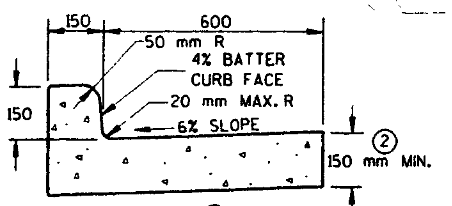
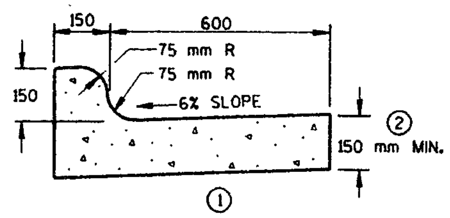
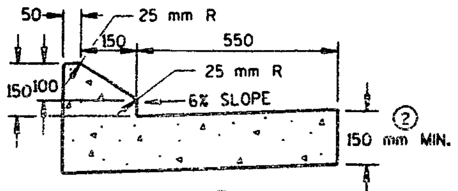
STDDETAIL



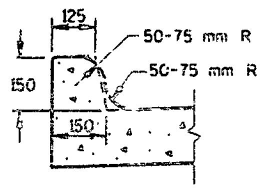
①
TYPES A & D



①
TYPES K & L

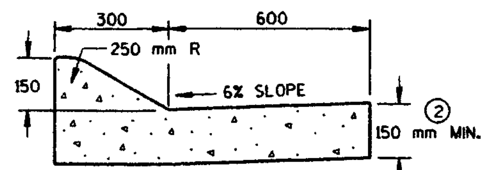


①
TYPES G & J

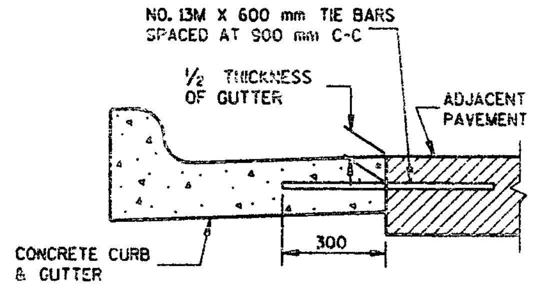


OPTIONAL CURB SHAPE
①
FOR TYPES K & L

CONCRETE CURB & GUTTER 750 mm



①
TYPES A & D
CONCRETE CURB & GUTTER 900 mm



①
TYPICAL TIE BAR LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 600 mm BEHIND THE BACK OF CURBS.

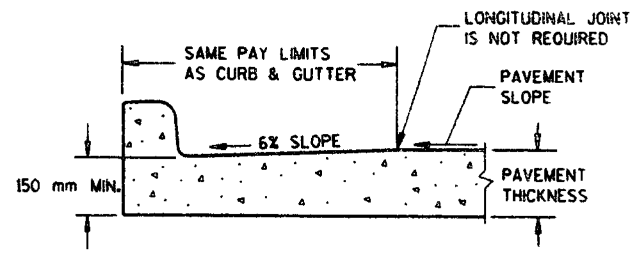
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 150 mm MINIMUM GUTTER THICKNESS IS MAINTAINED.

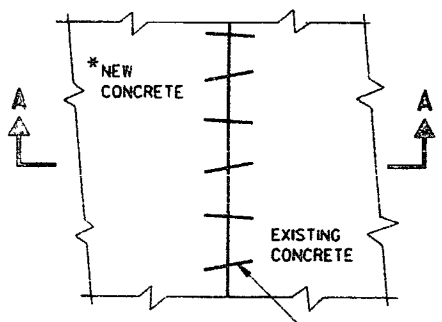
③ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

NOTE

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

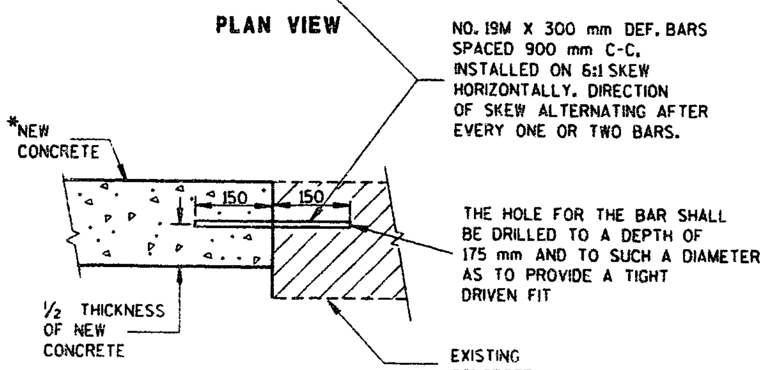


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

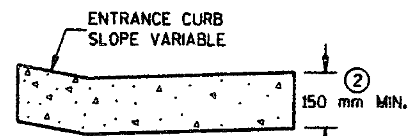


PLAN VIEW

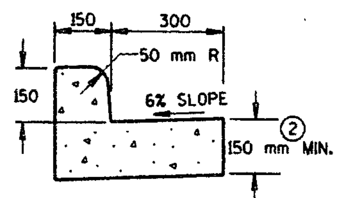
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



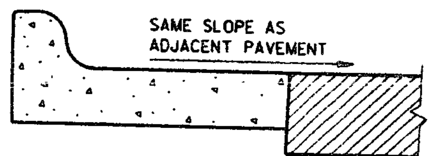
SECTION A-A
PAVEMENT TIES



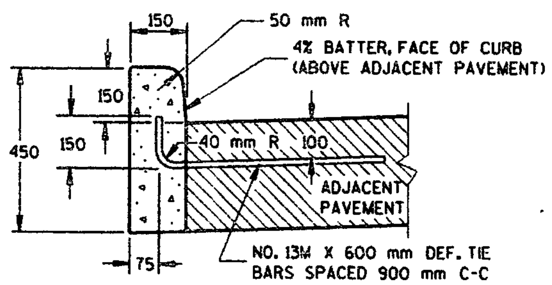
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



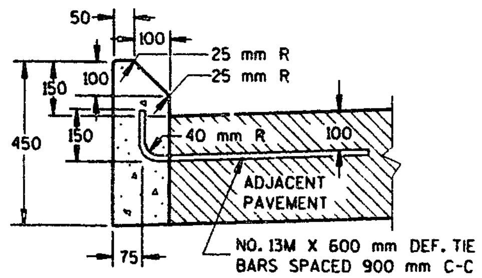
①
TYPES A & D
CONCRETE CURB & GUTTER 450 mm



REVERSE SLOPE GUTTER ③
(TYPICAL FOR ALL CURB & GUTTER TYPES)



①
TYPES A & D



①
TYPES G & J

CONCRETE CURB

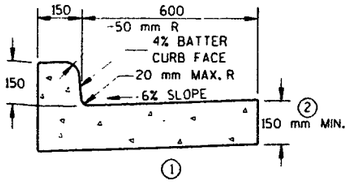
LEVELS ON - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

S.D.D. 8 D 1-12

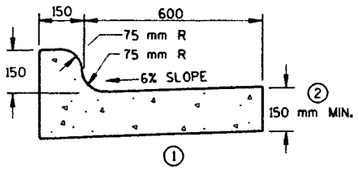
CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10/22/96 DATE — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA M

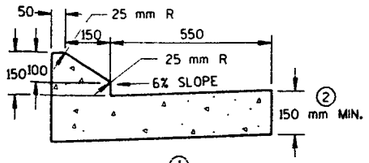
FILE NAME:



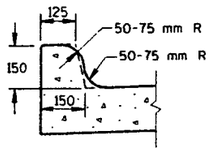
TYPES A & D



TYPES K & L

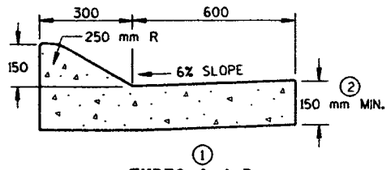


TYPES G & J



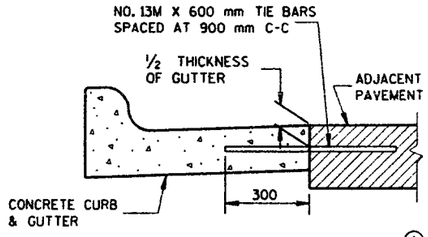
OPTIONAL CURB SHAPE
1
FOR TYPES K & L

CONCRETE CURB & GUTTER 750 mm



TYPES A & D

CONCRETE CURB & GUTTER 900 mm



TYPICAL TIE BAR LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 600 mm BEHIND THE BACK OF CURBS.

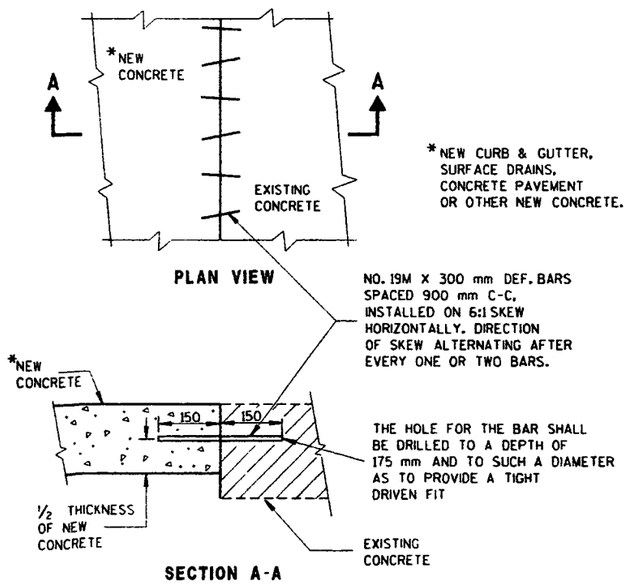
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 150 mm MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

NOTE

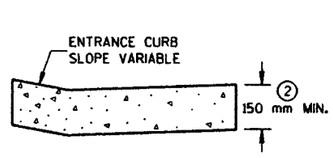
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



PLAN VIEW

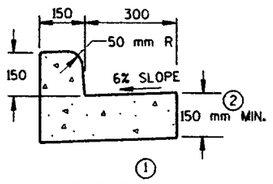
SECTION A-A

PAVEMENT TIES



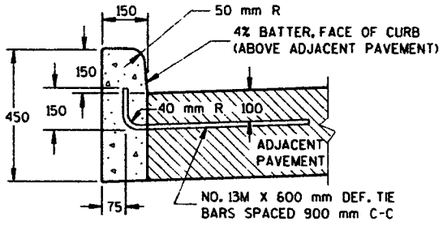
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

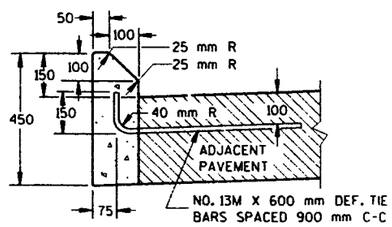


TYPES A & D

CONCRETE CURB & GUTTER 450 mm

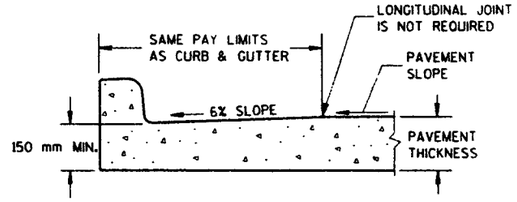


TYPES A & D

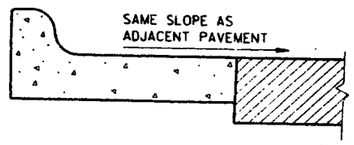


TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 10/22/96
DATE

Troy L. Thiesse
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

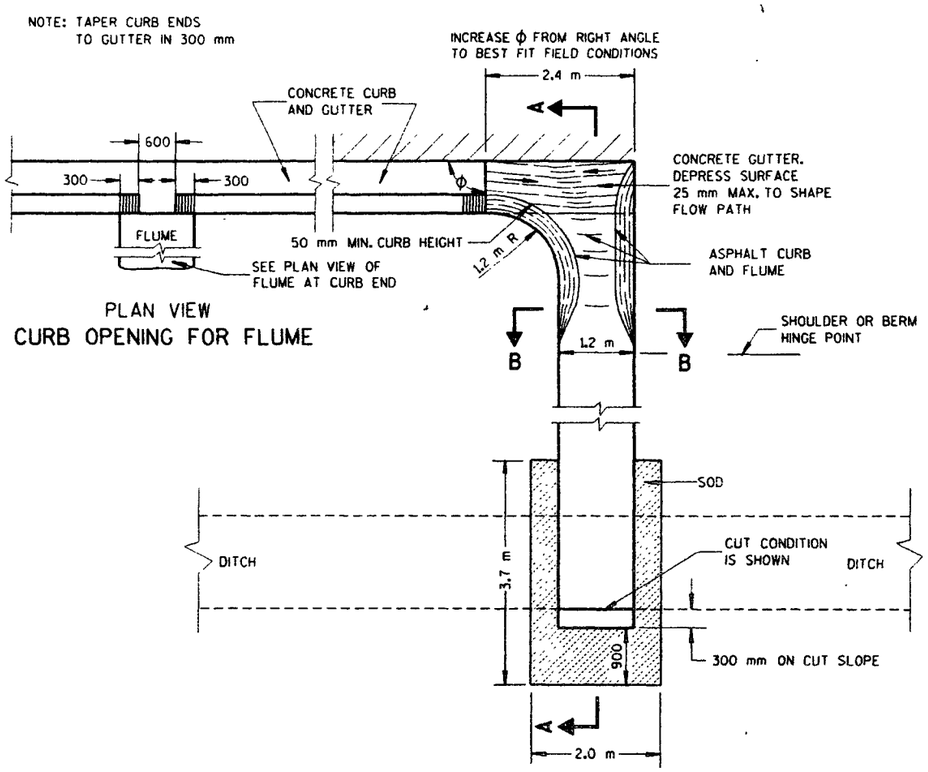
S.DD 8 D 1-12

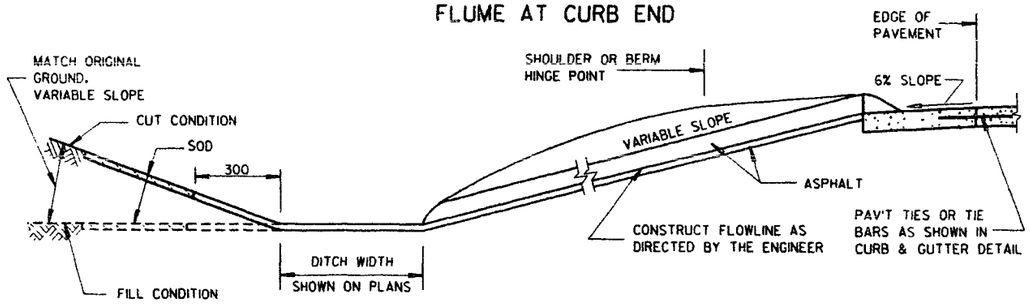
FILE NAME:

LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,505,52,53,54,55,56,57,58,59,60,61,62,63

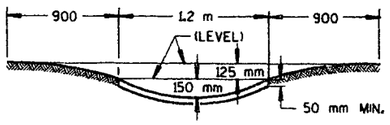
D.D. 8 D 1-12

ASPHALTIC FLUME





SECTION A-A



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE 5 mm WIDE BY 40 mm DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 1.2 m.

