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ABBREVIATIONS

CD = ROADWAY
TCD = TRAFFIC CONTROL DETAILS
BCD = BRIDGE CONSTRUCTION DETAILS

INDEX FOR STANDARD ROADWAY CONSTRUCTION DETAILS

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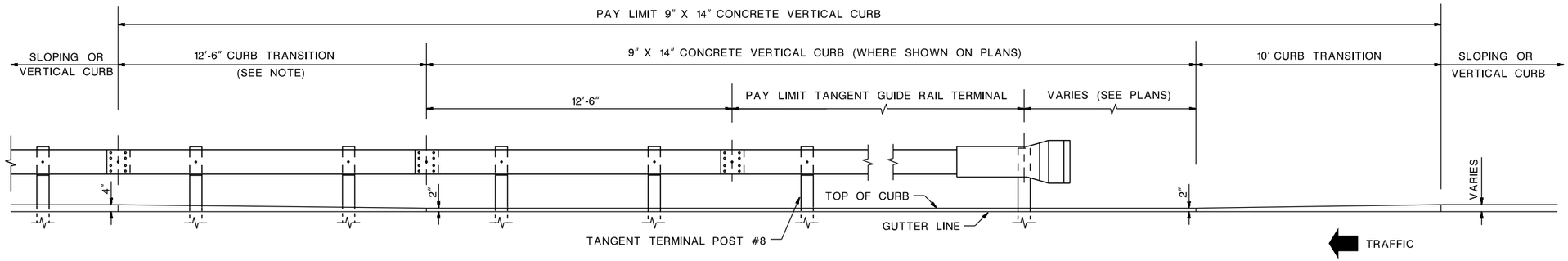
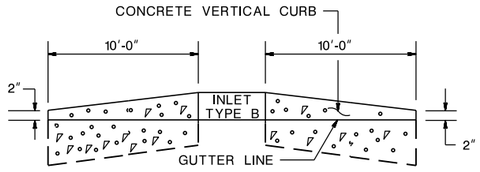
BDC18D-07-REVISED
BDC17D-10-REVISED
BDC17D-02-REVISED
BDC16D-01-ORIGINAL SHEET



NOTE: A RAIL HEIGHT TRANSITION MAY ALSO BE REQUIRED. SEE CD-609-5.

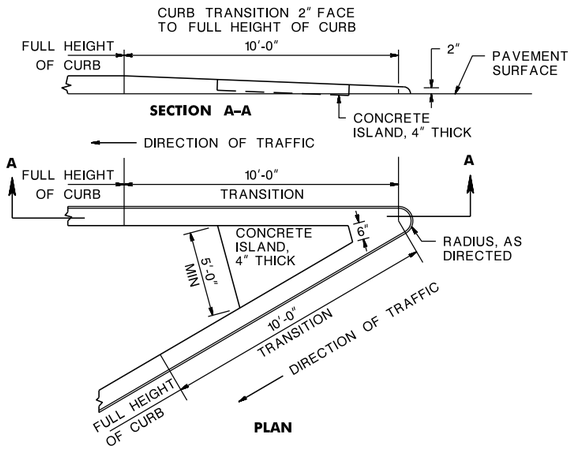
METHOD OF TRANSITIONING TO 2″ VERTICAL CURB AT A TANGENT GUIDE RAIL TERMINAL

CD-607-2.1



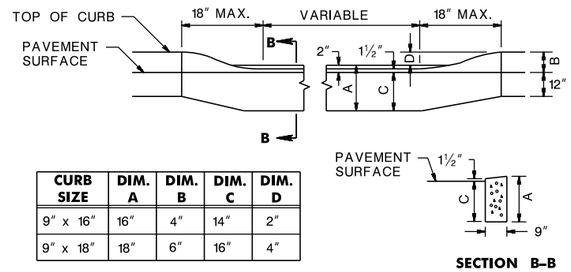
CURB TREATMENT AT BERM SECTION AND ALL CURB ENDS

CD-607-2.2



APPROACH CURBED GORE AREA TREATMENT

CD-607-2.3



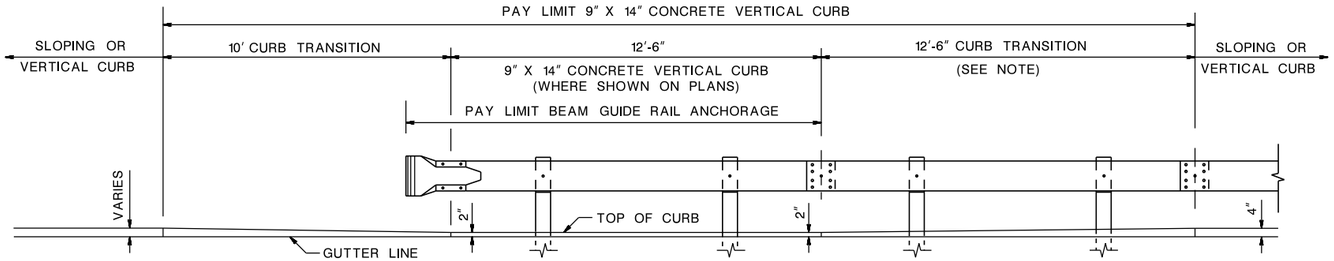
CURB SIZE	DIM. A	DIM. B	DIM. C	DIM. D
9″ x 16″	16″	4″	14″	2″
9″ x 18″	18″	6″	16″	4″

METHOD OF DEPRESSING CURB AT DRIVEWAYS

CD-607-2.4

LINEAR CURB TRANSITION

CD-607-2.5



NOTE: A RAIL HEIGHT TRANSITION MAY ALSO BE REQUIRED. SEE CD-609-4.

METHOD OF TRANSITIONING TO 2″ VERTICAL CURB AT A BEAM GUIDE RAIL ANCHORAGE

CD-607-2.6

BDC18D-07-TRANSITON WITH GUIDE RAIL REVISED
BDC17D-36-TRANSITON WITH GUIDE RAIL ADDED
BDC17D-02-MASH TITLE ADDED
BDC16D-05-ORIGINAL SHEET

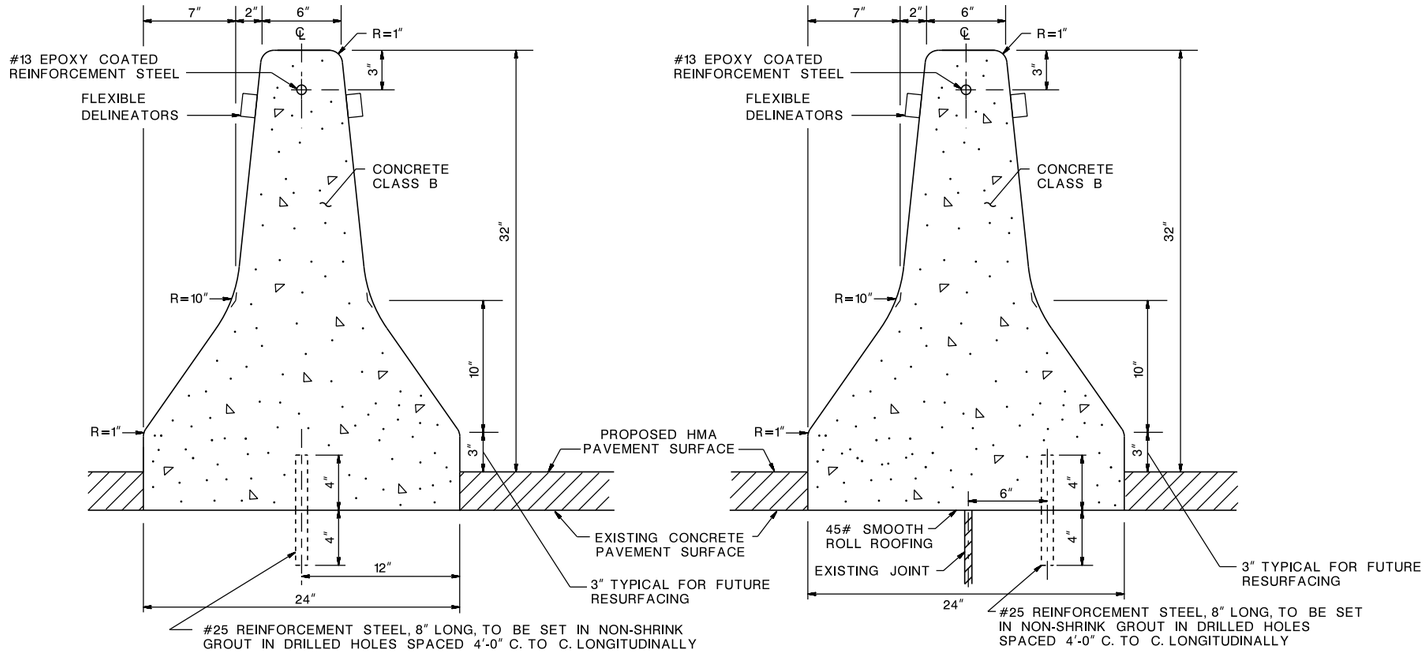
CURB TRANSITIONS

N.T.S.

CD-607-2

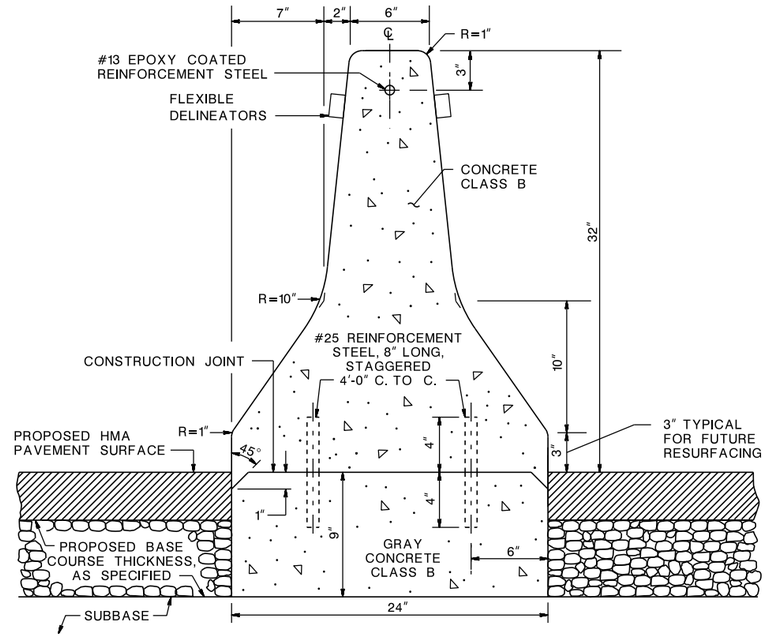
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS



24″ x ___ ″ CONCRETE BARRIER CURB, DOWELLED

CD-607-3.1



24″ x 41″ CONCRETE BARRIER CURB

CD-607-3.2

GENERAL NOTES:

(A) WHERE DOWELLED BARRIER CURB IS TO BE CONSTRUCTED ON EXISTING CONCRETE PAVEMENT OR EXISTING CONCRETE BASE COURSE:

(1) INSTALL TRANSVERSE JOINTS IN THE CURBS AT AND DIRECTLY OVER TRANSVERSE JOINTS IN THE PAVEMENT. TREAT DEFINITE CRACKS THROUGH THE PAVEMENT AS JOINTS. ALSO CONSTRUCT ADDITIONAL JOINTS IN THE CURB SO SPACED AS TO MAKE EQUAL SECTIONS NOT OVER 15′-0″ IN LENGTH.

