PORTER PREFABRICATED IRON STORE

HERITAGE REPORT & IMPACT ASSESSMENT

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PURCELL

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PORTER PREFABRICATED IRON STORE
BACKGROUND

PURPOSE & BACKGROUND

This report has been prepared for Development Victoria to accompany a Heritage Permit application for the relocation of the Porter Prefabricated Iron Store, henceforth known as the Store, and associated conservation works. It has been prepared by Renee Muratore and Tracey Skovronek of Purcell. The report provides a Condition Assessment of the Store, and outlines conservation works to be undertaken on the building. It also provides an outline methodology for the dismantling, storage and re-erection of the building at a new, proposed site in Fairfield Park, as well as a brief impact assessment of the works.

The Porter Prefabricated Iron Store is located on the former Fitzroy Gasworks site in Fitzroy North, within the Yarra Council Municipal Depot site. The former Gasworks site is bounded by George Street, Alexandra Parade, Smith Street and Queens Parade. The Store is required to be removed from its current location to allow for site remediation works to be undertaken to the former Gasworks, and the works need to be undertaken by the 30th April 2018. The Store is currently in use as a storage shed for the Yarra Municipal Depot.

Figure 1 Existing Site. Porter Prefabricated Iron Store outlined in blue. Source: Google, edited by Purcell

STATUTORY CONTROLS

Victorian Heritage Register

The Porter Prefabricated Iron Store is included as an object in the Victorian Heritage Register (VHR), H2243. The building was moved to the site c.1920 and has no known association with the former Gasworks. Located on the northern part of the site, within the Yarra Council Municipal Depot, the registration extent is limited to the 'object known as the Porter Prefabricated Iron Store' and does not include any associated land. It is noted that the Porter Prefabricated Iron Store is included on the, now defunct, Register of the National Estate (ID #15539).

The Porter Prefabricated Iron Store has the following Statement of Significance:

What is significant?

The Porter prefabricated iron store was manufactured in England, probably between 1853 and 1856, by John Henderson Porter, an early innovator of galvanised corrugated iron buildings and the major manufacturer in the mid-nineteenth century. He established his business in London, and from at least 1839 was exporting various iron products, such as portable iron fences and bedsteads, around the world. He was manufacturing prefabricated iron buildings, including lighthouses and other industrial buildings, from about 1842. In 1850 he transferred his works to Birmingham and by c1853 he had entered into a short-term partnership, Porter Brothers & Stuart, but seems to have discontinued his business by 1856. The date of manufacture, original owner, location, and use of the Porter building now at North Fitzroy are unknown, but it was probably manufactured between 1853 and 1856 and appears to have been moved to its present location from elsewhere.

The Porter prefabricated iron store is a free-standing rectangular-plan shed with a cast and wrought iron frame of standardised components bolted together, is clad with heavy gauge vertical corrugated iron of 5¼ inch (135 mm) pitch, and has a segmental arched corrugated iron roof. It was designed as a modular structure of three equal bays, and is 9.25 m long, 6.1 m wide and 4.02 m high to the top of the roof. At each corner are external wrought iron angle posts, and internally along the long side of the building are two cast iron stanchions, cruciform in section with flanges to allow for the connection of horizontal girts at three levels. The stanchions are branded 'J H PORTER BIRMINGHAM'. A perimeter roof purlin supports the curved iron roof. Three walls of the building are intact, but the wall on the south side has been removed and replaced with a wire mesh gate. In each short side is a centrally-located door with a window above. In the west end wall on either side of the door are two twelve-pane cast iron sash windows with external sheet iron shutters. At the top of one frame is the brand name 'PORTER BROTHERS & STUART BIRMINGHAM'. The building is painted internally and externally. The former fifteen-pane timber sash window in the west end has been replaced by a plain glazed window.

How is it significant?

The Porter iron store is of historical and technical significance to the state of Victoria.

Why is it significant?

The Porter prefabricated iron store is historically significant as a now rare example of the many prefabricated iron buildings which were imported into Victoria during the Victorian gold rushes. It is a reflection of the economic and social conditions in the early 1850s, when there was a great increase in population and a rush of labour to the goldfields, and both labour and building materials were scarce. It is an early example of the use of a building material, galvanised corrugated iron, which was to become closely linked with Australian building, especially for utilitarian buildings.

The Porter prefabricated iron store is technically significant as a now rare example of the early use of galvanised corrugated iron for the manufacture of prefabricated buildings, and of the prefabrication system of the major English manufacturer J H Porter. Most of the early manufacturers of corrugated iron buildings were British, and J H Porter was an early innovator of such buildings, and probably the first prefabricator. The Porter prefabricated iron store is the only known surviving example in Victoria of a prefabricated iron building manufactured by J H Porter which is still standing. It is significant as an example of a prefabricated structure with an arched roof, a form with which Porter is particularly associated.