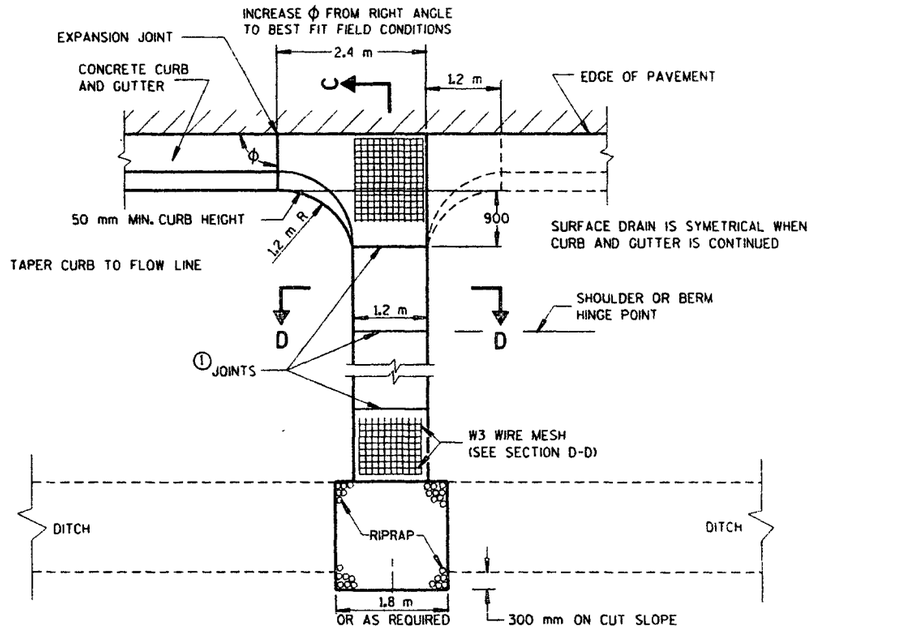
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

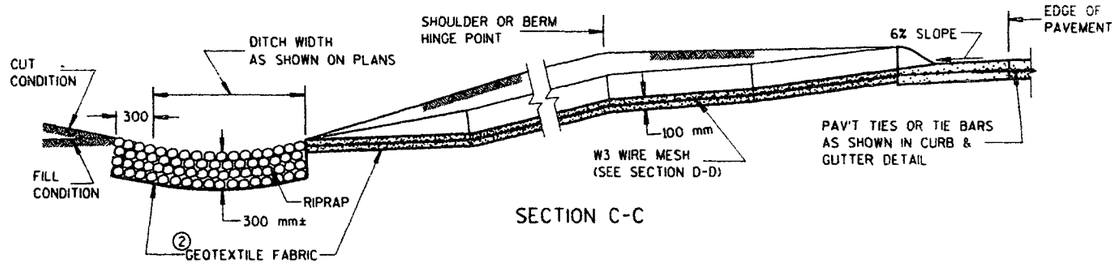
③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

NOTE

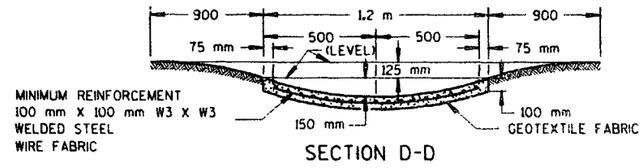
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

③ CONCRETE SURFACE DRAIN





SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAIN & ASPHALTIC FLUME

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

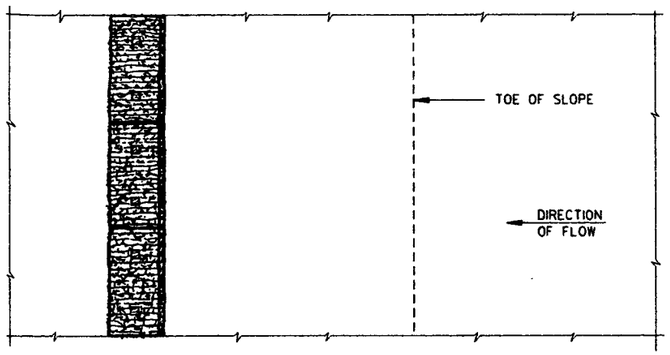
APPROVED 02/08/95 DATE
Roy L. Peterson
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA
M

S.D.D. 8 D 4-3

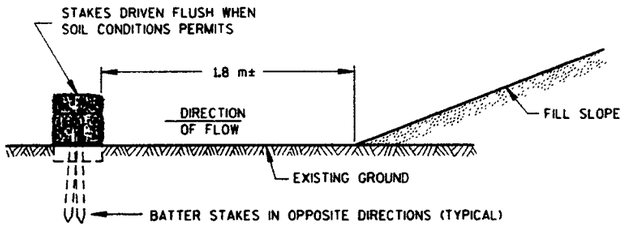
LEVELS ON - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

S.D.D. 8 D 4-3



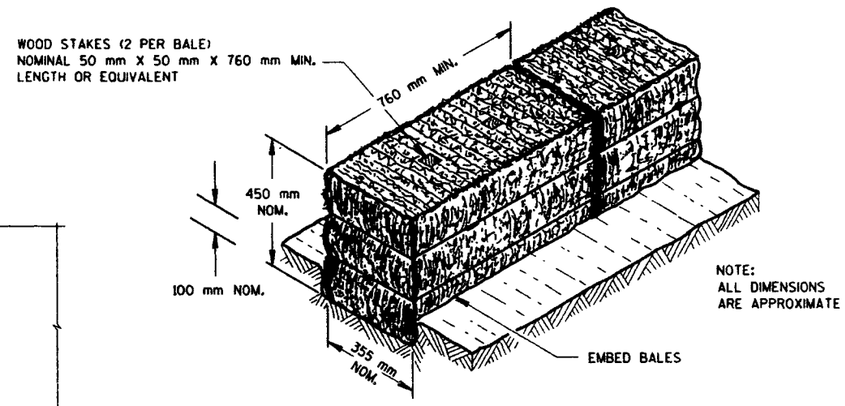
PLAN VIEW

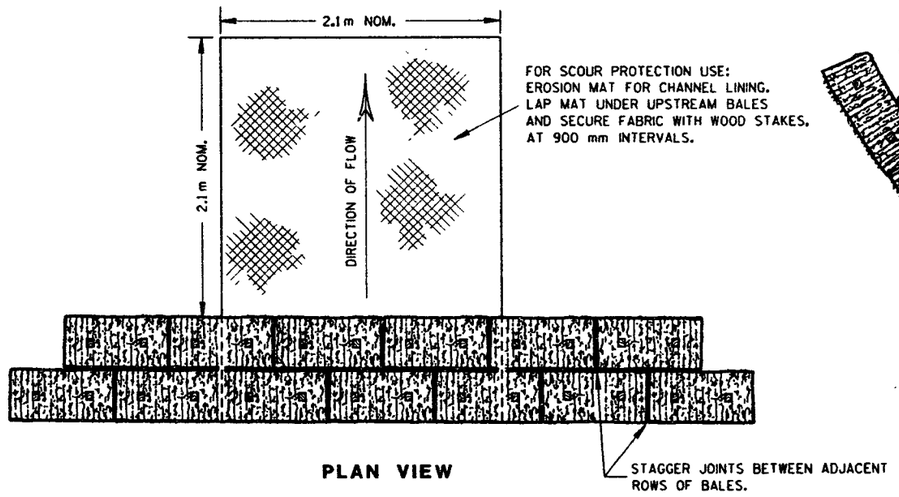


FRONT ELEVATION

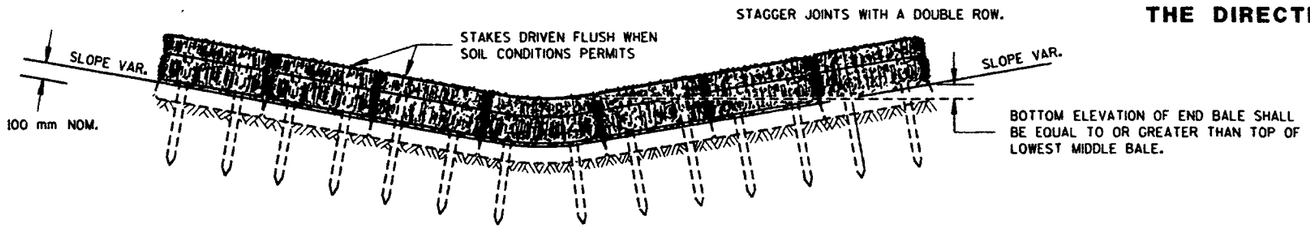
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW





PLAN VIEW

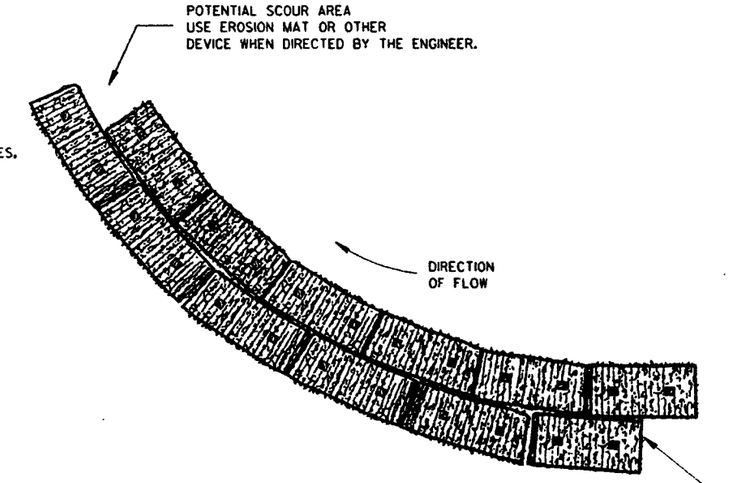


FRONT ELEVATION

EROSION BALES FOR CHANNEL FLOW

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

EROSION BALES WHEN ALTERING THE DIRECTION OF FLOW

TYPICAL INSTALLATIONS OF EROSION BALES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
01/27/95
DATE
Roy J. Peterson
CHIEF ROADWAY DEVELOPMENT ENGINEER

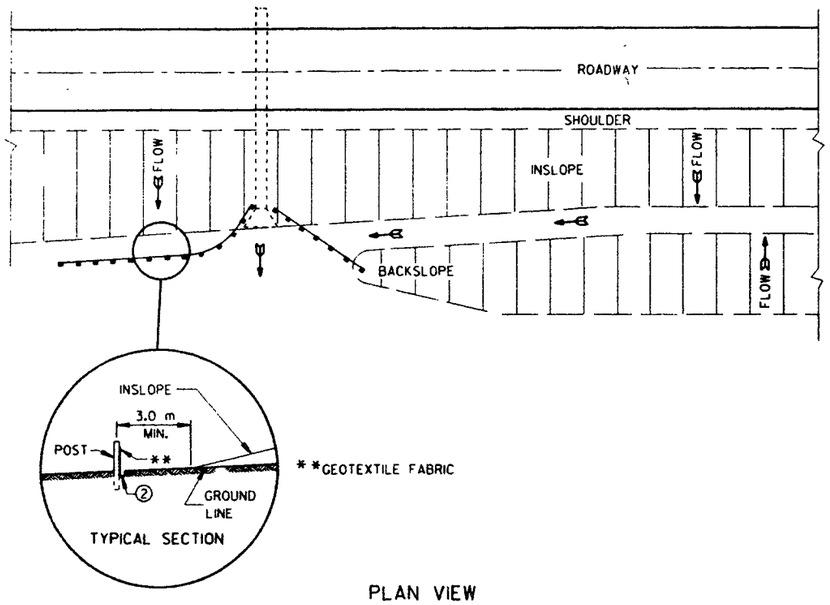
FHWA

M

FILE NAME:

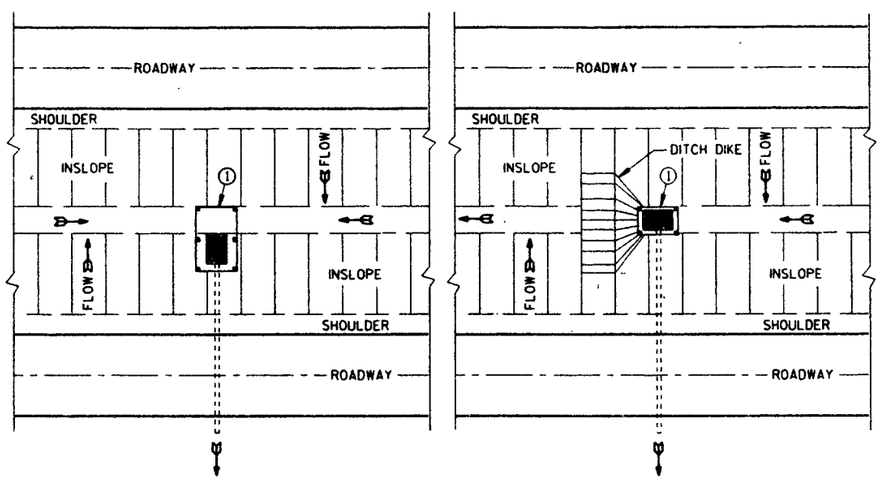
S.D.D. 8 E 8-2

S.D.D. 8 E 8-2



PLAN VIEW

TYPICAL APPLICATIONS OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

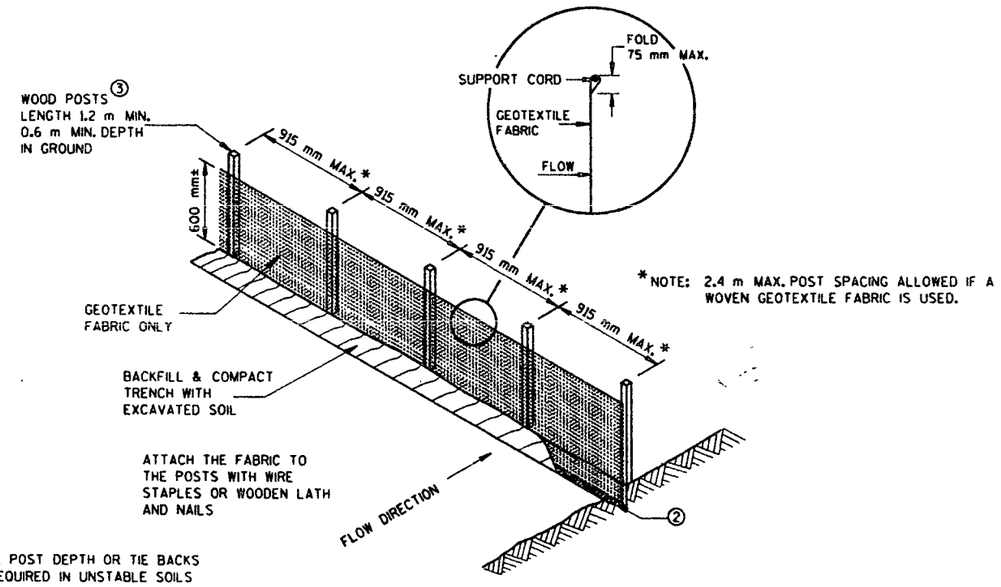
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

① HORIZONTAL BRACE WITH 50 mm X 100 mm WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.

② TRENCH SHALL BE A MINIMUM OF 100 mm WIDE & 150 mm DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

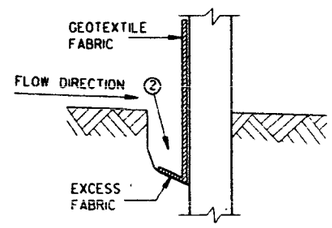
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 30 mm X 30 mm OF OAK OR HICKORY.



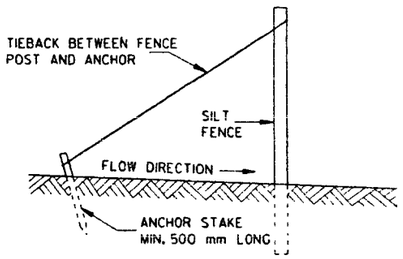
*NOTE: 2.4 m MAX. POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

SILT FENCE
(NON-REINFORCED)



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
03/11/96
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

S.D.D. 8 E 9-5

FILE NAME:

LEVELS ON · 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

S.D.D. 8 E 9-5

METAL APRON ENDWALLS

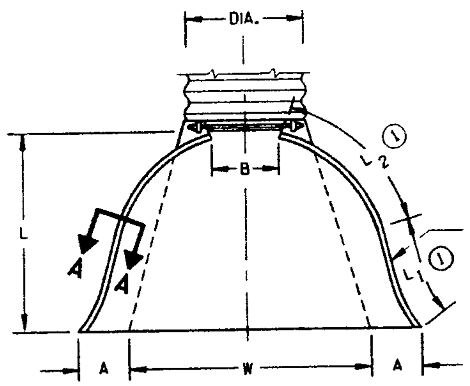
PIPE DIA. (mm)	MIN. THICK. (mm)		DIMENSIONS (MILLIMETERS)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L1 ①	L2 ①	W (±2")		
300	1.6	1.5	150	150	150	535	305	445	610	1:2.5	1 Pc.
375	1.6	1.5	180	205	150	660	355	552	760	1:2.5	1 Pc.
450	1.6	1.5	205	255	150	790	380	718	915	1:2.5	1 Pc.
525	1.6	1.5	230	305	150	915	455	752	1065	1:2.5	1 Pc.
600	1.6	1.5	255	330	150	1040	455	949	1220	1:2.5	1 Pc.
750	2.0	1.9	305	405	205	1300	455	1327	1525	1:2.5	1 Pc.
900	2.0	1.9	355	480	230	1525	610	1905	1830	1:2.5	2 Pc.
1050	2.8	2.7	405	560	280	1755	610	1921	2135	1:2.5	2 Pc.
1200	2.8	2.7	455	685	305	1980	610	2057	2285	1:2.5	3 Pc.
1350	2.8	2.7	455	760	305	2140	760	2172	2590	1:2.25	3 Pc.
1500	2.8×	2.7×	455	840	305	2210	—	—	2895	1:2	3 Pc.
1650	2.8×	2.7×	455	915	305	2210	—	—	3050	1:2	3 Pc.
1800	2.8×	2.7×	455	990	305	2210	—	—	3200	1:2	3 Pc.
1950	2.8×	2.7×	455	1070	305	2210	—	—	3355	1:1.5	3 Pc.
2100	2.8×	2.7×	455	1145	305	2210	—	—	3505	1:1.5	3 Pc.
2250	2.8×	2.7×	455	940	305	2210	—	—	3660	1:1.5	3 Pc.
2400	2.8×	2.7×	455	890	305	2210	—	—	3960	1:1.5	3 Pc.

