Structural Engineering Guidance No. 10-04

Date: June 10, 2010

Distribution: All Engineering Resources

SUBJECT: TOP OF PERMANENT CASING ELEVATION IN OPEN WATER

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Effective Date: Immediately For New Jobs To Be Designed

EPG Submittal Status: To Be Submitted

Background and Purpose:

In the past, the top of permanent casing elevation was specified at 1 foot below low water on the bridge plans. The use of removable casing was specified above this elevation and called temporary casing. It has been difficult and expensive for contractors to cut the casing below the waterline. This was brought to the attention of the Bridge Division at the AGC/MoDOT Bridge Meetings.

This guidance is intended to eliminate the need for and requirement of cutting casing under water. It will also eliminate the likelihood of a need for a contractor to scab on temporary casing in the field. Both construction practices incur unnecessary construction costs and time.

Guidance:

Permanent casing for drilled shafts in open water shall be required to terminate at 1 foot or greater above Ordinary High Water (OHW).

For aesthetic applications, exposed permanent casing in open water may be considered acceptable but should be reviewed by the Core Team. For very sensitive aesthetic areas, an acceptable alternative may be a return to the past policy of using temporary casing and cutting the casing 1 foot below low water. The Core Team has the final authority on what constitutes an aesthetic application. In any case, it shall be clear on the plans at what elevation permanent casing is terminated.

When used in an aesthetic application or when the steel casing strength is used in determining the shaft design strength, coating the exposed portion of the permanent casing shall be required for protection. Before the coating is applied, the steel casing shall be thoroughly cleaned. Steel shall be coated with one 6-mil (0.15 mm) thickness of approved gray epoxy mastic in accordance with the epoxy mastic manufacturer’s recommendations. Protective coating will not be required below the normal low water line. Cost of this work shall be noted on the plans and considered incidental to other pay items.

Revisions Required by Implementing Guidance:

Development Section intends the following.

EPG 701 Update for content related to this guidance.

EPG 751.37 Update for content related to this guidance.

Cont. See Page 2 of 2

EPG 751.50 A4.XX Add coating note.

“Before the coating is applied, the steel casing shall be thoroughly cleaned. Steel shall be coated with one 6-mil (0.15 mm) thickness of approved gray epoxy mastic in accordance with the epoxy mastic manufacturer’s recommendations. Protective coating will not be required below the normal low water line.”

EPG 751.50 A4.XX Add cost note.

“No direct payment will be made for coating exposed surfaces of steel casing. Payment for coating the steel casing and all material, labor, tools, equipment and

incidentals necessary to complete the protective coating items will be considered completely covered under the contract unit price for other items.”

EPG 751.1.2.19 Update for content related to this guidance.

EPG 751.1.2.23 No change to the practice of reporting the top of permanent casing on the Design Layout

Standard Drawing Add coating and cost notes.

For Drilled Shafts