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SEE CURRENT NYSDOT BD AND STANDARD SHEETS FOR STANDARD PILE DETAILS
WATERSTOP LOCATION DETAIL
Not to Scale
FOR INFORMATION ONLY

Note:
Concrete Barrier, Sidewalk & Approach Slab not shown.

WATERSTOP LOCATION DETAIL
Not to Scale
FOR INFORMATION ONLY

WATERSTOP LOCATION DETAIL
Not to Scale

Note:
Sidewalk & Approach Slab not shown.
APPENDIX C WATERSTOP DETAILS

PVC WATERSTOP—TYPE A

Note:
Holes must not be made in waterstop for any purpose.
APPENDIX C WATERSTOP DETAILS

C2-6

PVC WATERSTOP—TYPE B

Note:
Holes must not be made in waterstop for any purpose.
Note:
Holes must not be made in waterstop for any purpose.
APPENDIX C WATERSTOP DETAILS

TYPE "D" WATERSTOP

Waterstops shall conform to the requirements of Section 705-11 of the Specifications. Holes must not be made in waterstops for any purpose except as required for stapling to forms. Type "D" Waterstop shall be light gray in color. The cost of furnishing and placing waterstops shall be included in the price bid for the concrete items.

NOTE:
To facilitate shipping and handling of P.V.C. Waterstops, field butt splices will be permitted on straight runs at points approved by the Engineer.

Field butt splices shall be heat-welded as approved by the Engineer.

Waterstop shall be shipped in straight sections having a minimum length of 10'-0" unless shorter lengths are required.

Tolerances shown are in inches.
APPENDIX C WATERSTOP DETAILS

STAGE ONE — PRIOR TO POURING CONCRETE

STAGE TWO — AFTER FORMS HAVE BEEN REMOVED
TYPE E WATERSTOP

Not to Scale
TYPE "E" WATERSTOP

Waterstops shall conform to the requirements of Section 705-11 of the Specifications.

Holes must not be made in waterstop for any purpose except as required for stapling to forms.

Type E Waterstop shall be light gray in color.

Waterstop shall be shipped in straight sections having a minimum length of 10'-0" unless shorter lengths are required.

P.V.C. INSERT

Insert shall be Closed Cell Polyvinyl (SP) Grade VE-45 as per ASTM D1667 or Closed Cell Rubber Grade RE-45, Class E, as per ASTM D1056.

PVC Insert shall be light gray in color.

The material shall be sampled the same time as the Type "E" Waterstop.

Insert and Pressure Sensitive—Release Tape shall be installed in the field prior to placing the backfill.

Waterstops shall conform to the requirements of Subsection 705-11 of the Specification.

The cost of furnishing and placing waterstops shall be included in the unit prices bid for the concrete items.

To facilitate shipping and handling of PVC Waterstops, field butt splices will be permitted on straight runs at points approved by the engineer.

Field butt splices shall be heat—welded as approved by the engineer.

Tolerances shown are in inches.
APPENDIX C WATERSTOP DETAILS

Typical Expansion Joint Detail

Not to Scale

C2-11
APPENDIX C  SUBSTRUCTURE DETAILS

KEYWAY DETAILS
Not to Scale

CONSTRUCTION AND
CONTRACTION JOINTS

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<td>1 1/2&quot;</td>
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EXPANSION JOINTS

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ASTM A709 GR50W L8 x 8 x 1/2
Weathering Steel Shop Dwgs. and
shop inspection not required. Paid for under
the respective steel items.

6" x 3/4" Dia. Stud
Stud spaced @ 18"
(Alternating)

PIER NOSING DETAIL
Not To Scale
#5 BARS DRILLED AND GROUTED AT 4' CENTERS (TYP.)

#5 BARS AT 4'-6" CENTERS

3" CLEAR COVER

W4xW4 WELDED WIRE FABRIC 5' x 10' SHEETS, USE 12" OVERLAP.

6" THICK CEMENT CONC. COVER. CLASS "A" CONCRETE.

EXISTING STEM

EXISTING FOOTING

12"

DRILL AND GROUT (TYP.)