× EXCEPT CENTER PANEL
SEE GENERAL NOTES

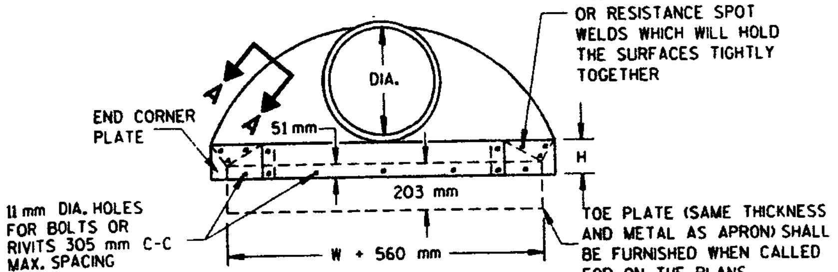
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (mm)	DIMENSIONS (MILLIMETERS)							APPROX. SLOPE
	T	A	B	C	D	E	G	
305	51	102	610	1241	1851	610	51	1:3
380	57	152	686	1168	1854	762	57	1:3
450	64	229	686	1168	1854	914	64	1:3
525	70	229	915	953	1867	1067	70	1:3
600	76	241	1105	762	1867	1219	76	1:3
675	83	267	1257	610	1867	1372	83	1:3
750	89	305	1372	502	1867	1524	89	1:3
900	102	381	1600	883	2483	1829	102	1:3
1050	114	533	1600	889	2489	1981	114	1:3
1200	127	610	1829	660	2489	2134	127	1:3
1350	140	686	1651	* 635 ** 889	* 2496 ** 2540	2286	140	1:2.4
1500	152	* 762 ** 924	1524	991	2515	2448	127	1:2
1650	165	* 610 ** 762	* 1829 ** 1981	* 533 ** 686	2515	2591	140	1:2
1800	178	* 610 ** 915	1981	533	2515	2743	152	1:2
1950	190	* 610 ** 915	1981	533	2515	2896	165	1:2
2100	203	915	2299	533	2832	3048	165	1:1.5
2250	216	1041	2222	610	2832	3353	165	1:1.5

* MINIMUM
** MAXIMUM

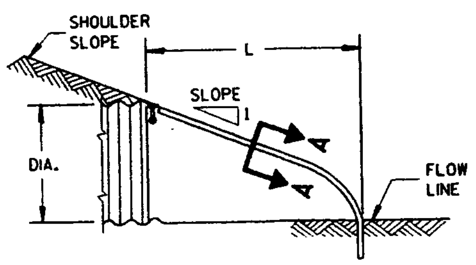


PLAN VIEW



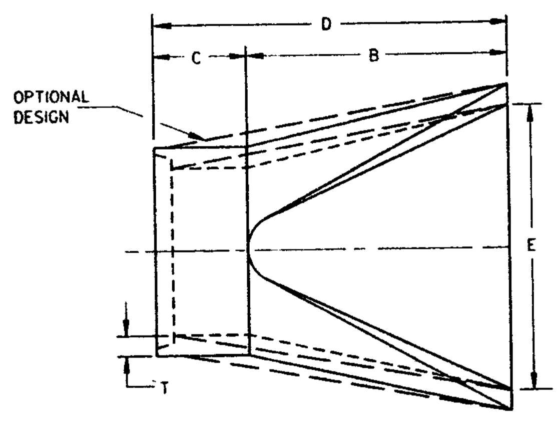
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW

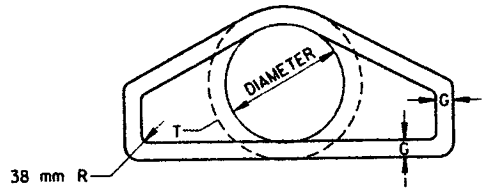


SIDE ELEVATION

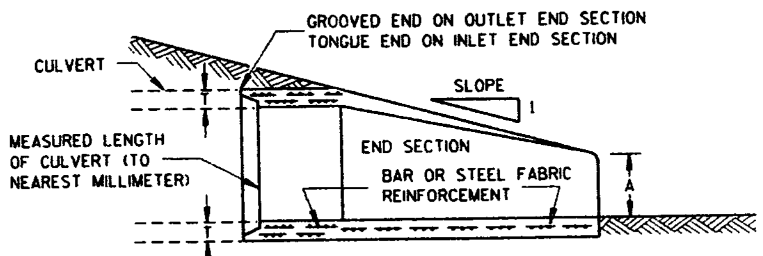
METAL ENDWALLS



PLAN

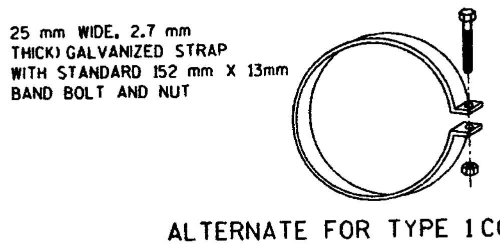


END VIEW



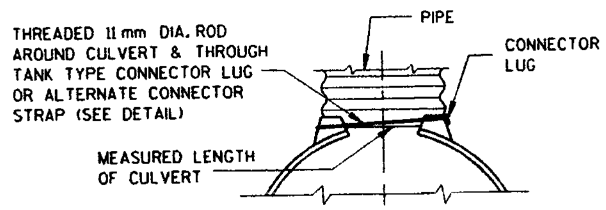
LONGITUDINAL SECTION

CONCRETE ENDWALLS

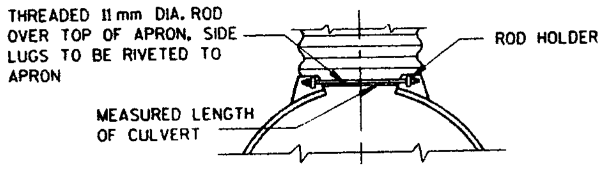


ALTERNATE FOR TYPE 1 CONNECTION

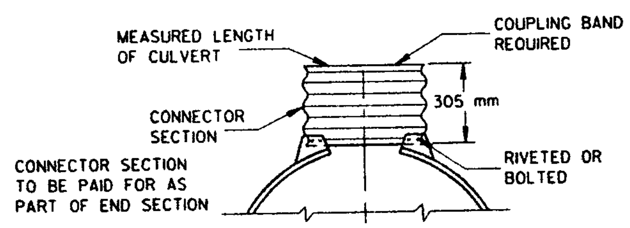
END SECTION CONNECTOR STRAP



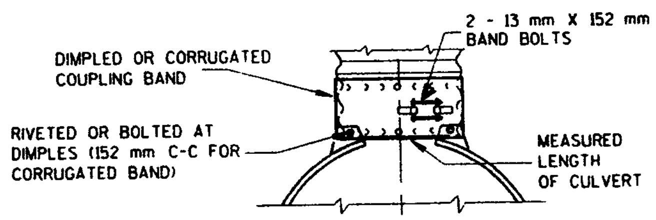
TYPE 1
FOR 300 mm THRU 600 mm CORR. PIPE



TYPE 2
FOR 750 mm THRU 2400 mm CORR. PIPE



TYPE 3
FOR 1050 mm THRU 2400 mm CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

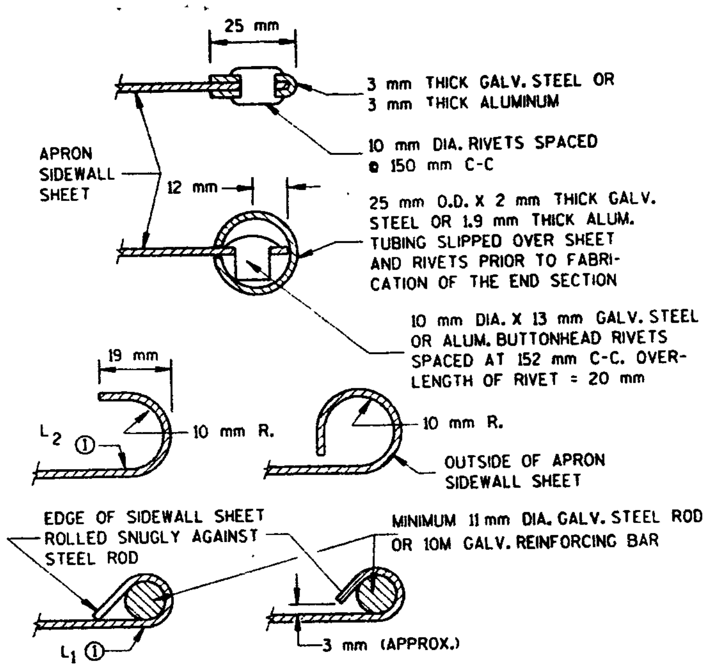
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

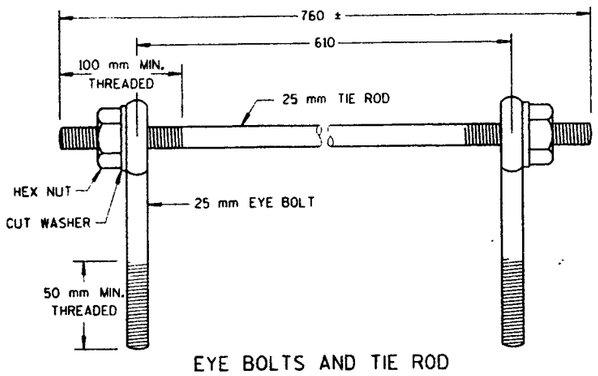
ALL THREE PIECE STEEL APRON ENDWALLS FOR 1500 mm DIAMETER PIPE AND LARGER SHALL HAVE 2.8 mm SIDES AND 3.5 mm CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 1500 mm DIAMETER PIPE AND LARGER SHALL HAVE 3.4 mm SIDES AND 3.4 mm CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 1500 mm THROUGH 2400 mm DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

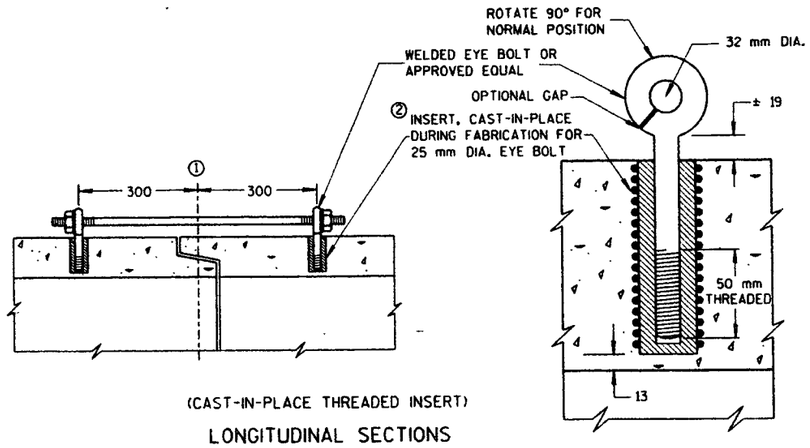
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 152 mm BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 1500 mm DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 01/27/95 [signature] DATE — CHIEF ROADWAY DEVELOPMENT ENGINEER FHWA — M



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED ON THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES. UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICATED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO CULVERT PIPE, REINFORCED CONCRETE CULVERT PIPE, OR REINFORCED CONCRETE PIPE CATTLE PASS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

① CENTERLINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

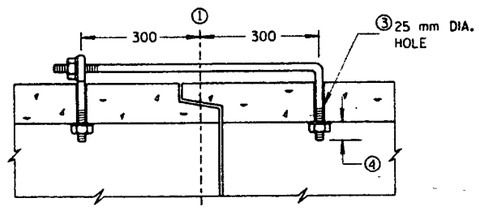
③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED.

④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 50 mm.

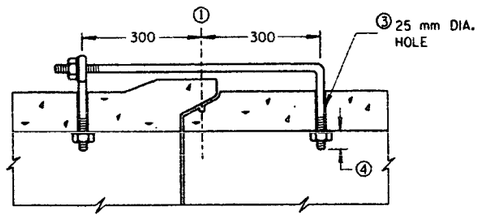
⑤ ROD DIAMETER + 25 mm.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 13 mm OF THE INNER SURFACE OF THE PIPE.

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE)

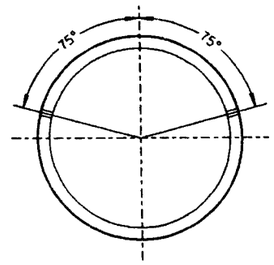
LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
400-600	115	160
750	130	180
900	140	180
1000	150	
1200	165	
1500	190	
1650	200	

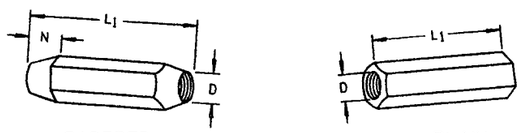
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
300-1500	16	16	125	13
1650-2100	19	19	125	13
2250-2700	25	25	180	36



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



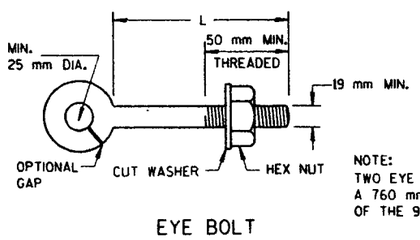
TAPERED PLAIN

RIGHT AND LEFT THREADS

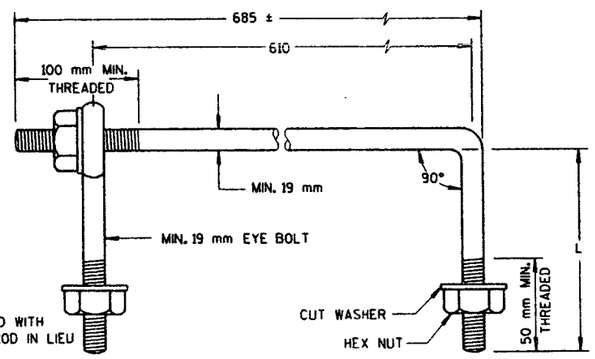
SLEEVE NUTS

NOTE

ALL DIMENSIONS IN THIS DRAWING ARE IN MILLIMETERS.



EYE BOLT

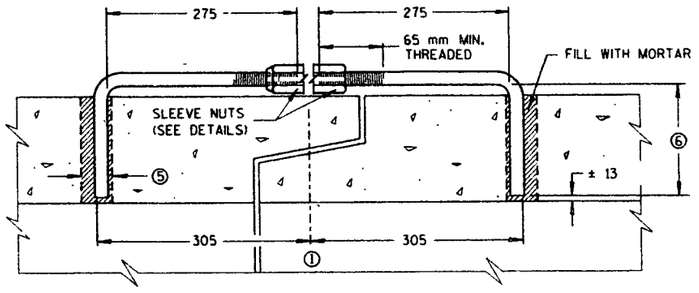


NOTE:
TWO EYE BOLTS MAY BE USED WITH A 760 mm LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

EYE BOLT AND TIE ROD

(JOINT TIES FOR 450 mm TO 1650 mm DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



LONGITUDINAL SECTION

(JOINT TIES FOR 300 mm TO 2700 mm DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

JOINT TIES FOR CONCRETE PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 01/27/95 DATE

Roy L. Thompson
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

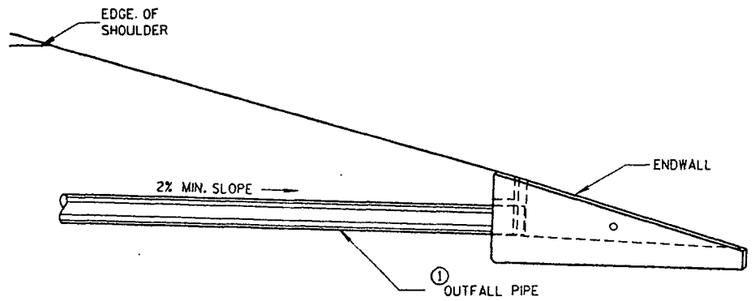
M

S.D.D. 8 F 4-5

S.D.D. 8 F 4-5

DIMENSIONS IN MILLIMETERS										
PIPE DIA.	A	B	C	D	E	F	G	H	J	L
** 100	149	305	125	229	203	813	915	279	60	165
150	200	356	176	279	254	1 067	1118	330	92	950

** APRON ENDWALL FOR 150 mm DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 100 mm DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

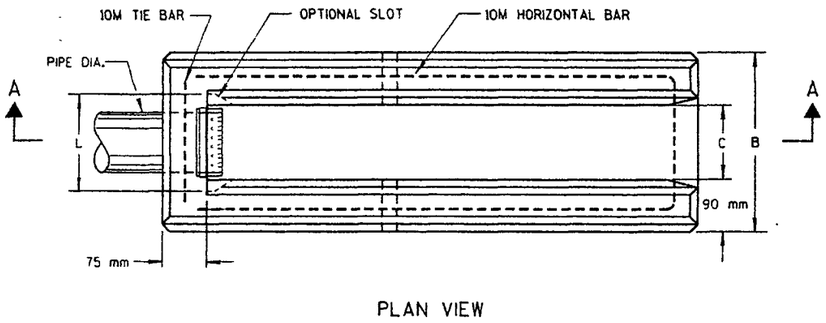
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

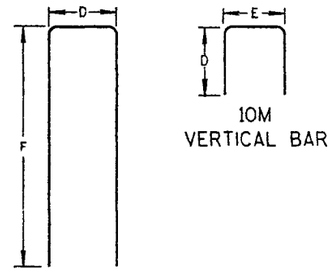
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

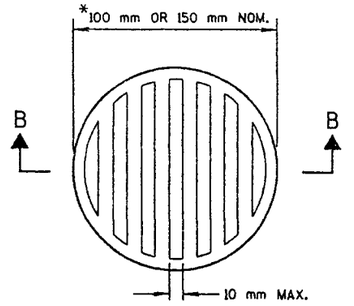
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE M5 X 30 mm STAINLESS STEEL SHEET METAL SCREWS OR EQUAL.



