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Archaeology and the Industrial Landscape: 21st Century Adaptive Redevelopment Confronts 19th Century Industrial Heritage

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***SUMMARY:** The development of transport networks in Victoria were driven in part by the gold rush, closer settlement schemes and pastoral developments which all had a major impact on the physical and cultural landscape by the late 19 century. By 1890 the Newport Railway Workshops in Melbourne were established as the focal point of the rail transport network and rail industry in Victoria. Clearly many historic industrial places, structures and technologies from this period have now become redundant, lost, obsolete or physically decrepit.*

Large scale historic industrial sites such as Newport are becoming the locus of redevelopment projects and hence their significant social and engineering heritage components become the subject of statutory planning and heritage assessments. The intention of this paper is to examine the practical and theoretical aspects of the assessment and conservation processes involved with the potential development of the former registered industrial heritage site Newport Railway Workshops.

1. INTRODUCTION

The purpose of this paper is to examine an industrial landscape remnant in Victoria that has recently become the locus of an adaptive redevelopment scheme. It was arguably a primary component of a mid 19th century economic revolution in Australia signalled by the arrival of a new energy regime and the rapid transformation of the social as well as the natural landscape. The dynamic convergence of this new form of energy and transport is an ideal setting according to Rifkin (2009) for an economic revolution and provided the nexus for an economic revolution for the state of Victoria.

More importantly, the arrival of a new energy regime was not only concerned with the exchange of ideas and materials but with the transfer of the ownership of those ideas and materials (McNeill 1988) which was soon followed by their transformation and innovation.

The stage was finally set for large scale industrial developments in Victoria when political autonomy for the colony was granted just months prior to the gold rush in 1851. Political autonomy and the creation of wealth was critical at this time for the creation of state institutions necessary to initiate and manage large scale infrastructure projects in the transport sector of the economy. Unlike Britain, the Australian climate and topography was generally unsuited to support industrial development based on water power (Rosenberg & Trajtenberg 2001). Compared to steam, water still offered the most abundant and cheapest form of energy in the nineteenth century in the rest of the industrialized world, but despite the high cost steam became king.

The high level of trading communication already established between the industrial core and the colonial periphery of the empire enabled the transfer and diffusion of the latest technology and knowledge back to a fledgling settlement in Australia. Direct transfer of technology occurred with the importation of the first locomotives which were built in England in 1855 and were working in Victoria by 1856 (Lee 2007 p.21) just 25 years after the prototype "Rocket" was completed. Technological development however also requires other essential items such as capital, labour, and institutions which could be borrowed or imported creating in turn a certain degree of dependency at the periphery. Technological dependence thus became structurally entrenched in the nineteenth century economy. Certain constraints developed briefly however as a consequence of British interests aligned with the primary export sector and the early development of a mature industrial base (Rosenberg & Trajtenberg 2001). Technological independence was soon realized in a grand manner with the design of locomotives in 1870s and the opening of the Newport Railway Workshops in 1890.

Although transport systems represented a substantial investment in capital works, confidence in the potential returns from the growth of investment capital was evident in the rapidly expanding rail system and rural development reflecting positive growth in the state economy supported by new political and economic institutions.

Although their historical significance is already clearly established the following chapters will examine the archaeological heritage of the Newport Railway

Workshops as the impact of redevelopment threatens their historical integrity and the extent that the principles of heritage management can ensure that the “past has a future” (Gilmour 2007). The chapter sequence includes firstly the project brief, followed by a brief historical background of the Newport Railway Workshop facility from its inception and diffusionist origins in British industrial facilities. The archaeology of the proposed development is examined in chapter three and then chapter four looks at the Principles of Heritage and Significance Assessments of archaeological features. Chapter five presents the permitting process and a summary of the impact of the proposed works on archaeological features and heritage values associated with the site along with recommended management options. Since the project is still in progress, the addendum outlines the most recent progress of the works.

2. THE NEWPORT RAILWAY WORKSHOPS: INDUSTRIAL REDEVELOPMENT AND HISTORICAL BACKGROUND

2.1 Project Brief

The former Newport Railway Workshop facility represents the extant industrial fabric of the former Victorian Railways established in 1884 on a 62.6 Ha vacant block of land 8km south of Melbourne. The site was listed on the Victorian Heritage Register (VHR1000) after an engineering and conservation survey report by C & M J Doring Pty Ltd in 1988. In 2008, Sinclair Knight and Merz were commissioned by the Department of Transport to design an additional stabling facility at Newport to accommodate new suburban rolling stock and facilities. Although the proposed stabling tracks and associated structures did not impact any Heritage listed structural features, a large proportion of the curtilage area, including the former yards and land surrounding the complex was involved as well as a “lean to” structure recently added to the north end of the Tarpaulin Shed. At this point, as senior historical archaeologist for the Sinclair Knight Merz (SKM) Cultural Heritage section, I was asked to undertake a detailed archaeological assessment of the impact area given the close proximity of a heritage listed building and the archaeological potential of the place. The assessment would also include recommendations and appropriate heritage management options.