CONCRETE WALL ENCASEMENT DETAIL

N. T. S.
APPENDIX C SUBSTRUCTURE DETAILS

3/8" WIDE x 1 1/2" DEEP SAWCUT FILLED WITH HOT POURED JOINT SEALER FED. SPEC. SS-S-001401. COST INCLUDED IN PRICE BID FOR APPROACH SLAB CONCRETE.

BEGIN/END BRIDGE APPROACH SLAB/DECK SLAB CONSTRUCTION JOINT

C

ABUTMENT

DECK STEEL

#6's @ 12"

APPROACH SLAB REINFORCEMENT

SUBBASE

#6's @ 12"

TYPICAL SECTION

INTEGRAL ABUTMENT REINFORCEMENT DETAIL STEEL BEAM SUPERSTRUCTURE N.T.S.

9" 4" 5" 5" 13"

MIN. MIN.

3" CLEAR COVER (TYP.)

STEEL GIRDER
APPENDIX C

SUBSTRUCTURE DETAILS

INDEPENDENT WINGWALL JOINT DETAIL
ZERO SKEW–INLINE
INTEGRAL ABUTMENT

N.T.S.

C3-6
APPENDIX C  SUBSTRUCTURE DETAILS

INDEPENDENT WINGWALL JOINT DETAIL

45° SKEW-INLINE
INTEGRAL ABUTMENT
N.T.S.

C3-7
INDEPENDENT WINGWALL JOINT DETAIL

45° SKEW–INLINE INTEGRAL ABUTMENT

H.T.S.
INDEPENDENT WINGWALL JOINT DETAIL

ZERO SKEW–FLARED
INTEGRAL ABUTMENT

N.T.S.
INDEPENDENT WINGWALL JOINT DETAIL

45° SKEW-FLARED INTEGRAL ABUTMENT

N.T.S.

C3-11
J\ORANGEBK\ENGLISH\C3-12

APPENDIX C

SUBSTRUCTURE DETAILS

JOINTLESS BRIDGE ABUTMENT DETAIL
INLINE WINGWALL/ZERO SKEW

N.T.S.
JOINTLESS BRIDGE ABUTMENT DETAIL
INLINE WINGWALL/45° (MAX.) SKEW

CONSTRUCTION JOINT
APPROACH SLAB/DECK
BEGIN/END BRIDGE.

1" EXPANSION JOINT AT DECK
AND APPROACH SLAB. 1" CLOSED
CELL FOAM WITH COLD Poured
JOINT SEALER. COST INCLUDED
IN PRICE BID FOR SUBSTRUCTURE
CONCRETE. 705-08

APPENDIX C
SUBSTRUCTURE DETAILS

C3-13
APPENDIX C

JOINTLESS BRIDGE ABUTMENT DETAIL
INLINE WINGWALL/45° (MAX.) SKEW

1' 0" CHEEKWALL (SEISMIC)

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM WITH COLD POURED JOINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.

N.T.S.
APPENDIX C

SUBSTRUCTURE DETAILS

JOINTLESS BRIDGE ABUTMENT DETAIL
FLARED WINGWALL/ ZERO SKEW

GIRDER

TRAFFIC

2'-6" TYPICAL OVERHANG

DECK FASCIA

12" CHEEKWALL (SEISMIC)

1" EXPANSION JOINT AT DECK
AND APPROACH SLAB. 1" CLOSED
CELL FOAM WITH COLD POURED
JOINT SEALER. COST INCLUDED
IN PRICE BID FOR SUBSTRUCTURE
CONCRETE. 705-08

BRIDGE SEAL

BEARING

9" MIN.

18" MIN.

CONSTRUCTION JOINT
APPROACH SLAB/DECK
BEGIN/END BRIDGE

LEVEL

VARIES

DOWN SLOPE

18" MIN.

APPROACH SLAB FASCIA
FRONT FACE OF RAIL

TOP OF SLOPE

N.T.S.

OPTIONAL TAPERED WINGWALL
JOINTLESS BRIDGE ABUTMENT DETAIL
FLARED WINGWALL/45° (MAX.) SKEW

N.T.S.