(2) FILL THE TRANSVERSE JOINTS WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213 SPECIFICATION, RECESSED ¼″ FROM FACES AND TOP OF CURB. THE THICKNESS OF THE TRANSVERSE EXPANSION JOINT FILLER IS AS FOLLOWS:

(a) ½″ FOR IMMEDIATE JOINTS AND JOINTS OVER DEFINITE CRACKS, ½″ OVER PAVEMENT JOINTS WHERE SLAB LENGTH IS 50 FEET OR LESS, 1″ OVER PAVEMENT JOINTS WHERE SLAB LENGTH IS MORE THAN 50 FEET.

(b) VARIABLE IN MULTIPLES OF ½″ BUT NOT LESS THAN THE EXISTING WIDTH OF THE TRANSVERSE JOINTS IN BRIDGES AND JOINTS BETWEEN THE APPROACH SLABS AND BRIDGES.

(c) THE THICKNESS OF 1″ OR MORE LAYERS OF ½″ MATERIAL MAY BE GLUED OR OTHERWISE FASTENED TOGETHER BY A MEANS SATISFACTORY TO THE RE. WHERE THE REQUIRED JOINT OPENING EXCEEDS 1″, THE CONTRACTOR MAY CONSTRUCT OPEN JOINTS.

(3) CLEAN THE SURFACE OF THE EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE AS SPECIFIED IN THE SPECIFICATIONS PRIOR TO THE CONSTRUCTION OF THE CURB THEREON.

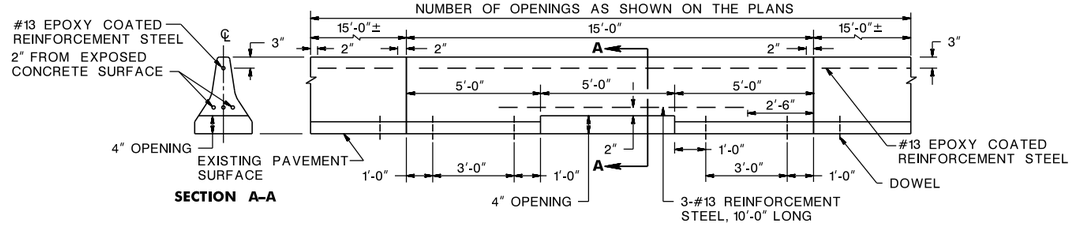
(B) WHERE DOWELLED BARRIER CURB IS TO BE CONSTRUCTED ACROSS A LONGITUDINAL JOINT IN THE EXISTING CONCRETE OR BASE COURSE, OMIT THE DOWELS IN THE SHORTER PORTION OF THE CURB. CONSTRUCT THE CURB IN THIS PORTION OF THE PANEL WITH 45# SMOOTH ROLL ROOFING BETWEEN IT AND THE EXISTING PAVEMENT.

(C) WHERE BARRIER CURB IS TO BE CONSTRUCTED ON PROPOSED CONCRETE BASE, INSTALL TRANSVERSE JOINTS ½″ WIDE IN THE BASE 20′-0″ APART AND IN THE BARRIER CURB DIRECTLY OVER JOINTS IN THE BASE. FILL THE JOINTS WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213 SPECIFICATION, RECESSED ¼″ FROM FACES AND TOP OF CURB.

(D) THE FINISHED SURFACE OF THE BARRIER CURB IS TO BE SMOOTH, DENSE UNPITTED AND FREE FROM AIR BUBBLE POCKETS, DEPRESSIONS, AND HONEYCOMBS. IF THE RE DEEMS IT NECESSARY, THE CURB IS TO BE GIVEN A WOOD FLOAT FINISH RUBBED WITH A MIXTURE OF CEMENT, SAND, AND WATER TO OBTAIN THE ABOVE MENTIONED FINISHED SURFACE.

(E) INSTALL FLEXIBLE DELINEATORS ON BARRIER CURB.

(F) REINFORCEMENT STEEL IS IN METRIC UNITS.



SECTION A–A

OPENINGS TO BE CONSTRUCTED IN BARRIER CURB

HMA = HOT MIX ASPHALT

MASH TL–3 NJ BARRIER CURB

CD-607-3.3

BARRIER CURB

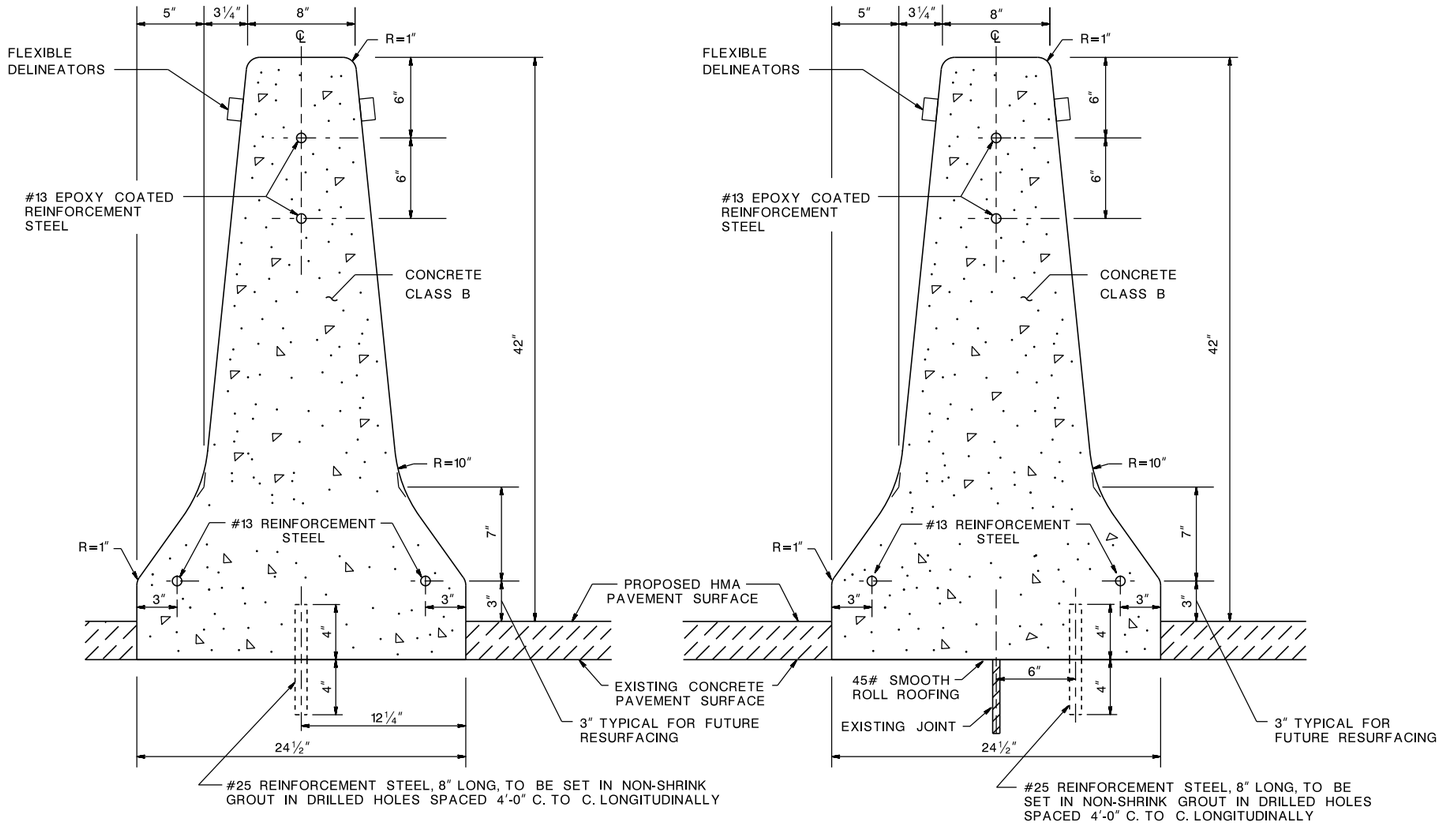
N.T.S.

CD-607-3

NEW JERSEY DEPARTMENT OF TRANSPORTATION

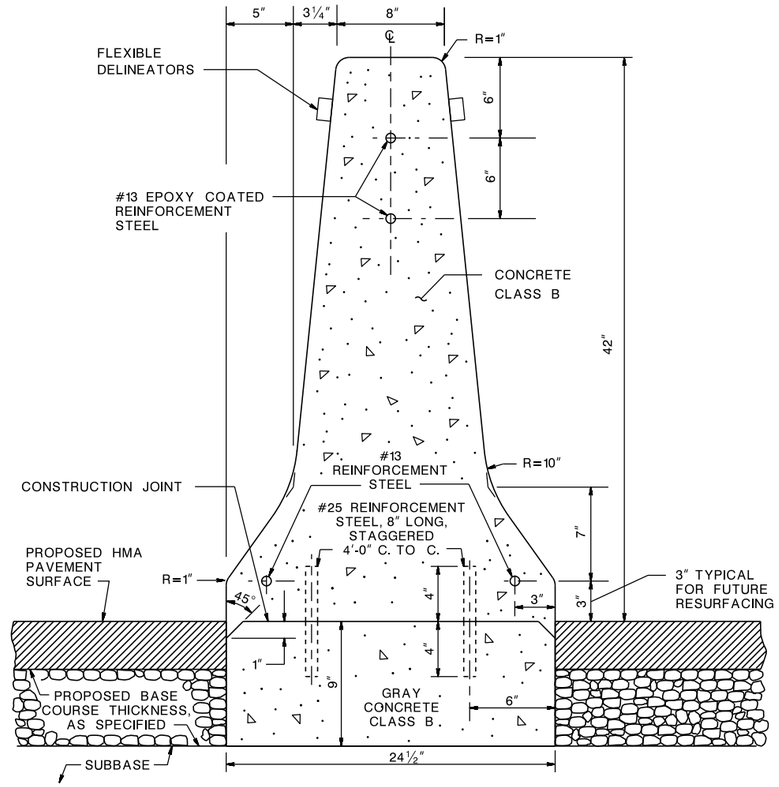
CONSTRUCTION DETAILS

BDC16D-07-CD-607-3.3 DETAIL REVISED
BDC17D-10-CD-607-3.1 & CD-607-3.2 TEXT REVISED
BDC17D-09-MASH TITLE ADDED
BDC16D-01-ORIGINAL SHEET



24½″ x ___ F SHAPE CONCRETE BARRIER CURB, DOWELLED

CD-607-5.1



24½″ x 51″ F SHAPE CONCRETE BARRIER CURB

CD-607-5.2

GENERAL NOTES:

(A) WHERE DOWELLED BARRIER CURB IS TO BE CONSTRUCTED ON EXISTING CONCRETE PAVEMENT OR EXISTING CONCRETE BASE COURSE:

(1) INSTALL TRANSVERSE JOINTS IN THE CURBS AT AND DIRECTLY OVER TRANSVERSE JOINTS IN THE PAVEMENT. TREAT DEFINITE CRACKS THROUGH THE PAVEMENT AS JOINTS. ALSO CONSTRUCT ADDITIONAL JOINTS IN THE CURB SO SPACED AS TO MAKE EQUAL SECTIONS NOT OVER 15′-0″ IN LENGTH.

