# I N T E R O F F I C E  M E M O

TECHNICAL SERVICES
Bridge Engineering Section
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DATE: April 8, 2014

TO: Craig Shike
ODOT Bridge Operations and Standards
Managing Engineer

FROM: Tanarat Potisuk Phone#: 503-986-3342
ODOT Prestressed Concrete Standards Engineer

**SUBJECT: Proposed Revision to Bridge Design & Drafting Manual**

**RE: BDDM Section 1.10.5.5(12) – Shaft Reinforcement**

## *Problem Statement:*

The second paragraph of the section creates confusion and inconsistency to ~~the~~ other BDDM sections.

## *Proposal:*

Modify Section 1.10.5.5(12) as follows

**(12) Shaft Reinforcement**

Detail shaft reinforcing to minimize congestion and facilitate concrete placement. Space both longitudinal and transverse reinforcement to provide 5" minimum and 9" maximum openings between bars. Transverse shaft reinforcement in the non-contact splice region may be reduced to 3" minimum openings between bars. Transverse shaft reinforcement may include spiral bars, hoops and/or bundled pairs.

Determine ~~T~~the moment to be transferred from the column to the top of shaft according to the *AASHTO Guide Specifications for LRFD Seismic Bridge Design*. ~~is the lesser of the overstrength plastic moment ($M_{pe}$) of the column or the elastic seismic moment of the column. Note that t~~The maximum shaft moment ~~will~~ depends on the soil-structure interaction and ~~will~~ is generally ~~be~~ larger than the top of shaft moment. ~~Determine the overstrength plastic moment of column using moment-curvature analysis as described in *Section 8.5* of the AASHTO Guide Specifications for LRFD Seismic Bridge Design.~~

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## *Analysis / Research / Other Supporting Data:*

☐ None
☐ Attached:
- [name of attachment]
- [name of attachment]

[and/or enter text here]

***Bridge Engineering Section Response:***

| | | |
|---|---|---|
| ☐ Accepted for consideration as submitted<br>☐ Accepted for consideration as noted<br>☐ Proposal tabled, see Remarks<br>☐ Proposal not accepted, see Remarks | | |
| Remarks: | | |
| | | |
| [name of reviewer]<br>Bridge Design Standards Reviewer | | Date |
| | | |
| ~~Scott Liesinger~~Craig Shike<br>Bridge Operations and ~~Design~~ Standards Managing Engineer | | Date |

Cc: file