

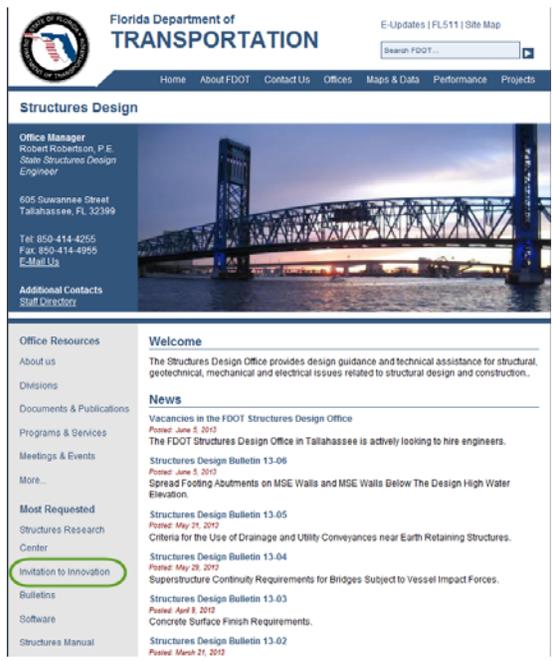


Invitation to Innovation Website

Gevin McDaniel P.E.
Senior Structures Design Engineer

Gevin McDaniel, P.E.
FDOT Structures Design Office
Design Expo
June 14, 2013

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Invitation to Innovation Website

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Senior Structures Design Engineer

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**Invitation to
Innovation
Website**

Gevin McDaniel P.E.
Senior Structures Design
Engineer

Office of Design / Invitation to Innovation

Invitation to Innovation

INVITATION TO INNOVATION



Recently, the Department embarked into a new bold era for innovative ideas, research and accelerated implementation. Success in this new era depends on the ability to innovate the products and services Florida's transportation system provides its users. The Florida Department of Transportation's desire for innovation will utilize newly developed technology or employ "outside the box" thinking to generate new and better value for every transportation dollar invested.

After researching and evaluating many innovative ideas, the Central Office has developed a list of concepts, products and services that may be the best solution to the project's needs or design challenges. Some items on the list are completely developed, and only need tailoring to your project. We encourage you to propose one or more of these innovations for project specific solutions with confidence of approval by the Districts. Other items are not fully detailed and will require coordination with and approval by the Districts Design Office. Many of these innovations have been successfully implemented in other states and countries. Not all projects benefit from these innovations and the Department is not advocating the general use of new products or designs where an economical well proven solution exists and is the most appropriate solution for the situation.

Please consider these innovations as possible solutions to your project-specific needs. We invite you to review innovations listed in the links below. Additional innovations will be added as they are identified and developed. If you have any questions, details and contact information are included within the information for each innovation web site.

Structures Design Office

Prefabricated Bridge Elements and Systems
Curved Precast Spliced U-Girder Bridges
Geosynthetic Reinforced Soil Integrated Bridge System
Geosynthetic Reinforced Soil Wall
Segmental Block Walls

Engineering CADD Office

Coming Soon

Roadway Design Office

Roundabouts - Proven Safety Countermeasure
Double Crossover Diamond Interchange - Double Crossover Intersection

Surveying and Mapping Office

Coming Soon

QPL Office

Coming Soon

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**Invitation to
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Website**

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Engineer

Purpose of Website:

- To encourage accelerated implementation of **BOLD** and Innovative technologies
- Provide guidance on major innovations the Department desires to implement on projects (D/B or conventional)
- Provide status, concerns and restrictions on Innovations
- Encourage those proposing innovative solutions.
- Give credit to D/B Firms for Technical Proposals that include new technologies
- Educate Technical Proposal evaluators on these innovations
- Not effective unless coupled with changes to evaluation criteria for Technical Proposals

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RECENT
CHANGES TO
DESIGN-
BUILD
POLICIES

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Senior Structures Design
Engineer

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Design-Build RFP Boilerplate Evaluation Criteria Update

The Evaluation Criteria for Technical
Proposal will be Limited to Four Scoring
Areas as follows:

Item	Value
1. Design	25-40
2. Construction	25-40
3. Innovation	0-10
4. Value Added	5-10
Maximum Score	80

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Senior Structures Design
Engineer

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Design-Build Boilerplate Evaluation Criteria Update

Item	Value
1. Design	25-40
2. Construction	25-40
3. Innovation	0-10
4. Value Added	5-10
Maximum Score	80

- Expect that teams using Innovations receive higher scores
- Innovation must be well suited for the project
- Proposal must contain discussion on the merits of the innovation as well as inherent challenges (& solutions) specific to the project
- Innovations do not have to be listed on the site in order to propose them; however, they are more likely to be well received
- New Innovations? Ask the appropriate section in Office of Design




