

Our Ref: 07C200919  
Your Ref: 3070053971



4 April 2022

Jo Glenn  
DEFRA Group Facilities Management  
Rivers House, East Quay  
Bridgwater  
Somerset  
TA6 4YS

Dear Jo,

### **Bradney Depot, Bawdrip, Bridgwater – Storm Damage Review to Storage Shelter**

Further to your instructions and our inspection at Bradney Depot on Monday 28<sup>th</sup> March, we set out our observations, comments and recommendations below:

#### **Background**

Avison Young were instructed by DEFRA to undertake an inspection of a storage shelter at the Environment Agency's Bradney Depot, following damage which occurred to the roof of the structure during Storm Eunice in February 2022.

Our inspection was undertaken by Simon Gould MRICS in the presence of Jo Glenn from DEFRA.

The purpose of the inspection was to assess the damage, review the structural integrity of the building and advise on the remedial work required.

#### **Limitations**

In the course of our inspection, no structural calculations or testing of any kind has been undertaken. Our inspection comprised a non-intrusive visual assessment only.

No documentation has been provided for review and we have not undertaken a search of any publicly available documents.

Access was available to all required areas, however, we could not view the south eastern parts of the building as these areas are obscured by overgrown vegetation.

#### **Description**

The subject building comprises a single storey open fronted shelter, primarily used for the storage of grit/sand, as well as various other materials and equipment.

The building is situated at the southern end of the depot, adjacent to the Carpentry Shed. The building is of loadbearing masonry block construction with a timber framed roof covered with profiled metal sheeting.

The front of the building has been extended via a modern steel framed structure to provide additional sheltered storage space. The steel framed extension abuts the original section and is also covered with profiled metal roof sheeting.



Bradney Depot – Storage shelter outlined in red

## Observations

It was clear during our inspection that the profiled metal roof sheets to the original masonry section of the shelter have been completely ripped off by high winds. Only two roof sheets remain in place to this section, one at either end of the building. One other roof sheet is still present on site but has been lodged between the storage shelter and the Carpentry Shed and is heavily damaged / buckled.

The profiled metal roof sheets to the newer steel framed section are still fixed in place and appear to be undamaged.

In addition to the missing roof sheets, there is cracking / damage evident to the rendered blockwork wall to the north western end of the building. The cracking is isolated to a small area at high level. No other storm damage was evident.

We noted one historic structural repair to the masonry walls at the rear elevation consisting of structural metal ties to address vertical cracking. The ties appear to be unaffected by the storm damage to the roof and the building is in sound structural condition.

## Analysis

A key difference between the two roof sections appears to be the type of fixing used. Roof sheets to the newer steel framed section are fixed using heavy duty 'Tek' screws, whilst the original sections have been fixed using standard screws fixed into timber purlins. Evidently, these basic screw fixings are insufficient and were unable to withstand the force of high winds. In addition,

the rear of the building faces the prevailing south westerly winds and may therefore be more susceptible to wind uplift than the front section.

In regards to the cracked section of masonry blockwork at the north western end of the shelter, this appears to be a consequence of the force of the roof sheets being torn off in this location.

No other damage was observed to the blockwork walls and the structural steel members to the extended section appear unaffected. The timber roof joists also appear unaffected and there was no sign of damage to the floodlights around the building.

### **Recommendations**

The missing roof sheets will require replacement with a modern equivalent, similar to that installed to the steel framed section. We recommend the use of additional and/or heavy duty fixings (subject to the roof sheet manufacturer's recommendations) to reduce the likelihood of a similar event in the future. The existing timber joists can be retained but these should be checked to ensure there are securely fixed.

Minor repairs are required to the cracked / damaged section of blockwork. Loose sections should be removed and replaced with new blockwork.

In addition to the storm damage repairs, we recommend cutting back the overgrown vegetation at the south eastern parts of the building and undertaking general maintenance to the gutters to ensure they are securely fixed and free of debris. The fascias should also be checked to ensure they are securely fixed and there are no gaps which may create wind uplift.

