

HERITAGE IMPACT STATEMENT.

**In Support of an Application for Listed Building Consent for:
Glazing Repairs at The Orangery, Margam Park.**

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Figure 1: Façade, South Elevation



Figure 2: Typical Window

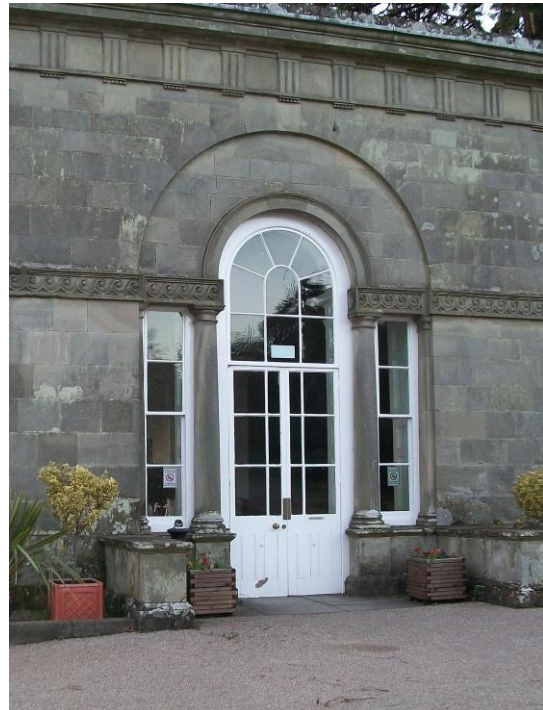


Figure 3: Exterior Door

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DRAWINGS:

A-1267-01, Location Plan

A-1267-02, Plan and Elevations

APPENDICES:

- i. E-mail, Katie Stephens, Acting Corporate Occupational Health, Safety & Emergency Planning Manager at NPTCC
- ii. Building Regulation Part N1 Protection Against Impact, Diagram 1

1. Introduction

This application for Listed Building Consent is concerned with replacement glass in doors and windows at The Orangery, Margam Park. The building was restored in the 1970's and glazed with Cylinder Glass fixed into timber frames with Linseed Oil Putty.

Glass breakages from weathering and impacts are an ongoing maintenance issue with heightened risk due to the buildings use as a public venue. There have been a number of inappropriate glass replacements including contemporary float, annealed and toughened glass as well as temporary fixing of clear rigid plastic sheet. The causes of inappropriate repairs include a conflict in statutory requirements as well as lacking guidance in the procurement and installation of heritage materials.

2. Site Location and Description

Margam Park is predominantly rural with intermittent residential properties located around its boundaries. The local district centre of Margam is to the south with good access to Port Talbot. There are also good links to wider communities and visitors via the M4 corridor and A48 arterial roads, reflected in the large area of onsite parking.

The Orangery is a Grade 1 Listed Building with a large open plan. It was renovated in the 1970's and now serves as a popular venue for activities such as weddings

Reasons for listing are: *Listed Grade 1 as one of the finest classical buildings in Wales, and the longest orangery in Britain. Group value with surrounding buildings in Margam Park.*

Cadw Source ID: 14152.

Listed 12th November 1952 and last amended 25th April 2000.

3. Purpose of this Statement

The purpose of this Statement is to support an Application for Listed Building Consent for the replacement of inappropriate glass and future repairs. This application for Listed Building Consent follows a thorough research and consultation period and is intended as direction for current and future repairs.

4. Statutory Requirements

There is a conflict in the requirements of LBC and Building Regulations Approval:

4.1 Listed Building Consent

As a grade 1 listed building, approval requires consent for suitable repairs that reflect the historic nature of the building. The Orangery was refurbished in the 1970's with the majority glass likely to be contemporary manufactured cylinder glass that has similarities to the original Crown Glass.