Structures Design Office

[Prefabricated Bridge Elements and Systems](#)

[Curved Precast Spliced U-Girder Bridges](#)

[Geosynthetic Reinforced Soil Integrated Bridge System](#)

[Geosynthetic Reinforced Soil Wall](#)

[Segmental Block Walls](#)

Roadway Design Office

[Roundabouts - Proven Safety Countermeasure](#)

[Double Crossover Diamond Interchange - Double Crossover Intersection](#)

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Senior Structures Design Engineer

Type of information included:

Structures Design - Transportation Innovation
Segmental Block Walls (SBW)

[Overview](#)
[Design Criteria](#)
[Specifications](#)
[Implementation Plan](#)
[Usage Restrictions / Parameters](#)
[Contact](#)

Overview

Segmental Block Walls (SBWs) may be used as an alternative to most MSE walls, but not to support spread footings. The construction of SBWs is achievable without the use of heavy equipment or cranes. Interlocking CMUs are used to provide a mechanical connection of the geotextile reinforcement to the wall face.

The primary difference between SBW and GRS is the frequency of the reinforcement. SBW facing blocks may be used for [GRS Abutments](#) and [GRS Walls](#).

Design Criteria

Follow the design criteria of MSE walls in accordance with the FDOT Structures Manual and the AASHTO LRFD Bridge Design Specifications, 6th Edition. The maximum geosynthetic vertical spacing is the lesser of two facing blocks in height or 30 inches. Provide a minimum horizontal distance between the edge of the travel lane and the wall equal to one-half of the wall height.

Specifications

Specifications are currently being developed for the July 2013 Workbook; however, until they are posted, Technical Special Provisions (TSP) will be required for use of SBW walls. Contact the SDO for recommendations for TSP language.

Implementation Plan

Segmental Block Walls are available for immediate implementation with authorization from SDO and concurrence from the District on limited projects.

Usage Restrictions / Parameters

SBWs may be considered for walls having heights up to 40 feet. When the wall face is within the clear zone of an adjacent roadway, the facing blocks must be sold from the bottom of the wall to 6 feet above the proposed grade.

Contact Information

Larry Jones
Asst. State Structures Design Engineer
& State Geotechnical Engineer
Phone: (850) 414-4305
e-mail: Larry.Jones@dot.state.fl.us

Photo Slideshow



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Structures Design Office

- [Prefabricated Bridge Elements and Systems](#)
- [Curved Precast Spliced U-Girder Bridges](#)
- [Geosynthetic Reinforced Soil Integrated Bridge System](#)
- [Geosynthetic Reinforced Soil Wall](#)
- [Segmental Block Walls](#)



PRECASTING BRIDGE ELEMENTS FOR INCREASED SPEED OF CONSTRUCTION

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Structures Design Office

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First Curved Precast Spliced U-Girder Bridges

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INVITATION TO INNOVATION

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- [Geosynthetic Reinforced Soil Wall](#)
- [Segmental Block Walls](#)

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Senior Structures Design Engineer

Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS)



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Senior Structures Design Engineer

Segmental Block Walls



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INVITATION TO INNOVATION

Roadway Design Office
Roundabouts - Proven Safety Countermeasure
Double Crossover Diamond Interchange - Double Crossover Intersection

Roundabouts

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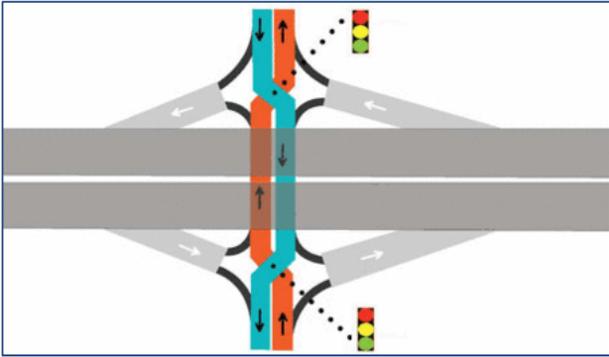
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INVITATION TO INNOVATION

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Double Crossover Diamond Interchanges

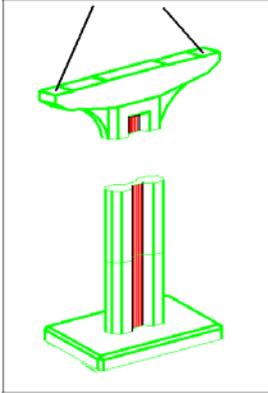
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The FDOT "Invitation to Innovation" Website:
<http://www.dot.state.fl.us/officeofdesign/innovation/>

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Questions?

INVITATION TO INNOVATION

Gevin McDaniel, P.E.
gevin.mcdaniel@dot.state.fl.us
(850) 414-4284

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Gevin McDaniel P.E.
Senior Structures Design Engineer

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