Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD
SECRETARY

ARCHIVED

STRUCTURES DESIGN BULLETIN 13-01

ROADWAY DESIGN BULLETIN 13-02

DATE: March 5, 2013

TO: District Directors of Production, District Directors of Operations, District Design Engineers, District Structures Design Engineers, District Construction Engineers and District Traffic Operations Engineers

FROM: Robert V. Robertson, P. E., State Structures Design Engineer and Interim State Roadway Design Engineer

COPIES: Tom Byron, Brian Blanchard, Duane Brautigam, David Sadler, Tim Lattner, Mark Wilson, Monica Gourdine (FHWA), Jeffrey Ger (FHWA)

SUBJECT: Median Barrier Mounted Overhead Sign Structures

This bulletin revises and expands on the Department's policy for attachment of overhead sign structures to concrete median barrier walls and revises ***Design Standards*** Index 410.

REQUIREMENTS

Do not utilize median barrier mounted overhead sign structures unless there is no other practical or economical alternative.

If a median barrier wall mounted sign support structure is required, three options are available as shown in the Attachment to this bulletin. ***Design Standards*** Index 11310 Cantilever Sign Structures, ***Design Standards*** Index 11320 Span Sign Structures or project specific multiple upright sign support structures may be used with all three options. A Design Exception for shoulder width may be required to utilize Options 2 and 3.

COMMENTARY

In Option 1, the height of the median barrier wall is transitioned from 32" to 54" and the shape is transitioned from the standard F-shape to a vertical face over a length of 15'-0". The base plate and anchor bolts of the sign support upright are located at the top of the 54" tall section of vertical face median barrier wall. A setback distance of 0" to the base plate is utilized on both sides of the 54" tall median barrier wall which is consistent with that shown for Index 425 in ***PPM*** Volume 1, Figure 7.1.2.1. The median barrier wall and the top of the 54" tall vertical face section are a constant 2'-0" width which limits the maximum base plate diameter to 2'-0". This in turn limits the maximum diameter of the sign support upright. Anchor bolt and reinforcing steel placement within this section of wall may further limit the maximum diameter of the upright. Project specific details for the median barrier wall and sign support foundation are required and must be included in the Plans. ***Design Standards*** Indexes 11310 or 11320, or a project specific multiple upright sign support structure may be used. Details must be included in the plans for project specific multiple upright sign support structures. Consider the need for vandal protection guards when using multiple upright sign support structures. This option does not reduce the width of the inside shoulders.

Option 2 is similar to Option 1 except that the median barrier wall is flared out to accommodate larger diameter sign support uprights and base plates. This option reduces the width of the inside shoulders on both sides of the median barrier wall. A Design Exception for shoulder width may be required.

Option 3 is similar to Option 2 except that the median barrier wall is flared out on one side only. A Design Exception for shoulder width may still be required.

BACKGROUND

These criteria are intended to improve crashworthiness of median barrier walls and the sign support structures that are attached to them while still meeting minimum standards for roadway signing.

Steel is the required material for the sign support structures because it is more ductile and durable than other materials such as aluminum and thus is less likely to break completely away when impacted by an errant vehicle.

IMPLEMENTATION

These requirements are effective immediately on all projects in Phase I or Phase II design development (less than 60% complete). These requirements may be implemented immediately on all projects either in Phase III or Phase IV at the discretion of the District (i.e. designs which are required before the release of the revised ***Design Standards*** Index 410 shall use the design requirements above and shall be signed and sealed by a Professional Engineer registered by the Florida Board of Professional Engineers).

Design Standards Indexes 410, 11310 and 11320 will be revised to incorporate Options 1, 2 and 3 based on this interim policy and will be released July 2013, effective January 2014.