(2) FILL THE TRANSVERSE JOINTS WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213 SPECIFICATION, RECESSED ¼″ FROM FACES AND TOP OF CURB. THE THICKNESS OF THE TRANSVERSE EXPANSION JOINT FILLER IS AS FOLLOWS:

(a) ½″ FOR IMMEDIATE JOINTS AND JOINTS OVER DEFINITE CRACKS, ½″ OVER PAVEMENT JOINTS WHERE SLAB LENGTH IS 50 FEET OR LESS, 1″ OVER PAVEMENT JOINTS WHERE SLAB LENGTH IS MORE THAN 50 FEET.

(b) VARIABLE IN MULTIPLES OF ½″ BUT NOT LESS THAN THE EXISTING WIDTH OF THE TRANSVERSE JOINTS IN BRIDGES AND JOINTS BETWEEN THE APPROACH SLABS AND BRIDGES.

(c) THE THICKNESS OF 1″ OR MORE LAYERS OF ½″ MATERIAL MAY BE GLUED OR OTHERWISE FASTENED TOGETHER BY A MEANS SATISFACTORY TO THE RE. WHERE THE REQUIRED JOINT OPENING EXCEEDS 1″, THE CONTRACTOR MAY CONSTRUCT OPEN JOINTS.

(3) CLEAN THE SURFACE OF THE EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE AS SPECIFIED IN THE SPECIFICATIONS PRIOR TO THE CONSTRUCTION OF THE CURB THEREON.

(B) WHERE DOWELLED BARRIER CURB IS TO BE CONSTRUCTED ACROSS A LONGITUDINAL JOINT IN THE EXISTING CONCRETE OR BASE COURSE, OMIT THE DOWELS IN THE SHORTER PORTION OF THE CURB. CONSTRUCT THE CURB IN THIS PORTION OF THE PANEL WITH 45# SMOOTH ROLL ROOFING BETWEEN IT AND THE EXISTING PAVEMENT.

(C) WHERE BARRIER CURB IS TO BE CONSTRUCTED ON PROPOSED CONCRETE BASE, INSTALL TRANSVERSE JOINTS ½″ WIDE IN THE BASE 20′-0″ APART AND IN THE BARRIER CURB DIRECTLY OVER JOINTS IN THE BASE. FILL THE JOINTS WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213 SPECIFICATION, RECESSED ¼″ FROM FACES AND TOP OF CURB.

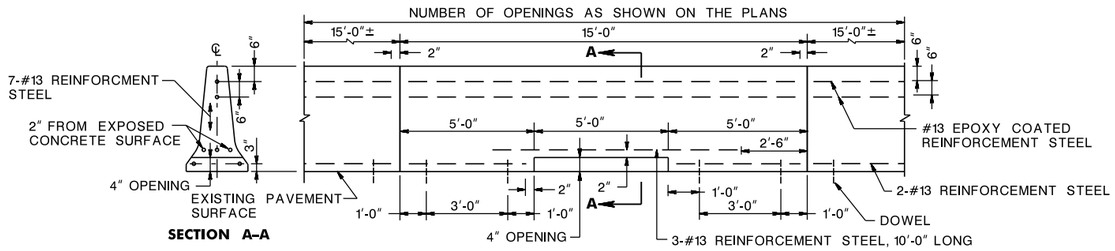
(D) THE FINISHED SURFACE OF THE BARRIER CURB IS TO BE SMOOTH, DENSE UNPITTED AND FREE FROM AIR BUBBLE POCKETS, DEPRESSIONS, AND HONEYCOMBS. IF THE RE DEEMS IT NECESSARY, THE CURB IS TO BE GIVEN A WOOD FLOAT FINISH RUBBED WITH A MIXTURE OF CEMENT, SAND, AND WATER TO OBTAIN THE ABOVE MENTIONED FINISHED SURFACE.

(E) INSTALL FLEXIBLE DELINEATORS ON BARRIER CURB.

(F) REINFORCEMENT STEEL IS IN METRIC UNITS.

MASH TL-5 F SHAPE BARRIER CURB

CD-607-5.3



OPENINGS TO BE CONSTRUCTED IN F SHAPE BARRIER CURB

BARRIER CURB

N.T.S.

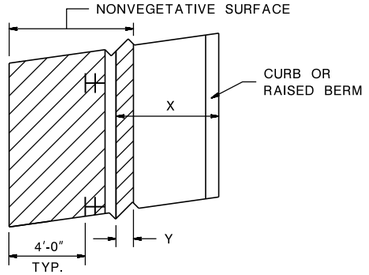
CD-607-5

NEW JERSEY DEPARTMENT OF TRANSPORTATION

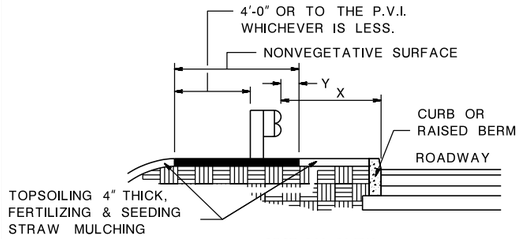
CONSTRUCTION DETAILS

60B
164

BDC18D-07-REVISIONS TO CD-607-5.1
BDCTD-02-NEW SHEET



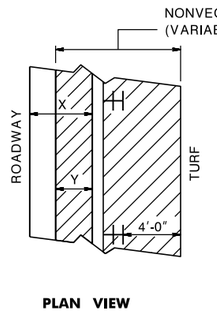
PLAN VIEW



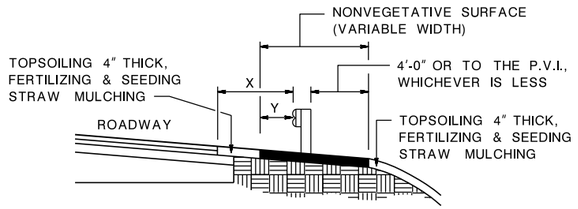
SECTION VIEW

NONVEGETATIVE SURFACES AROUND GUIDE RAIL BEHIND CURB OR RAISED BERM

CD-608-1.1



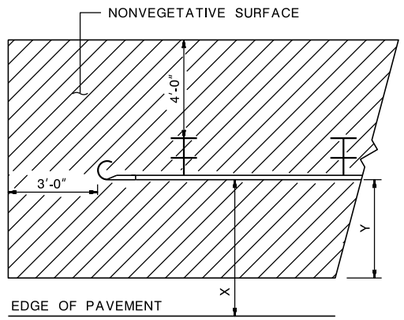
PLAN VIEW



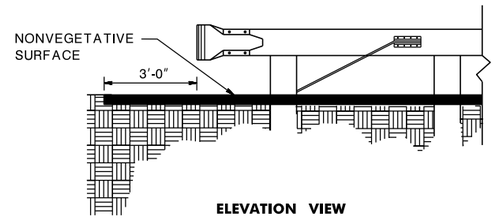
SECTION VIEW

NONVEGETATIVE SURFACE AT EDGE OF PAVEMENT ON UMBRELLA SECTION WHERE GUIDE RAIL IS USED

CD-608-1.2



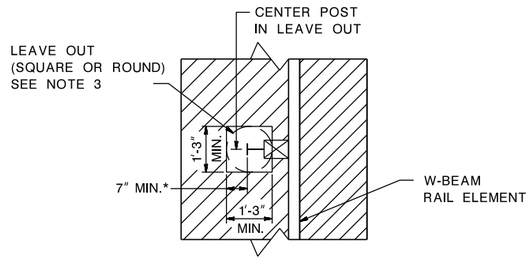
PLAN VIEW



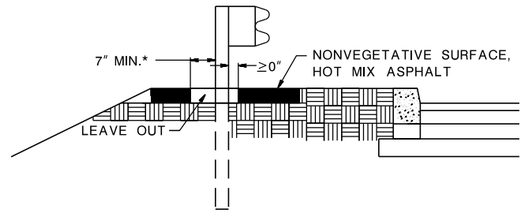
ELEVATION VIEW

NONVEGETATIVE SURFACES AROUND BEAM GUIDE RAIL ANCHORAGE

CD-608-1.3



PLAN VIEW

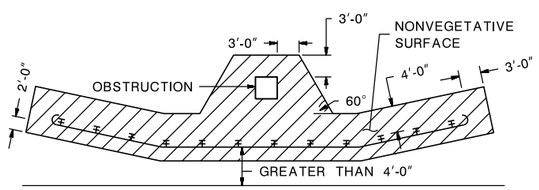


SECTION VIEW

* FOR DUAL FACED GUIDE RAIL, THE 7" MINIMUM APPLIES TO BOTH SIDES OF THE POST.

LEAVE OUT FOR STANDARD ITEM "NONVEGETATIVE SURFACE, HOT MIX ASPHALT" ONLY

CD-608-1.4

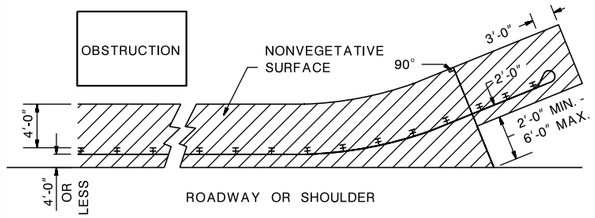


ROADWAY OR SHOULDER

PLAN VIEW

NONVEGETATIVE SURFACE AROUND FLARED GUIDE RAIL WHERE GUIDE RAIL OFFSET FROM EDGE OF PAVEMENT IS GREATER THAN 4'–0"

CD-608-1.5

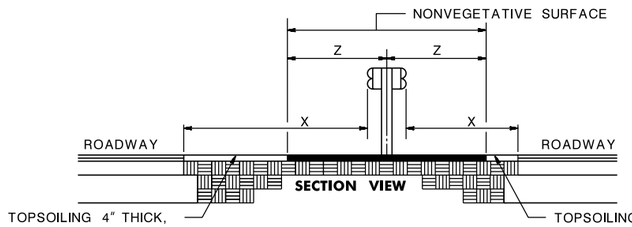


ROADWAY OR SHOULDER

PLAN VIEW

NONVEGETATIVE SURFACE AROUND FLARED GUIDE RAIL WHERE GUIDE RAIL OFFSET FROM EDGE OF PAVEMENT IS 4'–0" OR LESS

CD-608-1.6



Z = 3' FOR DUAL FACED BEAM GUIDE RAIL
4' FOR DUAL FACED MODIFIED THRIE BEAM

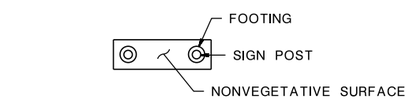
NOTE:
WHERE X IS LESS THAN OR EQUAL TO 4', USE Y TO DETERMINE NONVEGETATIVE SURFACE TREATMENT FOR THAT SIDE OF GUIDE RAIL.

