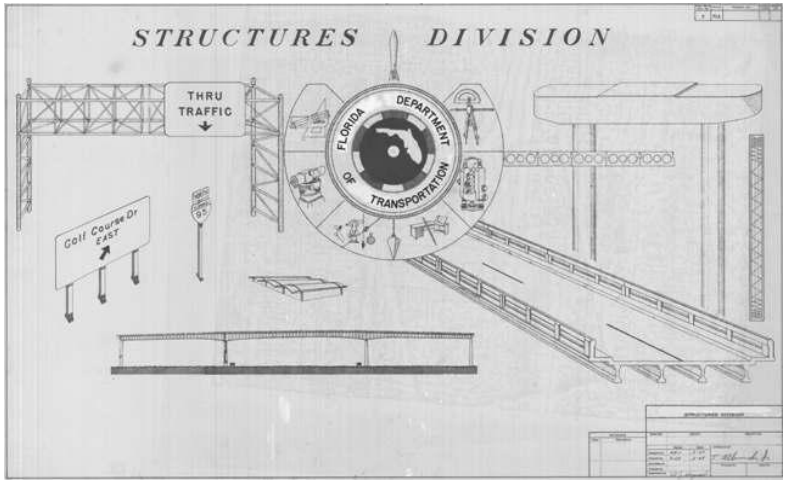
FY 2018-19 Standard Plans Update Training



Structures Design Office Updates

(December, 2017)

Steven Nolan, P.E.

Structures Design Standards Group

steven.nolan@dot.state.fl.us

(850) 414-4272

Outline

- **Global Changes**
  - ✓ Numbers, Titles, & Abbreviations
  - ✓ Standard Plans in Structures Component Plan Set
- Brief **BriExit** Overview
- Discontinued ***Design Standards***
- Minor ***Standard Plans*** Revisions
- Major ***Standard Plans*** Revisions
- ***SPI*** Revisions
- ***Cell*** Revisions (Data Tables)
- ***Developmental Design Standards/Standard Plans***
- Looking Ahead

http://www.fdot.gov/roadway/StandardPlans/Standards.shtm

Welcome to BriExit 2018

FY 201 ndards

from

of Florida Department of Transportation

Office of Design

Mail Station 32

605 Suwannee Street

Tallahassee, Florida 32399-0450

For Construction and Maintenance Operations
on the State Highway System
Topic No. 625-010-003

Including **Bridge *Design Standards*** in **Structures Plans** component

- Why?
  - ✓ Satisfy customer needs:
    - **Maintenance Office**'s custodian of bridge records for preservation of assets;
    - **Contractor**'s convenience for construction;
    - **Designer**'s reliability for developing future rehabilitation or widening projects based on accurate bridge records.
    - and more…
- How?

  …and still be true to the **One FDOT** principle.

BriExit Overview

Index Number	Title
861	Bridge Pedestrian/Bicycle Railing (Aluminum)
862	Aluminum Pedestrian/Bicycle Railing
870	Aluminum Pipe Guiderail
880	Steel Pipe Guiderail
Noise And Perimeter Wall Systems	
5200	Precast Noise Walls
5210	Traffic Railing/Noise Wall (8'-0")
5211	Traffic Railing/Noise Wall (14'-0")
5212	Traffic Railing/Noise Wall (8'-0") Junction Slab
5213	Traffic Railing/Noise Wall T-Shaped Spread Footing
5214	Traffic Railing/Noise Wall L-Shaped Spread Footing
5215	Traffic Railing/Noise Wall Trench Footing
5250	Perimeter Walls
Wall Systems	
6010	C-I-P Cantilever Retaining Wall
6011	Gravity Wall
6020	Permanent MSE Retaining Wall Systems
6030	Temporary MSE Retaining Wall Systems
6040	Precast Concrete Sheet Pile Wall
6100	MSE Wall Coping (Precast or C-I-P)
6110	Wall Coping With Traffic Railing/Junction Slab
6120	Wall Coping With Traffic Railing/Raised Sidewalk
420	Traffic Railing - (32" F Shape)
421	Traffic Railing - (Median 32" F Shape)
422	Traffic Railing - (42" Vertical Shape)
423	Traffic Railing - (32" Vertical Shape)
424	Traffic Railing - (Corral Shape)
425	Traffic Railing - (42" F Shape)
426	Traffic Railing - (Median 36" Single Slope)
427	Traffic Railing - (36" Single Slope)
428	Traffic Railing - (42" Single Slope)
~~430~~	~~Crash Cushion Details~~
~~431~~	~~Opaque Visual Barrier~~
470	Traffic Railing-(Thrie Beam Retrofit) General Note & Details
471	Traffic Railing-(Thrie Beam Retrofit) Narrow Curb
472	Traffic Railing-(Thrie Beam Retrofit) Wide Strong Curb Type 1
473	Traffic Railing-(Thrie Beam Retrofit) Wide Strong Curb Type 2
474	Traffic Railing-(Thrie Beam Retrofit) Intermediate Curb
475	Traffic Railing-(Thrie Beam Retrofit) Wide Curb Type 1
476	Traffic Railing-(Thrie Beam Retrofit) Wide Curb Type 2
477	Thrie-Beam Panel Retrofit (Concrete Handrail)
480	Traffic Railing-(Vertical Face Retrofit) General Notes & Details
481	Traffic Railing-(Vertical Face Retrofit) Narrow Curb
482	Traffic Railing-(Vertical Face Retrofit) Wide Curb
483	Traffic Railing-(Vertical Face Retrofit) Intermediate Curb
484	Traffic Railing- (Vertical Face Retrofit) Spread Footing Approach

Adding: CONCRETE BRIDGE CULVERTS
289 Concrete Box Bridge Culvert Details

17502	High Mast Lighting
17504	Service Point Details
17505	External Lighting For Signs
17515	Standard Aluminum Lighting
18101	Typical CCTV Site
18102	Grounding And Lightning Protection
18104	Typical CCTV Cabinet Equipment Layout
18105	CCTV Block Diagram
18107	Ground Mounted CCTV Cabinet
18108	Pole Mounted CCTV Cabinet
18110	Camera Mounting Details
18111	Steel CCTV Pole
18113	Concrete CCTV Pole
18300	Dynamic Message Sign Walk-In
Prestressed Concrete Beams	
20010	Typical Florida-I Beam Details and Notes
20036	Florida-I 36 Beam - Standard Details
20045	Florida-I 45 Beam - Standard Details
20054	Florida-I 54 Beam - Standard Details
20063	Florida-I 63 Beam - Standard Details
20072	Florida-I 72 Beam - Standard Details
20078	Florida-I 78 Beam - Standard Details
20084	Florida-I 84 Beam - Standard Details
20096	Florida-I 96 Beam - Standard Details
20120	AASHTO Type II Beam
20199	Build-Up & Deflection Data For Prestressed I-Beams
20210	Typical Florida-U Beam Details and Notes
20248	Florida-U 48 Beam - Standard Details
20254	Florida-U 54 Beam - Standard Details
20263	Florida-U 63 Beam - Standard Details
20272	Florida-U 72 Beam - Standard Details
20299	Build-Up and Deflection Data For Florida-U Beams
Bridge Bearings	
20502	Beveled Bearing Plate Details - Prestressed Florida-U Beams
20510	Composite Elastomeric Bearing Pads-Prestressed Florida-I & AASHTO Type II Beams
20511	Bearing Plates (Type 1) - Prestressed Florida-I & AASHTO Type II Beams
20512	Bearing Plates (Type 2) - Prestressed Florida-I & AASHTO Type II Beams

Index Number	Title
Square and Round Concrete Piles (With Carbon Steel)	
20600	Notes and Details For Square Prestressed Concrete Piles
20601	Square Prestressed Concrete Pile Splices
20602	EDC Instrumentation For Square Prestressed Concrete Piles
20612	12" Square Prestressed Concrete Pile
20614	14" Square Prestressed Concrete Pile
20618	18" Square Prestressed Concrete Pile
20620	20" Square Prestressed Concrete Pile
20624	24" Square Prestressed Concrete Pile
20630	30" Square Prestressed Concrete Pile
20631	High Moment Capacity 30" Square Prestressed Concrete Pile
20654	54" Precast/Post- Tensioned Concrete Cylinder Pile
20660	60" Prestressed Concrete Cylinder Pile
Approach Slabs	
20900	Approach Slabs (Flexible Pavement Approaches)
20910	Approach Slabs (Rigid Pavement Approaches)
Bridge Expansion Joints	
21100	Strip Seal Expansion Joint
21110	Poured Joint With Backer Rod Expansion Joint System
Structures Access and Lighting	
21200	Light Pole Pedestal
21210	Conduit Details
21220	Navigation Light System Details (Fixed Bridges)
21240	Maintenance Lighting For Box Girders
21250	Access Hatch Assembly For Steel Box Sections
21251	Access Hatch Assembly For Concrete Box Sections
21252	Access Door Assembly For Concrete Box Sections
Standard Bar Bending Details	
21300	Standard Bar Bending Details
Temporary Detour Bridges	
21600	Temporary Detour Bridge General Notes and Details
21610	Temporary Detour Bridge Details - Timber Pile Foundations
21620	Temporary Detour Bridge Details - Steel H Pile Foundations
21630	Temporary Detour Bridge Details - Steel Pipe Pile Foundation
21640	Temporary Detour Bridge Thrie-Beam Guardrail
Post-Tension Details	
21801	Post-Tensioning Vertical Profiles
21802	Post-Tensioning Anchorage Protection
21803	Post-Tensioning Anchorage and Grouting Details
Fender System Details	
21930	Fender System - Prestressed Concrete Piles
~~Wall System (Corrosion Resistant)~~	
~~22440~~	~~Precast Concrete CFRP/GFRP & HSSS/GFRP Sheet Pile Wall~~
Square and Round Concrete Piles (Corrosion Resistant)	
22600	Notes and Details for Square CFRP & SS Prestressed Concrete Piles
22601	Square CFRP and SS Prestressed Concrete Pile Splices
22612	12" Square CFRP and SS Prestressed Concrete Pile
22614	14" Square CFRP and SS Prestressed Concrete Pile
22618	18" Square CFRP and SS Prestressed Concrete Pile
22624	24" Square CFRP and SS Prestressed Concrete Pile
22630	30" Square CFRP and SS Prestressed Concrete Pile
22654	54" Square CFRP and SS Prestressed Concrete Pile
22660	60" Square CFRP and SS Prestressed Concrete Pile

