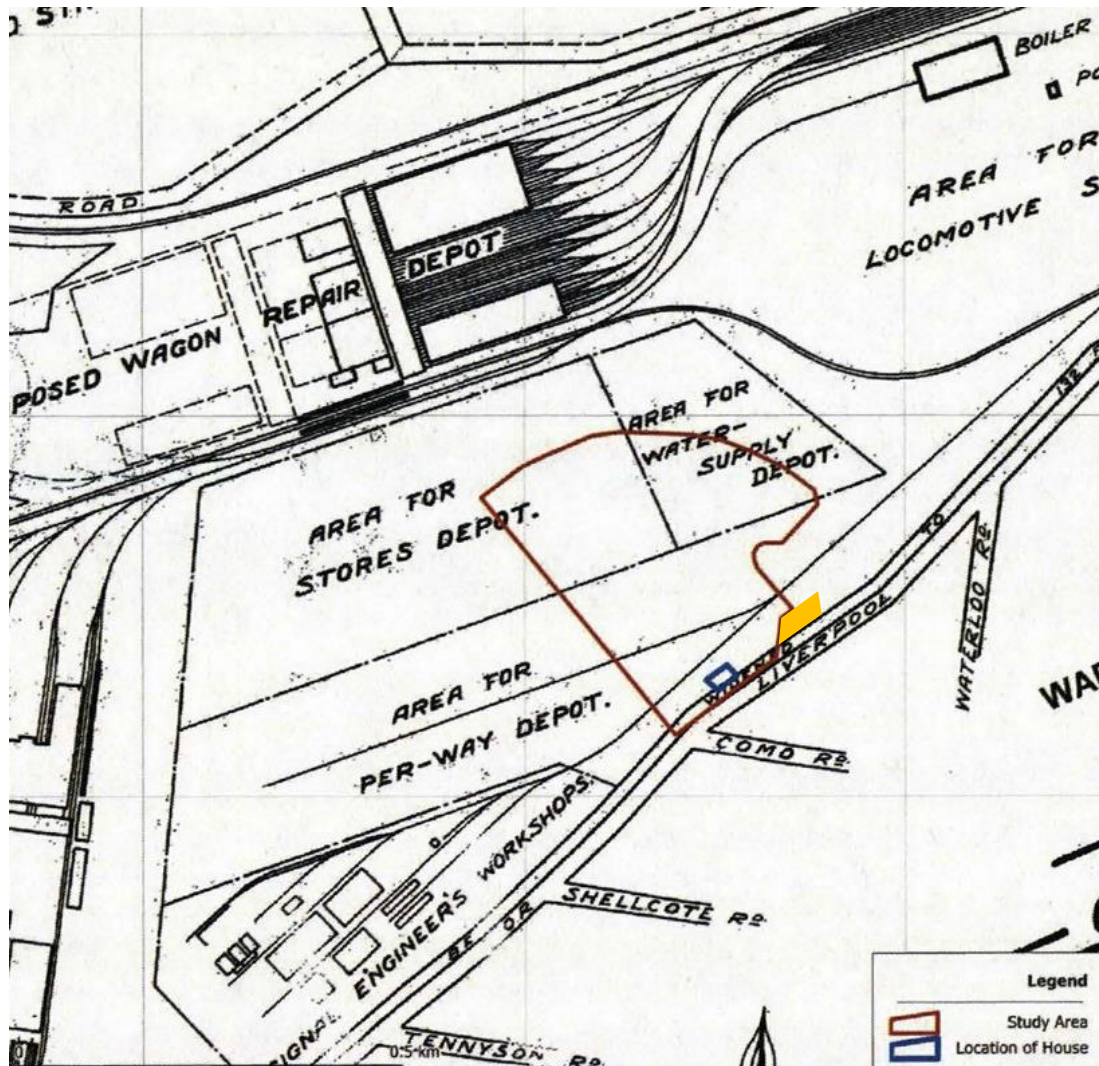
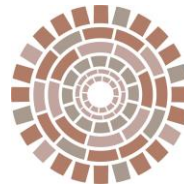


Figure 3: Location of the Inn (house) in relation to the proposal area in orange (Source: Austral Archaeology 2013 and annotated by Sustainable Heritage)

By 1909, plans were formed for the establishment of a rail works complex at Chullora. Plans for an extensive Enfield/Chullora rail works complex housing a variety of allied trades and operations were produced by the Railways Department in 1915/1916 (Austral Archaeology 2013). The proposals and recommendations were debated in early 1916, however the bills were not passed authorising commencement of work until after WWI in 1920 (Godden Mackay Pty. Ltd.1991). After the bill was passed large amounts of construction work were carried out under the auspices of the rail workshop from 1920 until the early 1960s, none of which were undertaken within the proposal area.



