

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** D9834  
**To:** Section 4.0 General Notes and Section 3.42  
Welded Plate Girders  
**Date:** February 29, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Section 4.0 General Notes

<u>Page</u>	<u>Date</u>	<u>Description</u>
K1-A	Nov. 1997	Modified note K1.5 to change the lap splicing length of transverse reinforcing bars in approach slab.
K1-B	Nov. 1997	Modified note K1.14 to correct a typographical error.

### Section 3.42 Welded Plate Girders

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-3	Nov. 1999	Changed minimum thickness from 3/8" to 1/2" for stiffeners in accordance with AASHTO 10.34.6 and 10.48.5.3.
2.1-4	Nov. 1999	Reprinted on back of page 2.1-3.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E7200  
**To:** Section 3.72 Concrete Pile Cap Intermediate Bents and  
Section 3.55 Prestressed Concrete I-Girders  
**Date:** March 24, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revisions E7600 and E7700 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-6	June 1999	Revised to reflect new girder chairs.
3.3-7	June 1999	Reprinted on back of page 3.3-6.
3.3-8	June 1999	Revised to reflect new girder chairs.
3.3-9	June 1999	Reprinted on back of page 3.3-8.

### **Concrete Pile Cap Intermediate Bents - Section 3.72**

The current Section 3.72 Concrete Pile Cap Bents has been replaced by the following three new sections:

1. Section 3.72 Concrete Pile Cap Intermediate Bents (revision E7200);
2. Section 3.76 Concrete Pile Cap Non-Integral End Bents (revision E7600) and
3. Section 3.77 Concrete Pile Cap Integral End Bents (revision E7700).

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Aug. 1998	Revised to reflect changes.
All	New	Entire section is new. The corresponding divider is attached.

Several revisions are listed below. Please pay special attentions to:

- 1) Batter Pile Table for outside piles has been revised for SPC A, B, C and D as shown on page 2.2-1.
- 2) New girder chair criteria, with reaction up to 90 kips, have been described in page 4.3-1 to replace the current girder chair criteria.
- 3) Page number comparison between new Sec 3.72 and current Sec 3.72 is listed below:

New page number by E7200

Old page number and last revision date

Page 1.1-1	Page 1.1-1, March 1999
Page 1.2-1	Sec. 3.72 1.2.1, July 1986
Page 1.2-1	Page 1.1-1, March 1999
Page 1.2-1	Sec. 3.72 1.2.3, Nov. 1989
Page 2.1-1	Sec. 3.72 3.1.1, Nov. 1992
Page 2.1-2	Sec. 3.72 3.1.2, Nov. 1992
Page 2.2-1	Sec. 3.72 2.1.2, Aug. 1987
Page 3.1-1	Page 5.1-1, March 1999
Page 3.1-2	Page 5.1-2, March 1999
Page 3.1-3	Page 5.1-3, March 1999
Page 3.1-4	Page 5.1-4, March 1999
Page 3.2-1	Sec. 3.72 5.2.1, Sept. 1991
Page 3.2-2	Page 5.2-2, March 1999
Page 3.3-1	Sec. 3.72 5.3.1, Sept. 1991
Page 3.3-2	Page 5.3-2, March 1999
Page 3.4-1	Sec. 3.72 5.4.1, Sept. 1991
Page 3.4-2	Page 5.4-2, March 1999
Page 3.5-1	Sec. 3.72 5.5.1, Oct. 1994
Page 3.5-2	Sec. 3.72 5.5.2, Oct. 1994
Page 3.6-1	Sec. 3.72 4.1.6, May 1992
Page 4.1-1	Sec. 3.72 6.4, Nov. 1989
Page 4.2-1	Sec. 3.72 6.5, July 1986
Page 4.3-1	Sec. 3.72 6.2.2, Oct. 1993
Page 4.4-1	Sec. 3.72 6.3, Oct. 1994

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E7600  
**To:** Section 3.76 Concrete Pile Cap Non-Integral End Bents  
**Date:** March 24, 2000

The following sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revisions E7200 and E7700 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### Concrete Pile Cap Non-Integral End Bents - Section 3.76

The current Section 3.72 Concrete Pile Cap Bents has been replaced by the following three new sections:

1. Section 3.72 Concrete Pile Cap Intermediate Bents (revision E7200);
2. Section 3.76 Concrete Pile Cap Non-Integral End Bents (revision E7600) and
3. Section 3.77 Concrete Pile Cap Integral End Bents (revision E7700).

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
All	New	Entire section is new. The corresponding divider is attached.

Several revisions are listed below. Please pay special attentions to:

- 1) Use the length of 10'-0" wing wall combined with a retaining wall when wing wall length is great than 17'-0" as described in pages 1.1-2 and 1.1-3.
- 2) Use #6 @ 8" H-bar and F-bar in wing wall and wing brace, respectively, as shown on pages 1.2-1 and 3.1-3; and a design example is provided in pages 1.3-1 and 1.3-2.
- 3) One half of the dead load of the approach slab shall be included in the beam and pile design as described in pages 1.2-1, 1.2-3 and 3.1-6.
- 4) Batter toe piles are shown on pages 1.1-2, 2.1-1, 2.2-4, 2.2-5 and 3.3-1; and a design example is provided from page 1.3-3 thru page 1.3-7.
- 5) 3" minimum concrete protection and cover for bottom reinforcement in end bent beam and wing wall has been shown on pages 3.1-1, 3.1-2, 3.1-4 and 3.1-6.
- 6) Page number comparison between new Sec 3.76 and old Sec 3.72 is listed below:

Page number in new Section 3.76

Page number and last revision date in old Section 3.72

Page 1.1-1	Page 1.1-1, March 1999
Page 1.2-1	Sec. 3.72 1.2.1, July 1986
Page 1.2-2	Sec. 3.72 1.2.2, Nov. 1989
Page 1.2-3	Sec. 3.72 1.2.3, Nov. 1989
Page 1.4-1	Sec. 3.72 1.3.1, Apr. 1992
Page 1.4-2	Sec. 3.72 1.3.2, Apr. 1992
Page 1.4-3	Sec. 3.72 1.3.3, Nov. 1989
Page 1.4-4	Sec. 3.72 1.3.4, Nov. 1989
Page 1.4-5	Sec. 3.72 1.3.5, Nov. 1989
Page 2.1-1	Sec. 3.72 2.1.1, Aug. 1987
Page 2.2-1	Sec. 3.72 2.2.1, Nov. 1992
Page 2.2-3	Sec. 3.72 2.2.2, Feb. 1989
Page 2.2-4	Sec. 3.72 2.2.3, Nov. 1992
Page 2.2-5	Sec. 3.72 2.2.4, July 1986
Page 2.2-6	Sec. 3.72 2.2.5, Nov. 1992
Page 2.2-7	Sec. 3.72 2.2.6, June 1992
Page 2.2-8	Sec. 3.72 2.2.7, June 1992
Page 2.3-1	Page 2.5-1, Aug. 1998
Page 2.4-1	Sec 3.72 2.6, Jan. 1990
Page 3.1-1	Sec. 3.72 4.1.1A, Oct. 1995
Page 3.1-2	Sec. 3.72 4.1.1B, Oct. 1992
Page 3.1-3	Page 4.1-2, Aug. 1998
Page 3.1-4	Sec. 3.72 4.1.3, July 1986
Page 3.1-5	Sec. 3.72 4.1.4, July 1986
Page 3.1-6	Sec. 3.72 4.1.5, Aug. 1987
Page 3.1-7	Sec. 3.72 4.1.7, Oct. 1995
Page 3.1-8	Sec. 3.72 4.1.8, Apr. 1991
Page 3.2-1	Sec. 3.72 4.5-1, Jan. 1999
Page 3.3-1	Sec. 3.72 4.6.1 and 4.6.2, Sept. 1990
Page 3.6-1	Sec. 3.72 4.1.6, May 1992
Page 4.1-1	Page 6.1-1, Aug. 1998
Page 4.2-1	Sec. 3.72 6.5, July 1986
Page 4.3-1	Page 6.6-1, Nov. 1998

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E7700  
**To:** Section 3.77 Concrete Pile Cap Integral End Bents  
**Date:** March 24, 2000

The following sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revisions E7200 and E7600 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### Concrete Pile Cap Integral End Bents - Section 3.77

The current Section 3.72 Concrete Pile Cap Bents has been replaced by the following three new sections:

1. Section 3.72 Concrete Pile Cap Intermediate Bents (revision E7200);
2. Section 3.76 Concrete Pile Cap Non-Integral End Bents (revision E7600) and
3. Section 3.77 Concrete Pile Cap Integral End Bents (revision E7700).

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
All	New	Entire section is new. The corresponding divider is attached.

Several revisions are listed below. Please pay special attentions to:

- 1) Use the length of 10'-0" wing wall combined with a retaining wall when wing wall length is great than 17'-0" as described in pages 1.1-1 and 1.1-2.
- 2) Use #6 @ 8" H-bar and F-bar in wing wall and wing brace, respectively, as shown on pages 1.2-1 and 3.1-3.
- 3) One half of the dead load of the approach slab shall be included in the beam and pile design as described in pages 1.2-1 and 3.1-4.
- 4) Batter Pile Table for outside piles has been revised for SPC A, B, C and D as shown on page 2.1-1.
- 5) For the classes of concrete in the end bents, a note has been added on pages 2.2-2 and 2.3-2.
- 6) For seismic intermediate wings, a 3" joint filler has been added between bottom of approach slab and top of wing as shown on pages 1.3-3, 2.5-1, 3.2-1 and 4.3-2.
- 7) 3" minimum concrete protection and cover for bottom reinforcement in end bent beam, wing wall and intermediate wing has been shown on pages 1.3-3, 3.1-1, 3.1-2, 3.1-3 and 3.2-1;
- 8) New girder chair criteria, with reaction up to 90 kips, replace the current one as shown on pages 4.1-1 and 4.1-2.

9) Page number comparison between new Sec 3.77 and old Sec 3.72 is listed below:

<u>Page number in new Section 3.77</u>	<u>Page number and last revision date in old Section 3.72</u>
Page 1.1-1	Page 1.1-1, March 1999
Page 1.2-1	Sec. 3.72 1.2.1, July 1986
Page 2.1-1	Sec. 3.72 2.1.2, Aug. 1987
Page 2.2-1	Page 2.3-1, Aug. 1998
Page 2.2-2	Page 2.3-2, Aug. 1998
Page 2.3-1	Page 2.3-3, Aug. 1998
Page 2.3-2	Page 2.3-4, Aug. 1998
Page 2.4-1	Page 2.5-1, Aug. 1998
Page 2.5-1	Page 2.5-2, Aug. 1998
Page 3.1-1	Page 4.2.1, Sept. 1996
Page 3.1-2	Page 4.2.2, Sept. 1996
Page 3.1-3	Page 4.2-3, Aug. 1998
Page 3.1-4	Sec. 3.72 4.2.5, Sept. 1991
Page 3.1-5	Sec. 3.72 4.2.6, Mar. 1991
Page 3.2-1	Sec. 3.72 4.4.2, Apr. 1991
Page 3.3-1	Sec. 3.72 4.6.1 and 4.6.2, Sept. 1990
Page 3.6-1	Sec. 3.72 4.1.6, May 1992
Page 4.1-1	Sec. 3.72 6.2.1, Oct. 1993
Page 4.1-2	Sec. 3.72 6.2.2, Oct. 1993
Page 4.2-1	Sec. 3.72 6.5, July 1986
Page 4.3-1	Page 6.6-2, Nov. 1998

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E1400

**To:** Section 1.4 Unit Stresses, Section 2.5 General Quantities, Section 3.42  
Welded Plate Girders and Section 4 Office Notes

**Date:** April 14, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Unit Stresses - Section 1.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Dec. 1987	Revised to reflect changes.
All	New	Entire section is new.

### General Quantities - Section 2.5

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-1	Aug. 1999	Revised to add pay item 202-10.29 for "Partial Removal of Culvert Concrete" as per Design Division PDM Letter No. 5, 2000.
1-2	Dec. 1999	Reprinted on back of page 1-1.
1-11	Aug. 1999	Revised pay item 712-31.00 from "Cleaning and Painting Existing Bearings" to "Cleaning and Coating Existing Bearings", deleted pay item 712-36.50 as per Design Division PDM Letter No. 5, 2000.
1-12	Aug. 1999	Revised to add pay item 715-10.01 for "Vertical Drain at End Bents" and pay item 718-10.11 for "Partial Furnishing of Superstructure" as per Design Division PDM Letter No. 5, 2000.

### Welded Plate Girders - Section 3.42

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.6-1	Nov. 1999	Reprinted to be in front of page 6.2-1.
4.6-2	Nov. 1999	Modified to correct a typographical error in Plate Girder Camber Diagram (Changed from "Line parallel to grade" to "Chord between bents").

### Office Notes - Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
H3-D2	Aug. 1999	Added new notes H3.52 and H3.55.1 to specify that shop drawings are not required for laminated neoprene bearing without sole plate.
H3-E	March 1999	Reprinted on back of page H3-D2.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E1200

**To:** Section 1.2 Loads and Section 6.2 Seismic Retrofit

**Date:** April 21, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revisions E1300 and SD001 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

The following revised sheets are to be inserted into the Bridge Manual Volume I.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Contents Page 1	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 2	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 3	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 4	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 5	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 6	Nov. 1999	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.
Contents Page 7	new	Updated bridge manual contents to reflect changes in Sections 1.2, 1.3, 1.4, 3.72. 3.76, 3.77, 6.1 and 6.2.

### Loads - Section 1.2

The current Section 1.2 Loads has been replaced by the following three new sections:

1. Section 1.2 Loads (revision E1200, includes current Section 1.2.2, 1.2.3, 1.2.5 and 1.2.6);
2. Section 6.1 Seismic Design (revision SD001, includes current Section 1.2.7) and
3. Section 6.2 Seismic Retrofit (revision E1200, includes current Section 1.2.8).

The current Section 1.2.4 Wind and Temperature Load has been moved into Section 1.3(revision E1300).

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	April 1999	Revised to reflect changes.
All	New	Entire section is new.

### Seismic Retrofit - Section 6.2

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
All	New	Entire section is new.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E1300  
**To:** Section 1.3 Distribution of Loads and  
Section 3.77 Concrete Pile Cap Integral End Bents  
**Date:** April 21, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revision E1200 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### **Distribution of Loads - Section 1.3**

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Oct. 1988	Revised to reflect changes.
All	New	Entire section is new.

### **Concrete Pile Cap Integral End Bents - Section 3.77**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-1	Mar. 2000	Revised note to provide a guidance for using girder chairs.
4.1-2	Mar. 2000	Revised note to provide a guidance for using girder chairs.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** SD001

**To:** Section 6.1 Seismic Design and  
Section 3.71 Open Concrete Intermediate Bents and Piers

**Date:** April 21, 2000

The following sheets are to be inserted into bridge manual.

This manual addendum in conjunction with revision E1200 is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### **Seismic Design - Section 6.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
All	New	Entire section is new.

### **Open Concrete Intermediate Bents and Piers - Section 3.71**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-3	Dec. 1999	Removed all details on this page and replaced with a note to refer to the page 3.1.7-6 of Section 6.1.
4.1-4	Dec. 1999	Removed all details on this page and replaced with a note to refer to the page 3.1.7-7 of Section 6.1.
4.1-5	Dec. 1999	Reprint to be in front of page 4.1-6.
4.1-6	Dec. 1999	Removed all details on this page and replaced with a note to refer to the page 3.1.7-8 of Section 6.1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3501  
**To:** Section 3.35 Expansion Device and Section 4 Office Notes  
**Date:** May 5, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs where the final design stage has not yet been started.

The details of strip seal expansion device are included in this addendum to replace flat plates for bridges with skews less than 45 degrees. Flat plate expansion devices still should be kept in the manual for use on curved bridges and large skewed structures.

This cover sheet is for information only and need not be retained.

### Expansion Device – Section 3.35

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Aug. 1999	Revised to add new subsection 3.35.1 Strip Seal Expansion Device.
1.1-1 thru 1.9-1	New	Entire subsections 3.35.1.1 through 3.35.1.9 are new for the strip seal expansion device.
3.1-1	Nov. 1998	Reprinted to be in front of page 3.2-1
3.2-1	Nov. 1998	Modified a note to specify the expansion plate anchorage location.
3.3-1	Aug. 1999	Modified a note to specify the expansion plate anchorage location and changed title format.
3.4-1	Aug. 1999	A new note has been added and changed title format.
3.4-2	Nov. 1998	A note has been modified.
3.5-1	Aug. 1999	Modified details of horizontal and vertical vent holes and welding.
3.6-1	Aug. 1999	Revised arrow heads and changed title format.
3.7-1	Aug. 1999	Revised arrow heads and changed title format.
3.8-1	Aug. 1999	Revised arrow heads, vent hole size and changed title format.
3.9-1	Aug. 1999	Revised arrow heads, added horizontal vent hole, and changed title format.
5.1-1	Aug. 1999	Reprinted.
5.2-1	Oct. 1998	Removed.
5.3-1	Aug. 1999	Changed title format.
5.4-1	Aug. 1999	Changed title format.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

### Office Notes – Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index-1	Mar. 1999	Revised index to change total page number from “6 sheets” to “7 sheets” for notes in H5.
Index-2	Mar. 1999	Reprinted on back of page Index-1.
H5-C	Sep. 1996	Revised note H5.23.1.
H5-D1	Sep. 1996	Reprinted on back of page H5-C.
H5-D2	Aug. 1999	Reprinted to be in front of page H5-E1.
H5-E1 (H5-E)	Aug. 1999	Changed page number from “H5-E” to “H5-E1”. Revised notes H5.62 and H5.62.1. Replaced note H5.63 and added another new note H5.63.1 for strip seal expansion devices. Moved note H5.65 into page H5-E2.
H5-E2	New	Added note H5.65 from page H5-E1. Added a new note H5.66 for elastomeric concrete strip seal devices.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E2403  
**To:** Section 2.4 Standard Details, Section 1.3 Distribution of Loads,  
Section 3.35 Expansion Devices and Section 4 Office Notes  
**Date:** May 15, 2000

The following revised sheet is to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Standard Details - Section 2.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
5-3	Dec. 1997	Modified details for Rock Blanket.