BriExit 2018

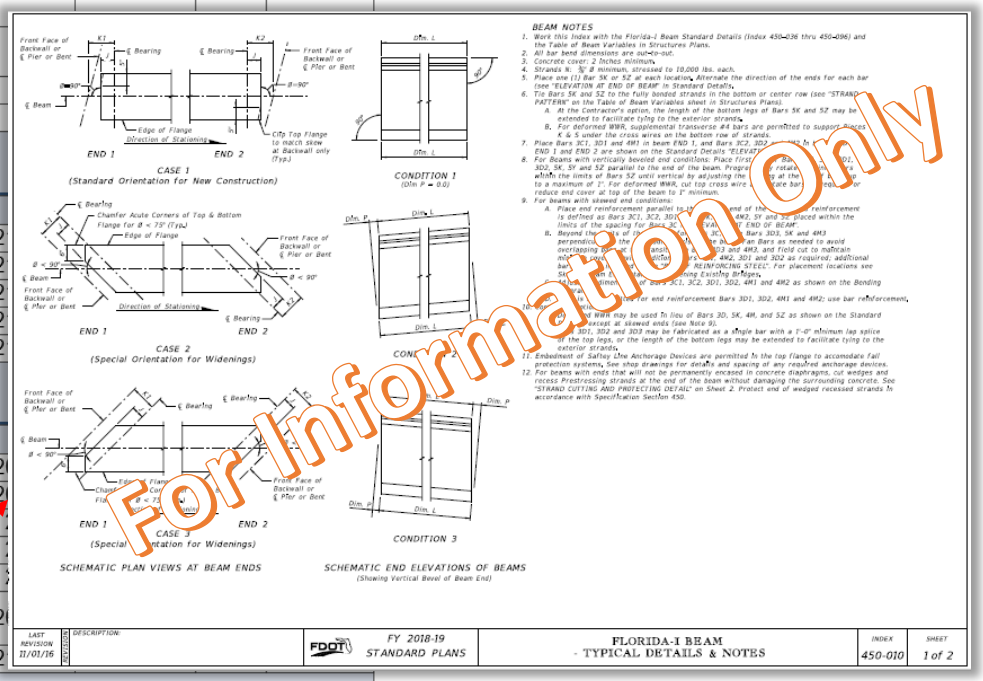
(Non-contract documents – See Structures Component of Contract Plans)

http://www.fdot.gov/design/standardplans/current/default.shtm#Bridges

Standard Plans for Bridge Construction

The Standard Plans for Bridge Construction shown on this site are for designers to use in preparing contract plans only and are not for direct use by the contractor. The required Standard Plans for Bridge Construction for projects are included in the Structures Component of the Contract Plan set.

Standard Plans Index	Revision Errata	Index Title	Design Standards Index	Standard Plans Instructions	Design Tools	Contact
Support Detail						
Cover		FY 2018-19 Cover Sheet				
TOC Bridge		Table of Contents - Bridge Construction				
Crosswalk		Crosswalk of Design Standards Index to Standard Plans				
Revisions		Revision History Log				
General Construction Operations						
		Maintenance of Traffic				
102-200		Temporary Detour Bridge General Notes and Details	2			
102-210		Temporary Detour Bridge - Timber Pile Foundations	2			
102-220		Temporary Detour Bridge - Steel H Pile Foundations	2			
102-230		Temporary Detour Bridge - Steel Pile Pipe Foundations	2			
102-240		Temporary Detour Bridge Thrie - Beam Guardrail	2			
Structures						
		Concrete Structures				
400-090		Approach Slabs (30 ft.) Flexible Pavement Approaches)	2			
400-091		Approach Slabs (30 ft.) Rigid Pavement Approaches)	2			
400-289		Concrete Box Culvert Details				
400-291		Precast Concrete Box Culverts Supplemental Detail				
400-292		Standard Precast Concrete Box Culverts				
400-510		Composite Elastomeric Bearing Pads - Prestressed Florida-I and AASHTO Type II Beams	2			
415-001		Bar Bending Details (Steel)	2			
		Precast Prestressed Concrete Construction				
450-010		Florida-I Beam - Typical Details and Notes	20010			



BriExit Overview

- Name changes coming for July 2018!

FY 2018-19 Standard Plans - for Road and Bridge Construction

FDOT

~~FY 2016-17 Design Standards~~

Effective for Projects with Lettings in the Fiscal Year (FY) from
July 1, ~~2016~~ through June 30, ~~2017~~

For Construction and Maintenance Operations
~~on the State Highway System~~
Topic No. 625-010-003

State of Florida Department of Transportation
Office of Design
Mail Station 32
605 Suwannee Street
Tallahassee, Florida 32399-0450

Also see ***Structures Design Bulletin 17-09/Production Support Bulletin 17-01***

CONSTRUCTION CONTRACT NO. T7380

INDEX OF STRUCTURE PLANS

SHEET NO.	SHEET DESCRIPTION
B-1	KEY SHEET
B-2	INDEX OF SHEETS
B-3	SIGNATURE SHEET
BQ1-1 AND BQ1-2	SUMMARY OF STRUCTURES QUANTITIES
B-4 AND B-5	GENERAL NOTES
B1-1 THRU B1-52	SR 43 (US 301) OVER BIG BULLFROG CREEK
BW-1 AND BW-2	TEMPORARY SHEET PILE WALL PLANS
BW-3 THRU BW-17	PERMANENT RETAINING WALL PLANS
BX1-1 THRU BX1-19	EXISTING BRIDGE PLANS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

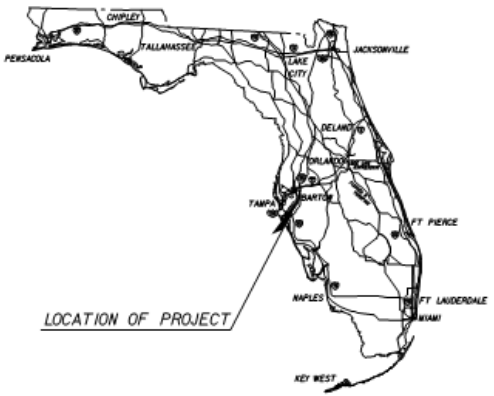
FINANCIAL PROJECT ID 415489-3-52-01
FINANCIAL PROJECT ID 415489-3-52-02
FINANCIAL PROJECT ID 415489-3-52-04

HILLSBOROUGH COUNTY (10010)

STATE ROAD NO. 43 (US 301)
FROM SR 674 TO SOUTH OF BALM RD.

STRUCTURE PLANS

SR 43 (US 301) OVER BIG BULLFROG CREEK
(BRIDGE NO. 100008)



INDEX 400-090 THRU 471-030 (20010 –THRU 21930) STANDARD PLANS FOR BRIDGE CONSTRUCTION

STRUCTURE SHOP DRAWINGS
TO BE SUBMITTED TO:

MARLIN A. REGISTER II, P.E.
HDR ENGINEERING, INC.
5426 BAY CENTER DRIVE, STE. 400
TAMPA, FL 33609-3444
TELEPHONE: (813) 282-2300
FAX: (813) 282-2430

PLANS PREPARED BY:

HDR ENGINEERING, INC.
5426 BAY CENTER DRIVE, STE. 400
TAMPA, FL 33609-3444
CONTRACT NO. C-8F04
VENDOR NO. VF-470680568
FBPR CERTIFICATE OF
AUTHORIZATION NO. 4213

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED BY REPRODUCTION.

THIS PROJECT TO BE LET TO CONTRACT WITH FINANCIAL PROJECT ID 415489-3-56-01

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

STRUCTURE PLANS
ENGINEER OF RECORD: NELSON E. CAMJURA, P.E.

P.E. NO.: 43235

FDOT PROJECT MANAGER : CHRISTINA BOULNOIS, PE, PTOE

FISCAL YEAR	SHEET NO.
16	B-1

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BriExit Example

Also see ***Structures Design Bulletin 17-09/Production Support Bulletin 17-01***

INDEX OF SHEETS

B-1 KEY SHEET
B-2 INDEX OF SHEETS
B-3 SIGNATURE SHEET
B01-1 SUMMARY OF STRUCTURES QUANTITIES (1 OF 2)
B01-2 SUMMARY OF STRUCTURES QUANTITIES (2 OF 2)
B-4 GENERAL NOTES (1 OF 2)
B-5 GENERAL NOTES (2 OF 2)