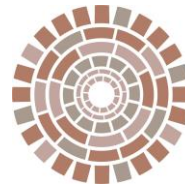


Figure 4: 1919 Parish Map of Liberty Plains (Source: HLRV by Sustainable Heritage)

## Physical changes to the proposal area

Aerial imagery from 1943 shows that the proposal area was cleared but that no development had occurred across the area. The clearing of the land is consistent with the early settlement and farming across the region. It is likely that no development occurred on the proposal area prior to the passing of the bill in 1920 to construct a rail works complex at Chullora. The 1955 historical aerial clearly shows that a banked/raised railway line borders the proposal to the north and a channelised canal borders the proposal area to the east and the Hume Highway border the proposal area to the south. It is unknown if the banked rail line was constructed using material for the immediate surrounds or if this was bought in. By 1965 there appears to be some earth works undertaken across the proposal area and by 1971 what appears to be the concrete slab foundation for the existing infrastructure was laid and by 1975 the existing structure was completed. The proposal area has undergone replacement and minor upgrades, but the form and general layout has altered little since construction.

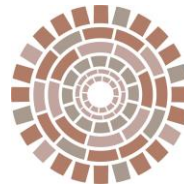


Figure 5: 1943 historic aerial (Source: Six Maps and annotated by Sustainable Heritage)



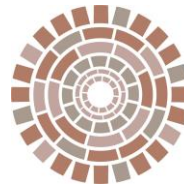


Figure 6: 1955 historic aerial (Source: Historical Imagery, Spatial Services NSW and annotated by Sustainable Heritage)

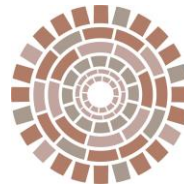
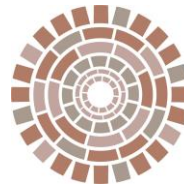


Figure 7: 1965 historic aerial (Source: Historical Imagery, Spatial Services NSW and annotated by Sustainable Heritage))



Figure 8: 1971 historic aerial (Source: Historical Imagery, Spatial Services NSW and annotated by Sustainable Heritage)





*Figure 9: 1975 historic aerial (Source: Historical Imagery, Spatial Services NSW and annotated by Sustainable Heritage)*

## Preliminary assessment of historical archaeological potential

Historical archaeology is the study of the past using historical accounts in conjunction with physical evidence. In Australia, historical archaeology broadly relates to the period since European settlement in 1788. Archaeological potential is defined as the likelihood that an area may contain tangible evidence related to earlier phases of occupation, activity and/or development. Tangible evidence is often identified in the form of structural remains and footings, occupation deposits, artefacts and/or features. However, evidence of Aboriginal occupation which can be dated to 1788 and later is also considered within the remit of historical archaeology as historical archaeology can be identified as evidence of occupation and land use as part of a written record. The archaeological resource is non-renewable and has the potential to contribute to our knowledge and understanding of the past not otherwise available.

The assessment of archaeological potential has been divided into three categories:

- **High archaeological potential** – based upon the historical context presented within this report in the item listing there is a high degree of certainty that significant archaeologically remains relating to this period, theme or event will occur within the study area.
- **Moderate archaeological potential** – based upon the historical context presented within this report in the item listing there is a moderate degree of certainty that significant archaeologically remains relating to this period, theme or event will occur within the study area.
- **Low archaeological potential** – based upon the historical context presented within this report in the item listing it is unlikely that significant archaeologically resources relating to this period, theme or event will occur within the study area.

In 2013 Austral Archaeology prepared an assessment of archaeological potential for the Royal Arms Inn (listed under Schedule 5 of the Bankstown LEP 2015 but is not listed under Schedule 5 of the Canterbury-Bankstown LEP 2023). It was found that:

*After considering the known history of the study area and the potential for archaeological relics to be present, it is determined the study area has little to no archaeological potential. This is principally due to significant impacts associated with development within the study area from the 1920s onwards.*

The SHR item Pressure Tunnel and Shafts (SHR #01630) transverses the southwestern portion of the proposal area. As outlined in the Listing sheet/heritage inventory the tunnel is extant and highly significant. However, the tunnel was constructed by tunnelling between shafts and not constructed using an open cut method. Additionally, the pressure tunnel is at a minimum 15 metres below the existing ground surface. As such, this PHAA has determined that there is high potential for the extant pressure tunnel to be located where it is mapped at a minimum depth of 15 metres below the current ground surface and no deeper than 67 metres below the surface.

Historical plans and aerial imagery indicate that minimal development happened across the proposal area until the construction and use of the rail works complex at Chullora. However, no works occurred within the proposal area apart from minor earth works until the construction of the existing buildings and surfaces which commenced circa. 1971. A summary of archaeological potential is outlined in Table 1 below.

Table 2: Assessment of archaeological potential

Description	Probable feature(s)	Construction date	Archaeological potential
<b>Pressure Tunnel and Shafts (SHR #01630)</b>	Pressure tunnel	1920-1935	High (at a depth of 15 metres below the current ground surface)
<b>Royal Arms Inn</b>	N/A	1820s	N/A
<b>Other</b>	N/A	N/A	N/A

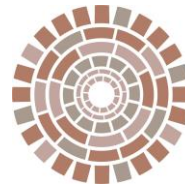
## Preliminary historical archaeological impact assessment

In accordance with the Heritage NSW publication Statements of Heritage Impact, this section addresses the potential impact of the proposed works on the potential archaeological resources.

