

Structural Engineers Report For:

Retaining Wall, Penrhiwfer Allotments,
Tonyrefail

Visual Structural Inspection

Prepared for:

**Tonyrefail & District
Community Council**

REF: 21690

Document Control

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Client	Tonyrefail & District Community Council
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Our Ref: 21690

Issued by email to: Aingie Cripps Melody (admin@tonyrefail-cc.gov.wales)

Tonyrefail & District Community Council
Gilfach Rd
Tonyrefail
Porth
CF39 8HL

To whom it may concern,

RE: Visual Structural Inspection of existing embankment and retaining wall at Penrhiwfer Allotments, Tonyrefail

We were appointed by our client, Tonyrefail & District Community Council, to undertake a visual inspection of the embankment and retaining wall at the above address to determine the existing condition, and to determine the suitability of the existing wall for continued use.

Our findings are restricted to structural matters only and we would state that we have not examined parts of the site that were covered, unexposed, inaccessible or deemed unsafe, and are therefore unable to state that any such component is free from defect. Our inspection is limited solely to the areas instructed during our inspection, as highlighted in the photographs below.

This report shall be for the confidential use of our client, and the report shall not be reproduced in whole or in part, or relied upon by a third party without the express written authorisation of Vale Consultancy. This report does not constitute a design check of the structures concerned, but provides a condition assessment of the as-built structure.

Description

The embankment at the above address is formed as a natural slope between the upper and lower parts of the allotments area, which becomes steeper at the upper level, with a retained height at the top of the slope of 1.8-2m between the upper level and lower level of each respective allotment plot.

There is an historic wall between the two levels, which has since failed, with the uppermost, worst case height of the embankment now retained by a mass block retaining wall constructed by the tenant of the lower plot to protect the plot and to prevent any further degradation and collapse of the existing slope.

Assessment

See Overleaf

No	Photograph	Description
1		Main embankment
2		Main embankment
3		Main embankment
4		Mass retaining wall (constructed by tenant)

5		Mass retaining wall (constructed by tenant)
6		Mass retaining wall (constructed by tenant)
7		Mass retaining wall (constructed by tenant)
8		Mass retaining wall (constructed by tenant)

9		Mass retaining wall (constructed by tenant)
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Conclusions & Recommendations

The historic, original stone built retaining wall has since failed and no longer provides restraint to the embankment slope between the upper and lower areas. The embankment shows clear areas of localised and more general collapse, with areas of loose stonework and debris littering the area at the foot of the embankment, on the access footway adjacent to the lower plot.

The mass block/stonework retaining wall which has been constructed by the tenant of the lower plot has provided preventative stabilization works to the failing/failed stone wall which was originally present in this area, however is not suitable for continued use when assessed for strength, overturning and its resistance to sliding failure.

It is our professional recommendation that the area to the foot of the slope be cordoned off to limit the likelihood of any falling debris onto persons walking to the front of the embankment, until suitable stabilization works can be undertaken. It is then our recommendation that a suitably qualified contractor be engaged to provide a suitable replacement retaining wall to replace the existing historic stone wall, and stabilised block wall to the full retained height, suitably designed by a structural engineer with the inclusion of a mass concrete base. It is noted that the plot above is occupied, and so a suitable surcharge allowance must be allowed for in any remedial design solution.

Due to the height of the wall, it is likely that in order for a reinstated wall to be constructed, the upper plot is going to be disrupted as where a suitable batter will need to be achieved to allow safe access for a contractor for construction.

If you have any queries regarding this report or require any further information, please contact our office at the above address.



Chris Danielsen BEng (Hons) CEng MStructE
Regional Director
Vale Consultancy



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9