SR 43 (US 301) OVER BIG BULLFROG CREEK

B1-1 PLAN AND ELEVATION
B1-2 BRIDGE HYDRAULIC RECOMMENDATIONS
B1-3 CONSTRUCTION SEQUENCE
B1-4 BORING LOCATION PLAN
B1-5 REPORT OF CORE BORINGS (1 OF 3)
B1-6 REPORT OF CORE BORINGS (2 OF 3)
B1-7 REPORT OF CORE BORINGS (3 OF 3)
B1-8 FOUNDATION LAYOUT
B1-9 PILE DATA TABLE
B1-10 END BENT 1 (PHASE I)
B1-11 END BENT 1 (PHASE II)
B1-12 END BENT 6 (PHASE I)
B1-13 END BENT 6 (PHASE II)
B1-14 END BENT DETAILS (1 OF 2)
B1-15 END BENT DETAILS (2 OF 2)
B1-16 SLOPE PROTECTION DETAILS (1 OF 4)
B1-17 SLOPE PROTECTION DETAILS (2 OF 4)
B1-18 SLOPE PROTECTION DETAILS (3 OF 4)
B1-19 SLOPE PROTECTION DETAILS (4 OF 4)
B1-20 INTERMEDIATE BENTS 2 THRU 4 (PHASE I)
B1-21 INTERMEDIATE BENT 5 (PHASE I)
B1-22 INTERMEDIATE BENTS 2, 4 AND 5 (PHASE II)
B1-23 INTERMEDIATE BENT 3 (PHASE II)
B1-24 INTERMEDIATE BENTS DETAILS
B1-25 PRESTRESSED SLAB BEAM (1 OF 3)
B1-26 PRESTRESSED SLAB BEAM (2 OF 3)
B1-27 PRESTRESSED SLAB BEAM (3 OF 3)
B1-28 TABLE OF SLAB BEAM VARIABLES, BUILD UP AND DEFLECTION DAT
B1-29 SECTION THROUGH BRIDGE
B1-30 FINISH GRADE ELEVATIONS (1 OF 2)
B1-31 FINISH GRADE ELEVATIONS (2 OF 2)
B1-32 SUPERSTRUCTURE SECTION
B1-33 SUPERSTRUCTURE PLAN - SPAN 1 PHASE I (1 OF 2)
B1-34 SUPERSTRUCTURE PLAN - SPAN 1 PHASE I (2 OF 2)
B1-35 SUPERSTRUCTURE PLAN - SPANS 2, 3 & 4 PHASE I (1 OF 2)
B1-36 SUPERSTRUCTURE PLAN - SPANS 2, 3 & 4 PHASE I (2 OF 2)
B1-37 SUPERSTRUCTURE PLAN - SPAN 5 PHASE I (1 OF 2)
B1-38 SUPERSTRUCTURE PLAN - SPAN 5 PHASE I (2 OF 2)
B1-39 SUPERSTRUCTURE PLAN - SPAN 1 PHASE II (1 OF 2)
B1-40 SUPERSTRUCTURE PLAN - SPAN 1 PHASE II (2 OF 2)
B1-41 SUPERSTRUCTURE PLAN - SPANS 2, 3 & 4 PHASE II (1 OF 2)
B1-42 SUPERSTRUCTURE PLAN - SPANS 2, 3 & 4 PHASE II (2 OF 2)
B1-43 SUPERSTRUCTURE PLAN - SPAN 5 PHASE II (1 OF 2)
B1-44 SUPERSTRUCTURE PLAN - SPAN 5 PHASE II (2 OF 2)
B1-45 SUPERSTRUCTURE DETAILS (1 OF 3)
B1-46 SUPERSTRUCTURE DETAILS (2 OF 3)
B1-47 SUPERSTRUCTURE DETAILS (3 OF 3)
B1-48 APPROACH SLAB
B1-49 REINFORCING BAR LIST (1 OF 3)
B1-50 REINFORCING BAR LIST (2 OF 3)
B1-51 REINFORCING BAR LIST (3 OF 3)
B1-52 LOAD RATING SUMMARY - BRIDGE NO. 100008

WALL PLANS

BW-1 TEMPORARY CRITICAL STEEL SHEET PILE RETAINING WALL DATA TABLE
BW-2 TEMPORARY CRITICAL STEEL SHEET PILE RETAINING WALLS TW-1 AND TW-2
BW-3 PERMANENT RETAINING WALL DATA TABLE AND NOTES
BW-4 PERMANENT RETAINING WALLS 1 AND 3 - CONTROL PLAN
BW-5 PERMANENT RETAINING WALL 1 - PLAN AND ELEVATION (1 OF 2)
BW-6 PERMANENT RETAINING WALL 1 - PLAN AND ELEVATION (2 OF 2)
BW-7 PERMANENT RETAINING WALL 2 - PLAN AND ELEVATION
BW-8 PERMANENT CONCRETE SHEET PILE WALL DETAILS
BW-9 CONCRETE RETAINING WALL DETAILS (1 OF 2)
BW-10 CONCRETE RETAINING WALL DETAILS (2 OF 2)
BW-11 WALL 3 - END WALL
BW-12 WALL 4 - GRAVITY WALL
BW-13 REINFORCING BAR LIST
BW-14 REPORT OF CORE BORINGS RETAINING WALLS (1 OF 4)
BW-15 REPORT OF CORE BORINGS RETAINING WALLS (2 OF 4)
BW-16 REPORT OF CORE BORINGS RETAINING WALLS (3 OF 4)
BW-17 REPORT OF CORE BORINGS RETAINING WALLS (4 OF 4)

EXISTING BRIDGE PLANS

BX1-1 THRU BX1-5 BRIDGE RAILING REPLACEMENT PLANS - 2000
BX1-6 THRU BX1-15 BRIDGE WIDENING PLANS - 1969
BX1-16 THRU BX1-19 ORIGINAL BRIDGE PLANS - 1936

STANDARD PLANS FOR BRIDGE CONSTRUCTION (Bridge No. 52xxxx)

Index 400-090 (20900) Approach Slabs (Flexible Pavement Approaches)
Index 400-510 (20510) Composite Elastomeric Bearing Pads-Prestressed Florida-I & AASHTO Type II Beams
Index 415-001 (21300) Standard Bar Bending Details
Index 450-010 (20010) Typical Florida-I Beam Details and Notes
Index 450-036 (20036) Florida-I 36 Beam - Standard Details
Index 450-199 (20199) Build-Up & Deflection Data For Prestressed I-Beams
Index 450-512 (20512) Bearing Plates (Type 2) - Prestressed Florida-I & AASHTO Type II Beams
Index 455-601 (20600) Notes and Details For Square Prestressed Concrete Piles
Index 455-602 (20601) Square Prestressed Concrete Pile Splices
Index 455-603 (20602) EDC Instrumentation For Square Prestressed Concrete Piles
Index 455-624 (20624) 24" Square Prestressed Concrete Pile
Index 458-110 (21110) Poured Joint With Backer Rod Expansion Joint System
Index 471-030 (21930) Fender System - Prestressed Concrete Piles

BRIDGE NO. 100008

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	JSR	5/15
						Checked by	JVD	5/15
						Designed by	JVD	5/15
						Checked by	CAS	5/15
						Approved by	NEC	

ENGINEER OF RECORD:

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 43	HILLSBOROUGH	415489-3-52-01

SHEET TITLE: INDEX OF SHEETS

PROJECT NAME: SR 43 (US 301) OVER BIG BULLFROG CREEK

SHEET NO. B-2

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BriExit Tools

Pay Item – Index Crosswalk Application (***StandardsPlansPackager***) to pull PDF's into Structures Plans Component:

Pay Item #	Pay Item Description	SPI#	DSI#	Standard Description	SPI#	DSI#	Standard Description	SPI#	DSI#	Standa
0400- 4- 1	Concrete Class IV, Culverts	400-289	289	Concrete Box Culvert Details	400-291	291	Precast Concrete Box Culverts Supplemental Details	400-292	292	Standa Culver
0415- 1- 1	Reinforcing Steel - Roadway	400-289	289	Concrete Box Culvert Details	415-001	21300	Standard Bar Bending details (Steel)			
0521- 5- 11	Concrete Traffic Railing - Bridge, Retrofit - Post & Beam Railing	521-404	404	Guardrail Transitions - Existing Post & Beam Bridge Railings (Narrow & Recessed Curbs)	521-405	405	Guardrail Transitions - Existing Post & Beam Bridge Railings (Wide Curbs)			

2018StructuresPayItemToStandardReferences.xls

STANDARD PLANS FOR BRIDGE CONSTRUCTION (Bridge No. 52xxxx)

Index 400-090 (20900) Approach Slabs (Flexible Pavement Approaches)
Index 400-510 (20510) Composite Elastomeric Bearing Pads-Prestressed Florida-I & AASHTO Type II Beams
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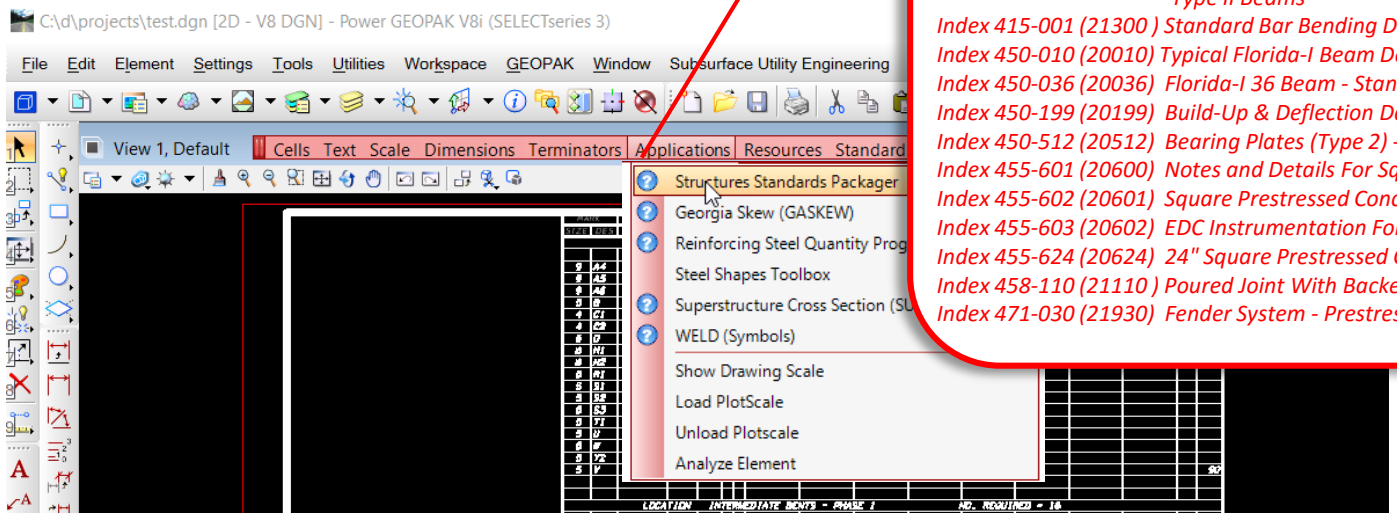
Index 471-030 (21930) Fender System - Prestressed Concrete Piles