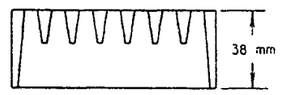
PLAN VIEW



BAR STEEL REINFORCEMENT DETALS



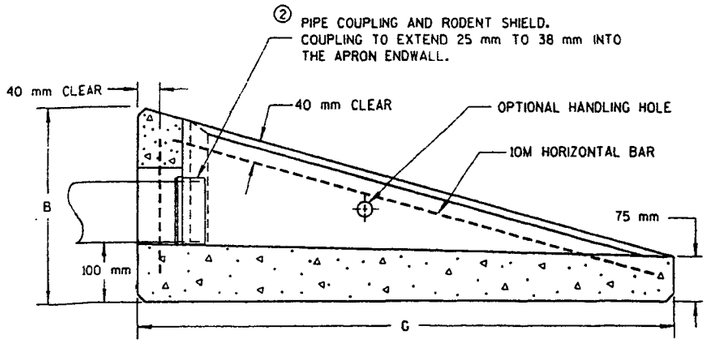
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



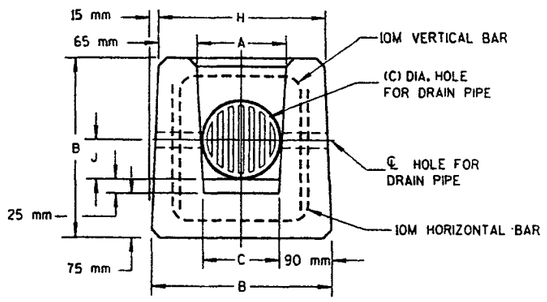
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 02/07/95 DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

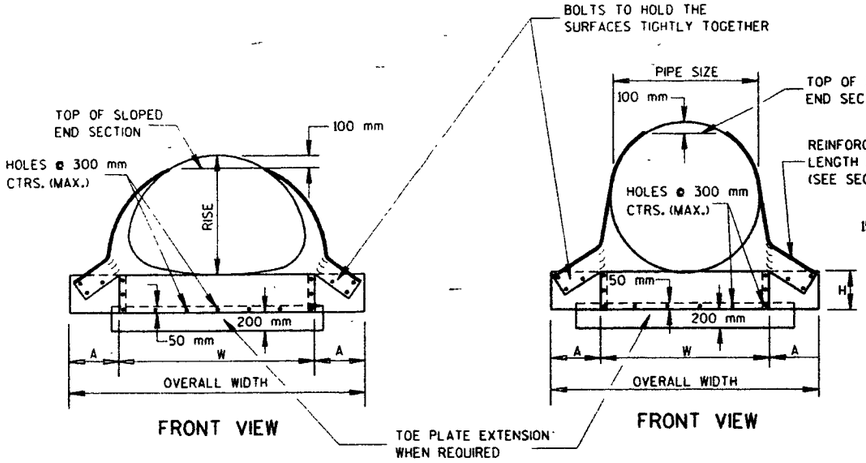
FHWA

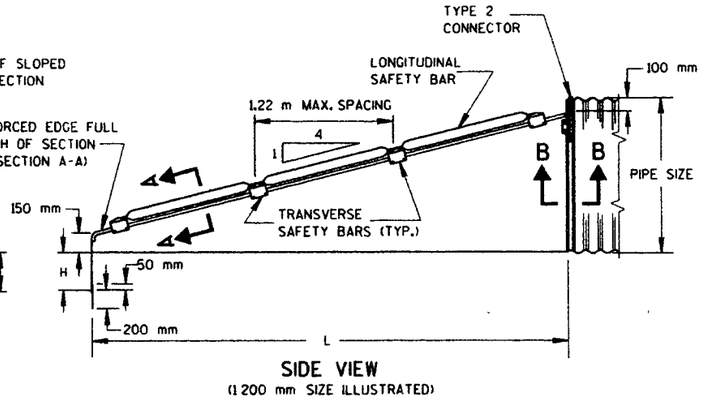
M

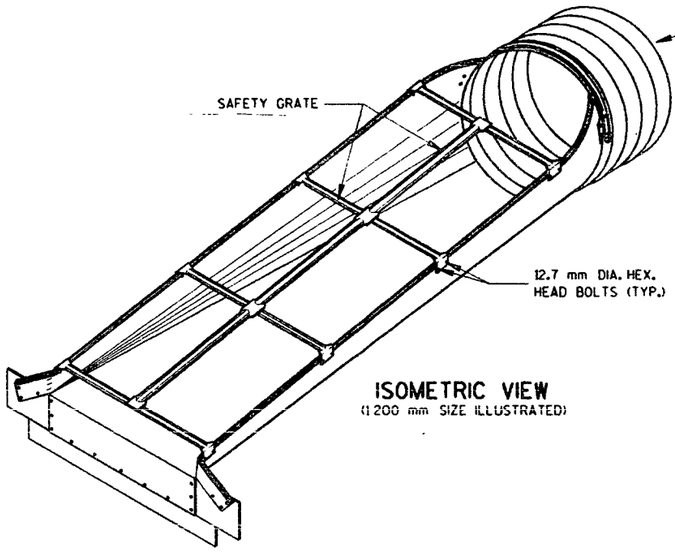
SDD 8 F 6-3

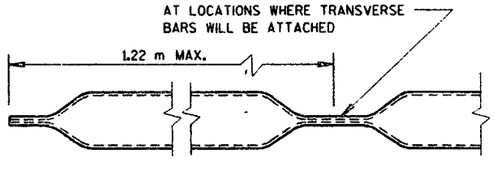
FILE NAME:

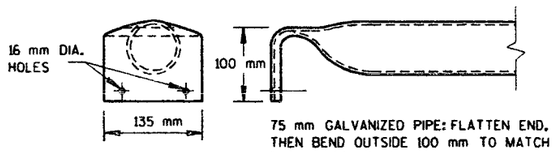
LEVELS ON • 2.3.4.5.6.7.8. 9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63

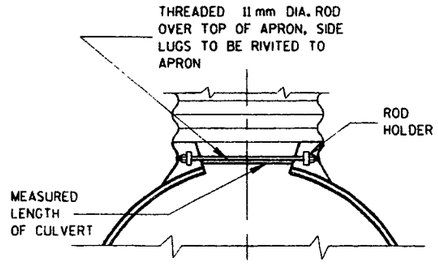


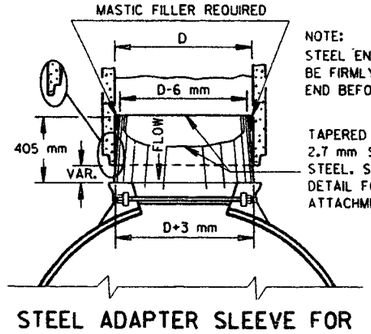


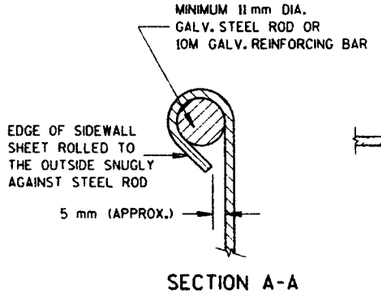


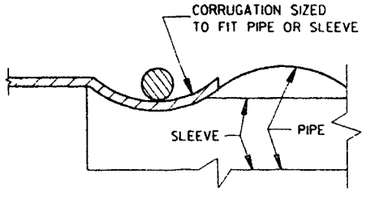












GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SAFETY GRATES SHALL BE FABRICATED FROM 75 mm DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

SLOPE RATIOS ARE SHOWN WITH THE VERTICAL COMPONENT FIRST AND THEN THE HORIZONTAL (RISE:RUN).

SLOPED STEEL ENDWALLS FOR CULVERT PIPE CROSS DRAINS

PIPE DIA. (mm)	MIN. THICK. (mm)	DIMENSIONS (Millimeters) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH (mm)
900	2.7	305	230	1 065	1 675	1:4	2 640
1050	2.7	405	305	1 220	2 035	1:4	3 250
1200	2.7	405	305	1 370	2 185	1:4	3 860
1350	2.7	405	305	1 525	2 335	1:4	4 470
1500	2.7	405	305	1 675	2 490	1:4	5 080

SLOPED STEEL ENDWALLS FOR PIPE ARCH CROSS DRAINS

EQUIV. DIA. (mm)	MILLIMETERS SPAN	RISE	MIN. THICK. (mm)	DIMENSIONS (Millimeters) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH (mm)
900	1065	735	1.9	305	230	1 220	1 830	1:4	1 930
1 065	1245	840	2.7	405	305	1 400	2 305	1:4	2 335
1 200	1450	965	2.7	405	305	1 600	2 415	1:4	2 845
1 350	1625	1 090	2.7	405	305	1 780	2 590	1:4	3 355
1 500	1805	1 195	2.7	405	305	1 955	2 770	1:4	3 760

SLOPED STEEL ENDWALLS FOR CULVERT PIPE AND PIPE ARCH CROSS DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

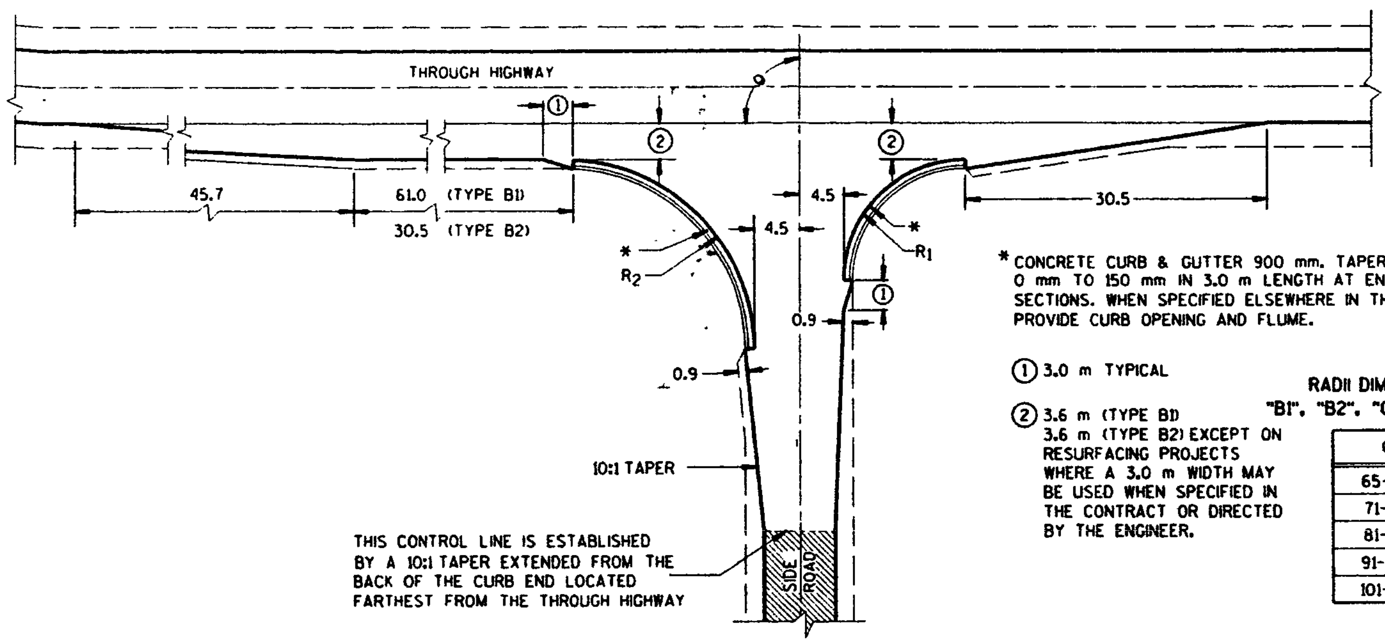
APPROVED 02/08/85 DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

S.D.D. 8 F 8-1

FILE NAME:



TYPE "B1" AND "B2"

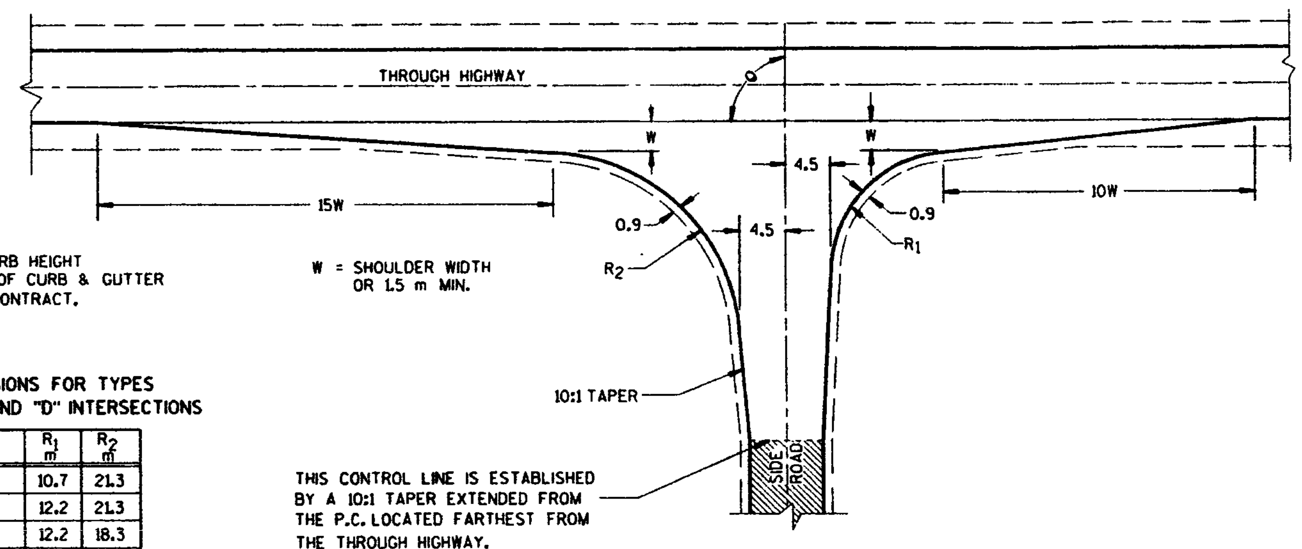
* CONCRETE CURB & GUTTER 900 mm. TAPER CURB HEIGHT 0 mm TO 150 mm IN 3.0 m LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 3.0 m TYPICAL

② 3.6 m (TYPE B1)
3.6 m (TYPE B2) EXCEPT ON RESURFACING PROJECTS WHERE A 3.0 m WIDTH MAY BE USED WHEN SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

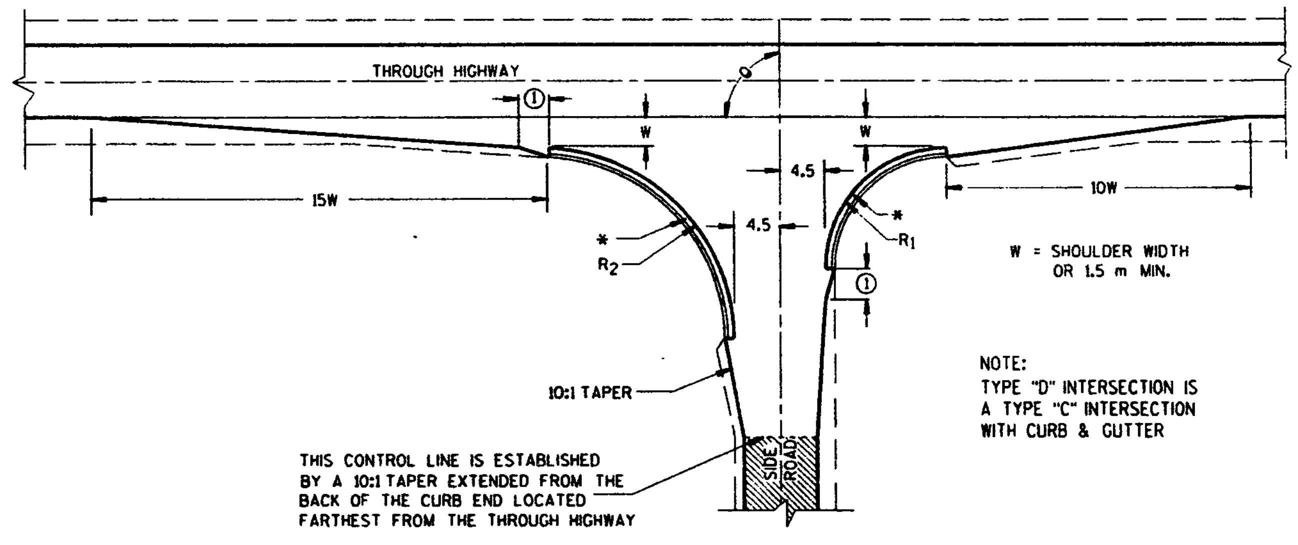
RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1 m	R_2 m
65-70	10.7	21.3
71-80	12.2	21.3
81-90	12.2	18.3
91-100	15.2	16.8
101-110	18.3	13.7



W = SHOULDER WIDTH OR 1.5 m MIN.

TYPE "C"



W = SHOULDER WIDTH OR 1.5 m MIN.

NOTE:
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

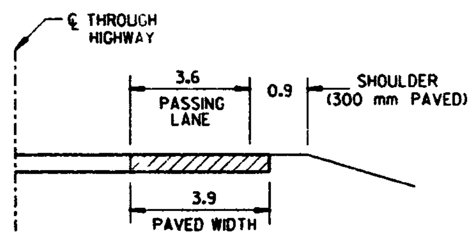
SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

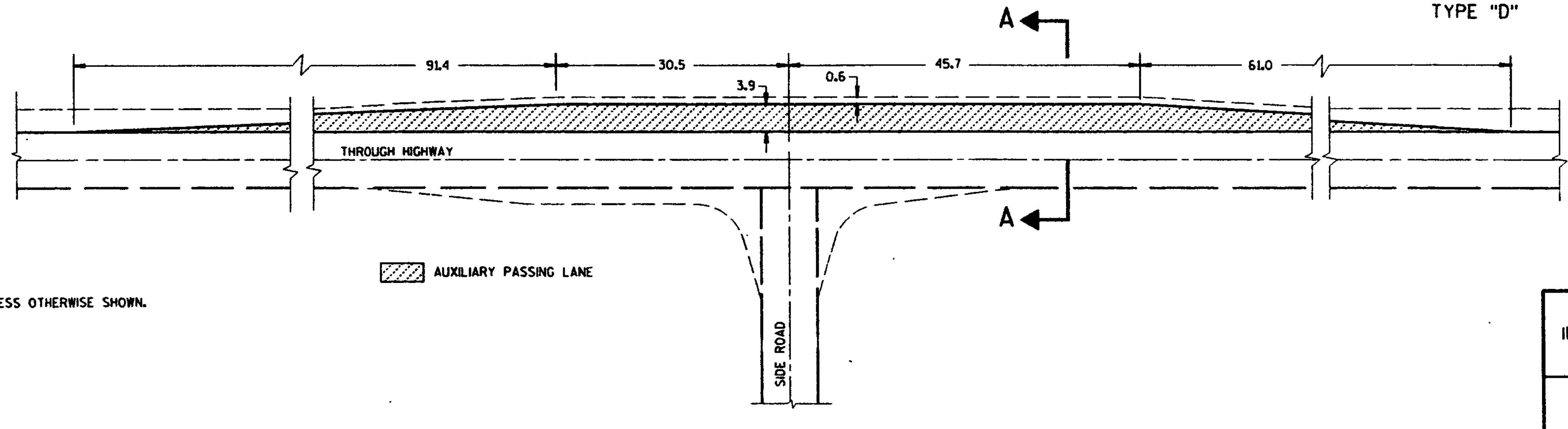
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING SURFACE



SECTION A-A
(SHOWING PASSING LANE AND SHOULDER)