NONVEGETATIVE SURFACE UNDER MEDIAN GUIDE RAIL

CD-608-1.7

X	Y
GUIDE RAIL OFFSET FROM EDGE OF PAVEMENT	WIDTH OF NONVEGETATIVE SURFACE IN FRONT OF GUIDE RAIL
GREATER THAN 4'-0"	2'-0"
LESS THAN OR EQUAL TO 4'-0"	Y=X

CD-608-1.8



THE NONVEGETATIVE SURFACE IS TO FORM A RECTANGULAR PAD WHOSE OUTSIDE LIMITS EXTEND A MINIMUM OF 3' -0" BEYOND THE POST FOOTING.

PLAN VIEW

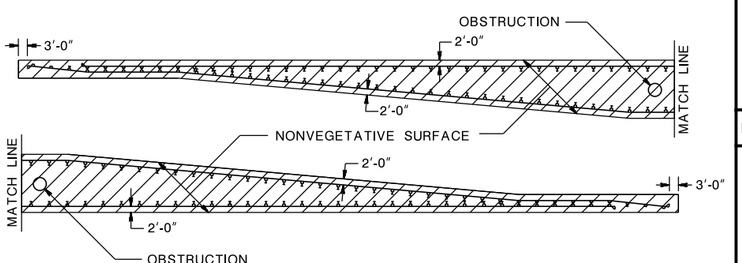
NONVEGETATIVE SURFACE AROUND OVERHEAD SIGN FOUNDATIONS AND UNDER LARGE GROUND MOUNTED SIGNS

CD-608-1.9

GENERAL NOTES:

1. IF THE END OF THE GUIDE RAIL IS BURIED IN THE SLOPE, THE LIMIT OF NONVEGETATIVE SURFACE RELATIVE TO THE BURIED GUIDE RAIL WILL BE DETERMINED BY THE RE.
2. SEE TYPICAL SECTIONS FOR CROSS SLOPES IN ROADSIDE (BORDER OR SIDEWALK AREA).
3. LEAVE OUTS CAN BE FILLED WITH:
   (a) COARSE AGGREGATE, SIZE NO. 57 TO BE HAND TAMPED, THEN SEAL SURFACE WITH EMULSIFIED ASPHALT AT 0.35 GAL/SY ±0.05 AS PER STANDARD SPECIFICATIONS SECTION 902; OR
   (b) COARSE AGGREGATE, SIZE NO. 57 IN BASE OF LEAVE OUT AND TOP WITH NONVEGETATIVE SURFACE, HMA, 2" THICK. GRADE TO DRAIN AND HAND TAMP LEAVE OUT SURFACE.

CD-608-1.10



PLAN VIEW

NONVEGETATIVE SURFACE AT MEDIAN GUIDE RAIL

CD-608-1.11

NONVEGETATIVE SURFACE

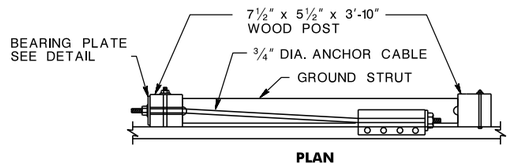
N.T.S.

CD-608-1

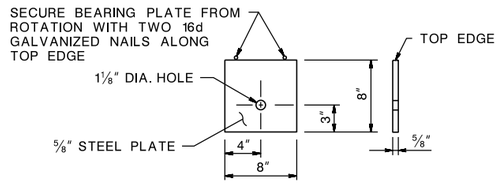
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

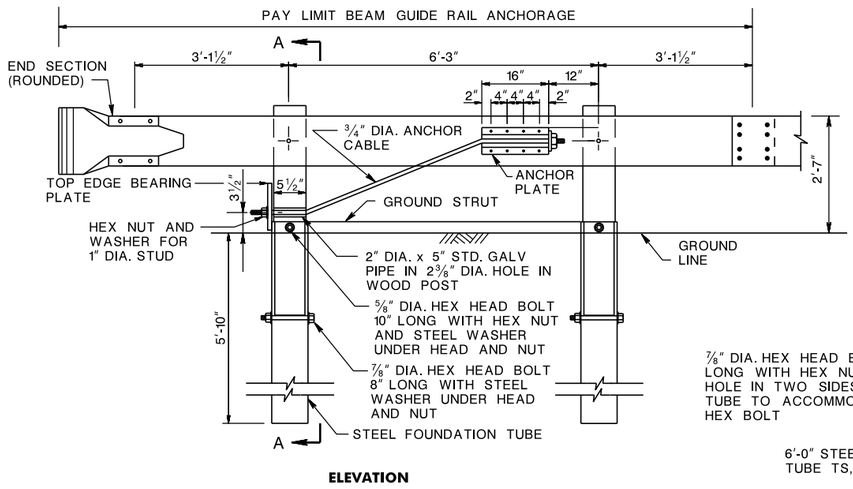
BDC18D-07-REVISIONS TO CD-608-1.4 & CD-608-1.11
BDC17D-02-REVISIONS TO CD-608-1
BDC16D-03-ORIGINAL SHEET



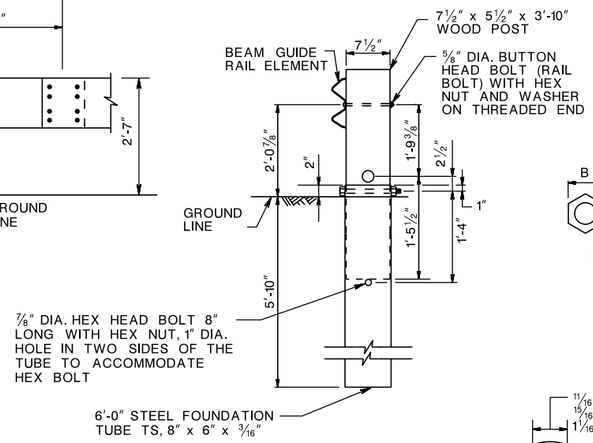
PLAN



BEARING PLATE

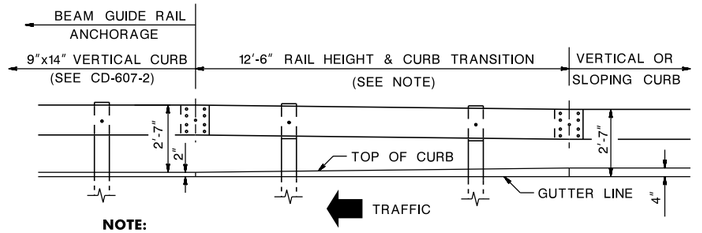


ELEVATION



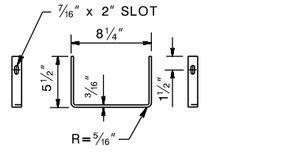
SECTION A–A

BEAM GUIDE RAIL ANCHORAGE

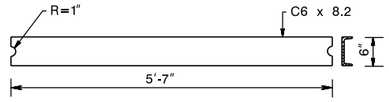


NOTE:
WHERE GUIDE RAIL IS OFFSET 4 FEET OR MORE FROM THE GUTTER LINE, RAIL HEIGHT IS MEASURE FROM THE GROUND LINE (CD-609-8A). A RAIL HEIGHT TRANSITION IS NOT REQUIRED.

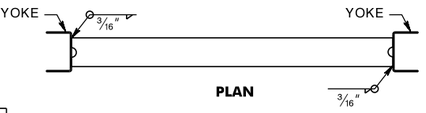
RAIL HEIGHT TRANSITION FOR GUIDE RAIL ANCHORAGE WITH 2" VERTICAL CURB WHERE GUIDE RAIL IS OFFSET LESS THAN 4 FEET FROM THE GUTTER LINE



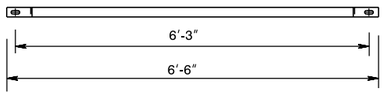
YOKE DETAIL



STRUT DETAIL

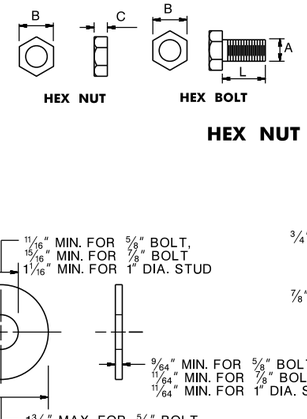


PLAN



ELEVATION

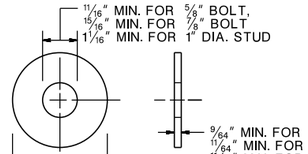
GROUND STRUT



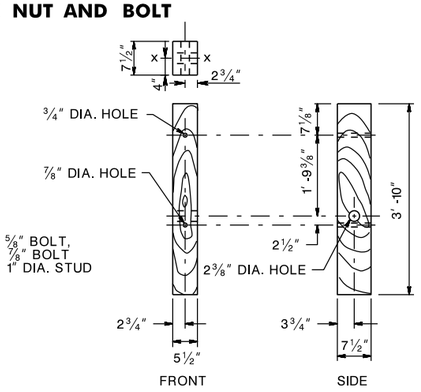
HEX NUT HEX BOLT

BOLT SIZE	THREAD PITCH	A	B	C	L
⅝"	⅝-11	⅝"	15/16"	35/64"	1½", 10"
⅞"	⅞-9	⅞"	1 15/16"	¾"	8"