BridgExit Tools

CADD Manual Sheet Ordering Sequence:

http://www.fdot.gov/cadd/downloads/publications/CADDManual/CADDManual.pdf

CADD Manual
Office: Engineering/CADD Systems

Effective: October 1, 20
Update: November 1, 201

Structures Plans Naming Convention and Numbering Convention

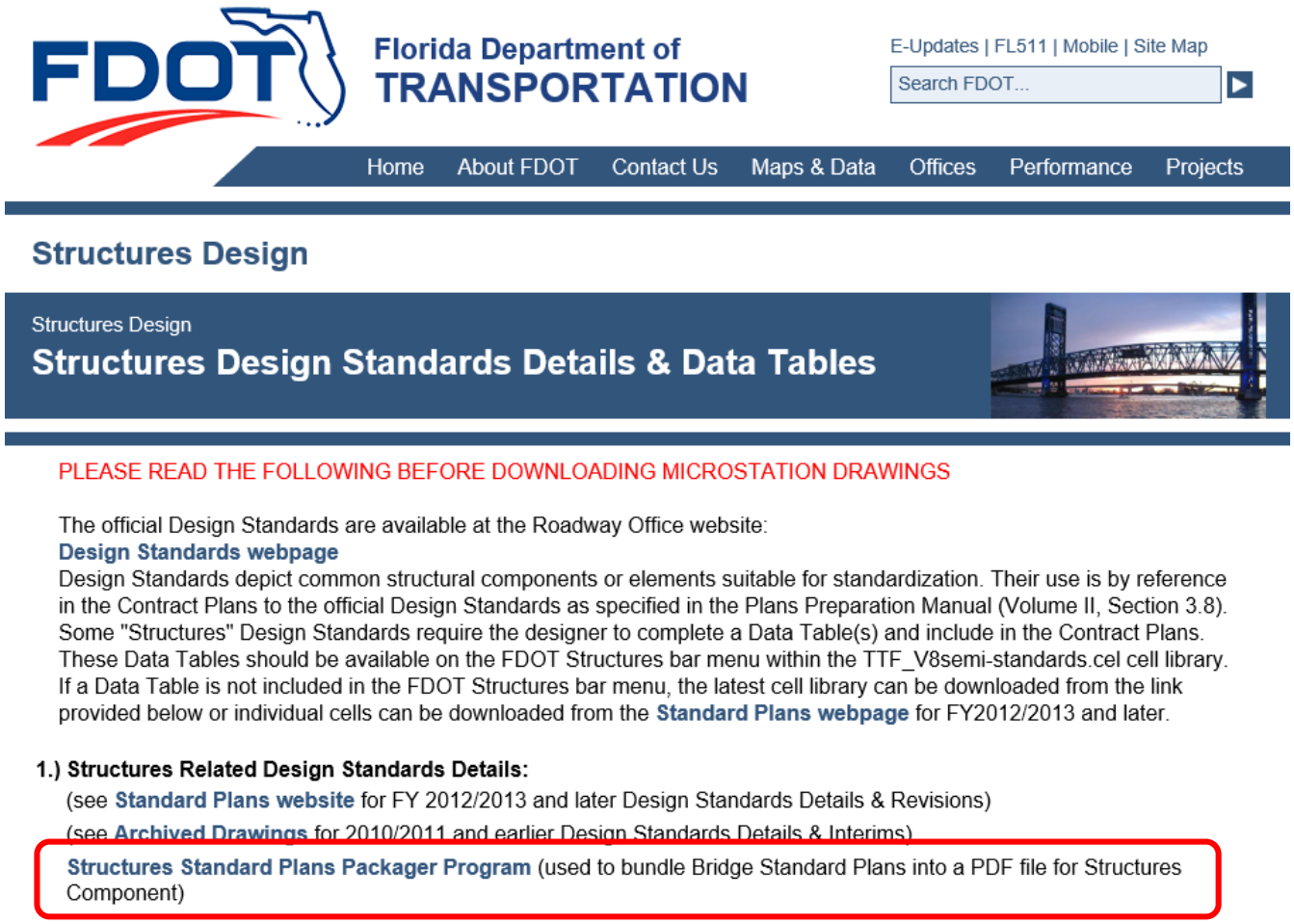
Sheet Order	File Name	File Title / Description	Control File	File Group	Sheet Prefix	Drawing Prefix
		* - Design Format ** - Lead or Component Key Sheet *** - Option				
234	B#Elec-CCTVSys*	Closed Circuit Television (CCTV) System	MECHELEC	MOVABL		
235	B#Elec-CommSys*	Communication System	MECHELEC	MOVABL		
236	B#Elec-LighProtSyst*	Lightning Protection System	MECHELEC	MOVABL		
237	B#Elec-GeneratorDet*	Generator Details	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
238	B#Elec-SubCondDet*	Submarine Conduit Details	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
239	B#Elec-FlexCableDet*	Flexible Cable Details	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
240	B#Elec-CondSchem*	Conduit Schematic	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
241	B#Elec-CondConductSched*	Conduit and BridgExit Tools edule	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
242	B#Elec-BTReflCeil*	Control House Reflected Ceiling Plans	MECHELEC	MOVABLE BRIDGE - ELECTRICAL	B1-##,B2-##, …	BE-##
243	B#PedBridgeDataTable*	Pedestrian Bridge Data	STRUCTURES	TABLES	BP-1, BP-2, BP-##	***
244	B#RebarList*	Reinforcing Bar List	STRUCTURES	CONSTRUCTION	B1-##,B2-##, …	***
245	B#DataTableLoadRating*|	Load Rating Summary Table	STRUCTURES	TABLES	B1-##,B2-##, …	***
246	B#WallControl*	Wall Control Drawing	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
247	B#Bulkhead*	Bulkhead	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
248	B#BulkheadDet*	Bulkhead Details	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
249	B#SheetPileWallAnchSteel*	Anchored Steel Sheet Pile Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
250	B#SheetPileWallAnchConc*	Anchored Concrete Sheet Pile Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
251	B#SheetPileWallCantSteel*	Cantilever Steel Sheet Pile Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
252	B#SheetPileWallCantConc*	Cantilever Concrete Sheet Pile Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
253	B#SheetPileWall*	Sheet Pile Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##, …
254	B#MSEwall*	Mechanically Stabilized Earth (MSE) Wall	STRUCTURES	WALLS	BW-##	W1-##,W2-##

STANDARD PLANS FOR BRIDGE CONSTRUCTION (~~20000 series~~ for Bridges) – Formerly DESIGN STANDARDS

Standards Plans Packager Program (Tool):

- for compiling Structures Standard Plans (Indexes) for the Structures Component Plans

  http://www.fdot.gov/structures/CADD/standards/CurrentStandards/MicrostationDrawings.shtm



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Structures Design

Structures Design

Structures Design Standards Details & Data Tables

PLEASE READ THE FOLLOWING BEFORE DOWNLOADING MICROSTATION DRAWINGS

The official Design Standards are available at the Roadway Office website:
Design Standards webpage
Design Standards depict common structural components or elements suitable for standardization. Their use is by reference in the Contract Plans to the official Design Standards as specified in the Plans Preparation Manual (Volume II, Section 3.8). Some "Structures" Design Standards require the designer to complete a Data Table(s) and include in the Contract Plans. These Data Tables should be available on the FDOT Structures bar menu within the TTF_V8semi-standards.cel cell library. If a Data Table is not included in the FDOT Structures bar menu, the latest cell library can be downloaded from the link provided below or individual cells can be downloaded from the **Standard Plans webpage** for FY2012/2013 and later.

1.) Structures Related Design Standards Details:

(see **Standard Plans website** for FY 2012/2013 and later Design Standards Details & Revisions)

(see **Archived Drawings** for 2010/2011 and earlier Design Standards Details & Interims)

Structures Standard Plans Packager Program (used to bundle Bridge Standard Plans into a PDF file for Structures Component)

Standards Plans Quantities Issues:

- **Box Culverts** (See ***FDM*** & ***BOE***) place in the **Structures Component Plans**
  - ✓ *"Box Culvert Data Table" & Index 400-289, (400-290, 400-291 when applicable).*
  - ✓ Notes & additional details
- **Box Culvert Quantities:**
  - ✓ Bridge Culvert *(Bridge #)* --> Structures Component *(similar to conventional bridge)*
  - ✓ Smaller Culverts *(no Bridge #)* --> Roadway Component *(similar to retaining walls)*

03/27/2017 11:56:10 AM

FLORIDA DEPARTMENT OF TRANSPORTATION
PROPOSAL SUMMARY OF PAY ITEMS
FOR PROPOSAL: T5589

These should be numbers

LEAD PROJECT : 238275-2-52-01 | DISTRICT : 05 | COUNTY/SECTION : 11130000

PROJECT(S) : 23827525201, 23827535201 | COUNTY : LAKE

0001 SUMMARY OF STRUCTURES

SPC	ALT	ITEM NUMBER	ITEM DESCRIPTION	UNIT	23827525201	23827535201	23827525201 BR# FLYOVER	23827525201 BR# POND RD	QUANTITY TOTAL
		0110- 3-	REMOVAL OF EXISTING STRUCTURES/BRIDGES 23827525201 110030, 110066	(LS)			1.000		1.000
		0400- 2- 4	CONC CLASS II, BRIDGE SUPERSTRUCTURE	CY			776.300	114.700	891.000
		0400- 2- 5	CONCRETE CLASS II, BRIDGE SUBSTRUCTURE	CY				50.400	50.400
		0400- 2- 10	CONCRETE CLASS II, APPROACH SLABS	CY			115.200	96.600	211.800
		0400- 2- 25	CONCRETE CLASS II, MASS, BRIDGE SUBSTRUCTURE	CY			375.500		375.500
		0400- 7-	BRIDGE DECK GROOVING, LESS THAN 8.5"	SY				444.000	444.000

BriExit Overview

Don't forget to include the ~~Index 20000 series +~~ (Bridge Standards) in the Structures Component Plans.

