

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION DESIGN DIVISION

NASHVILLE, TENNESSEE 37243-0348

INSTRUCTIONAL BULLETIN NO. 10-16

Regarding Revised Section V – List of Current Standard Drawings

Effective immediately, Section 5 – List of Current Standard Drawings of the Design Guidelines is revised. They are attached to replace the existing sections in the Roadway Design Guidelines.

This bulletin **voids Instructional Bulletins 09-03, 09-05, 10-01, 10-03, and 10-07**. Please remove the voided Instructional Bulletins from Section VIII – INSTRUCTIONAL BULLETINS of the Design Guidelines and replace the existing INDEX OF INSTRUCTIONAL BULLETINS with the enclosed revised Index.

Carolyn Stonecipher, Civil Engineering Director

Design Division

English Revised: 11/24/10

SECTION- VIII INDEX OF INSTRUCTIONAL BULLETINS

| IB NUMBER | <u>DATE</u> | DESCRIPTION |
|-----------|--------------------|---|
| 04-17 | August 13, 2004 | Signatures on Title Sheet |
| 08-13 | August 20, 2008 | Regarding Intersection Site Distance |
| 09-02 | April 3, 2009 | Regarding File Net Archiving |
| 09-04 | April 3, 2009 | Regarding Special EPSC Notes in ROW Plans |
| 09-06 | July 17, 2009 | Regarding Minimum Traffic Control Requirements for Roadway Plans |
| 09-07 | July 17, 2009 | Regarding Total Lane Mile Information for Resurfacing Projects |
| 09-08 | July 17, 2009 | Stamps Required on Roadway Plans and Electronic Files |
| 09-09 | July 27, 2009 | Regarding Turn-in Dates and Letting Schedules for 2010 |
| 09-13 | September 24, 2009 | Regarding Notifying the Railroad Coordinator of Plans Availability on Filenet |
| 10-05 | June 29, 2010 | Regarding Pavement Design Request Submittal |
| 10-06 | July 6, 2010 | Regarding Turn-in Dates and Letting Schedules for 2011 |
| 10-08 | September 21, 2010 | Regarding Size of Full-Size Plan and Cross-Section Sheets |
| 10-09 | September 21, 2010 | Regarding Size of Full-Size Plan and Cross-Section Sheets |
| 10-10 | September 21, 2010 | Regarding Revised Request for Soils Survey Form |
| 10-11 | September 29, 2010 | Regarding Concrete Shoulder Rumble Strip Item Number |

English Revised: 11/24/10

SECTION-VIII INDEX OF INSTRUCTIONAL BULLETINS (CONT'D)

| IB NUMBE | <u>R</u> DATE | DESCRIPTION |
|----------|--------------------|---|
| 10-12 | September 29, 2010 | Regarding Revised Standard Drawings |
| 10-13 | October 08, 2010 | Regarding Temporary Traffic Signal Systems Item Number |
| 10-14 | October 08, 2010 | Regarding Revised Preface, Table of Contents, List of Figures, List of Tables, Section I – General, and Section VII – Index |
| 10-15 | November 16, 2010 | Regarding New and Revised Standard Drawings |
| 10-16 | November 24, 2010 | Regarding Revised Section V – List of Current Standard Drawings |

English Revised: 11/01/10

SECTION V - LIST OF CURRENT STANDARD DRAWINGS

CHAPTER 1 – STANDARD ROADWAY DRAWINGS

ROADWAY DESIGN STANDARD DRAWINGS

ROADWAY DESIGN STANDARDS

DRAINAGE - CULVERTS AND ENDWALL

DRAINAGE - CATCH BASINS AND MANHOLES

ROADWAY AND PAVEMENT APPURTENANCES

SAFETY APPURTENANCES AND FENCE

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EROSION PREVENTION AND SEDIMENT CONTROL

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STRUCTURE DESIGN STANDARD DRAWINGS

BRIDGE APPURTENANCES ENGLISH (NEW STRUCTURES)

BRIDGE APPURTENANCES ENGLISH (BOX CULVERTS)

BRIDGE APPURTENANCES ENGLISH (BRIDGE REPAIRS)

English Revised: 11/01/10

SECTION V - LIST OF CURRENT STANDARD DRAWINGS

CHAPTER 1 – STANDARD ROADWAY DRAWINGS

ROADWAY DESIGN STANDARD DRAWINGS

ROADWAY DESIGN STANDARDS

| RD-A-1 | 12-18-99 | STANDARD ABBREVIATIONS |
|----------|----------|---|
| RD-L-1 | 10-26-94 | STANDARD LEGEND |
| RD-L-2 | 09-05-01 | STANDARD LEGEND FOR UTILITY INSTALLATIONS |
| RD-L-3 | 04-15-04 | STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING |
| RD-L-4 | 04-15-04 | STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING |
| RD-L-5 | 05-01-08 | STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL |
| RD-L-6 | 03-30-10 | STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL |
| RD-L-7 | | STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL |
| RD-S-11 | 03-31-03 | DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT |
| RD-S-11A | 03-31-03 | ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION |
| RD-SA-1 | 03-31-03 | SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION |
| RD-SE-2 | 10-26-95 | URBAN SUPERELEVATION DETAILS |
| RD-SE-3 | 10-26-95 | RURAL SUPERELEVATION DETAILS |
| RD-TS-1 | 03-31-03 | DESIGN STANDARDS FOR LOCAL ROADS AND STREETS |
| RD-TS-2 | 03-31-03 | DESIGN STANDARDS FOR COLLECTOR ROADS AND STREETS |
| RD-TS-2A | 03-31-03 | DESIGN STANDARDS FOR 4-6 LANE COLLECTOR HIGHWAYS WITH DEPRESSED MEDIANS |

| English | | Revised: 11/01/10 |
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| RD-TS-2B | 03-31-03 | DESIGN STANDARDS FOR 4-6 LANE COLLECTOR HIGHWAYS WITH FLUSH MEDIANS |
| RD-TS-3 | 03-31-03 | DESIGN STANDARDS FOR 2-LANE ARTERIAL HIGHWAYS |
| RD-TS-3A | 03-31-03 | DESIGN STANDARDS 4-6 LANE ARTERIAL HIGHWAYS WITH DEPRESSED MEDIANS |
| RD-TS-3B | 03-31-03 | DESIGN STANDARDS 4-6 LANE ARTERIALS WITH INDEPENDENT ROADWAYS |
| RD-TS-3C | 03-31-03 | DESIGN STANDARDS 4-6 LANE ARTERIAL HIGHWAYS WITH FLUSH MEDIANS |
| RD-TS-4 | 03-31-03 | DESIGN STANDARDS 1 & 2 LANE RAMPS |
| RD-TS-5 | 03-31-03 | DESIGN STANDARDS FREEWAYS WITH DEPRESSED MEDIANS |
| RD-TS-5A | 03-31-03 | DESIGN STANDARDS FREEWAYS WITH INDEPENDENT ROADWAYS |
| RD-TS-5B | 03-31-03 | DESIGN STANDARDS FREEWAYS WITH MEDIAN BARRIER |
| RD-TS-6 | 03-31-03 | TYPICAL CURB AND GUTTER SECTIONS WITH SHOULDER |
| RD-TS-6A | 03-31-03 | TYPICAL CURB AND GUTTER SECTIONS WITHOUT SHOULDER |
| RD-TS-7 | 03-31-03 | DESIGN STANDARDS 2-LANE HIGHWAY WITH CONTINUOUS 2-WAY LEFT-TURN LANE |
| RD-TS-7A | 03-31-03 | DESIGN STANDARDS 2-LANE CURB & GUTTER WITH CONTINUOUS 2-WAY LEFT-TURN LANE |
| RD-TS-8 | | SHARED USE PATH TYPICAL SECTIONS |
| RD-TS-9 | | DESIGN STANDARDS FOR SINGLE LANE URBAN AND RURAL ROUNDABOUTS |
| RD-TS-10 | | DESIGN STANDARDS FOR MULTI-LANE URBAN AND RURAL ROUNDABOUTS |
| RD-UD-3 | 09-05-96 | UNDERDRAIN DETAILS |
| RD-UD-4 | 05-27-01 | UNDERDRAIN LATERAL DETAILS |
| RD-UD-6 | 12-18-94 | LATERAL UNDERDRAIN ENDWALL DETAIL FOR 1:1 & 2:1 SLOPES |

| English | | Revised: 11/01/10 |
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| RD-UD-7 | 12-18-94 | LATERAL UNDERDRAIN ENDWALL DETAIL FOR 3:1 & 4:1 SLOPES |
| RD-UD-8 | | LATERAL UNDERDRAIN ENDWALL DETAIL FOR 5:1 SLOPES |
| RD-UD-9 | 12-18-94 | LATERAL UNDERDRAIN ENDWALL DETAIL FOR 6:1 SLOPES |
| RD01-S-11 | 04-04-03 | DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT |
| RD01-S-11A | 10-15-02 | ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION |
| RD01-S-11B | 10-15-02 | DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT |
| RD01-S-12 | 08-01-09 | CLEAR ZONE CRITERIA |
| RD01-SA-1 | 10-15-02 | SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION |
| RD01-SD-1 | | INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES |
| RD01-SD-2 | | INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION |
| RD01-SD-3 | | INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS |
| RD01-SD-4 | | INTERSECTION SIGHT DISTANCE 5-LANE AND 4-LANE UNDIVIDED ROADWAYS |
| RD01-SD-5 | | INTERSECTION SIGHT DISTANCE 4-LANE DIVIDED HIGHWAYS |
| RD01-SD-6 | | INTERSECTION SIGHT DISTANCE 6-LANE DIVIDED HIGHWAYS |
| RD01-SD-7 | | INTERSECTION SIGHT DISTANCE FOR PASSIVE RAILROAD HIGHWAY GRADE CROSSINGS |
| RD01-SE-2 | 10-15-02 | URBAN SUPERELEVATION DETAILS |
| RD01-SE-3 | 10-15-02 | RURAL SUPERELEVATION DETAILS |
| RD01-TS-1 | 10-15-02 | DESIGN STANDARDS FOR LOCAL ROADS AND STREETS |
| RD01-TS-1A | | DESIGN STANDARDS FOR LOW-VOLUME LOCAL ROADS (ADT<=400) |