### Distribution of Loads - Section 1.3

<u>Page</u>	<u>Date</u>	<u>Description</u>
7-1	Apr. 2000	Corrected typographical errors for "Xi" and "Yi".
7-2	Apr. 2000	Reprinted on back of page 7-1.

### Expansion Devices - Section 3.35

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	May 2000	Corrected a typographical error for "Temperature Range".
1.1-2	May 2000	Reprinted on back of page 1.1-1.

### Office Notes - Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
A3-A	Mar. 1999	Modified note A3.3 to correct wording.
A4-A	Dec. 1999	Reprinted on back of page A3-A.
A4-B	Dec. 1999	Modified note A4.24 to correct a typographical error.
A5-A	Mar. 1999	Added a new note A5.4 with a guidance for structures having retaining walls at end bents.
H2-A	Aug. 1993	Reprinted to be in front of page H2-B1.
H2-B1	Mar. 1999	Modified note H2.10 to correct wording.

# DIVISION OF BRIDGES BRIDGE MANUAL ADDENDUM

**Revision:** E2404  
**To:** Section 2.4 Standard Details  
**Date:** June 2, 2000

The following revised sheet is to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

## **Standard Details - Section 2.4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
5-3	May 2000	Revised the notes and details for Rock Blanket.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** D9835

**To:** Section 4.0 Office Notes, Section 2.4 Standard Details,  
Section 3.71 Open Concrete Intermediate Bents and Piers,  
Section 3.72 Pile Cap Intermediate Bents,  
Section 3.77 Pile Cap Integral End Bents  
and Section 6.1 Seismic Design

**Date:** June 29, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
H2-E1	May 1998	Revised to correct a typographical error.
H2-E2	Dec. 1995	Reprinted on the back of page H2-E1.
J1-A	Sept. 1999	Reprinted to be in front of page J1-B.
J1-B	Aug. 1999	Revised note J1.16 to update the list of approved MSE wall systems.
J1-C	Aug. 1999	Revised note J1.17 to update the list of approved MSE wall systems.
J1-D	Aug. 1999	Revised note J1.18 to update the list of approved geogrids and facing units for MSE wall systems.

### Standard Details - Section 2.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
2-1	Dec. 1997	Revised to correct a typographical error.
2-2	Dec. 1997	Revised to correct note.

### Open Concrete Intermediate Bents and Piers - Section 3.71

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.5-4	Dec. 1999	Revised to correct web beam dimensions.
1.5-5	Dec. 1999	Reprinted on the back of page 1.5-4.

### Concrete Pile Cap Intermediate Bents - Section 3.72

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	March 2000	Revised to correct typographical errors.
1.2-1	March 2000	Modified format.

**Concrete Pile Cap Integral End Bents - Section 3.77**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.2-1	Mar. 2000	Revised to correct a typographical error.
1.3-1	Mar. 2000	Reprinted on the back of page 1.2-1.

**Seismic Design - Section 6.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.6.4-1	Apr. 2000	Revised to correct typographical errors.
2.6.4-2	Apr. 2000	Reprinted on the back of page 2.6.4-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3502  
**To:** Section 3.35 Expansion Device and Section 4 Office Notes  
**Date:** June 30, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs where the final design stage has not yet been started.

This cover sheet is for information only and need not be retained.

### Expansion Device – Section 3.35

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	June 2000	Reprinted to be in front of page 1.1-2.
1.1-2	May 2000	Revised strip seal design example and the tables.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2000  
**To:** Section 3.20 Box Culvert  
**Date:** July 11, 2000

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective for all jobs to be let after October 1, 2000.

This cover sheet is for information only and need not be retained.

### **Box Culvert – Section 3.20**

<u>Page</u>	<u>Date</u>	<u>Description</u>
All	New	Replace the entire section.

The major differences between the new and old sections are i) the new section uses a rigid frame analysis in place of previous analysis methods; ii) there are no corner haunches considered; iii) the design is based on the latest AASHTO codes, etc.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E2505

**To:** Section 2.5 General Quantities, Section 4 Office Notes and  
Section 5.1 State Maps

**Date:** July 18, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **General Quantities - Section 2.5**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-1	Apr. 2000	Added new pay item 202-10.27 in accordance with Design Division Development Manual Letter No. 6 dated on June 28, 2000
1-2	Apr. 2000	Reprinted on back of page 1-1.

### **Office Notes - Section 4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
A2-A	March 1999	Revised note A2.2 to correct wording.
A2-B	March 1999	Reprinted back of page A2-A.
I2-A2	Sept. 1996	Reprinted to be in front of page I2-B.
I2-B	Sept. 1996	Corrected a typographical error in note I2.15.

### **State Maps - Section 5.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
1.1-1	Jan. 1988	Updated State Outline Map and modified format.
1.1-2	Jan. 1988	Modified format.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4201  
**To:** Section 3.42 Welded Plate Girders  
**Date:** August 17, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Nov. 1999	Added a new criterion to check for min. width of both compression and tension flanges. This criterion is for preventing out-of-plane distortion of a girder during shipping and erection.
1.1-2	Nov. 1999	Reprinted on the back of page 1.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision: E3503**  
**To: Section 3.35 Expansion Device**  
**Date: August 18, 2000**

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of design stages.

This cover sheet is for information only and need not be retained.

### Expansion Device – Section 3.35

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	May 2000	Revised to add "gap=2 inches at 60 F."
1.1-2	June 2000	Revised to add "gap=2 inches at 60 F."
1.2-1	May 2000	Corrected a typographical error.
1.3-1	May 2000	Revised to correct details and added additional concrete on top of steel diaphragm.
1.3-2	May 2000	Revised to correct details and added additional concrete on top of steel diaphragm.
1.4-1	May 2000	Revised to correct details.
1.4-2	May 2000	Revised details to correct typographical errors.
1.5-1	May 2000	Reprinted on back of page 1.4-2.
1.5-2	May 2000	Revised to correct details.
1.5-3	May 2000	Reprinted on back of page 1.5-2.
1.8-9	May 2000	Reprinted to be in front of page 1.9-1.
1.9-1.	May 2000	Corrected a typographical error.
3.1-1	May 2000	Reprinted to be in front of page 3.2-1.
3.2-1	May 2000	Modified details to add "3 inches (Min.)" between the bottom of top plate and the centerline of horizontal shear stud.
3.3-1	May 2000	Modified details to add "3 inches (Min.)" between the bottom of top plate and the centerline of horizontal shear stud.
3.4-1	May 2000	Reprinted back of page 3.3-1.
4.1-1	Aug. 1999	Reprinted to be in front of page 4.3-1.
4.3-1	Aug. 1999	Modified details to add "3 inches (Min.)" between the bottom of top plate and the centerline of horizontal shear stud.
4.3-2	Aug. 1999	Modified details to add "3 inches (Min.)" between the bottom of top plate and the centerline of horizontal shear stud.
4.3-3	Dec. 1999	Modified details to add "3 inches (Min.)" between the bottom of top plate and the centerline of horizontal shear stud.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E5200  
**To:** Section 3.52 Continuous Concrete Slab Bridges  
**Date:** August 31, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Continuous Concrete Slab Bridges - Section 3.52

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several revisions are also listed below.

- 1) Use #6 @ 8" H-bar in wing wall, as shown on page 2.4-1.
- 2) Removed the substructure design and details for bridges in Seismic Performance Categories B, C & D from pages 3.1-3, 3.7-1, 3.8-2 and 3.9-1, and referred them to Section 6.1 of this Manual.
- 3) Deleted pages 3.9.4 and 3.9.5 to abandon the old design methodology for drill shafts on these pages. (Use COM624P or LPILE program for drill shaft analysis.)

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Aug. 1998	Modified to reflect the change in this revisions.
All	July 1980 thru Aug. 1998	Modified format and changed page numbers. (For example: changed the page number from page 1.1 to 1.1-1, from 1.4.1 to 1.4-1.)
1.7-1 (1.7.1)	Sept. 1990	Corrected a typographical error.
2.4-1 (2.4.1)	Aug. 1999	Changed wing wall H-bar from #6 @ 9" to #6 @ 8".
3.1-3 (1.3.3)	Feb. 1991	Removed the substructure details for bridges in SPC B, C & D and referred them to Section 6.1 of this Manual.
3.7-1 (3.7.1)	May 1991	Removed the substructure design assumptions for bridges in SPC B, C & D and referred them to Section 6.1 of this Manual.
3.8-2 (3.8.2)	May 1991	Removed the substructure design assumptions for bridges in SPC B, C & D and referred them to Section 6.1 of this Manual.
3.9-1 (3.9.1)	May 1991	Removed the pedestal pile design and details for bridges in SPC B, C & D and referred them to Section 6.1 of this Manual.
3.9.4	May 1991	Deleted.
3.9.5	May 1991	Deleted.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5500  
**To:** Section 3.55 Prestressed Concrete I-Girders, Section 4 Office Notes  
and Section 6.1 Seismic Design  
**Date:** October 16, 2000

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

The entire section except the subsections 3.55.1.9 and 3.55.3 (\*) is replaced by this Manual Addendum to upgrade it to the MicroStation format. Please keep the current subsections 3.55.1.9 and 3.55.3. Several revisions are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	June 1999	Modified format.
1.1-1A thru 1.8-7 (1.8.7)	Jan. 1975 thru Nov. 1999	Modified format and changed page numbers. (For example: changed the page number from 1.1.3 to 1.1-3.) Corrected typographical errors on pages 1.1-1B, 1.1-3, 1.1-6B, 1.1-11, 1.1-13 and 1.8-1. Corrected note for B2 bars on page 1.1-5. Corrected the values of Area, Yb and I for Beam Types 2, 3, 4 and 6 on pages 1.2-1 thru 1.8-1. Added a note on page 1.1-9.
1.1-10 thru 1.17-1 (1.17)	Mar. 1990 thru Oct. 1992	Modified format and changed page numbers. Corrected typographical errors on pages 1.10-1, 1.12-1, 1.12-2, 1.12-3, 1.12-5, 1.14-1 and 1.14-2. Updated steel designations on pages 1.10-1 and 1.14-2. Added a concentrated load Ps (due to varying slab thickness) into the girder camber calculation on page 1.12-5.
2.1-1 (2.1.1)	June 1987	Modified format and changed page number.
4.1-1 thru 4.6-1(4.6)	Sept. 1987 June 1999	Modified format and changed page numbers.
5.1-1	July 1982	Modified format and changed page number.
5.1-2	Feb. 1974	Modified format and changed page number.

(\*) The subsections 3.55.1.9 and 3.55.3.1 will remain in the current word process format. The subsections 3.55.3.2 through 3.55.3.9 have been updated to the MicroStation since June 1999 and need not be reprinted.

### **Office Notes - Section 4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-A	Supt. 1999	Reprinted to be in front of page J1-B.
J1-B	June 2000	Updated Approved MSE wall list to include SSL MSE System in note J1.16.
J1-C	June 2000	Updated Approved MSE wall list to include SSL MSE System in note J1.17.
J1-D	June 2000	Reprinted back of J1-C.

### **Seismic Design – Section 6.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.6.5-5	Apr. 2000	Corrected typographical error in the rotational stiffness equation.
2.6.5-6	Apr. 2000	Reprinted on back of page 2.6.5-5.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5600  
**To:** Section 3.56 Prestressed Concrete Double-Tee Girder,  
Section 1.2 Load, Section 3.52 Continuous Concrete Slab Bridges  
and Section 3.62 Retaining Wall  
**Date:** Nov. 15, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Prestressed Concrete Double-Tee Girder - Section 3.56**

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several corrections are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Apr. 1991	Modified format.
1.1-1 thru 1.1-11	Nov. 1984	Modified format and changed page numbers. (For example: changed the page number from 1.1.1 to 1.1-1.)
1.2-1 thru 1.7-13	Nov. 1984	Modified format and changed page numbers. Added a note on pages 1.2-1, 1.3-1, 1.4-1, 1.5-1, 1.6-1 and 1.7-1 for allowable span lengths. Corrected typographical errors on pages 1.2-1, 1.2-11 thru 1.2-13, 1.3-1, 1.3-11 thru 1.3-13, 1.4-1, 1.4-8, 1.4-11 thru 1.4-13, 1.5-1, 1.5-11 thru 1.5-13, 1.6-1, 1.6-11 thru 1.6-13 and 1.7-1, 1.7-11 thru 1.7-13.
2.1-1 thru 2.6-3	Nov. 1984	Modified format and changed page numbers. Corrected typographical errors on pages 2.1-2, 2.2-2, 2.3-2, 2.4-2, 2.5-2, 2.6-1 and 2.6-2.
3.1-1 thru 6.3-1	Nov. 1984	Modified format and changed page numbers. Added note on pages 3.1-1, 4.1-1 and 5.1-1.

### **Loads - Section 1.2**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3-1	Apr. 2000	Revised live load design criteria for box culvert.
3-2	Apr. 2000	Reprinted on back of page 3-1.

### **Continuous Concrete Slab Bridges - Section 3.52**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Aug. 2000	Corrected a typographical error in the table.
1.2-1	Aug. 2000	Reprinted on back of page 1.1-1.
4.1 -1	Aug. 2000	Corrected details in "Slab Depth 16" or More".

### **Retaining Wall - Section 3.62**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-3	Dec. 1998	Revised note to specify using approved resin anchor system for MSE wall.
2.2-4	Dec. 1998	Reprinted on back of page 2.2-3.

# DIVISION OF BRIDGE BRIDGE MANUAL ADDENDUM

**Revision:** D3107  
**To:** Section 3.31 Bearings  
**Date:** Nov. 30, 2000

The following revised sheets are to be inserted into bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

## **Bearings - Section 3.31**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	July 1999	Reprinted to be in front of page 2.1-2.
2.1-2	July 1999	Modified wording and corrected typographical error in the rotational requirement.
2.1-3	July 1999	Modified wording in note for rotation requirement Table of $\theta$ m, x.
2.1-4	July 1999	Reprinted on back of page 2.1-3.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4202  
**To:** Section 3.42 Welded Plate Girders  
**Date:** December 18, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.2-1	Nov. 1999	Corrected detail of the horizontal angle in "Int. Diaphragm or Cross Frame over 42" Plate Girder".
3.2-2	Nov. 1999	Reprinted on the back of page 3.2-1.

# DIVISION OF BRIDGEBRIDGE MANUAL ADDENDUM

**Revision:** E7500  
**To:** Section 3.75 Concrete Semi-Deep Abutment and Section 1.2 Loads  
**Date:** Dec. 26, 2000

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

## Concrete Semi-Deep Abutment - Section 3.75

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several revisions are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	July 1987	Modified format and revised to reflect changes of this manual addendum.
All	July 1987	Modified format and changed page numbers. (For example: changed the page number from 1.1.1 to 1.1-1.)
1.1-1	July 1987	Updated design unit stresses and earthquake loads design criteria.
1.2-1	July 1987	Updated earthquake loads design criteria.
1.3-1	July 1987	Revised pile design assumption and added one half of the dead load of the approach slab for designing piles under approach beam. Added note for piles in SPC B, C and D.
2.2-1	July 1987	Changed the size of access door from 2'-6" x 2'-6" to 3'-0" x 3'-0". Added a horizontal dimension of 2'-0"(Min.) from front of apron in "Elevation of Wing".
2.2-2	Dec. 1991	Revised details to eliminate 16" piles.
2.2-3	Dec. 1991	Added a note for 2'-0"(Min.) from ground line to front of toe.
2.3-1	June 1990	Revised details to add 2% cross-slope and changed height of the back of safety barrier curb from 2'-8 1/4" to 2'-8 3/8".
2.3.2	June 1990	Deleted this page to eliminate 20" safety barrier curb.
3.1-1	Aug. 1998	Corrected a typographical error.
3.1-2	Sept. 1999	Added 3" minimum concrete protection for bottom reinforcement in bearing beam and approach beam.
3.1-3	Sept. 1999	Added a table for approach beam reinforcements. Revised note to specify that all reinforcement in abutment slab and bearing beam need to be epoxy coated.
3.2-1	Dec. 1991	Updated reinforcement of safety barrier curb on wing wall (from R-bars to K-bars).
3.2-2	New	New reinforcement details for skewed bridge.
3.3-2	July 1987	Added 3" minimum concrete protection for bottom reinforcement in bearing beam.
3.4-1	July 1987	Updated details of 16" safety barrier curb on abutment slab and eliminated 20" safety barrier curb.
4.1-1	July 1987	Added note for CIP piles in SPC B, C and D.
4.2-1	July 1987	Changed the size of access door from 2'-6" x 2'-6" to 3'-0" x 3'-0".