For more information:

Steve Nolan, P.E.

State Structures Design Office

Steven.nolan@dot.state.fl.us

(850) 414-4272

Number & Naming Changes

- **Grouped by controlling Specification Number – NOT the *Pay Item Number***
- **Last 3 number may be the same or similar to the previous *DS Index #'s***

(### - ###)

Bullet Railing & 27" Concrete Parapet *(previous 800 series)* **-**
split to relevant *Traffic Railing* and *Ped. Railing* specs:

- Concrete Parapet **521-820** <– *(DS 820)*
- Bullet Rails **515-021** & **515-022** <– *(DS 821 & 822)*

Composite Bearing Pads –
no separate construction spec:

- **400-510** <- (*DS 20510*, associated to concrete, not with prestressed beams)

Walls -
grouped together differently, but logically *(previously 6000 series):*

- C-I-P Cantilever & Gravity Walls **400-010** & **400-011** <– *(DS 6010 & 6011)*
- Precast Sheet Pile Walls **455-400** & **455-440** <– *(DS 6040 & 22440)*
- MSE Walls **548-020** & **548-030** <– *(DS 6020 & 6030)*

Conventional & FRP precast elements *(previously 22000 series)* **-**
grouped together by controlling specification but separated by material type:

- Piles **455-000 series** & **455-100 series**
- Sheet Pile Walls **455-400** & **455-440**

Title Tweaks/Changes

Purpose of Index Title Changes:

- Searchability
- Consistency
- Classification

Example: Subject - Description

- Typical Florida-I Beam Details and Notes
  → Florida-I Beam – Typical Details & Notes

Example: Subject - Classification

- Precast Sheet Pile Walls (Conventional)
- Precast Sheet Pile Walls (CFRP/GFRP & HSSS/GFRP)

Revision Log

- Revision Log
  http://www.fdot.gov/design/standardplans/current/SP-Revisions.pdf

STANDARD PLANS
FY 2018-19 REVISIONS LOG

Design Standards Index	Standard Plans Index	Description
220	425-040	**Sheet 1:** Clarified Dimensions on each side of Section BB.
233	425-053	**Sheet 1:** Changed GENERAL NOTE 1 - "clearance/gap from 1" to 5/8" to be consistent with Index 425-031.
280	430-001	**Sheet 1:** Updated the Notes for the "DISSIMILAR TYPES" detail.
20010	450-010	Changed Title: Florida-I Beam - Typical Details and Notes.
20199	450-199	Changed Title: Prestressed I-Beams Build-Up and Deflection Data.
20210	450-210	Changed Title: Florida-U Beam - Typical Details and Notes.
20299	450-299	Changed Title: Florida-U Beams Build-up & Deflection Data.
20600	455-001	Changed Title: Square Prestressed Concrete Piles - Typical Details & Notes.
20602	455-003	Changed Title: Square Prestressed Concrete Piles - EDC Instrumentation.
20631	455-031	Changed Title: 30" Square Prestressed Concrete Pile - High Moment Capacity.
22600	455-101	Changed Title: Square CFRP & SS Prestressed Concrete Piles - Typical Details & Notes. **Sheet 1:** Corrected Note 6 (Spec 962 to 926).
6040	455-400	**All Sheets:** Changed Title: Precast Concrete Sheet Pile Wall (Conventional). **Sheet 1:** Changed MATERIALS note.
22440	455-440	Changed Title: Precast Concrete Sheet Pile Wall (CFRP/GFRP & HSSS/GFRP).
21100	458-100	Changed Title: Expansion Joint System - Strip Seal.
21110	458-110	Changed Title: Expansion Joint System - Poured Joint with Backer Rod.

Discontinued the following Traffic Railings:

32” F Shape (DS Index 420)
32” F Shape Median (DS Index 421)
42” F Shape (DS Index 422)
Corral (DS Index 424)

Changes to remove details for those railings and add details for Single-Slope Traffic Railings/Concrete Barriers

- *521-660 Light Pole Pedestal – Bridge*
- *400-289 Box Culverts*
- *515 -### Bridge Railings …….etc.*

http://www.fdot.gov/design/Training/designexpo/2017/Presentations/2017-NolanBoyd-NewSingleSlopeandRetrofitTrafficRailings.pdf

Minor Revisions to Standard Plans

Standard Abbreviation Changes: ***SP (~~DS~~), SPI (~~IDS~~), FDM (~~PPM~~)***

Continuing to work towards consistency between Indexes, Instructions, and Specifications

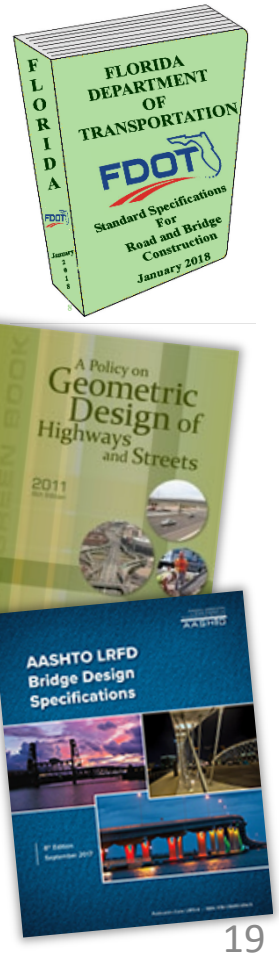
Editorial: Revised Neoprene Pads to Bearing Pads for Ancillary Structures to match Spec. language (460-470 & 550-010, 011, 012 , & 534-250).

Railings vs. Barriers: Joint effort in cooperation with Roadway and Specifications - the following rule of thumb:

If located on a Bridge or Approach Slab = *Traffic Railing*
If located on a wall or shoulder = *Concrete Barrier*

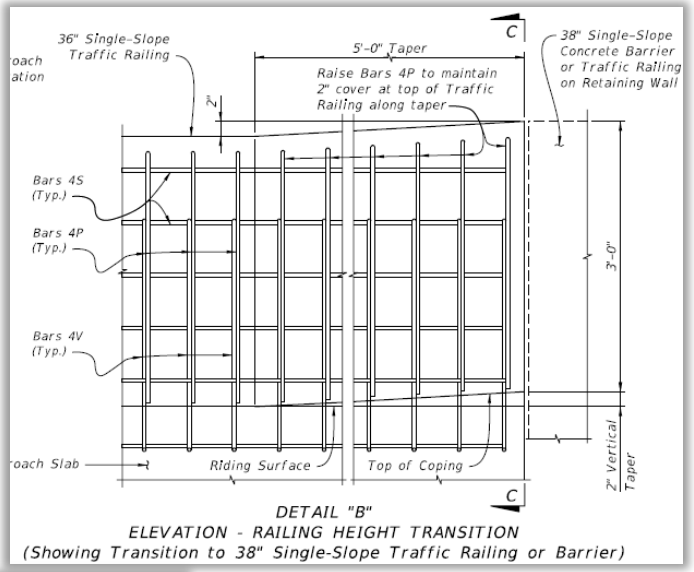
Examples:

Concrete Barriers with Junction Slab
Concrete Barrier/Noise Wall (Junction Slab, L, T, or Trench Footings)
Traffic Railing/Noise Wall (Bridge and Approach Slab)

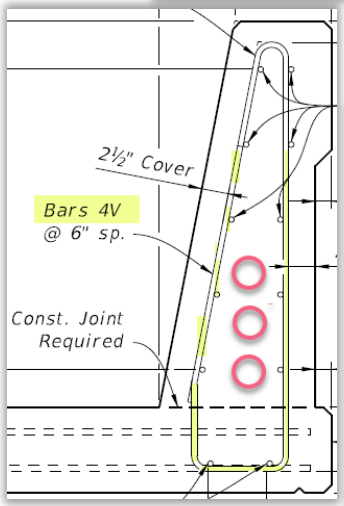


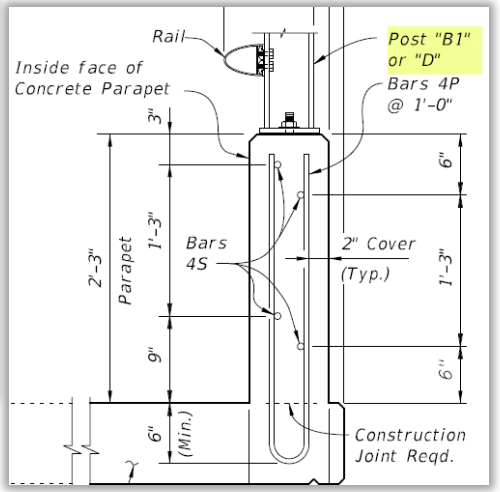
Minor Revisions (cont.)