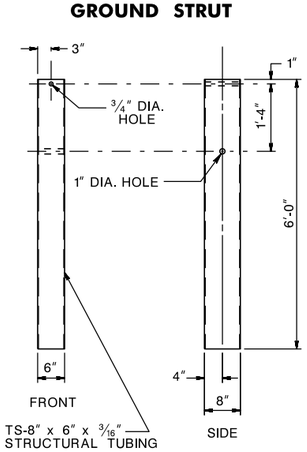
HEX NUT AND BOLT



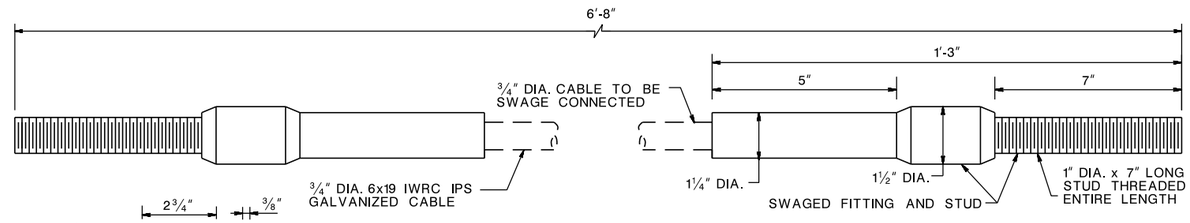
STEEL WASHER



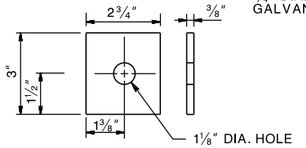
WOOD POST



STEEL FOUNDATION TUBE

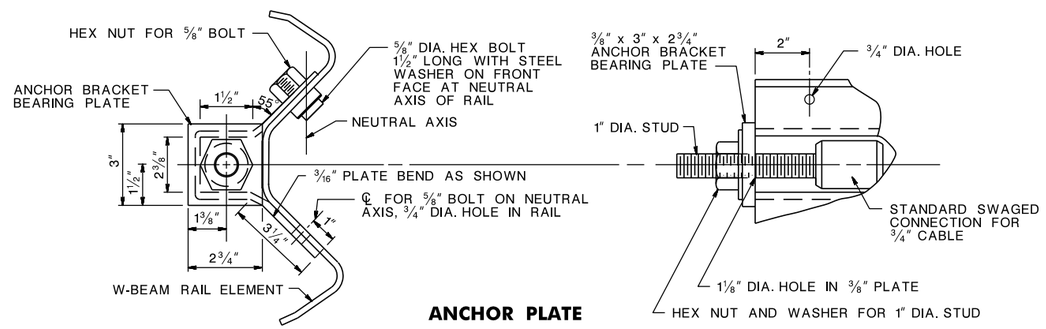


CABLE ASSEMBLY

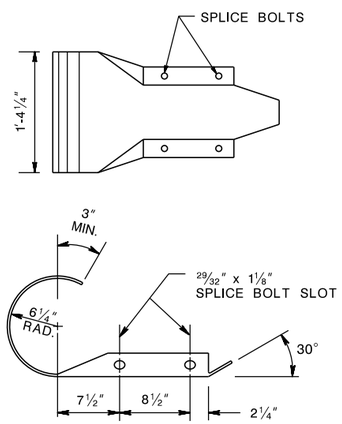


ANCHOR BRACKET BEARING PLATE

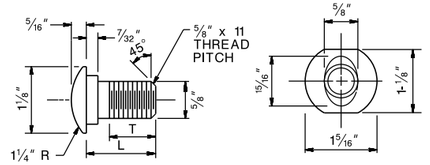
NOTE:
OTHER ANCHOR CABLE ASSEMBLIES MAY BE USED. MINIMUM BREAKING STRENGTH OF ASSEMBLY TO BE 42,700 LBS.



ANCHOR PLATE

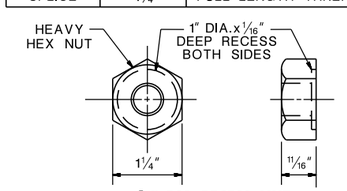


END SECTION (ROUNDED)



⅝" DIA. BUTTON HEAD BOLT

TYPE	L	MIN. THREAD LENGTH (T)
RAIL	10"	4"
SPLICE	1¼"	FULL LENGTH THREAD



⅝" DIA. RECESS NUT

RAIL NUT & BOLT

BEAM GUIDE RAIL ANCHORAGE (MASH TL–3)

N.T.S.

CD-609-4

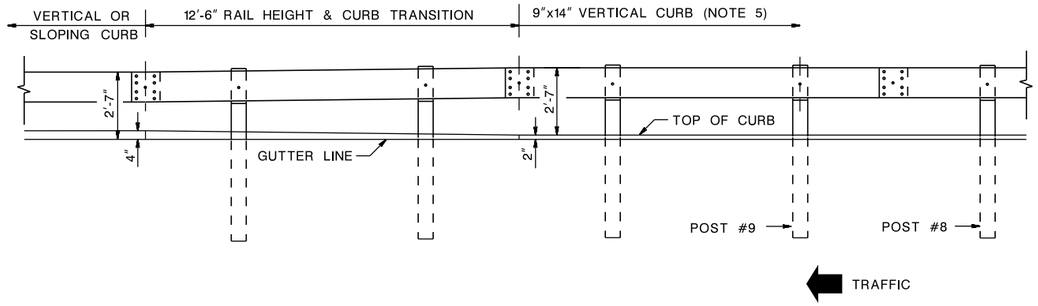
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

CD-609-4.1

65
164

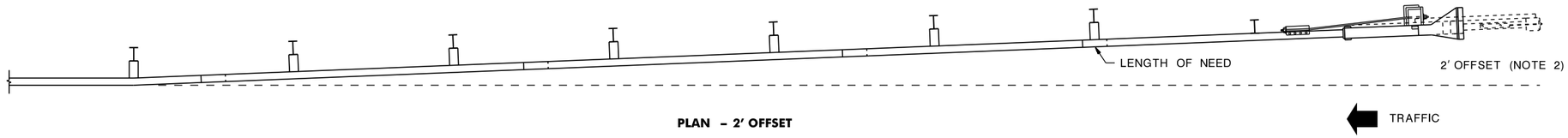
BDC18D-07-ANCHORAGE WITH CURB REVISED
BDCTD-10-ANCHORAGE WITH CURB ADDED
BDCTD-02-REVISIONS TO CD-609-4
BDC16D-04-ORIGINAL SHEET



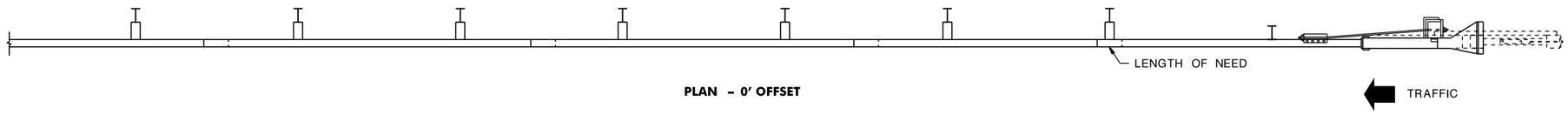
RAIL HEIGHT TRANSITION FOR TANGENT GUIDE RAIL TERMINAL WITH 2" VERTICAL CURB WHERE GUIDE RAIL IS OFFSET LESS THAN 4 FEET FROM THE GUTTER LINE (NOTE 6)

NOTES:

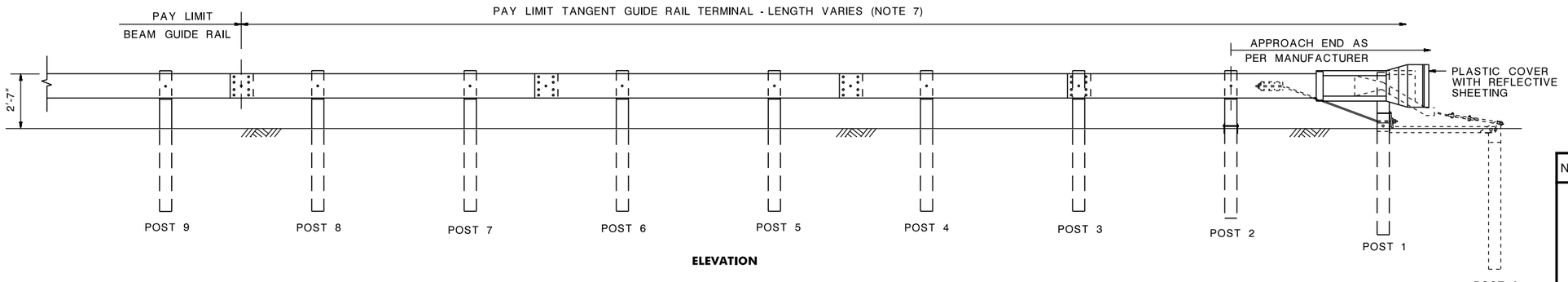
1. NUMBER OF POSTS, TYPE OF POST, POST SPACING, FLARE RATE, AND MATERIALS TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE DEPARTMENT'S QUALIFIED PRODUCTS LIST.
2. THE LOCATION OF THE 2 FOOT OFFSET VARIES WITH EACH MANUFACTURER. WHERE A 2 FOOT OFFSET IS SHOWN ON THE PLANS, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL WITH A STRAIGHT FLARE FOR ITS ENTIRE LENGTH AS PER THE MANUFACTURER.
3. WHERE GUIDE RAIL IS INSTALLED FLUSH WITH THE GUTTER LINE OR OFFSET 6 INCHES FROM THE GUTTER LINE, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL WITH A TWO FOOT OFFSET SO THAT THE TERMINAL END DOES NOT PROTRUDE INTO THE ROADWAY.
4. WHERE THE DOWNSTREAM GUIDE RAIL IS ON A HORIZONTAL CURVE, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL IN A STRAIGHT LINE AS SHOWN ON THIS DETAIL (DO NOT FOLLOW THE HORIZONTAL CURVE).
5. 9"x14" CONCRETE VERTICAL CURB WHERE SHOWN ON PLANS. SEE CD-607-2 FOR ADDITIONAL CURB TRANSITION DETAILS.
6. WHERE GUIDE RAIL IS OFFSET 4 FEET OR MORE FROM THE GUTTER LINE, RAIL HEIGHT OF THE GUIDE RAIL AND TANGENT GUIDE RAIL TERMINAL IS MEASURED FROM THE GROUND LINE (CD-609-8A). A RAIL HEIGHT TRANSITION IS NOT REQUIRED.
7. LENGTH OF TANGENT GUIDE RAIL TERMINAL AS PER MANUFACTURER. SEE QUALIFIED PRODUCTS LIST.
8. LOCATION OF POST #1 AS SHOWN ON THE PLANS.



PLAN – 2' OFFSET



PLAN – 0' OFFSET



ELEVATION

TANGENT GUIDE RAIL TERMINAL

CD-609-5.1

TANGENT GUIDE RAIL TERMINAL (MASH TL-3)

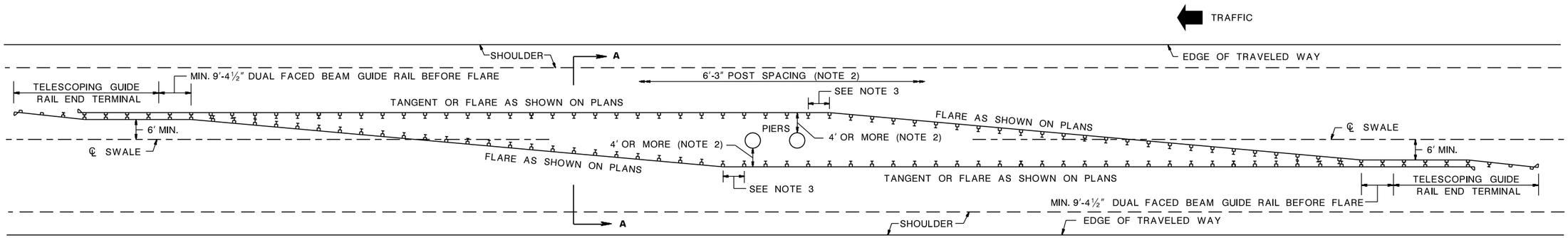
N.T.S.