2.2 Historical Background

The history of the Newport Industrial complex is one of continuing growth and capability from the inception of the first rail line from Spencer Street (Batman’s Hill) to Williamstown pier in 1859 (Doenau 1979, p249). The first locomotives imported from England were unloaded here and assembled at a workshop facility established at the pier. Very soon however, as private rail enterprise expanded with various rail acquisitions in the 1870s it

soon became apparent to the newly established Minister of Railways that the Williamstown Workshops were no longer adequate to manage the system effectively.

The Newport Workshops were the response to a decision in 1884 by Richard Speight, the new manager of Victorian Railways, to erect a new facility on a vacant block of land between the Geelong Railway and the Williamstown Railway and Champion Road at Newport. Richard Speight had only just arrived in Melbourne from the Midland Railway, Derby in England where he had been Assistant General Manager since 1877 (Lee 2007). With his appointment as manager of the Victorian Railways at the beginning of 1884 and a new administration he began an era of expansion to overcome the inadequate facilities offered at the Williamstown and Port Melbourne Workshops. Many of the innovations introduced at that time such as new rolling stock and standard locomotive designs were based on Midland Railway practice. The design for Newport was also similar to the Midland Railways Derby Workshop where a central two storey brick office block surmounted by a clock tower was also a dominant feature. This layout may have been originally derived from the design of British Railway Workshops at the London and South Western Co. Nine Elms workshops in the south of England (Doenau 1979, p.251) and subsequently modified by Victorian engineers. The new workshop complex was constructed and equipped between 1886 and 1888. The ‘Tarpaulin Shed’ was built in 1887 with an addition to the south added in 1890. The building was again doubled in size in 1912 (Doring 1988, p.5). The original 1890 layout is shown in Figure 2-1.

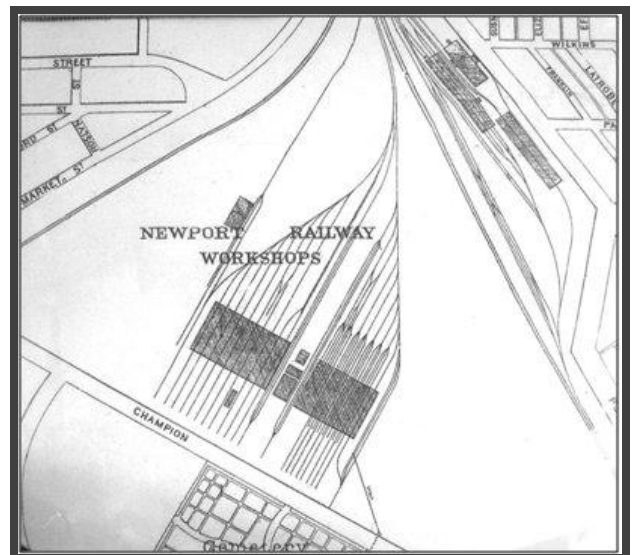


Figure 2-1 Newport Railway Workshops 1890(Victorian Railways Survey Plan 1890, State Library of Victoria)

Supply and maintenance of equipment for the Victorian Railways was the principal function of the Newport facility for the first fifteen years. Just one small

shunting engine was built during this time in the west block, but carriage construction in the East block had begun immediately the workshops were completed in 1889. By 1904 however as a result of a change in Government policy the “Golden Age” for locomotive building (Doenau 1979, p253) began when Newport won a contract to replace the aging collection of locomotives dating back to the 1860s with a new Victorian Railways design.



Figure 2-2 Newport Workshop activity ca 1915 ((Victorian Railways cited in Doenau, G., 1979. The Newport Story, Australian Railway Historical Society Bulletin, vol XXX, No.505, p263)

Continued expansion and the introduction of new technology to the Victorian Railway system created a need for still more workshop facilities at Newport especially during World War I (Figure 2-2) when munitions were produced and more importantly the conversion of existing suburban rolling stock to electric traction. As a result of these activities, by 1917 virtually the entire Newport workshop facility had converted from steam to electricity and the Melbourne suburban rail system was electrified in 1919 (Doring 1988). Locomotives continued to be designed and produced as increased capacity and efficiency were necessary to maintain an economic advantage in the transport sector for passengers and goods.

Significant changes continued to occur at various times throughout the operational life of the Newport Stabling Yards and Workshops creating the current collection of buildings and yards which now represents the material culture of an industrial complex which has evolved for around 100 years.

3. ARCHAEOLOGY AND THE FORMER NEWPORT WORKSHOPS INDUSTRIAL HERITAGE

Besides the Heritage Survey carried out by Doring and Associates (1988) no archaeological surveys have been carried out prior to this SKM study.

Under Section 132 of the Heritage Act 1995 any person discovering or uncovering an archaeological relic is required to report the discovery to the Executive

Director of Heritage Victoria. An archaeological relic is defined by the Act as:

Any archaeological deposit; or any artefact or material evidence associated with an archaeological deposit which relates to the non-Indigenous settlement or visitation of Victoria and is more than 50 years in age. In accordance with the Heritage process, Heritage Victoria was notified of the intention to survey the two designated impact areas, A and B. Both areas were covered in a systematic walk over survey and correlated with previously features and structure identified from historical surveys of the Newport Workshops. Some of these structures and features may or may not have been lost and which could be considered a potential archaeological site.