DECK FASCIA
1'-0" CHEEKWALL
(SEISMIC)
2'-6" TYPICAL
OVERHANG

1" EXPANSION JOINT AT DECK
AND APPROACH SLAB. 1"
CLOSED CELL FOAM WITH COLD
POURED JOINT SEALER. COST
INCLUDED IN PRICE BID FOR
SUBSTRUCTURE CONCRETE. 705-08

LEVEL

VARIAS
DOWN SLOPE

TOP OF SLOPE

APPRAOCH SLAB FASCIA
FRONT FACE OF RAIL

OPTIONAL TAPERED
WINGWALL

CONSTRUCTION JOINT
APPROACH SLAB/DECK
BEGIN/END BRIDGE
DECK FASCIA

1'-0" CHEEKWALL (SEISMIC)

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM WITH COLD Poured JOINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE. 705-08

OPTIONAL TAPERED WINGWALL

1/2" MIN.

TOP OF SLOPE

APPENDIX C

SUBSTRUCTURE DETAILS

JOINTLESS BRIDGE ABUTMENT DETAIL

FLARED WINGWALL/45° (MAX.) SKEW

N.T.S.
APPENDIX C

SUBSTRUCTURE DETAILS

Semi-Integral Abutment Detail
Inline Wingwall/Zero Skew

1'-3" MIN. CURTAIN WALL
2'-3" MIN. BRIDGE SEAT
6" APPROACH SLAB SEAT
CONSTRUCTION JOINT
APPROACH SLAB/DECK
BEGIN/END BRIDGE

GIRDER

2'-6" TYPICAL OVERHANG
DECK FASCIA

12" CHEEKWALL (SEISMIC)

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM 705-08 WITH COLD Poured JOINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.

OPTIONAL TAPERED WINGWALL

DOWN SLOPE

LEVEL

APPROACH SLAB FASCIA

TOP OF SLOPE

J:\ORANGE\ENGLISH\C3-10
Semi-Integral Abutment Detail. Inline Wingwall/45° (Max.) Skew

- 2'-6" Typical Overhang
- Optional Tapered Wingwall
- 1" Expansion Joint at Deck and Approach Slab
- 1" Closed Cell Foam 705-08 with Cold Poured Joint Sealer. Cost included in Price Bid for Substructure Concrete

- 1'-3" Min. Curtain Wall
- 2'-3" Min. Bridge Seat
- 6" Approach Slab Seat
- Approach Slab Fascia
- Top of Slope

N.T.S.
APPENDIX C

SUBSTRUCTURE DETAILS

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM 705-08 WITH COLD POUR J OINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.

OPTIONAL TAPERED WINGWALL

LEVEL

135°

12" APPROACH SLAB FASCIA

12" TOP OF SLOPE

B EGIN/END BRIDGE APPROACH SLAB/DECK CONSTRUCTION JOINT

6" APPROACH SLAB SEAT

2'-6" TYPICAL OVERHANG

2'-3" MIN. BRIDGE SEAT

1'-3" MIN. CURTAIN WALL

1'-3" Q BEARING

SEM I-INTEGRAL ABUTMENT DETAIL. INLINE WINGWALL 45° (MAX.) SK EW N.T.S.
APPENDIX C: SUBSTRUCTURE DETAILS

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM 705-08 WITH COLD Poured JOINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.

SEMI-INTEGRAL ABUTMENT DETAIL, FLARED WINGWALL/ ZERO SKEW

N.T.S.
APPENDIX C

SUBSTRUCTURE DETAILS

SEMI-INTEGRAL ABUTMENT DETAIL/W FLARED WINGWALL/45° (MAX.) SKEW

C3-23

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM 705–08 WITH COLD Poured JOINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.
APPENDIX C

SUBSTRUCTURE DETAILS

DECK FASCIA

12" CHEEKWALL (SEISMIC) MIN.

1" EXPANSION JOINT AT DECK AND APPROACH SLAB. 1" CLOSED CELL FOAM 705-08 WITH COLD PouredジョINT SEALER. COST INCLUDED IN PRICE BID FOR SUBSTRUCTURE CONCRETE.