- ***Index 515-021 & 022:*** *Bullet Railing*
  - Changed/Added additional post "Type" (Single-Slopes), due to change from 32" to 36" height
  - Dual dimensioned as necessary



- ***Index 521 series:*** *Traffic Railings*
  - Removed "Delineator Spacing" Table – see Specifications *(Section 705 ?)*
  - Added height transitions (2" for future asphalt overlay)
  - Added 3rd row of conduit
  - Changed anchorage reinf. (Bars 4V)

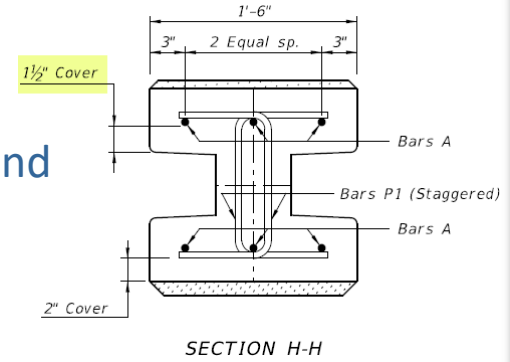


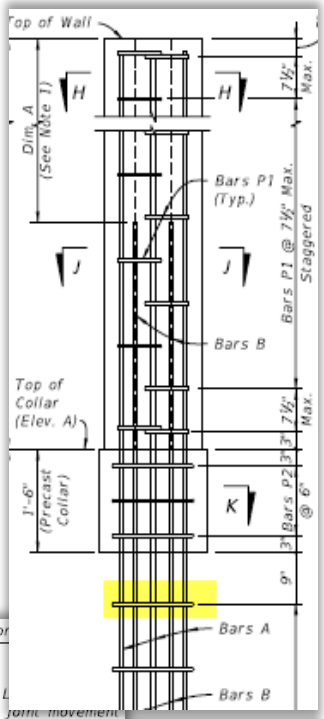


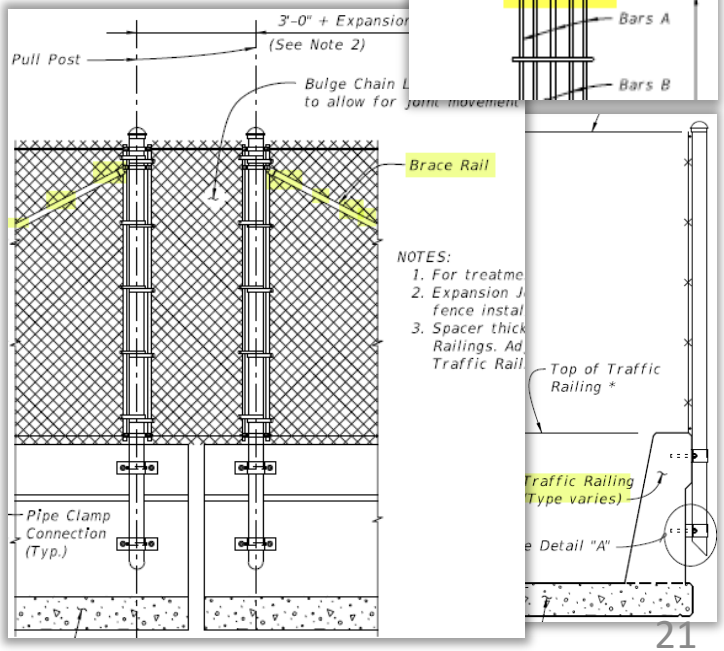
- ***Index 521-820*** *(27" Concrete Parapet)*
  - Changed post names
    (changes due to single-slope)

Minor Revisions (cont.)

- ***Index 534-200:*** *Noise Walls*
  - Updates to component tables rebar sizes and lengths
  - Cover in H-post for large size bars (#11's)
- ***Index 534-250:*** *Perimeter Walls*
  - Increased distance to first shear (tie) bar below precast section for 45° corner posts.
- ***Index 550-010:*** *Bridge Fencing (Vertical)*
  - Added Brace Rails to Expansion Assembly Detail
- ***Index 550-010 thru 550-012:*** *Bridge Fencing*
  - Changed 32" F-Shape to 36" Single-Slope





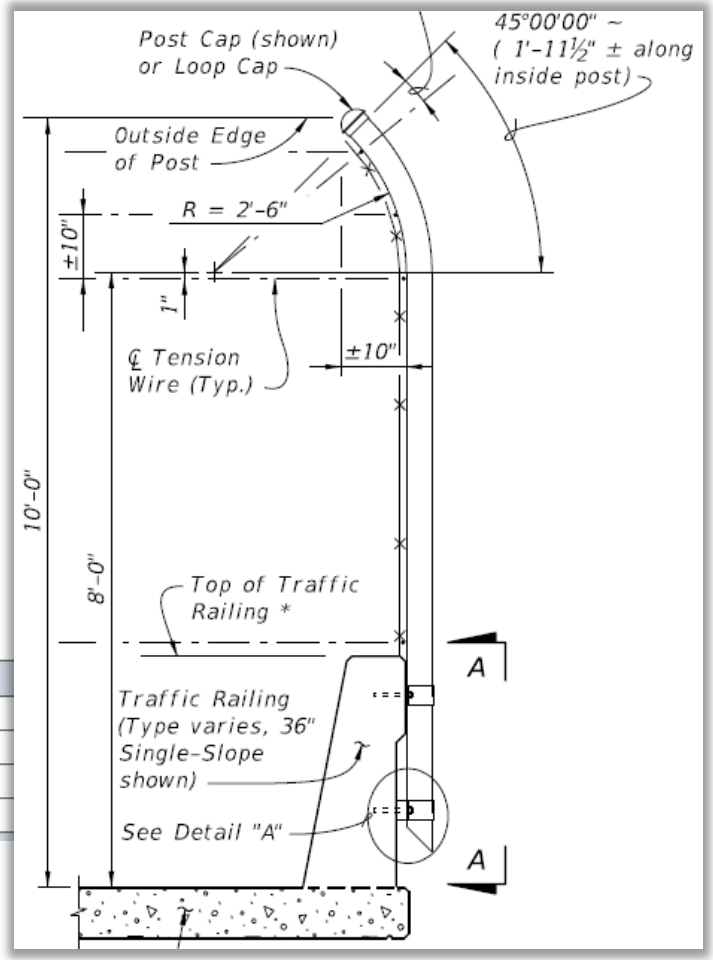


New Bride Fencing Type

Index 515-013: Bridge Fencing (Over Railroad):

- *For use when require by Railroad Permitting authority when no side walk is provided*
- *Curved Top adjacent to traffic*

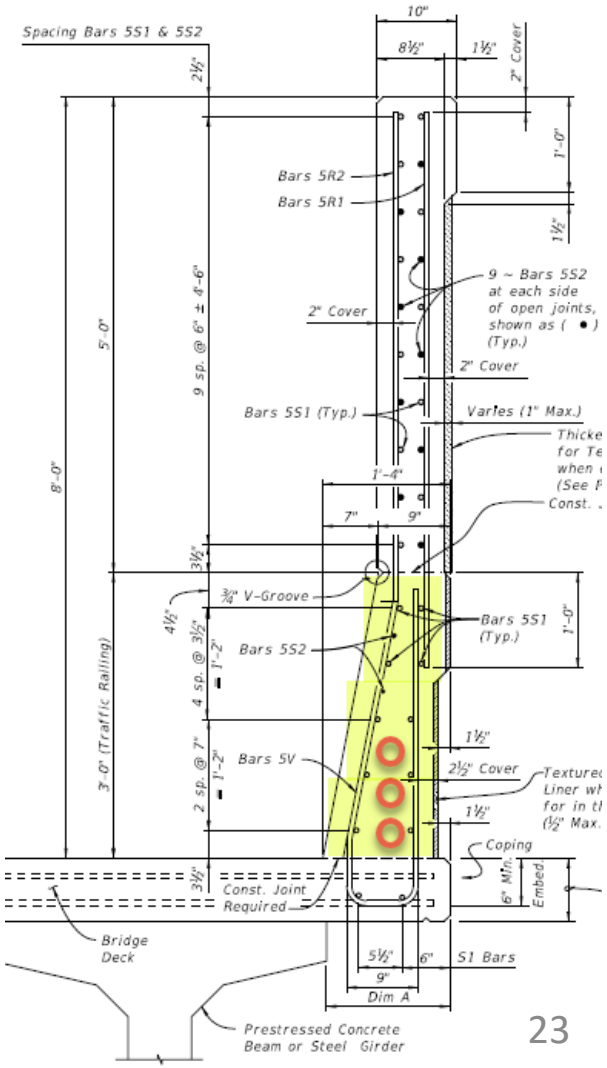
		Fencing - Type R	
550-010		Bridge Fencing (Vertical)	810
550-011		Bridge Fencing (Curved Top)	811
550-012		Bridge Fencing (Enclosed)	812
550-013		Bridge Fencing (Over Railroad)	812



Major Changes for Traffic Railing/Noise Walls

Index 521-509: Traffic Railing/Noise Wall (8'-0"):

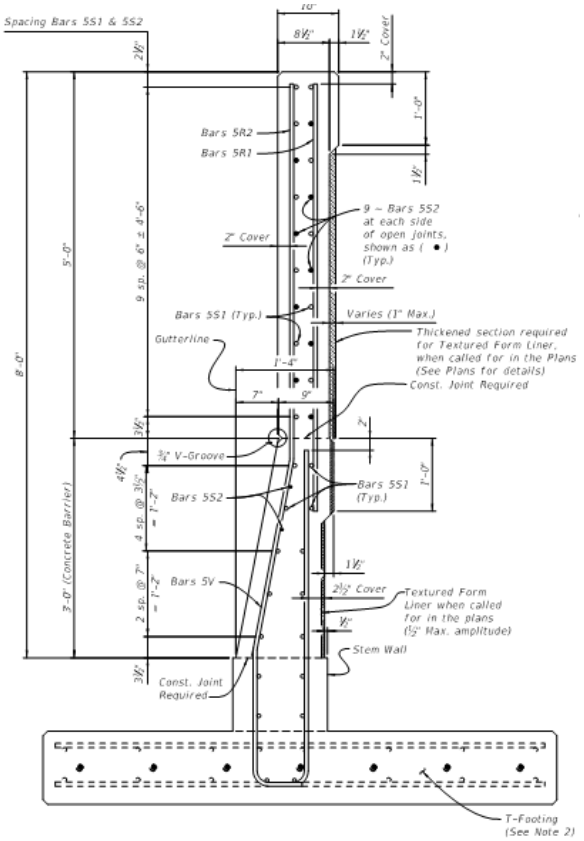
- *Modified lower traffic railing shape (36" Single-Slope)*
- *Wall similar to previous standards for traffic railing/noise wall*
  - ✓ *Bridge and Approach Slab*
  - ✓ *Must be included in the Structures Component Plans*
  - ✓ *Conduit can now fit in the Traffic Railing portion.*



