**Report of Working Group on Chester Terrace balustrade/wall/foundations project**

**Purpose**

This report has been prepared after consultation with the Working Group in early March 2022 to inform the Board on the project, its relevant issues and to aid their decision on the approach to be instructed.

**Process and further information**

The Working Group was formed in late 2019 and consists of Commissioners Allan Murray – Jones (Chair of Gardens Committee and the Working Group) and Loretta Balfour (Chair of the Commission), resident Richard Loftus (experienced property developer) and the Director (since 20 January 2020, Nick Packard, a chartered surveyor). Other relevant Commission staff plus structural engineering consultants from Hurst Pierce + Malcolm and Ramboll have also attended meetings.

Since January 2020, the Working Group has met 8 times, the last of which was 7 March 2022. In March 2021 there was a virtual meeting to which all Chester Terrace ratepayers were invited and before which they were asked for comments in writing on the project by 14 April 2021. The major relevant reports and investigations had been uploaded to the Commission’s website and ratepayers directed to review the documents before the meeting. Further documents have been added to this page since. The link is <https://www.cepc.org.uk/residents/chester-terrace-resident-ratepayers-meeting/> Also available to Commissioners is a suite of further background documents along with a note on their compilation. This is so that all Commissioners have access to all significant detail on the project and the work of the Working Group.

Under the direction of the structural engineers and following discussion of the Working Group, significant site investigatory work has been carried out including trial pits/soil samples, core samples of the wall, deconstruction/reconstruction of sections of the balustrade and barriering to keep people off the structure (which remains in place).

A review of Hurst Pierce + Malcom’s recommendations was carried out by two further independent structural engineers in August 2021, one of whom, Ramboll, produced a hybrid suggestion which has subsequently been costed as Option 5 in the Hurst Pierce + Malcom Scheme Proposals and Pricing Document.

Note that to date no schemes have been designed, only indicative sketches drawn up to allow options to be considered and costed by a consultant quantity surveyor. The true test of costings would come after design of a scheme and tenders being received. Even then, site discoveries/other variations to the works will vary the amount of the accepted tender.

**Background**

The balustrade itself has failed for two reasons, thermal movement and the movement of the wall/foundations on which it stands. Each of these alone would have been reasons for the failure of the balustrade. The balustrade at Cumberland Terrace was replaced in the 2010s as it had suffered from thermal movement. At Cumberland Terrace, the wall/foundations had been replaced completely in the 1950s (to a design by Hurst Pierce + Malcolm) when the terrace was redeveloped. As such these elements remain solid, requiring no structural work at the time of the replacement of the balustrade where the new one included suitable movement joints to account for thermal movement. Reports on the Chester Terrace balustrade from surveyors BNP Paribas were commissioned in the 2010s by the Commission.

At Chester Terrace it has been established in the investigations that the balustrade has continued to move during the time the Working Group has been in operation and that it is currently not in a safe condition. The sections of balustrade are heavy and if they fell could cause serious damage. Therefore the decision was taken, after discussion with insurers, to barrier the length of the balustrade on both road and garden side.

In their first report following the formation of the Working Group, received in June 2020, the Commission’s structural engineers, Hurst Pierce + Malcolm, outlined two repair scenarios at opposite ends of the spectrum. The first scenario was cosmetic repairs to the balustrade which would only address the damaged elements of the balustrade and when future movement of the wall/foundations occurred would need regular further temporary repairs plus ongoing inspection and investigations to establish the safety of the balustrade. The second scenario was a new wall/foundations (likely with piled foundations) and a new balustrade to account for the thermal movement. This would deal with the future movement of the wall/foundations and balustrade, replicating the scenario at Cumberland Terrace. Hurst Pierce + Malcolm recommended the second scenario, replacement of the wall/foundations and balustrade. They iterated that they would look at any of a range of options between the two extreme scenarios suggested.