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## Schedule of Photographs







Photo No	Photograph Description	Photograph
1.	General view of storage shelter to southern end of Bradney Depot	
2.	Missing roof sheets to masonry section due to high winds	
3.	Roof sheets to steel framed section still in place and unaffected	

Photo No	Photograph Description	Photograph
4.	North western end of building	
5.	Damage to masonry at north western end of building at high level	
6.	Overgrown vegetation at south eastern end of building	

# Standard Terms of Appointment and Supplementary Terms of Appointment and Scope of Services for Building Surveys

## PARTIES

- (1) Avison Young (UK) Limited incorporated and registered in England and Wales with company number 6382509 whose registered office is at 3 Brindleyplace, Birmingham, B1 2JB, United Kingdom (**Avison Young**).
- (2) The Client named in the Letter of Appointment (**Client**)

### 1. Interpretation

The following definitions and rules of interpretation apply in this appointment:

**Additional Services:** any additional services which Avison Young agrees to provide in accordance with clause 6.

**Fee:** the fees for the Services and any Additional Services (if any) as set out in the Letter of Appointment.

**Force Majeure Event:** means any circumstance not within a party's reasonable control including, without limitation: acts of God, flood, drought, earthquake or other natural disaster; epidemic or pandemic; terrorist attack, civil war, civil commotion or riots, war, threat of or preparation for war, armed conflict, imposition of sanctions, embargo, or breaking off of diplomatic relations; nuclear, chemical or biological contamination or sonic boom; any law or any action taken by a government or public authority, including without limitation imposing an export or import restriction, quota or prohibition, or failing to grant a necessary licence or consent; collapse of buildings, fire, explosion or accident; any labour or trade dispute, strikes, industrial action or lockouts; any interruption or failure of utility service

**Insolvent:** a party is insolvent if: a party is making a voluntary arrangement with its creditors, entering administration or going into liquidation; or a security holder taking possession, or a receiver or an administrative receiver being appointed over all or any part of the property or the assets of the party; or any other similar or analogous event in another jurisdiction.

**Letter of Appointment:** the letter by Avison Young which sets out the details of the Client, the Services, and the Fee together with other details relating to the Services.

**Material:** all designs, drawings, models, plans, specifications, design details, photographs, brochures, reports, notes of meetings, CAD materials, calculations, data, databases, schedules, programmes, bills of quantities, budgets and any other materials provided in connection with the Services and all updates, amendments, additions and revisions to them and any works, designs, or inventions incorporated or referred to in them for any purpose relating to the Services.

**Services:** the Services set out in the Letter of Appointment and the Additional Services (if any).

**VAT:** value added tax imposed by the Value Added Tax Act 1994, or any similar tax in addition to or replacing it from time to time.

### 2. Appointment

- 2.1. The Client appoints Avison Young to carry out the Services, subject to the terms of this appointment.
- 2.2. This appointment takes effect from the date when Avison Young begins performing the Services, regardless of the date of this appointment.
- 2.3. This appointment consists of these Avison Young Terms of Appointment and the Letter of Appointment.
- 2.4. Avison Young shall deem the Client to have accepted these Avison Young Terms of Appointment and the details set out in the Letter of Appointment within 30 days of their issue unless the Client has notified Avison Young otherwise in writing.

### 3. Consultant's Obligations

- 3.1. Avison Young warrants and undertakes that it shall comply with the terms of this appointment.
- 3.2. Avison Young warrants and undertakes that it shall act with reasonable skill and care:
  - 3.2.1. when performing the Services;
  - 3.2.2. to comply with any Act of Parliament, any instrument, rule or order made under any Act of Parliament; and any regulation or bye-law of any local authority, statutory undertaker or public or private utility or undertaking that has any jurisdiction over the Services or with whose systems or property the Services is or will be connected.