| English | | Revised: 11/01/10 |
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| RD01-TS-2 | 10-15-02 | DESIGN STANDARDS FOR COLLECTOR ROADS AND STREETS |
| RD01-TS-2A | 10-15-02 | DESIGN STANDARDS 4 AND 6 LANE COLLECTOR HIGHWAYS WITH DEPRESSED MEDIANS |
| RD01-TS-2B | 10-15-02 | DESIGN STANDARDS 4 AND 6 LANE COLLECTOR HIGHWAYS WITH FLUSH MEDIANS |
| RD01-TS-3 | 10-15-02 | DESIGN STANDARD FOR 2-LANE ARTERIAL HIGHWAYS |
| RD01-TS-3A | 10-15-02 | DESIGN STANDARDS 4 AND 6 LANE ARTERIAL HIGHWAYS WITH DEPRESSED MEDIANS |
| RD01-TS-3B | 10-15-02 | DESIGN STANDARDS 4 AND 6 LANE ARTERIALS WITH INDEPENDENT ROADWAYS |
| RD01-TS-3C | 10-15-02 | DESIGN STANDARDS 4 AND 6 LANE ARTERIAL HIGHWAYS WITH FLUSH MEDIANS |
| RD01-TS-4 | 10-15-02 | DESIGN STANDARDS 1 AND 2 LANE RAMPS |
| RD01-TS-5 | 10-15-02 | DESIGN STANDARDS FREEWAYS WITH DEPRESSED MEDIANS |
| RD01-TS-5A | 10-15-02 | DESIGN STANDARDS FREEWAYS WITH INDEPENDENT ROADWAYS |
| RD01-TS-5B | 10-15-02 | DESIGN STANDARDS FREEWAYS WITH MEDIAN BARRIER |
| RD01-TS-6 | 10-15-02 | TYPICAL CURB AND GUTTER SECTIONS WITH SHOULDER |
| RD01-TS-6A | 10-15-02 | TYPICAL CURB AND GUTTER SECTIONS WITHOUT SHOULDER |
| RD01-TS-7 | 10-15-02 | DESIGN STANDARDS 2-LANE HIGHWAY WITH CONTINUOUS 2-WAY LEFT-TURN LANE |
| RD01-TS-7A | 10-15-02 | DESIGN STANDARDS 2-LANE CURB AND GUTTER WITH CONTINUOUS 2-WAY LEFT-TURN LANE |
| DRAINAGE - CULVERTS AND ENDWALL | | |
| D-FLU-1 | | FLUME DETAILS |
| D-PB-1 | 04-15-07 | STANDARD DETAILS, CLASS "B" BEDDING AND CULVERT EXCAVATION |
| D-PB-2 | 06-01-09 | STANDARD DETAILS FOR PLASTIC PIPE INSTALLATION |
| D-PE-1 | 02-12-76 | TYPE "A" CONCRETE ENDWALL (2:1 SLOPE. 36" TO 78") |

| English | | Revised: 11/01/10 |
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| D-PE-3B(1) | 07-17-07 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPE) (3:1 SLOPE) |
| D-PE-3B(2) | 05-27-01 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPE) (3:1 SLOPE) |
| D-PE-4 | 07-19-10 | STRAIGHT "L" AND "U' TYPE CONCRETE ENDWALL |
| D-PE-4B(1) | 03-30-00 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPES) (4:1 SLOPE) |
| D-PE-4B(2) | 07-17-07 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPES) (4:1 SLOPE) |
| D-PE-5 | 05-27-01 | WINGWALLS HORIZONTAL OVAL CONCRETE PIPES |
| D-PE-6 | 05-27-01 | STRAIGHT ENDWALLS VERTICAL OVAL CONCRETE PIPES |
| D-PE-6A | 05-27-01 | WINGWALLS VERTICAL OVAL CONCRETE PIPES |
| D-PE-6B(1) | 03-30-00 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPES) (6:1 SLOPE) |
| D-PE-6B(2) | 07-19-10 | CONCRETE ENDWALL TYPE "U" WITH STEEL PIPE GRATE (FOR 18" THRU 48" PIPES) (6:1 SLOPE) |
| D-PE-7 | 05-27-01 | STRAIGHT ENDWALLS FLATBASE CONCRETE PIPES |
| D-PE-7A | 05-27-01 | WINGWALLS FLATBASE CONCRETE PIPES |
| D-PE-8 | 01-19-97 | DETAIL OF STANDARD PIPE AND PIPE-ARCH CULVERT WITH BEVELED ENDS AND RIP-RAP |
| D-PE-9 | 04-25-90 | CONCRETE ENDWALLS TYPE "B" (FOR ROUND & SIDE TAPERED INLETS, PIPE SIZES 15" TO 78", ALL SKEWS, 2:1 AND 4:1 SLOPES) 1976 |
| D-PE-9A | 10-25-82 | GENERAL DIMENSIONS QUANTITIES, ROUND PIPE CONCRETE ENDWALLS TYPE "B" (PIPE SIZES 15" TO 78", ALL SKEWS, 2:1 AND 4:1 SLOPES) 1976 |
| D-PE-9B | | GENERAL DIMENSIONS AND QUANTITIES, SIDE TAPER INLETS, CONCRETE ENDWALLS TYPE "B" (PIPE SIZES 15" TO 78", ALL SKEWS, 2:1 AND 4:1 SLOPES) 1976 |
| D-PE-9C | | BILL OF STEEL (SHEET 1 OF 4) CONCRETE ENDWALLS TYPE "B" (FOR CONCRETE ROUND AND SIDE TAPERED INLET, PIPE SIZES 15" TO 78", ALL SKEWS, 2:1 SLOPE) 1976 |

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| D-PE-9D | | BILL OF STEEL (SHEET 2 OF 4) CONCRETE ENDWALLS TYPE "B" (FOR CONCRETE ROUND AND SIDE TAPERED INLET, PIPE SIZES 15" TO 78", ALL SKEWS, 4:1 SLOPE) 1976 |
| D-PE-9E | | BILL OF STEEL (SHEET 3 OF 4) CONCRETE ENDWALLS TYPE "B" (FOR STEEL ROUND AND SIDE TAPERED INLET, PIPE SIZES 15" TO 78", ALL SKEWS, 2:1 SLOPE) 1976 |
| D-PE-9F | | BILL OF STEEL (SHEET 4 OF 4) CONCRETE ENDWALLS TYPE "B" (FOR STEEL ROUND AND SIDE TAPERED INLET, PIPE SIZES 15" TO 78", ALL SKEWS, 4:1 SLOPE) 1976 |
| D-PG-3 | 04-15-97 | FERROUS AND ALUMINUM CORRUGATED METAL PIPE |
| D-PG-4 | 07-29-94 | FERROUS AND ALUMINUM CORR. METAL PIPE-ARCHES |
| D-PO-1 | 05-27-01 | OVAL & FLAT BASE CONCRETE CULVERT PIPE |
| D-PS-1 | 03-15-76 | STRUTTING DETAILS FOR CORRUGATED METAL & STRUCTURAL PLATE ROUND PIPE |
| D-SEW-6DA | 07-19-10 | CONCRETE ENDWALL TYPE "SD" WITH STEEL PIPE GRATE (FOR 15" THRU 48" PIPES) (6:1 SLOPE) |
| D-SEW-6DB | 10-26-92 | CONCRETE ENDWALL TYPE "SD" WITH STEEL PIPE GRATE (FOR 15" THRU 48" PIPES) (6:1 SLOPE) |
| D-SEW-6DC | 07-19-10 | CONCRETE ENDWALL TYPE "SD" WITH STEEL PIPE GRATE (FOR 18" THRU 30" PIPES) (6:1 SLOPE) |
| D-SEW-6DD | 04-15-05 | CONCRETE ENDWALL TYPE "SD" WITH STEEL PIPE GRATE (FOR 18" THRU 30" PIPES) (6:1 SLOPE) |
| D-SEW-12D | 07-19-10 | CONCRETE ENDWALL TYPE "SD" WITH STEEL PIPE GRATE (FOR 15" AND 18" PIPES) (12:1 SLOPE) |
| DRAINAGE - | CATCH BASI | INS AND MANHOLES |
| D-CB-10LPC | 07-29-04 | LOW PROFILE LOWERED CURB 32" X 26" RECTANGULAR CONCRETE NO. 10LPC CATCH BASIN |
| D-CB-10RA | | STANDARD PRECAST 48" CIRCULAR NO. 10 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-10S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 10 CATCH BASIN |
| D-CB-10SB | | STANDARD 4' X 4' SQUARE CONCRETE NO. 10 CATCH BASIN |
| D-CB-12B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 12 CATCH BASIN |

| English | | Revised: 11/01/10 |
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| D-CB-12LP | 07-29-04 | LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 12LP CATCH BASIN |
| D-CB-12P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO.12 CATCH BASIN |
| D-CB-12RA | 05-27-01 | STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-12RB | 05-27-01 | STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-12RC | 05-27-01 | STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-12S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 12 CATCH BASIN |
| D-CB-12SB | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 12 CATCH BASIN |
| D-CB-12SC | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 12 CATCH BASIN |
| D-CB-12SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN |
| D-CB-12SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 12 CATCH BASIN |
| D-CB-13B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 13 CATCH BASIN |
| D-CB-13P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 13 CATCH BASIN |
| D-CB-13RA | 05-27-01 | STANDARD PRECAST 48" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-13RB | 05-27-01 | STANDARD PRECAST 60" AND 72" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-13RC | 05-27-01 | STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB) |
| D-CB-13S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 13 CATCH BASIN |
| D-CB-14B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 14 CATCH BASIN |
| D-CB-14P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 14 CATCH BASIN |
| D-CB-14RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN |

| English | | Revised: 11/01/10 |
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| D-CB-14S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 14 CATCH BASIN |
| D-CB-14SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 14 CATCH BASIN |
| D-CB-16B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 16 CATCH BASIN |
| D-CB-16S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 16 CATCH BASIN |
| D-CB-17S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 17 CATCH BASIN |
| D-CB-25B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25LP | 07-29-04 | STANDARD LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 25LP CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25RA | 05-27-01 | STANDARD PRECAST 48" CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25SB | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25SC | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-25SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-26P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |

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| D-CB-26S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-27S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 27 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB) |
| D-CB-28B | 07-29-02 | STANDARD RECTANGULAR BRICK NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-28LP | 07-29-04 | LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 28LP CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-28P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-28RA | 05-27-01 | STANDARD PRECAST 48" CIRCULAR NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-28RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-28S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-29P | 07-29-02 | STANDARD PRECAST RECTANGULAR CONCRETE NO. 29 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-29S | 07-29-02 | STANDARD RECTANGULAR CONCRETE NO. 29 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB) |
| D-CB-31R | 10-26-03 | STANDARD PRECAST CIRCULAR NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-31SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-31SE | 02-13-04 | STANDARD 9' X 9' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-32LP | 06-30-03 | STANDARD 80" X 32" RECTANGULAR CONCRETE NO. 32 CATCH BASIN (FOR USE UNDER CONCRETE MEDIUM BARRIER WALL) |
| D-CB-38RB | 09-05-04 | STANDARD PRECAST CIRCULAR NO. 38 CATCH BASIN |
| D-CB-38S | 07-29-02 | STANDARD 32" X 32" SQUARE CONCRETE NO. 38 CATCH BASIN |
| D-CB-38SB | 09-05-04 | STANDARD 4' X 4' SQUARE CONCRETE NO. 38 CATCH BASIN |

| English | | Revised: 11/01/10 |
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| D-CB-38SC | 09-05-04 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 38 CATCH BASIN |
| D-CB-39RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 39 CATCH BASIN |
| D-CB-39S | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 39 CATCH BASIN |
| D-CB-39SC | | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 39 CATCH BASIN |
| D-CB-39SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 39 CATCH BASIN |
| D-CB-39SE | 02-13-04 | STANDARD 9' X 9' SQUARE CONCRETE NO. 39 CATCH BASIN |
| D-CB-40S | 07-29-02 | STANDARD 4' X 8' RECTANGULAR CONCRETE NO. 40 CATCH BASIN |
| D-CB-40SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 40. CATCH BASIN |
| D-CB-41LP | 07-29-04 | LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 41LP CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41P | 07-29-02 | STANDARD 4' X 3' PRECAST RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41S | 07-29-02 | STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41SB | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41SC | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-41SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-42RB | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 42 CATCH BASIN |

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| D-CB-42S | 01-19-05 | STANDARD 32" X 32" SQUARE CONCRETE NO. 42 CATCH BASIN |
| D-CB-42SB | 07-29-04 | STANDARD 4' X 4' SQUARE CONCRETE NO. 42 CATCH BASIN |
| D-CB-42SC | | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 42 CATCH BASIN |
| D-CB-42SD | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN |
| D-CB-43R | 05-27-01 | STANDARD PRECAST CIRCULAR NO. 43R CATCH BASIN |
| D-CB-43SB | 07-29-02 | STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 43SB CATCH BASIN |
| D-CB-43SC | 07-29-02 | STANDARD 8' X 5'2" RECTANGULAR CONCRETE NO. 43SC CATCH BASIN |
| D-CB-44SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 44 CATCH BASIN |
| D-CB-45S | 05-27-01 | STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 45 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-46SE | 05-05-05 | STANDARD 9' X 9' SQUARE CONCRETE NO. 46 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL) |
| D-CB-51SC | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 51 CATCH BASIN (FOR USE IN FRONT OF CONCRETE RETAINING WALL) |
| D-CB-51SD | | STANDARD 7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN FOR USE IN FRONT OF CONCRETE RETAINING WALL) |
| D-CB-51SE | | STANDARD 9' X 9' SQUARE CONCRETE NO. 51 CATCH BASIN |
| D-CB-52SE | | STANDARD 9' x 9' SQUARE CONCRETE NO. 52 CATCH BASIN |
| D-CBB-12A | 05-27-01 | TYPE "B" CAST IRON FRAME, GRATE & NONMOUNTABLE INLET DETAILS FOR NOS. 10, 12, 14, 16, AND 17 TYPE CATCH BASINS |
| D-CBB-12B | 05-27-01 | TYPE "B" CAST IRON FRAME, GRATE & 6" MOUNTABLE INLET DETAILS FOR NOS. 25, 26 AND 27 TYPE CATCH BASINS |
| D-CBB-12C | 05-27-01 | TYPE "B" CAST IRON FRAME, GRATE & 4" MOUNTABLE INLET DETAILS FOR NOS. 28 AND 29 TYPE CATCH BASINS |

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| D-CBB-13 | 05-27-01 | TYPE "B" CAST IRON FRAME, GRATE & NONMOUNTABLE INLET DETAILS FOR NO. 13 TYPE CATCH BASINS |
| D-CBB-31 | 05-27-01 | TYPE "B" CAST IRON FRAME, GRATE & INLET DETAILS FOR NOS. 31, 41, 45, 46, & 51 TYPE CATCH BASINS |
| D-CBB-42 | 05-27-01 | CAST IRON GRATE DETAILS FOR NOS. 42, 43 & 44 TYPE |
| D-JBS-1 | 07-29-02 | CATCH BASINS STANDARD 32" X 32" SQUARE CONCRETE NO. 1 JUNCTION BOX |
| D-JBS-2 | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 2 JUNCTION BOX |
| D-JBS-3 | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 3 JUNCTION BOX |
| D-JBS-4 | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 4 JUNCTION BOX |
| D-JBS-5 | 09-11-02 | STANDARD 9' X 9' SQUARE CONCRETE NO. 5 JUNCTION BOX |
| D-MH-2 | 05-27-01 | STANDARD MASONRY & PRECAST NO. 3 MANHOLE |
| D-MH-3 | 04-15-00 | STANDARD PRECAST CIRCULAR LID DETAILS FOR NO. 3 MANHOLE |
| D-MH-3A | 05-27-01 | STANDARD PRECAST CIRCULAR LID DETAILS FOR NO. 3 MANHOLE (108" AND 120" DIA.) |
| D-MH-4 | 05-27-01 | STANDARD NO. 3 MANHOLE CASTINGS AND STEPS |
| D-MH-5 | 09-11-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 3 MANHOLE |
| D-MH-6 | 09-11-02 | STANDARD 7' X 7' SQUARE CONCRETE NO. 3 MANHOLE |
| D-MH-7 | 09-11-02 | STANDARD 9' X 9' SQUARE CONCRETE NO. 3 MANHOLE |
| D-SDS-1 | 07-29-02 | STANDARD 32" X 32" SQUARE CONCRETE NO. 1 SPRING DRAIN BOX |
| D-SDS-2A | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 2A SPRING DRAIN BOX |
| D-SDS-2B | 07-29-02 | STANDARD 4' X 4' SQUARE CONCRETE NO. 2B SPRING DRAIN BOX |
| D-SDS-3A | 07-29-02 | STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 3A SPRING DRAIN BOX |

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| D-SLD-1 | 05-27-01 | SLOTTED DRAINS |
| D-SLD-2 | 05-27-01 | SLOTTED DRAINS |
| D-SLD-3 | 05-27-01 | SLOTTED DRAINS |
| D-TD-1 | | TRENCH DRAIN |
| ROADWAY | AND PAVEME | NT APPURTENANCES |
| RP-CS-1 | 05-27-01 | CONCRETE SHOULDER RUMBLE STRIP DETAIL (FOR 4-LANE DIVIDED HIGHWAY) |
| RP-CS-2 | 05-27-01 | CONCRETE SHOULDER RUMBLE STRIP DETAIL (FOR 6-LANE OR WIDER DIVIDED HIGHWAY) |
| RP-D-15 | 07-15-08 | DETAILS OF STANDARD CONCRETE DRIVEWAYS |
| RP-D-16 | 07-15-08 | DETAILS OF LOWERED STANDARD CONCRETE DRIVEWAYS |
| RP-DHO-1 | 10-26-93 | MEDIAN OPENINGS ON 4-LANE DIVIDED HIGHWAY |
| RP-H-3 | 07-17-07 | HANDICAP RAMP AND TRUNCATED DOME SURFACE DETAIL |
| RP-H-4 | | PERPENDICULAR CURB RAMP |
| RP-H-5 | | PARALLEL CURB RAMP |
| RP-H-6 | | MEDIAN CROSSING |
| RP-H-7 | | PERPENDICULAR HANDICAP RAMP FOR 20' THRU 60' RADIUS |
| RP-H-8 | | PERPENDICULAR HANDICAP RAMP FOR 20' THRU 60' RADIUS |
| RP-H-9 | | PARALLEL HANDICAP RAMP FOR 20' THRU 60' RADIUS |
| RP-I-5 | 12-18-96 | EXAMPLES OF STREET AND ALLEY INTERSECTIONS |
| RP-J-1 | 10-26-00 | PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING |
| RP-J-3 | 10-26-00 | PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING |
| RP-J-5 | 07-01-01 | TYPICAL ACCELERATION AND DECELERATION LANE JOINT TYPES AND SPACING FOR CONCRETE RAMPS |
| RP-J-7 | 10-26-00 | CONCRETE RAMP JOINT TYPES AND SPACING |

