Beckenham Recreational Ground Bandstand (The Bowie Bandstand)

An iron pavilion for public performances

Student number: MBC014

MSc Building Conservation
Unit BC4: Conservation of Metals
Part 1 (Conservation of Metalwork)

Assignment title:

A Report of 19th century iron structure

Assignment Brief

Identify a 19th -century building or structure of cast and/or wrought iron construction and write a report detailing its history, purpose, construction, detailing, cultural significance and the conservation issues arising from condition or usage. Advise on approaches to repair or replacement of structural and non-structural metal components. In either case, your work should be well illustrated. The quality and clarity of presentation will be taken into account in marking.

Word limit: 2500 +/- 10%
Word count: 2,749

Submission date: 11am Monday 16th September 2019.
Student number: MBC014

Table of Contents

Acknowledgements

I would like to thank the Friends of Croydon Road Recreation Grounds for arranging access to the site.

1. Site

The Beckenham Concert Bandstand sits within Croydon Recreational Ground, Beckenham, Kent. The Beckenham Local Board created this park in 1891, along with the nearby Alexandra Recreational Ground, in order to provide public recreational space, Figure 1.

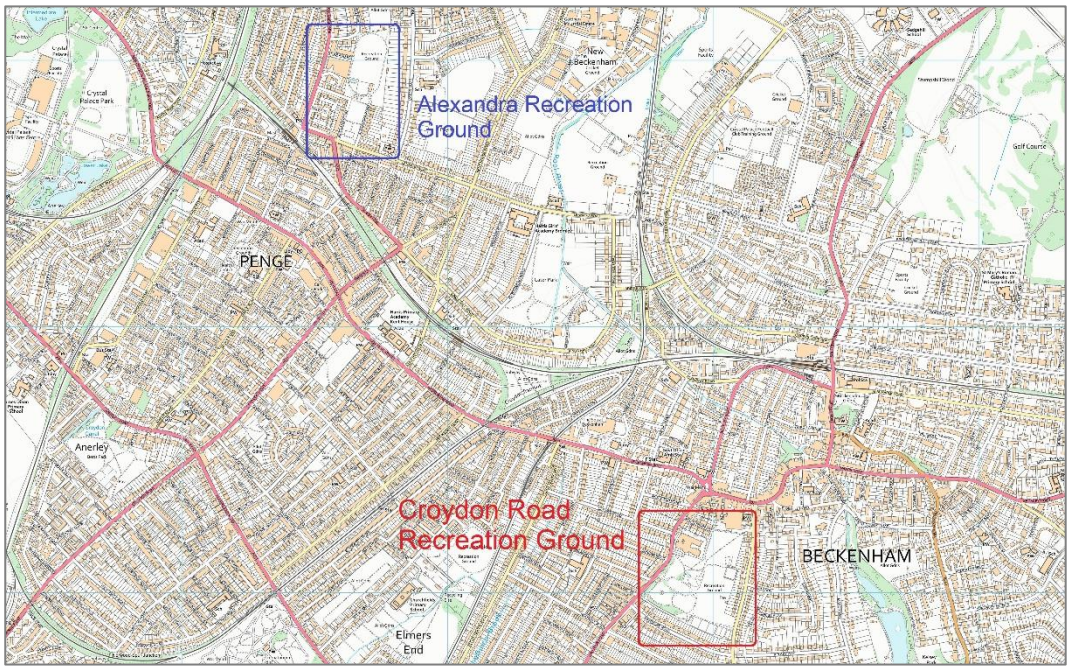

Figure 1 – Location of recreation grounds

This reflected the late Victorian social ideal of providing open public space for good physical and mental health for the masses. The recognition of the need to provide public parks dates from 1833, when parliament appointed the Select Committee on Public Walks (Rabbitts, 2011). This was set up to consider the best means of securing open spaces within populous towns for the health and comfort of the inhabitants (Parliament, 2017).

2. The Bandstand

Captain Francis Fowke designed England's first bandstands, which were erected in Kensington Gardens in 1861, Figure 2 (Rabbitts, 2018).

Figure 2 - Fowke's bandstand

These were a great success and soon inspired many similar structures across the country, which became available to order from pattern books, mostly from Scottish foundries. By the end of the 19th century no park was considered complete without a bandstand (Rabbitts, 2011). They were made affordable by the repetitive casting processes.

Several sources, including the Bromley Borough Local History Society (Inman, 1991) suggest the Beckenham bandstand dates from 1891. However, recent research by Historic England (2019b) now puts this at 1905. Both the Croydon Road and the Alexandra Recreational grounds received identical bandstands, produced by McCallum & Hope of Glasgow. They would later use the Beckenham bandstand within their promotion literature, Figure 3, although they never produced any further bandstands.

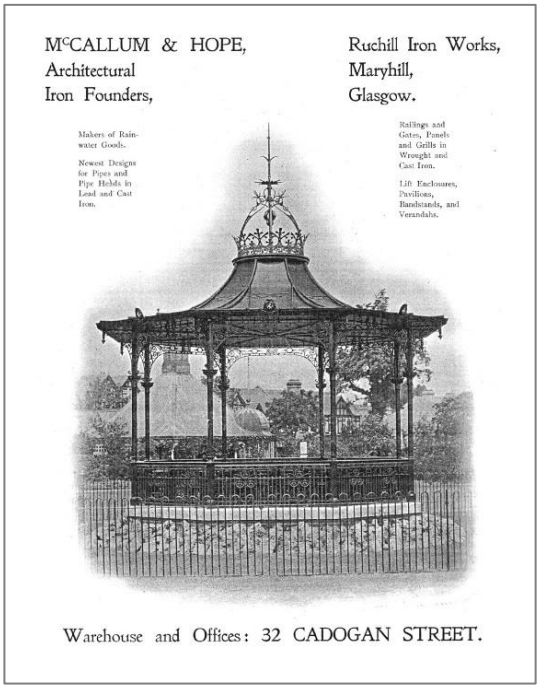

Figure 3 - McCallum & Hope promotional literature

Figure 4 - Identical bandstand previously at Alexandra Recreation Ground

Both were erected within 10 weeks of ordering, for £135 each (Historic England, 2019b). The Alexandra Road bandstand, Figure 4, has long since gone. The Beckenham Bandstand location is shown in Figure 5.

Figure 5 - Current site location plan

3. Columns

Eight cast iron columns support the roof, Figure 6. They, like the other cast components here, would be grey cast iron as this was the only type produced industrially before the 1940s (Godfraind, et al, 2012).