3.1 Area A

Most of Area A (Appendix B) to the north of the Tarpaulin Shed has been used as a stabling yard since 1919 (Figure 3-4). These extant rail lines with their associated points and levers are currently still active and used to store assorted historical museum rolling stock such as carriages and wagons, consequently this area is extensively disturbed and there is no documentary evidence of any prior activity to the installation of the rail network. The north eastern boundary of Area A also marked the curtilage surrounding the Heritage registered Tarpaulin Shop and consequently was considered as a heritage sensitive area (Figure 3-1)



Figure 3-1 Heritage sensitive NE boundary, Area A, view south (Holmes P. 2008, ‘Newport Stabling Yards Baseline Historical Assessment’, Report, Department of Transport, Melbourne)

The Victorian Railways 1919 map shows two small unidentified features in Area A associated with this area (Figure 3-4) but by 1933 these are no longer extant. Two other features in Area B at the top are an “elevated water tank” and an “excavated tank”. Four new ancillary features can be identified on the Victorian Railway (VR) Survey Plan, 1933 (Figure 3-5) associated with the Tarpaulin Shed activities. Identified from the northern end, these features include an unidentified structure approximately 2.8m x 3.5m, a

toilet facility, a Tarpaulin Wash and associated brick drains and finally another small shed of unknown designation. The “excavated tank” has become a “Pond with Guard Rail” by 1933.

The “lean to” structure at the the north end of the Tarpaulin Shed is shown on the 1972 Newport Workshops map (Figure 3-2). This is essentially a stand alone structure and appears to have been added sometime between 1933 (Figure 3-5) and 1972 and is not considered of heritage value. However it is situated within the new Training School track alignment and will be removed.

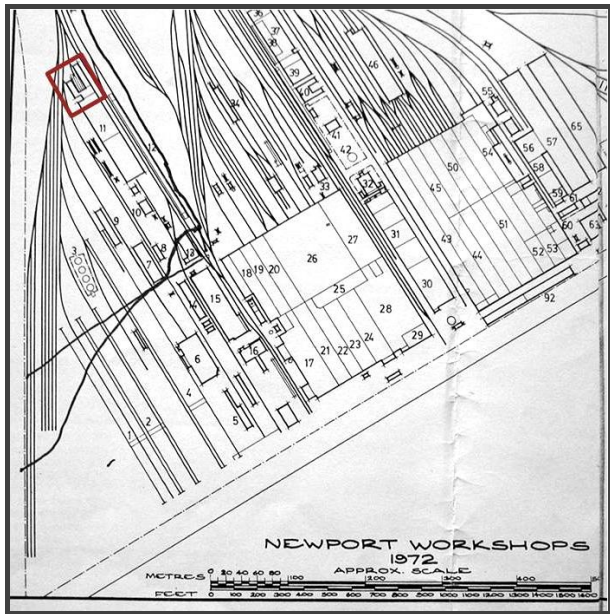


Figure 3-2 Newport Workshops 1972 with Tarpaulin Shed extension ((Victorian Railways cited in Doenau, G., 1979. The Newport Story Australian Railway Historical Society Bulletin, vol XXX, No.505, p261)



Figure 3-3 Area A view south, standpipe ca 1933 and active line in limited use (Holmes P. 2008, ‘Newport Stabling Yards Baseline Historical Assessment’, Report, Department of Transport, Melbourne)

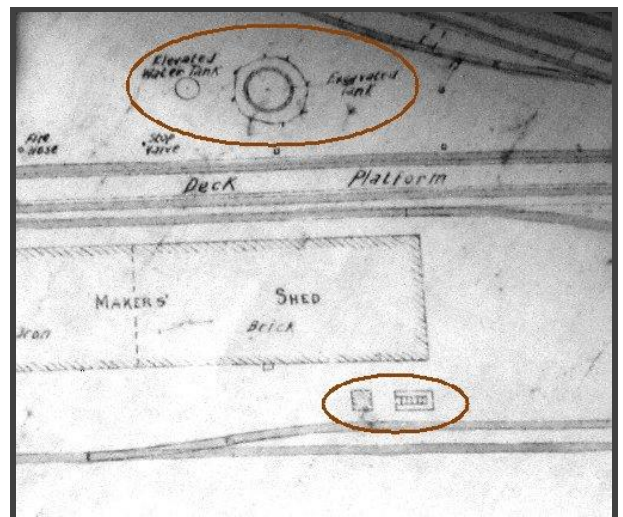


Figure 3-4 Newport survey plan 1919, showing features in Area A (bottom) and Area B (top) (Victorian Railways Survey Plan 1890, State Library of Victoria)

Except for the brick toilet facility and the small shed there was no evidence or visible remnants of the remaining two structures and therefore these former features were now considered Potential Archaeological Deposits (PAD). Although both of these early and later features are situated outside the survey area inside the tree line, this north eastern boundary of Area A (Figure 3-1) is therefore considered to be of high archaeological potential.