AUXILIARY PASSING LANE

PASSING LANE DETAIL

NOTE:

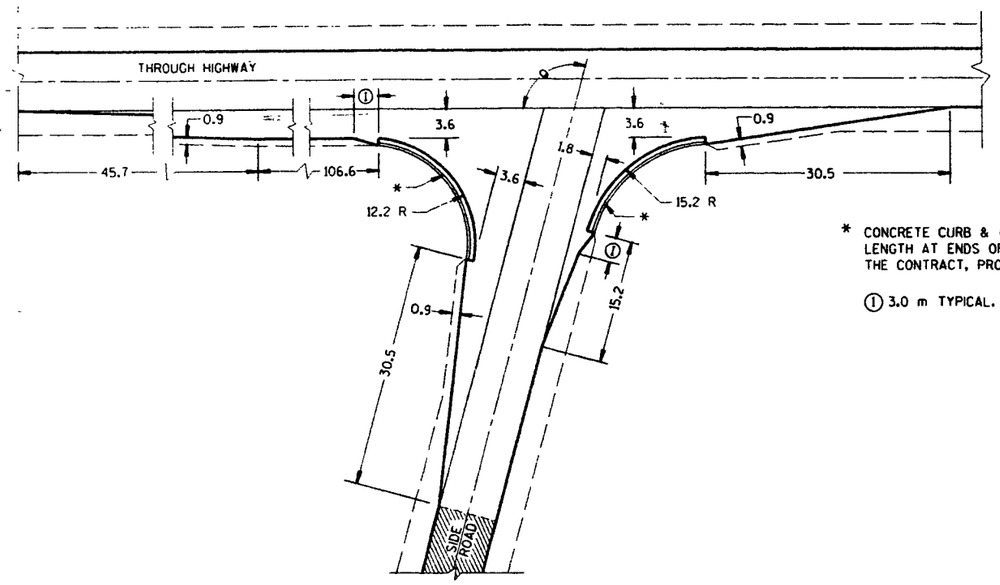
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND PASSING LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

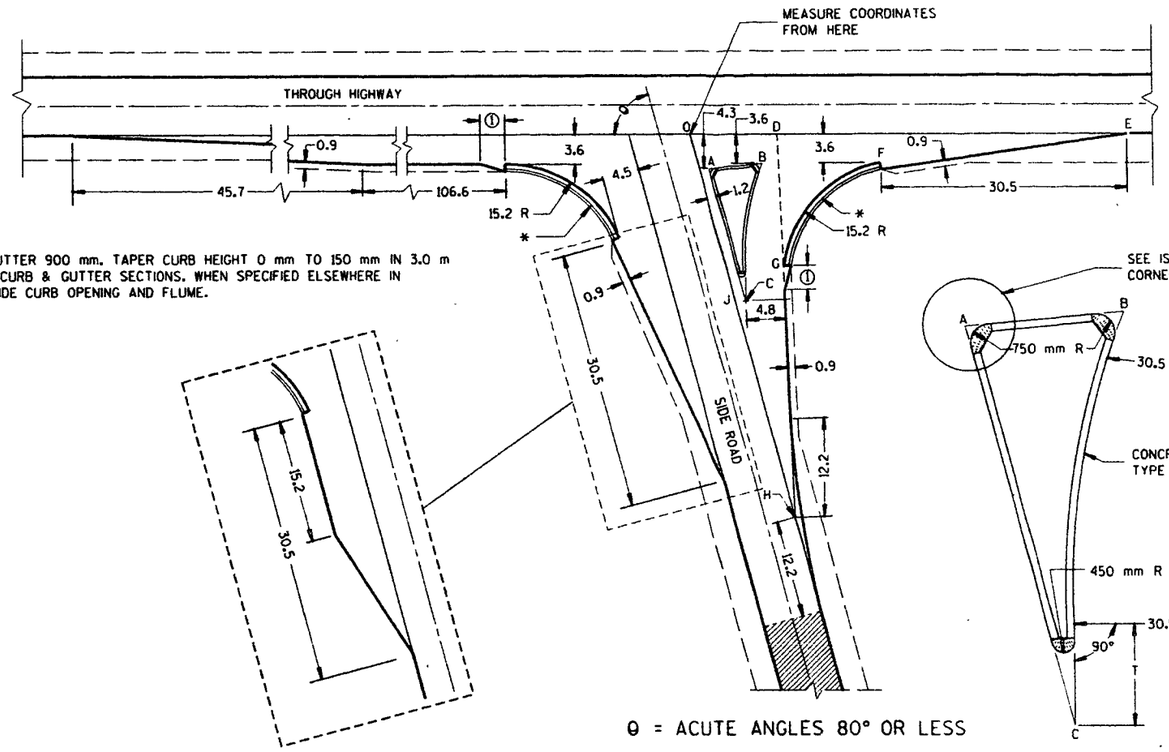
APPROVED 10/16/96
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER

FILE NAME:

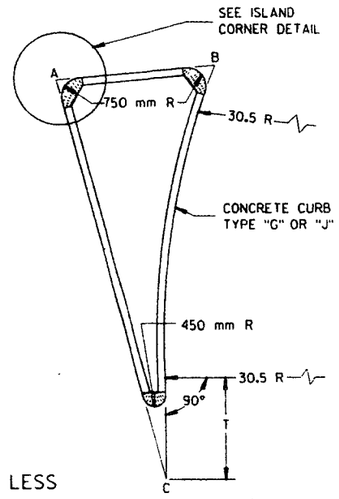


θ = MORE THAN 80°

EXISTING SURFACE



θ = ACUTE ANGLES 80° OR LESS



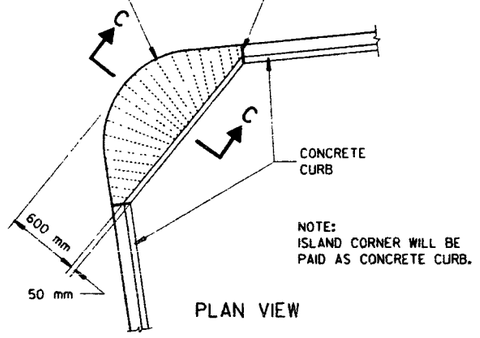
* CONCRETE CURB & GUTTER 900 mm. TAPER CURB HEIGHT 0 mm TO 150 mm IN 3.0 m LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 3.0 m TYPICAL.

SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS

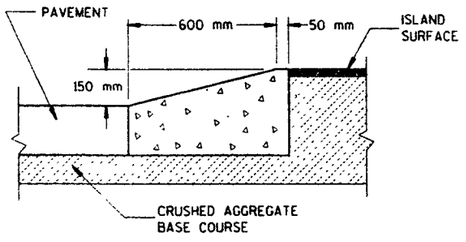
NOTE:

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN METERS (MEASURED FROM POINT "O") X/Y								LENGTH IN METERS				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	3.87 / -4.30	13.52 / -3.60	14.13 / -22.07	12.59 / 0.0	61.85 / 0.0	31.72 / -3.60	19.40 / -22.96	25.90 / -44.85	9.68	20.52	1.80	26.18	51.79
65	3.33 / -4.30	11.74 / -3.60	11.51 / -21.84	11.84 / 0.0	59.15 / 0.0	29.02 / -3.60	16.39 / -21.75	21.50 / -46.10	8.44	19.36	2.90	24.66	50.87
70	2.84 / -4.30	10.19 / -3.60	9.06 / -21.39	11.22 / 0.0	56.76 / 0.0	26.62 / -3.60	13.79 / -20.52	17.11 / -47.00	7.38	18.19	3.78	23.20	50.02
75	2.39 / -4.30	8.82 / -3.60	6.79 / -20.71	10.72 / 0.0	54.60 / 0.0	24.47 / -3.60	11.53 / -19.28	12.73 / -47.51	6.46	16.99	4.46	21.76	49.19
80	1.98 / -4.30	7.61 / -3.60	4.72 / -19.87	10.32 / 0.0	52.67 / 0.0	22.54 / -3.60	9.60 / 18.02	8.41 / -47.69	5.68	15.81	5.02	20.39	48.43

TYPE "A" SIDE ROAD INTERSECTION DETAILS

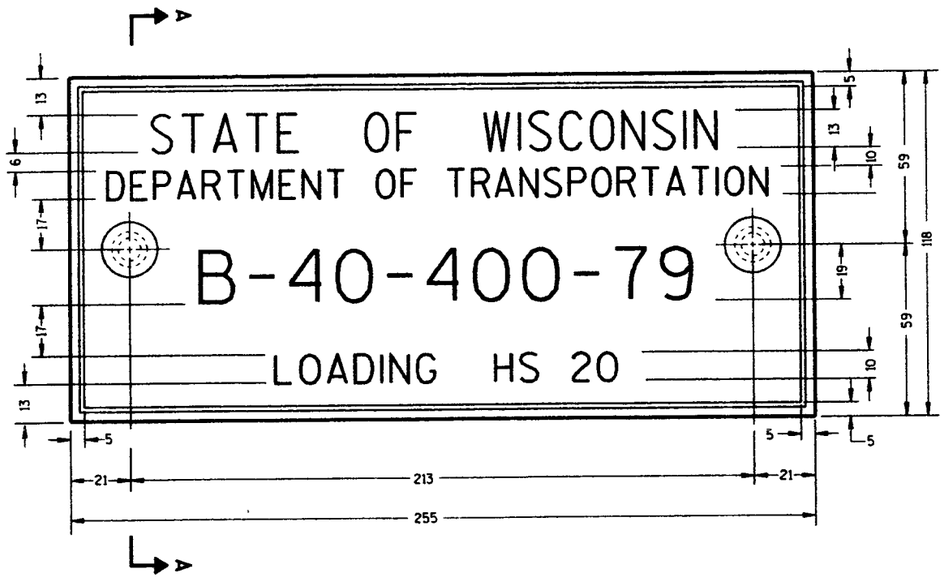
AT-GRADE SIDE ROAD
INTERSECTION, TYPE "A"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

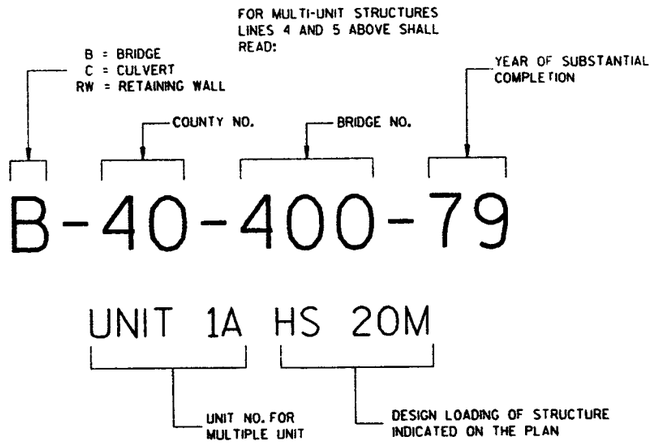
S.D.D. 9 A 1-10b

FILE NAME:

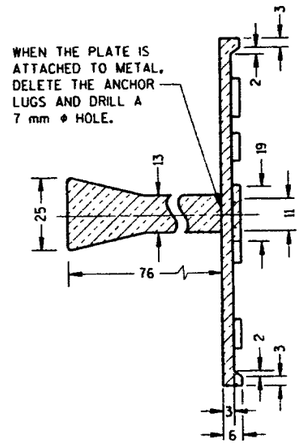
S.D.D. 9 A 1-10b



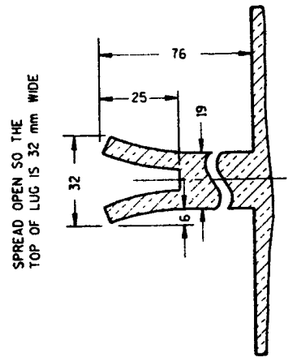
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING AND LOADING DESIGNATION
MULTI-UNIT STRUCTURES



SECTION A-A



ALTERNATE LUG

GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 506.2.4 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND DESIGN LOADING SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND DESIGN LOADING.

NOTE

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS

NAME PLATE
(STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

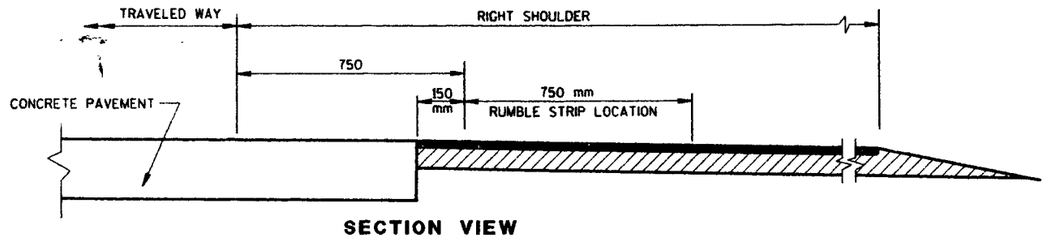
APPROVED
01/25/95
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

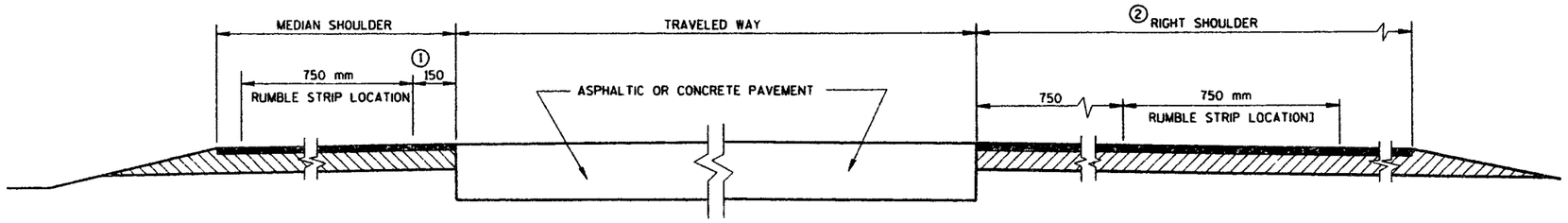
M

S.D.D. 12 A 3-4

S.D.D. 12 A 3-4



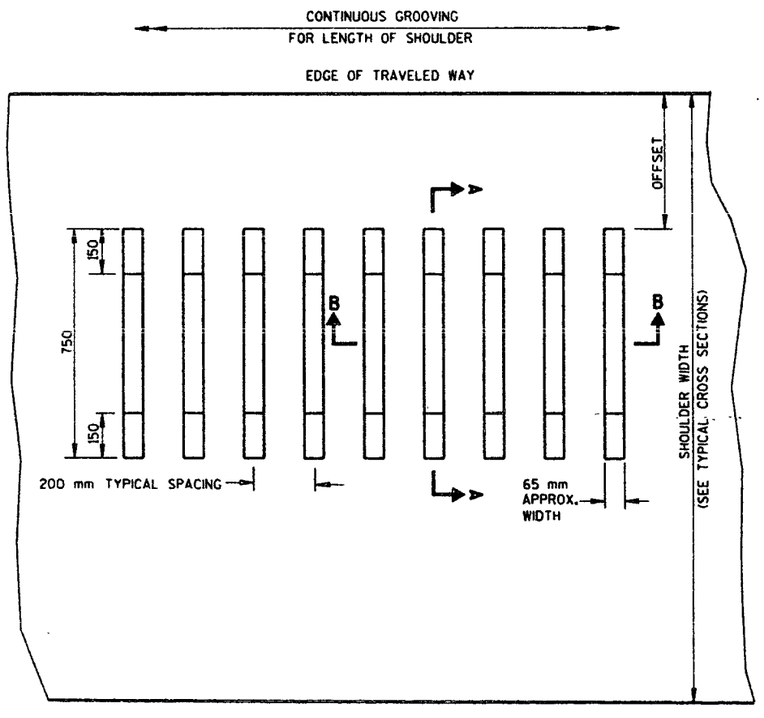
SECTION VIEW
(CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



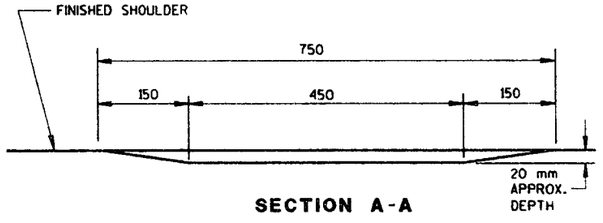
SECTION VIEW

TYPICAL LOCATIONS OF ASPHALTIC SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

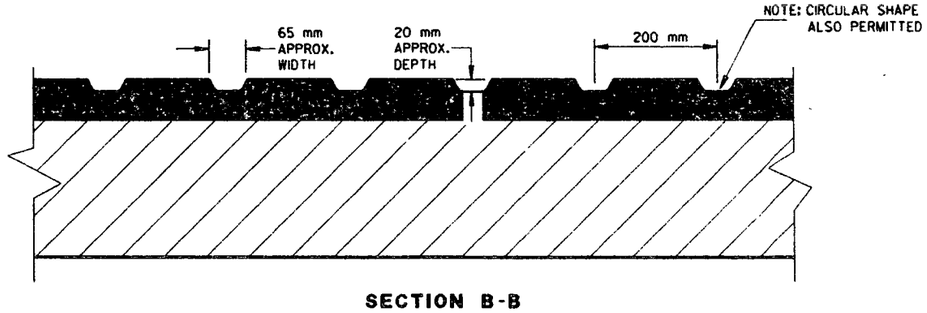
(ONE ROADWAY IS SHOWN)



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

FINISH ROLLING OF THE ASPHALTIC SHOULDER SHALL INCLUDE THE SURFACE OVER THE RUMBLE STRIP DEPRESSIONS.

① 750 mm FOR MEDIAN SHOULDERS THAT HAVE A PAVED WIDTH OF 1.5 m.

② DIMENSIONS ALSO APPLY WHEN RUMBLE STRIPS ARE REQUIRED IN THE RIGHT SHOULDER OF RAMPS.