Major Changes for Concrete Barrier/Noise Walls

Index 521-510 & 521-511: now called Concrete Barrier/Noise Walls

- *Concrete Barrier (36” Single-Slope)*
- *Wall similar to previous standards for traffic railing/noise wall (8’-0” and 14’-0”)*
  - ✓ *Use with Index 521-512, 513, 514 or 515 (footings)*
  - ✓ *Roadway Component Plans (i.e. do not include Standard Plans PDF’s)*



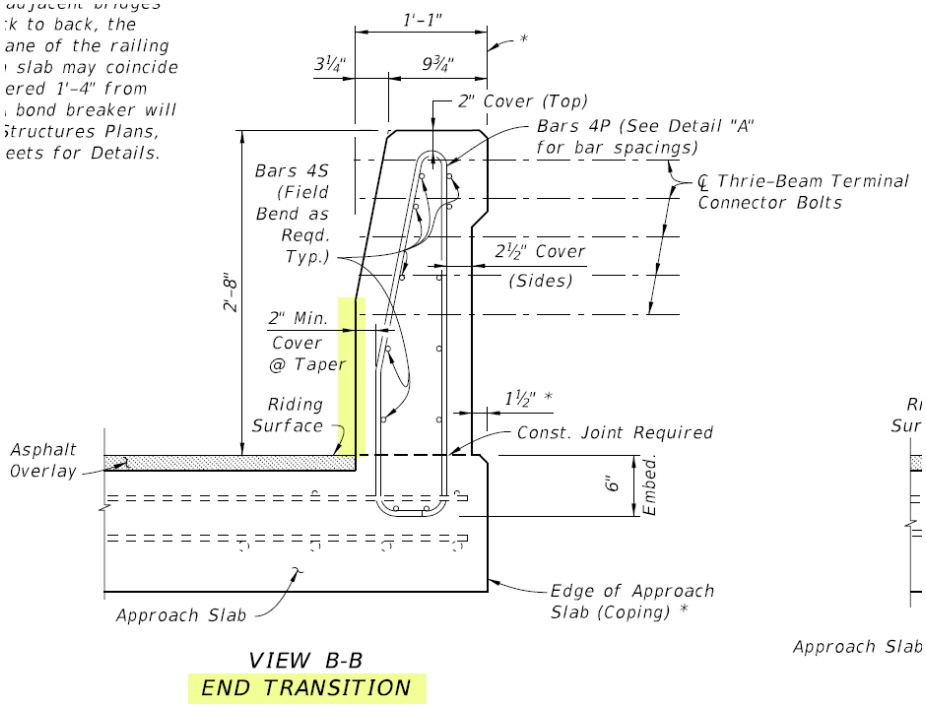
SECTION A-A
TYPICAL SECTION THRU CONCRETE BARRIER/NOISE WALL AT OPEN JOINT
(Section Thru T-Footing Shown, Section Thru Junction Slab, L or Trench Footings similar)

Major Changes/New Standards (cont.)

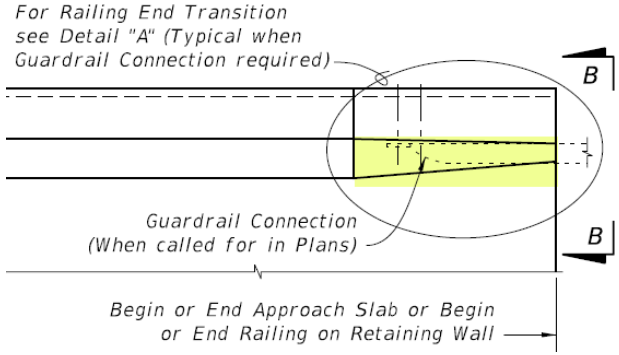
Toe Transitions for Traffic Railings & Concrete Barriers

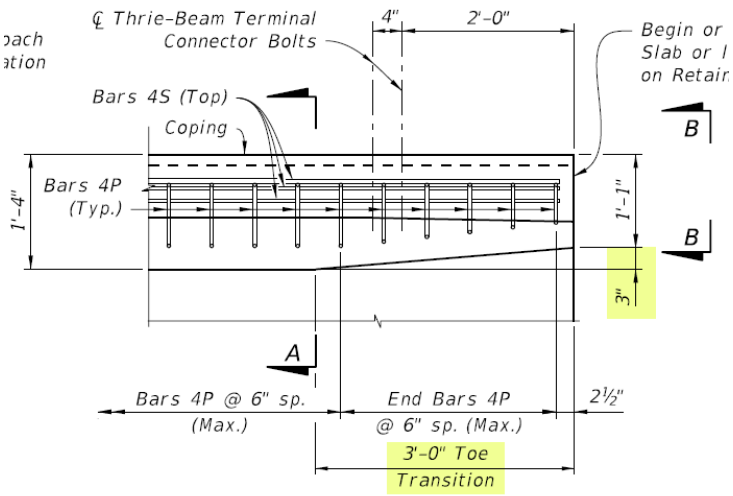
All *traffic railings and concrete barriers* ***connected to guardrail****:*

✓ *Toe transition is now 3” over 3’-0”.*



VIEW B-B
END TRANSITION

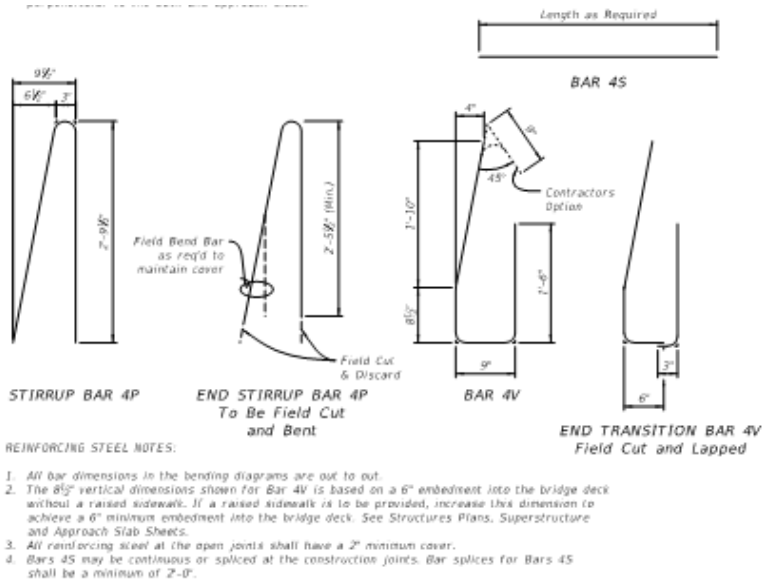


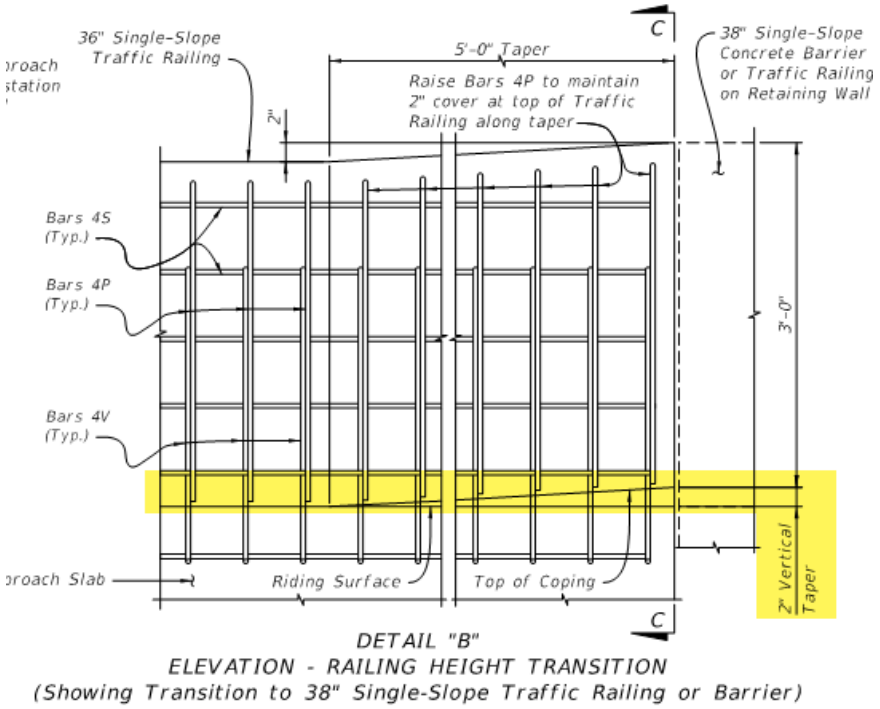


PLAN - RAILING END TRANSITION

Height Transitions (Bridge to Roadway)

- ***Index 521-427 & 521-428***: *Single-Slope Traffic Railings*
  - Added Height Transition from 36” Single-Slope to 38” Single-Slope
  - Changed reinforcing details for:
    - ✓ Consistency
    - ✓ Accommodate more conduits



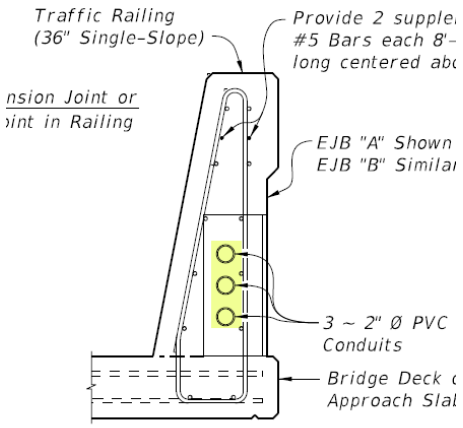


Major Changes/New Standards (cont.)