## Loads - Section 1.2

<u>Page</u>	<u>Date</u>	<u>Description</u>
3-1	Nov. 2000	Corrected live load design criteria for Alternate Military loading.
3-2	Apr. 2000	Reprinted on back of page 3-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5501  
**To:** Section 3.55 Prestressed Concrete I-Girders, Section 3.31 Bearings,  
Section 3.35 Expansion Devices, Section 3.42 Welded Plate Girders,  
Section 3.71 Open Concrete Intermediate Bents, Section 3.76 Concrete Pile Cap  
Non-Integral End Bents, Section 3.77 Concrete Pile Cap Integral End Bents and  
Section 4 Office Notes  
**Date:** December 29, 2000

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.7-3	June 1999	Reprinted to be in front of page 3.8-1.
3.8-1	June 1999	Revised to correct typographical errors.
3.8-2	June 1999	Revised to correct typographical error.
3.8-3	June 1999	Revised to correct typographical errors.

### **Bearings - Section 3.31**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-3	Nov. 2000	Reprinted to be in front of page 2.1-4.
2.1-4	July 1999	Revised to correct wording and dimensions for "Bearing Taper".

### **Expansion Devices - Section 3.35**

<u>Page</u>	<u>Date</u>	<u>Description</u>
5.3-1	May 2000	Reprinted to be in front of page 5.3-1.
5.4-1	May 2000	Revised protective coating note to remove the coating exception at roadway crossings.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1-1	Nov. 1999	Reprinted to be in the front of page 3.1-2.
3.1-2	Nov. 1999	Corrected typographical error in end diaphragm for plate girder over 48".

### **Concrete Pile Cap Integral End Bents - Section 3.71**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.4-1	Dec. 1999	Reprinted to be in front of page 1.5-1
1.5-1	Dec. 1999	Removed a paragraph under the subtitle "Number of Column".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

### Concrete Pile Cap Integral End Bents - Section 3.76

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-2	Mar. 2000	Revised to correct the end pile edge distance.
2.2-3	Mar. 2000	Reprinted back of page 2.2-2.
3.1-3	Mar. 2000	Revised to correct typographical errors in Typical Elevation of Wing and Section A –A.
3.1-4	Mar. 2000	Reprinted back of page 3.1-3.

### Concrete Pile Cap Integral End Bents - Section 3.77

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Mar. 2000	Reprinted to be in front of page 2.2-1.
2.2-1	Mar. 2000	Revised to add 2'-0" (Max.) from the centerline of pile to the end of beam.
2.2-2	Mar. 2000	Reprinted to be in front of page 2.3-1.
2.3-1	Mar. 2000	Revised to add 2'-0" (Max.) from the centerline of pile to the end of beam.

### Office Notes – Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index-1	May 2000	Revised to reflect changes of this manual addendum.
Index-2	Mar. 1999	Reprinted on back of page Index-1.
E4-A	Aug. 1995	Revised note E4.1 to eliminate precast concrete piles.
E4-B	Sept. 1996	Revised note E4.6 and deleted notes E4.7 and E4.8 to eliminate precast concrete and timber piles.
E4-C	Aug. 1995	Reprinted.
(E4-D)	Aug. 1995	Deleted notes E4.14, E4.15 and E4.16 to eliminate timber piles. Deleted this page.
E5-A	Aug. 1998	Revised to correct typographical error.
E5-B	Mar. 1999	Revised to correct typographical error.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** E2506

**To:** Section 2.5 General Quantities and Section 4 Office Notes

**Date:** January 11, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **General Quantities - Section 2.5**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-7	Aug. 1999	Revised the description for pay item 703-70.28A in accordance with Design Division Project Development Manual Letter No. 1 dated on Jan. 3, 2001.
1-8	Aug. 1999	Reprinted on back of page 1-7.

### **Office Notes - Section 4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
A1-A	Sept. 1999	Modified note A1.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 1999".
A1-B	Sept. 1996	Reprinted on back of page A1-A.
H9-A1	Sept. 1999	Modified note H9.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 1999".
H9-A2	Sept. 1996	Reprinted on back of page H9-A1.
I1-C	Oct. 1998	Reprinted to be in front of page I2-A1.
I2-A1	Sept. 1999	Modified note I2.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 1999".
J1-A	Sept. 1999	Modified note J1.2 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 1999".
J1-B	Oct. 2000	Reprinted on back of page J1-A.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

Revision: E4203  
 To: Section 3.42 Welded Plate Girders and Section 4 Office Notes  
 Date: January 22, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Welded Plate Girders - Section 3.42

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Nov. 1999	Revised note to be in accordance of AASHTO 10.19.3.2 design specifications.
2.1-2	Nov. 1999	Reprinted on the back of page 2.1-1.
3.2-1	Nov. 1999	Revised note to be in accordance of AASHTO 10.19.3.2 design specifications and changed dimension.
3.2-2	Nov. 1999	Revised detail of connection angle to include cross frames.

### Office Notes - Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
E5-A	Dec. 2000	Reprinted on the front of page E5-B.
E5-B	Dec. 2000	Revised note E5.5 to include description for **.
H1-E	June 1996	Added note H1.40.1 for angle connections on vertical curve structures.
H2-G2	Aug. 1995	Reprinted on the front of page H3-A.
H3-A	Mar. 1999	Deleted part of note H3.2 and H3.7 pertaining to galvanized anchor bolts.
H3-B	Mar. 1999	Deleted part of note H3.16 pertaining to galvanized anchor bolts.
H3-C1	Mar. 1999	Deleted note H3.26.1 and part of note H3.26 pertaining to galvanized anchor bolts.
H3-C2	Dec. 1998	Reprinted on the front of page H3-D1.
H3-D1	Mar. 1999	Deleted note H3.46.1 and part of note H3.46 pertaining to galvanized anchor bolts.
H3-D2	April 2000	Deleted part of note H3.57 pertaining to galvanized anchor bolts.
H3-E	Mar. 1999	Reprinted on the back of page H3-D2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7601  
**To:** Section 3.76 Concrete Pile Cap Non-Integral End Bents and  
Section 3.77 Concrete Pile Cap Integral End Bents  
**Date:** January 31, 2000

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Concrete Pile Cap Non-Integral End Bents - Section 3.76**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-3	Mar. 2000	Modified the reinforcement detail in "Detail B".
1.2-1	Mar. 2000	Corrected typographical error in "(2) Wing and Backwall".
3.1-3	Dec. 2000	Modified details to correct typographical errors in "Typical Elevation of Wing" and "Horizontal Section thru Wing".
3.1-4	Mar. 2000	Reprinted back of page 3.1-3.
3.1-7	Mar. 2000	Corrected typographical errors in the table of "V-Bar Size and Spacing". Corrected a note related to epoxy coated reinforcing steel at end bents.
3.1-8	Mar. 2000	Reprinted back of page 3.1-7.

### **Concrete Pile Cap Integral End Bents - Section 3.77**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Mar. 2000	Reprinted to be in front of page 1.1-2.
1.1-2	Mar. 2000	Corrected the reinforcement details in "Section B-B".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4204  
**To:** Section 3.42 Welded Plate Girders  
**Date:** February 13, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Jan. 2001	Revised note to include instructions to "Grind to Bear" for curved girders.
2.1-2	Nov. 1999	Reprinted on the back of page 2.1-1.

# DIVISION OF BRIDGES

## BRIDGE MANUAL ADDENDUM

**Revision:** D9836  
**To:** Section 4.0 Office Notes  
**Date:** March 8, 2001

The following revised sheets are to be inserted into bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

<u>Page</u>	<u>Date</u>	<u>Description</u>
H1-C	Sept. 1998	Corrected typographical error in Note H1.19.
H1-D	June 1996	Reprinted on back of page H1-C.
H1-E	Jan. 2001	Corrected typographical errors in Notes H1.36, H1.38 and H1.39.
H1-F	New	Added a new note H1.42 for steel structure with stage construction or widening.
H2-D1	May 1998	Reprinted to be in front of page H2-D2.
H2-D2	Dec. 1995	Corrected typographical errors in the subtitle.
H2-F	Sept. 1992	Corrected typographical error in Note H2.61.
H2-G1	Sept. 1996	Reprinted on back of page H2-F.
H4-A1	Jan. 1996	Corrected typographical error in Note H4.2.
H4-A2	Jan. 1996	Reprinted on back of page H4-A1.
H5-D2	Aug. 1999	Corrected typographical error in Note H5.38.
H5-E1	May 2000	Reprinted on back of page H5-D2.
H5-E2	May 2000	Corrected wording in the guidance for Note H5.65.
H10-A2	Sept. 1996	Corrected typographical error in the subtitle.
H10-B1	May 1998	Corrected typographical error in the subtitle.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2507  
**To:** Section 2.5 General Quantities, Section 3.52 Continuous Concrete Slab Bridges, Section 3.76 Concrete Pile Cap Non-Integral End Bents, Section 3.77 Concrete Pile Cap Integral End Bents and Section 4 Office Notes  
**Date:** March 30, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### General Quantities - Section 2.5

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	July 2000	Reprinted to be in front of page 1.1-2.
1.1-2	Apr. 2000	Revised the note for pay items Excavation in Rock.

### Continuous Concrete Slab Bridges - Section 3.52

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Aug. 2000	Modified the note for slope of spill fill at bridge abutment.
2.1-2	Aug. 2000	Reprinted on back of page 2.1-1.

### Concrete Pile Cap Non-Integral End Bents - Section 3.76

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Mar. 2000	Reprinted to be in front of page 2.2-1.
2.2-1	Mar. 2000	Modified the note for slope of spill fill at bridge abutment.

### Concrete Pile Cap Integral End Bents - Section 3.77

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-2	Mar. 2000	Modified the note for slope of spill fill at bridge abutment.
2.3-1	Dec. 2000	Reprinted on back of page 2.2-2.
2.3-2	Mar. 2000	Modified the note for slope of spill fill at bridge abutment.
2.4-1	Mar. 2000	Reprinted on back of page 2.3-2.

### Office Notes – Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
B1-A	June 1997	Reprinted to be in front of page B1-B.
B1-B	Mar. 2000	Revised wording in the guidance for note B1.10.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9837  
**To:** Section 4.0 Office Notes  
**Date:** April 6, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective for bid openings 06/2001 and later to coincide with Job Special Provision BSP-115F Mechanically Stabilized Earth Wall Systems, which is applicable for bid openings 06/2001 and later.

This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-A	Jan. 2001	Reprinted to be in front of page J1-B.
J1-B	Oct. 2000	Revised approved wall system manufacturer name to Foster Geotechnical to match Job Special Provision BSP-115F. Corrected typographical error.
J1-C	Oct. 2000	Revised approved wall system manufacturer name to Foster Geotechnical to match Job Special Provision BSP-115F.
J1-D	Jun. 2000	Reprinted to be on back of page J1-C.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7101  
**To:** Contents, Section 3.71 Open Concrete Intermediate Bents and Piers, Section 3.75 Concrete Semi-Deep Abutment and Piers and Section 4 Office Notes  
**Date:** April 6, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### Contents (\*)

<u>Page</u>	<u>Date</u>	<u>Description</u>
All	April 2000	Updated the contents in Sections 3.20 and 3.35.

### Open Concrete Intermediate Bents and Piers - Section 3.71

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Dec. 1999	Modified to reflect the change in this revision.
1.1-1	Dec. 1999	Revised the footnote to specify that use $w=150$ pcf for computing Ec.
1-2-1	Dec. 1999	Reprinted back of page 1.1-1.
3.2-2	Dec. 1999	Reprinted to be in front of page 3.3-1.
3.3-1	New	New details to provide an optional conjunction between column and web beam (or tie beam) requested by AGC annual meeting.
5.1-1	Dec. 1999	Reprinted to be in front of page 5.1-2.
5.1-2	Dec. 1999	Corrected typographical error in "Shear Line".

### Concrete Semi-Deep Abutments - Section 3.75

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1-1	Dec. 2000	Corrected details in "Abutment Elevation of Wing".
3.1-2	Dec. 2000	Reprinted on back of page 3.1-1.

### Office Notes - Section 4

<u>Page</u>	<u>Date</u>	<u>Description</u>
G1-C	May 1993	Reprinted to be in front of page G1-D.
G1-D	Dec. 1999	Added a new note G1.42 for optional cross-section at intermediate bents.

(\*) The Contents Section is only for the internal MoDOT Bridge Office Manual. The Contents revision does not involve the electronic version of the MoDOT Bridge Design Manual.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** SD002  
**To:** Section 6.1 Seismic Design  
**Date:** April 23, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Seismic Design - Section 6.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-5	Apr. 2000	Corrected a typographical error in Figure 6.1.1-2.
1.1-6	Apr. 2000	Reprinted on back of page 1.1-5.
2.6.4-11	Apr. 2000	Corrected the unit for torsional stiffness (changed from kip-in./in. to kips-in./rad.)
2.6.4-12	Apr. 2000	Reprinted on back of page 2.6.4-11.
3.1-1	Apr. 2000	Reprinted to be in front of page 3.1.1-1.
3.1.1-1	Apr. 2000	Corrected a typographical error in "Horizontal Seismic Force".
3.1.7-16	Apr. 2000	Reprinted to be in front of page 3.1.7-17.
3.1.7-17	Apr. 2000	Corrected a typographical error in Figure 6.1.3.1.7-11.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5502  
**To:** Section 3.55 Prestressed Concrete I-Girders, Section 3.50 Concrete Deck Girders  
and Section 3.53 Concrete Box Girders  
**Date:** April 26, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.2-1	June 1999	Corrected the details in Part Elevation for Bulb Tee Girders at Open Intermediate Diaphragms.
3.2-2	June 1999	Added new coil tie details for Bulb Tee Girders at Open Intermediate Diaphragms.
3.2-3	June 1999	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders at Open Intermediate Diaphragms.
3.3-1	June 1999	Reprinted on back of page 3.2-3.
3.5-2	June 1999	Reprinted to be in front of page 3.6-1.
3.6-1	June 1999	Corrected the details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with no expansion device).
3.6-2	June 1999	Added new coil tie details for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with no expansion device).
3.6-3	June 1999	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with no expansion device).
3.7-1	June 1999	Corrected the details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with expansion device).
3.7-2	June 1999	Added new coil tie details for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with expansion device).
3.7-3	June 1999	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral End Bents (with expansion device).
3.8-1	Dec. 2000	Corrected the details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral Intermediate Bents (with expansion device).
3.8-2	Dec. 2000	Added new coil tie details for Bulb Tee Girders End Diaphragms at Non-Integral Intermediate Bents (with expansion device).
3.8-3	Dec. 2000	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders End Diaphragms at Non-Integral Intermediate Bents (with expansion device).

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

### Concrete Deck Girders - Section 3.50

The entire section is replaced by this Manual Addendum to upgrade it to the Microsoft Word format only. No any updated information related to design criteria or details has been implemented into the section by this revision.

<u>Page</u>	<u>Date</u>	<u>Description</u>
All	Feb. 1980	Modified format and changed page numbers. (For example: changed the page number from 1.1 to 1.1-1.)

### Concrete Box Girders - Section 3.53

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format only. No any updated information related to design criteria or details has been implemented into the section by this revision.

<u>Page</u>	<u>Date</u>	<u>Description</u>
All	Apr. 1973	Modified format and changed page numbers. (For example: changed the page number from 1.1 to 1.1-1.)

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** HD002  
**To:** Section 8.2 Hydraulic Design  
**Date:** May 4, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### Hydraulic Design - Section 8.2

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.7-1	Nov. 1999	Reprinted to be in front of page 1.8-1.
1.8-1	Nov. 1999	Added guidance about bottom footing elevation calculation for the stream crossings.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D4101  
**To:** Section 3.41 Wide Flange Beam Spans and Section 3.42 Welded Plate Girder  
**Date:** May 17, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Wide Flange Beams – Section 3.41

<u>Page</u>	<u>Date</u>	<u>Description</u>
i-1	Jan. 1990	Reformatted to MicroStation.
1.6-1	Jan. 1990	Reformatted to MicroStation and changed details on figure to show connection angle information.
1.6-2	Feb. 1974	Reformatted to MicroStation.
2.1-3	Mar. 1992	Reformatted to MicroStation and removed “Grind to Bear” on the bearing stiffener connection detail.
2.1-4	Jan. 1990	Reformatted to MicroStation and corrected connection details and notes on figure.
2.1-5	Jan. 1990	Reformatted to MicroStation and corrected connection details and notes on figure.
3.2-1	Oct. 1991	Reformatted to MicroStation and changed details on figure to show connection angle information.
3.2-2	Jan. 1997	Reformatted to MicroStation.

### Welded Plate Girder – Section 3.42

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Feb. 2001	Added note to show when to “Grind to Bear” or “Tight Fit” for bearing stiffeners.
2.1-2	Nov. 1999	Reprinted on the back of page 2.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3000  
**To:** Section 3.30 General Superstructure  
**Date:** May 21, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several revisions and corrections are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Nov. 1999	Modified to reflect the change in this revision.
All		Modified format and changed page numbers. (For example: changed the page number from 1.6.1 to 1.6-1.)
1.2-1	Sept. 1992	Revised variable in collision load. Use "y" instead of "x".
1.2-2	April 1999	Added note regarding live load on simply supported Prestressed Panels.
1.2-3	June 1998	Revised the slab reinforcement in "Section Thru Cantilever".
1.2-5	June 1998	Revised the slab reinforcement in "Section Thru Cantilever".
1.4-1 thru 1.4-9	Nov. 1999	Reprinted (no changes).
1.5-1	Jan 1981	Revised table for Resisting Moment (Eliminated 8" slab).
1.5-2	Jan.1981	Revised table for Resisting Moment (Eliminated 8" slab).
1.6-2	Aug. 1989	Added drawings depicting use of off-set construction joint for pouring concrete slab with Transverse Construction Joint.
1.6-5 thru 1.6-8	Sept. 1992	Added note to table "Sequence of Pours" regarding the use of Retarder.
3.1-1	Aug. 1985	Deleted Reliance Company from the tables for steel grid bridge flooring. Updated steel designation in the Table (For example: changed "A36" to "ASTM A709 Grade 36").
3.1-2	Aug. 1985	Deleted Reliance Company from the details for steel grid bridge flooring.
3.1-3	Aug. 1985	Moved the Foster Standard details to page 3.1-2 and eliminated page 3.1-3.
4.2-1 thru 4.2-3	Apr. 1998	Added detail for alternate rebar shape in slab overhang and safety barrier curb. Corrected note for #5 bar splice length. Deleted 20" Safety Barrier Curb details from pages 4.2-1 and 4.2-2.
4.2.4 thru 4.2-15	July 1998	Deleted the pages (the details shown for the projects let before Oct. 1998).