It is understood that the proposed development will include the construction of:

- A service station and food and drink outlet with indoor dining and drive-thru
- A food and drink outlet with indoor/outdoor dining and drive-thru
- A fuel canopy over 6 new refuelling dispensers with 12 filling positions
- Two underground, double-walled tanks, storing predominantly unleaded petroleum of varying grades and diesel.





It is understood that to facilitate the construction of the above and all utilities and services bulk excavations to a maximum depth of 2 metres below the canopy area approximately 60 metres to the east of the SHR item Pressure Tunnel and Shafts (SHR #01630).

The proposal works do not extend to a depth that would impact the SHR item Pressure Tunnel and Shafts (SHR #01630) (Figure 2). It is noted that excavation and vibration impacts have not been assessed as part of this PHAA, see Recommendation 1 below,

## Conclusions and Recommendations

It is understood that the proposal includes the construction of:

- A service station and food and drink outlet with indoor dining and drive-thru
- A food and drink outlet with indoor/outdoor dining and drive-thru
- A fuel canopy over 6 new refuelling dispensers with 12 filling positions
- Two underground, double-walled tanks, storing predominantly unleaded petroleum of varying grades and diesel.

Additionally, it is understood that bulk excavations for the proposal would extend down to a maximum depth of 2 metres below the canopy area approximately 60 metres to the east of the SHR item Pressure Tunnel and Shafts (SHR #01630).

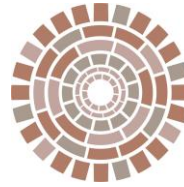
This PHAA found that there is high archaeological potential for the SHR item Pressure Tunnel and Shafts (SHR #01630) at a minimum depth of 15 metres below the existing ground surface and a maximum depth of 67 metres. No additional historical archaeological potential was identified based on the results of the research undertaken for the preparation of this PHAA.

It is noted that a preliminary historical assessment undertaken in 2013 for the adjacent Lot found that there was no archaeological potential associated with the Royal Arms Inn (listed under Schedule 5 of the Bankstown LEP 2015 but is not listed under Schedule 5 of the Canterbury-Bankstown LEP 2023). It was determined that the expansion of what is now Hume Highway and the considerable construction across that Lot between 1920 and the 1960s would have removed all remnants of the Inn.

The recommendations have been formulated to respond to the proposal requirements and the significance and research potential of archaeological resources within the proposal area. They are guided by the ICOMOS Burra Charter and the ESD principles with the aim of doing as much as necessary to care for the place and make it useable and as little as possible to retain its cultural significance.

### Recommendation 1: Structural Engineers Assessment

At the future DA stage, it is recommended that a structural engineer with experience in assessing impacts to heritage viaducts, tunnels, shafts, bridges etc be engaged to assess the potential impacts of the construction works to the SHR item Pressure Tunnel and Shafts (SHR #01630). Additionally, it is recommended that the structural engineer assess the vibration impacts of not only the construction works but also the impacts of the maximum use/load of the proposal to the SHR item Pressure Tunnel and Shafts (SHR #01630).



Recommendation 2: Update this PHAA with the results of the Structural Engineers Assessment

Upon the completion of the structural engineer's assessment this PHAA should be updated and submitted as part of the future DA stage to reflect the outcomes of the assessment.

Recommendation 3: Unexpected finds procedure

Relics are historical archaeological resources of local or State significance and are protected in NSW under the Heritage Act 1977. Relics cannot be disturbed except with consent from the relevant approving state agency. As such, an historical archaeological unexpected finds procedure should be implemented during the construction phase of the proposal.

Yours sincerely,

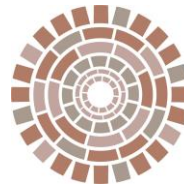
*Joshua Madden*

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## Limitations

This report has not considered the Aboriginal cultural heritage be it tangible or intangible of the project area and surrounds. It has been assumed that an assessment of Aboriginal cultural values and archaeology has been prepared by a specialist for the proponent.

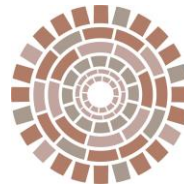
No stakeholder engagement has been undertaken as part of the research and findings of this report.

It is possible that further historical research or the emergence of new historical sources may support different interpretations of the evidence in this report.

No site inspection was undertaken for the preparation of this PHAA.

No structural assessment has been undertaken for vibration and excavation impacts to the SHR item Pressure Tunnel and Shafts (SHR #01630).

This report was undertaken to best archaeological practice and its conclusions are based on professional opinion. However, it does not warrant that there is no possibility that additional archaeological resources will be in the study area. This is based on limitations in historical documentation and archaeological methods make it difficult to accurately predict what is under the ground.



## References

- Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council of NSW, 2009)
- Austral Archaeology, 2013. Lot 12 DP 834734, Hume Highway, Chullora, NSW: Historical Archaeological Due Diligence Heritage Assessment. Prepared for Fairfax Media Limited.
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- Department of Planning and Environment, 2023. Guidelines for preparing a statement of heritage impact
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