Level

VARIES DOWN SLOPE

12' MIN.

18" FLARED WINGWALL/45° (MAX.) SKEW

TOP OF SLOPE

APPENDIX C
SUBSTRUCTURE DETAILS

GIRDER

2'-6" TYPICAL OVERHANG

1'-3" MIN CURTAIN WALL

2'-3" MIN BRIDGE SEAL

BEGIN/END BRIDGE APPROACH SLAB/DECK CONSTRUCTION JOINT

6" APPROACH SLAB SEAT

Bearing

N.T.S.

Approach Slab Fascia
Stone Masonry
Type B

Concrete Wall

Dovetail Insert Strip

3/8" Mortar

1" Mortar

Insert Strip

Stone Anchor

STONE ANCHOR DETAIL
Not to Scale

Use 1 anchor per 6 sf
of face area of stone.

STONE MASONRY ANCHORAGE DETAILS
Not to Scale

C4-1
APPENDIX C

STONE MASONRY ANCHORAGE DETAILS

SECTION THROUGH STONE FACING
Not to Scale

Insert Strip w/Stone Anchors. Include in Stone Masonry Item.

SECTIONS A-A
Not to Scale

Mortar

Concrete Surface

15/16" 5/8" 13/16" 1 1/8"

1 1/4" 1 1/16" 7/8"

Stonewall Anchor
Not to Scale

1/8" Galvanized or Stainless Steel

16 Gauge Galvanized

C4-2
Note:
Drip bar to be attached to the low end of all girders.

2" x 3/4" (AASHTO M270 Gr36, Gr50 or Gr50W steel bar)
Top & Bottom (Typ.)

Q. Web

(U P H I L L E N D)

(D O W N H I L L E N D)

1/2" Dia. bolts (ASTM A325) Typ.

Snipe (Typ.)

3'-0" Min. To Face Of Abutment or Pier (Typ.)

1/2" (Typ.)

Place brown color silicone sealer between drip bars and flange and web prior to bolting.
Bcrs below flange shall be longer than those above so as to touch at C of girder.

DRIP BAR DETAIL
Not to Scale

Designer Note:
See Section 7.14 for use criteria.
No concrete will be permitted below this line.

Tack weld in compression area only. Welding shall conform to Section 7 of the N.Y.S. Steel Construction Manual. (5/32" Dia-E7018 or E8018-C3 electrodes, properly conditioned shall be used).

PERMANENT CORRUGATED METAL FORMS

Not to Scale
Reinforced Concrete Slab. Reinforcement not shown.

Fascia Line

30°

2"

1"

2"

2"

2"

Note:
1. Drip groove stops 3'-0" from face of Abutments.
2. For simple spans, the drip groove stops 3'-0" from the deck joint on the uphill side of the deck joint and 1'-0" from the deck joint on the downhill side of the deck joint.
3. For continuous spans, the drip groove is continuous over the pier.

DRIP GROOVE DETAIL
Not to Scale
APPENDIX C

SLAB DETAILS

TRANSVERSE CONSTRUCTION JOINT IN SLAB
Not to Scale

LONGITUDINAL CONSTRUCTION JOINT/CLOSURE POUR
Not to Scale
APPENDIX C SLAB DETAILS

WEEP INSTALLATION (EXISTING CONCRETE DECKS)

N.T.S.

FILL VOID BETWEEN PIPE AND HOLE WITH EPOXY POLYSULFIDED GROUT MEETING THE REQUIREMENTS OF SECTION 721-03.

EXISTING CONCRETE DECK

DISH EXIST. CONC. TO DRAIN

1/4" STEEL MESH

TOP OF NEW ASPHALT

1/4" (TYP.)

8" SQUARE (TYP.)