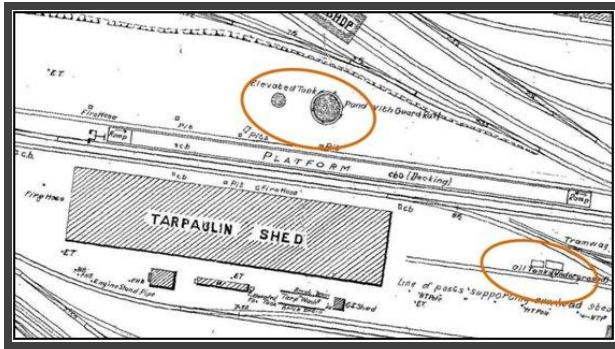


Figure 3-5 1933 Survey plan with features with Potential Archaeological Deposits (Victorian Railways Survey Plan 1933. ARHS Railway Museum, Newport)

Area A had recently been subject to clearing activities and items such as storage tanks, historic rolling stock and elements of rail ephemera had already been removed. A Standpipe and various other items that appeared to be in limited use were identified and recorded during the survey.

The Standpipe (Figure 3-3), coaling area and the active line were necessary facilities to maintain the presence of the Steam Rail group and their restored locomotive housed in the north end extension of the Tarpaulin Shed. The points and levers used in this area (Figure 3-7) were installed sometime between 1890 and 1919 according to survey plans. It could not be ascertained whether the set of points and levers currently still in limited use were the original items or whether they may have been subject to modifications or replaced at any stage.



Figure 3-6 Area A view south east, rolling stock, coaling and storage areas (Holmes P., 2008, 'Newport Stabling Yards Baseline Historical Assessment', Report, Department of Transport, Melbourne)



Figure 3-7 Area A, historic points and levers, ca 1919 (Holmes P. 2008, 'Newport Stabling Yards Baseline Historical Assessment', Report, Department of Transport, Melbourne)

3.2 Area B

Area B is situated to the south of the Tarpaulin Shed (Appendix C) and extends to the northeast as a rectangular corridor, with a fenced stabling line defining the southern boundary along to the current training complex (Appendix A) This area is situated entirely within the heritage registered curtilage area. The northern boundary extends 150m northeast to intersect with the access road and continues for another 116m alongside the road to meet the northern boundary behind the training offices. This is a roughly triangular area consisting of a set of recent buildings, car parks and a large warehouse structure and although it is situated within the delineated curtilage and is approximately 40m from the Tarpaulin Shed it has no potential for archaeological sites or features according to available survey plans. The remainder of the corridor however has several visible features of interest and a high potential for archaeological sites

A section of the 1933 survey plan shown in Figure 3-5 identifies two sets of features shown highlighted which are no longer extant. The two circular features are identified as an "elevated tank" and a "Pond with guard rail" approximately 10m in diameter. The existence of a guard rail surrounding the pond suggests it was probably a hazard, either from the contents or from the depth of water present. Given its proximity to the Tarpaulin Shed and the Truck Paint Shop it could have been used to contain overspill or as a retention area for contaminated fluids, or possibly a water reservoir for emergency fire resources.

No elevated water tank appears in the aerial photo suggesting it may have been an additional utility or connected to the pond resources already available, in which case the photo would have been taken before 1933 suggesting that it was installed sometime between 1919 (Figure 3-4) and 1933. The 'pond' is also identified in an undated aerial photo (Appendix C).

In addition, to the south of the Tarpaulin Shed, the survey plan identifies two underground oil storage tanks. These may have been installed between 1927 and 1930 along with other major extensions around that time.

3.3 Summary of the Archaeological Survey

The results from the archaeological survey carried out for this report in the survey Areas A and B indicates these areas have potential for up to three archaeological sites. The 'store' in Area A is historic but is of low archaeological interest. The remaining locations in Area B have been identified from historic survey plans and subject to survey with no surface remnants evident. These two sites located adjacent to each other appear to have been stand alone structures of unknown function although they may have operated as a unit. They will be directly impacted by the works proposed in its present location.

4. CULTURAL HERITAGE ASSESSMENT

4.1 The Principles of Cultural Heritage Assessment

The assessment of cultural heritage significance seeks to develop an understanding as to why a study area, place or item is considered important and what values it has to the community. The concept of cultural heritage significance supports that a set of values, beyond financial benefits, is embodied within the place itself, its fabric, setting, use associations, meanings, records, related places and related objects. It can be both tangible and intangible and values may be associated with past, present or future generations (Burra Charter: Charter for Places of Cultural Significance, 1999). Assessments of cultural heritage significance help to formulate and guide management policy and strategies.

Significance assessment for non-Indigenous cultural heritage places in Victoria is guided by the Australian Heritage Commission (2001) definitions of four main categories:

- Historical Significance;
- Scientific Significance (including archaeological);
- Aesthetic Significance;
- Social or Spiritual Significance.

Heritage Victoria has defined a list of criteria for the significance assessment of historical sites and places in Victoria based on the Burra Charter model as follows.

There are two levels of protective significance classification in Victoria which include Local and State. Local significance is legislated through the *Planning and Environment Act 1997*. Places and objects of State significance are protected under the *Heritage Act 1995* through the Victorian Heritage Register. Archaeological sites with any level of significance can be included in the Victorian Heritage Inventory.