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.2A-1 thru 4.2A-9	July 1987	Removed the notes (about using the details for the projects let after Oct. 1998) from the pages. Added detail for alternate rebar shape in slab overhang and safety barrier curb on page 4.2A-9.
4.4-2	Apr. 1998	Added a detail for alternate rebar shape in slab overhang and safety barrier curb.
4.4-4	Mar. 1987	Deleted.
4.5-2	Apr. 1990	Revised and made content more clear.
4.6-1	July 1998	Deleted the page (the details shown for the projects let before Oct. 1998).
4.6-2	July 1998	Deleted the page (the details shown for the projects let before Oct. 1998).
4.6A-1	July 1987	Removed the note (about using the details for the projects let after Oct. 1998) from the page.
4.7-1 thru 4.7-3	Mar. 1996	Modified format to upgrade it to the MicroStation format.
4.7-10	Sept. 1995	Revised notes for Rock Blanket and slope of spill fill at bridge abutments.
4.8-1	Aug. 1985	Modified anchorage and rebar details.
4.9-1	Aug. 1985	Deleted.
4.10-1	Mar. 1991	Revised details in "Continuous Structures".
4.10-2	Mar. 1991	Added note and revised details in "Continuous Structures".
5.1.1 thru 5.1.4	Jan. 1977	Deleted.
6.1-1 thru 6.1-6	Nov. 1991	Revised Thrie Beam Bridge Rail connection design and details. Rearranged the details and added new thrie beam rail post connection to slab and new rail post channel member details.
6.1-7	New	
6.1-8	New	
6.2	Nov. 1991	Deleted.
7.1-1	Jan. 1996	Modified format to upgrade it to the MicroStation format. Revised requirements for placing conduit in safety barrier curb and size of junction boxes.
7.1-2	Jan. 1996	Revised the notes in "Section of Conduit in Barrier Curb" and "Section of Multiple Conduit in Barrier Curb".
9.2.1 thru 9.2.4	Oct. 1973	Deleted.
9.3.1 thru 9.3.7	Jan. 1977	Deleted.
10.1-4	May 1989	Added a note in "Details at Expansion Device".
10.1-5	New	New details for 112" Curved Top Pedestrian Fence.
10.1-6	New	New details for 112" Curved Top Pedestrian Fence

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5503  
**To:** Section 3.55 Prestressed Concrete I-Girders, Section 3.42 Welded Plate Girders  
Section 2.4 Standard Details and Section 4.0 Office Notes  
**Date:** May 25, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.12-5	Oct. 2000	Revised to correct camber equations.
1.13-1	Oct. 2000	Reprinted on back of page 1.12-5.
3.1-3	Mar. 1999	Revised to correct details in "Integral End Bent".
3.1-4	Jan. 1997	Reprinted on back of page 3.1-3.
3.3-2	June 1999	Reprinted to be in front of page 3.3-3
3.3-3	June 1999	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders at Closed Intermediate Diaphragms (square structures).
3.3-4	June 1999	Corrected the reinforcement details in Part Elevation for Bulb Tee Girders at Closed Intermediate Diaphragms (skewed structures).
3.3-5	June 1999	Reprinted on back of page 3.3-4.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.3-3	Nov. 1999	Reprinted to be in front of page 2.3-4.
2.3-4	Nov. 1999	Revised wording to specify "point of DL1 contra-flexure" (in "Assumption 2").

### **Standard Details - Section 2.4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
12-1	Dec. 1997	Revised wording to specify "DL1 contra-flexural point" in the figure.
12-2	Dec. 1997	Revised details to correct the plate size in the examples.

### **Office Notes - Section 4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
H10-C2	Nov. 1999	Reprinted to be in front of page H10-D.
H10-D	Sept. 1992	Added a new note H10.83 for Safety Barrier Curb with slip-form option.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9838  
**To:** Section 4.0 Office Notes  
**Date:** May 25, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective for bid openings 09/2001 and later to coincide with Job Special Provision BSP-115G Mechanically Stabilized Earth Wall Systems, which is applicable for bid openings 09/2001 and later.

This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-A	Jan. 2001	Reprinted to be in front of page J1-B.
J1-B	Apr. 2001	Revised approved wall system names in Note J1.16 to be consistent with Job Special Provision BSP-115G.
J1-C	Apr. 2001	Revised approved wall system names in Note J1.17 to be consistent with Job Special Provision BSP-115G.
J1-D	Jun. 2000	Revised approved geogrid and facing unit names in Note J1.18 to be consistent with Job Special Provision BSP-115G. Added recently approved Versa-Lok Square Foot Unit and Versa-Grid VG 8.0.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5504  
**To:** Section 3.55 Prestressed Concrete I-Girders  
**Date:** July 18, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.16-1	Oct. 2000	Reprinted to be in front of page 1.16-2.
1.17-1	Oct. 2000	Revised the Dimensional Tolerances Table for P/S concrete I-Girder in accordance with Section 705.5 of Missouri Standard Specifications.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4205  
**To:** Section 3.42 Welded Plate Girders  
**Date:** July 19, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-17	Nov. 1999	Reprinted to be in front of page 2.2-18.
2.2-18	Nov. 1999	Revised title to refer to Grade 50 Flanges, Grade 36 Splice.
2.2-19	Nov. 1999	Revised title to refer to 12" thru 13" flange plate sizes (2 rows of bolts).
2.2-20	Nov. 1999	Revised title to refer to 14" thru 15" flange plate sizes (4 rows of bolts).

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2405  
**To:** Section 2.4 Standard Details  
**Date:** July 23, 2001

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Standard Details – Section 2.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-1	Jan. 1998	Reprinted to be in front of page 1-2.
1-2	Dec. 1997	Added a minimum vertical clearance of 15'-6" for bridges in commercial zones.
10-3	Dec. 1997	Reprinted to be in front of page 10-3.
10-4	Dec. 1997	Corrected a typographical error.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9839  
**To:** Section 3.76 Concrete Pile Cap Non-Integral End Bents,  
Section 3.77 Concrete Integral End Bents, 4.0 Office Notes and  
Section 6.1 Seismic Design  
**Date:** July 27, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Non-Integral End Bents - Section 3.76

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Mar. 2000	Reprinted to be in front of page 1.1-2.
1.1-2	Mar. 2000	Changed the subtitle from "Wing with Retaining Wall" to "Wing with Detached Wing Wall". Revised the notes for detached wing walls.
1.1-3	Jan. 2001	Changed the subtitle from "Wing with Retaining Wall" to "Wing with Detached Wing Wall". Revised the notes for detached wing walls.
1.2-1	Jan. 2001	Corrected a typographical error in "Vertical Loads".

### Integral End Bents - Section 3.77

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Mar. 2000	Changed the subtitle from "Wing with Retaining Wall" to "Wing with Detached Wing Wall" and revised wording in "Wing with Detached Wing Wall".
1.1-2	Jan. 2001	Changed "Wing with Retaining Wall" to "Wing with Detached Wing Wall". Added a note for detached wing wall.
3.1-5	Mar. 2000	Printed to be in front of page 3.2-1.
3.2-1	Mar. 2000	Corrected a typographical error in the note for Approach Slab.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index-1	Dec. 2000	Revised to reflect the changes of this manual addendum.
Index-2	Mar. 1999	Reprinted back of page Index-1.
A4-B	May 2000	Reprinted to be in front of page A5-A.
A5-A	May 2000	Revised note A5.4 to clarify the pay items for detached wing walls.
B1-A	June 1997	Revised notes B1.1 thru B1.5.2: 1/ Improved description of when to use these notes; 2/ Added detached wing wall provision; 3/ Added Bulb-Tee Girder as a choicer. Added new notes B1.5.3 and B1.5.4 for Non-Integral End Bent with concrete diaphragms.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
B1-B	Mar. 2001	Added new notes B1.9.1 thru B1.9.6 for continuous concrete slab bridges. Moved notes B1.10 thru B1.14 to page B1-C.
B1-C	New	Added notes B1.10 thru B1.14 from page B1-B.
B2-A	Sept. 1996	Reprinted to be in back of page B1-C.
B3-A	May 1998	Corrected a typographical error in note B3.6.
B3-B1	June 1997	Revised notes B3.8A and B3.9 to include Bulb-Tee Girders.
B3-B2	Mar. 1999	Revised notes B3.13 and B3.15 to include Bulb-Tee Girders.
B3-C	Mar. 1991	Added a new note B3.18.1 for Bulb-Tee Girder.
B3-D	Nov. 1997	Reprinted.
E1-A	Mar. 1999	Reprinted to be in front of page E2-A.
E2-A	Mar. 1999	Revised Footing Data Table in note E2.1 to include detached wing wall.
E3-A	Aug. 1995	Revised Pile Data Table in note E3.1 to include detached wing wall.
E3-B	Sept. 1996	Revised Pile & Footing Data Table in note E3.5 to include detached wing wall.
E4-A	Dec. 2000	Revised Pile Data Table in note E4.1 to include detached wing wall.
E4-B	Dec. 2000	Revised Pile Data Table in note E4.6 to include detached wing wall.
G1-A	July 1988	Added new note G1.1.1 for Non-Integral End Bent with expansion device. Added new note G1.8.1 for epoxy coat bars in detached wing wall.
G1-B	June 1997	Reprinted on back of page G1-A.
G1-C	May 1993	Corrected a typographical error in note G1.30.
G1-D	April 2001	Reprinted on back of page G1-C.

#### Seismic Design - Section 6.1

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1.7-6	Apr. 2000	Corrected a typographical error in "Part Elevation".
3.1.7-7	Apr. 2000	Corrected a typographical error in "Seismic Spiral Bar or Wire Details"

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E9000  
**To:** Section 3.30 General Superstructure, Section 3.90 Widening and Repair and Section 4.0 Office Notes  
**Date:** July 31, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
6.1-1	May 2001	Revised details in "Part Section at End Bent".
6.1-2	May 2001	Revised details in "Part Section thru Slab".
6.1-3	May 2001	Modified the page title and revised details in "Part Section thru Slab"
6.1-4	May 2001	Modified the page title.
6.1-5	May 2001	Corrected typographical error in the details.
6.1-6	May 2001	Corrected typographical error in the details.
6.1-7	May 2001	Corrected typographical error in the details.
6.1-8	May 2001	Corrected typographical error in the details.

### Widening and Repair - Section 3.90

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several revisions and corrections are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Oct. 1997	Modified to reflect the change in this revision.
All		Modified format and changed page numbers. (For example: changed the page number from 1.1 to 1.1-1.)
1.1-1	Jan. 1988	Removed "Type A" from Asphaltic Concrete as per Section 4 note B3.20.
1.4-2	Feb. 1997	Corrected details in "Typical Section thru Existing Slabs".
1.5-2	Oct. 1995	Revised note for Seal Coat to refer to Section 409 of Missouri Standard Specifications.
1.6-1	Oct. 1997	Revised to add a note about minimum of 2'-0" from temporary traffic control device to the work area for work zone safety.
2.1-1	Feb. 1997	Revised note for replacement of expansion device and adjacent concrete as per Section 4 note I1.14.
3.1-1	Jan. 1988	Revised safety barrier curb details in "Section thru Wing (Non-Integral End Bent)" and "Section thru Slab" as per Section 3.30.4.
3.1-2	Jan. 1988	Revised safety barrier curb details in "Section thru Wing (Integral End Bent)" and "Section thru Slab" as per Section 3.30.4.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

#### Widening and Repair - Section 3.90

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.2-1	Jan. 1988	Revised safety barrier curb details in "Section thru Curb (curb on slab)" as per Section 3.30.4.
3.2-2	Jan. 1988	Revised safety barrier curb details in "Section thru Curb (curb on wing)" as per Section 3.30.4.
3.2-3	Aug. 1990	Revised safety barrier curb details at end of wing (Integral End Bent) as per Section 3.30.4.
3.2-4	Aug. 1990	Revised safety barrier curb details at end of wing (Non-Integral End Bent) as per Section 3.30.4.
3.2.5	Aug. 1990	Deleted (All details are included in page 3.2-4).
3.3-1 thru 3.3-10	New	New Their Beam Rail details to replace existing pages 3.3.1 thru 3.3.4 dated on Aug. 1990.
3.4	Jan 1988	Deleted.
4.1-1 thru 4.1-7	Jan.1988	Revised slab drain details as per Section 3.30.4.7 and updated notes (changed steel designations from "A36" to "ASTM A709 Grade 36").

#### Office Notes – Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
H9-A1	Jan. 2001	Revised notes H9.5 and H9.8 for Thrie Beam Rail.
H9-A2	Jan. 2001	Revised notes H9.12 and H9.15 for Thrie Beam Rail. Deleted notes H9.13 and H9.14.
I1-C	Oct. 1998	Reprinted to be in front of page I2-A1.
I2-A1	Jan. 2001	Revised notes I2.5 and I2.7for Thrie Beam Rail.
I2-A2	Sept. 1996	Revised notes I2.11 and I2.12 for Thrie Beam Rail.
I2-B	July 2000	Reprinted on back of page I2-A2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2508  
**To:** Section 2.5 General Quantities and Section 2.4 Standard Details  
**Date:** Aug. 6, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### General Quantities - Section 2.5

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-1 thru 1-12	July 2000	Upgraded to the Microsoft Word format. Reprinted all pay items and marked some of the items with light gray shading to indicate these items to be used as approved by Review Section only.
1-10	June 1997	Added new pay item 712-11.26 for "Fabricated Structural Low Alloy Steel (Plate Girder) A709M Grade HPS70W" as per Design Division Project Development Manual Letter No. 6 dated on June 29, 2001.

### Standard Details - Section 2.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-1	Jan. 1998	Upgraded to the Microsoft Word format and reprinted with minor corrections.
1-2	July 2001	Upgraded to the Microsoft Word format and revised vertical clearances table to remove the obsolete 26'-0" clearance for electrical powered railroad as per Design Division Development Manual Letter No.5 dated on June 29, 2001.
1-3	Dec. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3504  
**To:** Section 3.35 Expansion Device  
**Date:** August 9, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of design stages.

This cover sheet is for information only and need not be retained.

### Expansion Device – Section 3.35

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-1	Aug. 1999	Reprinted to be in front of page 4.3-1.
4.3-1	Aug. 2000	Added note regarding non-standard finger plate design at end bents.
4.3-2	Aug. 2000	Added note regarding non-standard finger plate design for P/S girder bridges at intermediate bents.
4.3-3	Aug. 2000	Added note regarding non-standard finger plate design for P/S girder bridges at intermediate bents.
4-3-4	Aug. 1999	Reprinted to be in front of page 4.4-1.
4-4-1	Aug. 1999	Modified plate details for finger plate expansion device. Corrected formulae for distances "C" and "D".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E9001  
**To:** Section 3.30 General Superstructure, Section 3.90 Widening and Repair  
**Date:** Sept. 11, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
6.1-1	July 2001	Made minor correction in Thrie Beam Rail details.
6.1-2	July 2001	Made minor correction in Thrie Beam Rail details.
6.1-3	July 2001	Added a note and the dimension from edge of slab to face of Thrie Beam Rail in "Part Section thru Slab at Rail Post".
6.1-4	July 2001	Made minor correction in Thrie Beam Rail connection details.
6.1-5	July 2001	Made minor correction in Thrie Beam Rail channel details.
6.1-6	July 2001	Made minor correction in Thrie Beam Rail channel details.
6.1-7	July 2001	Made minor correction in Thrie Beam Rail details.
6.1-8	July 2001	Corrected typographical error in Thrie Beam Rail details.

### Widening and Repair - Section 3.90

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-1	July 2001	Revised details in "Part Section at Thrie Beam Rail Post".
3.3-2	July 2001	Revised details and corrected typographical error in Thrie Beam Rail post plate details.
3.3-3	July 2001	Revised details in "Section C-C" and "Section D-D".
3.3-4	July 2001	Revised details in "Part Section at Thrie Beam Rail Post".
3.3-5	July 2001	Revised details for Thrie Beam Rail bent plate.
3.3-6	July 2001	Made minor correction in Thrie Beam Rail post details
3.3-7	July 2001	Corrected typographical errors in Thrie Beam Rail connection details.
3.3-8	July 2001	Revised page title to include Optional System 4.
3.3-9	July 2001	Made minor correction in Thrie Beam Rail post details.
3.3-10	July 2001	Added notes for Optional System 4 and corrected typographical error in Thrie Beam Rail connection details.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5201  
**To:** Section 3.52 Continuous Concrete Slab Bridges and Section 3.62 Retaining Walls  
**Date:** September 12, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Continuous Concrete Slab Bridges - Section 3.52**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-2	Aug. 2000	Corrected design check to include wind and longitudinal forces in accordance with BM Section 1.3.
3.4-1	Aug. 2000	Reprinted to be on back of page 3.3-2.

