Aspire Defence Services Limited

Design and Access Statement

JE 0 056 – Replacement of First Floor Plantroom Walkways Due to lack of Structural Integrity of Steel Beams and Connections at Jellalabad Barracks on Tidworth Garrison



Rev	Date	Purpose of Issue	Author	Appr.	Appr. Role[1]
00	05/10/2023	Issue 1.	LB	PW	Senior Design Manager

Contents

1. Introduction……3
2. Location and Site Plan……3
2.1. Jellalabad Barracks……3
2.2. The Site……3
3. Context……4
4. Client's Brief……4
5. Proposals……4
5.1. Description of Proposals……4
5.2. Operational Considerations……4
6. Access……5
7. Summary and Conclusions……5

1 - INTRODUCTION

On behalf of the 1st Regiment Royal Horse Artillery, Aspire Defence Services Limited have prepared a proposal for the replacement of the first-floor plantroom walkways due to the lack of structural integrity of the steel support beams.

This statement forms part of a current Listed Building Consent application.

2 - LOCATION AND SITE PLAN

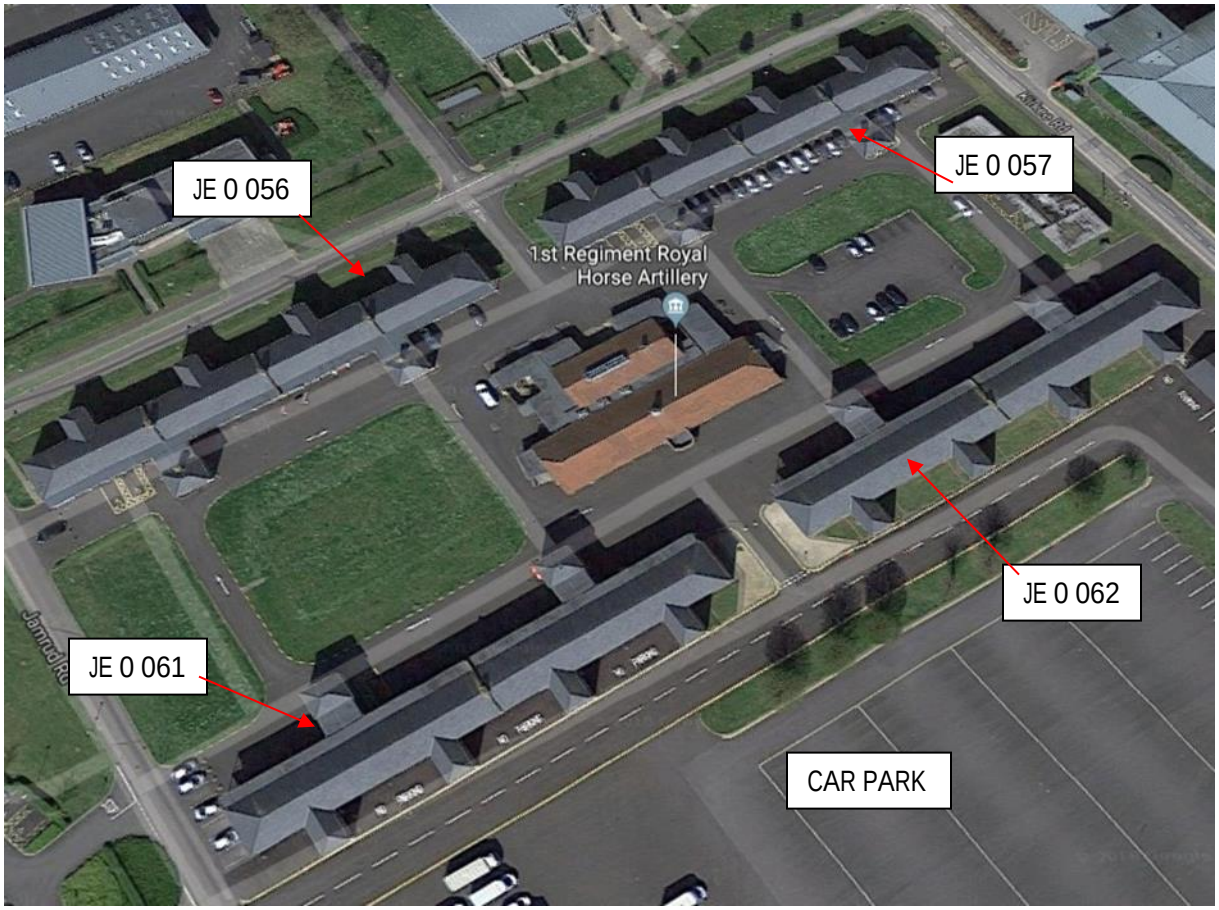
2.1 Jellalabad Barracks, Tidworth

The Jellalabad series of buildings are a group of four (JE0056, 057, 061 and 062), which are part of the original Tidworth Garrison development from approximately 100 years ago and are Grade II Listed.

