September 19, 2002

MEMORANDUM

TO: District Structures Design Engineers  
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   Neil Kenis, Kim Saing, Jose Rodriguez, and Agnes Spielmann)  
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SUBJECT: Temporary Design Bulletin C02-15  
         (Reference: New Direction for Florida Post-Tensioned Bridges – Corven  
         Engineering, Inc)  
         Strategy 5 – Multiple Tendon Paths  
         Effective 8/1/02

To emphasize the importance of the Department’s new directions for post-tensioned  
structures which increase the durability and level of performance of these structures, the  
Department of Transportation is issuing Temporary Design Bulletins C02-11 thru 15.

Because of experiences in the past with tendon section loss due to corrosion, the  
Department of Transportation has decided to address the internal redundancy of post-  
tensioned structures by providing multiple tendon paths. Multiple tendon paths will  
increase the number of tendons in post-tensioned spans and components and will provide  
more structural strength in the event a tendon is lost compared to current practices. The  
policy and related issues are outlined below. The document containing each these  
requirements is listed in [ ] after each requirement.

1. The minimum number of tendons across critical sections is shown in the following  
table: [SDG 7.11.1, Table 7.4]
2. Provide the following minimum number of tendons for post-tensioned substructure elements: [SDG 5.4, Table 5.1]

<table>
<thead>
<tr>
<th>Post-Tensioned Bridge Element</th>
<th>Minimum Number of Tendons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hammerhead Pier</td>
<td>6</td>
</tr>
<tr>
<td>Straddle Beams</td>
<td></td>
</tr>
<tr>
<td>C-Pier Column (Bars only)</td>
<td></td>
</tr>
<tr>
<td>C-Pier Cap</td>
<td></td>
</tr>
<tr>
<td>C-Pier Footing (Bars only)</td>
<td></td>
</tr>
<tr>
<td>Hollow Precast Piers</td>
<td>8</td>
</tr>
<tr>
<td>I-Section Precast Piers</td>
<td></td>
</tr>
</tbody>
</table>

3. All balanced cantilever bridges shall utilize a minimum of 4 positive moment external draped continuity tendons (2 per web) that extend to adjacent pier diaphragms. [SDG 7.11.1]

4. Provisions shall be made in the diaphragms, deviation blocks and other components of the superstructure for the future strengthening of segmental structures. Future strengthening shall be externally draped post-tensioning strands and shall be sized in accordance with AASHTO for the construction and service life of the structure. [to be clarified in SDG]