



WORMINGTON GRANGE

BROADWAY

WR12 7NJ



STRUCTURAL REPORT

ON

DAMAGE TO GATE PIER

Date of inspection

15th February 2024

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1. Introduction

We were appointed to inspect the left hand stone pier of the main entrance gates to Wormington Grange, and to assess the damage caused by a recent vehicle impact and the extent of repair and / or rebuilding that is required.

No exposing work was carried out. Our report is based on a visual inspection.

A site visit was carried out in the afternoon of 15th February 2024. Weather conditions were dry and overcast.

Our report contains photographs taken on the day of inspection.

2. General Description

The entrance gates are set in from the boundary wall between the estate and the B4632. Low stone walls, with railings above, curve from corner piers to the gate piers

Despite the generous turn-in, an unknown vehicle recently came into contact with left hand gate pier and caused damage as described below and shown in the photographs.

3. Observations

The curved wall is built of large blocks of limestone masonry and has a projecting plinth both side. The plinth is darker in colour than the stone above, but this may just be due to greater weathering.

Above the plinth there are two plain courses of stone, a stone coping and iron railings.

The gate pier is taller and broader than the wall, but sits on a similar projecting plinth. The masonry above the plinth is carved and there is a carved cap stone.

The pier and wall each side of the gates are symmetrical. On both sides it can be seen that there has been historical movement, almost certainly due to poor foundations in the clay subsoil. Before the recent incident, the walls and piers on both side were in need of localized repair and repointing, but were otherwise sound, and standing reasonably vertical.

The recent damage seems to have been caused by an incoming vehicle hitting the middle part of the left hand gate pier and causing it to rotate anti-clockwise and separate for the top two stone courses.

The middle section has also split with the stone nearer the gate opening rotating and falling away from the stones behind.

The rotation and distortion in the middle and upper stones has also pushed the upper stones of the curved wall out of line for about 2/3 of the length of the curve.

The pier is potentially unstable and could collapse in adverse weather, particularly frost. The best course of action to maintain the heritage asset is to rebuild it.

As far as can be ascertained the plinth has not been affected significantly by the impact.

The stones of the gate pier and the curved wall appear to be intact as individual pieces.

The iron railing have been bent slightly by the impact but can easily be straightened.

4. Recommendations

There are two main options for remedial work:

- a. Rebuild the gate pier and the curved section of wall plus railings that runs from this pier to the corner pier, on a new foundation, reusing all existing stones as far as possible, numbered before taking down.
- b. Take down the pier and curved wall plus railings as far as the projecting grey plinth and rebuild from this level, numbering all stones.

Option (a) would mean that the rebuilt section is more rigid and straight, but this would stick out as a rebuild, and would take a long time to weather down and blend in with the rest of the wall.

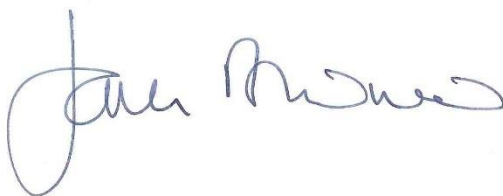
Therefore although Option (a) is a stronger job, we recommend that Option (b), rebuilding from the plinth up, would be more sympathetic to the rest of the wall, and would be the best course of action.

The following outline method would be appropriate:

- Remove railings from curved section of wall and store carefully.
- Take down affected area stone by stone, with each piece numbered and safely stored.
- Assess condition and level of plinth stones to ensure a consistent bed for rebuilding. The gate pier plinth may need re-levelling.
- Rebuild wall and pier using existing stones laid in either a lime-putty or hydraulic lime mortar in thin beds to match existing, flush jointed.
- Re-bed wall coping, and stone capping. Pointing mix for coping to be confirmed.
- Rub down, repair, prime and paint railings.
- Refix railings into existing pockets using a suitable resin adhesive, lime pointed.

All work must be to the approval of the conservation officer and heritage bodies as appropriate.

We will be pleased to answer any questions on this report.



James Birdwood MA CEng MICE FIStructE

PHOTOGRAPHS



View from Road Side



View from Estate Side



Pier from Estate Side



Pier from across Drive