### **Retaining Walls - Section 3.62**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.5-7	Dec. 1998	Corrected typographical error. Removed 25% allowable overstress in the heel pile bearing check.
3.5-8	Dec. 1998	Corrected typographical error. Changed $\beta_{LL}$ to $\beta_E$
3.5-9	Dec. 1998	Corrected typographical error. Changed $\geq$ to $\leq$ .
3.5-10	Dec. 1998	Corrected typographical error. Changed $\beta_{LL}$ to $\beta_E$

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** PD001  
**To:** Section 8.1 Preliminary Design  
**Date:** September 12, 2001

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Contents (\*)

<u>Page</u>	<u>Date</u>	<u>Description</u>
7	April 2001	Updated bridge manual contents with inclusion of Section 8.1.

### Preliminary Design - Section 8.1

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	New	New sheet reflects what is in this section.
All	New	Entire section is new.

### Acknowledgement:

**Special thanks are due to Mr. Dennis Heckman and Mr. Richard Gabelsberger for the development of Section 8.1.**

(\*) The Contents Section is only for the internal MoDOT Bridge Office Manual. The Contents revision does not involve the electronic version of the MoDOT Bridge Design Manual.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5505  
**To:** Section 3.55 Prestressed I-Girders  
**Date:** Sept. 12, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Prestressed I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1-1	March 1999	Upgraded to the Microsoft Word format and reprinted with minor corrections.
3.1-2	March 1999	Upgraded to the Microsoft Word format and reprinted with minor corrections.
3.1-3	May 2001	Upgraded to the Microsoft Word format and reprinted with minor corrections.
3.1-4	Jan. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.
3.1-5	Jan. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.
3.1-6	Jan. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7102  
**To:** Section 3.71 Open Concrete Intermediate Bents and Piers  
**Date:** September 20, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Open Concrete Intermediate Bents and Piers - Section 3.71**

<u>Page</u>	<u>Date</u>	<u>Description</u>
5.1-1	Dec. 1999	Reprinted to be in front of page 5.1-2
5.1-2	Apr. 2001	Corrected typographical errors.
5.1-5	Dec. 1999	Corrected typographical errors.
5.2-1	July 1996	Upgraded to the Microsoft Word format and reprinted.
thru 5.2-7		
6.1-1	Dec. 1999	Upgraded to the Microsoft Word format and reprinted. Corrected
thru 6.1-9		typographical errors in page 6.1-9.
6.1-10	Dec. 1999	Reprinted on back of page 6.1-10.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7602  
**To:** Section 3.76 Concrete Pile Cap Non-Integral End Bents  
**Date:** September 24, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Concrete Pile Cap Non-Integral End Bents - Section 3.76**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.2-2	Mar. 2000	Reprinted to be in front of page 1.2-3.
1.2-3	Mar. 2000	Removed old design method and put in the new design procedure based on a displacement method which takes into account the soil properties and calculates the displacement of the end bent.
1.2-4	Mar. 2000	Removed old design method and put in new design procedure.
1.2-5	Sept. 2001	New page - put in new design procedure.
1.2-6	Sept. 2001	New page - put in new design procedure.
1.2-7	Sept. 2001	New page - put in new design procedure.
1.2-8	Sept. 2001	New page - put in new design procedure.
1.3-1	Mar. 2000	Reprinted to be on back of page 1.2-8.
1.3-2	Mar. 2000	Reprinted to be in front of page 1.3-3.
1.3-3	Mar. 2000	Removed old design example and included new example for the new design procedure.
1.3-4	Mar. 2000	Removed old design example and included new example for the new design procedure.
1.3-5	Mar. 2000	Removed old design example and included new example for the new design procedure.
1.3-6	Mar. 2000	Removed old design example and included new example for the new design procedure.
1.3-7	Sept. 2001	Blank page to be on back of page 1.3-6.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3001  
**To:** Section 3.30 General Superstructure, Section 3.90 Widening and Repair,  
Section 3.52 Continuous Concrete Slab Bridges and Section 6.1 Seismic Design  
**Date:** September 28, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.2A-6	May 2001	Reprinted to be in front of page 4.2A-7.
4.2A-7	May 2001	Corrected details in "End Elevation".
4.2A-8	May 2001	Reversed details to correct reinforcement bar dimensions for slab bridge at end bent.
4.2A-9	May 2001	Corrected a typographical error.
4.7-1	May 2001	Upgraded to the Microsoft Word format and changed "plastic filler cloth" to "Type 3 Geotextile material".
4.7-2	May 2001	Upgraded to the Microsoft Word format and corrected a typographical error in the equation for " $(Q_T)_{i+1}$ ".
4.7-3	May 2001	Upgraded to the Microsoft Word format.
4.7-4	May 2001	Reprinted on back of page 4.7-3.
4.7-5	May 2001	Added slab drain plan view for continuous concrete slab bridges.
4.7-6	May 2001	Reprinted on back of page 4.7-5.

### Continuous Concrete Slab Bridge - Section 3.52

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Mar. 2001	Revised to correct details in "Section thru Wing".
2.1-2	Aug. 2001	Reprinted back of 2.1-1.

### Widening and Repair - Section 3.90

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.6-1	July 2001	Corrected a typographical error.
3.3-7	May 2001	Reprinted to be in front of page 3.3-8.
3.3-8	May 2001	Corrected a typographical error.

### Seismic Design - Section 6.1

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.6.3-1	Apr. 2000	Revised to correct a typographical error in the equation for "b".
2.6.3-2	Apr. 2000	Reprinted back of 2.6.3-2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9840  
**To:** Section 4.0 Office Notes  
**Date:** December 7, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective for bid openings 02/2002 and later to coincide with Job Special Provision BSP-115H Mechanically Stabilized Earth Wall Systems, which is applicable for bid openings 02/2002 and later.

This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-C	May 2001	Reprinted to be in front of page J1-D.
J1-D	May 2001	Added Raugrid Geogrid and Anchor Diamond Unit as approved geogrid and wall facing units, respectively, to coincide with Job Special Provision BSP-115H.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2509  
**To:** Section 2.5 General Quantities and Section 4.0 Office Notes  
**Date:** December 17, 2001

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs (as described below), regardless of status.

This cover sheet is for information only and need not be retained.

### General Quantities - Section 2.5

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-5	Aug. 2001	Reprinted to be in front of page 1-6.
1-6	Aug. 2001	Added new pay items 703-42.19 and 703-44.11 for Type C Safety Barrier Curb and Median Barrier Curb respectively as per PDM Letter No. 7 of 2001 dated on Sept. 28, 2001. These two new items are effective October 1, 2001 for jobs to be let after January 1, 2002.
2-1 thru 2-5	July 1997	Upgraded to the Microsoft Word format and made minor corrections. Added a note about "excavation in rock" on page 2-5.
2-6	May 1999	Reprinted to be back of page 2-5.
2-7	May 1999	Modified details to correct typographical errors.
2-8	May 1999	Reprinted to be back of page 2-7.
2-9	July 1997	Modified details to make minor corrections.
2-10	July 1997	Modified format and made minor corrections.
2-11	July 1997	Modified format and made minor corrections.
2-12	July 1997	Modified format and made minor corrections.
2-13	Mar. 1999	Modified format and made minor corrections.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
A1-A	Jan. 2001	Modified note A1.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2000" for jobs to be let after February 1, 2002.
A1-B	Sept. 1996	Revised note A1.1 to include Structural Steel (ASTM A709 Grade HPS 70W).
B1-A	July 2001	Corrected a typographical error for note B1.5.3.
B1-B	July 2001	Reprinted on back of page B1-A.
B3-A	July 2001	Reprinted to be in front of page B3-B1.
B3-B1	July 2001	Revised notes B3.8A and B3.8B due to removal of note B3.12 on page B3-B2.
B3-B2	July 2001	Deleted note B3.12. (This note is no longer needed because epoxy coated rebar is no longer an acceptable alternate bar support for slabs with S.I.P. forms.) Revised note B3.14 to be in accord with note B3.8A. Corrected a typographical error in note B3.15.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

#### Office Notes - Section 4.0 (Cont.)

<u>Page</u>	<u>Date</u>	<u>Description</u>
B3-C	July 2001	Reprinted on back of page B3-B2.
G1-A	July 2001	Added guidance for note G1.5.
G1-B	June 1997	Reprinted on back of page G1-A.
H2-E1	June 2000	Reprinted to be in front of page H2-E2.
H2-E2	Dec. 1995	Revised note H2.56 to correct wording.
H2-G2	Aug. 1995	Reprinted to be in front of page H3-A.
H3-A	Jan. 2001	Corrected a typographical error in note H3.6.
H9-A1	July 2001	Modified note H9.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2000" for jobs to be let after February 1, 2002.
H9-A2	July 2001	Reprinted on back of page H9-A1.
I1-C	Oct. 1998	Reprinted to be in front of page I2-A1.
I2-A1	July 2001	Modified note I2.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2000" for jobs to be let after February 1, 2002.
J1-A	Jan. 2001	Modified note J1.2 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2000" for jobs to be let after February 1, 2002.
J1-B	May 2001	Reprinted on back of page J1-A.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3002  
**To:** Section 3.30 General Superstructure  
**Date:** December 17, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.7-1	Sept. 2001	Revised slab drain location requirement to specify that drains shall be placed at least 5 feet from the face of substructure beam.
4.7-2	Sept. 2001	Reprinted back of page 4.7-1.
4.7-3	Sept. 2001	Reprinted to be in front of page 4.7-4.
4.7-4	May 2001	Revised details to change the distance from bottom of slab drains to bottom of girder from 3" (Min.) to 9" (Min.) in "Part Section of Slab at Drain".
4.7-5	Sept. 2001	Revised details to change the distance from bottom of slab drains to bottom of slab from 3" (Min.) to 9" (Min.) in "Part Section of Slab at Drain" and "Elevation of Drain".
4.7-6	May 2001	Revised details to change the distance from bottom of slab drains to bottom of girder from 3" (Min.) to 9" (Min.) in "Part Section of Slab at Drain".
4.7-7	May 2001	Changed title from "Part Elevation of Slab at Drain" to "Part Section of Slab at Drain".
4.7-8	May 2001	Revised details to change the distance from bottom of slab drains to bottom of girder from 3" (Min.) to 9" (Min.) in "Part Section of Slab at Drain".
4.7-9	May 2001	Revised details to change the distance from bottom of slab drains to bottom of girder from 3" (Min.) to 9" (Min.) in "Part Section of Slab at Drain".
4.7-10	May 2001	Reprinted back of page 4.7-9.
6.1-3	Sept. 2001	Revised notes to change "1-1/4" Plate" to 1-1/4" Base Plate".
6.1-4	Sept. 2001	Revised details to change "1-1/4" Plate" to "1-1/4" Base Plate".
6.1-5	Sept. 2001	Corrected post details in "Typical Splice Elevation" and "Connection to Rail Post Election".
6.1-6	Sept. 2001	Corrected post details in "Expansion Splice Elevation".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E9002  
**To:** Section 3.90 Widening and Repair  
**Date:** December 19, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### Widening and Repair - Section 3.90

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-1	Sept. 2001	Revised resin anchor notes for post to deck connection in "Part Section at Rail Post". Corrected a typographical error.
3.3-2	Sept. 2001	Revised resin anchor notes for post to deck connection in "Part Elevation".
3.3-3	Sept. 2001	Corrected typographical errors in "Details of Post".
3.3-4	Sept. 2001	Revised notes for bent plate to deck connection in "Part Section at Rail Post".
3.3-5	Sept. 2001	Corrected dimensions in "1/2" Bent Plate". Revised notes for bent plate to deck connection in "Top View".
3.3-6	Sept. 2001	Made minor modifications in "Details of Post".
3.3-7	Sept. 2001	Added a note for 1/2" bent plate. Revised notes for bent plate to deck connection in "Part Section at Rail Post". Corrected a typographical error.
3.3-8	Sept. 2001	Reprinted on back of page 3.3-7.
3.3-9	Sept. 2001	Made minor modifications in "Details of Post".
3.3-10	Sept. 2001	Revised the note for 1/2" bent plate in "Part Section at Rail Post". Corrected a typographical error.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4206  
**To:** Section 3.42 Welded Plate Girders  
**Date:** January 15, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-1 thru 2.2.23	Nov. 1999	Upgraded to the Microsoft Word format and reprinted with minor corrections. Added calculation for length between extreme fasteners and adjusted the length on page 2.2-6.
2.3-1 thru 2.3-9	Nov. 1999	Upgraded to the Microsoft Word format and reprinted with minor corrections. Revised the note regarding shim plates on page 2.3-3.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** PD002  
**To:** Section 8.1 Preliminary Design  
**Date:** January 18, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
i-1	Sept. 2001	Revised to add total number of sheets for the subsections with more than one sheet.
i-2	Sept. 2001	Revised to add total number of sheets for the subsections with more than one sheet.
1.1-1	Sept. 2001	Revised to correct wording in "Introduction".
1.2-1	Sept. 2001	Reprinted on back of page 1.1-1.
1.2-4	Sept. 2001	Revised to correct the units for drainage area in "Calculate Drainage Information".
1.3-1	Sept. 2001	Reprinted on back of page 1.2-4.
2.1-1	Sept. 2001	Added a paragraph with a figure for berm elevation in "End Slopes/Spill Fills". Added a note for spill slope when rock cut is encountered.
2.2-1	Sept. 2001	Reprinted on back of page 2.1-1.
2.5-1	Sept. 2001	Revised to correct wording in "Structure Type Selection".
2.6-1	Sept. 2001	Revised wording for locating headwalls in "Box Culverts".
2.6-2	Sept. 2001	Reprinted to be in front of page 2.7-1.
2.7-1	Sept. 2001	Revised "Girder Type Selection" to include the information about High Performance Concrete/Steel Girders. Revised the criteria for using weathering steel.
2.8-1	Sept. 2001	Revised wording for longer bridge definition. Added the information of using High Performance Concrete Girders for longer bridges.
2.9-1	Sept. 2001	Added "drainage-diversion" in front of "pipes" for bypass.
2.10-1	Sept. 2001	Revised to include "seismic performance category B" in "Earthquake Consideration".
2.11-1	Sept. 2001	Reprinted on back of page 2.10-1.
2.12-1	Sept. 2001	Added "drainage-diversion" in front of "pipes" for bypass.
2.13-1	Sept. 2001	Reprinted on back of page 2.12-1.
2.16-1	Sept. 2001	Added "Velocity thru Bridge Opening" for stream crossing in "Bridge Memorandums (Memos)".
2.16-2	Sept. 2001	Corrected wording in "Bridge Memorandums (Memos)".
2.17-1	Sept. 2001	Revised wording in "Soundings (Borings)". Updated the file names for standard forms.
2.17-2	Sept. 2001	Reprinted on back of page 2.17-1.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.18-1	Sept. 2001	Revised bridge substructure preliminary layout procedure and corrected wording in " <i>Substructure Type</i> ".
2.19-1	Sept. 2001	Corrected wording in " <i>Type of Footings</i> ".
2.21-2	Sept. 2001	Corrected typographical errors in " <i>Estimating Pile Lengths with DRIVEN</i> ".
2.21-3	Sept. 2001	Modified format and reprinted.
2.27-1	Sept. 2001	Reprinted to be in front of page 2.28-1.
2.28-1	Sept. 2001	Rewrote the second paragraph in " <i>Design Exceptions</i> ".
2.29-3	Sept. 2001	Revised the wording in " <i>Finishing Up Design Layout</i> ".
2.29-4	Sept. 2001	Reprinted on back of page 2.29-3.
2.30-1	Sept. 2001	Corrected a typographical error in " <i>FHWA Submittal</i> ".
2.30-2	Sept. 2001	Reprinted on back of page 2.30-1.
4.3-1	Sept. 2001	Corrected a typographical error in " <i>MSE Walls</i> ".
4.4-1	Sept. 2001	Revised the minimum requirement for top of footing elevations and corrected a typographical error in " <i>CIP Concrete Walls</i> ".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2001  
**To:** Section 3.20 Box Culvert and Section 4 Office Notes  
**Date:** January 31, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs to be let after April 1, 2002.

This cover sheet is for information only and need not be retained.

### Box Culvert - Section 3.20

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	July 2000	Revised the definition of design fill as per Design Standards Letter No.P-2002-01 dated on Jan. 2, 2002. These revisions are effective April 1, 2002.
1.2-1	July 2000	Corrected dimensioning errors in <i>Figure 3.20.1.2-1</i> .
2.1-1	July 2000	Reprinted to be in front of page 2.2-1.
2.2-1	July 2000	Changed words "Military Truck" to "Military Tandem Axle Loading".
2.2-2	July 2000	Corrected a typographical error in <i>Figure 3.20.2.2-2</i> .
2.2-3	July 2000	Reprinted on back of page 2.2-2.
2.2-4	July 2000	Added "AASHTO 3.8.1.2" and corrected wording in " <i>Impact Factor</i> ".
2.3-1	July 2000	Corrected a typographical error in <i>Figure 3.20.2.3-1</i> .
2.3-2	July 2000	Corrected a typographical error in <i>Figure 3.20.2.3-2</i> .
2.3-3	July 2000	Corrected typographical and dimensional errors in <i>Figure 3.20.2.3-3</i> .
2.4-2	July 2000	Revised to change the reference number from "Section 3.20.4.4" to "Section 3.20.2.5". Removed the words "AASHTO 1.5.7 Interim 1980".
2.4-3	July 2000	Reprinted on back of page 2.4-2.
2.4-6	July 2000	Revised to change the reference number from "Section 3.20.4.4" to "Section 3.20.2.5".
2.4-7	July 2000	Corrected a typographical error in <i>Figure 3.20.2.4-1</i> .
2.4-8	July 2000	Revised to change the reference number from "Section 3.20.4.4" to "Section 3.20.2.5".
2.5-1	July 2000	Reprinted on back of page 2.4-8.
2.5-2	July 2000	Reprinted to be in front of page 2.5-3.
2.5-3	July 2000	Added the information of " <i>Wearing Surface</i> " from page 4.4-1.
2.6-1	July 2000	Changed words "Military Truck" to "Military Tandem Axle Loading".
2.6-2	July 2000	Corrected a typographical error in <i>Figure 3.20.2.6-2</i> .
2.6-3	July 2000	Corrected a typographical error in <i>Table 3.20.2.6-1</i> .
2.6-4	July 2000	Changed words "Military Truck" to "Military Tandem Axle Loading".
2.6-5	July 2000	Changed words "Military Truck" to "Military Tandem Axle Loading".
2.6-6	July 2000	Corrected a typographical error in <i>Table 3.20.2.6-2</i> .
2.6-7	July 2000	Corrected a typographical error in <i>Table 3.20.2.6-3</i> .
2.6-8	July 2000	Corrected a typographical error in <i>Table 3.20.2.6-4</i> .
2.6-9	July 2000	Corrected a typographical error in <i>Table 3.20.2.6-5</i> .
2.6-10	July 2000	Changed words "Military loading" to "Military Tandem Axle Loading".
2.6-11	July 2000	Changed words "Military loading" to "Military Tandem Axle Loading".
2.6-12	July 2000	Changed words "Military loading" to "Military Tandem Axle Loading".