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

ASPHALTIC SHOULDER RUMBLE STRIPS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 01/26/05
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

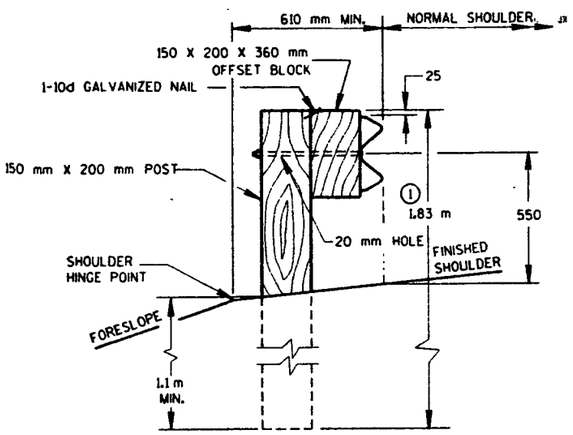
M

S.D.D. 13 A 4-3

LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

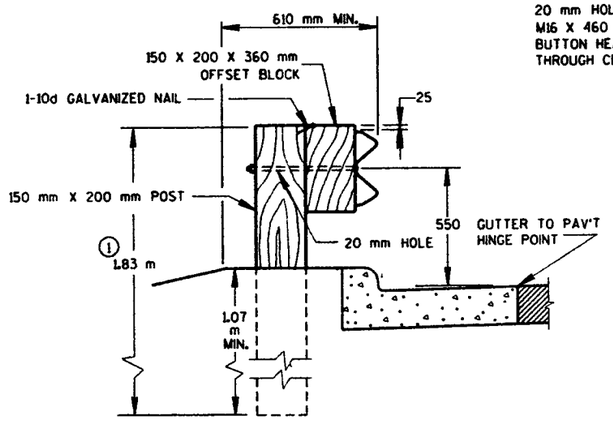
FILE NAME:

S.D.D. 13 A 4-3



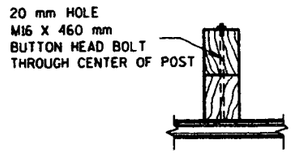
END VIEW

LOCATED ALONG A ROADWAY SHOULDER



END VIEW

LOCATED ALONG A CURBED ROADWAY



PLAN VIEW

POST, OFFSET BLOCK AND BEAM

GENERAL NOTES

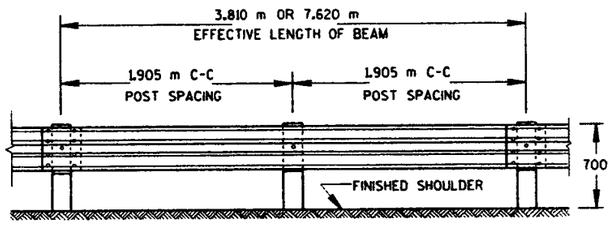
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

(1) POST LENGTH SHALL BE INCREASED TO PROVIDE A MINIMUM EMBEDMENT OF 1.1 m WHERE THE SHOULDER HINGE POINT IS LOCATED IN FRONT OF THE POST.

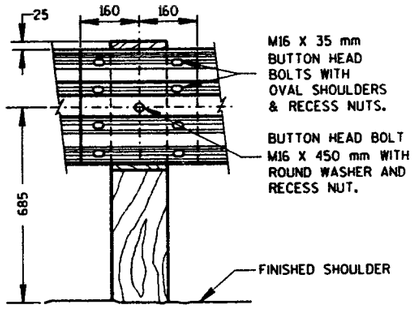
(2) PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



FRONT VIEW



FRONT VIEW

BEAM SPLICING AND POST MOUNTING DETAIL

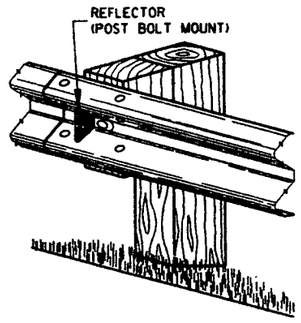
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

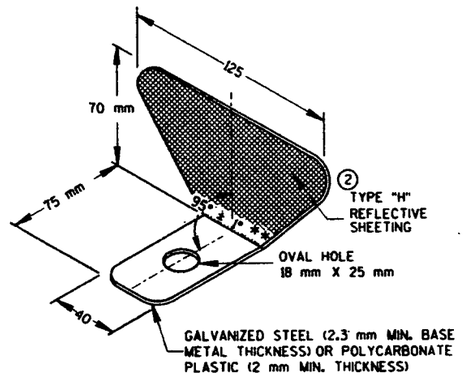
REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 60 m	15 m C-C	1	3
	> 60 m	30 m C-C	1	
TWO WAY TRAFFIC	< 60 m*	8 m C-C	1 *	6
	> 60 m*	15 m C-C	1 *	
TWO WAY TRAFFIC	< 60 m	15 m C-C	2 **	3
	> 60 m	30 m C-C	2 **	

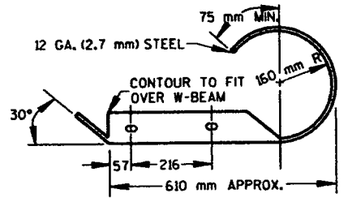
* EVERY OTHER REFLECTOR REVERSED FOR 2-WAY VISIBILITY. CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED RELECTORS.

** ANGLE OF BEND TO BE 90° ± 1° FOR TWO-SIDED REFLECTORS.

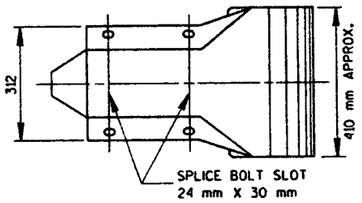




(2) REFLECTOR DETAIL AND TYPICAL INSTALLATION

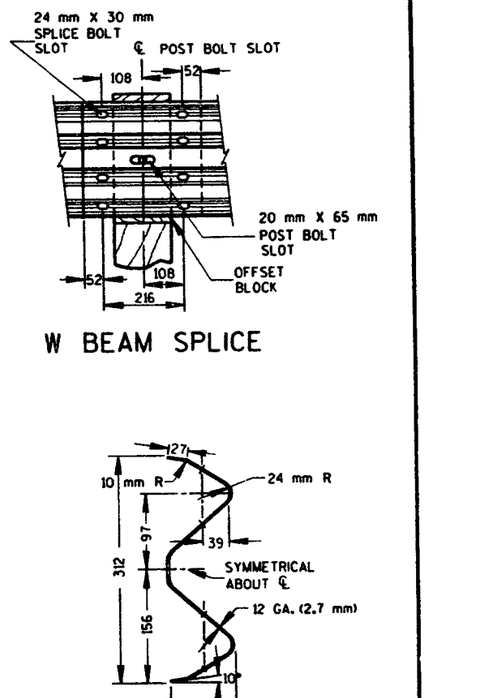


PLAN VIEW

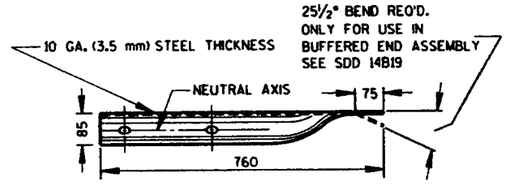


FRONT VIEW

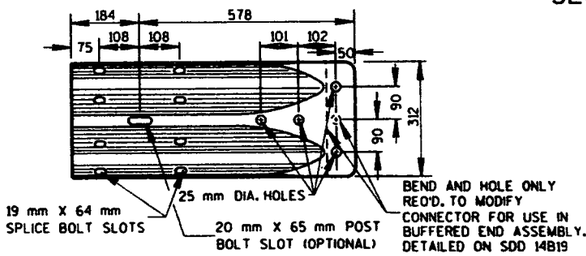
W BEAM END SECTION (ROUNDED)



W BEAM SPLICE

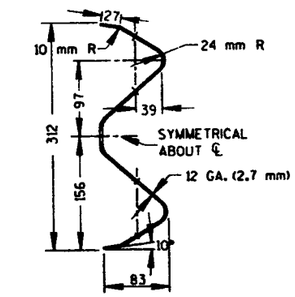


PLAN VIEW



FRONT VIEW

W BEAM TERMINAL CONNECTOR



SECTION THRU W BEAM

CLASS "A"
STEEL PLATE BEAM GUARD
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 10/25/95 DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

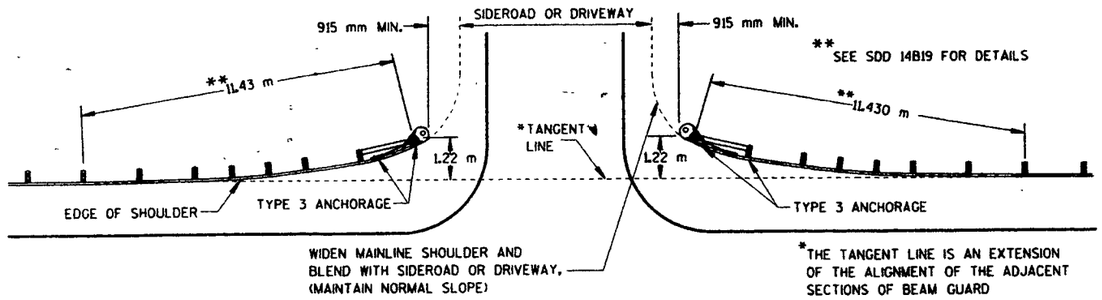
M

S.D.D. 14 B 15-2c

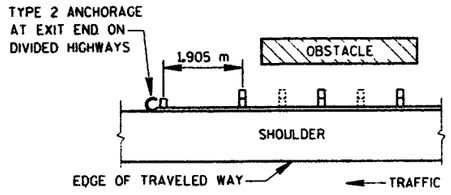
FILE NAME:

S.D.D. 14 B 15-2c

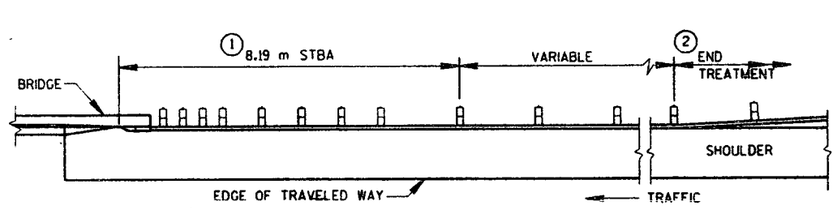
LEVELS ON • 2.3.4.5.6.7.8. 9.10.11.12.13.14.15.16.17.18.19. 20.21.22. 23.24. 25. 26.27. 28.29.30.31.32.33.34.35.36.37.38.39. 40.41. 42.43.44.45.46.47. 48. 49.50.51. 52.53.54.55.56.57. 58.59.60.61.62.63



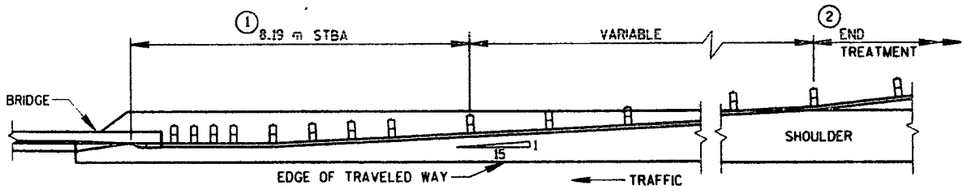
BEAM GUARD AT MINOR SIDEROADS OR DRIVEWAYS



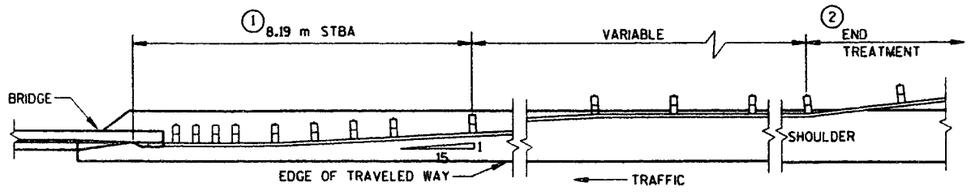
BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT NARROW BRIDGES



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

GENERAL NOTES

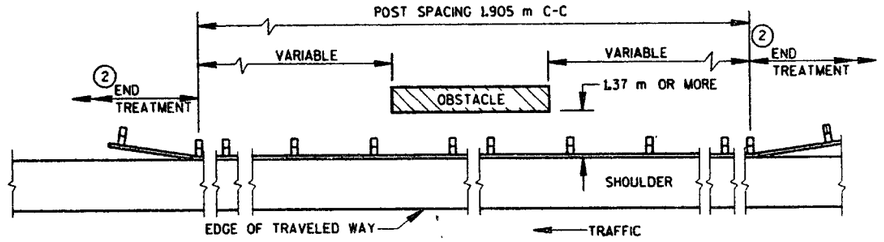
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BEAM GUARD LOCATIONS AND LENGTHS ARE SHOWN ELSEWHERE IN THE PLAN.

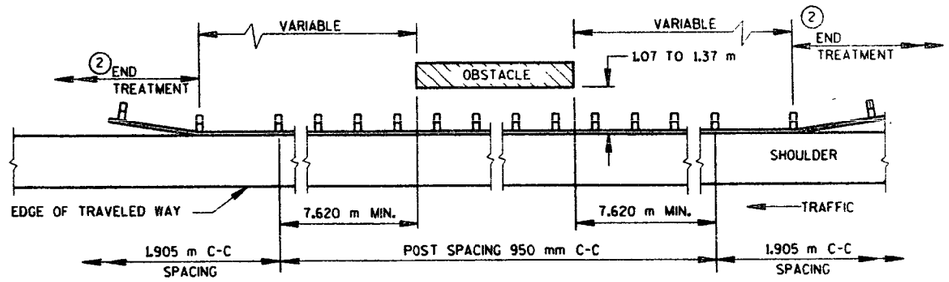
(1) STEEL THRIE BEAM STRUCTURE APPROACH.

(2) UNLESS OTHERWISE INDICATED, THE FLARED END TREATMENT WITH A TYPE 3 ANCHORAGE SHALL BE USED TO TERMINATE BEAM GUARD ON THE TRAFFIC APPROACH SIDE OF BRIDGES/OBSTACLES. TYPE 2 ANCHORAGE SHALL BE USED ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 1.37 m OR MORE)



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 1.07 TO 1.37 m)

CLASS "A" STEEL PLATE BEAM GUARD (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

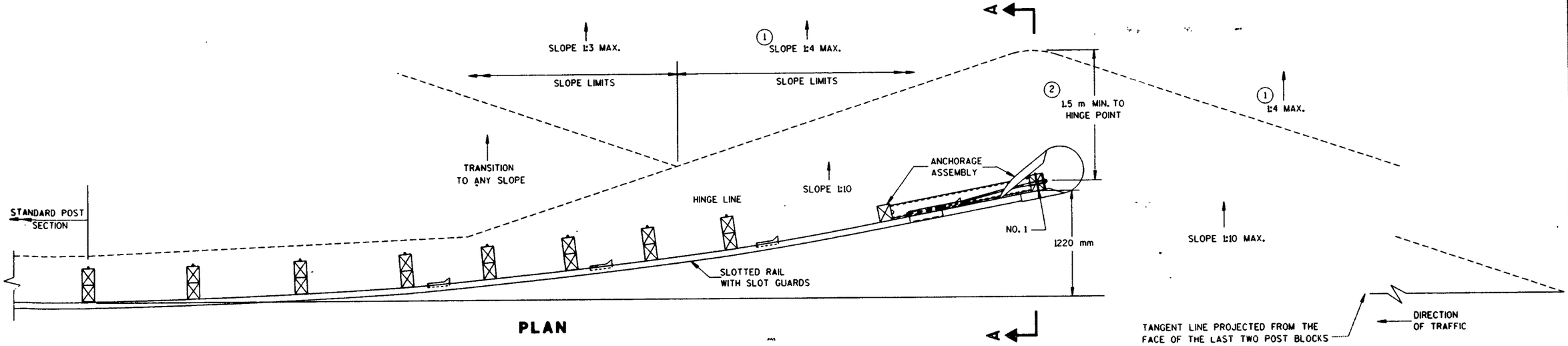
APPROVED 05/16/96 DATE
Roy J. Thinesen
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA
M

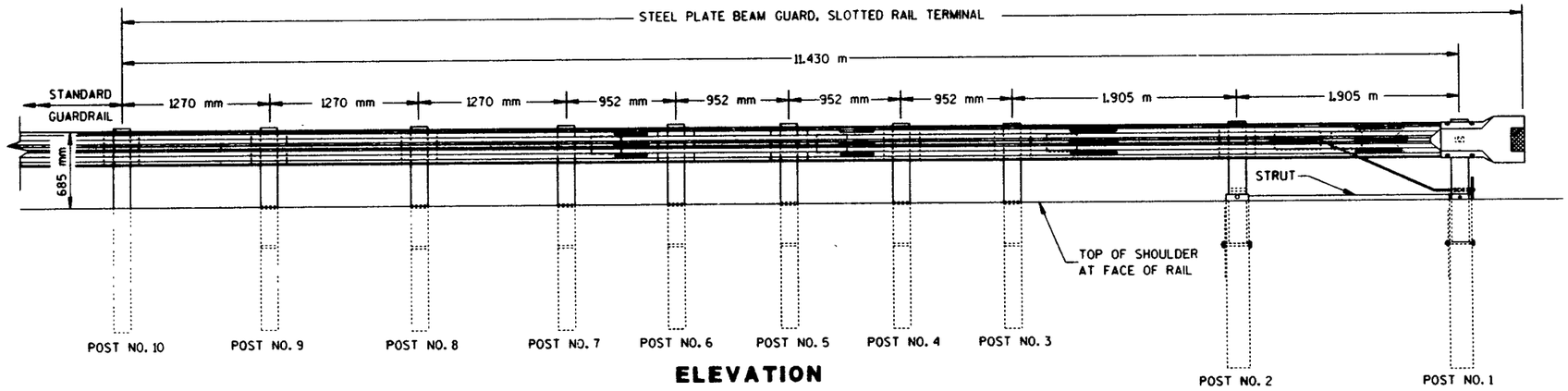
S.D.D. 14 B 18-30

LEVELS ON - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

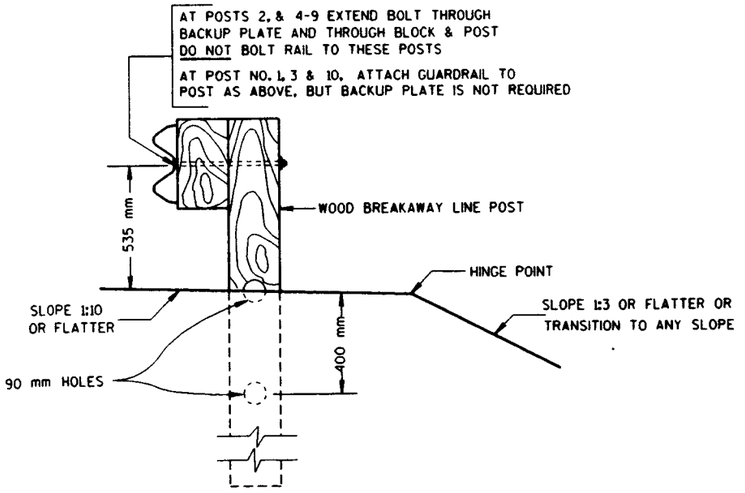
FILE NAME:

S.D.D. 14 B 18-30

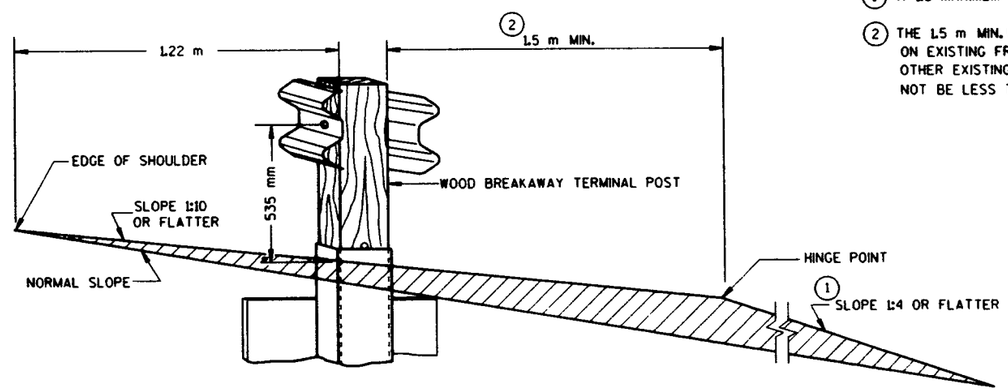




ELEVATION



TYPICAL AT POST NOS. 3-10 INC.



SECTION A-A

TANGENT LINE PROJECTED FROM THE FACE OF THE LAST TWO POST BLOCKS IN THE STANDARD POST SECTION

NOTE: THE POST OFFSET DIMENSIONS ARE TO THE CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS EXCEPT FOR POST NO. 1 & 2 WHERE THE DIMENSION IS TO THE CENTER OF THE TRAFFIC FACE OF THE POST.

POST OFFSET TABLE

POST NO.	OFFSET (mm)
1	1220
2	855
3	550
4	430
5	305
6	210
7	150
8	60
9	15
10	NONE

NOTES:

1. A 1:3 MAXIMUM SLOPE MAY BE USED FOR INSTALLATIONS ON EXISTING HIGHWAYS.
2. THE 1.5 m MIN. WIDTH APPLIES TO ALL NEW CONSTRUCTION AND INSTALLATIONS ON EXISTING FREEWAYS AND EXPRESSWAYS. FOR INSTALLATIONS ON ALL OTHER EXISTING HIGHWAYS, THIS DIMENSION MAY BE REDUCED. BUT SHALL NOT BE LESS THAN 0.9 m. SEE CROSS SECTIONS.

STEEL PLATE BEAM GUARD, SLOTTED RAIL TERMINAL

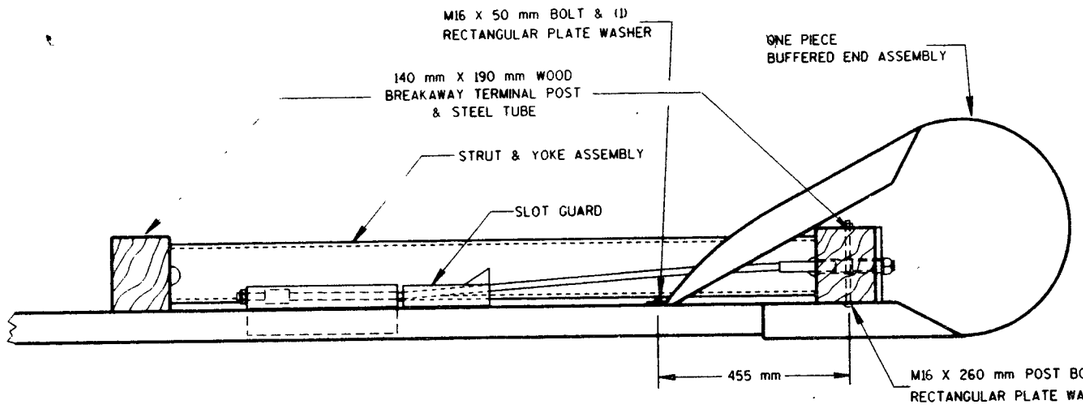
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 23-1a

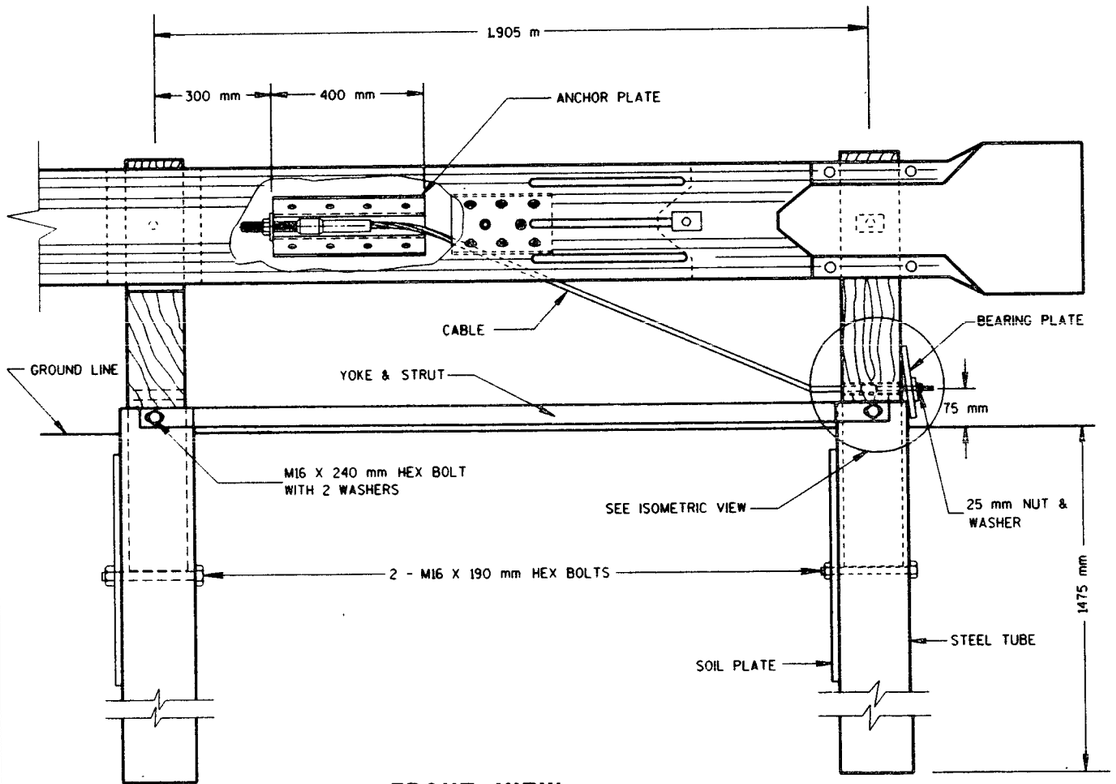
LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15,16,17,18,19, 20,21,22, 23,24, 25,26,27, 28,29,30,31,32,33, 34,35,36,37,38, 39, 40,41, 42,43,44,45,46,47,48, 49,50,51, 52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

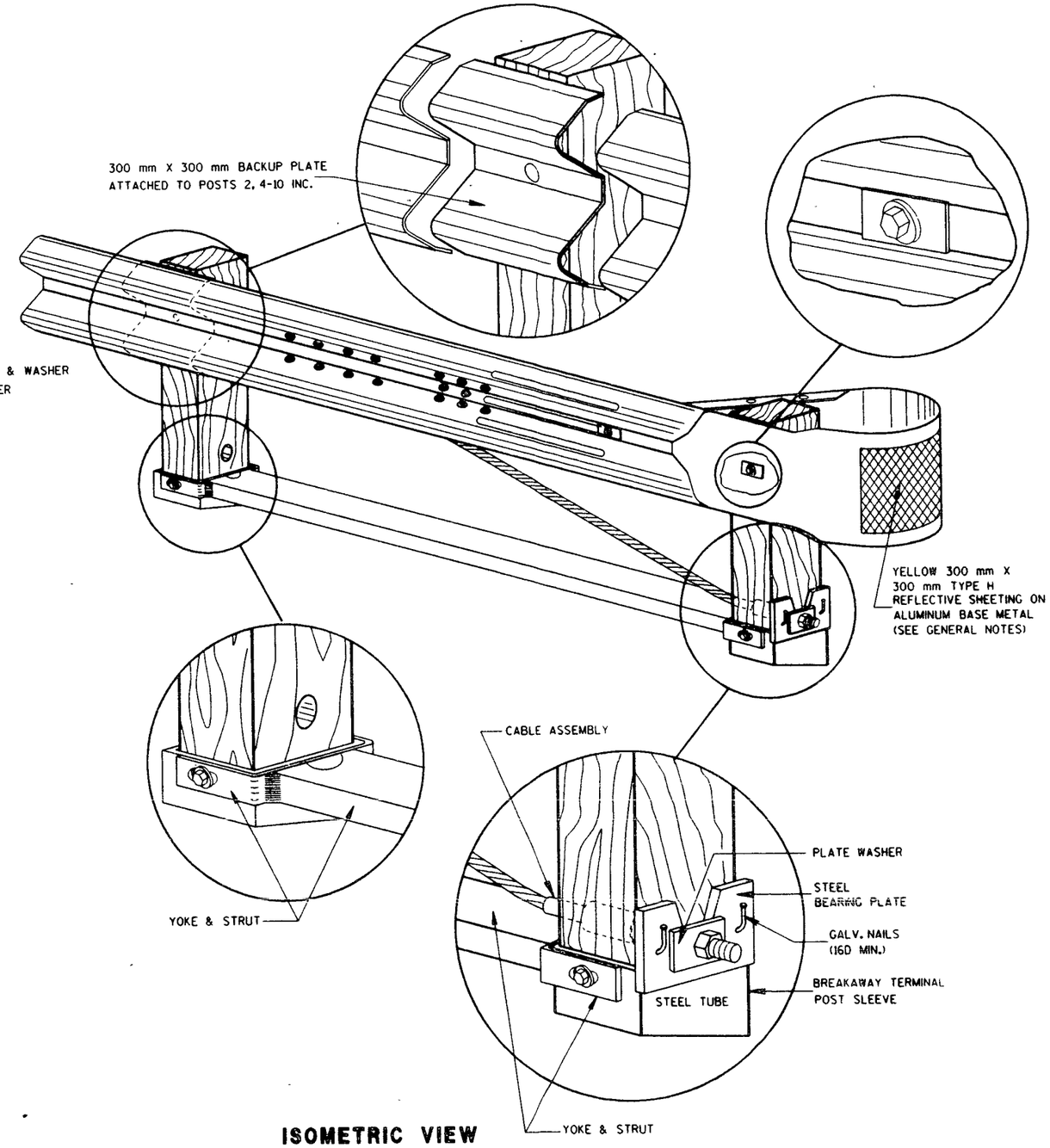
S.D.D. 14 B 23-1a



PLAN



FRONT VIEW



ISOMETRIC VIEW

ANCHORAGE ASSEMBLY

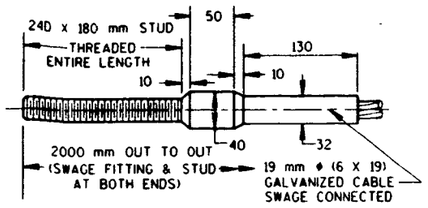
'STEEL PLATE BEAM GUARD.
SLOTTED RAIL TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 23-1b

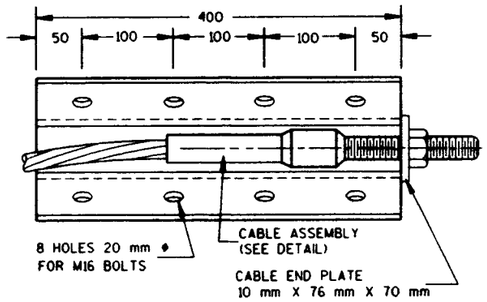
FILE NAME:

S.D.D. 14 B 23-1b

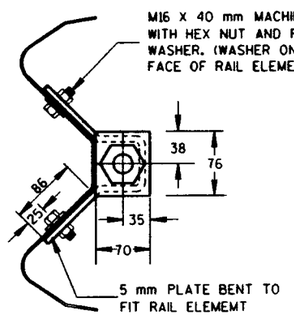


CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 190 kN (TIGHTEN UNTIL TAUT)

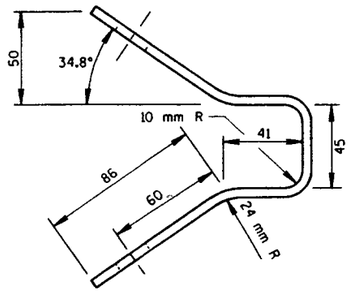


FRONT VIEW



END VIEW

ANCHOR PLATE DETAIL



END VIEW

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

STEEL PLATE BEAM GUARD, SLOTTED RAIL TERMINAL SHALL BE THE SLOTTED RAIL TERMINAL (SRT-350) MANUFACTURED BY SYRO, INC., 2524 N. STEMMONS FREEWAY, DALLAS, TEXAS 75207. TELEPHONE (214) 589-8814, 800 (644-7976)

SLOTTED RAIL TERMINALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

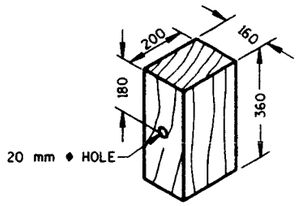
POSTS 1 & 2 SHALL BE WOOD BREAKAWAY TERMINAL POSTS INSERTED AND BOLTED INTO STEEL TUBES.

STEEL PLATE BEAM GUARD, SLOTTED RAIL TERMINAL SHALL BE MEASURED IN PLACE AS A UNIT AND PAID FOR AT THE CONTRACT UNIT PRICE EACH.

YELLOW TYPE H REFLECTIVE SHEETING ON ALUMINUM BASE MATERIAL SHALL CONFORM TO SECTIONS 637.2.2.2 AND 637.2.3.3 OF THE STANDARD SPECIFICATIONS. THE SHEETING AND BASE SHALL BE CURVED AND ATTACHED TO THE OUTSIDE OF THE BUFFERED END SECTION. ATTACHMENT SHALL BE MADE USING DOUBLE FACED "HI-BOND" TAPE MANUFACTURED BY THE 3M COMPANY, ST PAUL, MN. (SUPPLIED BY CONTRACTOR).