PORTER PREFABRICATED IRON STORE
CONDITION ASSESSMENT

EXISTING CONDITION

An internal and external inspection of the Store was carried out by Dr. Tom Brigden and Renee Muratore of Purcell on the 06th February 2017. This Condition Assessment has been prepared as a general report only; it is not a specification and must not be used for the execution of work. A detailed specification, including all required drawings, conservation reports and details must be completed once a Heritage Permit has been received for the work, and it is likely these will form conditions to the Heritage Permit.

The report is based on the findings of a visual inspection from ground only, and no invasive investigations were undertaken. In overall terms, the building remains in fair condition with localised elements of rust and deterioration present. Alterations have been undertaken across the structure, including the removal and replacement of the southern wall with a cyclone wire fence, replacement of glazing on the western elevation and other minor changes.

Figure 2 South & West elevations. Note replacement gates on south elevation.

Figure 3 Detail of West Elevation.

Figure 4 East Elevation

Figure 5 General Interior, looking west.

Figure 6 North Elevation

Figure 7 *Detail of opening & door, east elevation. Note original timber infill above the opening.*

Figure 8 *Detail of typical damage, west elevation.*

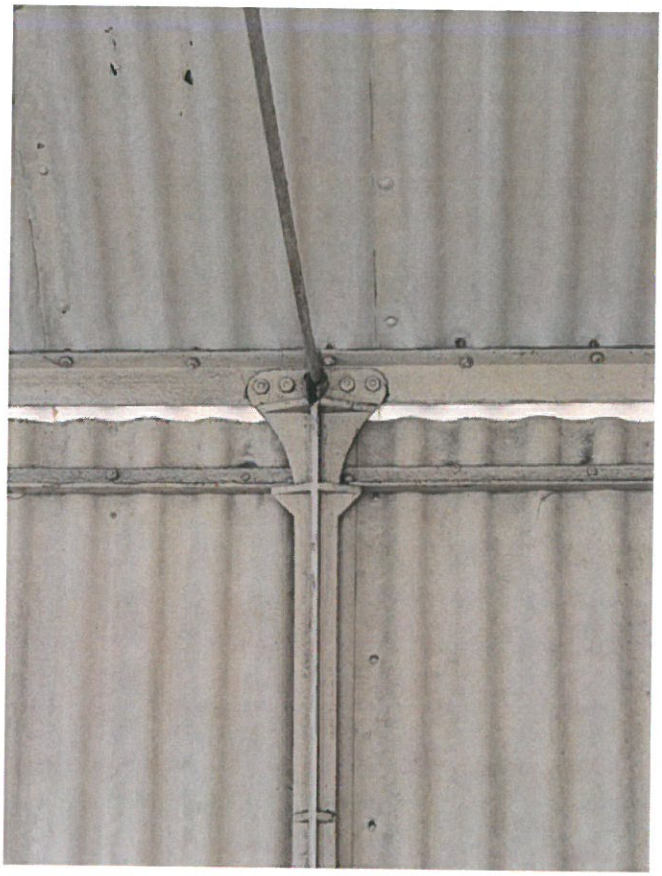

Figure 9 *Detail of cast iron, cruciform wall stanchion, top plate and horizontal tie rod.*

SCOPE OF REQUIRED CONSERVATION WORKS

The following scope of works has been prepared following an initial site visit. It is outline only, and a detailed specification and scope of works will be required for the works prior to commencement.

ELEMENT	DESCRIPTION	CONDITION	REPAIR NEED / COMMENT
Roof covering	Heavy gauge vertical corrugated iron of 5¼ inch (135 mm) pitch, painted red (external) and cream (internal). Fixed via bolts to the structure.	Fair to poor.	The ends of the roof sheets are showing signs of heavy corrosion and deterioration, particularly where modern gates and supporting structures have been installed. Internally, the paint is flaking off the metal sheets. The roof sheets should be treated for rust and repainted. Full sheet replacement may be required in some locations, and this should be undertaken on a like for like basis.
Roof Structure	Segmental arch form supported via a perimeter roof purlin, and horizontal tie bars through the wall plate and supporting stanchion. The tie rod has a joint in the middle, connected to the crown of the roof with a vertical tie bar.	Fair, with localised surface rust visible.	Treat rust locally, and repaint structure.
Rainwater goods & drainage	No gutters, downpipes or other rainwater goods present. Bluestone perimeter spoon drain	Good	N/A

