

Category 1 Standard

S1063 Civil Engineering - Cutting, grinding, drilling, fixing to and supporting from existing structures

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1 Purpose

- 1.1 The purpose of this Standard is to define the requirements to be met before cutting, grinding, drilling, fixing to, or supporting from existing structural members that are part of assets for which London Underground has responsibility is undertaken, and the requirements to be met after such actions are complete. The mandate to monitor, control and record all cutting, grinding, drilling, fixing to and supporting from existing structures is contained in standard 1-050 Civil Engineering – Common Requirements.

2 Scope

- 2.1 This Standard applies wherever there is a proposal to cut or grind away, drill into, fix to, or support from, any part of the fabric of existing LU structures. It is also applicable to structures that it is proposed to change by addition or removal of structural elements.

3 Requirements

3.1 Structural Assessment

For all works, Project Managers, and Persons in Charge must ensure that an assessment of the effects of cutting, grinding, drilling fixing to and supporting from an existing structure is carried out. The assessment shall be proportional to the significance of the cutting, grinding drilling or fixing, and for small works such as the fixing of cables, and CCTV cameras etc a professional judgement or a check against a current assessment report will be sufficient. If in doubt, the Profession Head – Bridges & Structures or Profession Head – Deep Tube Tunnels as appropriate or an accredited individual must be consulted. However, any proposal to remove or insert structural elements shall be supported by a full structural assessment of the effects on the integrity of the structure in accordance with LU standard S1061.

- 3.1.2 The record form (Appendix 1) shall be filled in by the constructor prior to the installation works. Part 1 of the form, confirms that the effects of the proposed works have been assessed and that the planned works will have no adverse effect on the structure.
- 3.1.3 Part 2 of the form shall be filled in after the works are complete, by the constructor, and confirms that the cutting, grinding, drilling or fixing works have had no adverse effect on the structure.
- 3.1.4 The declaration shall be completed as each item of work is finished, with Record forms sent to the Profession Head – Bridges & Structures within 1 week of completion. Copies of the record forms shall be retained on the O & M file and shall be available on Livelink for inspection within 24 hours of any request.
- 3.1.5 The record form (Appendix A) must be completed irrespective of whether a CDS has been prepared. The form is a confirmation that the effects of the work have been assessed and on completion of the works, that the asset is safe.
- 3.1.6 A search for, and study of all available records, calculations and drawings shall precede the assessment.
- 3.1.7 Where any inadequacy in the integrity of the load carrying capacity of the structure is identified, the deficiency shall be rectified before any cutting, grinding, drilling or fixing takes place and any new loading is imposed.
- 3.1.8 Free standing walls and parapets shall additionally be assessed for structural stability taking into account the proposed new loading as well as the existing loading.