Since that initial report, the Working Group has focused on exploring a range of different options to deal with the issues of the wall/foundations and balustrade. The reason is to try to seek an effective, efficient and economic solution to the problem that would cause the least disruption. It is acknowledged that it may not be possible to achieve each of these goals in one solution. This has required additional investigations carried out by various specialist contractors and cost advice from a quantity surveyor. The Working Group has particularly benefited from the input of Richard Loftus, who made a number of practical suggestions as to potential approaches to the works (which have been explored) and to commission reviews of Hurst, Pierce + Malcolm’s advice by two third party structural engineers. The quantity surveyor suggested that the full replacement of the wall/foundations and a new balustrade might cost in the region of £1.85m being split £1.18 wall/foundations and £671k balustrade. All figures excluding VAT and other items (see the Quantity Surveyor detailed costings for the inclusions and exclusions).

The review by structural engineers Ramboll suggested an approach whereby the wall/foundations would be separated in to three risk areas, with a new wall/foundations plus new balustrade in the high risk area and monitoring of the ongoing movement plus subsequent decision on whether to carry out the same works (or other iterations) on the other sections. This is Option 5 in the Hurst Pierce + Malcom Scheme Proposals and Pricing Document. Note that there is a wide variety of how the costs might look in using such an approach as it is dependent on the outcome of further monitoring in the medium and low risk sections.

The Commissioners have agreed the principle that the costs of work to the balustrade are attributable to the Chester Terrace Garden Fund (to which only Chester Terrace ratepayers contribute) and the costs of works to the wall/foundations are attributable to the Paving Fund (to which a wider constituency of Regent’s Park ratepayers contribute).

**Request for comments of ratepayers on options**

A letter and e mail was sent to ratepayers on 22 January 2022 asking for their further views on the project in writing by 22 February 2022. No comments in writing were received in response. It is known that 60% of the e mails sent out were opened.

One factor previously mentioned by some ratepayers/residents as important, is the impact on the trees of the works. Options 4 (whole length) and 5 (lengths where foundations are replaced) would likely result in significant damage to the trees. Trees can only be removed with a relevant Local Authority (in this case LB Camden) planning permission or consent under the relevant tree protection legislation. Option 1(B) would be less damaging initially with the balustrade work only, but there is the risk in such an approach of having to come back in the future and do wall/foundations works which will have the same damaging effect on the trees. It is suggested that in any scheme that addresses the wall/foundations, the designing structural engineers are asked to try to retain as many trees as possible, whilst acknowledging this may be difficult bearing in mind the requirements of the works.

**Main issues for decision by Commissioners**

In summary, each of the alternative approaches to strengthening the existing wall/foundations other than piled foundations and a reinforced concrete retaining wall have been ruled out as either carrying more risk or additional cost when compared with the latter. There also does not appear to be an option to do lesser works to the foundations as the foundations are in made ground or clay soil, each of which are susceptible to ongoing movement. Piled foundations would be designed to such a depth that they eliminate the influence of these movable ground conditions. It is, however, a disruptive and invasive process that carries risk (such as contaminated land and other unexpected site discoveries, plus the need for Party Wall etc Act notices).

Options have been investigated that repair the balustrade only, including a new demountable balustrade which could be installed, taken down and reinstalled if subsequent movement of the wall/foundations occurred, if the Commission were of the view that they did not wish to address any or all of the issues with the foundations.

As noted above there is also the possibility that the wall/foundations could be separated in to different risk areas with a new wall/foundations and new balustrade in some sections plus ongoing monitoring with a decision about action in the other sections taken in the future. Some concerns have been expressed about a partial wall/foundation replacement programme leading to differential movement between the new fixed foundations and the old moveable ones. Also, unless work was carried out to the existing sections of the balustrade to make it safe, the barriers would need to remain until a decision was taken on whether those sections were to be replaced or are safe. The costings from the Quantity Surveyor show that there is an increase in costs if sections are separated and all need to be done. Equally it has been noted that if it turned out that monitoring and subsequent advice showed not all of the wall/foundations needed replacing with such a significant intervention (the costs of such work are substantial), there would be a cost saving on this element.

Of the Options that are outlined in the Hurst Pierce + Malcom Scheme Proposals and Pricing Document, the Working Group appear to agree that the only ones worthy of further consideration are Options 1(B), 4 and 5.

It has been suggested, and there is sympathy for the view from the Working Group, that in the event works were carried out to the balustrade and the wall/foundations were not rectified, any future costs of relevant works to the balustrade would be the responsibility of the Paving Fund rather than the Chester Terrace Garden Fund.