Figure 6 – Beckenham Bandstand

Cast iron is ideally suited for columns due to its compression strength. The columns used are, marked with the manufacturer's name, Figure 7, fluted up to handrail level but plain above and capped with Corinthian capitals, Figure 8.

Figure 7 - McCallum & Hope of Glasgow name cast into column

Figure 8 - Corinthian column capital

They were cast to include shorts stubs for connecting the handrails, Figure 9. The handrails were originally bolted to these but they have since also been brazed or welded. The quality of this later work appears poor.

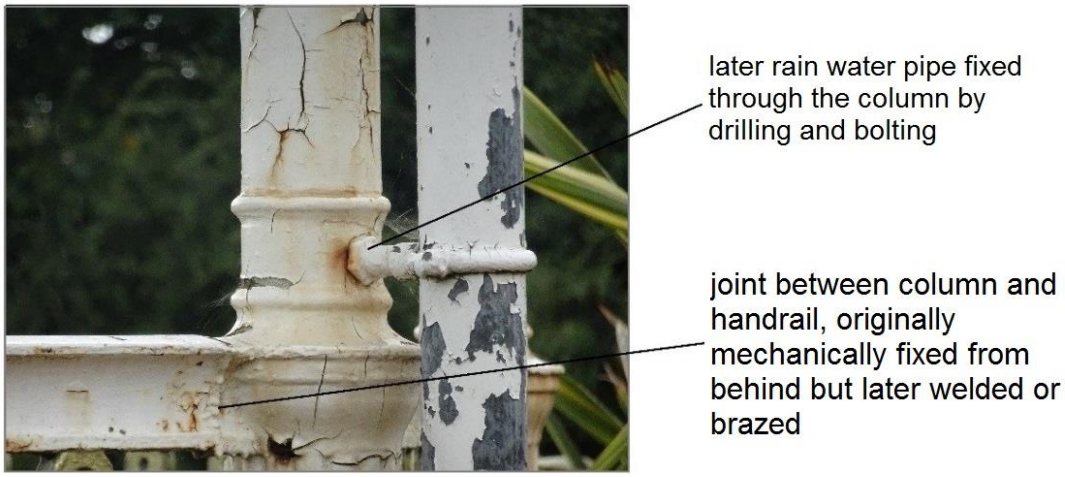

Figure 9 - Handrail to column junction

Railings

The railings repeat on seven sides of the octagonal plan, spanning column to column, Figure 10.

Figure 10 – Railings

Each of the seven units include twin motif details, Figure 11.

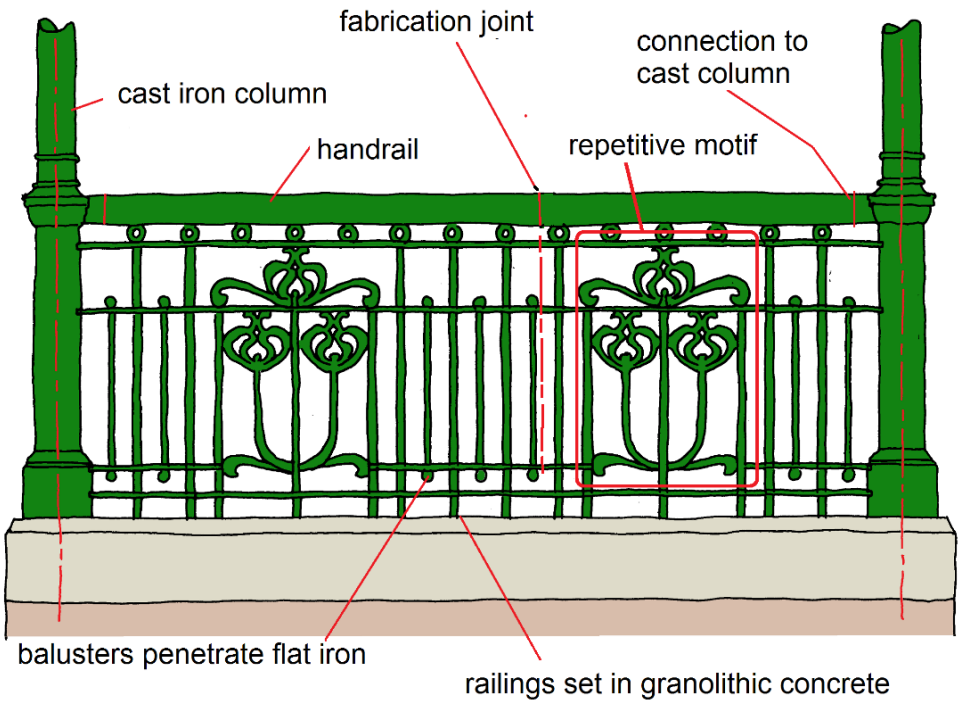

Figure 11 – Annotated railings sketch

The railings and handrails have, despite neglect, survived well with only minor details missing, Figure 12.

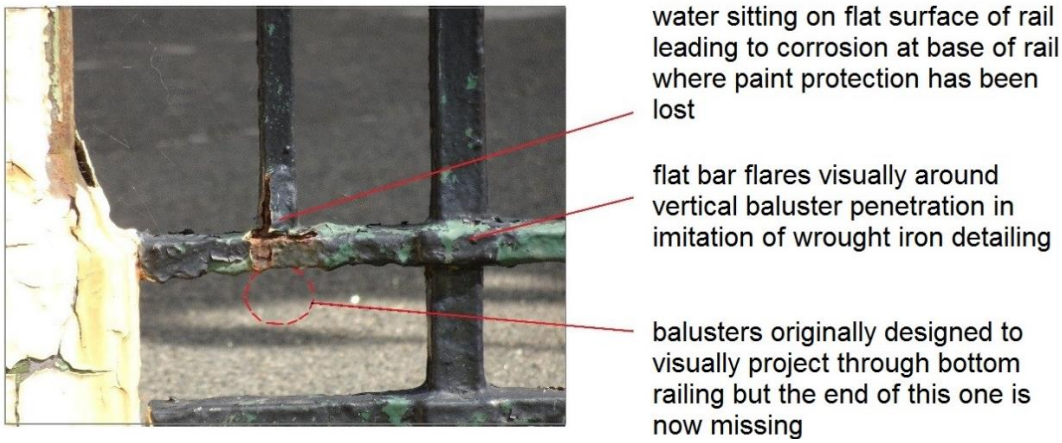

Figure 12 Bottom of balusters

The railings are detailed with balusters projecting through the horizontal rails and their ends flattened in imitation of handmade wrought iron but are likely cast iron. Their sections are slightly tapered to ease the original patterns removal. Each appears fabricated in two unequal length sections and joined about a third of the way along from one end, as shown in Figure 11. Although mostly hidden below layers of paint the joints are visible in Figure 13 and Figure 14.