4.2 The Heritage Significance Assessment

The archaeological assessment of Areas A and B (Appendix 10) are broadly based on extant features or areas of potential archaeological deposits. In this case, the landscape has been heavily modified by major industrial activity and under regular transformation as various political events and technology have shaped its historical development. Although historical themes relate directly to expansion phases evident in buildings such as the Tarpaulin Shed extension and technological developments associated with the arrival of the Steam Hammer, much of the material evidence associated with these events has been lost or irretrievably modified. Economic viability may be a factor in preservation but most systems and components that could reflect these changes have generally been rendered obsolete and either dismantled or in this instance assumed to be demolished and buried insitu.

4.3 Assessment of Scientific Significance

Both survey areas have been subject to continual development and modification for heavy industry since the mid 1880s. Industrial processes are understood to be in a constant state of renewal with a wide variety of factors influencing the rate of redundancy and replacement. The material remnants of these events and processes therefore can provide a valuable contribution to the historical record and an insight into understanding of these processes which might otherwise be lost. The intense scale of industrial activity at the Newport Workshops during World War I is shown in Figure 2-2. Area A has been relatively isolated from the mainstream of activities and presents a relatively small range of industrial rail related activities offering only limited research potential including:

- Various items including rail tracks, points and levers, related to current stabling activities for the storage of historic rolling stock which are still in occasional use. The engine standpipe is an original feature (Figure 3-3) but will lose its original context when the old stabling and current coaling activities are lost. Therefore it also represents very limited research potential and low scientific significance.

Area B (Appendix10) is situated entirely within the curtilage area and as in Area A, Area B is also comprised of a variety of rail related activities including:

- A set of shunting or stabling tracks were established alongside the Tarpaulin Shed by 1890. A small section will be lost at the south end of the Tarpaulin Shed but besides retaining their original context are considered of low scientific significance.
- An additional set of tracks also parallel to the Tarpaulin Shed are fitted with overhead wiring erected for training purposes as part of the training school included in the survey area are considered of low scientific significance. The signal equipment associated with these tracks

is also considered of low scientific significance.

- A large 'pond with guard rail' was a very visible feature in an aerial photo (Appendix C, Undated aerial image of the pond feature first recorded on survey plans in 1919 and last recorded again in 1933. It was perhaps allied to an adjacent building and the Tarpaulin Shed given its size (approximately 10m in diameter) and proximity. It is also situated within the proposed impact area and therefore represents a buried feature of high research potential is considered to have high scientific significance.
- The underground oil tanks (Figure 3-5) are considered to have low scientific significance but could offer some research potential

Overall, considering the potential archaeological sites in Area B, it has moderate scientific significance in view of their possible research potential to contribute toward an understanding of their role in the wider rail manufacturing activities at Newport.

4.4 Assessment of Historical Significance

Area A holds few remnants of historical significance except for the 'store' as a standing structure and still probably in limited use. The exact nature and function of this building could not be ascertained beyond storage since there was no access. Externally it does not appear to exhibit any special architectural features and is not considered historically significant. A series of ancillary structures now lost along the northwest side of the Tarpaulin Shed were related to tarpaulin production and maintenance and create an archaeologically sensitive area of the boundary. Area A therefore is considered to have low historical significance.

Similarly Area B has few remnants of historical significance and appears to be an area subject to only limited activity. The historic track set alongside the Tarpaulin Shed will be impacted and a further small section at the south end will be lost. The platform, deck and ramps associated with these lines have already been lost and this section is considered to have low historical significance. However further east from the Tarpaulin Shed the locations of three other historic features now lost have been identified as potential archaeological sites and are considered to have high historical significance but the buried oil tanks are considered to have low historical significance.

Area B overall is considered to have moderate to high historical significance for the potential to provide a contribution to the understanding of certain structures now lost, their initial function and why they became redundant and either removed, dismantled or buried.

4.5 Assessment of Social Significance

The social significance attached to these particular areas situated within the former Newport Workshops is based

on the significance of this context to the rate of development and settlement of the state of Victoria. In these terms the material culture associated with potential archaeological sites and features within these areas may contribute to the understanding of the relationship between social and technological development. Overall, Area A is considered of low social significance while Area B with potential archaeological deposits is considered to have moderate social significance.

5. HERITAGE IMPACT

As part of the Permit for Works application process a Heritage Impact Statement is required to explain in detail the extent of the proposed works and their impact on the Heritage place. The 1888 group of original buildings are of historical significance as one of the best surviving 19th century railway workshops in the world, besides their historical economic significance in the development of Victoria as examined in the introduction. The context therefore of the former Newport Railway Workshops Stabling Yard proposal is an area of sensitive heritage values.

Although the proposed works utilize an area that will have a minimal physical impact on heritage values, the visual impact of modern rail activity will be significant and impose a 21st century complement to the physical presence of current rail heritage related groups and enable historic links with the modern rail network to be maintained.

In summary, the impact from the proposed development will involve six major features:

- The construction phase of the project will create temporary physical and visual disturbance such as increased truck movements for the proposed works. Construction activity will be strictly limited to the proposed construction zone.
- The Stabling Yard proposal has been designed to utilize a vacant area of heritage land and therefore minimize the physical impact but provide visual continuity with rail related activity traditionally associated with the place.
- The adaptive reuse of the heritage place for the Stabling of up to 8 new train sets in the proposed development will activate an additional dimension of compatible rail activities. These will complement the visual and physical presence of current rail heritage related groups and enable historic links with the modern rail network to be maintained.
- Construction will impact three sub surface historic features identified within the construction zone. These features could not be avoided and therefore will be subject to mitigation and remedial measures as outlined below.