- 4.2 Current Building Regulations, Approved Document Part N1. Wales (appendix ii) requires the installation of safety glass in 'Critical Locations', which in this instance are noted on drawing number 1260-02 Plan and Elevations. The requirement that glass conforms to the standards of current Building Regulations has been confirmed by Katie Stephens, Acting Corporate Occupational Health, Safety & Emergency Planning Manager at NPTCC who noted (appendix iii):

'NPT Health and safety standards require glass conforms to current building regulations. On that basis I confirm that the proposed safety glass is an essential requirement in terms of NPT Health and Safety in order to meet our statutory requirements.'

5. Proposed Resolution

In order to resolve statutory conflicts we've presented a number of alternative glass samples viewed by Delyth Lewis (NPT Heritage Officer) and Jonathan Greene (Cadw, Inspector of Historic Buildings). A number of samples were rejected and two samples proposed for current and ongoing repairs.

6. Proposed Replacement Glass

6.1 General Areas

Mouth Blown Cylinder Glass (3mm). This is a 'like for like' approach with slightly curved ridging and air bubbles that give depth and character to the façade. An acceptable example is Restoration Glass by Tatra Glass Ltd. Tel: 01509 235387.

The glass sample was considered a good match to the existing, for repairs to all areas that are not considered Critical Locations.

6.2 Critical Areas

GoetheGlas, **Toughened** Restoration Glass (4.5mm). An irregular surface distortion caused by a mechanically drawn manufacturing process from the 18th century is similar to cylinder glass. Advances in glass technology enable drawn glass to be cut to size and toughened by contemporary heat treatment methods. Bespoke replacements as examples by Tatra Glass Ltd. Tel: 01509 235387.

Building Control have acknowledged they will not require an etched safety mark on toughened heritage glass. However, a Letter of Conformity from the manufacturer is required.

The glass sample was considered a reasonable alternative for use in critical areas requiring safety glazing (re drawing 1267-02),

7. Method Statement

7.1 The Project Manager to identify damaged and/or inappropriate glass panes to be repaired or replaced.

7.2 Confirm glass location, size and type to be ordered from specialist manufacturer. Glass types to be either:

- General Areas: 3mm Mouth blown Cylinder glass, such as Restoration Glass by Tatra Glass Ltd. Or
- Safety glass in critical areas defined by current Building Regulations Approved Documents, such as GoetheGlas, Toughened Restoration Glass (4.5mm) by Tatra Glass Ltd

7.3 All removals and repairs to be undertaken by an appropriately experienced Glazier in the use of Linseed Oil Putty for single glazing. Access and working arrangements to be agreed with the project manager.

7.4 Protect all existing surfaces from damage by access equipment, tools and materials:

- Floor coverings to protect from debris as well as loading from access equipment such as step ladders or scaffold
- Access equipment not to be in contact with walls, windows or doors

7.5 Remove old putty from each pane to be replaced on the day and do not leave exposed for extended periods. Putty can be softened if required using a proprietary putty lamp, electrical decorator's heat gun or appropriate solvent.

7.6 Clean back the rebate and apply a thin coat of primer, before new linseed-oil bedding putty is applied. Press the replacement glass into place and secure with Stainless steel Push Point Glazing Pins or sprig/brads to match the existing. Cut back extruded putty between the interior glass face and frame to form a smooth continuous seal.

7.7 Prepare putty by kneading to a soft malleable consistency. Additional linseed oil can be used to soften the putty for seasonal temperature variations. Place into rebate at face of glass and shave back excess with a putty knife to a smooth and even surface with distinct internal corners and taper to the frames face. All of the rebate is to be filled with no overlap visible from the interior.

7.8 Allow new putty to dry before painting. Drying times will vary depending on weather conditions and exposure to direct sunlight.

8. Photograph Examples



Figure 4: Cracked Cylinder Glass, Interior



Figure 5: Cracked Cylinder Glass, Exterior



Figure 6: Inappropriate Replacement Glass



Figure 7: Window Interior