Figure 13 – Handrail joint.

Figure 14 – Railings joint

The eighth side contains an opening for a gate, which is now missing, Figure 15.

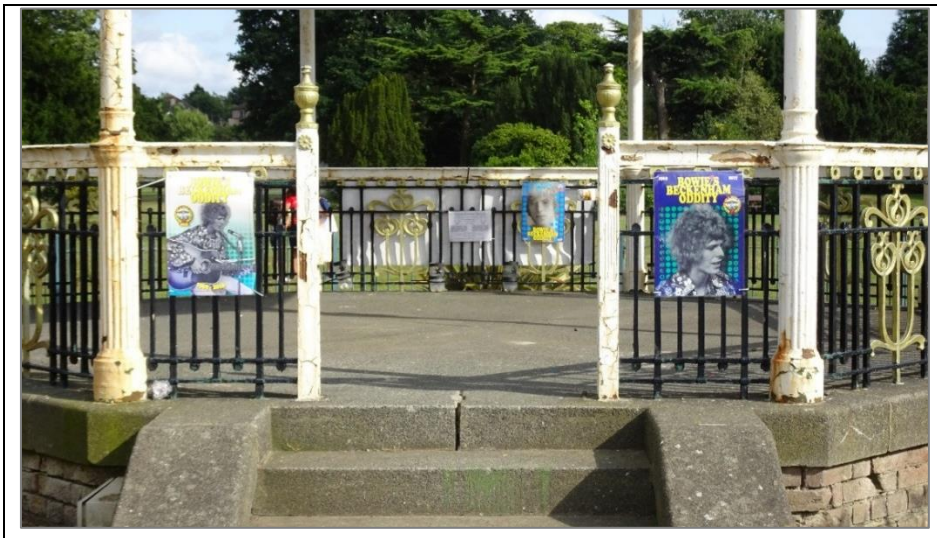

Figure 15 – Missing gate

The gate would have opened into the bandstand and pivoted on a pin set into the concrete plinth, Figure 16.

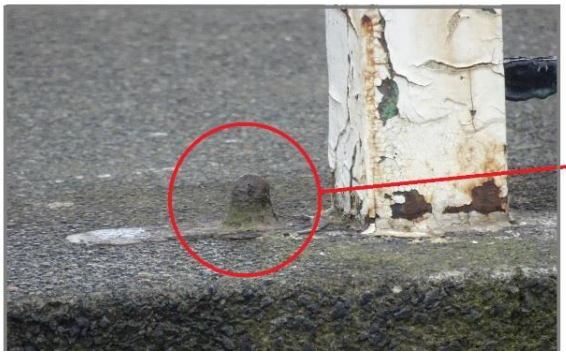

Figure 16 – Gate hinge pin

Grey cast iron lacks ductility making it vulnerable to shattering as Figure 17, which shows the remains of another similar gate also by McCallum & Hope.

Figure 17 - Similar shattered cast iron gate

Figure 18 - Retaining clamp for top of gate

The top part of the gate would have been retained and pivoted within the fixing shown in Figure 18.

4. Roof level lattice beams

Eight high level decorative lattice beams span between the columns providing a base for the roof structure. These appears lighter than the railings and may include wrought iron, which is better suited structurally for members in tension as some lower parts of this would be. Further investigation is required. They appear complete, except for one missing the detail identified in Figure 19.

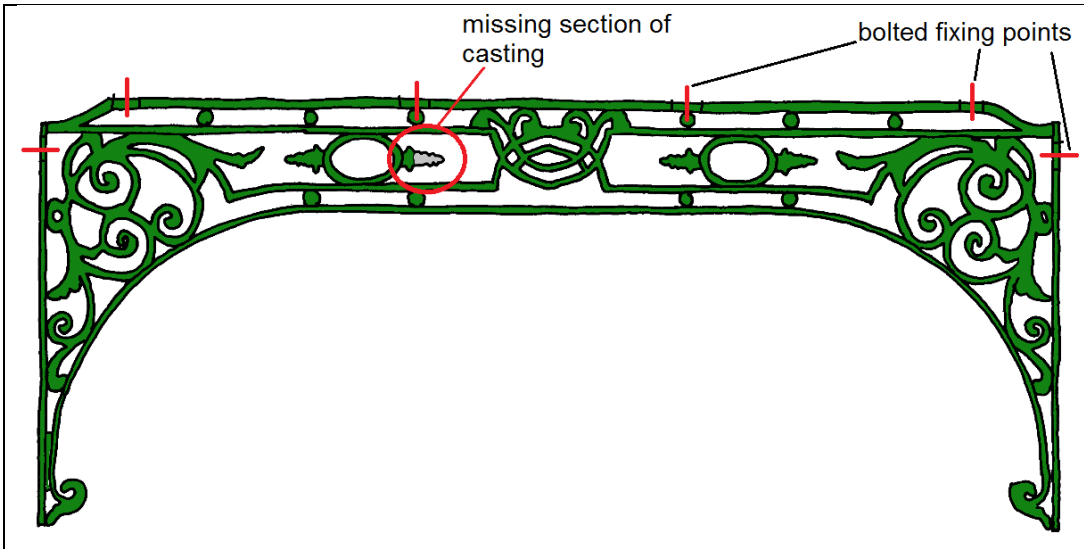

Figure 19 - High level lattice ironwork supporting roof

Cast iron brackets radiate out from each of the columns to support the roof, as Figure 20 and are complete.

