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	Electronic Data Transfer			

1. INTRODUCTION

Consulting structural engineers now routinely supply drawings in an electronic format via

- files on disk
- e-mail
- to FTP sites for downloading by others.

Such drawings may be either completed or at an intermediate stage of the documentation process and can be supplied for information or co-ordination or as a formal issue. At an intermediate stage, the supply of drawings can be of great benefit in quickly updating the client and/or the entire consultant team. The recipients are able to store the data electronically and then overlay the drawings electronically for co-ordination checks or plot the drawings at times to suit their own convenience.


Concerns

In supplying CAD drawing files to clients and other consultants, the consulting structural engineer needs to give consideration to the use to which the supplied data will be put. A number of possible scenarios could give rise to concern (particularly if the drawings being provided are at an incomplete stage) and these may be listed in general terms as follows:

1. Due to a degree of incompatibility between hardware and/or procedures in the two drawing offices, the resultant plot of the drawing file may in some way be incorrect or incomplete. This could prove misleading to the recipient firm, and could lead to errors in their own documentation which, in turn, could have liability connotations at a later stage. A check of the system in use by the recipient should be made before transmission occurs in order to ensure that the format in which the data is proposed to be sent is suitable.
2. The recipient firm may use structural layout drawings or detail drawings output from a CAD drawing file as layers to build up their own drawings. If the structural engineer subsequently alters his drawings, perhaps in order to correct errors picked up by checking at a later stage, the amendments may not be incorporated by the recipient firm, even if new CAD files are sent.
3. In utilising the supplied drawing files as above, the recipient may unintentionally, or intentionally, alter some of the data they contain.
4. The problems associated with copyright protection of drawings or intellectual property would seem more difficult if the information is provided in the form of an easily manipulated CAD drawing file.

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Recommendations


1. The consulting structural engineer should have a formal procedure covering the supply of structural drawings in electronic format. The issuing of drawing files which can be amended by the recipient may expose the consulting structural engineer to the consequences which may follow from unauthorised amendments.
2. A hard copy print of the drawings in question should be forwarded to the recipient firm at the same time as the electronic transferred drawings are sent. The hard copies should be signed and dated and a record set of these should also be retained by the consulting structural engineer. It is preferable to issue drawing files in a format that cannot be manipulated by the recipient (eg. .plt or .pdf).
3. Such a file is easier to plot than a standard file and may also be transferred and stored electronically. Such a file cannot readily be edited or manipulated as it is not in a drawing file format and hence, the consulting structural engineer would be protected from the possible consequences of such editing or manipulation. It is therefore recommended that members should provide clients with .plt or .pdf files whenever this is deemed practicable or prudent.
4. If it is known and accepted that the recipient requires to utilise or modify the supplied data in order to develop his own CAD documentation, it is recommended that the consulting structural engineer should endeavour to limit his liability by the attachment to the electronic file of a series of cautionary notes as set out below. It is felt that the attachment of these notes would be prudent even if a .plt or .pdf file only is provided. The cautionary notes should be provided in the form of a "READ ME" file which accompanies transferred data.
5. "READ ME" files sent electronically are often not read or even printed out. An alternative approach is to send a facsimile to the recipient identifying the drawings being sent electronically and attaching the cautionary notes to the facsimile. Alternatively, a hard copy of the cautionary notes could be sent with the drawing transmittal which accompanies the hard copies of the drawings.

Cautionary Notes concerning the Use of Electronically Transferred Drawings

1. This data, whether transferred by means of disk or e-mail, is for the purpose of communicating the design and documentation shown on the transmittal sheet forwarded with the hard copy of the drawings. The documentation that may be produced by utilising the electronically transferred drawings, is uncontrolled and therefore not subject to update. It is for information/communication only at the date of transmission.
2. It is the responsibility of the recipient to ascertain the current status of the information contained therein and to use the information appropriately.

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3. The design and details shown on the electronically transferred drawings are applicable to the intended project only. They may not be reproduced in whole or in part or used for any other project or purpose, or supplied to third parties without the written permission of the consulting structural engineer, who retains copyright of the transmitted material.
4. A hard copy of the electronically transferred data is also being forwarded. The recipient is responsible for comparing the transferred information as plotted in his office with the hard copy and should advise any discrepancy to the consulting structural engineer immediately following receipt.
5. The sender makes no warranty regarding the presence of electronic or magnetic data errors, computer viruses, etc. The recipient is responsible for checking for same using his own security measures.

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