ARCHIVED

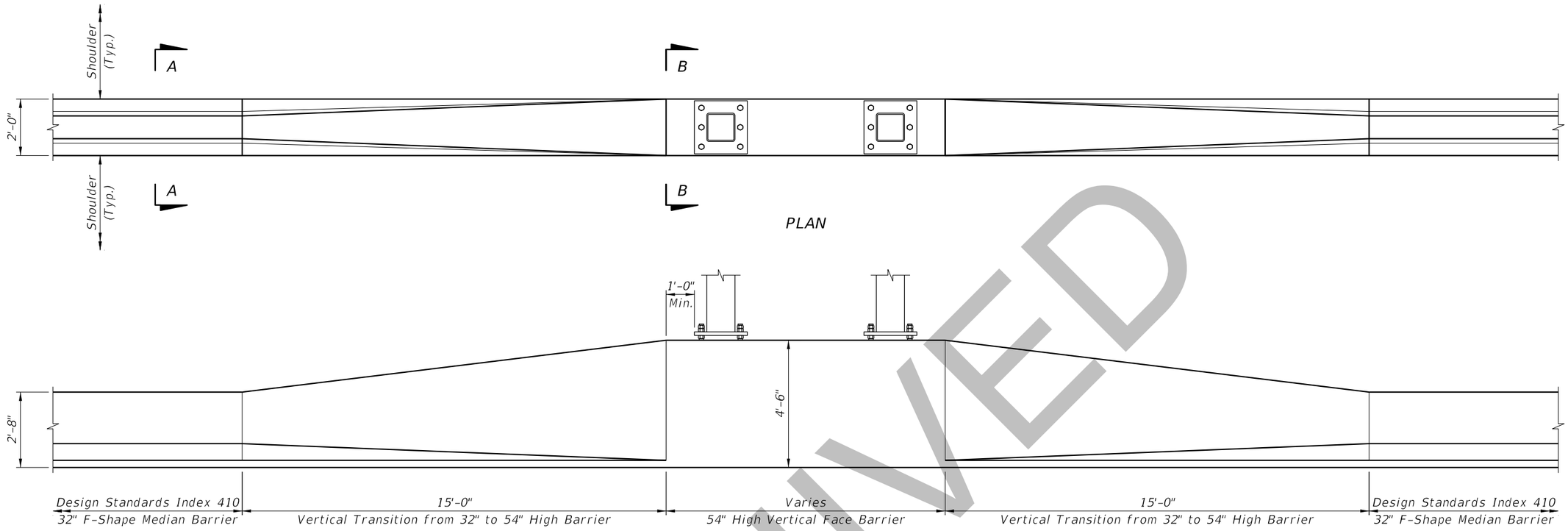
CONTACT

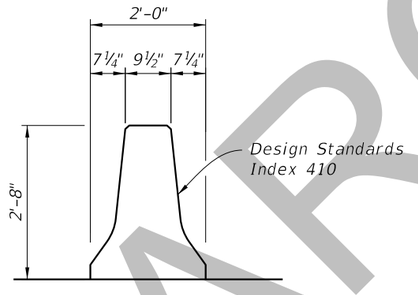
Gevin J. McDaniel, P.E.
Senior Structures Design Engineer
Florida Department of Transportation
605 Suwannee Street, MS 33
Tallahassee, FL 32399-0450
Phone (850)-414-4284
Gevin.McDaniel@dot.state.fl.us

RVR/CEB/va

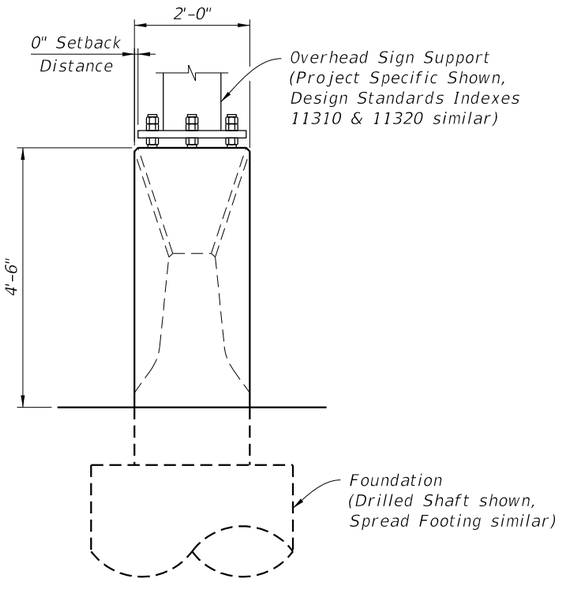
Attachment

ARCHIVED





SECTION A-A



SECTION B-B

OPTION 1

ARCHIVED

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY:
CHECKED BY:
DESIGNED BY:
CHECKED BY:

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID

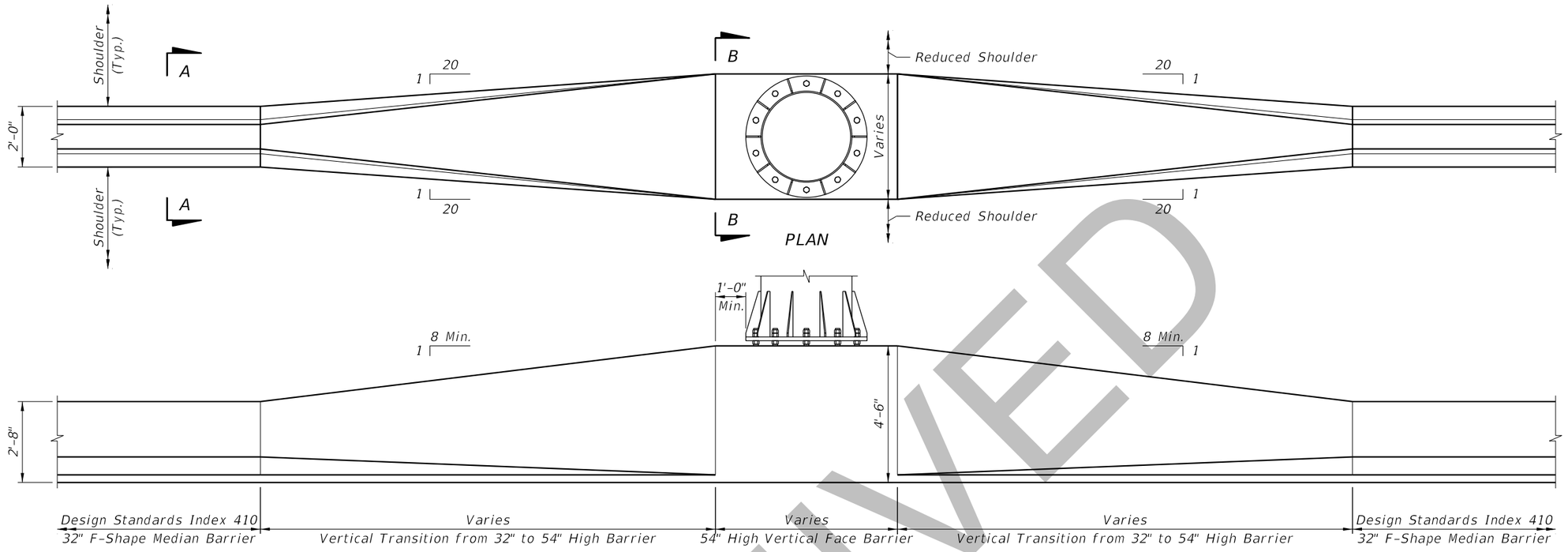
SHEET TITLE: CONCRETE MEDIAN BARRIER WALL TRANSITIONS AT OVERHEAD SIGN SUPPORTS

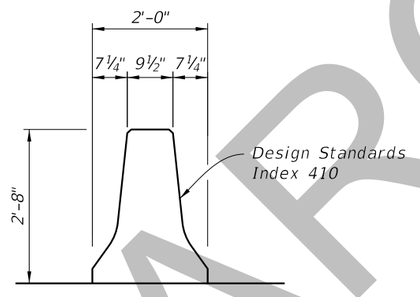
PROJECT NAME:

REF. DWG. NO.