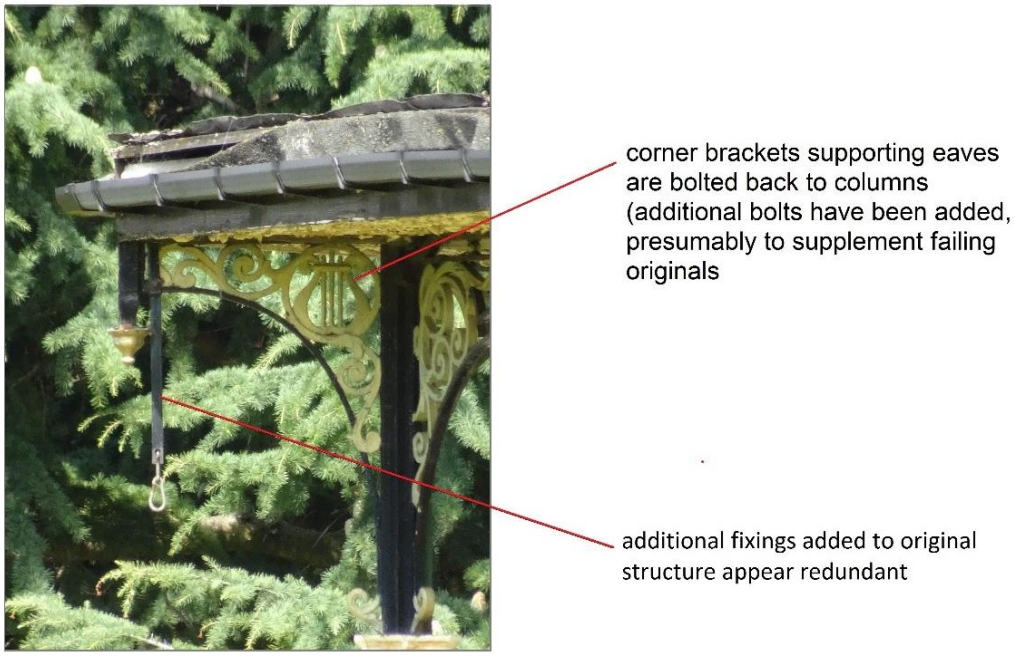

Figure 20 - Corner brackets

5. Roof

5.1. Roof framework and covering

The roof was originally finished in lead as seen on the cover page. This still survives under the cupola and finial, Figure 21 and Figure 22, although elsewhere has been replaced by felt.

Figure 21 - life expired original roof lead work below cupula

Figure 22 - Finial penetration of roof - now corroding

The roof is carried on a metal substructure, probably wrought iron. It is mostly concealed above a timber ceiling but glimpses are visible where the ceiling is damaged, Figure 23 and Figure 24.

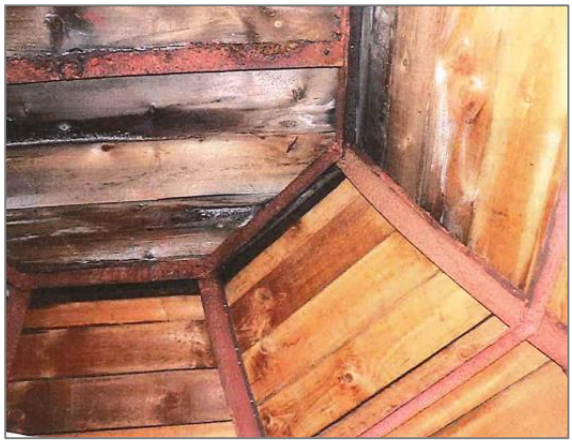

Figure 23 – Concealed roof structure below cupula

Figure 24 –Roof structure at mid-level

This metal structure appears sound, although its original red lead paint is now failing, particularly around the finial where water is penetrating the leadwork. It was welded or brazed rather than bolted together. The complete structure appears as Figure 25.

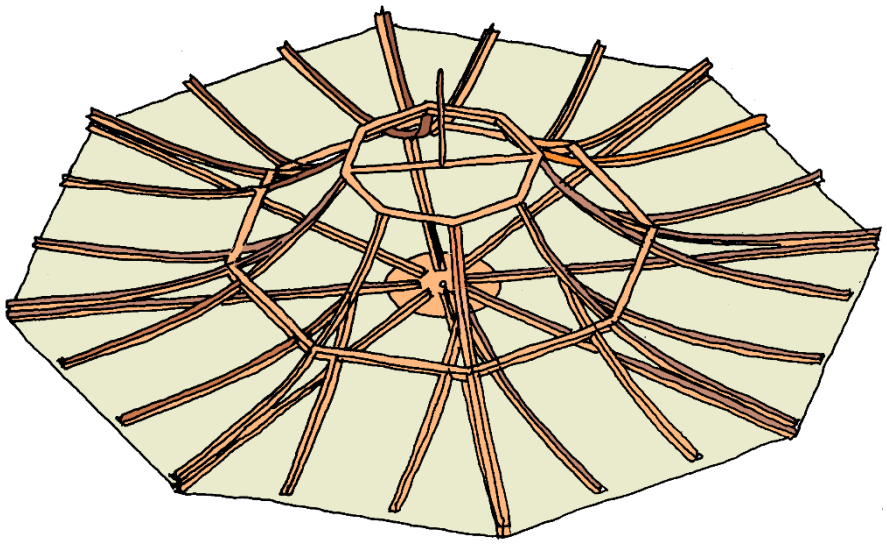

Figure 25 - Roof structural framing

5.2. Eaves Detail and Roof Drainage

The original eaves detail, Figure 26, has been trimmed back and replaced with plastic guttering. The ragged cut ends of the structure are visible where the roofing felt has failed, Figure 27.

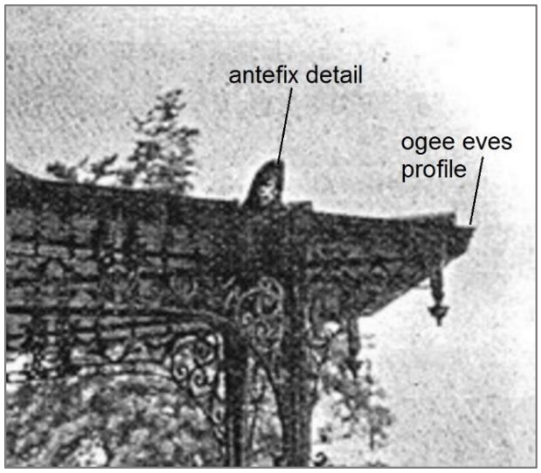

Figure 26 - Original eaves detail

Figure 27 - Current eaves detail

It is unclear if the building originally had gutters, but the early promotional images do not include downpipes. Occasionally bandstands would use the hollow cast iron columns for drainage. Original construction drawings from another bandstand, Figure 28, show how this might have been achieved.