These buildings were originally accommodation blocks, providing large dormitory rooms, but more recently, under a previous Listed Building Consent, have been refurbished internally to form offices.

2.2 The Site

The site comprises of four buildings within the garrison which is bounded by Grand Trunk Road and Jamrud Road to the south and west. A staff and visitor car park is located to the south of the site.



3 - CONTEXT

The site comprises of four main buildings JE 0 056, 057, 061 and 062. The refurbishment of Building JE 0 057 was completed in July 2022 followed by building JE 0 056 in March 2023. During the refurbishment works to JE 0 056, corrosion to the steel beams of the first-floor plantroom walkways was identified which required further investigation.

4 - CLIENT'S BRIEF

To investigate structural stability of the first-floor plantroom walkways.

ADSL engaged with Alexander Associates (Consultant Structural Engineer) to carry out a survey of the first-floor plantroom walkways. For the survey to be carried out, ADSL removed the concrete to the sides of the beams to allow the investigation. On completion of the survey a report was produced by Alexander Associates (please refer to the attached document JE0056 – External Walkway to Plantroom Survey – Nov 22 ref: SJ/22002-20) which has identified the following actions and recommendations:

- Replace the main walkway steel support beams as soon as possible.
- Replace the concrete decking on completion.

NB It is also recommended that the steel edge beams and angles to first floor roof will need repairing/replacing in five years, as part of the planned decoration maintenance and this will form a separate application at that time.

5 - PROPOSALS

5.1 Description of Current Proposals

To manufacture, supply, deliver and erect 8no. steel beams. Beams to be bolted through site drilled holes in existing support. All steelwork to be shot blasted and painted with 75 microns d.f.t. zinc phosphate primer offsite prior to despatch. All steelwork to be CE marked to EN 1090-1:2009 Execution Class 2.

Please refer to Alexander Associates structural engineer drawings and calculations for proposed replacement of the first-floor plantroom walkways at JE 0 056:

Footway Connection Detail – Drg. No. 22002-20/01

Footway Reconstruction – Drg. No. 22002-20/02A

Footway Reconstruction Existing Sections – Drg. No. 22002-20/03A

Structural Calculations – SJ/22002-20

5.2 Operational Considerations

An exclusion zone around the staircases to be set up to ensure no entry by the general public.

Tube and fitting 'Birdcage' scaffolding will be installed to form a crash deck beneath each concrete landing to capture the debris from the concrete breakout works. Scaffold is subject to appropriate design approval and will require most of the steps to the existing staircases to be removed, as part of the scaffold design 2no. 'Haki' temporary access stairs have been allowed for access for the occupants. The handrails around

the existing walkways will be removed to enable the structural repair works to be carried out and re-installed on completion of works.

Breakers will be used to carefully chisel away the existing concrete landings, the concrete will be broken out fully including the perpendicular steel between the steels and finished tidy ready to receive the new steelwork.

The existing steelwork will be cut out and replaced with new by Curtis Engineering as per the Alexander Associates design drawings and calculations listed above.

All existing adjacent steels to be coated with Sika Armatec primer once all corrosion has been removed.

Install ply shuttering to the underside of the new slab.

Insert trim to create drip detail once shuttering struck.

Place A393 mesh on to the ply using concrete spacers, ensuring there is concrete 50mm cover.

Insert and fix new H10 bars bent to match the site conditions.

Pour new RC28/30 concrete to form the new landing, ensuring it is vibrated and compacted at 250mm thick upon completion as required. Finish with a light tamp finish to provide key for the screed finish. The concrete will require 28 days to cure before any coatings can be applied.

Remove the ply shuttering and make good.

6 - ACCESS

The main pedestrian route is suitable for those in wheelchairs to use safely and all existing fire escape routes will be maintained throughout the works around the buildings.

Access to the building will be via the 4no. existing main entrances on the south elevation of the building which will be maintained clear and accessible throughout the works. Within the existing building there are some areas where there is an existing step up to the beverage bay area's; there is an existing ramp to enable mobility impaired users to access the beverage bay and WC and these will be maintained throughout the works.

There are accessible WC's on the Ground Floor and First Floor which will be maintained as such throughout the works.

Fire and emergency access will be unaffected by the works, and it will be possible for emergency vehicles to attend within 10m of each building. The site fire officer has not been consulted as no changes are being made to the existing layout.

7 – SUMMARY AND CONCLUSIONS

The existing first floor plantroom walkways need urgent structural repairs and refurbishment and on behalf of our client, we have a duty of care to ensure the Grade II Listed buildings are maintained in a useable condition within the context of these historical buildings. We have carried out extensive surveys on the condition of the steel beams to the first-floor plantroom walkways and have therefore provided a structural engineer design and calculations for the replacement of steel beams required to rectify the current issues.