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.7-7	July 2000	Revised to correct typographical errors.
2.7-8	July 2000	Corrected a typographical error in <i>Figure 3.20.2.7-2</i> .
2.8-1	July 2000	Revised to correct typographical errors.
2.8-2	July 2000	Reprinted on back of page 2.8-1.
2.8-3	July 2000	Reprinted to be in front of page 2.9-1.
2.9-1	July 2000	Corrected a typographical error in <i>Figure 3.20.2.9-1</i> .
2.9-2	July 2000	Revised to correct typographical and dimensional errors in <i>Figure 3.20.2.9-2</i> .
2.9-3	July 2000	Corrected a typographical error in <i>Figure 3.20.2.9-3</i> .
2.9-4	July 2000	Reprinted to be in front of page 2.9-5.
2.9-5	July 2000	Revised to correct typographical errors.
3.1-1	July 2000	Revised to change note from "12 inches fill over box culvert" to "Earth fill over box culvert" in <i>Figure 3.20.3.1-1</i> .
3.1-2	July 2000	Revised to correct typographical and dimensional errors in <i>Figure 3.20.3.1-2</i> .
3.1-3	July 2000	Corrected a typographical error in <i>Figure 3.20.3.1-3</i> .
3.2-1	July 2000	Corrected a typographical error in <i>Figure 3.20.3.2-1</i> .
3.2-2	July 2000	Corrected a typographical error in <i>Figure 3.20.3.2-2</i> .
3.2-3	July 2000	Reprinted on back of page 3.2-2.
4.1-1	July 2000	Corrected a typographical error in <i>Figure 3.20.4.1-1</i> .
4.1-2	July 2000	Revised to change the last paragraph to upper and lower cases and refer to Section 4.
4.2-1	July 2000	Revised details in <i>Figure 3.20.4.2-1</i> to add "Section thru Box (design fill 2'-0" or less)". Moved the last two paragraphs to page 4.2-2.
4.2-2	July 2000	Added the two paragraphs from page 4.2-1. Corrected wording for "F bar". Moved the last three paragraphs to page 4.2-3.
4.2-3	July 2000	Added the three paragraphs from page 4.2-2. Corrected a typographical error in <i>Figure 3.20.4.2-2</i> .
4.2-4	July 2000	Corrected a typographical error in "Section A-A".
4.2-5	July 2000	Revised details to correct typographical errors in <i>Figure 3.20.4.2-3</i> .
4.2-6	July 2000	Revised details to add a note for joint filler in <i>Figure 3.20.4.2-4</i> .
4.3-1	July 2000	Changed "Station 718+04" to "Station 718+04.44" in "Bench Mark".
4.3-2	July 2000	Corrected a typographical error in <i>Figure 3.20.4.3-1</i> .
4.3-3	July 2000	Changed "Station 719+20, 719+30, 719+40" to "Station 719+20.00, 719+30.00, 719+40.00" in <i>Figure 3.20.4.3-2</i> .
4.3-4	July 2000	Changed "Station 719+20, 719+30, 719+40" to "Station 719+20.00, 719+30.00, 719+40.00" in <i>Figure 3.20.4.3-3</i> .
4.4-1	July 2000	Removed the information of "Wearing Surface" from this page and placed at the top of page 2.5-3. Corrected a typographical error in "Wing Backfill Slope Transition".

#### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
A2-A	July 2000	Reprinted to be in front of page A2-B.
A2-B	Mar. 1999	Added a new note A2.9 for box culverts with transverse joint(s).

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7103  
**To:** Section 3.70 Open Concrete End Bents, Section 3.71 Open Concrete Intermediate Bents and Piers  
**Date:** March 7, 2001

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Open Concrete End Bents - Section 3.70**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.3	May 1994	Modified format and changed page number. Revised notes to eliminate precast prestress piles and timber piles. Added dimension (footing depth) requirement for bridges in seismic performance categories (SPC) B, C and D. Revised minimum pile spacing note to check AASHTO Article 4.5.6.4 for pile requirements in cohesive soils.

### **Open Concrete Intermediate Bents and Piers - Section 3.71**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-7	Mar. 1999	Revised details for seismic performance categories (SPC) B, C & D. Changed variable column diameter to constant for SPC B, C & D. Changed notes from asterick to number system. Changed note (3).
4.1-8	Dec. 1999	Reprinted to be in back of page 4.1-7.
5.1-3	Dec. 1999	Reprinted to be on front of page 5.1-4.
5.1-4	Dec. 1999	Revised minimum pile spacing to check AASHTO Article 4.5.6.4 for requirements for piles designed in cohesive soils.
5.1-5	Sept. 2001	Added a reference to page 5.1-4 for checking minimum pile spacing requirements.
5.2-1	Sept. 2001	Reprinted to be on back of page 5.1-5.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4001  
**To:** Section 3.40 Composite Design  
**Date:** March 21, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Composite Design - Section 3.40**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.3-3	June 1999	Reprinted to be in front of page 3.1-1.
3.1-1	June 1999	Added note clarifying that 4 x (stud diameter) is preferred minimum spacing, and 2-1/4" is absolute minimum.
3.2-1	June 1999	Added note clarifying that 4 x (stud diameter) is preferred minimum spacing, and 2-1/4" is absolute minimum.
3.3-1	June 1999	Removed text not allowing panels on curved steel structures, and added text allowing their use when appropriate on a case-by-case basis. Added note clarifying that 4 x (stud diameter) is preferred minimum spacing, and 2-1/4" is absolute minimum.
3.3-2	June 1999	Added note clarifying that 4 x (stud diameter) is preferred minimum spacing, and 2-1/4" is absolute minimum.
3.4-1	June 1999	Reprinted to be in back of page 3.3-2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** PD003  
**To:** Section 8.1 Preliminary Design and Section 3.30 General Superstructure  
**Date:** March 22, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.15-1	Sept. 2001	Reprinted to be in front of page 2.15-2.
2.15-2	Sept. 2001	Updated the "Preliminary Cost Estimate Table".
2.15-3	Sept. 2001	Updated the "Preliminary Cost Estimate Table".
2.15-4	Sept. 2001	Updated the "Preliminary Cost Estimate Table".

### **General Superstructure - Section 3.30**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.3-4	May 2001	Reprinted to be in front of page 1.4-1
1.4-1	Nov. 1999	Corrected a typographical error in header.
1.4-2	Nov. 1999	Corrected a typographical error in header.
1.4-3	Nov. 1999	Corrected a typographical error in header.
1.4-4	Nov. 1999	Corrected a typographical error in header.
1.4-5	Nov. 1999	Corrected a typographical error in header.
1.4-6	Nov. 1999	Corrected a typographical error in header.
1.4-7	Nov. 1999	Corrected a typographical error in header.
1.4-8	Nov. 1999	Corrected a typographical error in header.
1.4-9	Nov. 1999	Corrected a typographical error in header.
4.1-1	May 2001	Revised details to change the area of barrier curb from 2.27 sq. ft. to 2.28 sq. ft. for safety barrier curb with no wearing surface.
4.2-1	May 2001	Reprinted on back of page 4.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E2406  
**To:** Section 2.4 Standard Details  
**Date:** April 10, 2002

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Standard Details – Section 2.4

<u>Page</u>	<u>Date</u>	<u>Description</u>
11-1	Dec. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.
11-2	Dec. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.
11-3	Dec. 1997	Corrected the description for “Step 1” in “Top Bar Development and Tension Splice Lengths “ Table. Added notes for the table.
11-4	Dec. 1997	Corrected the description for “Step 1” in “ Not Top Bar Development and Tension Splice Lengths “ table. Added notes for the table.
11-5	Dec. 1997	Upgraded to the Microsoft Word format and reprinted with minor corrections.
11-6	Dec. 1997	Corrected Case B $L_{dn}$ , Development of Standard Hooks in Tension, for #14 and #18 bars.
11-7	Dec. 1997	Upgraded to the Microsoft Word format and reprinted.
11-8	Dec. 1997	Upgraded to the Microsoft Word format and reprinted.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9841  
**To:** Section 4.0 Office Notes  
**Date:** April 19, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective for bid openings 07/2002 and later to coincide with Job Special Provision BSP-115I Mechanically Stabilized Earth Wall Systems, which is applicable for bid openings 07/2002 and later.

This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-C	May 2001	Reprinted to be in front of page J1-D.
J1-D	Dec. 2001	Added Geotex Geogrid and Synteen Sympaforce Geogrid as approved geogrids to coincide with Job Special Provision BSP-115I.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E7000  
**To:** Section 3.70 Open Concrete End Bents  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### Open Concrete End Bents - Section 3.70

The entire section is replaced by this Manual Addendum to upgrade it to the MicroStation format. Several revisions and corrections are also listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index	Apr. 1991	Modified format.
All		Modified format and changed page numbers. (For example: changed the page number from 1.1.1 to 1.1-1.)
1.1-1	July 1987	Updated design unit stresses for reinforcement concrete.
1.1-2	July 1987	Updated seismic design criteria.
1.2-1 (1.2)	July 1987	Revised vertical loads to include one half of dead load of the approach slab.
1.4-1	July 1987	Revised beam design assumption to include one half of dead load of the approach slab.
1.4-2	July 1987	Updated design criteria and details for wing wall length greater than 17'-0" and changed #6 F-bar spacing from 12" to 8" in wing brace in accordance with Section 3.76.
1.5-1	July 1987	Updated pile footing design policy.
1.5-2	July 1987	Revised pile footing shear line details for bridge in SPC B, C and D. Updated footing reinforcement design criteria in accordance with AASHTO 4.4.11.2.2.
1.6-1	July 1987	Updated spread footing design policy and refer to section 3.71.6. Deleted pages 1.6.2 thru 1.6.5.
2.1-1	July 1987	Revised wing brace details in "Elevation" to correspond to the changes in page 2.1-2. Modified notes to change wording from "Chief Structural Designer" to "Structural Project Manager" and made other minor corrections.
2.1-2	July 1987	Revised wing details in "Side Elevation" to make the bottom of wing wall at 18" wing brace to be flat with the bottom of beam and wing brace. Revised the notes for slope of spill fill. Added a note for wing wall length greater than 17'-0".
2.2-1 (2.2)	July 1987	Revised details to show end bent with expansion devices in the plan view.
2.4-1 (2.4)	July 1987	Changed wording from "Structural Design Engineer" to "Structural Project Manager".
2.5-1	July 1987	Revised to correct details in the elevation view.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.5-2	July 1987	Revised to correct details in the elevation view.
2.6-1 (2.6)	July 1987	Revised to correct details in "Part Elevation".
3.1-1 (3.1)	July 1987	Upgraded to the MicroStation format only. No updated information has been implemented into the page by this revision.
4.1-1 (4.1)	Oct. 1995	Revised the details for bottom of wing brace in "Part Elevation of End Bent" and "Transverse Beam Steps" to correspond to the changes in page 2.1-2.
4.2-1	Sept. 1998	Revised notes and details to reflect the design criteria change for wing wall length greater than 17'-0". Changed #6 F-bar spacing from 12" to 8" in wing brace in accordance with Section 3.76. Revised the details for bottom of wing brace in "Typical Elevation of Wing" to correspond to the changes in page 2.1-2.
4.3-1	Oct. 1995	Revised notes and details to reflect the design criteria change for wing wall length greater than 17'-0". Changed #6 F-bar spacing from 12" to 8" in wing brace in accordance with Section 3.76. Revised the details for bottom of wing brace in "Part Elevation" to correspond to the changes in page 2.1-2.
4.3-2	Oct. 1995	Updated the backwall reinforcement table to be consistent with the table on page 3.1-7 of Section 3.76. The new table is based load factor design and 45 lbs/cu. ft. equivalent fluid pressure and 90 lbs/sq. ft. live load surcharge.
4.4-1 (4.4)	July 1987	Changed wording from "Structural Design Engineer" to "Structural Project Manager".
4.5-1 (4.5)	July 1987	Added tie beam reinforcement details for bridges in SPC B, C and D.
4.6-1 (4.6)	July 1996	Added a note for pile footing reinforcement in SPC B, C and D.
4.7-1 (4.7)	July 1987	Added a note for spread footing reinforcement in SPC B, C and D.
4.8-1 (4.8)	Oct. 1995	Made minor corrections in the elevation view.
4.9-1 (4.9)	May 1991	Made minor corrections in the note.
5.1-1 (5.1)	July 1987	Updated beam reinforcement details in "Part Elevation" to reflect the changes in page 1.4-2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E1301  
**To:** Section 1.3 Distribution of Loads  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### Distribution of Loads - Section 1.3

The entire section is replaced by this manual addendum to upgrade to the Microsoft Word version. Several revisions are listed below.

<u>Page</u>	<u>Date</u>	<u>Description</u>
2-2	Apr. 2000	Corrected errors in "Distribution of Live Load to Substructure" (changed "12 foot lane" to "10 foot lane" for substructure design).
6-1	Apr. 2000	Revised Pile Table to eliminate 16" precast & P/S concrete piles.
7-1	Apr. 2000	Added a note for coefficient "f".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E6201  
**To:** Section 3.62 Retaining Wall  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Retaining Wall - Section 3.62**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Dec. 1998	Upgraded to the Microsoft Word version. Corrected wording and added reference to Bridge Manual Section 4 Chapter J.
2.1-2	Dec. 1998	Upgraded to the Microsoft Word version.
2.2-1	Dec. 1998	Upgraded to the MicroStation version and revised details to show a Developed Elevation.
2.2-2	Dec. 1998	Upgraded to the MicroStation version.
2.2-3	Dec. 1998	Upgraded to the MicroStation version.
2.2-4	Dec. 1998	Upgraded to the MicroStation version.
2.2-5	Dec. 1998	Upgraded to the MicroStation version.
3.8-1	Dec. 1998	Added a note at top of page.
3.8-2	Dec. 1998	Reprinted on back of page 3.8-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E5506  
**To:** Section 3.55 Prestressed I-Girders, Section 3.72 Concrete Pile Cap Intermediate Bents, Section 3.76 Concrete Pile Cap Non-Integral End Bents, Section 3.77 Concrete Pile Cap Integral End Bents and Section 3.90 Widening and Repair  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Prestressed I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.2-3	April 2001	Reprinted to be in front of page 3.3-1.
3.3-1	June 1999	Corrected a dimension for joint filler and revised a dimension i.e. to joint filler under girders. Corrected wording of title to read "Fixed Intermediate Bents:"
3.3-2	June 1999	Revised a dimension i.e. to joint filler under girders.
3.3-3	May 2001	Reprinted on back of page 3.3-2.

### **Concrete Pile Cap Intermediate Bents – Section 3.72**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.5-1	Mar. 2000	Corrected weld details for C4 X 5.4.
3.5-2	Mar. 2000	Reprinted on back of page 3.5-1.

### **Concrete Pile Cap Non-Integral End Bents - Section 3.76**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-2	Dec. 2000	Corrected typographical errors in "Elevation" and "Plan (Skewed)".
2.2-3	Mar. 2000	Reprinted on back of page 2.2-2.
3.2-1	Mar. 2000	Reprinted to be in front of page 3.3-1.
3.3-1	Mar. 2000	Corrected weld details for C4 X 5.4.

### **Concrete Pile Cap Integral End Bents - Section 3.77**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Mar. 2000	Reprinted to be in front of page 2.2-1.
2.2-1	Dec. 2000	Corrected typographical errors in "Plan (Skewed)".
2.2-2	Mar. 2001	Corrected typographical errors in "Section Near Wing".
2.3-1	Dec. 2000	Corrected typographical errors in "Plan (Skewed)".
3.1-3	Mar. 2000	Reprinted to be in front of page 3.1-4.
3.1-4	Mar. 2000	Corrected a typographical error in "Pile Spacing – Feet".

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-1	Mar. 2000	Corrected weld details for C4 X 5.4.
3.6-1	Mar. 2000	Reprinted on back of page 3.3-1.

#### **Widening and Repair - Section 3.90**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	July 2001	Revised detail to show 1/4" R. at Fill Face on epoxy polymer concrete overlay.
2.1-2	July 2001	Reprinted on back of page 2.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3004  
**To:** Section 3.30 General Superstructure, Section 3.76 Concrete Pile Cap Non-Integral End Bents, Section 3.77 Concrete Pile Cap Integral End Bents and Section 4 Office Notes  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs let after Sept. 1, 2002.  
This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.7-1	May 2001	Corrected details for "Timber Header" in bridge approach slab.
1.9-1	May 2001	Reprinted back of page 1.7-1.
4.1-1	Mar. 2002	Reprinted to be in front of page 4.1-2.
4.1-2	May 2001	Revised details to add 3/4" vertical filler between bridge approach slab and end bent wing walls. This revision is effective for all applicable jobs let after Sept. 1, 2002.