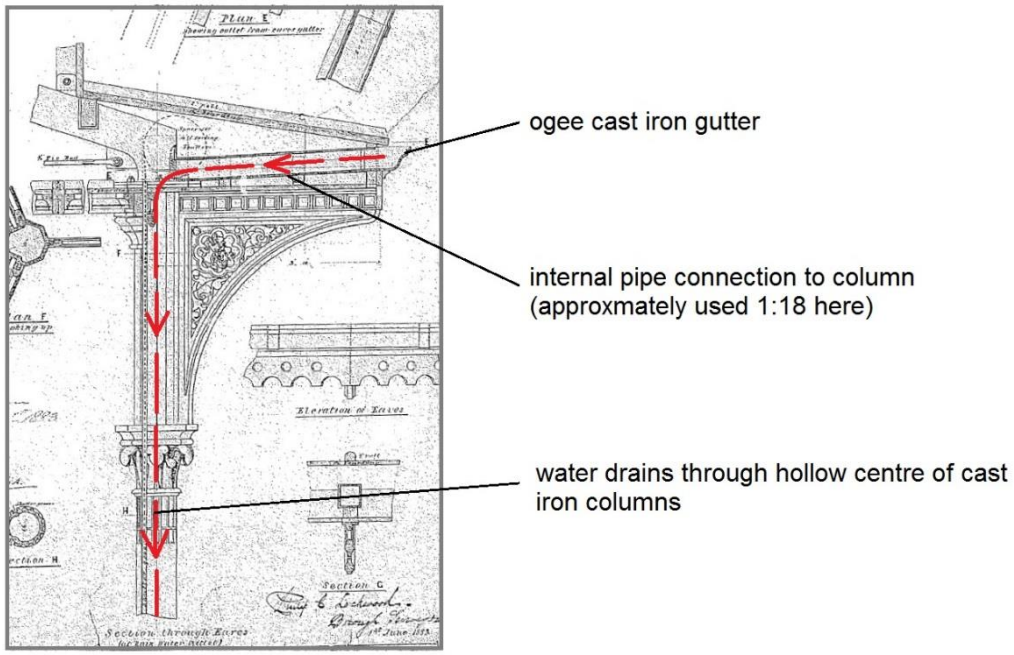

Figure 28 - Brighton bandstand design drawing showing internal drainage (notes added by author)

Further investigation would be necessary to establish if such a system was used in Beckenham. The current later downpipes are shown in Figure 29.

Figure 29 - Metal downpipe added

Figure 30 - Downpipe with fixings bolted through cast iron columns

These have been bolted through the columns, Figure 30, and are a source for water ingress, which through freeze thaw weathering may damage the columns. There is noticeable rust staining around the fixing.

5.3. Cupola

The bandstand is crowned by an open cupula with a decorative finial, Figure 31.

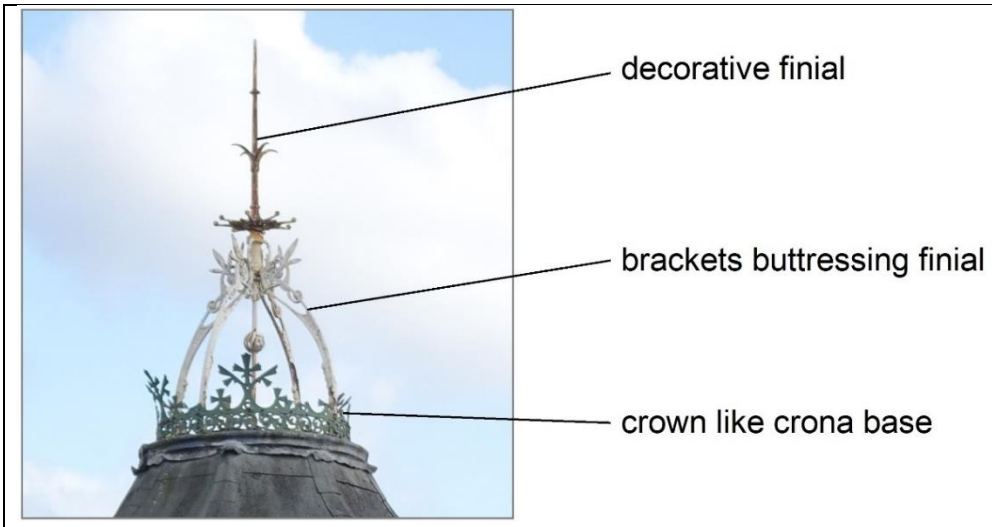

Figure 31 - Open Cupula

The base of the cupula appears formed from five identical iron parts and a single half size part, Figure 32

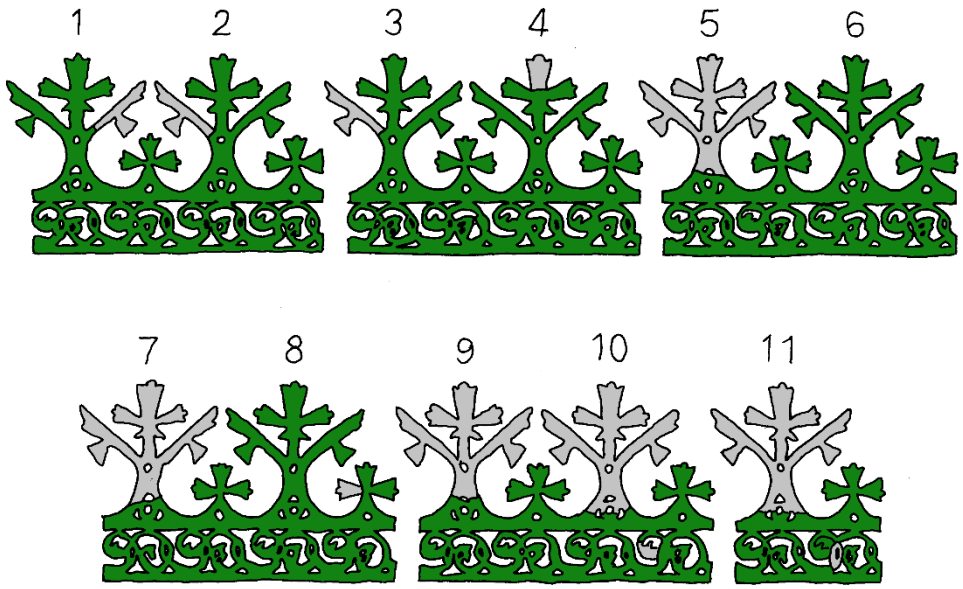

Figure 32 - Constituent parts of cupola crown (missing sections shown grey)

The sections are curved in two dimensions, relatively thin and bolted together with slot headed fixings, Figure 33.