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| RP-J-9 | 01-19-02 | CONTRACTION AND CONSTRUCTION JOINTS FOR CONCRETE PAVEMENT |
| RP-J-11 | 07-29-96 | 3/4" AND 1-3/4" EXPANSION AND EDGE PAVEMENT JOINTS |
| RP-J-13 | 03-20-91 | 3/4" AND 1-3/4" ELASTOMERIC COMPRESSION JOINT SEALS |
| RP-J-15 | 01-19-02 | LONGITUDINAL CONTRACTION AND CONSTRUCTION JOINTS |
| RP-J-17 | 10-26-00 | DOWEL ASSEMBLY DEVICES |
| RP-J-18 | 10-21-05 | DOWEL ASSEMBLY DEVICES |
| RP-J-19 | 10-21-05 | DOWEL ASSEMBLY DEVICES |
| RP-J-23 | 10-26-04 | CONCRETE PAVEMENT REPAIR DETAILS |
| RP-J-24 | 05-27-01 | CONCRETE PAVEMENT SPALL AND RANDOM CRACK REPAIR DETAILS |
| RP-J-25 | 05-27-01 | CONCRETE PAVEMENT JOINT REPAIR DETAILS |
| RP-MC-1 | 02-28-02 | STANDARD 4" SLOPING (MOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS |
| RP-MC-2 | 02-28-02 | STANDARD 6" SLOPING (MOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS |
| RP-NMC-10 | 07-29-03 | STANDARD VERTICAL (NONMOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS |
| RP-NMC-11 | 02-28-02 | STANDARD VERTICAL (NONMOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS |
| RP-PMR-1 | 05-27-01 | STANDARD DETAILS FOR PROPOSED PERMANENT MAINTENANCE RAMP |
| RP-R-1 | 05-27-01 | STANDARD RAMPS TO SIDE ROADS |
| RP-R-2 | | STANDARD CONSTRUCTION DETAILS FOR ROUNDABOUTS |
| RP-S-7 | 07-29-96 | DETAILS FOR STANDARD CONCRETE SIDEWALKS |
| RP-S-8 | 01-19-93 | DETAILS FOR STANDARD CONCRETE STEPS AND PIPE HANDRAILS |

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SAFETY APPURTENANCES AND FENCE

| S-F-1 | | HIGH VISIBILITY FENCE |
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| S-F-10 | 06-01-09 | STANDARD RIGHT-OF-WAY STOCK FENCE |
| S-F-10A | 06-01-09 | STANDARD RIGHT-OF-WAY STOCK FENCE WITH TIMBER POSTS |
| S-F-10B | 05-14-10 | STANDARD RIGHT-OF-WAY CHAIN LINK FENCE |
| S-F-10C | 05-14-10 | RIGHT-OF-WAY FENCE AT BRIDGES AND BOX CULVERTS |
| S-F-10D | | RIGHT-OF-WAY FENCE LOCATIONS AT INTERCHANGES |
| S-FG-11 | 05-14-10 | STANDARD STOCK FENCE GATE |
| S-FG-20 | 01-24-08 | EXAMPLES OF WATER GATES AND WATER CROSSINGS |
| S-GR-11 | 11-26-07 | W-BEAM & THRIE BEAM BARRIER RAIL AND RUB RAIL ALTERNATES |
| S-GR-12 | 05-27-03 | W-BEAM BARRIER POST DETAILS AND SPECIFICATIONS |
| S-GR-13 | 05-27-03 | BARRIER RAIL MOUNTING, POST BLOCK-OUTS WITH VERTICAL ADJUSTMENT HOLES |
| S-GR-13A | | BARRIER RAIL MOUNTING POST FOR PLASTIC BLOCK-OUTS WITH HORIZONTAL ADJUSTMENT HOLES |
| S-GR-14 | 09-05-98 | W-BEAM BARRIER FASTENING HARDWARE AND BRIDGE APPROACH DELINEATORS |
| S-GR-15 | 06-30-05 | W-BEAM BARRIER TERMINAL ELEMENT DETAILS |
| S-GR-16 | 05-27-01 | GUARDRAIL BARRIER TREATMENT FOR PIERS IN MEDIAN |
| S-GR-17 | 09-11-02 | BRIDGE END PROTECTION IN MEDIAN FOR DUAL BRIDGE |
| S-GR-18 | 05-15-08 | GUARDRAIL TERMINAL (TYPE IN-LINE) AND SHOULDER LINE DETAIL |
| S-GR-19 | 06-01-09 | GUARDRAIL TERMINAL ANCHORS, TYPE 12 AND TYPE 13 |
| S-GR-19A | 06-30-09 | TYPE 12 BURIED-IN-BACKSLOPE GUARDRAIL TERMINAL |
| S-GR-19B | 05-15-08 | TYPE 12 ALTERNATE BURIED IN BACKSLOPE GUARDRAIL TERMINAL |
| S-GR-19C | | GUARDRAIL TERMINAL ANCHOR, TYPE 13 ALTERNATE |

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| S-GR-20 | 05-27-01 | MEDIAN DIVIDER GUARDRAIL AND GUARDRAIL TERMINAL ANCHORS |
| S-GR-21 | 06-30-09 | LENGTH OF NEED AND TERMINAL REQUIREMENTS IN FILLS |
| S-GR-22 | 03-10-10 | GUARDRAIL ATTACHMENT TO CONCRETE DECKS OF BOX AND SLAB CULVERTS AND BRIDGES |
| S-GR-23 | 09-11-02 | GUARDRAIL ATTACHMENT TO STRUCTURES AND PROTECTIVE GUARDRAIL AT BRIDGE ENDS DETAILS |
| S-GR-23A | | GUARDRAIL ATTACHMENT TO BRIDGE END FOR LOW- VOLUME LOCAL ROADS (ADT<400) |
| S-GR-24 | 05-15-08 | GUARDRAIL END TERMINALS AT BRIDGE ENDS |
| S-GR-26 | 03-15-08 | SLOTTED GUARDRAIL TERMINAL ANCHOR (TYPE 21) |
| S-GR-27 | 05-27-03 | GUARDRAIL TERMINAL ANCHOR (TYPE 21) ELEMENT ASSEMBLY DETAILS |
| S-GR-28 | 06-30-05 | GUARDRAIL TERMINAL ANCHOR (TYPE 21) POST AND ASSEMBLY DETAILS |
| S-GR-38 | 06-30-09 | DETAILS FOR CONSTRUCTION OF EARTH PAD FOR TYPE 38 GUARDRAIL END TERMINALS |
| S-GR-38A | 06-30-05 | DETAILS FOR CONSTRUCTION OF ALTERNATE EARTH PAD FOR TYPE 38 GUARDRAIL END TERMINALS |
| S-GR-39 | 05-27-01 | DETAILS FOR CONSTRUCTION OF EARTH PAD FOR TYPE 21 GUARDRAIL END TERMINALS |
| S-GR-43 | | TANGENTIAL GUARDRAIL TERMINAL ANCHOR (TYPE 38) POST LAYOUT AND ERECTION DETAILS |
| S-GR-44 | | TANGENTIAL GUARDRAIL TERMINAL ANCHOR (TYPE 38) (2 TUBE) GUARDRAIL ELEMENT POST AND ASSEMBLY DETAILS |
| S-GR-45 | | LONG SPAN GUARDRAIL-ONE POST OMITTED |
| S-GR-46 | | CURVED GUARDRAIL |
| S-MB-1 | 01-31-06 | STANDARD CONCRETE MEDIAN BARRIER |
| S-MB-2 | 05-27-01 | STANDARD CONCRETE MEDIAN BARRIER (BRIDGE PIER PROTECTION) |
| S-MB-3 | 10-26-99 | STANDARD CONCRETE GLARE SCREEN MEDIAN BARRIER |

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| S-MB-3A | 10-26-99 | STANDARD CONCRETE GLARE SCREEN MEDIAN BARRIER |
| S-MB-4 | 05-27-01 | STANDARD CONCRETE GLARE SCREEN MEDIAN BARRIER (BRIDGE PIER PROTECTION) |
| S-MB-7 | | STANDARD DETAILS FOR CONCRETE BARRIER WALL INCLUDING GUARDRAIL ATTACHMENT |
| S-MB-8 | | STANDARD DETAILS FOR CONCRETE BARRIER WALL AT BRIDGE BENTS INCLUDING GUARDRAIL ATTACHMENT |
| S-RP-2 | 01-19-99 | STANDARD CONCRETE RIGHT-OF-WAY MARKERS |
| S-SSMB-1 | | 32" SINGLE SLOPE CONCRETE BARRIER WALL |
| S-SSMB-2 | | 51" SINGLE SLOPE CONCRETE BARRIER WALL |
| S-SSMB-5 | | SINGLE SLOPE MEDIAN BARRIER WALL CATCH BASIN DETAIL |