### Concrete Pile Cap Non-Integral End Bents - Section 3.76

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.3-1	Mar. 2000	Revised details to show 3/4" vertical filler between bridge approach slab and wing wall/barrier curb at Non-Integral end bents. This revision is effective for all applicable jobs let after Sept. 1, 2002.

### Concrete Pile Cap Integral End Bents - Section 3.77

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.2-1	Mar. 2000	Reprinted to be in front of page 4.3-1.
4.3-1	Mar. 2000	Revised details to show 3/4" vertical filler between bridge approach slab and wing wall at Integral end bents. This revision is effective for all applicable jobs let after Sept. 1, 2002.
4.3-2	Mar. 2000	Revised details to show 3/4" vertical filler between bridge approach slab and wing wall at Integral end bents. This revision is effective for all applicable jobs let after Sept. 1, 2002.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
A1-A	Dec. 2001	Modified note A1.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2002" for jobs to be let after December 1, 2002.
A1-B	Dec. 2001	Changes Structural Steel designation from "ASTM A709 Grade HPS 70W" to "ASTM A709 Grade HPS70W".
H9-A1	Dec. 2001	Modified note H9.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2002" for jobs to be let after December 1, 2002. Moved notes H9.8 and H9.9 into page H9-A2.
H9-A2	July 2001	Added notes H9.8 and H9.9 from page H9-A1.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
I1-C	Oct. 1998	Reprinted to be in front of page I2-A1.
I2-A1	Dec. 2001	Modified note I2.1 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2002" for jobs to be let after December 1, 2002.
J1-A	Dec. 2001	Modified note J1.2 to clarify "Design Specifications: AASHTO - 1996 and Interims thru 2002" for jobs to be let after December 1, 2002.
J1-B	May 2001	Reprinted on back of page J1-A.
K1-A	Feb. 2000	Reprinted to be in front of page K1-B
K1-B	Feb. 2000	Revised note K1.14 to specify that the payment for 3/4" joint filler shall be included in "Bridge Approach Slab (Bridge)". This revision is effective for all applicable jobs let after Sept. 1, 2002.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** SD003  
**To:** Section 3.31 Bearings, Section 6.1 Seismic Design and Section 3.55 Prestressed Concrete I-Girders  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Bearings - Section 3.31**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.4-4	July 1999	Revised notes for anchor bolt design in SPC A and SPC B, C & D to be consistent with Section 6.1.3.
2.5-1	July 1999	Reprinted on back of page 3.1.7-6.
2.8-1	Aug. 1999	Revised notes for anchor bolt design in SPC A and SPC B, C & D to be consistent with Section 6.1.3.
2.8-2	Aug. 1999	Revised notes to correct typographical errors for anchor bolt design in SPC A and SPC B, C & D.

### **Prestressed Concrete I-Girders - Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.4-1	Oct. 2000	Added a note to specify that the dowel bar details shown are for SPC A and B only.
4.5-1	Oct. 2000	Reprinted on back of page 4.4-1.

### **Seismic Design - Section 6.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1-1	Apr. 2000	Corrected wording for horizontal seismic force in SPC A.
3.1.1-1	Apr. 2001	Added formulae and corrected wording for horizontal seismic force in SPC A.
3.1.1-2	Apr. 2000	Reprinted to be in front of page 3.1.2-1.
3.1.2-1	Apr. 2000	Added formulae and corrected wording for horizontal seismic force in SPC A. Removed "Axial Stress" into page 3.1.2-2.
3.1.2-2	Apr. 2000	Added "Axial Stress" from page 3.1.2-1.
3.1.3-1	Apr. 2000	Reprinted on back of page 3.1.2-2.
3.1.7-6	July 2001	Revised note to allow deformed bar to be used as spiral bar.
3.1.7-7	July 2001	Reprinted on back of page 3.1.7-6.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3003  
**To:** Section 3.30 General Superstructure  
**Date:** May 31, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs let after September 1, 2002.  
This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.2-3	May 2001	Reprinted to be in front of page 4.2A-1.
4.2A-1	May 2001	Added "K1-K2 Bar Permissible Alternate Shape" for non-integral end bents.
4.2A-2	May 2001	Added rebar dimensions for K-bar permissible alternate shape at non-integral end bents.
4.2A-3	May 2001	Added "K1-K2 Bar Permissible Alternate Shape" for integral end bents.
4.2A-4	May 2001	Added rebar dimensions for K-bar permissible alternate shape at integral end bents.
4.2A-5	May 2001	Added a note for K-bar permissible alternate shape at semi-deep abutments.
4.2A-6	May 2001	Added a note for K-bar permissible alternate shape at semi-deep abutments.
4.2A-7	Sept. 2001	Added "K1-K2 Bar Permissible Alternate Shape" for continuous concrete slab bridge end bents.
4.2A-8	Sept. 2001	Added rebar dimensions for K-bar permissible alternate shape at continuous concrete slab bridge end bents.
4.2A-9	Sept. 2001	Revised details to added dimensions for optional R3 and slab bottom bar combination.

# **DIVISION OF BRIDGE**

## **BRIDGE MANUAL ADDENDUM**

**Revision: E1201**  
**To: Section 1.2 Loads**  
**Date: May 31, 2002**

### **Load - Section 1.2**

The entire section is replaced by this manual addendum to upgrade to the Microsoft Word version, except pages 3-6 thru 3-8 will remain with the MicroStation version. No change has been made, and no hard copy will be distributed at this time.

These updated files are located under t:\Brmanual\BM\_Sec1\_2\_E1200\current\_sec1.2.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** PD004  
**To:** Section 8.1 Preliminary Design, Section 3.35 Expansion Devices and Section 4 Office Notes  
**Date:** July 5, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs, regardless of status.  
This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.5-1	Jan. 2002	Corrected a typographical error for P/S Bulb-Tee Girder.
2.6-1	Jan. 2002	Reprinted on back of page 2.5-1.
2.13-2	Sept. 2001	Updated example cover letter.
2.14-1	Sept. 2001	Reprinted on back of page 2.13-2.
2.15-1	Sept. 2001	Updated the average price per sq. ft. of bridge deck.
2.15-2	Sept. 2001	Updated the "Preliminary Cost Estimate Table".
2.15-3	Sept. 2001	Updated the "Preliminary Cost Estimate Table".
2.15-4	Sept. 2001	Updated the "Preliminary Cost Estimate Table".
2.16-9	Sept. 2001	Updated example cover letter.
2.16-10	Sept. 2001	Updated example cover letter.
2.18-1	Jan. 2002	Reprinted to be in front of page 2.19-1.
2.19-1	Jan. 2002	Added a sentence for spread footing under "8.1.2.19 Type of footings".
4.3-1	Jan. 2002	Added a paragraph under "8.1.4.3 MSE wall".
4.4-1	Jan. 2002	Reprinted on back of page 4.3-1.

### **Expansion Devices - Section 3.35**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-1	May 2001	Corrected movement calculation for a 10° F change in temperature (this number will be used for expansion gap field adjustment in note H5.2).
4.3-1	Aug. 2001	Reprinted on back of page 4.1-1.

### **Office Notes - Section 4**

<u>Page</u>	<u>Date</u>	<u>Description</u>
H5-A	Mar. 1999	Corrected typographical errors in notes H5.2 and H5.5.
H5-B	Mar. 1999	Changed wording in notes H5.12 and H5.15 from "3/4 inch vertical plate" to "3/4 inch vertical mounting plate" for P/S concrete girder structures as per Bridge Manual Revision E3504.
H5-C	May 2000	Corrected typographical errors in notes H5.22 and H5.23.
H5-D1	Sept. 1996	Corrected typographical errors in note H5.32.
J1-A	May 2002	Changed wording in note J1.8 from "footer" to "leveling pad".
J1-B	May 2001	Reprinted on back of page J1-A.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E4207  
**To:** Section 3.42 Welded Plate Girders  
**Date:** July 9, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Welded Plate Girders - Section 3.42**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-9	Nov. 1999	Corrected typographical error. Changed the word "connecting" to "correcting".
1.1-10	Nov. 1999	Reprinted on the back of page 1.1-9.
2.1-1	May 2001	Added details for when cross frames or end diaphragms are attached to bearing stiffeners.
2.1-2	Nov. 1999	Reprinted on the back of page 2.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3005  
**To:** Section 3.30 General Superstructure and Section 3.76 Concrete Pile Cap Non-Integral End  
**Date:** July 10, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs let after Dec. 1, 2002.  
This cover sheet is for information only and need not be retained.

### **General Superstructure - Section 3.30**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.1-1	Mar. 2002	Reprinted to be in front of page 4.1-2.
4.1-2	May 2002	Removed the word "urethane" from note for 3/4" joint filler. This revision is effective for all applicable jobs let after Sept. 1, 2002.
4-10-2	May 2001	Revised details in "Section A - A" to change the cut depth from 1" to 2" (for silicone joint when using optional slip form safety barrier curb). This revision is effective for all applicable jobs let after Dec. 1, 2002.
4-11-1	May 2001	Reprinted back of page 4-10-2.

### **Concrete Pile Cap Non-Integral End Bents - Section 3.76**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.1-1	Mar. 2000	Added a note in "Part Plan B-B".
3.1-2	Mar. 2000	Removed the word "urethane" from note for 3/4" joint filler. This revision is effective for all applicable jobs let after Sept. 1, 2002.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3006  
**To:** Section 1.0 Introduction, Section 1.2 Load, Section 3.30 General Superstructure and Section 3.42 Welded Plate Girders  
**Date:** August 8, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs after Dec. 2002 Letting.  
This cover sheet is for information only and need not be retained.

### Bridge Manual

<u>Page</u>	<u>Date</u>	<u>Description</u>
Cover page	Nov. 1999	Updated.
Prologue	Nov. 1999	Updated.

### Introduction - Section 1.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.0	June 1992	Updated.

### Loads - Section 1.2

<u>Page</u>	<u>Date</u>	<u>Description</u>
9-3	May 2002	Reprinted to be in front of page 10-1.
10-1	May 2002	Added a note for concrete shrinkage force.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
10.1-5	May 2001	Revised note and added a subtitle for optional 112" curved fence.
10.1-6	May 2001	Reprinted on back of page 10.1-5.

### Welded Plate Girders - Section 3.42

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	July 2002	Corrected bearing stiffener weld details.
2.1-2	Nov. 1999	Reprinted on back of page 2.1-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9842  
**To:** Section 4.0 Office Notes, Section 3.62 Retaining Walls, Section 6.1 Seismic Design,  
Section 1.3 Distribution of Loads and Section 3.42 Welded Plate Girders  
**Date:** August 19, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs after Dec. 2002 Letting.  
This cover sheet is for information only and need not be retained.

### Distribution of Loads - Section 1.3

<u>Page</u>	<u>Date</u>	<u>Description</u>
6-1	May 2002	Corrected typographical errors in Steel Pile Table.
7-1	May 2002	Corrected a typographical error in the equation for "fi".
7-2	May 2002	Reprinted on back of page 7-1.

### Welded Plate Girders - Section 3.42

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Aug. 2002	Corrected bearing stiffener weld details.
2.1-2	Nov. 1999	Reprinted on back of page 2.1-1.

### Retaining Walls - Section 3.62

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	May 2002	Revised first paragraph to refer to MoDOT Internet site for approved wall systems.
2.1-2	May 2002	Reprinted on back of page 2.1-1.

### Seismic Design - Section 6.1

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.6.2-1	Apr. 2000	Reprinted to be in front of page 2.6.2-2.
2.6.2-2	Apr. 2000	Corrected typographical errors in Wilson Equation.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
A1-A	May 2002	Revised note A1.1 to add minimum of 30 lb/cu.ft. and maximum of 60 lb/cu.ft. Equivalent Fluid Pressure for box culverts design.
A1-B	May 2002	Revised note A1.1 (corrected concrete classifications from "B1/B2 concrete" to "B-1/B-2 concrete" to be consistent with pay item).
A3-A	May 2000	Reprinted to be in front of page A4-A.
A4-A	Dec. 1999	Revised note A4.3 (changed wording from "sq. ft." to "square foot" to be consistent with pay item).
B1-A	Dec. 2001	Reprinted to be in front of page B1-B.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
B1-B	July 2001	Revised note B1.7 (corrected concrete classification from "Class B2 concrete" to "Class B-2 concrete" to be consistent with pay item).
B1-C	July 2001	Revised note B1.14 (corrected wording from " <u>Tapered</u> " to " <u>(Tapered)</u> " to be consistent with pay item).
B2-A	Sept. 1996	Reprinted on back of page B1-C.
B3-A	July 2001	Revised notes B3.1, B3.2 and B3.6 (changed wording from "Cu. Yd.", "Lin. Ft.", "Lbs" to "Cubic Yard", "Linear Foot", "Pound", respectively, to be consistent with pay item). Corrected Estimated Quantities Table for box culverts in note B3.6 (changed from "Class B Concrete" to "Class B-1 Concrete" and added "Granular Backfill" into the Table).
B3-B1	Dec. 2001	Revised notes B3.8A and B3.8B (changed wording from "Cu. Yd.", "Lbs" to "Cubic Yard", "Pound", respectively, to be consistent with pay item).
B3-B2	Dec. 2001	Revised note B3.16 (changed wording from "Cu. Yd.", "Lbs" to "Cubic Yard", "Pound", respectively, to be consistent with pay item).
B3-C	July 2001	Revised notes B3.17, B3.18 and B3.18.1 (changed wording from "Cu. Yd.", "Lbs" to "Cubic Yard", "Pound", respectively, to be consistent with pay item).
C1-C	Sept. 1992	Corrected typographical errors in note C1.29.
C1-D	Dec. 1995	Corrected typographical errors.
E4-A	July 2001	Revised wording in note E4.4.
E4-B	July 2001	Reprinted back of page E4-A.
G1-A	Dec. 2001	Revised notes G1.1.1 and G1.8 (corrected concrete classification from "Class B2" concrete to "Class B-2" concrete to be consistent with pay item).
G1-B	June 1997	Reprinted back of page G1-A.
G1-C	July 2001	Reprinted to be in front of page G1-D.
G1-D	Apr. 2001	Revised note G1.35 (changed wording from "Cu. Yd.", "Lin. Ft.", "Lbs" to "Cubic Yard", "Linear Foot", "Pound", respectively, to be consistent with pay item).
G2-A	Mar. 1999	Revised note G2.1 (corrected concrete classification from "Class B1" concrete to "Class B-1" concrete to be consistent with pay item).
H2-A	Aug. 1993	Modified note H2.1 to add guidance for the table.
H2-B1	May 2000	Revised note H2.5 (corrected concrete classification from "Class A1" concrete to "Class A-1" concrete to be consistent with pay item). Revised note H2.12.
H2-B2	Aug. 1995	Corrected typographical errors.
H2-C	May 1999	Revised note H2.20 (corrected concrete classification from "Class A1" concrete to "Class A-1" concrete to be consistent with pay item).
H2-F	Mar. 2001	Reprinted to be in front of page H2-G1.
H2-G1	Mar. 2001	Revised note H2.80 (corrected concrete classification from "Class B2 concrete" to "Class B-2 concrete" to be consistent with pay item).
H3-C2	Jan. 2001	Corrected a typographical error.
H3-D1	Jan. 2001	Corrected a typographical error in note H3.47.
H3-D2	Jan. 2001	Corrected typographical errors in notes H3.51, H3.55 and H3.56.
H3-E	Mar. 1999	Reprinted on back of page H3-D2.
H4-A1	Mar. 2001	Added a new note H4.7.1 for Conduit System as per bridge manual revision E3000. (See page 4.8-1 of Section 3.30 General Superstructure.)
H4-A2	Jan. 1996	Revised note H4.8 to remove stainless steel cover requirement for junction box exposed to sidewalk.

## DIVISION OF BRIDGE

### BRIDGE MANUAL ADDENDUM

<u>Page</u>	<u>Date</u>	<u>Description</u>
H6-A	Sept. 1992	Reprinted to be in front of page H6-B.
H6-B	Aug. 1995	Revised note H6.17 (corrected concrete classification from "Class B2 concrete" to "Class B-2 concrete" to be consistent with pay item).
H9-B	Aug. 1995	Reprinted to be in front of page H10-A1.
H10-A1	May 1999	Revised note H10.4 (corrected concrete classification from "Class B1" concrete to "Class B-1" concrete to be consistent with pay item).
H10-A2	Mar. 2001	Reprinted to be in front of page H10-B1.
H10-B1	Mar. 2001	Revised note H10.16 (corrected concrete classification from "Class B1" concrete to "Class B-1" concrete to be consistent with pay item). Revised wording in note H10.21 (from "linear feet" to "linear foot")
H10-B2	Sept. 1996	Reprinted to be in front of page H10-C1.
H10-C1	Aug. 1998	Revised note H10.71 (corrected concrete classification from "Class B1" concrete to "Class B-1" concrete to be consistent with pay item).
H10-C2	Sept. 1996	Revised notes H10.76 and H10.77 (corrected concrete classification from "Class B1" concrete to "Class B-1" concrete to be consistent with pay item).
H10-D	May 2001	Revised guidance for using optional slip from barrier curb.
H11-A	Sept. 1996	Revised note H11.6 (changed wording from "lbs." to "pound" to be consistent with pay item).
H11-B	Mar. 1999	Reprinted on back of page H11-A.
H11-C	Mar. 1999	Revised note H11.22 (corrected concrete classification from "Class B2" concrete to "Class B-2" concrete to be consistent with pay item).
I1-A1	Aug. 1995	Reprinted on back of page H11-C.
J1-A	July 2002	Reprinted to be in front of page J1-B.
J1-B	May 2001	Revised note J1.16 and Pre-qualified Wall Systems Table to refer to MoDOT Internet site.
J1-C	May 2001	Revised note J1.17 and Pre-qualified Wall Systems Table to refer to MoDOT Internet site.
J1-D	Apr. 2002	Revised note J1.18 and Pre-qualified Wall Systems Table to refer to MoDOT Internet site.
K1-A	Feb. 2000	Reprinted to be in front of page K1-B.
K1-B	May 2002	Revised note K1.14 (changed wording from "sq. yd." to "square yard" to be consistent with pay item).

