

PENNDOT e-Notification



Bureau of Information Systems
Application Development Division

PAPIER

No. 015
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Release of Version 1.4.0.0

The Department's Pennsylvania Pier Analysis (PAPIER) program has been revised as described on the attached "Summary of June 2007 Revisions – Version 1.4.0.0".

The new program has been placed on PENNDOT servers for use by the Districts. Consultants and others, who have a current license agreement for PAPIER **Version 1.3.x.x**, can obtain the updated version for an **update fee of \$500 for private organizations and \$50 for governmental agencies**. Updates for PAPIER **Version 1.2 or earlier** will require an **update fee of \$1,000 for private organizations and \$100 for governmental agencies**. The Software Update Request form and Request for PENNDOT's Engineering Software License form can be downloaded from the web site at <http://penndot.engrprograms.com/home/Ordering/Ordering.htm>.

Please direct any questions concerning the above to:

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Attachment

Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT LRFD and Engineering Programs website at <http://penndot.engrprograms.com/home> and clicking on "e-Notification" and then "Mailing List Archives."

SUMMARY OF JUNE 2007 REVISIONS — VERSION 1.4.0.0

Below is the list of corrections made to the PAPIER computer program and incorporated into Version 1.4.0.0.

- 1) User specified footing forces had not been included in footing moment and shear capacity checks (footing face checks). The forces had been included in the computation of forces for the determination of pile and spread footing capacity to demand checks. [IR #222]
- 2) Wind velocity can now be adjusted for structure height per LRFD specifications. The exposed structure height is determined by water levels or soil covers. Existing input files will have the same behavior as prior to Version 1.4, unless additional information is provided as defined in Chapter 5. [IR #25]
- 3) For the computation of footing settlement, the footing length is also now adjusted (in addition to the footing width) to the effective length. [IR #87]
- 4) Multiple errors in the live load algorithm have been addressed. Revisions include: can no longer mix truck types for a single transverse analysis within a live load category (such as design vehicle category which can consist of a HS20 or IML, lowboy, etc.), each truck type must be analyzed separately; all vehicles on the deck must be placed at the same longitudinal location on the spans (can no longer mix positive and negative loading when moving trucks transversely across the deck); addressing errors related to determining concurrent secondary forces; correcting potential errors related to concurrent forces at adjacent columns for combined footings; and correcting stacking errors when the secondary force controlled the live load force. Note that typically the previous algorithm would result in conservative results. NOTE: the corrections required a more rigorous approach to be taken when determining live load forces, resulting in significantly increased execution times, particularly for wide bridges. [IR #136, #178, #182]
- 5) Stand alone footings no longer require both service and strength limit state loads to be specified in the FCF command.
- 6) Strength limit states are no longer included in the computation of footing settlement. [IR #87]