- The northern end of the Tarpaulin Shed has a recent “lean-to” addition that will be removed for an access road. This will restore the Tarpaulin Shed to its original dimensions. Some superficial damage may occur during this restoration in which case an assessment will be made and repairs and reinstatement of the building fabric will be undertaken as necessary.
- An additional Stabling facility is also scheduled for construction in the Public Use Zone (Area A) to the north of the Tarpaulin Shed shown in the attached plan (Appendix B, Archaeological Features and Survey Areas). This area had been in use until recently as a Stabling Facility and will necessarily undergo an upgrade to accommodate new track sets. The new facility is considered to create minimal impact except for the construction period with additional truck and machinery movements. However, the curtilage boundary and the works boundary coincide alongside the Tarpaulin shed and need to be clearly identified to prevent any accidental impact upon Heritage assets including possible sub surface archaeological deposits identified in that area.

5.1 Management Recommendations

The following recommendations were proposed in the Heritage Impact Statement submitted to Heritage Victoria to mitigate the detrimental impact of the proposed works;

- The mitigation of the ‘pond’ site (Appendix C, Undated aerial image of the pond feature by controlled machine excavation once it is located and the extent and depth of the site is known. It was a significant feature and estimated from survey plans to be approximately 10m diameter.
- The ‘elevated tank’ site may have sub surface features which may indicate a functional link to the ‘pond’ therefore sub surface testing would be recommended.
- The oil tanks will be excavated at the same time, but there may be some environmental concerns to address regarding their removal.
- An assessment of the exposed fabric of the Tarpaulin Shed after removal of the “lean to” structure.
- A high visibility barrier to be erected during construction to clearly delineate the curtilage boundary on the northern side of the Tarpaulin Shed, because there is a possibility of further buried features very close to the boundary, including a Tarpaulin Wash. In addition both ends of the building are at risk from accidental damage during road construction and a suitable buffer zone should be established. The

southern corner of the building in particular where it diverts the single lane road and creates a blind corner could require a longer term solution such as a permanent type of roadside barrier.

- The curtilage boundary is to be marked on all plans and maps released to contractors and third party tradesmen as outlined above.

These measures were accepted in principle by Heritage Victoria Council and a Permit was granted for the works to proceed with specified conditions regarding excavations, demolition, a building assessment and the submission of a final report. Final results and conclusions for this project will be presented when excavations have been completed.

6. ADDENDUM

The proposed demolition of the “lean to” extension to the Tarpaulin building has lately attracted the interest of Engineering Heritage Victoria. A recent meeting (16 April 2009) was convened in Melbourne with a view to adopting a strategy of protection and restoration of the Kirkstall Forge Steam Hammer and Billet Crane currently exposed to the elements at the Newport Railway Workshops. I was fortunate to attend this meeting and with my knowledge of the forthcoming program of development I was able to suggest to the sub-committee the possible reuse of structural steel from the “lean to” to establish a structure over the hammer and crane. Following this suggestion a detailed insitu inspection and survey of the available steel was carried out and found to provide adequate structural coverage of the steam hammer site at considerably less expense than the cost of a new structure.

Although the “lean to” structure is not considered a heritage feature it is important to continue the link with rail and the conservation of heritage items at Newport. Sustainability is a core SKM company policy consideration and therefore their full support has been behind the negotiations for the project for the reuse of the “lean to” material.