CD-609-5

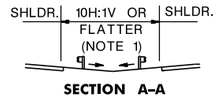
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

BDC18D-07-FLARED TERMINAL DELETED
BDC17D-06-TERMINAL WITH CURB ADDED
BDC17D-02-REVISIONS TO CD-609-5
BDC15D-03-ORIGINAL SHEET



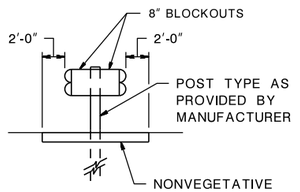
MEDIAN GUIDE RAIL WITH TELESCOPING GUIDE RAIL END TERMINAL



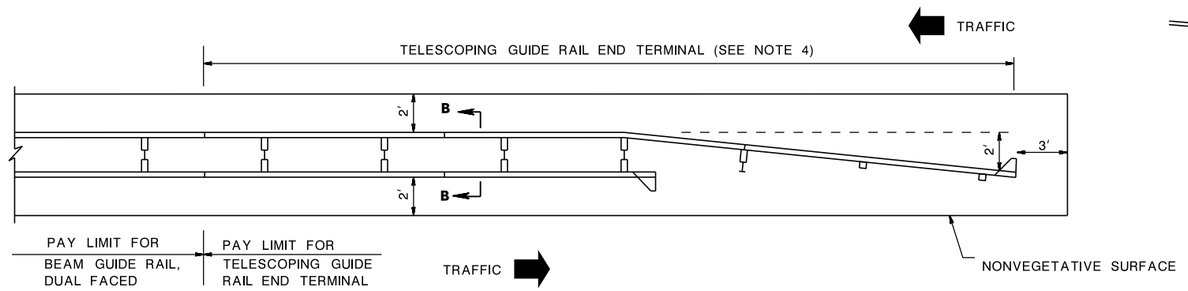
SECTION A–A

NOTES:

1. 10H:1V OR FLATTER SLOPES TO BEGIN 100' IN ADVANCE OF THE TELESCOPING GUIDE RAIL END TERMINAL.
2. WHERE THE DISTANCE FROM THE FACE OF RAIL TO THE OBSTRUCTION IS LESS THAN 4', REDUCED POST SPACING IS REQUIRED. SEE CD-609-8.
3. A MINIMUM OF ONE 6'-3" TANGENT SPACE IS REQUIRED BEYOND THE OBSTRUCTION BEFORE BEGINNING A FLARE.
4. LENGTH OF TELESCOPING GUIDE RAIL END TERMINAL AS PER MANUFACTURER. SEE QUALIFIED PRODUCTS LIST.



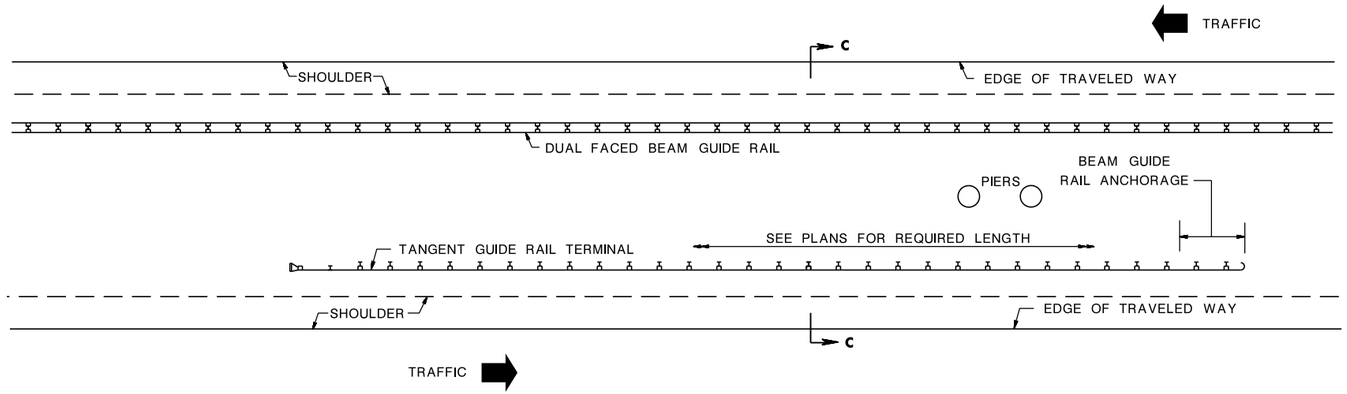
SECTION B–B



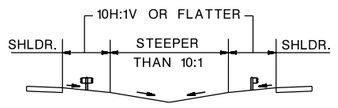
TELESCOPING GUIDE RAIL END TERMINAL CONNECTION TO DUAL FACED BEAM GUIDE RAIL

TELESCOPING GUIDE RAIL END TERMINAL

CD-609-7.1



DUAL FACED MEDIAN GUIDE RAIL AND TANGENT GUIDE RAIL TERMINAL



SECTION C–C

CD-609-7.2

MEDIAN GUIDE RAIL TREATMENTS

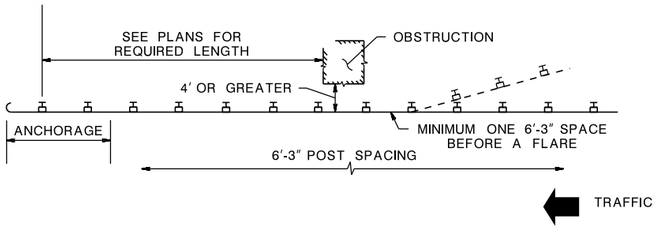
N.T.S.

CD-609-7

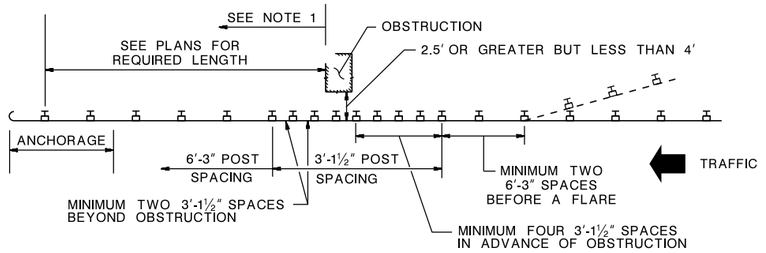
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

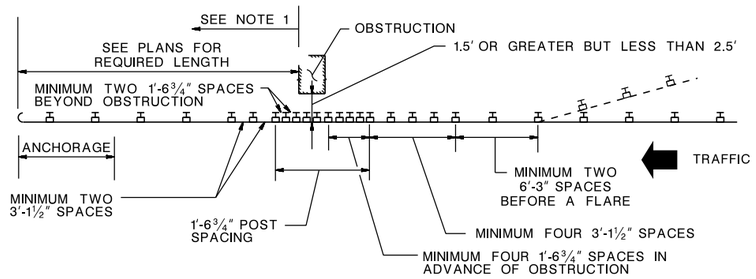
BDC160-07-DUAL FACED DETAIL TEXT REVISED
BDC170-04-REVISIONS TO CD-609-7
BDC180-04-ORIGINAL SHEET



WHERE CLEARANCE FROM FACE OF RAIL TO OBSTRUCTION IS 4′ OR GREATER (SEE NOTE 2)



WHERE CLEARANCE FROM FACE OF RAIL TO OBSTRUCTION IS 2.5′ OR GREATER BUT LESS THAN 4′ (SEE NOTE 2)



WHERE CLEARANCE FROM FACE OF RAIL TO OBSTRUCTION IS 1.5′ OR GREATER BUT LESS THAN 2.5′ (SEE NOTE 2)

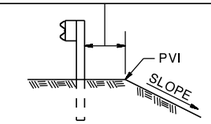
NOTES:

1. WHERE AN APPROACH END TREATMENT AT THE TRAILING END OF GUIDE RAIL IS SHOWN ON THE PLANS, THE POST SPACING REQUIREMENTS SHALL BE THE SAME AS THE APPROACH END.
2. IN A FILL SECTION WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE PVI IS LESS THAN 1′ AND THE SLOPE IS STEEPER THAN 3:1, THE MINIMUM CLEARANCE FROM THE FACE OF THE RAIL TO AN OBSTRUCTION IS INCREASED BY 1′ DUE TO INCREASED POST DEFLECTION.
3. ADDITIONAL POSTS AND BLOCKOUTS WILL BE PAID FOR UNDER PAY ITEM "BEAM GUIDE RAIL POST".

CLEARANCE FROM FACE OF RAIL TO OBSTRUCTION

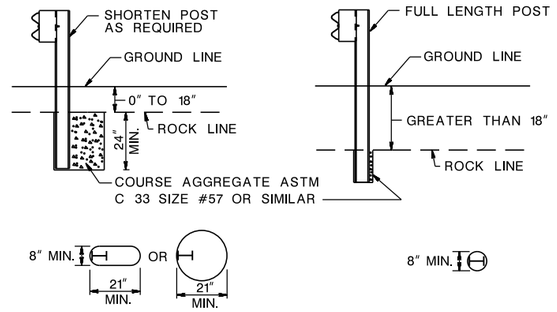
CD-609-8.1

DISTANCE FROM BACK OF POST TO PVI	SLOPE	ADDITIONAL POST LENGTH
IF LESS THAN 2′ BUT GREATER OR EQUAL TO 1′	6:1 OR FLATTER	NO CHANGE
	STEEPER THAN 6:1 TO 3:1	1′
	STEEPER THAN 3:1 TO 2:1	2′
IF LESS THAN 1′	6:1 OR FLATTER	1′
	STEEPER THAN 6:1 TO 3:1	2′
	STEEPER THAN 3:1 TO 2:1	3′



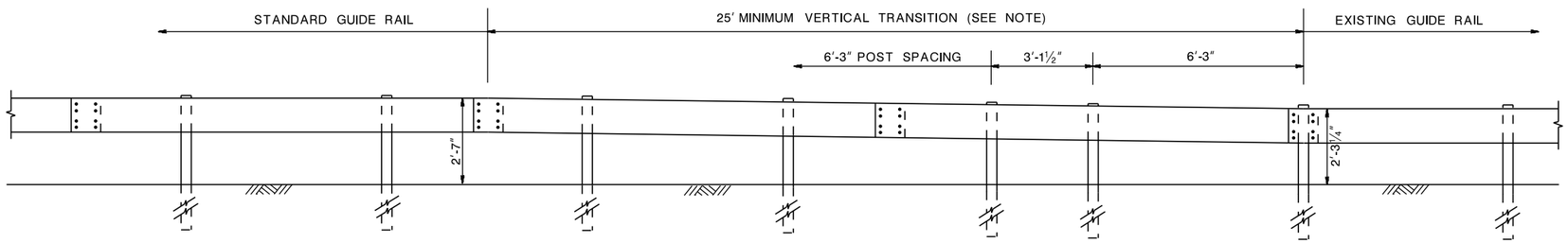
ADDITIONAL LENGTH BEAM GUIDE RAIL POSTS

CD-609-8.2



GUIDE RAIL POST INSTALLATION IN ROCK

CD-609-8.3



NOTE:
WHERE TRANSITIONING TO EXISTING GUIDE RAIL, AN END TERMINAL, OR A CRASH CUSHION MOUNTED AT A HEIGHT OTHER THAN 2′-7″, THE VERTICAL TRANSITION SHALL BE ACCOMPLISHED IN A MINIMUM LENGTH OF 12′-6″ FOR EACH 2″ OF VERTICAL CHANGE.