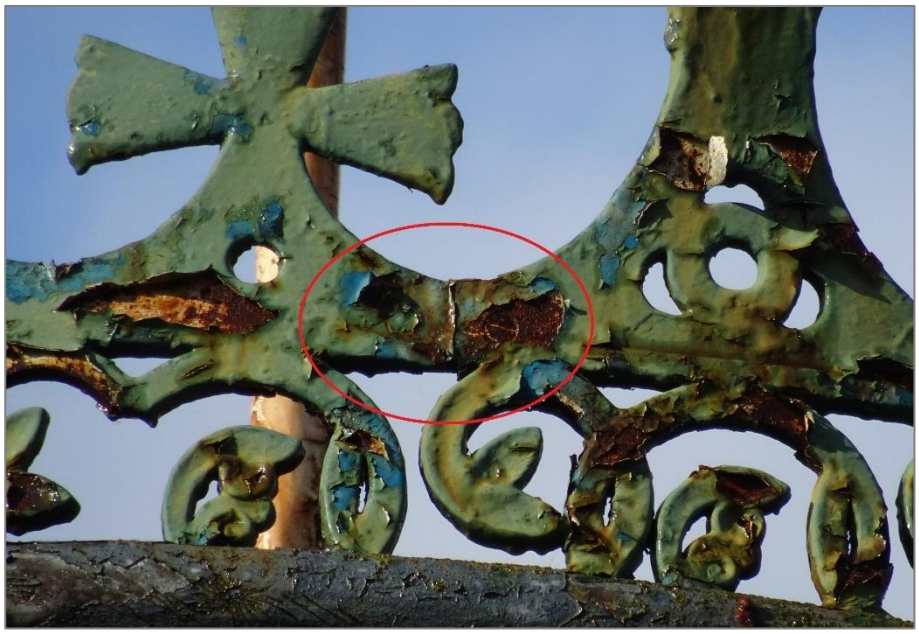

Figure 33 - Sections bolted together

It is not clear if this feature is cast or wrought, but if cast then it would be surprising to find all parts not designed as identical. Casting is a repetitive process that is most economical when all the parts are the same. This and their relatively thin section suggest that they are likely wrought. Wrought iron is more malleable and could have been produced flat,

perhaps from the foundries standard pattern book, then later curved to suit the required radius. Their metallurgy should be checked before attempting repair.

The finial is also missing some detail as shown in Figure 34.

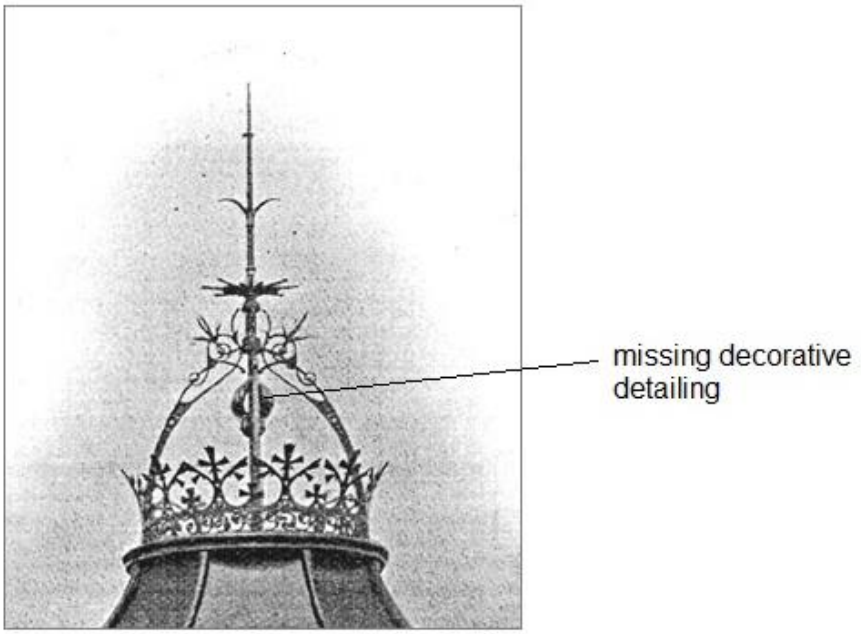

Figure 34 - Original finial detailing

The top tails of these still exist fixed to the finial, Figure 35.

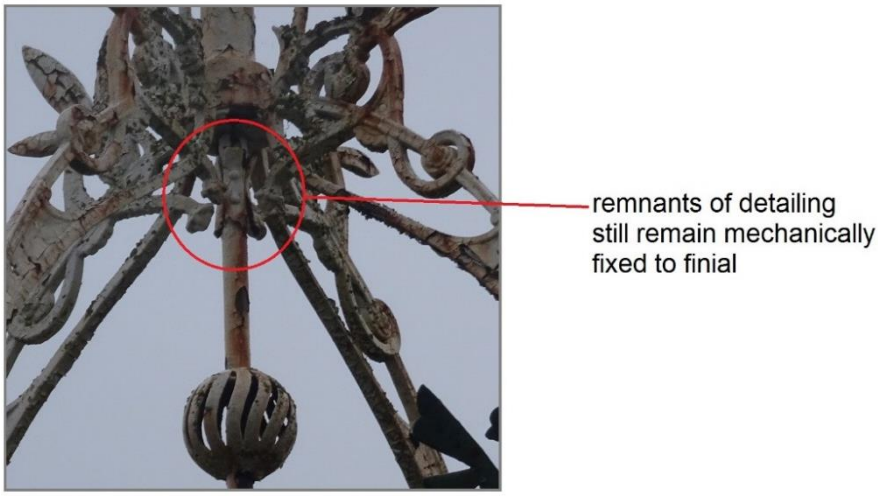

Figure 35 - Missing decorative finial detail

These may have been either cast or wrought. Loss of original fabric should always be minimised but so little remains here that complete replacement is probably appropriate, particularly if they are cast as these would be a difficult repair.

The finial higher up is generally complete but poorly protected due to paint loss and is now corroding, Figure 36.

