Bridgelation on the I-4/Selmon Expressway Connector

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Bridgelation \bridg\cdot e\cdot la\cdot tion\ [brij-ih-ley-shun]

• *noun*
• a feeling or state of great joy or pride that derives from working on projects composed almost entirely of elevated structure
Project Vicinity

- Lee Roy Selmon Expressway
- Connector Project
- I-4
Project Partners

- Owner – Florida DOT, District 7
- Stakeholders
  - THEA
- Design Team
  - Figg (subconsultant)
  - PB
  - Many, many others
Limited Space
Structure Alternatives

- Multiple complete bid packages
  - AA1 – Steel box girder throughout
  - AA2 – Concrete segmental throughout
  - AA3 – Steel box/concrete bulb-T
  - AA4 – Concrete segmental/bulb-T
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>UOM</th>
<th>PCL/AW</th>
<th>Kiewit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superstructure concrete (segmental)</td>
<td>78,409</td>
<td>CY</td>
<td>$28,267,282.00</td>
<td>$86,249,900.00</td>
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<tr>
<td>Superstructure concrete (bulb-T)</td>
<td>16,219</td>
<td>CY</td>
<td>$12,975,440.00</td>
<td>$14,110,791.00</td>
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<tr>
<td>Precast segment production</td>
<td>1</td>
<td>EA</td>
<td>$64,000,000.00</td>
<td>$25,324,500.00</td>
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<tr>
<td>PT strand</td>
<td>6,711,494</td>
<td>LBS</td>
<td>$16,778,735.00</td>
<td>$20,134,482.00</td>
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<td>PT bar</td>
<td>767,748</td>
<td>LBS</td>
<td>$3,838,740.00</td>
<td>$921,297.60</td>
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<tr>
<td>Multi-rotational bearings (Various)</td>
<td>241</td>
<td>EA</td>
<td>$4,167,500.00</td>
<td>$2,565,200.00</td>
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<tr>
<td>Substructure concrete</td>
<td>27,843</td>
<td>CY</td>
<td>$22,991,600.00</td>
<td>$19,758,930.00</td>
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<tr>
<td>Drilled shaft 36&quot;</td>
<td>52,841</td>
<td>LF</td>
<td>$17,965,940.00</td>
<td>$9,775,585.00</td>
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<tr>
<td>Reinforcing steel</td>
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<td>LBS</td>
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<td>$13,812,440.00</td>
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<td>Lighting inside box girder</td>
<td>12</td>
<td>EA</td>
<td>$312,000.00</td>
<td>$1,400,000.00</td>
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<td>All remaining items</td>
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<td>-</td>
<td>$55,927,639.40</td>
<td>$49,417,824.00</td>
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<td><strong>Total</strong></td>
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<td>$247,315,698.40</td>
<td>$243,470,949.60</td>
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Standardized Segment

Varies from 30'-0" to 64'-0"

9'-0½"
Stiffness Variation

CONCRETE STRENGTH (8.5 KSI)

CONCRETE STRENGTH (6.5 KSI)
Complex Structural System
Standardized Piers

- 6'-0"
- 5'-0"
- 8'-0"
- 7'-0"
CONSTRUCTION
Limited Space
Limited Space
Span-by-Span Erection
Span-by-Span Erection
Cantilever - Appurtenances
Cantilever – Segment Lifter
Cantilever – Segment Lifter
Almost There
Last Segment (July 26, 2013)
Summary/Questions