VERTICAL TRANSITION TO EXISTING 27¼″ HIGH GUIDE RAIL

CD-609-8.4

BDC18D-07-CLEARANCE DETAILS REVISED
BDC17D-02 REVISIONS TO CD-609-8
BDC16D-01-ORIGINAL SHEET

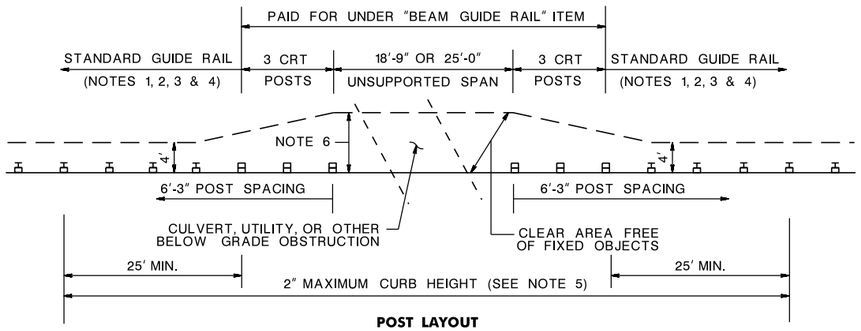
BEAM GUIDE RAIL TREATMENTS

N.T.S.

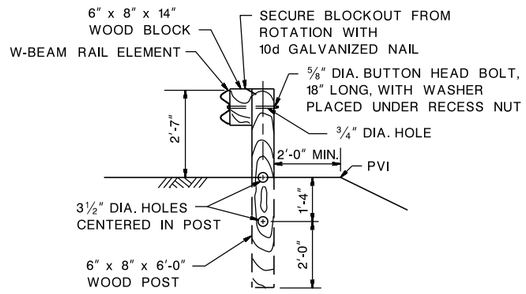
CD-609-8

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS



POST LAYOUT



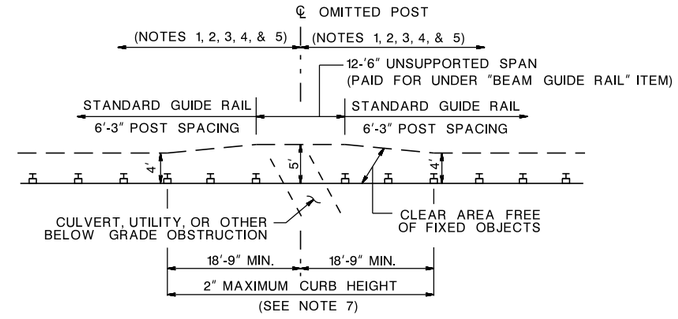
CRT POST FOR UNSUPPORTED SPAN

NOTES:

1. A MINIMUM OF TEN 6'-3" POST SPACES OF TANGENT GUIDE RAIL ARE REQUIRED BETWEEN THE OUTER CRT POSTS OF CONSECUTIVE 18-9" OR 25'-0" UNSUPPORTED SPANS.
2. THE OUTER CRT POSTS MUST BE A MINIMUM OF TEN 6'-3" POST SPACES FROM THE APPROACH END OF A TANGENT GUIDE RAIL TERMINAL AND EIGHT 6'-3" POST SPACES FROM THE BEGINNING OF A FLARE OR REDUCED POST SPACING.
3. THE OUTER CRT POSTS MUST BE A MINIMUM OF TEN 6'-3" POST SPACES FROM THE LAST POST OF AN END ANCHORAGE.
4. THE OUTER CRT POSTS MUST BE A MINIMUM OF SIX 6'-3" POST SPACES FROM A THRIE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION.
5. WHERE THERE IS CURB, THE MAXIMUM CURB HEIGHT IS 2" FROM 25' IN ADVANCE OF THE FIRST CRT POST ON THE APPROACH END TO 25' PAST THE LAST CRT POST ON THE TRAILING END.
6. THE REQUIRED CLEAR AREA FREE OF FIXED OBJECTS IS 7' FOR AN 18'-9" UNSUPPORTED SPAN AND 8' FOR A 25'-0" UNSUPPORTED SPAN.
7. IF THERE IS A VERTICAL DROPOFF BEHIND THE UNSUPPORTED SPAN, THE FACE OF RAIL MUST BE A MINIMUM OF 3' FROM THE DROPOFF.

18'–9" OR 25'–0' UNSUPPORTED SPAN

CD-609-8A.1

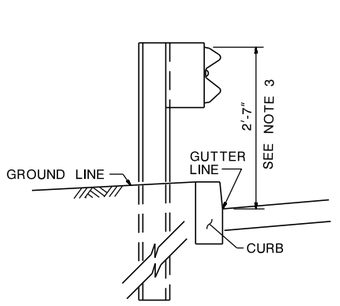


NOTES:

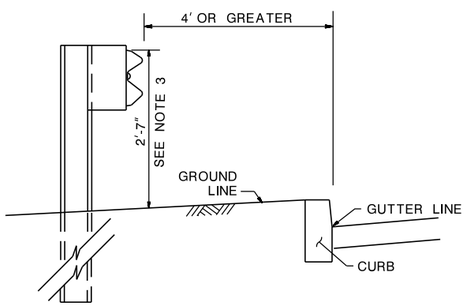
1. A MINIMUM OF NINE 6'-3" POST SPACES OF TANGENT GUIDE RAIL ARE REQUIRED BETWEEN TWO CONSECUTIVE SINGLE POST OMISSIONS.
2. THE OMITTED POST MUST BE A MINIMUM OF TEN 6'-3" POST SPACES FROM THE APPROACH END OF A TANGENT GUIDE RAIL TERMINAL AND FIVE 6'-3" POST SPACES FROM THE BEGINNING OF A FLARE OR REDUCED POST SPACING.
3. THE OMITTED POST MUST BE A MINIMUM OF TEN 6'-3" POST SPACES FROM THE LAST POST OF AN END ANCHORAGE.
4. THE OMITTED POST MUST BE A MINIMUM OF SIX 6'-3" POST SPACES FROM A THRIE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION.
5. THE OMITTED POST MUST BE A MINIMUM OF SEVEN 6'-3" POST SPACES FROM AN OUTER CRT POST OF AN 18'-9" OR 25'-0" UNSUPPORTED SPAN.
6. THE REQUIRED CLEAR AREA FREE OF FIXED OBJECTS IS 5' BEHIND A 12'-6" UNSUPPORTED SPAN.
7. WHERE THERE IS CURB, THE MAXIMUM CURB HEIGHT IS 2" FOR A MINIMUM LENGTH OF 18'-9" IN ADVANCE OF AND ON THE TRAILING END OF THE OMITTED POST.

12'–6" UNSUPPORTED SPAN

CD-609-8A.2

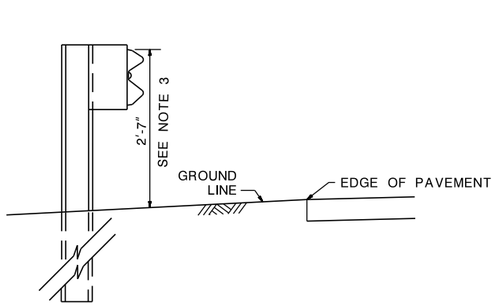


GUIDE RAIL FLUSH WITH GUTTER LINE (SEE NOTE 4)



GUIDE RAIL OFFSET 4' OR GREATER FROM GUTTER LINE

RAIL HEIGHT DETERMINATION WITH CURB



RAIL HEIGHT DETERMINATION WITHOUT CURB

NOTES:

1. WHERE GUIDERAIL ADJACENT TO CURB IS FLUSH WITH THE GUTTER LINE (6" OFFSET FOR SLOPING CURB) AND IS TAPERED TO AN OFFSET OF 4' OR GREATER, A VERTICAL TRANSITION IS REQUIRED. THE VERTICAL TRANSITION SHALL BE ACCOMPLISHED IN A MINIMUM LENGTH OF 12'-6" FOR EACH 2" OF VERTICAL CHANGE.
2. SEE PLANS FOR GUIDE RAIL OFFSET.
3. 2'-10" FOR MODIFIED THRIE BEAM GUIDE RAIL.
4. FOR SLOPING CURB, FACE OF RAIL IS OFFSET 6" FROM GUTTER LINE.

RAIL HEIGHT DETERMINATION

CD-609-8A.3

BEAM GUIDE RAIL TREATMENTS (MASH TL–3)

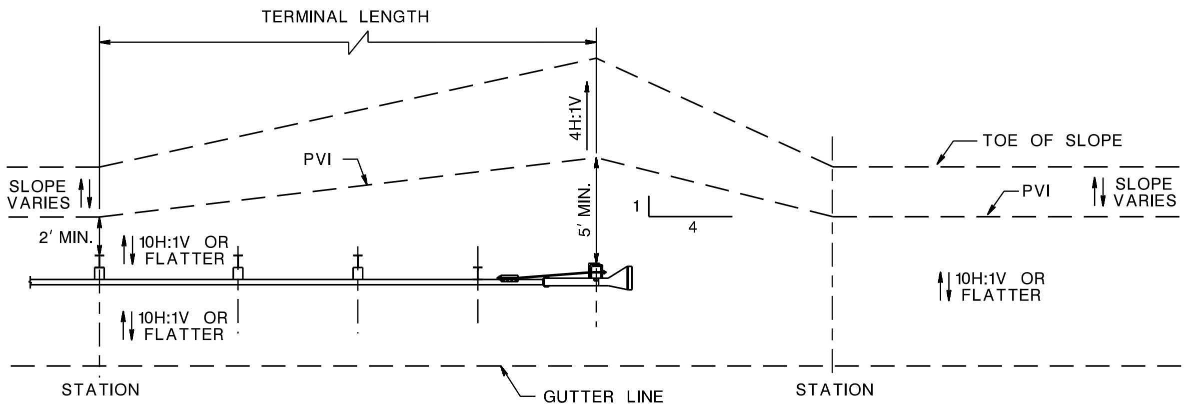
N.T.S.