CORE DRILL 3" DIAM. HOLE

2" I.D. ABS PIPE

BOTTOM OF WEEP TUBE = BOTTOM OF STRINGER + 6" MIN.
WEEP INSTALLATION
NEW BRIDGE DECKS – OPTION 1

SCALE: N.T.S.
**APPENDIX C SLAB DETAILS**

**PHASE I**

- **TOP OF SLAB**
- **DISH TO DRAIN**
- **50% LENGTH OF ABS COUPLING (SHEAR COLLAR)**
- **2" FLOOR FLANGE**
- **FORMS**

**PHASE II**

- **SOLVENT CEMENT (TYP.)**
- **BOTTOM OF SLAB**
- **EXISTING FORM TO BE REMOVED. INSTALL WEEP TUBE EXTENSION**

**NOTE:**
After locating weep locations, tack the floor flange to the forms, insert and solvent weld the upper portion of weep tube. After the pour, remove forms, clean lower portion to floor flange for installation by solvent welding the weep tube extension A.D.B.E.

**WEEP INSTALLATION IN NEW DECKS : OPTION 2**

**N.T.S.**
APPENDIX C

SLAB DETAILS

GIRDER HAUNCH DETAIL FOR HAUNCH TABLE
N.T.S.

<table>
<thead>
<tr>
<th>GIRDER n</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>REQ'D. BOT. OF SLAB ELEV. AFTER DECK POUR</td>
</tr>
<tr>
<td>B</td>
<td>TOP OF STEEL ELEV. (FIELD MEASURE PRIOR TO DECK POUR)</td>
</tr>
<tr>
<td>C</td>
<td>= A - B (FT.)</td>
</tr>
<tr>
<td>D</td>
<td>THEORETICAL CONC. NON-COMPOSITE D.L. DEFL. (FT.)</td>
</tr>
<tr>
<td>E</td>
<td>DEPTH OF HAUNCH REQ'D. = C + D (FT.)</td>
</tr>
<tr>
<td>F</td>
<td>REQUIRED BOTTOM OF SLAB ELEV. AFTER S.D.L. APPLICATION</td>
</tr>
<tr>
<td>G</td>
<td>DECK SURFACE CAMBER = A - F (FT.) ABOVE PROPOSED GRADE (THEORETICAL S.D.L. DEFL.)</td>
</tr>
</tbody>
</table>

LEGEND

- - - - - INITIAL POSITION (BEAM D.L. ONLY)
- - - - - INTERMEDIATE POSITION (BEAM + DECK D.L.)
- - - - - FINAL POSITION (TOTAL D.L. + S.D.L.)

NOTES:
1. A & F TAKEN AT CL OF GIRDER.
2. E = GIRDER HAUNCH, IS TAKEN AT CL. OF GIRDER.
APPENDIX C SCUPPER DETAILS

Each scupper to be furnished with 6 - 3/4" Dia. bolts (A307), 8" long. Scuppers and pipe shall be cast iron and galvanized.

CAST IRON SCUPPER - TYPE "A1"  
N. T. S.
All material shall be galvanized. The scupper may be rotated 180° if the location of the outlet pipe as shown will interfere with or drain on any portion of the superstructure steel.

Notes:
Material in scupper – 1/2" thick tubes – ASTM Designation A500 Grade B or A501. Place Scupper on same slope as top of pavement.

SECTION A-A

4 3/8" x 5" window cut in wall of 7" x 5" x 1/2" tube.

Varies from 5 3/8" to 6 3/8"

SECTION B-B

FABRICATED SCUPPER-TYPE "A2"

N.T.S.
**APPENDIX C SCUPPER DETAILS**

**PLAN**

- Groove Weld
- Grind Smooth
- 3/4" Typ.
- 1/4" Typ.
- 1" Typ.
- 1/2" Typ.
- 2 3/16"
- 5 1/4"
- 8" (twice)
- 3 1/16" (twice)
- 1 1/4" Seal Weld
- 5" Sq
- 2 3/16"
- 5 1/4"
- 8"
- 1' - 6 1/4"
- 1 7/16"
- 1 2 3/8"
- 2 1/4"
- 1 1/2"
- 1 1/2"
- 5 1/2"
- 2 3/16" (twice)
- 2 1/4"
- 1 1/2"
- 1/4" (twice)
- 1/8" (four times)
- 2 3/16" (twice)
- 3 1/8"
- 1 1/2"
- 1/2"
- 1/2"
- 1/2"
- 1/2"
- 1 1/2"
- 1 1/2"

**Notes:**
- Place top of scupper on the same plane as the top of pavement.
- Material in Scupper — 1/2" thick tubes — ASTM Designation A500 Grade B or A501.
- The material shall be galvanized.
- The scupper may be rotated 180º if the location of the outlet pipe as shown will interfere with or drain on any portion of the superstructure steel.