TRAFFIC CONTROL APPURTENANCES

| T-FAB-1 | 05-27-97 | FLASHING YELLOW ARROW BOARD |
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| T-FO-1 | | FIBER OPTIC AERIAL ENTRANCE DETAILS |
| T-FO-2 | | FIBER OPTIC UNDERGROUND ENTRANCE DETAILS |
| T-FO-3 | | FIBER OPTIC AERIAL CONNECTION DETAILS |
| T-FO-4 | | FIBER OPTIC PULL BOX, CABINET & POLE DETAILS |
| T-L-1 | 02-15-07 | STANDARD LIGHTING DETAILS - FOUNDATIONS |
| T-L-1SA | 07-29-04 | STANDARD LIGHTING DETAILS FOR SINGLE ARM SUPPORTS |
| T-L-1TM | | STANDARD LIGHTING DETAILS TENON MOUNTED OFFSET LIGHTING SUPPORTS |
| T-L-2 | 09-11-03 | FOUNDATION DETAIL FOR LUMINAIRE MOUNTED ON CONCRETE MEDIAN BARRIER |
| T-L-3 | 04-15-96 | STANDARD LIGHTING DETAILS - PULL BOXES |
| T-L-4 | 07-29-04 | STANDARD LIGHTING DETAILS CONDUIT, CABLE INSTALLATION |

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| T-M-1 | 04-15-04 | DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS |
| T-M-2 | 09-05-04 | DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS |
| T-M-3 | 09-19-91 | MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS |
| T-M-4 | 06-01-09 | STANDARD INTERSECTION PAVEMENT MARKINGS |
| T-M-5 | 09-05-04 | MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS |
| T-M-6 | 09-01-09 | MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES |
| T-M-7 | 10-10-06 | GORE MARKING DETAILS FOR EXPRESSWAY & FREEWAY INTERCHANGES |
| T-M-8 | 10-10-06 | MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS |
| T-M-9 | 11-30-04 | MARKING DETAILS FOR RAMP INTERSECTIONS |
| T-M-10 | | SIGNING AND PAVEMENT MARKINGS FOR SHARED-USE PATHS |
| T-M-11 | 12-01-09 | SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES AND ROUTES ON RURAL ROADS |
| T-M-12 | 12-01-09 | SIGNING AND PAVEMENT MARKINGS FOR URBAN BICYCLE LANES |
| T-M-13 | | SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES |
| T-M-14 | | SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES AT INTERSECTIONS |
| T-M-15 | | ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES |
| T-M-15A | | ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES |
| T-M-16 | | ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES |
| T-PBR-1 | 06-30-09 | INTERCONNECTED PORTABLE BARRIER RAIL |

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| T-PBR-2 | 10-10-06 | DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS |
| T-RR-1 | 10-23-06 | TYPICAL PAVEMENT MARKING AT RAILROAD-HIGHWAY GRADE CROSSINGS AND RAILROAD ADVANCE WARNING SIGN |
| T-RR-2 | 07-29-96 | STANDARD DRAWING FOR RAILROAD AND HIGHWAY CROSSING SIGNAL WITH GATE |
| T-RR-3 | 07-29-96 | STANDARD DRAWING FOR RAILROAD-HIGHWAY CROSSING SIGNAL |
| T-RR-4 | 07-29-96 | STANDARD DRAWING FOR TYPICAL CURB & GUTTER PLAN FOR RAILROAD-HIGHWAY CROSSING WITH OR WITHOUT GATES |
| T-RR-5 | 07-29-96 | STANDARD DRAWING FOR RAILROAD-HIGHWAY CROSSING SIGNAL TYPICAL CANTILEVER SIGN |
| T-RR-6 | | TYPICAL SIGNING AND MARKING AT PASSIVE RAILROAD HIGHWAY GRADE CROSSINGS |
| T-S-6 | 02-12-91 | STANDARD MOUNTING DETAILS - BOLTED EXTRUDED PANELS |
| T-S-7 | 02-12-91 | HIGHWAY SHIELDS USED ON INTERSTATE AND U.S. NUMBERED ROUTES |
| T-S-8 | 07-15-91 | HIGHWAY SHIELDS USED ON STATE NUMBERED ROUTES AND ARROWS |
| T-S-9 | 05-27-03 | STANDARD LAYOUT - GROUND MOUNTED SIGNS |
| T-S-10 | 05-27-03 | STANDARD MOUNTING DETAILS - FLAT SHEET SIGNS, ALUMINUM-STEEL DESIGN |
| T-S-11 | 05-27-01 | DELINEATOR AND MILEPOST DETAILS |
| T-S-12 | 05-27-03 | STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, SQUARE TUBES |
| T-S-13 | 05-27-01 | STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, I-BEAMS |
| T-S-14 | 05-27-01 | STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, WF-BEAMS |

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| T-S-15 | 12-07-90 | STANDARD CONDUIT & GROUND DETAILS FOR OVERHEAD & CANTILEVER SIGN STRUCTURES |
| T-S-16 | 10-23-06 | GROUND MOUNTED ROADSIDE SIGN AND DETAILS |
| T-S-16A | | GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS |
| T-S-17 | 10-26-96 | STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE |
| T-S-18 | 05-27-01 | END OF ROADWAY AND DEAD END SIGNS, METAL BARRICADES (TYPE III) & WORK ZONE SPEED SIGNS |
| T-S-19 | 07-29-91 | STANDARD MEMBERS BENDAWAY SIGN SUPPORTS STEEL DESIGN |
| T-S-20 | 05-27-01 | SIGN DETAILS |
| T-SG-1 | 07-29-04 | WOOD POLE, DETAILS FOR SPAN MOUNTED SIGNALS |
| T-SG-2 | 07-29-04 | LOOP LEAD-INS CONDUIT AND PULL BOXES |
| T-SG-3 | 11-11-04 | STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS |
| T-SG-3A | | ALTERNATE DETECTION DETAILS |
| T-SG-4 | | SPAN WIRE AND MESSENGER CABLE DETAILS |
| T-SG-5 | 07-29-04 | CONTROLLER CABINET DETAILS |
| T-SG-7 | 07-29-04 | SIGNAL HEAD ASSEMBLIES AND PEDESTRIAN PUSH BUTTON SIGNS |
| T-SG-7A | 07-29-04 | TYPICAL SIGNAL HEAD PLACEMENT |
| T-SG-8 | 07-29-04 | STRAIN POLE DETAILS FOR SPAN MOUNTED SIGNALS |
| T-SG-9 | 11-16-07 | DETAILS OF CANTILEVER SIGNAL SUPPORT |
| T-SG-9A | | MISCELLANEOUS SIGNAL DETAILS |
| T-SG-10 | 01-05-10 | MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS |
| T-SG-11 | 07-29-04 | MAINTENANCE OF EXISTING SIGNALS DURING HIGHWAY CONSTRUCTION |
| T-SG-12 | 07-29-04 | TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS |

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| T-SG-13 | 06-01-09 | FLASHING BEACON DETAIL |
| T-WZ-10 | 01-19-01 | ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS |
| T-WZ-11 | 03-13-09 | ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS |
| T-WZ-12 | 03-13-09 | ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS |
| T-WZ-13 | 03-13-09 | TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY |
| T-WZ-14 | 03-13-09 | TWO-OUTSIDE LANE CLOSURE ON INTERSTATE AND EXPRESSWAY (PORTABLE BARRIER RAIL) |
| T-WZ-15 | 03-13-09 | INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS |
| T-WZ-16 | 03-13-09 | LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS |
| T-WZ-18 | 03-13-09 | SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS |
| T-WZ-19 | 03-13-09 | MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS |
| T-WZ-20 | 12-18-99 | GEOMETRIC MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS |
| T-WZ-21 | 09-01-05 | LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT |
| T-WZ-30 | 09-01-05 | TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (40 MPH OR LESS) |
| T-WZ-31 | 09-01-05 | TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (GREATER THAN 40 MPH) |
| T-WZ-32 | 03-03-06 | TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE |
| T-WZ-33 | 05-27-98 | TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE |
| T-WZ-34 | 09-01-05 | TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE |
| T-WZ-35 | 07-29-03 | TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE |

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| T-WZ-36 | 09-01-05 | LANE CLOSURE ON LOW-VOLUME 2-LANE HIGHWAY |
| T-WZ-40 | 09-01-05 | RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS |
| T-WZ-41 | 09-01-05 | LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS |
| T-WZ-42 | 09-01-05 | CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS |
| T-WZ-50 | 07-29-03 | TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES |
| T-WZ-51 | 07-29-03 | TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR ROUTES |
| T-WZ-52 | 07-29-03 | TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES |
| T-WZ-53 | 07-29-03 | TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES |
| T-WZ-54 | 07-29-03 | TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES |
| EDOCION PREVENTION AND CERIMENT CONTROL | | |

EROSION PREVENTION AND SEDIMENT CONTROL

| EC-STR-1 | 04-01-08 | DEWATERING STRUCTURE |
|-----------|----------|---|
| EC-STR-2 | 05-14-10 | SEDIMENT FILTER BAG |
| EC-STR-3B | 04-01-08 | SILT FENCE |
| EC-STR-3C | 04-01-08 | SILT FENCE WITH WIRE BACKING |
| EC-STR-3D | 04-01-08 | ENHANCED SILT FENCE |
| EC-STR-3E | 04-01-08 | SILT FENCE FABRIC JOINING DETAILS |
| EC-STR-4 | 01-01-10 | ENHANCED SILT FENCE CHECK (TRAPEZOIDAL DITCH) |
| EC-STR-4A | 01-01-10 | ENHANCED SILT FENCE CHECK (V-DITCH) |
| EC-STR-4B | | ENHANCED SILT FENCE CHECK DETAILS |
| EC-STR-6 | 04-01-08 | ROCK CHECK DAM |
| EC-STR-6A | | ENHANCED ROCK CHECK DAM |