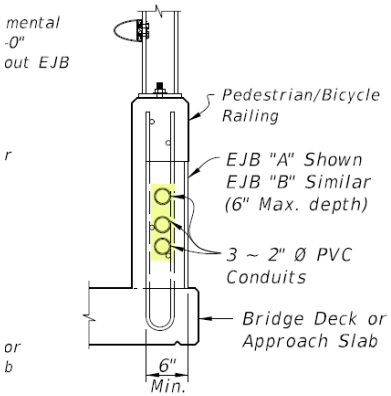
Conduit

Index 630-010 Conduit Details - Embedded:

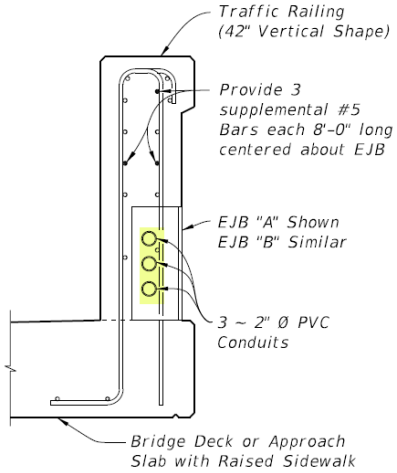
- Payment is no longer included in the cost of the traffic railing or parapet.
  - Change made in ***Specification Section 630***
  - New Pay Item Number in ***BOE***
  - Revised notes and added pay item to Instructions (***SPI***)
- Added third row of conduit for traffic railings, traffic railing/noise walls and concrete parapets.



SECTION THRU
TRAFFIC RAILING AT EJB
(36" SINGLE-SLOPE SHOWN,
42" SINGLE-SLOPE SIMILAR)



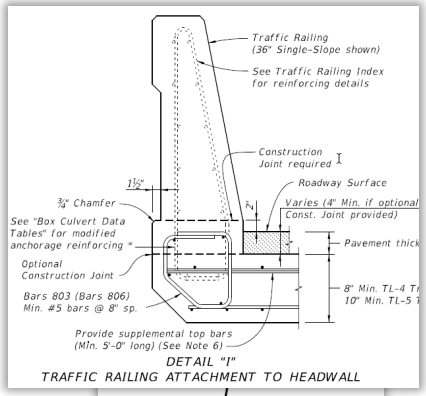
SECTION THRU PEDESTRIAN /
BICYCLE RAILING AT EJB



SECTION THRU
TRAFFIC RAILING AT EJB
(42" VERTICAL SHAPE SHOWN,
32" VERTICAL SHAPE SIMILAR)

Standard Plan Instructions (SPI)

- **Added Pay Item for Conduit Embedded (and Junction Boxes in Concrete to all applicable Indexes**
  - ✓ Pay Item: 630-2-16 Conduit, Furnish & Install (Embedded – Railings)
  - ✓ Include pay item and quantities for traffic railings or concrete parapets on bridges/approach slabs.

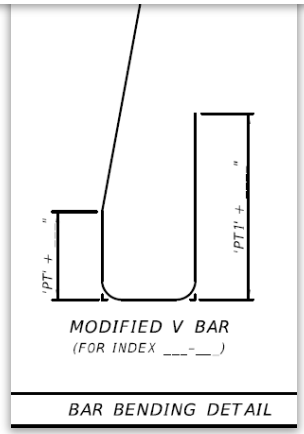


- **Added** instructions for traffic railings on concrete box culverts (See ***Index 400-289*** and "*Box Culvert Data Table*" Cell)

- **Added** details/clarification in the Design Assumptions and Limitations about sidewalk transitions and optional base to ***Index 400-090 & 400-091 Approach Slabs***

In the Roadway Plans:

Include details and payment for the optional base under the approach slab. The minimum structural requirement under the approach slab is Optional Base Group 2. If the optional base group for the roadway approaches is Group 2 or better, the same base group may be continued under the approach slab. Include embankment and optional base for the area of the approach slab in the roadway quantities.



Structures Cell Library/Data Tables

- **Changed the Index numbers to match Standard Plans Numbers (Editorial)**
- ***"Box Culvert Data Table"*** *(Index 400-289):* Added traffic railings reinforcing detail and note.
- ***"Build-up & Deflection Data Table"*** *(Index 450-199 &450-299):* Added column:
  - *Net Beam Camber (Prestress – Dead Load of Beam) @ Release*

BUILD-UP & DEFLECTION DATA TABLE FOR PRESTRESSED I-BEAMS — Table Date 07/01/17

LOCATION		REQUIRED THEORETICAL BUILD-UP OVER ℄ BEAM			NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ RELEASE	NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS	DEAD LOAD DEFLECTION DURING DECK POUR @ 120 DAYS DIM A	BUILD-UP CASE NO.
SPAN NO.	BEAM NO.	AT BEGIN SPAN DIM B	AT ℄ SPAN DIM C	AT END SPAN DIM D				

NOTES: Work this sheet with Standard Plans Index 450-199.

Update your cells!!

2.) FDOT Structures Menu Data Table Cell Libraries:
(in Microstation format. PDF examples are available in the **Standard Plans Instructions** (SPI).)

TTF-V8semi-standards.cel v2016.3 (Jan 2016 - For use with FY 2016-17 Design Standards. Included in FDOTSS4 MR1 CADD Software Releases)
(0.9MB zip)

TTF-V8semi-standards.cel v2016.4 (Nov 2016 - For use with FY 2017-18 Design Standards. Included in FDOTSS4 MR2 CADD Software Releases, plus missing Data Table 17743 and updated Data Tables 21800B & 21800T)
(0.9MB zip)

TTF-StdDataTables.cel v2017.1 (Nov 2017 - For use with FY 2018-19 Standard Plans. Included in FDOTSS4 MR4 CADD Software Releases, plus updated Data Tables 450-199 & 450-299)
(0.9MB zip)

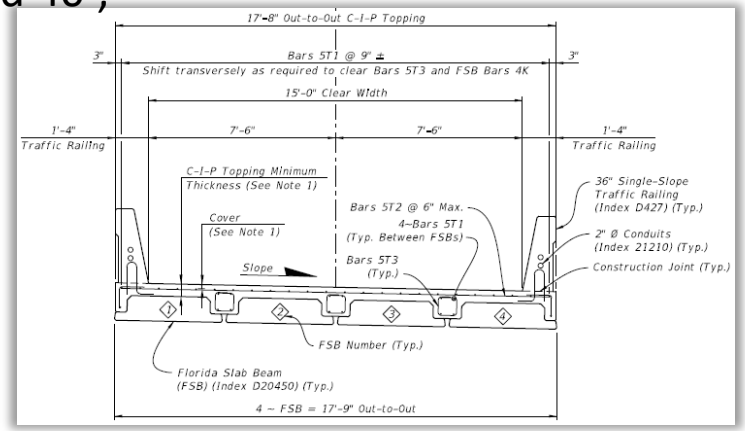
http://www.fdot.gov/structures/CADD/standards/CurrentStandards/MicrostationDrawings.shtm

Looking Ahead

Updates on other *Developmental Standards* in the works:

- ***Index D20700 series*** – Precast Intermediate Bent Cap;

- ***Index D30000 series*** – Off-System Bridge Packages (Superstructure):
  - 4 span lengths - 30', 40', 50' (done) and 60' (pending TBA);
  - 5 bridge clear widths – 15', 24', 28, 32' and 40';



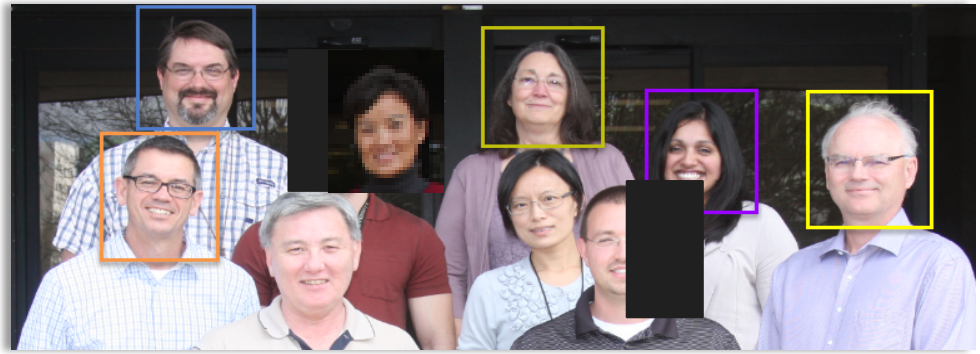
Join us June 18-20th for *"FITS" (Expo)* in Orlando !!

FLORIDA innovative TRANSPORTATION SYMPOSIUM

Message from the Design Technology Section (Structures Standards & Computer Applications)

We are here to assist you with your questions and concerns. Please contact us:

- If you have a suggestion:
  - for a new standard or
  - for an improvement to
  - an existing standard.



- If you have any issues during design or construction:
  - Fully explain the issue (photos help);
  - Provide suggestions (if you have any);
  - Provide any documentation that might support a proposed change and assist us during development.

- Anytime you have questions or concerns *(but, we recommend always thoroughly reviewing the **SPI** first)*.

Questions

Contact Information:

Steve Nolan, P.E.

State Structures Design Office

Steven.nolan@dot.state.fl.us

(850) 414-4272