7. ACKNOWLEDGMENTS

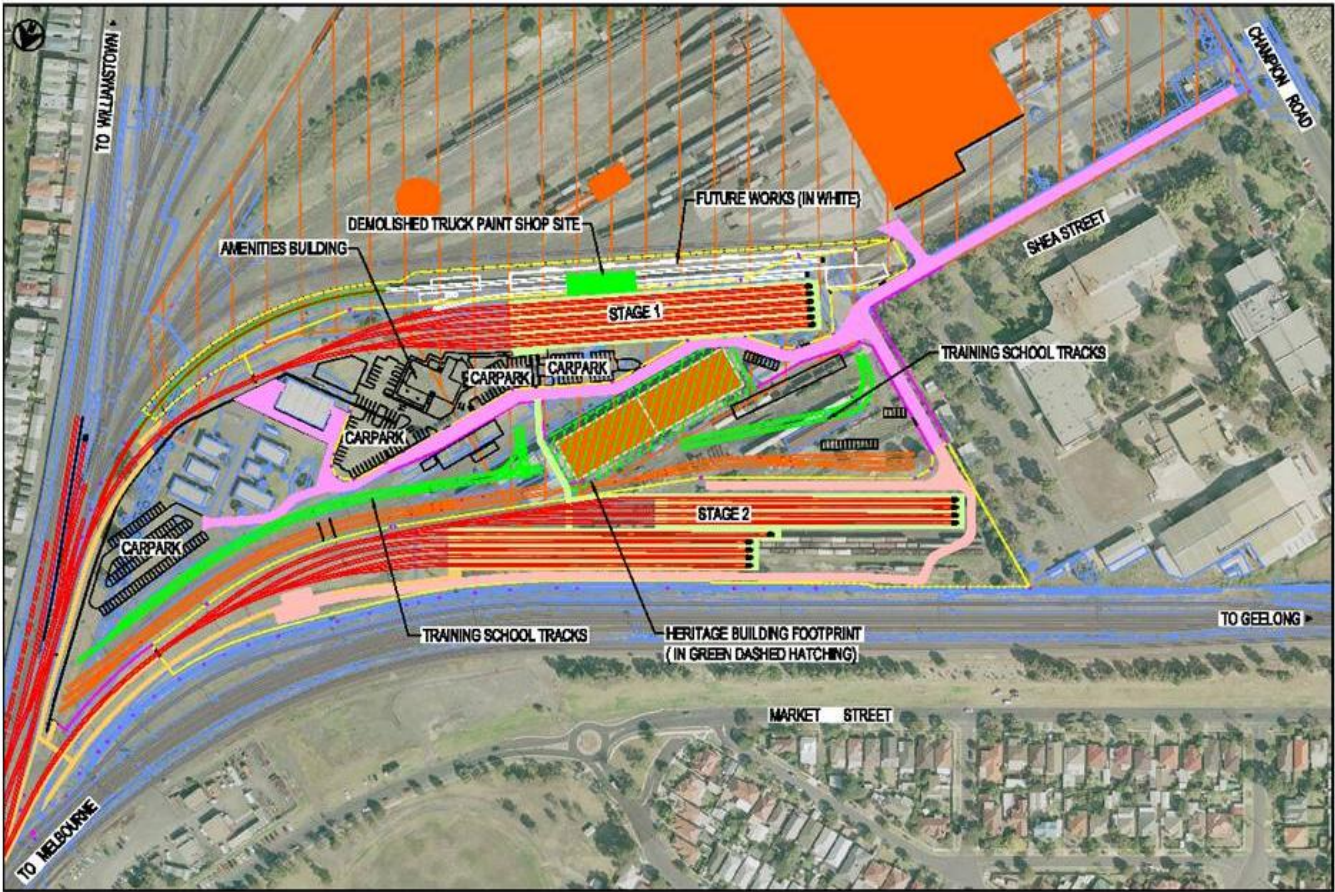
The Australian Railway History Society (ARHS) for providing archival material and SKM for assistance and encouragement and finally the Engineers for Heritage in Australia for the opportunity to present this paper.

8. REFERENCES

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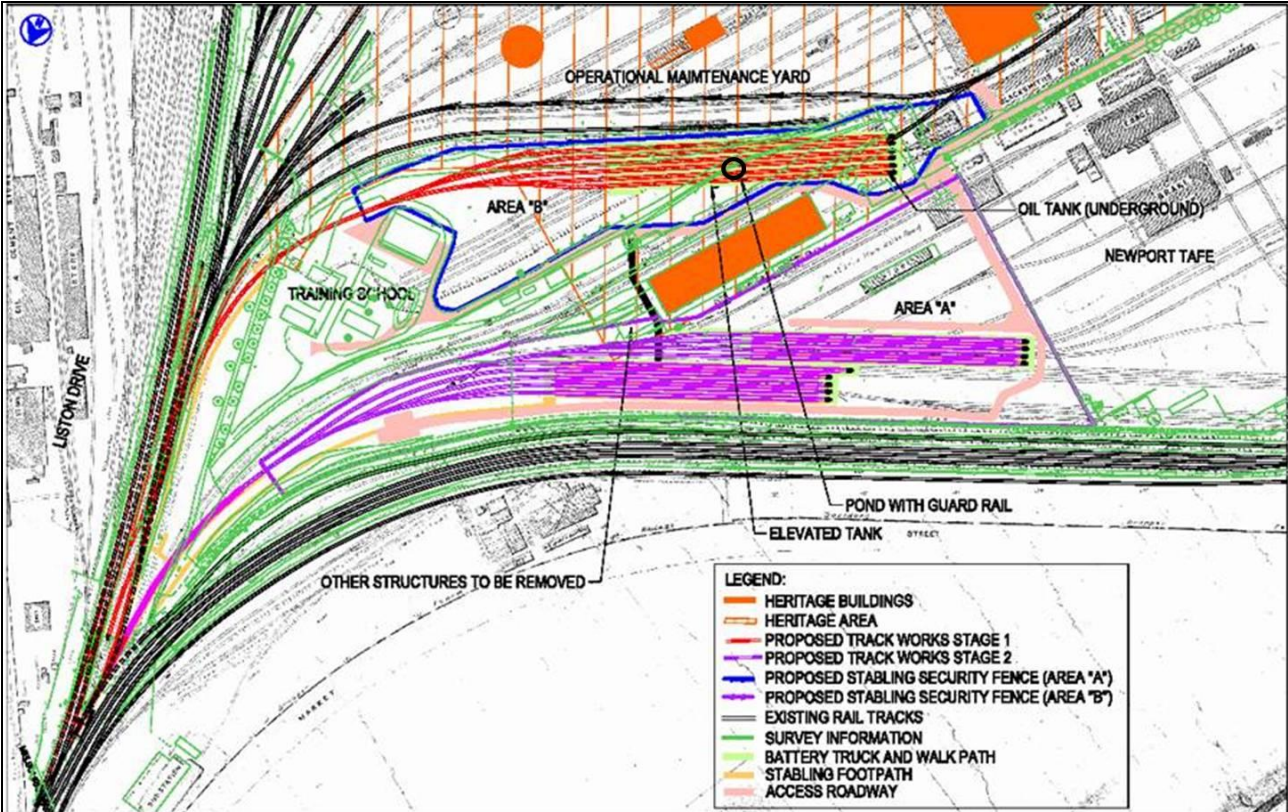
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9. APPENDIX A, LAYOUT OF THE PROPOSED STABLING FACILITY AND REGISTERED HERITAGE