**FABRICATED SCUPPER—TYPE "B2"**

N. T. S.
C7-4

**APPENDIX C SCUPPER DETAILS**

**FLANGED CONNECTION FOR OUTLETS**
(TYPES "A1" & "B1" SCUPPERS)

Not to Scale

4 - 5/8" dia. holes in flanges to take 1/2" dia. Hex Head Bolts 2 1/2" lg. Each bolt (A307) to be supplied with a flat washer, spring lock washer and a nut.

1/8" Rubber Gasket suitable for water service.

Notes:
Flanges and outlet shall be cast iron and Galvanized.
Flanged connection is to be included in the unit price bid for the scupper.
APPENDIX C SCUPPER DETAILS

2 1/2" x 1/4" R-A709 GR36 or
2 1/2" x 3/16" R-A242 or A441 steel.

3/8" sq. bars - A36

5/8" Dia. hole

Seal Weld
Grind Smooth

Electroformed Welded

Grating shall be included in the unit price bid for the scuppers.
All material shall be galvanized.

SCUPPER GRATING—(FOR TYPES "B1" & "B2")
Not to Scale
APPENDIX C  SCUPPER DETAILS

REINFORCEMENT PLAN AT HEADERS
TYPES "B1" & "B2"

N. T. S.

#5 bars 3'-6" lg. top & bottom. These bars are to be placed in addition to the regular slab reinforcement which is not shown.
When Type "A-1" and "B-1" scuppers are used, a flanged outlet is used.

Tube to be extended to the bottom of bottom flange to be included in the cost of the scupper item.

An approved type of removable diffuser to be used if scupper is located over land.

Bracing system to be added if web depth exceeds 3'-6"
APPENDIX C
BARRIER/RAIL DECK OVERHANG DETAILS

SINGLE SLOPE WIDE
CONCRETE MEDIAN BARRIER
N. T. S.
ISOMETRIC OF SINGLE SLOPE CONCRETE BARRIER END SECTION
APPENDIX C  BARRIER/RAIL DECK OVERHANG DETAILS

TRANSVERSE
OVERHANG REINFORCEMENT SECTION
WITH TL-4 2-RAIL BRIDGE RAIL

N.T.S.

C8-6
APPENDIX C  BARRIER/RAIL DECK OVERHANG DETAILS

TRANSVERSE OVERHANG REINFORCEMENT SECTION WITH TL-4 4-RAIL BRIDGE RAIL

N.T.S.
APPENDIX C  BARRIER/RAIL DECK OVERHANG DETAILS

LONGITUDINAL SECTION
TRANSVERSE OVERHANG REINFORCEMENT

N.T.S.
DETAIL OF GRANITE CURB — TYPE F1
(USED ON MONOLITHIC DECKS AND APPROACH SLABS)
Not to Scale
DETAIL OF GRANITE CURB — TYPE G1
(USED ON TWO-COURSE DECKS AND APPROACH SLABS)
Not to Scale
SAWED OR HAMMERED TOP, QUARRY SPLIT FACE
DETAIL OF GRANITE CURB — TYPE A
(USE IN SOIL AT CURB FLARED ENDS)
Not to Scale

Concrete backing for full length of curb. Pay for under curb item.
1/2" Dia. Bar meeting requirements of Section 709-07 and galvanized in accordance with Section 719-01 of Specifications. Grade 40 may be used in lieu of Grade 50 steel. Pay for under appropriate curb item.

DETAIL OF ANCHOR BAR
Not to Scale
Fill with Concrete Grouting Material Section 701-05. Pay for under curb item.