ELEMENT	DESCRIPTION	CONDITION	REPAIR NEED / COMMENT
Main wall cladding	Heavy gauge vertical corrugated iron of 5¼ inch (135 mm) pitch, painted cream. Corrugations run vertically and are fixed to wrought iron wall girts and bottom plates. Fixed via bolts to the structure.	Fair, with localised surface rust visible.	Treat rust locally, and repaint sheets.
South wall (gates)	Modern cyclone wire gate supported on steel posts.	Good	Unsympathetic modern replacement for ease of access. Investigate the reconstruction of the original south wall pending proposed use.
Structure	Modular structure, three equal bays with external wrought iron angle posts, and cruciform cast iron stanchions, with flanges and horizontal girts at three levels. The stanchions are branded 'J H PORTER BIRMINGHAM'.	Fair, with localised surface rust visible.	Treat rust locally, and repaint structure. Original stanchions on the south wall have been roughly sawn off, allowing for the installation of the modern gates. Stanchions should be replaced on a like for like basis, with patterns taken off remnant stanchions to fabricate replacements.
Window Frames	Cast iron frame stamped with 'PORTER BROTHERS STUART BIRMINGHAM', painted red and bolted into wall cladding and supported on a horizontal girt internally.	Good	Nil.
Window Glazing (west)	x2 original twelve pane, cast iron sashes (painted red) with clear glazing. Modern infill above central door, plain glazing, with timber frame and horizontal corrugated iron sheet below.	Good to fair. Timber frame and horizontal members showing sings of rot	Repair/replace rotten timber members on a like for like basis as required, and paint.
Opening (east)	Original arched timber shutter above door. Inward opening, comprised of vertical timber boards with two metal hinges on top member. Painted cream.	Fair	Not inspected in detail, but appears to be some rot present. Repair/replace rotten timber members on a like for like basis as required, and paint.
Shutters (west)	Outward opening sheet iron shutters, with exposed rivets and two cast hinges per shutter. Painted red.	Good, minor scratches to paintwork	Repaint existing.
Doors (east and west)	Inward opening, 1/16" galvanised corrugated iron sheet, painted cream. Cast iron frame, painted red. Not currently functional.	Good, minor scratches to paintwork	Repaint. Secure shut if not used for access.
Floor	Concrete slab	Good	Nil.
Foundation	Bluestone block (at base of stanchions) with brick and concrete infill between.	Good	Nil.
Services	An electrical supply is connected to a timber pole at the crown of the roof, running to an internal switchboard on the north wall.	Not inspected.	Disconnect electrical supply if redundant.

PORTER PREFABRICATED IRON STORE
PROPOSED LOCATION & FUTURE USE

PROPOSED LOCATION

The proposed site is located in Fairfield Park, in close proximity to the Fairfield Cricket Club, Fairfield Park Boathouse & Tea Gardens and the Main Yarra Trail. The park is managed by the City of Yarra. An inspection of the site and surrounds was undertaken on 25th August 2017 with representatives from Development Victoria and the City of Yarra.

Figure 10 Proposed Site - Fairfield Park. Source: Google, edited by Purcell.

ASSESSMENT OF THE PROPOSED LOCATION & FUTURE USE

The proposed location is within an open site, providing a high degree of visibility to the Store from the Main Yarra Trail and surrounds. The Main Yarra Trail, Boathouse and Amphitheatre are all well utilised by large groups of people, and the sheds have a high degree of passive surveillance as a result. The sheds within the immediate context of the proposed location are well cared for, with no graffiti or damage present. A representative from the City of Yarra Parks Department reported that the site and sheds within the immediate context are generally not subject to wanton vandalism, theft or destruction.

The existing sheds (1 and 2) within the immediate context are currently in use by the Canoe Club for storage. It is intended that the Porter Prefabricated Iron Store would replace the smallest shed within the vicinity (3), which is currently in use for storing historic canoes and will soon become redundant. This shed currently sits on a concrete slab, and it is understood that the shed is to be removed. The intention would be to utilise the slab where possible, extending it as required to fit the Store.

In terms of the surrounding vegetation, it is assumed that given the site is a managed parkland there is a Tree Management Plan (or similar) that will ensure the risks of trees dropping limbs, or root disturbance in the vicinity is managed and mitigated.

It is understood that the reinstated Store is to be used for storage (as per the current arrangement), and it is proposed to reinstate the southern wall to enable this, and to keep the structure secure.