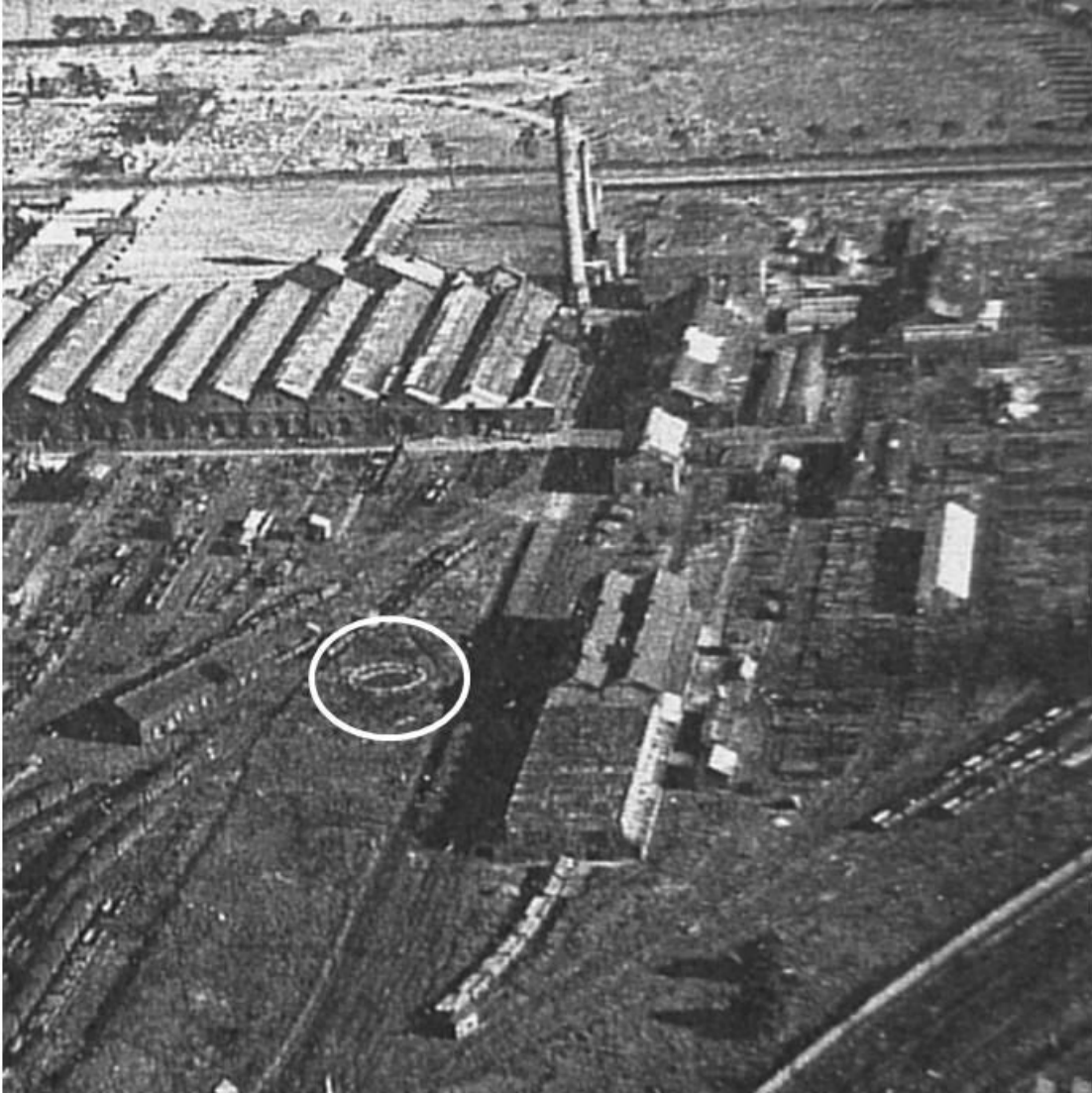
(Sinclair Knight Merz 2009 Newport Stabling Yards Baseline Historical Assessment', Report, Department of Transport, Melbourne)

10. APPENDIX B, ARCHAEOLOGICAL FEATURES AND SURVEY AREAS



(Sinclair Knight Merz 2009 Newport Stabling Yards Baseline Historical Assessment', Report, Department of Transport, Melbourne)

11. APPENDIX C, UNDATED AERIAL IMAGE OF THE POND FEATURE



(Victorian Railways cited in Doenau, G., 1979. The Newport Story Australian Railway Historical Society Bulletin, vol XXX, No.505, p249.)