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MEMORANDUM

TO: ALL CONSULTANTS
ALL BRIDGE DESIGNERS

FROM: HOSSEIN GHARA, P.E.
BRIDGE DESIGN ADMINISTRATOR

SUBJECT: BRIDGE DESIGN TECHNICAL MEMORANDUM NO. 27 (BDTM.27)
DESIGN LIMITS AND SPECIAL NOTES FOR PRECAST PRESTRESSED CONCRETE GIRDERS (P.P.C. GIRDERS)

DATE: FEBRUARY 14, 2011

Effective immediately, the following design limits and special notes for Precast Prestressed Concrete Girders (P.P.C. Girders) shall be implemented for all projects. Any exceptions must receive prior approval from the State Bridge Engineer.

1. AASHTO Type IV Modified P.P.C. Girders are no longer allowed for use on LA DOTD projects.

2. Maximum span lengths and maximum prestressing forces are imposed on P.P.C. Girders as shown in the table below.

Girder Types	Maximum Span Length	Maximum Prestressing Force
Quad Beam	40 ft	620,000 lb
Type II	55 ft	750,000 lb
Type III	85 ft	1,000,000 lb
Type IV	105 ft	1,500,000 lb
BT 72	125 ft	1,850,000 lb
BT 78	140 ft	2,200,000 lb

3. The following notes shall be included in the prestressed girder detail sheets for all projects.

The contractor shall be responsible for the stability of the precast prestressed concrete girders during fabrication, transportation, erection, and deck placement. Any inherent stability provided by cast-in-place diaphragms shall not be considered by the contractor when designing the required construction bracing. The diaphragms are provided to restrain the lateral movement of the girders when the bridge is in its final in-service condition and are not intended or allowed for use as construction stability bracing.

4. Though the contractor is responsible for the stability of P.P.C. Girders during fabrication, transportation, erection, and deck placement, the P.P.C. Girders shall be designed in accordance with all applicable provisions in the AASHTO LRFD Bridge Design Specifications concerning constructability and stability. The designer shall ensure that all girders, while within the allowable stress limits, can be supported 3'-0" from the ends. All related design provisions and best practices presented in the PCI Bridge Design Manual and/or other publications shall also be considered by the designer.

5. Designers should pay special attention to the haunch thickness of prestressed girders when they are used in conjunction with high degrees of vertical and horizontal curvature. The haunch thickness shall be such that the top flanges of the girders do not intrude into the deck. Reinforcement shall be provided in haunches exceeding four inches in thickness. Under no circumstance shall the haunch thickness exceed six inches.

This technical memorandum is posted on the Bridge Design Website under Technical Memoranda.
http://www.dotd.la.gov/highways/project_devel/design/home.asp?ID=BRIDGE

Please contact Ms. Zhengzheng "Jenny" Fu (225-379-1321, zhengzheng.fu@la.gov) if you have questions or comments.

HG/zzf/pv

Cc: Richard Savoie (Chief Engineer)
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