



Ty'n Yr Heol Tonna Neath

Demolition Methodology

Project Number: 9980

Date: 16.12.2024



Content/Quality Assurance

- 1.0 Introduction
- 2.0 Health and safety
- 3.0 Proposed Method

Author

Jeff Stott BA(Hons) C.Eng. M.I.Struct.E
CARE Accredited Engineer

Document issue details:

MW Document Reference No: 9980RJS-D1.

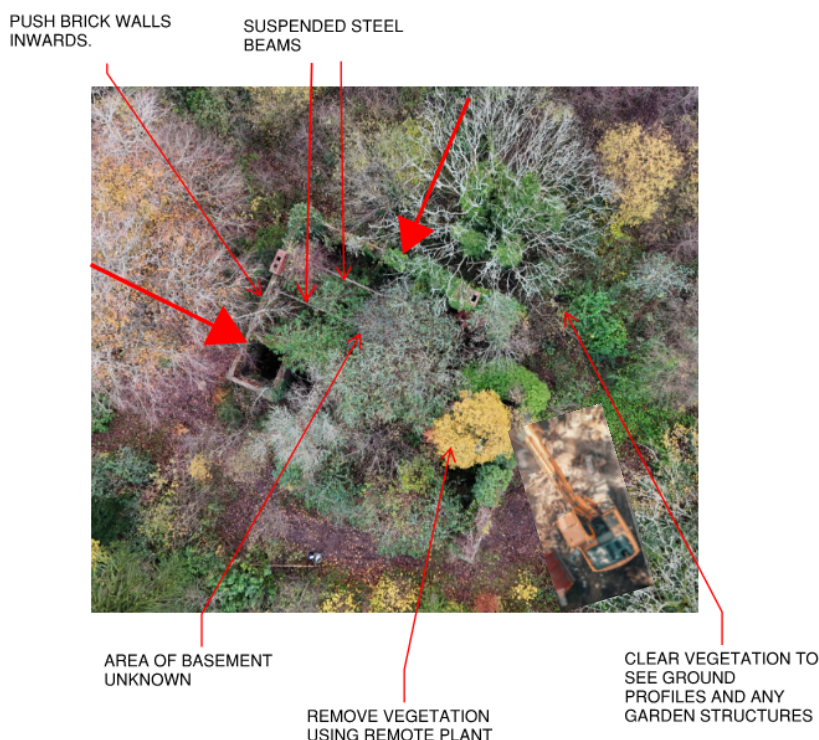
Version Number	Issue Date	Issue Status	Distribution
V1	16.12.24	Full	Greg Beale Emily Byrne
Prepared	Checked	Approved	Date
JWS	--	JWS	16.12.2024

1.0 Introduction

- 1.1 This demolition methodology has been provided by Mann Williams Consulting Engineers and has been prepared to enable prospective contractors to gain a good understanding of the building structure and its condition. It should not be seen as the final methodology which should be carried out by a specialist, experienced and qualified demolition contractor.
- 1.2 This document should be read in conjunction with Mann Williams Report ref 9980RJS-03 addendum 2.
- 1.3 The building/ruins has degraded over the period that it has been inspected by Mann Williams (2019-2024). The significant loss has been to the timber structures, including timber lintels and beams, along with the gradual breaking down of the random rubble walls as vegetation has taken hold, and further loss to the brick vaulted basement structures.
- 1.4 Stormwater has been entering the wall fabric through the open wall heads and woody growth, and is likely to have caused loss of mortar, leaving the top sections of the walls vulnerable.
- 1.5 The construction materials likely left in the ruin are:
 - Rotted timber floors, lintels and beams
 - Random rubble walls, lime mortar, lime plaster, possibly cement render
 - Brick walls, between 225 and 350 thick, cement mortar
 - Suspended steel beams at first floor level, bearings are precarious
 - Collapsed brick groined and barrel vaulting to the basement
 - Detritus on the ground floor from slate tiles, and burnt building fabric
 - It is unknown if asbestos is present.
 - Old services, pipework, cables.

2.0 Health and safety

- 2.1 The tops of the walls are in poor condition, with loose stone and mortar and should be cleaned off using remote equipment. This state is worsened by the heavy growth of woody vegetation which has invaded the masonry structures, jacking stones apart. It is not known how the walls will behave during demolition.
- 2.2 The ground floor is uneven due to building material falling in during the fire or being pushed in by the fire brigade at the time. The build-up of debris makes seeing the position of the cellars difficult and therefore the risk of falling into the cellars is high.
- 2.3 The vaulted structures are not reliable due to partial collapse. Therefore, entering the building in its current state is extremely hazardous due to possible collapse of remaining vaults, inability to see where the vaults are and the uneven nature of the rubble on the ground.
- 2.4 Any demolition will need to account for the proximity or existing trees to ensure any mass fall of walls is controlled
- 2.5 Initial removal of vegetation from the tops of the walls is likely to cause partial collapse of those walls, mainly the heads of the walls.
- 2.6 The site should be cleared of vegetation as much as possible to enable the ground profile, external to the building to be seen. There are external garden structures such as walls and steps to various levels especially to the rear of the building.
- 2.7 Due to the current condition of the building, it is felt that taking down using hand tools off scaffold structures would not be safe. A method utilising remote plant is envisaged pushing the structures into the middle followed by appropriate sorting. The stone materials could be set aside for re-use with the brick removed from site for possible crushing and recycling.
- 2.8 The presence of asbestos is not known. It could be that the detritus on the ground contains asbestos or material in basement areas due to pipe lagging/heating systems. A dust suppression system will be required.



3.0 Proposed Method

- 3.1 The Method for demolition must take into the account of the high risk of entering the structures and of the risk of fall of materials form height.
- 3.2 Sample materials should be tested for asbestos. An experienced surveyor should be used to review the structures condition in search for ACMs and remove appropriate materials for analysis. The difficulty will be in the control of ACM's during the demolition process. The results are likely to define the method proposed. It should be understood a dust suppression system will have to be used.
- 3.3
1. Clear away vegetation around the building so the ground profile can be seen and any external garden structures viewed and assessed. This will allow safe standing area for plant to be agreed and safe trafficking route for plant and personnel
 2. Carryout all reports/requirements under section 80/81 of The Building Act 1984, The Building Safety Act 2024 and the CDM regulations.
 3. Set out transit routes and loading areas. Egress and access onto and around the site. Assess safety of highway and protection to the public at all site boundaries, including site security.
 4. Remove vegetation from the tops of the walls using remote plant. To enable good sight of the building structure and controlled falls of materials
 5. Lift away suspended steel beams using HR equipment if appropriate. Note beams are bearing into the walls.
 6. Demolish brick structures by pushing walls inwards small sections at a time depending on the homogeneity of the brick walls. Thus, filling the collapsed basement structures and allowing some levelling
 7. Carry out similar operations for the random rubble walls.
 8. Once the walls are down, begin to separate the materials, storing the stone for re-use and removing all other materials from site until the ground is left relatively level.
 9. Continue to dig out the basement areas and collapse any remaining sections of brick vaulting; grub up the foundations. Remove all remaining materials from site leaving natural earth with safe batters to any significant depths to old basement areas.