Figure 11 General View of the Amphitheatre (right) and Canoe Club Shed 1 (left)

Figure 12 View of existing Shed 3 and the existing context

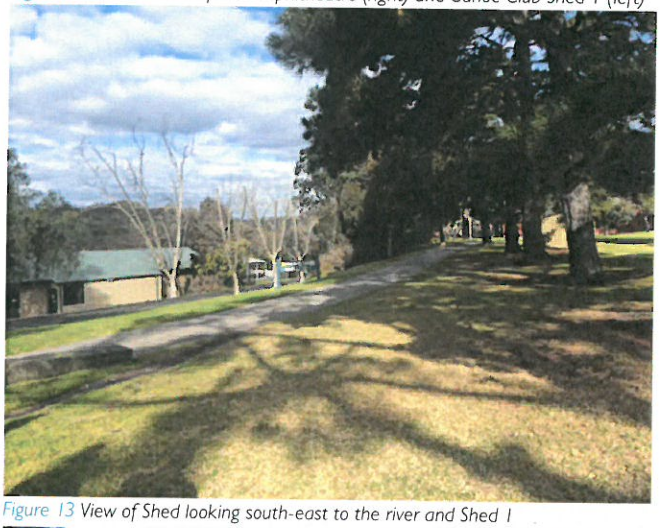

Figure 13 View of Shed looking south-east to the river and Shed 1

Figure 14 Detail of existing Shed 3 showing concrete slab

Figure 15 View of proposed site looking south with Main Yarra Trail (left)

PORTER PREFABRICATED IRON STORE
METHODOLOGY

This methodology is intended to be a general outline only. A detailed methodology will be prepared following the engagement of a suitable contractor for the works.

DISMANTLING

Development Victoria have indicated that the Porter Prefabricated Iron Store is required to be removed from its current site by the 30th April 2018. Prior to commencement of any works to the Porter Prefabricated Iron Store, a full dilapidation survey should be undertaken. This should record all defects in building fabric, including any structural issues in the fabric and should include:

- Full photographic survey of the existing building (internal and external) in accordance with Heritage Victoria's Technical Note.
- Measured drawings of the existing building, including all elevations and structural members.
- Undertake a digital scan of the existing building.

Digital copies of the document on CD should be distributed to Heritage Victoria and relevant architects / heritage consultants prior to commencement of any works, and a copy should be kept by Development Victoria and the City of Yarra.

Prior to dismantling, investigation should be undertaken by suitably qualified contractors in conjunction with the Heritage Architect to determine the approach for dismantling the Store, dealing with corroded elements, etc. Following this, the structure should be dismantled for storage and re-erection in line with any permit conditions.

Prior to dismantling, all components should be carefully recorded and marked to enable accurate re-erection of the prefabricated building. The dismantling is to be undertaken in a careful manner, by hand where possible. Each component should be marked and checked against a measured drawings to ensure a complete record is obtained. A marking methodology is to be developed to ensure the marking is undertaken in a manner which will not deteriorate, and will not cause damage to the heritage fabric.

STORAGE

Where any items of heritage significance are required to be removed for any aspect of the works, care is to be taken to ensure no damage to the item and significant fabric. Items may only be removed upon prior instruction by the heritage consultant and where appropriate recording and protection actions have been taken. At a minimum, and subject to approval by the Heritage Architect, the following is recommended:

- Photographically record item in-situ prior to removal, and record any existing damage.
- Damage must be prevented to stated components, materials and surrounding fabric during removal.
- Clean off and make good jointing materials.
- Provide drawings to record numbered locations. Ensure one copy is provided to the Heritage Architect for review and comment.

The Store is to be stored off site, allowing the required conservation and restoration works to be undertaken in a suitable facility and by a suitably experienced contractor. The following is to occur prior to removal:

- The Heritage Architect is to notify Heritage Victoria when a suitable storage and conservation facility is identified.
- Obtain approval by the Heritage Architect prior to the removal of any items from site.
- Record all components, mark and number. Marking system to state "heritage fabric to be retained" or similar with an indication of item number and/or location number for reference.
- Establish inventory to record all details of components removed and provide a copy to the Heritage Architect.
- Relocate to a secure and insured off site facility and store in a protected location (including from rainwater) until conservation works have been completed and the Store is required for re-erection as instructed.
- Marking system to be readily accessible, and inspected on a regular basis.
- Timescale to be agreed with the Heritage Architect.

Undertake all required conservation work, including the fabrication of the new southern wall to match existing detail and materials. This should be approved by the Heritage Architect prior to fabrication.

RE-ERECTION

Prior to re-erection and following completion of all conservation works, prepare the ground slab and associated base for re-erection including strengthening, extension and other works as required. Carefully re-erect the structure using the drawings, recording system and photo survey and following completion of all conservation works. Re-erect the structure using traditional methods and fixings to match existing. Ensure that the proposed re-erection does not cause any damage to the heritage fabric, and rectify any minor issues in-situ, following approval by the Heritage Architect. Secure the Store with method approved by the Heritage Architect.