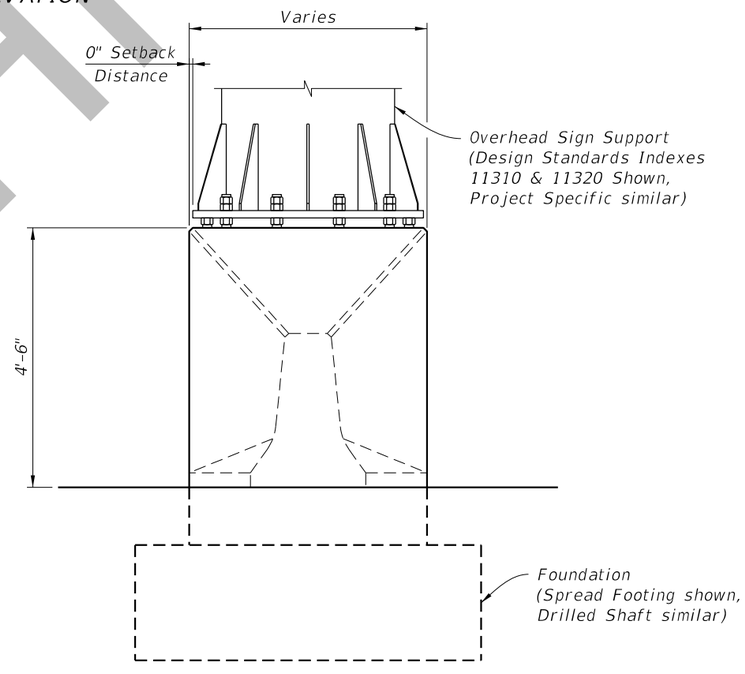
SHEET NO. 1

ST986KD 3/5/2013 8:25:08 AM S:\Public\SpecialProjects\Misc\MedianAtSigns\MedianBarrierSign.dgn





SECTION A-A



SECTION B-B

OPTION 2

ARCHIVED

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY:
CHECKED BY:
DESIGNED BY:
CHECKED BY:

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID

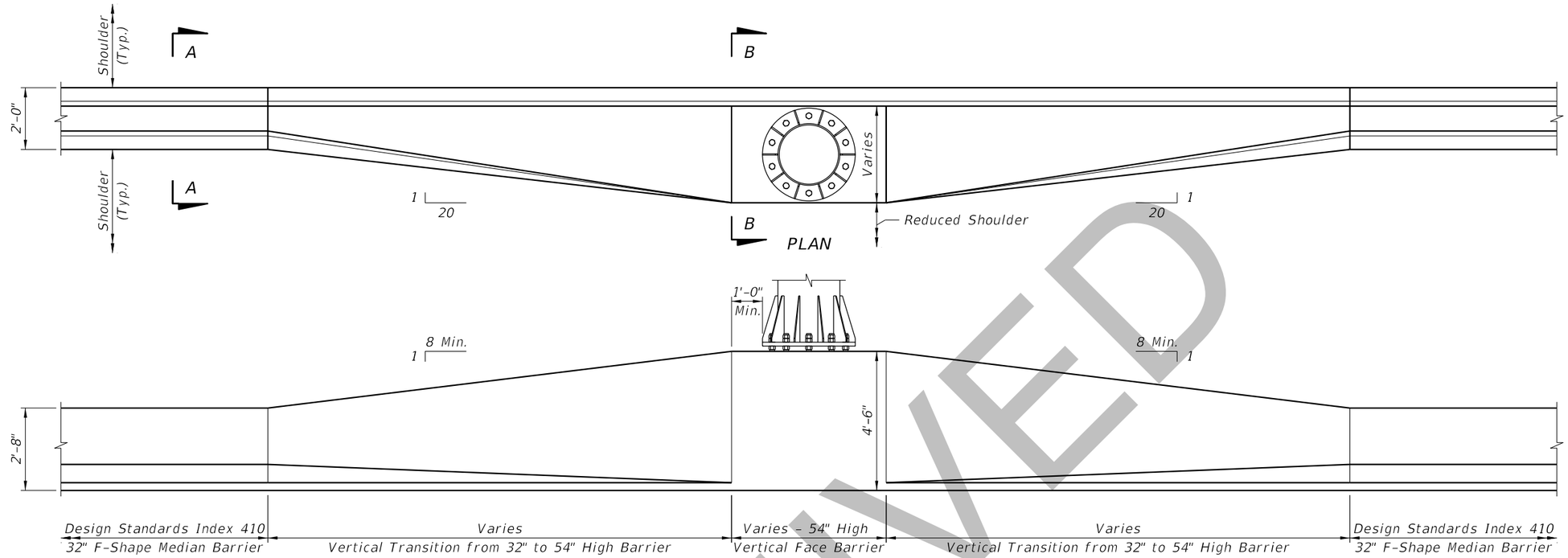
SHEET TITLE:
CONCRETE MEDIAN BARRIER WALL
TRANSITIONS AT OVERHEAD SIGN SUPPORTS

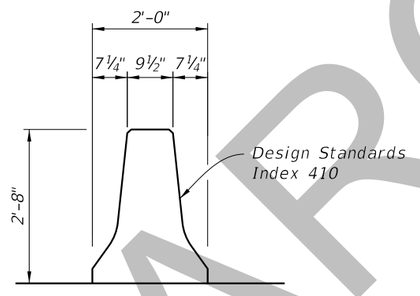
PROJECT NAME:

REF. DWG. NO.

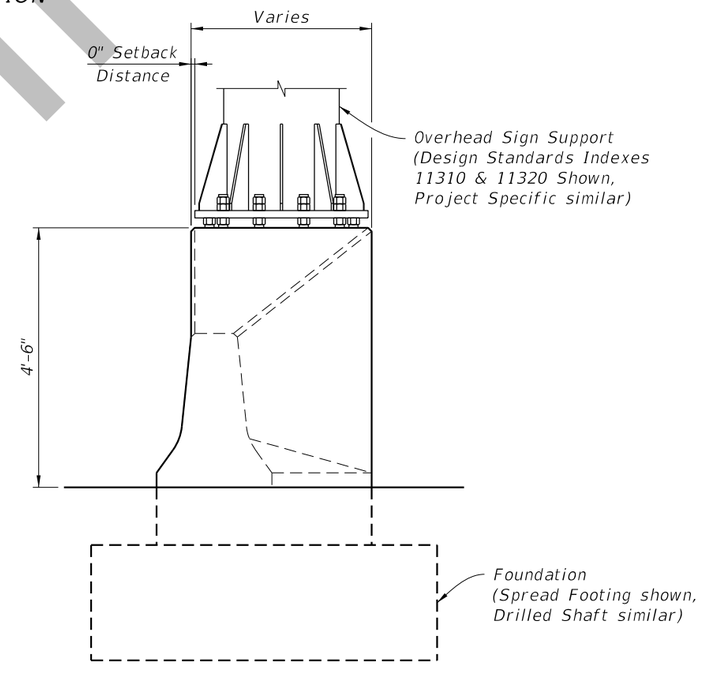
SHEET NO.
2

ST986KD 3/5/2013 8:25:09 AM S:\Public\SpecialProjects\Misc\MedianAtSigns\MedianBarrierSign.dgn





SECTION A-A



SECTION B-B

OPTION 3

ARCHIVED

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY:
CHECKED BY:
DESIGNED BY:
CHECKED BY:

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID

SHEET TITLE:
CONCRETE MEDIAN BARRIER WALL
TRANSITIONS AT OVERHEAD SIGN SUPPORTS

PROJECT NAME:

REF. DWG. NO.

SHEET NO.
3

ST986KD 3/5/2013 8:25:10 AM S:\Public\SpecialProjects\Misc\MedianAtSigns\MedianBarrierSign.dgn