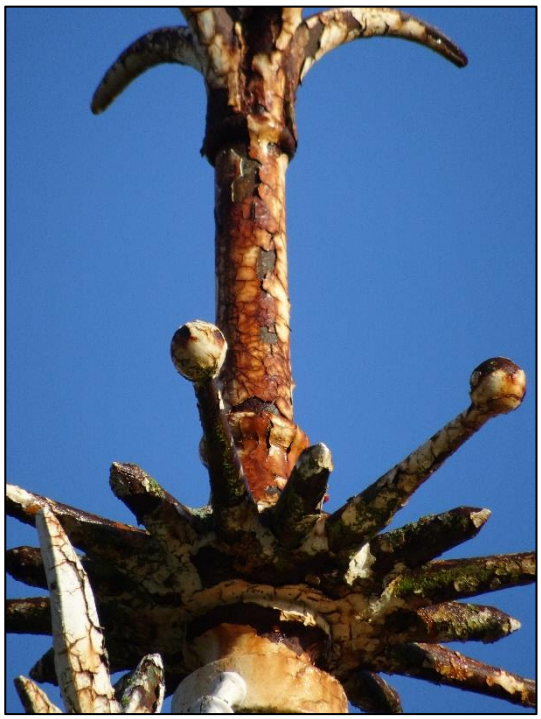

Figure 36 – Roof finial

6. Significance

In August 2019, Historic England (2019b) listed the structure grade II. Understanding the significance of a place is critical to determining the best approach to repair and the following assessment is based upon Historic England Conservation Principles, Policies and Guidance (Historic England, 2008).

6.1. Evidential value

This structure has evidential value as the sole surviving example of a bandstand produced by this foundry (idverde UK, 2016) and is described by Historic England (2019b) as a “rare and substantial example” of cast ironwork by them.

6.2. Associative historic value

In 1969 David Bowie, soon after his first hit single, 'Space Oddity', performed on this bandstand for the Growth Summer Festival, Figure 37.

Figure 37 - David Bowie performed on this bandstand

He is also said to have penned the words for Life on Mars, whilst sitting on the bandstand steps. When commenting on the recent listing, Heritage Minister Rebecca Pow (as cited by Historic England (2019a)) recognised Bowie's influence and association with the bandstand:

> "David Bowie is a cultural icon and 50 years on from his performance at the 'Bowie Bandstand' in Beckenham it is right that we remember his influence on music and culture in this way."

It is now generally known as the 'Bowie Bandstand' and listed under this name.

6.3. Communal Value

Since Bowie's death the bandstand has become something of a memorial to him. It is now the venue for an annual concert held to mark the anniversary of the original festival, which was perhaps the first of its type in the UK. It attracts visitors from far afield and is used for a wide range of concerts. Figure 38 shows the bandstand in communal use in 2019.

Figure 38 - Bandstand in use in 2019

6.4. Aesthetic Values

The original design included features and embellishment designed purely to enhance its aesthetic appeal. Some have been lost over time, either due to damage or inappropriate repairs or modifications. Others are obscured under thick layers of paint, and corrosion has left the ugly staining, all detracting aesthetically. However, it still retains aesthetic quality and makes a significant contribution to its setting.

7. Approach to repair

Before embarking on repairs the conservator should complete a full survey.

7.1. Repair or Conserve

Historic England state that “Conservation works should cover only what is necessary to maintain or restore functionality, and should be reversible if possible” (Godfraind, el al., 2012, p.209). Whilst elements of the original design have been damaged or lost, few of these impact on the functionality of the building and it is arguable that the condition should just be stabilised and conserved. Replacing missing decorative features would also require irreversible work and sacrifice originality. However, much of the structure’s significance derives from its aesthetics, architectural design and its recent historical associations. The repairs under consideration would likely reveal and enhance, or at least not distract from, these. As such there is a strong argument for repair.

7.2. Repair in situ or dismantle

A critical decision would be whether to complete the works in situ or to dismantle so allowing repair within a controlled workshop environment. This bandstand would have been mechanically bolted together when new and it was not uncommon for small cast iron structures to be taken down and reassembled elsewhere in the past. Its twin in Alexandra Road was at one time moved in just such a way (Penge Heritage Trail., 2019).

Dismantling theoretically allows a higher standard of workmanship; permitting components to be fully inspected and all surfaces painted. Unfortunately, it risks further damage and inevitably cause the loss of original fabric such as fastenings. Some joints have also been welded/brazed since it was first assembled adding to the complexity of dismantling. Godfraind, el al. (2012) advise that repair work should be carried out in situ if possible and this is may be the more sympathetic approach at least for the main columns and railings. High level bolted on components, where their removal would be less problematic and damage is more extensive, would likely benefit from repair off site.

7.3. Replacement components

There are a few ornamental details lost from the original castings. These should be replicated by recasting and pinning using threaded stainless-steel bar coated in layers of paint and screwed into place whilst still wet. In areas where this is impractical then brazing may be used as an alternative, although it is not a preferred fixing method (Davey & Mitchell, 2009).

Most components can be exactly replicated from other surviving details, except the gate. The gates original form is unknown, and it might therefore be argued for it not to be replaced. However, it was an important functional part of the design and its reinstatement would be completely reversible, so a sympathetic replacement seems appropriate. The original gate would likely have included the motif, which is repeated elsewhere, as Figure 39.

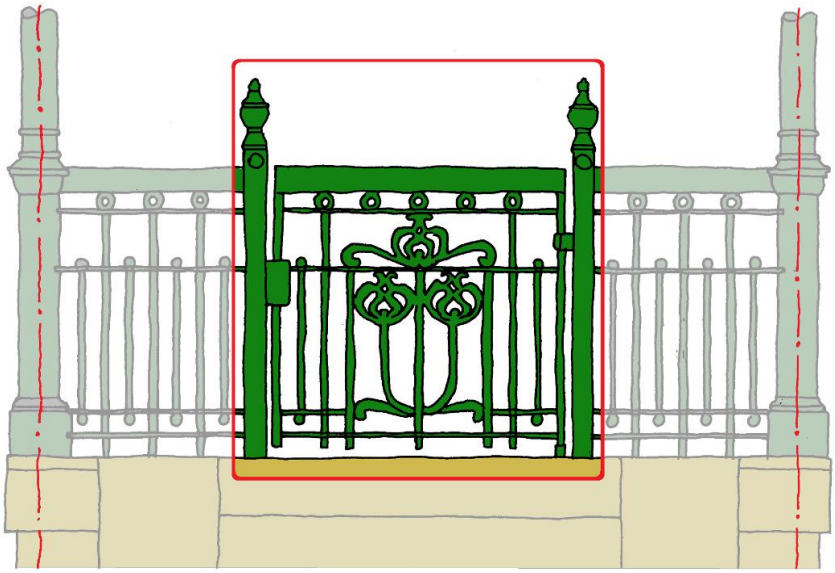

Figure 39 - Speculative illustration of missing gate

The underside of the new gate, where McCallum & Hope would have put their own name, should be marked with the current maker's name and date. Likewise, any other new components should be discreetly marked to identify them.