ALTERNATE CURB JOINT DETAIL

Stone Curb Type "A"

See "Alternate Curb Joint Detail" Typ. all joints.

1'-0" gap in Concrete Backing for post.

These vertical surfaces of curb concrete backing shall be formed.

Concrete Backing

CURB, CURB LAYOUT AND CONCRETE BACKING DETAILS
APPENDIX C DRAINAGE DETAILS

STONE GUTTER
N. T. S.
SOD GUTTER
N. T. S.
1. Chamfer all edges and corners of the clamp 1/16" by grinding prior to galvanizing so that all sharp edges are removed.
2. All dimensions related to the fabrication of the clamp shall have a tolerance of 1/8" after galvanizing.
3. Locate and punch two (2) 3/4" Dia. holes in the top and bottom legs of the rail clamp as shown on this sheet.
4. Using the prepunched holes in the top and bottom leg of the clamp as a guide, drill a 11/16" Dia. hole in the top and bottom of the rail tube. Any damage to the galvanizing caused by the drilling operation shall be repaired according to Material Spec. 719-01.
5. Drill and tap the nut plate and vertical leg of the railing clamp to accommodate the 5/8" Dia. H.S. bolt after welding together.
6. If the bolts connecting the clamp to the post angles bear against the tube when in the final position, additional plain washers shall be added to prevent the bolt from bearing against the tube.
7. The bolts shall be torqued snug tight (Approximately 100 ft-lbs)
APPENDIX C

RAILING DETAILS

C11-2

PLAN

MEDIAN RAIL WEAK POST MOUNTING DETAIL
(WELDED VERSION)

SECTION A-A

NOTES:
1. THE COST FOR POST AND MOUNTING INCLUDING MORTAR PAD INCLUDED UNDER RAIL ITEM.
2. COAT ALL WELDS WITH ZINC RICH COLD GALVANIZED SPRAY.
**APPENDIX C RAILING DETAILS**

**MEDIAN RAIL WEAK POST MOUNTING DETAIL**

**NOTES:**

1. THE COST FOR POST AND MOUNTING INCLUDING MORTAR PAD INCLUDED UNDER RAIL ITEM.
2. COAT ALL WELDS WITH ZINC RICH COLD GALVANIZED SPRAY.

**PLAN**

- Steel plate material shall be ASTM A709 Gr36 galvanized.
- Light post (5.3 x 5.7) centered on plate mounted plumb.
- 3/4" high strength heavy hex nut & F438 washer galv. (typ.) torque nuts to 100 ft-lbs.

**SECTION A-A**

- Cut off bolts and burr threads just above top of nut.
- Cement mortar pad.
- Top of asphalt (typ.)
- Top of struct. deck.

**INSTALLATION**

- Install 3/4" dia. adhesive anchor system as per manufacturers recommendations. (Hilti HVA 3/4" or equal).
- Anchors must be threaded at top to accept nuts.

* If there is no asphalt the plate is to be mounted to structural deck.

**NOTE:**

This alternate detail to the welded type is not preferred but may be use upon special request by the division bridge engineer.
APPENDIX C

RAILING DETAILS

C11-4

PLAN

MEDIAN RAIL HEAVY POST MOUNTING DETAIL
(WELDED VERSION)

SECTION A-A

NOTES:
1. THE COST FOR POST AND MOUNTING INCLUDING MORTAR PAD INCLUDED UNDER RAIL ITEM.
2. COAT ALL WELDS WITH ZINC RICH COLD GALVANIZED SPRAY.
**APPENDIX C RAILING DETAILS**

**PLAN**

- 1" x 3 1/4" x 9 1/2" STEEL PLATE
- 3/4" DIA. HIGH STRENGTH HEAVY HEX NUT & F436 WASHER GALV. (TYP.) TORQUE NUTS TO 100 ft-lbs
- CUT OFF BOLTS AND BURR THREADS JUST ABOVE TOP OF NUT
- CEMENT MORTAR PAD

**SECTION A-A**

- 9 1/2"
- 3/4" DIA. ANCHOR BOLT GALV.
- 3/4" DIA. ANCHOR SYSTEM AS PER MANUFACTURERS RECOMMENDATIONS.
- HOLE DIAMETER PER ANCHOR SYSTEM MANUFACTURERS RECOMMENDATIONS.
- HOLE DIAMETER PER ANCHOR SYSTEM MANUFACTURERS RECOMMENDATIONS.