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| EC-STR-7 | 04-01-08 | SEDIMENT TRAP WITH CHECK DAM |
| EC-STR-8 | | FILTER SOCK |
| EC-STR-11 | 04-01-08 | CULVERT PROTECTION TYPE 1 |
| EC-STR-11A | | CULVERT PROTECTION TYPE 2 |
| EC-STR-12 | 04-01-08 | ROCK SEDIMENT DAM |
| EC-STR-13 | 04-01-08 | ROCK AND EARTH SEDIMENT EMBANKMENT |
| EC-STR-15 | 04-01-08 | SEDIMENT BASIN |
| EC-STR-16 | 04-01-08 | SEDIMENT BASINS RISER AND COLLAR APPURTENANCES |
| EC-STR-17 | 04-01-08 | SEDIMENT BASIN EMBANKMENT DETAILS |
| EC-STR-19 | 04-01-08 | CATCH BASIN PROTECTION |
| EC-STR-21 | 04-01-08 | PERMANENT RIPRAP BASIN ENERGY DISSIPATOR |
| EC-STR-25 | 04-01-08 | TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD |
| EC-STR-27 | 04-01-08 | TEMPORARY SLOPE DRAIN AND BERM |
| EC-STR-29 | 04-01-08 | PERMANENT SLOPE DRAIN PIPE |
| EC-STR-30 | | INSTREAM DIVERSION (WITHOUT TRAFFIC) |
| EC-STR-30A | | INSTREAM DIVERSION (WITH TRAFFIC) |
| EC-STR-31 | 04-01-08 | TEMPORARY DIVERSION CHANNEL |
| EC-STR-31A | 04-01-08 | TEMPORARY DIVERSION CHANNEL DESIGN |
| EC-STR-32 | 04-01-08 | TEMPORARY DIVERSION CULVERTS |
| EC-STR-33 | 04-01-08 | SUSPENDED PIPE DIVERSION (DOWNSTREAM) |
| EC-STR-33A | 04-01-08 | SUSPENDED PIPE DIVERSION (UPSTREAM) |
| EC-STR-34 | 04-01-08 | EROSION CONTROL BLANKET FOR SLOPE INSTALLATION |
| EC-STR-35 | 04-01-08 | FILTER BERMS |
| EC-STR-36 | 04-01-08 | TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION |
| EC-STR-37 | 04-01-08 | SEDIMENT TUBE |

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| EC-STR-38 04-01-08 | FLOATING TURBIDITY CURTAIN |
| EC-STR-39 04-01-08 | CURB INLET PROTECTION TYPE 1 & 2 |
| EC-STR-39A 06-24-10 | CURB INLET PROTECTION TYPE 3 & 4 |
| EC-STE-40 | CATCH BASIN FILTER ASSEMBLY FOR CIRCULAR STRUCTURES |
| EC-STR-41 | CATCH BASIN FILTER ASSEMBLY (TYPE 1) |
| EC-STR-41A | CATCH BASIN FILTER ASSEMBLY (TYPE 1) SLIPCOVER DETAILS |
| EC-STR-42 | CATCH BASIN FILTER ASSEMBLY (TYPE 2) |
| EC-STR-42A | CATCH BASIN FILTER ASSEMBLY (TYPE 2) SLIPCOVER DETAILS |
| EC-STR-43 | CATCH BASIN FILTER ASSEMBLY (TYPE 3) |
| EC-STR-43A | CATCH BASIN FILTER ASSEMBLY (TYPE 3) SLIPCOVER DETAILS |
| EC-STR-44 | CATCH BASIN FILTER ASSEMBLY (TYPE 4) |
| EC-STR-44A | CATCH BASIN FILTER ASSEMBLY (TYPE 4) SLIPCOVER DETAILS |
| EC-STR-45 | CATCH BASIN FILTER ASSEMBLY (TYPE 5) |
| EC-STR-45A | CATCH BASIN FILTER ASSEMBLY (TYPE 5) SLIPCOVER DETAILS |
| EC-STR-46 | CATCH BASIN FILTER ASSEMBLY (TYPE 6) |
| EC-STR-46A | CATCH BASIN FILTER ASSEMBLY (TYPE 6) SLIPCOVER DETAILS |
| EC-STR-47 | CATCH BASIN FILTER ASSEMBLY (TYPE 7) |
| EC-STR-47A | CATCH BASIN FILTER ASSEMBLY (TYPE 7) SLIPCOVER DETAILS |
| EC-STR-48 EC-STR-48A | CATCH BASIN FILTER ASSEMBLY (TYPE 8) CATCH BASIN FILTER ASSEMBLY (TYPE 8) SLIPCOVER DETAILS |
| EC-STR-49 | CATCH BASIN FILTER ASSEMBLY (TYPE 9) |

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| EC-STR-49A | | CATCH BASIN FILTER ASSEMBLY (TYPE 9) SLIPCOVER DETAILS |
| EC-STR-50 | | CATCH BASIN FILTER ASSEMBLY (TYPE 10) |
| EC-STR-50A | | CATCH BASIN FILTER ASSEMBLY (TYPE 10) SLIPCOVER DETAILS |
| EC-STR-51 | | CATCH BASIN FILTER ASSEMBLY (TYPE 11) |
| EC-STR-51A | | CATCH BASIN FILTER ASSEMBLY (TYPE 11) SLIPCOVER DETAILS |
| EC-STR-55 | 04-01-08 | GABION CHECK DAM |
| EC-STR-56 | 04-01-08 | GABION CHECK DAM DESIGN TABLES |
| EC-STR-57 | 04-01-08 | GABION ASSEMBLY DETAILS |
| EC-STR-58 | 04-01-08 | GABION ASSEMBLY DETAILS |
| EC-STR-59 | 04-01-08 | GABION CHECK DAM GENERAL NOTES AND COMPONENT PROPERTIES |
| EC-STR-61 | | LEVEL SPREADERS |
| EL-P-10 | 05-27-96 | TYPICAL ROADWAY LANDSCAPE PLANTING DETAILS |
| EL-P-11 | 05-27-96 | TYPICAL MATURE PLANT SPREAD AND CRITERIA FOR PROXIMITY TO ROADWAY |
| EL-W-1 | 05-27-96 | DETAILS OF TREE WALLS |
| EL-W-2 | 05-27-01 | STANDARD GRAVITY-TYPE RETAINING WALLS |

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English Revised: 11/01/10

CHAPTER 2 – STANDARD STRUCTURE DRAWINGS

STRUCTURE DESIGN STANDARD DRAWINGS

BRIDGE APPURTENANCES ENGLISH (NEW STRUCTURES)

| STD-1-1 | 07–31–00 | BRIDGE RAILING CONCRETE PARAPET |
|-----------|----------|--|
| STD-1-1SS | 10-15-08 | BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET |
| STD-1-2 | 03–28–08 | SLIDER PLATE AND DECK DRAIN |
| STD-1-2SS | | SLIDER PLATES FOR SINGLE SLOPE PARAPETS AND DECK DRAINS |
| STD-1-3 | 07–31–00 | STD. CONCRETE MEDIAN BARRIER |
| STD-1-3SS | | STD. SINGLE SLOPE CONCRETE MEDIAN BARRIER |
| STD-1-4 | 01-05-01 | SLIDER PLATES FOR MEDIAN BARRIER |
| STD-1-4SS | | SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE MEDIAN BARRIER |
| STD-1-5 | 04-08-05 | PAVEMENT AT BRIDGE ENDS |
| STD-1-6 | 04–28–97 | BRIDGE END DRAIN W/ PABE |
| STD-1-7 | 07–31–00 | BRIDGE END DRAIN W/ PABE |
| STD-1-8 | 05-01-95 | BRIDGE END DRAIN 2' X 8' 7" W/PABE |
| STD-1-9 | 05-01-95 | BRIDGE END DRAIN 4' X 7" W/PABE |
| STD-1-10 | 03–28–94 | BRIDGE END DRAIN W/O PABE |
| STD-1-11 | 05–21–99 | BRIDGE END DRAIN W/O PABE |
| STD-1-12 | 03–28–94 | BRIDGE END DRAIN 2'x8'7" W/O PABE |
| STD-1-13 | 03–28–94 | BRIDGE END DRAIN 4'x8'7" W/O PABE |
| STD-2-1 | 10-15-08 | BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL |
| STD-2-2 | | VERTICAL PANEL DETAILS |
| STD-3-1 | 02–14–94 | STRIPSEAL EXPANSION JOINT |
| STD-3-2 | 02–14–94 | STRIPSEAL EXPANSION JOINT |

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| STD-4-1 | 04-08-05 | STD. PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS |
| STD-4-2 | 04-08-05 | STD. PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN CRITERIA |
| STD-4-3 | 03-02-02 | STD.PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS |
| STD-4-4 | 06–10–96 | STD. PRECAST PRESTRESSED BRIDGE DECK PANELS CONSTRUCTION DETAILS |
| STD-5-1 | 10–25–93 | STD. PILE DETAILS |
| STD-5-2 | 04-08-05 | STD. PILE DETAILS |
| STD-6-1 | 05–21–99 | STANDARD SEISMIC DETAILS |
| STD-6-2 | 11–07–94 | STANDARD SEISMIC DETAILS |
| STD-7-1 | 07–31–00 | STD. CONCRETE RAIL |
| STD-8-2 | 04-08-05 | LIGHT STANDARD SUPPORT DETAILS |
| STD-8-2SS | | SINGLE SLOPE PARAPET STANDARD LIGHT SUPPORT DETAILS |
| STD-8-3 | 09–01–91 | MEDIAN BARRIER LIGHT STANDARD SUPPORT DETAILS |
| STD-8-3SS | | SINGLE SLOPE MEDIAN BARRIER STANDARD LIGHT SUPPORT DETAILS |
| STD-8-4 | | SIGN, LUMINAIRE, AND TRAFFIC SIGNAL SUPPORTS |
| STD-9-1 | 10–07–08 | REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS |
| STD-10-1 | 04-08-05 | MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS |
| STD-11-1 | 08–13-02 | BRIDGE RAILING W/ STRUCTURAL TUBING |
| STD-11-2 | | STANDARD CONCRETE CLASSIC RAIL |
| STD-14-1 | 10–15–08 | STD. DETAILS AND INT. DIAPH.DETAILS FOR BULB – TEE BEAMS |
| STD-14-2 | 10–15–08 | STD. DETAILS AND INT. DIAPH.DETAILS FOR I-BEAMS |
| STD-14-3 | 10–15–08 | STD. DETAILS FOR PRESTRESSED BOX BEAMS |