PORTER PREFABRICATED IRON STORE
IMPACT ASSESSMENT & CONCLUSION

CONDITION & CONSERVATION WORKS

While the Store remains in fair condition overall, it is in need of conservation works and the works represent an opportunity to not only undertake the works required, but to improve the overall condition, and fully document and record the building. The conservation works outlined in this document focus on repairing the galvanised iron sheets and structure, with the aim of halting further rust ingress and degradation of historic fabric. The works, in accordance with the Burra Charter, seek to do as much as necessary to preserve the existing fabric, but as little as possible. In general, the building generally should be treated for rust and deteriorated timbers and repainted which will improve its protection and lifespan. Where deterioration is severe, sheets may require total replacement. Should this be necessary, the works are to be undertaken on a 'like for like' basis, ensuring the proposal accords with Burra Charter principles. Likewise, where corroded elements are discovered during the dismantling of the structure, these will be recorded, repaired where possible or re-fabricated on a 'like for like' basis with all details and materials to match existing, as condition permits. The works also seek to reconstruct the original south wall of the structure to secure the building and return it to an earlier known condition. Where replacement materials are required and cannot be sourced from a supplier, a pattern for the casting of individual components should be created to fabricate the missing elements. The proposed conservation works overall represent a major beneficial impact to the structure, repairing and conserving it, as well as reconstructing the south wall to return it to an earlier known state.

RELOCATION OF THE STORE

The proposed relocation of the Store, in and of itself, will not have a detrimental impact on the building fabric, and overall will not adversely impact its cultural heritage significance. The Store has no known association with its current site, and thus, relocation will not impact its historical or architectural significance or associations. Further, relocation allows for the systematic documentation of the structure and for all required conservation works to take place in conjunction with its relocation. Again, this is considered beneficial to the cultural heritage significance of the place, ensuing the fabric remains in good condition and enabling its long-term future as a storage shed.

In terms of the physical impacts of dismantling and re-erecting the structure, it is noted that it is a prefabricated building, designed to be transported and erected as component parts. To ensure damage to the structure of the building is limited, it will be reviewed by an engineer to understand in greater depth the crucial load points of the building, and to manage its ongoing integrity throughout the process. In addition, and to further mitigate any the potential impact, an experienced contractor (in discussion with Heritage Victoria) will be engaged to undertake the works ensuring that the required expertise is available for the duration of the project. It is proposed that a detailed methodology for the dismantling, storage, conservation and re-erection of the structure will be prepared in association with the successful contractor, to develop protocol for the works and to identify potential risks and detail associated mitigation strategies.

PROPOSED LOCATION

The proposed location is generally considered an appropriate alternative for the Porter Prefabricated Iron Store, one that will improve public interface with the structure. This presents opportunities to increase public interaction with the structure, through interpretation works that explain its cultural heritage significance. Further, the Store will be located amongst similar structures, in a well cared for and highly visible area that is subject to ongoing maintenance under the City of Yarra. However, it is acknowledged that the Store will be moved from a secure compound to an open park which may have a minor impact on its security. Whilst this does present some risk in terms of graffiti and the like, this will be mitigated through the use of proactive measures, such as anti-graffiti paint and Council's ongoing maintenance and upkeep. Further, the proposal to reinstate the southern wall will also ensure the Store is secure, and protected from unauthorised access. These measures will assist in ensuring the Store's ongoing protection within an open, and unsecured site.

On balance, the benefits of increased public interaction with the building, and opportunity for interpretation of the structure and its significance outweighs the impact of locating the site within the public realm. Given the ongoing contribution of the City of Yarra, provision for measures such as anti-graffiti paint, and the like, the proposed site presents minimal risk to the ongoing care and preservation of the Store.

CONCLUSION

Overall, the proposed dismantling, conservation and re-erection of the Porter Prefabricated Iron Store will not have a detrimental impact on the understanding of the structure, and will not impact on the historic fabric of the registered object. The works will be undertaken in conjunction with an experienced contractor, and throughout the project will be effectively managed and overseen to ensure the historic fabric is well cared for. The relocation of the Store to Fairfield Park will increase public awareness and interaction with the building. This represents a good opportunity to increase education around the history of the Store and to develop sensitive interpretation works to celebrate its significance. Finally, the Store will undergo full documentation and conservation works to reinstate it in good condition, both of which are of major beneficial impact to the structure and will ensure its long-term preservation.