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E3007  
**To:** Section 3.30 General Superstructure, Section 3.71 Open Concrete Intermediate Bents and Piers, Section 3.31 Bearings and Section 3.55 Prestressed Concrete I-Girders  
**Date:** September 12, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs after Jan. 2003 Letting.  
This cover sheet is for information only and need not be retained.

### General Superstructure - Section 3.30

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index-1	May 2001	Added new subsection 3.30.4.3 into section 3.30.4 to reflect changes by this revision.
Index-2	May 2001	Reprinted on back of page index-1.
4.3-1	New	New detail of SBC for wing with detached wing wall to show 1" joint filler in SBC when wing wall length is greater than 22 feet.
4.5-2	May 2001	Revised note in "Resin Anchor".
4.6A-1	May 2001	Reprinted on back of page 4.5-2.
4.8-1	May 2001	Revised "Section B-B" to add weld detail for welding nut to the anchor bolt.
4.10-1	May 2001	Reprinted on back of page 4.8-1.

### Open Concrete Intermediate Bents and Piers - Section 3.71

<u>Page</u>	<u>Date</u>	<u>Description</u>
6.1-3	Sept. 2001	Reprinted in the front of page 1.6-4.
6.1-4	Sept. 2001	Corrected typographical errors in the bearing pressure equations.

### Bearings - Section 3.31

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.3-1	July 1999	Revised details in Part Plan View to correct sole plate length (to be the length of stainless steel plate plus one inch) and added note (7).
3.3-2	July 1999	Reprinted on back of page 3.3-1.

### Prestressed Concrete I-Girders – Section 3.55

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-10	Oct. 2000	Rewrote Negative Moment Bar Cut-off (Ultimate Strength Controlling) design example.
1.1-11	Oct. 2000	Rewrote Negative Moment Bar Cut-off (Ultimate Strength Controlling) design example.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

Revision: E6202

To: Section 3.62 Retaining Wall and Section 3.41 Wide Flange Beam Spans

Date: Sept. 19, 2002

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs after **Jan.** 2003 Letting.

This cover sheet is for information only and need not be retained.

### Retaining Wall - Section 3.62

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-1	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
1.1-2	Dec. 1998	Upgraded to the Microsoft Word format and revised the design practice in "Concrete Cantilever Wall on Pile Footing" to specify that these walls are also used when an end bent requires wings longer than 22 feet.
1.2-1 thru 1.2-7	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
1.2-8	Dec. 1998	Upgraded to the Microsoft Word format and added " $\beta_E = 1.0$ for flexural members".
3.2-1	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
3.2-2	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
3.2-3	Dec. 1998	Upgraded to the Microsoft Word format and corrected a typographical error in " $K_{PE}$ " equation.
3.2-4 thru 3.2-12	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
3.5-1	Dec. 1998	Upgraded to the Microsoft Word format and reprinted.
3.5-2	Dec. 1998	Upgraded to the Microsoft Word format and revised load factors' information to refer to page 1.2-8.
3.5-3	Dec. 1998	Upgraded to the Microsoft Word format and corrected errors.
3.5-4	Dec. 1998	Upgraded to the Microsoft Word format and corrected errors.

### Wide Flange Beam Spans - Section 3.41

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.6-1	May 2001	Corrected bearing stiffener weld details and a typographical error.
1.6-2	May 2001	Reprinted on back of page 1.6-1.
2.1-3	May 2001	Corrected bearing stiffener weld details.
2.1-4	May 2001	Corrected bearing stiffener weld details and typographical errors.
2.1-5	May 2001	Corrected bearing stiffener weld details and a typographical error.
3.2-1	May 2001	Corrected bearing stiffener weld details.
3.2-2	May 2001	Reprinted on back of page 3.2-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9843  
**To:** Section 4.0 Office Notes  
**Date:** October 01, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs.  
This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
H6-A	Sept. 1992	Removed notes pertaining to Off-System Structures.
H6-B	Aug. 1995	Removed notes pertaining to Off-System Structures.

## DIVISION OF BRIDGES BRIDGE MANUAL ADDENDUM

**Revision:** E7701  
**TO:** Section 3.77 Concrete Pile Cap Integral End Bents, Section 8.1 Preliminary Design  
**Date:** October 10, 2002

The following sheets are to be inserted into bridge manual.  
This cover sheet is for information only and need not be retained.

### Concrete Pile Cap Integral End Bents - Section 3.77

A new integral end bent detail has been created in Section 3.77 Concrete Pile Cap Integral End Bents. The alternate detail allows for a square wing wall and square approach slab notch. The new sheets shall be placed at the end of the current Section 3.77.

### ALL PROJECTS AFTER THE APRIL, 2003 LETTING WILL UTILIZE THESE DETAILS WHERE APPROPRIATE.

<u>Page</u>	<u>Date</u>	<u>Description</u>
Index, i-1	March 2000	New sheet reflects the new section 3.77.5 Alternate End Bent Details.
5.1-1	New	Details of square wing wall and maximum wing wall length are shown.
5.2-1	New	Dimensions of square wing wall and square approach slab notch for wide flange beams and plate girders.
5.2-2	New	Dimensions of square wing wall and square approach slab notch for prestressed girders.
5.3-1	New	Reinforcement details of beam and approach slab notch for wide flange beams and plate girders.
5.3-2	New	Reinforcement details of beam and approach slab notch for prestressed girders.
5.3-3	New	Reinforcement details of square wing wall for wide flange beams, plate girders, and prestressed girders.
5.3-4	New	Reinforcement details of beam and approach slab notch for wide flange beams, plate girders, and prestressed girders.

### Preliminary Design - Section 8.1

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Jan. 2002	Reprinted on front of page 2.2-1.
2.2-1	Sept. 2001	Changed wing length from 17'-0" to 22'-0".

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E6203  
**To:** Section 4.0 Office Notes  
**Date:** October 25, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs.  
This cover sheet is for information only and need not be retained.

### Office Notes – Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
J1-A	July 2002	Reprinted to be in front of page J1-B.
J1-B	Oct. 2002	Modified note J1.14 to clarify baseline elevations.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** E6203  
**To:** Section 3.62 Retaining Walls  
**Date:** October 25, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs.  
This cover sheet is for information only and need not be retained.

### Retaining Walls – Section 3.62

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Aug. 2002	Reprinted to be in front of page 2.1-2.
2.1-2	Oct. 2002	Modified second note under “MSE Wall Plan and Geometrics” to clarify baseline elevations.
2.2-1	May 2002	Reprinted to be in front of page 2.2-2.
2.2-2	Oct. 2002	Modified second title from “Panel” to “Block”.
2.2-3	May 2002	Reprinted to be in front of page 2.2-4.
2.2-4	Oct. 2002	Modified third note to clarify baseline elevations.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** D9843  
**To:** Section 4.0 Office Notes  
**Date:** October 29, 2002

The following revised sheets are to be inserted into the bridge manual.  
This manual addendum is effective immediately for all applicable jobs.  
This cover sheet is for information only and need not be retained.

### Office Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
B3-A	Aug. 2002	Reprinted in front of B3-B
B3-B	Aug. 2002	Added not B3.6 pertaining to reinforcement in Cast-in Place Piling is included with Superstructure Quantities
H6-A	Sept. 1992	Removed notes pertaining to Off-System Structures.
H6-B	Aug. 1995	Removed notes pertaining to Off-System Structures.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 8.1-10/23/02  
**To:** Section 8.1 Preliminary Design  
**Date:** Nov. 04, 2002

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.5-1	July 2002	Added note for PSI-Girder span ratio.
2.6-1	Jan. 2002	Reprinted on back of 2.5-1
2.16-1	Jan. 2002	Revised note 3 reference to section 3.55.
2.16-2	Jan. 2002	Reprinted on the back of 2.16-1.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 4.0-11/04/02  
**To:** Section 4.0 Office Notes  
**Date:** Dec. 06, 2002

The following revised sheets are to be inserted into the bridge manual.

This cover sheet is for information only and need not be retained.

### Notes - Section 4.0

<u>Page</u>	<u>Date</u>	<u>Description</u>
E3-A	July 2001	Removed part of note E3.4 saying "See Special Provisions".
E3-B	July 2001	Removed part of note E3.8 saying "See Special Provisions".
E4-A	Aug. 2002	No change reprinted on front of E4-B
E4.B	July 2001	Added note 4.5.1 for friction pile.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 2.5—1/06/03  
**To:** Section 2.5  
**Date:** Jan. 09, 2003

The following revised sheets are to be inserted into the bridge manual.  
The following pay items are to be effective for jobs let after July 1, 2003.  
This cover sheet is for information only and need not be retained.

### Notes - Section 2.5

<u>Page</u>	<u>Date</u>	<u>Description</u>
1-3	Aug. 2001	Corrected number 622-10.10 should be 622-10.11
1-4	Aug. 2001	No change reprinted on back of page 1.3
1-5	Aug. 2001	No change reprinted on front of 1-6
1-6	Dec. 2001	Added pay Items 703-44.12 and 703-44.13

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.62-12/16/02  
**To:** Section 3.62 Retaining Walls  
**Date:** Dec. 24, 2002

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **Retaining Walls - Section 3.62**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.2-1	May. 2002	No change reprinted in front of 2.2-2
2.2-2	Oct. 2002	Added dimension at top of Barrier Curb.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

Revision: 3.71-02/25/03  
To: Section 3.71 Open Concrete Intermediate Bents and Piers  
Date: Feb. 28, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### Retaining Wall - Section 3.62

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.3.1	Dec 1999	Removed note for pile footing using $\frac{1}{2}$ earth load.
1.3-2	Dec.1999	No change printed on back of 1.3.1

## DIVISION OF BRIDGES BRIDGE MANUAL ADDENDUM

**Revision:** E7702  
**TO:** Section 3.77 Concrete Pile Cap Integral End Bents  
**Date:** February 28, 2003

The following sheets are to be inserted into bridge manual.  
This cover sheet is for information only and need not be retained.

### Concrete Pile Cap Integral End Bents - Section 3.77

<u>Page</u>	<u>Date</u>	<u>Description</u>
5.1-1	New	Reprinted on front of page 5.2-1
5.2-1	Oct. 2002	Moved centerline of pile to centerline of abutment beam.
5.2-2	Oct. 2002	Moved centerline of pile to centerline of abutment beam.
5.3-1	Oct. 2002	Revised and added notes for clarity.
5.3-2	Oct. 2002	Revised and added notes for clarity.
5.3-3	Oct. 2002	Removed top #6 "L" shaped bar above the approach haunch.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

Revision: 4.00-02/19/03  
To: Section 4 Office Notes  
Date: 03/11/03

The following revised sheets are to be inserted into the bridge manual.

**Replace entire section starting with page A1-A.**

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Office Notes – Section 4.00

<u>Page</u>	<u>Description</u>
A1-A	Updated Design Specifications general note A1.1.
A2-A	Corrected typographical error in note A2.4.
B3-B1	Corrected typographical error in note B3.9.
B3-C	Replaced the word "Plain" with "Uncoated" on notes B3.17, B3.18 & B3.18.1. Not included at this time
G1-A	Added note G1.7.1 for vertical reinforcement clearance at pile locations at integral end bents.
H2-B2	Added note H2.19A for Prestressed Double-Tee Girders.
H9-A1	Removed note H9.1 due to duplication of A1.1.
I1-A2	Corrected typographical error in note I1.8.
I2-A1	Removed note I2.1 due to duplication of A1.1.
J1-A	Removed note J1.2 due to duplication of A1.1.
J1-D	Corrected typographical error in note J1.18.

**ALL OTHER SHEETS REPRINTED DUE TO FORMAT CHANGE.**

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.55-02/19/03  
**To:** Section 3.55 P/S Conc. I-Girders  
**Date:** 03/11/03

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **P/S Conc. I-Girders – Section 3.55**

<u>Page</u>	<u>Description</u>
3.1-3	Updated integral and non-integral end bent details to show squared approach notch at fill face.
3.1-4	Reprinted on the back of 3.1-3.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 02.5-03/06/03  
**To:** Section 2.5 General Quantities  
**Date:** 03/11/03

The following revised sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### General Quantities – Section 2.5

<u>Page</u>	<u>Description</u>
1-3	Corrected typographical error.
1-4	Reprinted on the back of 1-3.
1-9	Corrected typographical errors.
1-10	Corrected typographical errors.
1-11	Corrected typographical errors.
1-12	Reprinted on the back of 1-11.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.56-03/14/03  
**To:** Section 3.56 P/S Double-Tee Girders  
**Date:** March 21,2003

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **P/S Double-Tee Girders – Section 3.56**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.1-11	Nov. 2000	Added call out “Edge Block” for clarity.
1.2-1	Nov. 2000	Reprinted on back of 1.1-11.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 4.00-03/14/03  
**To:** Section 4.00 Office Notes  
**Date:** March 21,2003

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### Office Notes – Section 4.00

<u>Page</u>	<u>Date</u>	<u>Description</u>
A1-A	02/19/03	Revised wording on note A1.1.
A1-B	Aug. 2002	Reprinted on back of A1-A.
B3-C	02/19/03	Changed "Plain" to "Uncoated" in note B3.17, B3.18 and B3.18.1.
B3-D	Aug. 1999	Reprinted on back of B3-C.
J1-A	02/19/03	Added note J1.2 concerning cost of joint filler and joint seal.
J1-B	Oct. 2002	Reprinted on back of J1-A..
J1-C	Aug. 2002	Reprinted on front of J1-D.
J1-D	02/19/03	Corrected typographical error in note J1.18.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.55-03/10/03  
**To:** Section 3.55 P/S Concrete I-Girders  
**Date:** March 21,2003

The following sheets are to be inserted into the bridge manual.

This manual addendum is effective immediately for all applicable jobs, regardless of status.

This cover sheet is for information only and need not be retained.

### **P/S Concrete I-Girders – Section 3.55**

<u>Page</u>	<u>Date</u>	<u>Description</u>
3.2-1	April 2001	Revised bearing pads for clarity.
3.2-2	April 2001	Revised bearing pads for clarity.
3.2-3	April 2001	Revised bearing pads for clarity.
3.3-1	May 2002	Reprinted on back of 3.2-3.

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 8.1-01/27/03  
**To:** Section 8.1 Preliminary Design  
**Date:** Mar. 19, 2003

The following revised sheets are to be inserted into the bridge manual.

This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.17-1	Jan. 2002	Changed "Project Operations" to "Construction and Materials Unit"
2.17-2	Sept. 2001	No change printed on back of 2.17-1
2.18-1	Sept. 2001	Added paragraph for Column Bents /Drilled Shafts
2.19-1	July 2002	No change printed on back of 2.18.1
2.21-6	Sept. 2001	No change printed in front of 2.22-1
2.22-1	Sept. 2001	Revised paragraph about boring data.
3.2-2	Sept. 2001	No Change printed on front of 3.3-1
3.3-1	Sept. 2001	Corrected typographical errors
3.3-2	02/03	New pages.
thru		
3.3-6		
3.4-1	Sept. 2001	No change printed on back of 3.3-6

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 8.1-03/20/03  
**To:** Section 8.1 Preliminary Design  
**Date:** April 04, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **Preliminary Design - Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
4.3-1	July, 2002	Added note : If soundings indicate weak material. . . .
4.4-1	Jan. 2002	No change printed on back of 4.3-1

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.62-03/24/03  
**To:** Section 3.62 Retaining Walls  
**Date:** April 04, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **Retaining Walls - Section 3.62**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.1-1	Aug. 2002	Added notes for small block walls.
2.1-2	New	New sheet continuing for notes of small block walls.
2.1-3	Oct. 2002	Was 2.1-2 renumbered to 2.2-3
BLANK		On back of 2.2-3

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.30—04/04/03  
**To:** Section 3.30  
**Date:** April 10, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **General Superstructure – Section 3.30**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.6-1	May 2001	Removed note pertaining to off-system bridges
1.6-2	May 2001	No change reprinted on back of page 1.6-1

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 3.90-03/02/03  
**To:** Section 3.90  
**Date:** April 10, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **Widening & Repair – Section 3.90**

<u>Page</u>	<u>Date</u>	<u>Description</u>
1.6-1	May 2001	Moved note location to centerline of temporary traffic barrier.
1.6-2		Blank on back

# DIVISION OF BRIDGE

## BRIDGE MANUAL ADDENDUM

**Revision:** 8.1-03/22/03  
**To:** Section 8.1  
**Date:** April 10, 2003

The following revised sheets are to be inserted into the bridge manual.  
This cover sheet is for information only and need not be retained.

### **Preliminary Design – Section 8.1**

<u>Page</u>	<u>Date</u>	<u>Description</u>
2.9-1.1	New	Temporary barriers
2.9-1.2		Blank on back