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STD-16-1 ALUMINUM ARCH CULVERT HADWALL DETAILS

BRIDGE APPURTENANCES ENGLISH (BOX CULVERTS)

| STD-15-1 | 11-06-08 | INDEX OF DRAWINGS AND TERMINOLOGY |
|------------|----------|--|
| STD-15-2 | 3–28–08 | GENERAL NOTES |
| STD-15-3 | 02-28-03 | DESIGN SECTION LIMITS |
| STD-15-4 | 12-07-01 | TYPICAL SECTION AND DETAILS |
| STD-15-5 | 02-28-03 | TYPICAL ELEVATION |
| STD-15-6 | 03–28–08 | CURB AND RAIL DETAILS SKEW NOT LESS THAN 45 DEG. |
| STD-15-7 | 03-02-02 | STANDARD EDGE BEAM DETAILS FOR FILLS GREATER THAN 3' - 8" |
| STD-15-8 | 12-07-01 | INTERIOR WALL END TREATMENTS |
| STD-15-9 | 02-28-03 | TYPICAL WINGWALL DETAILS AND NOTES |
| STD-15-10 | 11-06-08 | WINGWALL DIMENSIONS AND QUANTITIES |
| STD-15-11 | | WINGWALL DIMENSIONS AND QUANTITIES |
| STD-15-12 | 03–28–08 | WINGWALL & SPECIAL RETAINING WALL DESIGN SECTION |
| STD-15-13 | | WINGWALL DESIGN SECTION |
| STD-15-14 | 02-28-03 | BACKFILL AND DRAINAGE DETAILS |
| STD-15-15 | | BACKFILL AND DRAINAGE DETAILS |
| STD-15-16 | 12-07-01 | PAVED OUTLET DETAIL |
| STD-15-16A | | LOW FLOW CHANNEL CONSTRUCTION DETAILS FOR CULVERT INLET AND OUTLET |
| STD-15-17 | | DEBRIS DEFLECTION WALL |
| STD-15-18 | | DEBRIS DEFLECTION WALL |
| STD-15-19 | | SIDEWALK AND MISCELLANEOUS DETAILS |
| STD-15-20 | | WARPED SLOPE DETAIL |

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| STD-15-21 | 03-02-02 | STAGE CONSTRUCTION JOINT DETAIL (FILL ABOVE TOP OF SLAB NOT GREATER THAN 3'-8") |
| STD-15-22 | 02-28-03 | EXTENSION DETAILS |
| STD-15-23 | 12-07-01 | EXTENSION DETAILS FOR SCOURED OUTLET |
| STD-15-24 | 12-07-01 | END SECTION DETAILS |
| STD-15-25 | | PRECAST BOX CULVERT DETAILS |
| STD-15-26 | | PRECAST BOX CULVERT DETAILS |
| STD-15-27 | | PRECAST BOX CULVERT DETAILS |
| STD-15-28 | | PRECAST BOX CULVERT DETAILS |
| STD-15-29 | | PRECAST BOX CULVERT DETAILS |
| STD-15-30 | | STANDARD INTERNAL ENERGY DISSIPATOR FOR BOX AND PIPE CULVERTS |
| STD-15-35 | | BOX BRIDGE, 1 BARREL AT 6', CLEAR HTS. 3' - 6', 0 – 60' FILL |
| STD-15-36 | | BOX BRIDGE, 1 BARREL AT 8', CLEAR HTS. 3' - 4', 0 – 60' FILL |
| STD-15-37 | | BOX BRIDGE, 1 BARREL AT 8', CLEAR HTS. 5' - 8', 0 - 60' FILL |
| STD-15-38 | 09-19-06 | BOX BRIDGE, 1 BARREL AT 10', CLEAR HTS. 4' - 6', 0 – 60' FILL |
| STD-15-39 | | BOX BRIDGE, 1 BARREL AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL |
| STD-15-40 | | BOX BRIDGE, 1 BARREL AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL |
| STD-15-41 | | BOX BRIDGE, 1 BARREL AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL |
| STD-15-42 | | BOX BRIDGE, 1 BARREL AT 14', CLEAR HTS. 5' - 7', 0 - |
| STD-15-43 | | 60' FILL BOX BRIDGE, 1 BARREL AT 14', CLEAR HTS. 8' - 11', 0 - 60' FILL |
| STD-15-44 | | BOX BRIDGE, 1 BARREL AT 14', CLEAR HTS. 12' - 14', 0 - 60' FILL |

| <u>English</u> | Revised: 11/01/10 |
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| STD-15-45 | BOX BRIDGE, 1 BARREL AT 16', CLEAR HTS. 6' - 8', 0 – 60' FILL |
| STD-15-46 | BOX BRIDGE, 1 BARREL AT 16', CLEAR HTS. 9' - 12', 0 - 60' FILL |
| STD-15-47 | BOX BRIDGE, 1 BARREL AT 16', CLEAR HTS. 13' - 16', 0 - 60' FILL |
| STD-15-48 | BOX BRIDGE, 1 BARREL AT 18', CLEAR HTS. 6' - 8', 0 – 60' FILL |
| STD-15-49 | BOX BRIDGE, 1 BARREL AT 18', CLEAR HTS. 9' - 13', 0 - 60' FILL |
| STD-15-50 | BOX BRIDGE, 1 BARREL AT 18', CLEAR HTS. 14' - 18', 0 - 60' FILL |
| STD-15-55 | BOX BRIDGE, 2 BARRELS AT 6', CLEAR HTS. 3' - 6', 0 – 60' FILL |
| STD-15-56 | BOX BRIDGE, 2 BARRELS AT 8', CLEAR HTS. 3' - 4', 0 – 60' FILL |
| STD-15-57 | BOX BRIDGE, 2 BARRELS AT 8', CLEAR HTS. 5' - 8', 0 - 60' FILL |
| STD-15-58 | BOX BRIDGE, 2 BARRELS AT 10', CLEAR HTS. 4' - 6', 0 - 60' FILL |
| STD-15-59 | BOX BRIDGE, 2 BARRELS AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL |
| STD-15-60 | BOX BRIDGE, 2 BARRELS AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL |
| STD-15-61 | BOX BRIDGE, 2 BARRELS AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL |
| STD-15-62 | BOX BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 5' - 7', 0 - 60' FILL |
| STD-15-63 | BOX BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 8' - 11', |
| STD-15-64 | 0 - 60' FILL BOX BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 12' - 14', 0 - 60' FILL |
| STD-15-65 | BOX BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 6' - 8', 0 - 60' FILL |

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| STD-15-66 | | BOX BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 9' - 12', 0 - 60' FILL |
| STD-15-67 | | BOX BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 13' - 16', 0 - 60' FILL |
| STD-15-68 | | BOX BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-69 | | BOX BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 9' - 13', 0 - 60' FILL |
| STD-15-70 | | BOX BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 14' - 18', 0 - 60' FILL |
| STD-15-75 | | BOX BRIDGE, 3 BARRELS AT 6', CLEAR HTS. 3' - 6', 0 – 60' FILL |
| STD-15-76 | | BOX BRIDGE, 3 BARRELS AT 8', CLEAR HTS. 3' - 4', 0 – 60' FILL |
| STD-15-77 | 12-07-01 | BOX BRIDGE, 3 BARRELS AT 8', CLEAR HTS. 5' - 8', 0 - 60' FILL |
| STD-15-78 | 12-07-01 | BOX BRIDGE, 3 BARRELS AT 10', CLEAR HTS. 4' - 6', 0 - 60' FILL |
| STD-15-79 | 12-07-01 | BOX BRIDGE, 3 BARRELS AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL |
| STD-15-80 | | BOX BRIDGE, 3 BARRELS AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL |
| STD-15-81 | | BOX BRIDGE, 3 BARRELS AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL |
| STD-15-82 | | BOX BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 5' - 7', 0 - 60' FILL |
| STD-15-83 | | BOX BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 8' - 11', 0 - 60' FILL |
| STD-15-84 | | BOX BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 12' - 14', |
| STD-15-85 | | 0 - 60' FILL BOX BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-86 | | BOX BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 9' - 12', 0 - 60' FILL |