**NOTES:**

1. THE COST FOR POST AND MOUNTING INCLUDING MORTAR PAD INCLUDED UNDER RAIL ITEM.
2. COAT ALL WELDS WITH ZINC RICH COLD GALVANIZED SPRAY.
APPENDIX C

ANCHOR BOLT DETAILS

(2) HEAVY HEX NUTS "DOUBLE NUTTED"

GAP TO ALLOW FOR GIRDER ROTATION AND TRANSLATION (1/8" MIN.).

1/8" MIN. THICKNESS PLATE WASHER AASHTO M270, GR50 GALV. STEEL.

SOLE PLATE OR BEVELED PLATE AASHTO M270, GR50 STEEL GALV. OR METALIZED.

1" DIA. MINIMUM FULLY THREADED ANCHOR BOLT.

HEAVY HEX NUT WITH HARDENED WASHER.

MASONRY PLATE AASHTO M270, GR50 GALV. OR METALIZED.

BEARINGS SHALL BE PLACED ON A BEARING PAD CONFORMING TO ONE OF THE FOLLOWING: 728-01 OR 728-02 (TYPICAL FOR ALL BEARINGS).

CONC. BEARING SURFACE.

ANCHORAGE DEPTH SHOULD AS PER AASHTO 17TH SECT. 10.29.6 PER AASHTO 17TH SECT.

NOTE:
ANCHOR BOLTS, WASHERS AND NUTS SHALL MEET THE REQUIREMENTS OF SUBSECT. 723-60. THEY SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF MATERIAL SPEC. 719-01, "GALVANIZED COATINGS AND REPAIR METHODS". THEIR COST (INCLUDING GALVANIZING) AND THE COST OF WASHER PLATES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARING ITEMS.

ANCHOR BOLT DETAIL FOR ALL BEARINGS*

NOT TO SCALE

*FOR ELASTOMERIC BEARINGS WITH NO UPLIFT, SEE NEXT SHEET.

C12-1
APPENDIX C
ANCHOR BOLT DETAILS

NOTE:
ANCHOR BOLTS, WASHERS AND NUTS SHALL MEET THE REQUIREMENTS OF SUBSECT.
723-60. THEY SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF
MATERIAL SPEC. 719-01, "GALVANIZED COATINGS AND REPAIR METHODS". THEIR
COST (INCLUDING GALVANIZING) AND THE COST OF WASHER PLATES SHALL BE
INCLUDED IN THE UNIT PRICE BID FOR THE BEARING ITEMS.

ANCHOR BOLT DETAIL FOR ELASTOMERIC BEARINGS*
NOT TO SCALE

*ONLY FOR ELASTOMERIC BEARINGS WITH NO UPLIFT. SEE PREVIOUS SHEET
IF UPLIFT AT BEARING EXISTS.
APPENDIX C

ANCHOR BOLT DETAILS

ANCHOR BOLT EXTENSION DETAIL

Not to Scale
Dig. Fully Threaded Anchor Bolts.
Set 6" into masonry. Pay for under item
APPENDIX C

BEARING DETAILS

TYPICAL SLOTTED HOLE DETAIL
Not To Scale

Anchor Bolt shall be threaded as shown in "ANCHOR BOLT DETAIL FOR ALL BEARINGS". The nut shall be left above the top of the sole plate. The Anchor Bolt shall extend 1/4" above the top of the top nut. Anchor Bolts, Plates, Washer Plates and Nuts shall conform to the requirements of Subsection 723-60 and shall be paid for under the bearing item.

* One way longitudinal movement is the maximum movement (Expansion or Contraction) of the Superstructure when bearings are set @ 45°F. This includes 1" of tolerance.
SEE CURRENT NYSDOT BD AND STANDARD SHEETS FOR STANDARD PRESTRESSED CONCRETE DETAILS