CD-609-8A

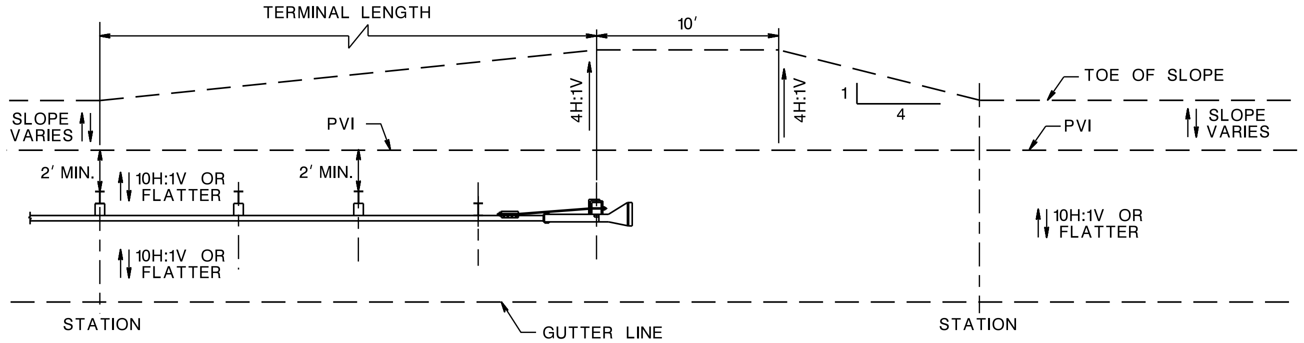
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

BDC18D-07-UNSUPPORTED SPAN NOTES REVISED
BDC17D-02-NEW SHEET



STANDARD GRADING



ALTERNATE GRADING

GRADING	STANDARD/ALTERNATE
STATION TO STATION	

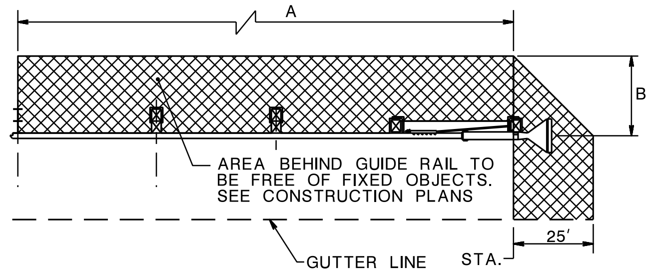
NOTE:

WHERE GUIDE RAIL IS INSTALLED FLUSH WITH THE GUTTER LINE OR OFFSET 6 INCHES FROM THE GUTTER LINE, THE TANGENT GUIDE RAIL TERMINAL IS TO BE CONSTRUCTED WITH A STRAIGHT FLARE FOR ITS ENTIRE LENGTH TO PROVIDE A TWO FOOT OFFSET SO THAT THE EXTRUDER HEAD DOES NOT PROTRUDE INTO THE ROADWAY.

GRADING TREATMENT AT TANGENT GUIDE RAIL TERMINALS

CD-609-10.1

ROADSIDE RECOVERY AREA		
STATION	A	B



NOTE:

NO FIXED OBJECTS IN FRONT OF THE GUIDE RAIL FOR ITS ENTIRE LENGTH ARE PERMITTED.

RECOVERY AREA AT TANGENT GUIDE RAIL TERMINALS

CD-609-10.2

GRADING AND ROADSIDE RECOVERY AREA AT TANGENT GUIDE RAIL TERMINALS

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS.

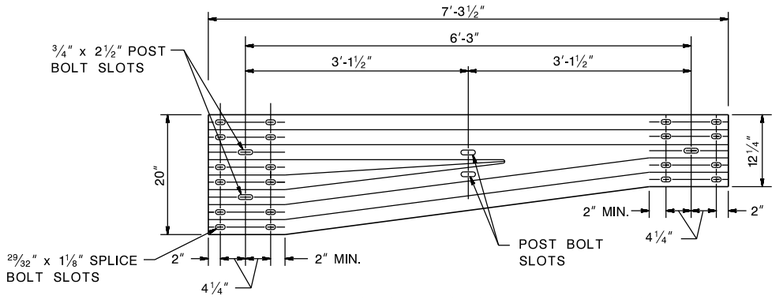
REMOVE THIS NOTE AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

CD-609-10

NEW JERSEY DEPARTMENT OF TRANSPORTATION

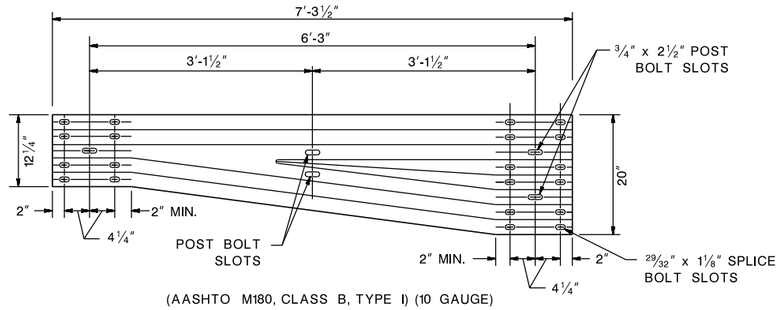
CONSTRUCTION DETAILS

BDC18D-07-FLARED TERMINAL DELETED
BDC17D-02-REVISIONS TO CD-609-10.1
BDC16D-01-ORIGINAL SHEET



(AASHTO M180, CLASS B, TYPE I) (10 GAUGE)

THRIE BEAM TO W–BEAM ASYMMETRICAL TRANSITION SECTION – RIGHT SIDE APPROACH – SEE NOTE 2

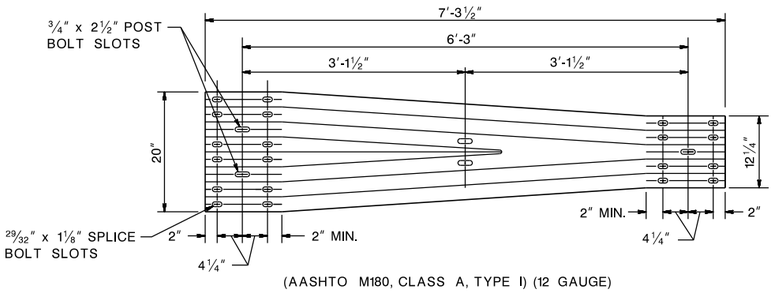


(AASHTO M180, CLASS B, TYPE I) (10 GAUGE)

THRIE BEAM TO W–BEAM ASYMMETRICAL TRANSITION SECTION – LEFT SIDE APPROACH – SEE NOTE 2

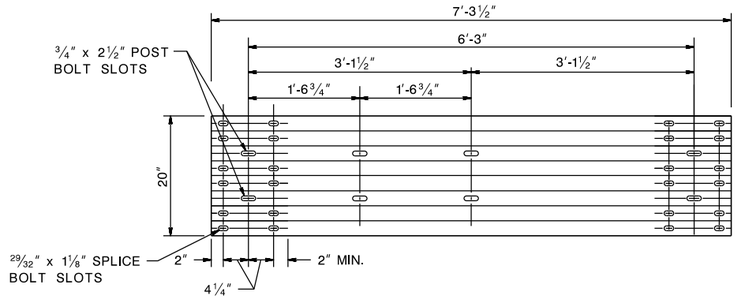
NOTES:

1. A THRIE BEAM TO W-BEAM SYMMETRICAL TRANSITION SECTION IS USED WHERE A VERTICAL TRANSITION IS REQUIRED SUCH AS A TRANSITION FROM MODIFIED THRIE BEAM TO W-BEAM GUIDE RAIL.
2. A THRIE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION IS USED WHERE A VERTICAL TRANSITION IS NOT REQUIRED SUCH AS A TRANSITION FROM THRIE BEAM AT A BRIDGE ATTACHMENT TO W-BEAM GUIDE RAIL.
3. A MINIMUM 12′-6″ LENGTH OF STANDARD W-BEAM GUIDE RAIL IS REQUIRED BETWEEN THE SYMMETRICAL TRANSITION SECTION AND A TANGENT GUIDE RAIL TERMINAL OR A STRAIGHT FLARE.



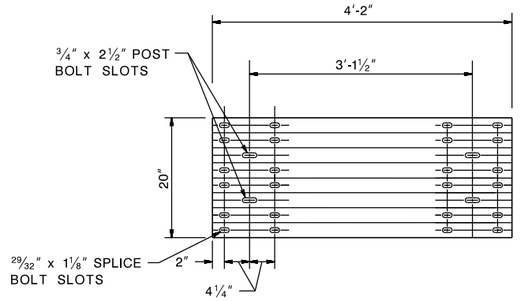
(AASHTO M180, CLASS A, TYPE I) (12 GAUGE)

THRIE BEAM TO W–BEAM SYMMETRICAL TRANSITION SECTION – SEE NOTE 1



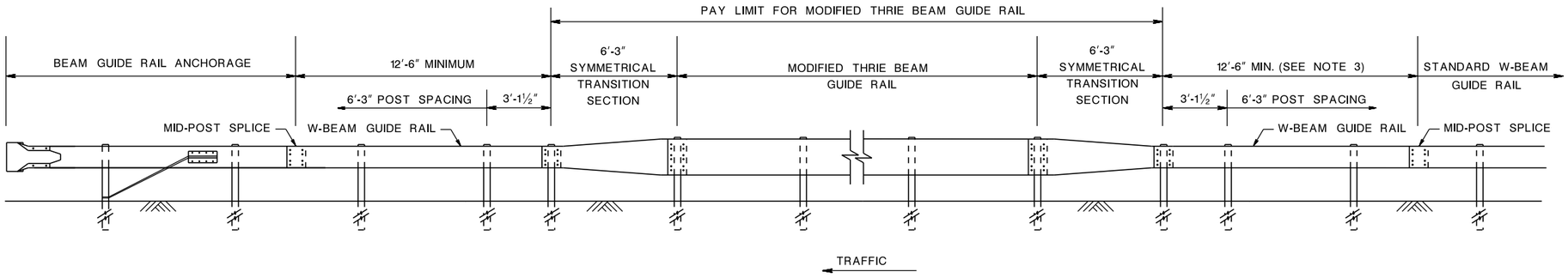
(AASHTO M180, CLASS A, TYPE I) (12 GAUGE)

THRIE BEAM SECTION FOR TL–3 BRIDGE ATTACHMENTS



(AASHTO M180, CLASS B, TYPE I) (10 GAUGE)

THRIE BEAM SECTION FOR TL–2 BRIDGE ATTACHMENTS



MODIFIED THRIE BEAM TRANSITION TO BEAM GUIDE RAIL

THRIE BEAM GUIDE RAIL TRANSITIONS

N.T.S.

CD-609-20

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

CD-609-20.1

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BDC18D-07-NOTE 3 REVISED
BDC17D-02-NEW SHEET