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| STD-15-87 | | BOX BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 13' - 16', 0 - 60' FILL | |
| STD-15-88 | | BOX BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 6' - 8', 0 - 60' FILL | |
| STD-15-89 | | BOX BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 9' - 13', 0 - 60' FILL | |
| STD-15-90 | | BOX BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 14' - 18', 0 - 60' FILL | |
| STD-15-95 | | SLAB BRIDGE, 1 BARREL AT 6', CLEAR HTS. 3' - 6', 0 – 60' FILL | |
| STD-15-96 | | SLAB BRIDGE, 1 BARREL AT 8', CLEAR HTS. 3' - 4', 0 - 60' FILL | |
| STD-15-97 | | SLAB BRIDGE, 1 BARREL AT 8', CLEAR HTS. 5' - 8', $0-60$ ' FILL | |
| STD-15-98 | | SLAB BRIDGE, 1 BARREL AT 10', CLEAR HTS. 4' - 6', 0 - 60' FILL | |
| STD-15-99 | 02-28-03 | SLAB BRIDGE, 1 BARREL AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL | |
| STD-15-100 | 02-28-03 | SLAB BRIDGE, 1 BARREL AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL | |
| STD-15-101 | 02-28-03 | SLAB BRIDGE, 1 BARREL AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL | |
| STD-15-102 | | SLAB BRIDGE, 1 BARREL AT 14', CLEAR HTS. 5' - 9', 0 - 60' FILL | |
| STD-15-103 | | SLAB BRIDGE, 1 BARREL AT 14', CLEAR HTS. 10' - 14', 0 - 60' FILL | |
| STD-15-104 | | SLAB BRIDGE, 1 BARREL AT 16', CLEAR HTS. 6' - 8', 0 - 60' FILL | |
| STD-15-105 | | SLAB BRIDGE, 1 BARREL AT 16', CLEAR HTS. 9' - 12', 0 | |
| STD-15-106 | | - 60' FILL SLAB BRIDGE, 1 BARREL AT 16', CLEAR HTS. 13' - 16', 0 - 60' FILL | |
| STD-15-107 | | SLAB BRIDGE, 1 BARREL AT 18', CLEAR HTS. 6' - 8', 0 - 60' FILL | |

| <u>English</u> | | Revised: 11/01/10 |
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| STD-15-108 | | SLAB BRIDGE, 1 BARREL AT 18', CLEAR HTS. 9' - 13', 0-60' FILL |
| STD-15-109 | | SLAB BRIDGE, 1 BARREL AT 18', CLEAR HTS. 14' - 18', 0 - 60' FILL |
| STD-15-115 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 6', CLEAR HTS. 3' - 6', 0 - 60' FILL |
| STD-15-116 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 8', CLEAR HTS. 3' - 4', 0 - 60' FILL |
| STD-15-117 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 8', CLEAR HTS. 5' - 8', 0 - 60' FILL |
| STD-15-118 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 10', CLEAR HTS. 4' - 6', 0 - 60' FILL |
| STD-15-119 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL |
| STD-15-120 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL |
| STD-15-121 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL |
| STD-15-122 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 5' - 7', 0 - 60' FILL |
| STD-15-123 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 8' - 11', 0 - 60' FILL |
| STD-15-124 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 14', CLEAR HTS. 12' – 14', 0 - 60' FILL |
| STD-15-125 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-126 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 9' - 12', 0 - 60' FILL |
| STD-15-127 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 16', CLEAR HTS. 13' – 16', 0 - 60' FILL |
| STD-15-128 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-129 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 9' - 13', 0 - 60' FILL |

| English | | Revised: 11/01/10 |
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| STD-15-130 | 02-28-03 | SLAB BRIDGE, 2 BARRELS AT 18', CLEAR HTS. 14' – 18', 0 - 60' FILL |
| STD-15-135 | | SLAB BRIDGE, 3 BARRELS AT 6', CLEAR HTS. 3' - 6', 0 - 60' FILL |
| STD-15-136 | | SLAB BRIDGE, 3 BARRELS AT 8', CLEAR HTS. 3' - 4', 0 - 60' FILL |
| STD-15-137 | | SLAB BRIDGE, 3 BARRELS AT 8', CLEAR HTS. 5' - 8', 0 - 60' FILL |
| STD-15-138 | | SLAB BRIDGE, 3 BARRELS AT 10', CLEAR HTS. 4' - 6', 0 - 60' FILL |
| STD-15-139 | | SLAB BRIDGE, 3 BARRELS AT 10', CLEAR HTS. 7' - 10', 0 - 60' FILL |
| STD-15-140 | | SLAB BRIDGE, 3 BARRELS AT 12', CLEAR HTS. 4' - 7', 0 TO 60' FILL |
| STD-15-141 | | SLAB BRIDGE, 3 BARRELS AT 12', CLEAR HTS. 8' - 12', 0 - 60' FILL |
| STD-15-142 | | SLAB BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 5' - 7', 0 - 60' FILL |
| STD-15-143 | | SLAB BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 8' - 11', 0 - 60' FILL |
| STD-15-144 | | SLAB BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 12' – 14', 0 - 60' FILL |
| STD-15-145 | | SLAB BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-146 | | SLAB BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 9' - 12', 0 - 60' FILL |
| STD-15-147 | | SLAB BRIDGE, 3 BARRELS AT 16', CLEAR HTS. 13' – 16', 0 - 60' FILL |
| STD-15-148 | 12-07-01 | SLAB BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 6' - 8', 0 - 60' FILL |
| STD-15-149 | 12-07-01 | SLAB BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 9' - 13', 0 - 60' FILL |
| STD-15-150 | 12-07-01 | SLAB BRIDGE, 3 BARRELS AT 18', CLEAR HTS. 14' – 18', 0 - 60' FILL |

English Revised: 11/01/10 **BRIDGE APPURTENANCES ENGLISH (BRIDGE REPAIRS)** SBR-2-115 01-04-96 GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991 SBR-2-116 01-04-96 GENERAL DETAILS FOR STRIPSEAL EXPANSION JOINT REPLACEMENT CONSTRUCTION DETAILS TYPES "A" THRU "J" - 1991 STRIPSEAL EXPEANSION JOINTS - REPLACEMENT SBR-2-117 05-30-96 CONSTRUCTION DETAILS TYPE "A" AND TYPE "B" - 1991 STRIPSEAL EXPANSION JOINT REPLACEMENT SBR-2-118 05-30-96 CONSTRUCTION DETAILS TYPE "C" AND TYPE "D" - 1991 STRIPSEAL EXPANSION JOINT REPLACEMENT SBR-2-119 05-30-96 CONSTRUCTION DETAILS TYPE "E" AND TYPE "F" - 1991 STRIPSEAL EXPANSION JOINT REPLACEMENT SBR-2-120 05-30-96 CONSTRUCTION DETAILS TYPE "G" AND "H" - 1991 STRIPSEAL EXPANSION JOINT REPLACEMENT SBR-2-121 01-04-96 CONSTRUCTION DETAILS TYPE "J" - 1991 DETAILS FOR PRECAST SLAB BRIDGE CHANNELS, SPANS SBR-2-122 01-04-96 16' - 0" THRU 34' - 0", DEGREE OF SKEW 90 - 75 - 60 -45 - 1992 SBR-2-123 01-04-96 DETAILS FOR PRECAST SLAB BRIDGE CHANNELS. SPANS 16' - 0" THRU 34' -0", DEGREE OF SKEW 90 - 75 - 60 -45 - 1992 SBR-2-124 01-04-96 DETAILS SHOWING REPLACEMENT OF EXISTING BRIDGERAIL SYSTEM WITH NEW JERSEY SHAPE CONCRETE PARAPET AND NEW 10' -2" ENDPOST - 1988 DETAILS SHOWING REPLACEMENT OF EXISTING SBR-2-125 11-05-01 BRIDGERAIL SYSTEM WITH NEW JERSEY SHAPE CONCRETE PARAPET AND NEW 10' -2" ENDPOST - 1988 SBR-2-126 01-04-96 DETAILS SHOWING REPLACEMENT OF EXISTING BRIDGERAIL SYSTEM WITH NEW JERSEY SHAPE CONCRETE PARAPET AND NEW 10' -2" ENDPOST - 1988 SBR-2-127 11-05-01 DETAILS SHOWING PIER PROTECTION WITH NEW CONCRETE BARRIER WALL - 1988 DETAILS SHOWING PIER PROTECTION WITH NEW SBR-2-128 01-04-96 CONCRETE BARRIER WALL - 1988

| English | | Revised: 11/01/10 |
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| SBR-2-129 | 11–05–01 | DETAILS SHOWING PIER PROTECTION WITH NEW VERTICAL CONCRETE BARRIER - 1988 |
| SBR-2-130 | 01–04–96 | DETAILS SHOWING PIER PROTECTION WITH NEW VERTICAL CONCRETE BARRIER - 1988 |
| SBR-2-131 | 01–22–02 | DETAILS SHOWING GUARDRAIL ATTACHMENT AT BRIDGE ENDS TO EXISTING CONCRETE SLOPE FACE ENDPOST - 1989 |
| SBR-2-132 | 01–04–96 | DETAILS SHOWING GUARDRAIL ATTACHMENT AT BRIDGE ENDS EXISTING CONCRETE SLOPE FACE ENDPOST - 1989 |
| SBR-2-133 | 01–22–02 | DETAILS SHOWING GUARDRAIL ATTACHMENT AT BRIDGE ENDS TO EXISTING CONCRETE VERTICAL FACE ENDPOST - 1989 |
| SBR-2-134 | 01–04-96 | DETAILS SHOWING GUARDRAIL ATTACHMENT AT BRIDGE ENDS TO EXISTING CONCRETE VERTICAL FACE ENDPOST - 1989 |
| SBR-2-135 | 01–22–02 | GUARDRAIL ATACHMENT TO EXISTING PIER PROTECTION – 1991 |
| SBR-2-136 | 11–05–01 | STANDARD DRAWING FOR REPLACING EXISTING CONCRETE ENDPOST AND GUARDRAIL AT EXISTING BRIDGE ENDS - 1992 |
| SBR-2-137 | 11–05–01 | STANDARD SHOWING DETAILS FOR ATTACHING NEW GUARDRAIL TO EXISTING END OF BRIDGE - 1992 |
| SBR-2-138 | 11–05–01 | STANDARD SHOWING DETAILS FOR ATTACHING NEW GUARDRAIL AT EXISTING BRIDGE END AND ALONG EXISTING BRIDGE RAIL - 1992 |
| SBR-2-140 | 11–05–01 | STANDARD SHOWING DETAILS FOR ATTACHING NEW GUARDRAIL ALONG EXISTING BRIDGE RAILS - 1992 |
| SBR-2-144 | 01–22–02 | STANDARD SHOWING DETAILS OF ATTACHING GUARDRAIL BRIDGERAIL TO TOP OF EXISTING CURBS - 1992 |