Replacements components should be cast using traditional green sand and the moulds made from new hand-carved patterns. Moulds from the existing components tend to lose detail and shrink as they cool leaving them marginally undersized (Davey & Mitchell, 2009).

Elements of the cupola and finial appear quite thin and would be difficult to pin, however, they are likely wrought iron and if so may be welded or brazed.

The later rainwater goods should be removed, and the original detail sympathetically recreated. A full survey should identify whether the columns were originally used to drain the roof. If so then it may be appropriate to reinstate this function, but it should be noted that such drainage was prone to freezing and fracturing the cast iron.

Where new fixings are required then they should be 316L minimum stainless steel and isolated from cast iron to prevent sacrificial corrosion.

7.4. Removing earlier layers of paint and corrosion

"The principle aim of conservation is to stabilise condition, stopping or slowing deterioration. For ferrous metalwork this generally means cleaning and recoating" (Godfraind, el al., 2012, p.175). The existing cracked paintwork will be trapping moisture, accelerating decay, as well as obscuring detail, Figure 40.

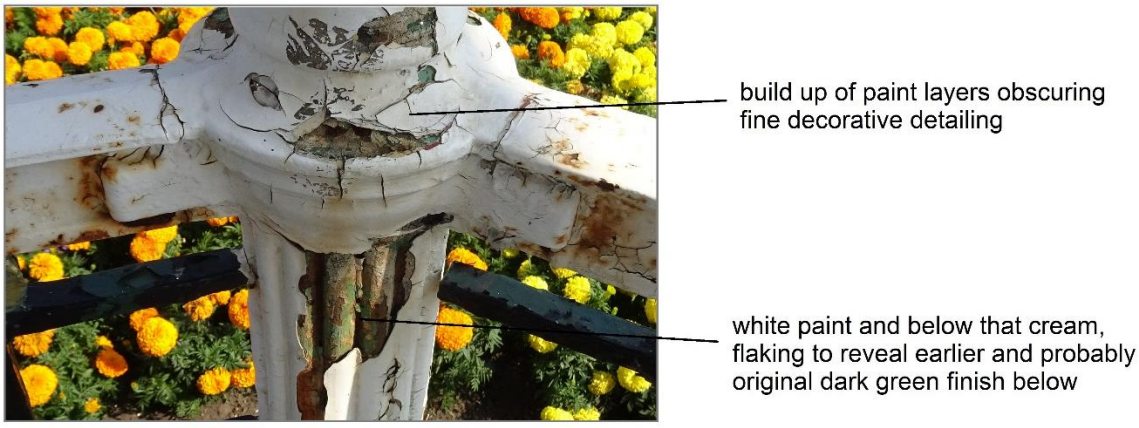

Figure 40 - Flaking paintwork

Before removing paint, samples should be taken for analysis and to guide later colour selection. There are several alternative methods for paint removal including mechanically, flame, chemical and blast cleaning. Blast cleaning is the fastest and most effective but usually restricted to structural ironwork as it can damage the surface (Godfraind, et al., 2012). Dry ice or ultra-high-water jetting may also be considered as they are less aggressive, although water jetting can force moisture into joints and porous castings (Godfraind, et al., 2012). Sample tests should be carried out in inconspicuous areas. Appropriate Health & Safety precautions should be put in place, particularly as the early layers are likely lead based. It may also be acceptable to allow areas of well adhered paint to remain in place rather than risk damaging the ironwork, although compatibility issues with the new coatings must be considered.

7.5. Repainting

Removal of paint will expose joints and surface flaws, which should be filled with a filler compatible with the paint system. This will help prevent moisture ingress. All ironwork must be thoroughly dry before repainting. Iron was traditionally painted with linseed-based lead paints. However, there now are many modern lead-free alternatives that can be highly durable. Zinc based primers will also continue to provide protection by sacrificially corroding even if the paint finish becomes damaged. Hard epoxy paints are not generally flexible enough to allow adequate thermal expansion (Davey & Mitchell, 2009).

8. Future Maintenance

Details of all repairs made should be recorded to inform future maintenance. After repair a planned programme for regular inspection and preventative maintenance should be put

in place. Contaminants and deposits should be regularly removed to prevent breakdown of the protective coatings. Hinges should be cleaned and lubricated to keep them in good working order. Any internal drainage should be kept clear to prevent blockages and ice build-up that may damage castings.

9. References

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10. Table of illustrations

Figure 16	Gate hinge pin	Author
Figure 17	Similar shattered cast iron gate	Morrell's Forge Blacksmiths (2015)
Figure 18	Retaining clamp for top of gate	Author
Figure 19	High level lattice ironwork supporting roof	Author
Figure 20	Corner brackets	Author
Figure 21	life expired original roof lead work below cupula	Stonewest (2013)
Figure 22	Finial penetration of roof - now corroding	Stonewest (2013)
Figure 23	Concealed roof structure below cupula	Stonewest (2013)
Figure 24	Roof structure at mid-level	Stonewest (2013)
Figure 25	Roof structural framing	Author
Figure 26	Original eaves detail	Author
Figure 27	Current eaves detail	Author
Figure 28	Brighton bandstand design drawingshowing internal drainage (notes added by author)	DRP Architects (2008) with notes by author
Figure 29	Metal downpipe added	Author
Figure 30	Downpipe with fixings bolted through cast iron columns	Author
Figure 31	Open Cupula	Author
Figure 32	Constituent parts of cupola crown (missing sections shown grey)	Author
Figure 33	Sections bolted together	Author
Figure 34	Original finial detailing	Author

Figure 35	Missing decorative finial detail	Author
Figure 36	Roof finial	Author
Figure 37	David Bowie performed on this bandstand	The Friends of Croydon Road Recreation Ground (2019)
Figure 38	Bandstand in use in 2019	Author
Figure 39	Speculative illustration of missing gate	Author
Figure 40	Flaking paintwork	Author