Commissioners need to decide (it is suggested these queries are considered in the order posed):

1. Do they accept the contention that if work is carried out to the balustrade at Chester Terrace Garden Fund expense but not to the wall/foundations and then subsequent work is required to the balustrade, this would be a Paving Fund expense?
2. The approach to the foundations. Do they wish to address the foundations now either in part or in whole?
3. The approach to the balustrade. Repair the existing or replace it?

It is suggested that considering these queries enables the Commissioners to decide the approach to the design of the works. For example, if the decision to the wall/foundations is to adopt an Option 5 approach this would influence the approach to the balustrade.

**Points that have arisen from the Working Group’s discussions**

In making its decisions, the Commission may wish to take in to account that it is a body with the long term stewardship of the estate as its purpose. The Commission also carries the risk if there is any accident/damage caused by the balustrade. It is, of course, possible that a scenario that only addressed the balustrade could prove durable and then the inconvenience/cost of the major works to the wall/foundations are avoided. Neither the Director, nor any of the other professionals involved, are able to put any certainty on such an outcome.

A proposal that carries out works to the balustrade and does not address the wall/foundations at all, would appear to involve the Commission in significant risk of the repaired or replaced balustrade failing, would need regular monitoring (being a financial and opportunity cost) and may result in the wall/foundations requiring subsequent major works in short succession after the initial works to the balustrade. Depending on Commissioners’ views on (i) above, this could mean the Paving Fund being exposed to significant wall/foundation costs plus the costs of reinstating the balustrade afterwards (in the alternative answer to (i) above, the Chester Terrace Garden Fund is responsible for both sets of works to the balustrade). If, due to ongoing movement, the whole replacement of the wall/foundations and take down/reinstall of the new demountable balustrade were carried in one operation, this could be categorised as a cost of c.£1.75m being made up of c.£1.18m (per the wall/foundations element in Option 4) plus c.£571k (per the balustrade years 2 – 20 in Option 1(B), demountable balustrade). It is likely that, done in phases, the cost would increase. In such a scenario, this approach adds c.£571k or 48% to the cost of resolving the issue.

Whilst any of the approaches would involve inconvenience and disruption to residents, a scenario where major works are carried out in several phases in close succession over a number of years would appear particularly inconvenient.

An Option 4 type solution would resolve the issue of future movement of the wall/foundations plus provide a safe balustrade. Whilst a big/disruptive project when on site, this would mean the matter is resolved for the long term, as at Cumberland Terrace. It has the highest near-term cost, some high risk factors that would need mitigation (such as contaminated soil, Party Wall Etc. Act issues and potential site discovery costs) but shows less cost than if the works have to be spread over time. On the basis that the Commission is the body who carries the risk if there is a failure, that the current balustrade is unsafe and the wall/foundations appear to remain moving (or highly likely to continue to move) this approach may be attractive to Commissioners as it resolves the issue for the long term.

If such an approach is considered too risky or costly by Commissioners, an approach along the lines of Option 5 (whereby part of the wall/foundations are addressed with the rest monitored before deciding on the approach to these further sections) may be appropriate. The phasing of such an approach may need further consideration and investigation. It is also important to be clear (to Commissioners and ratepayers) in such circumstances which fund pays for the balustrade works if future works are required due to moving sections of the wall/foundations.

**Working Group’s recommendations**

There was agreement from the Working Group that Option 4 was the most appropriate bearing in mind the circumstances of the Commission. It was noted that were the circumstances different in terms of the longer term risk, a different approach may have been taken.

The Working Group noted that the significant disruption to the gardens from Option 4 is unfortunate. Although the replanting stage is a longer term issue, it was recommended the Head of Landscape consult with ratepayers over the plans to landscape the garden after the work to the wall/foundations/balustrade. It was also agreed that if the tenders are significantly above the existing cost estimates the Working Group may have a view on the approach to take in those circumstances.

It was recommended aiming to keep open a section of the garden throughout the project, while also offering residents access to the Park Square & Park Crescent gardens free of charge.

It was agreed the Working Group’s work at this stage was complete but they wished to review the tenders for the project when these were known.