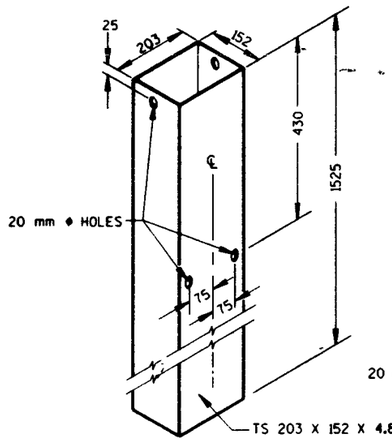
NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



WOOD OFFSET BLOCK

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

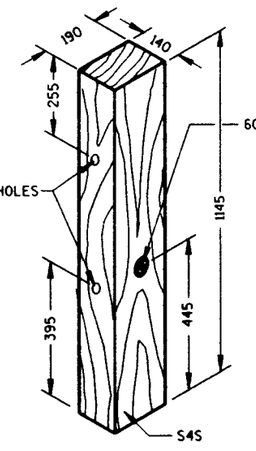


TERMINAL POST

(POSTS NO. 1 & 2)

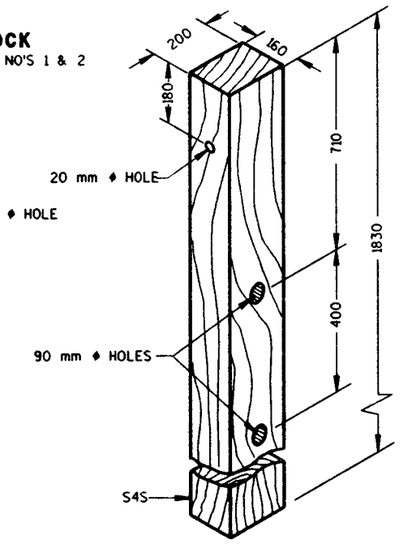
STEEL TUBE

THE STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A500B



TERMINAL POST

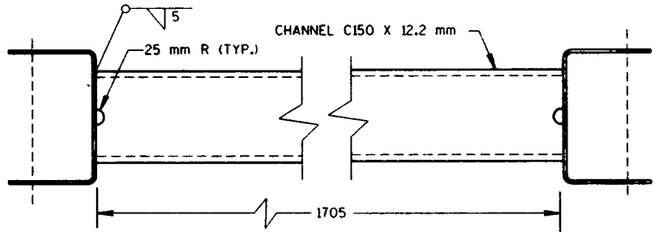
(POSTS NO. 1 & 2)



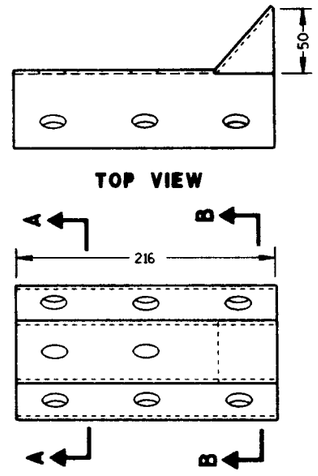
LINE POST

(POSTS NO'S 3 - 10)

WOOD BREAKAWAY POSTS

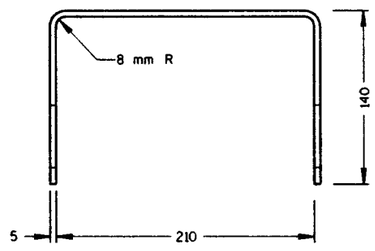


STRUT DETAIL

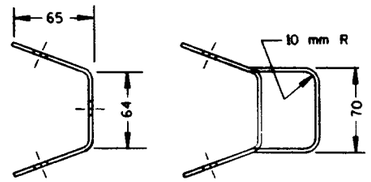


TOP VIEW

FRONT VIEW

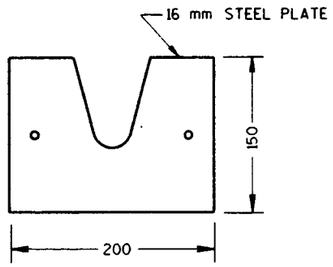


YOKE DETAIL

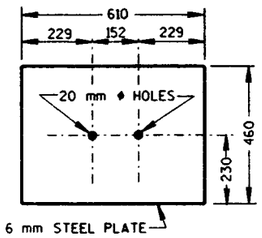


SECTION A-A SECTION B-B

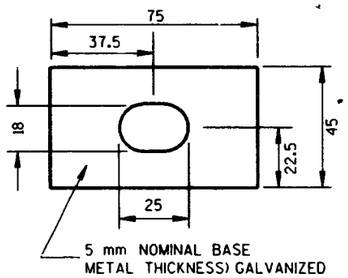
SLOT GUARD BRACKET



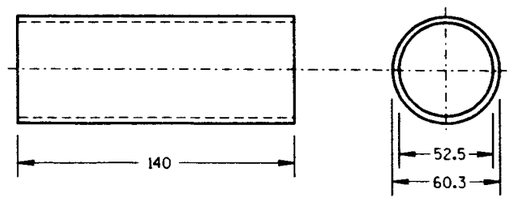
STEEL BEARING PLATE



SOIL PLATE



RECTANGULAR PLATE WASHER



BREAKAWAY TERMINAL POST SLEEVE

STANDARD STRENGTH STEEL PIPE, ASTM A53 GRADE "B"

STEEL PLATE BEAM GUARD
SLOTTED RAIL TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 2/7/97 DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

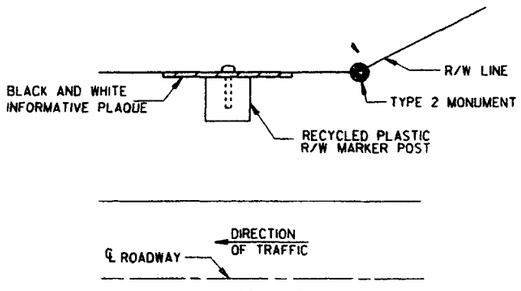
M

S.D.D. 14 B 23-1c

FILE NAME:

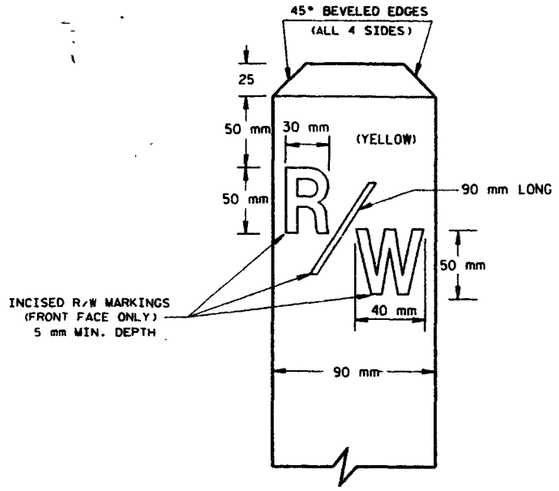
S.D.D. 14 B 23-1c

LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17, 18,19, 20,21,22, 23,24, 25, 26,27, 28,29, 30,31, 32,33, 34,35, 36,37,38, 39, 40,41, 42, 43, 44, 45, 46, 47, 48, 49, 50,51, 52,53,54,55, 56,57, 58,59,60,61,62,63

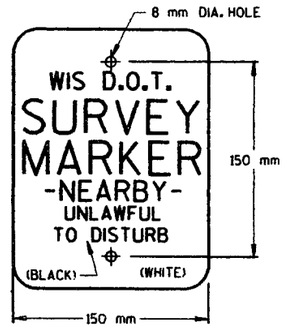


PLAN VIEW

③ TYPICAL LOCATION



RECYCLED PLASTIC
RIGHT OF WAY MARKER POST
FRONT FACE



INFORMATIVE PLAQUE

② MARKING & SIGNING DETAILS

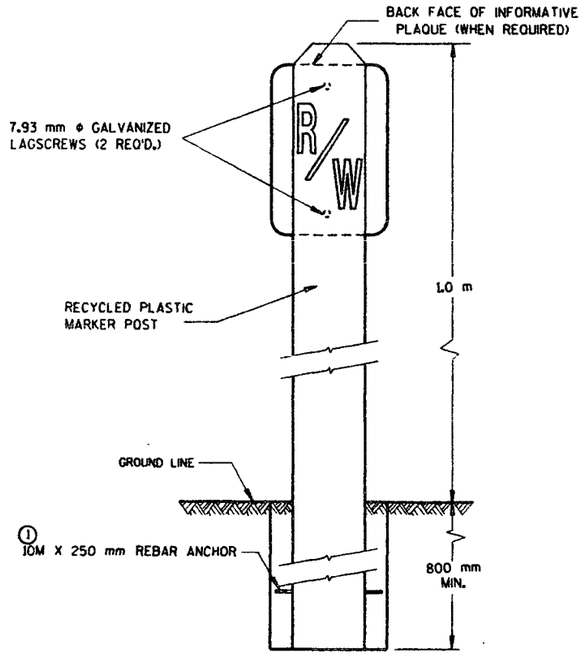
GENERAL NOTES:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

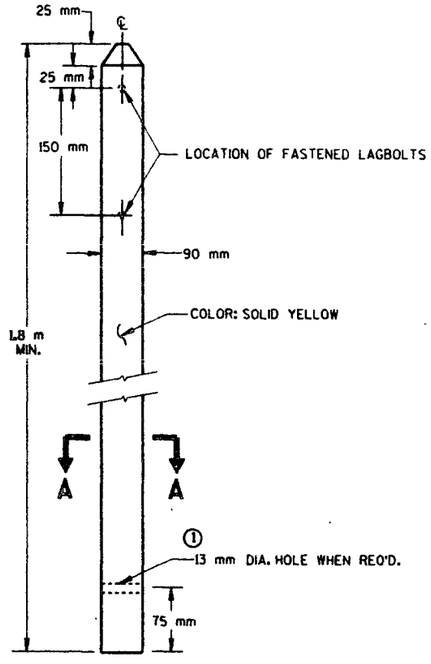
① POSTS SHALL BE ANCHORED AND SET INTO EXCAVATED HOLES AS ILLUSTRATED OR MAY BE DRIVEN AND ANCHORED INTO THE GROUND BY ALTERNATIVE DEVICES APPROVED BY THE ENGINEER.

② INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

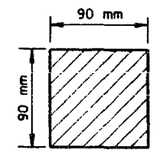
③ A MARKER POST FOR RIGHT OF WAY SHALL BE PLACED ADJACENT TO EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.



FRONT VIEW
TYPICAL INSTALLATION



FRONT VIEW
RECYCLED PLASTIC MARKER POST



SECTION A-A

MARKER POSTS FOR
RIGHT OF WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
02/07/95
DATE

Roy J. Thimsen
CHIEF ROADWAY DEVELOPMENT ENGINEER

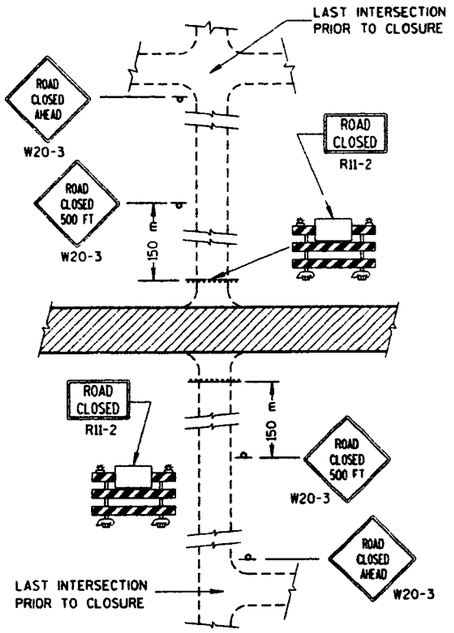
FHWA

M

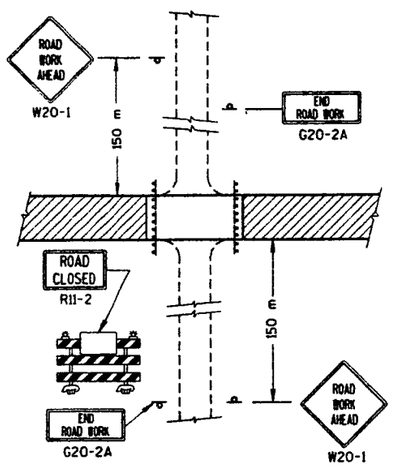
S.D.D. 15 A 1-6

FILE NAME:

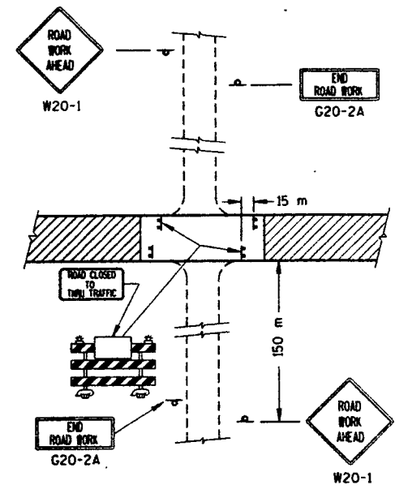
S.D.D. 15 A 1-6



DETAIL 1
(NO ACCESS TO PROJECT)

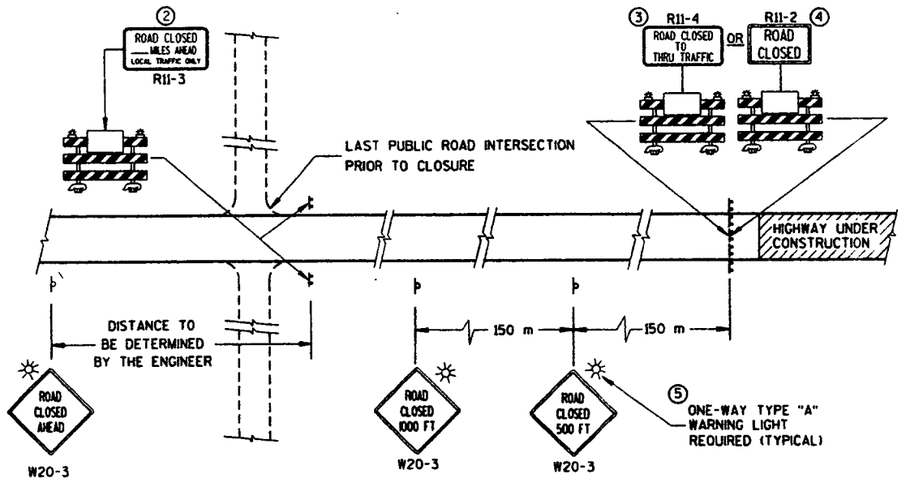


DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).

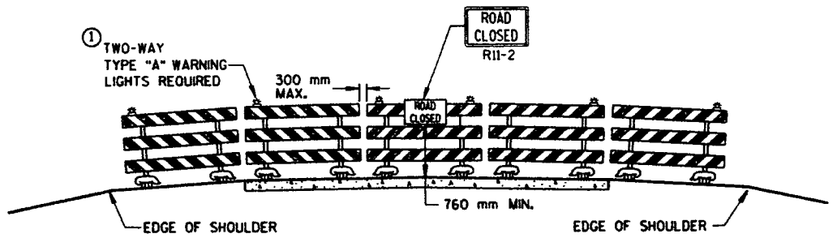


DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

SIDEROAD CLOSURES

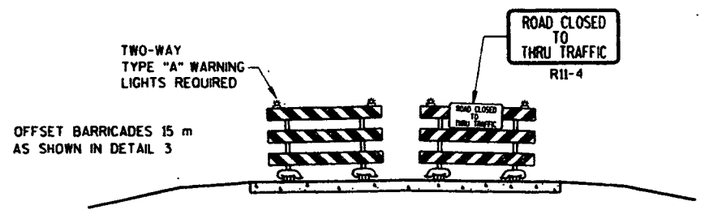


MAINLINE CLOSURE



APPROACH VIEW

ROAD CLOSURE BARRICADE DETAIL



APPROACH VIEW

LANE CLOSURE BARRICADE DETAIL

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE SIDE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE ROAD CLOSED SIGN (R11-2), ROAD CLOSED ___ MILES AHEAD SIGN (R11-3) AND THE ROAD CLOSED TO THRU TRAFFIC SIGN (R11-4) SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER MIDDLE RAIL

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES, TYPE I, II AND III, AND ON ALL R11-3 AND R11-4 SIGNS.

ALL SIGNS SHALL BE 1200 mm X 1200 mm UNLESS OTHERWISE NOTED BELOW:
- R11-2, "ROAD CLOSED" SIGNS SHALL BE 1200 mm X 750 mm.
- R11-3, AND R11-4 SIGNS SHALL BE 1500 mm X 750 mm.
- G20-2A SIGNS SHALL BE 1200 mm X 600 mm.

① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.

② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

③ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL.

④ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL.

⑤ ONE-WAY LIGHTS SHALL BE PROVIDED ON ALL ADVANCE WARNING SIGNS. THE UNIT SHALL BE POSITIONED SUCH THAT THE LIGHT SOURCE IS OUTSIDE THE SIGN FACE AND AT THE TOP OF THE SIGN.

- POST MOUNTED WARNING SIGN
- TYPE III BARRICADES WITH TYPE "H" REFLECTIVE SHEETING
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

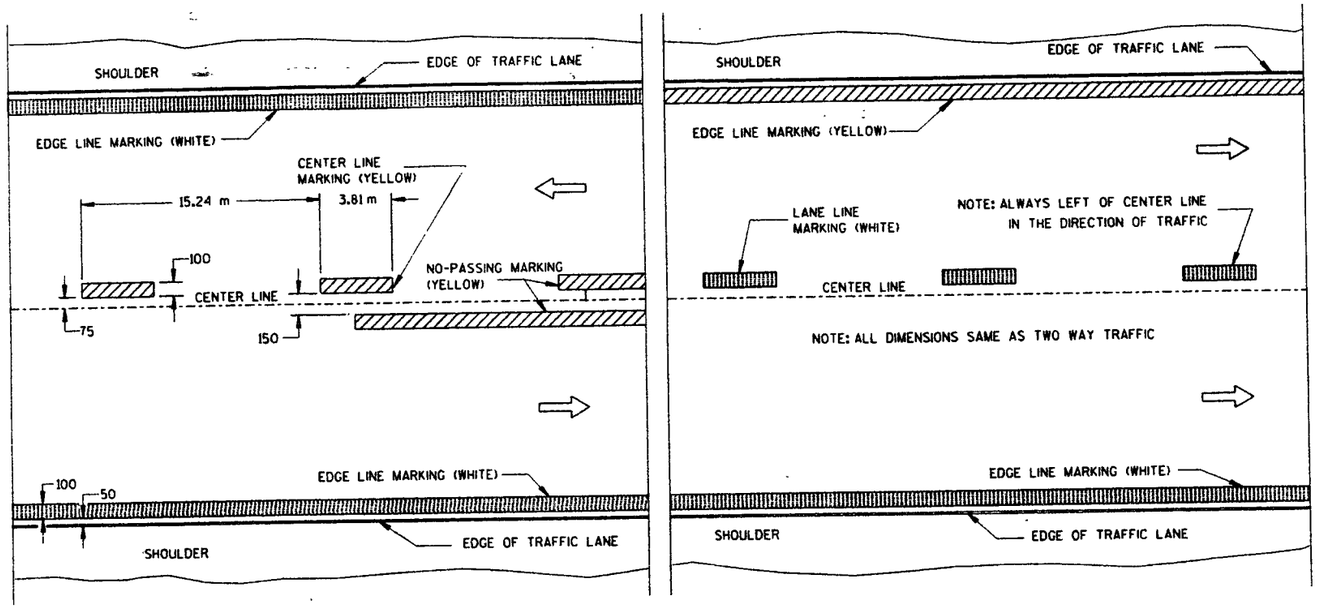
BARRICADES AND SIGNS FOR ROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-10-95
DATE
for DIRECTOR, OFFICE OF TRAFFIC
FHWA

M

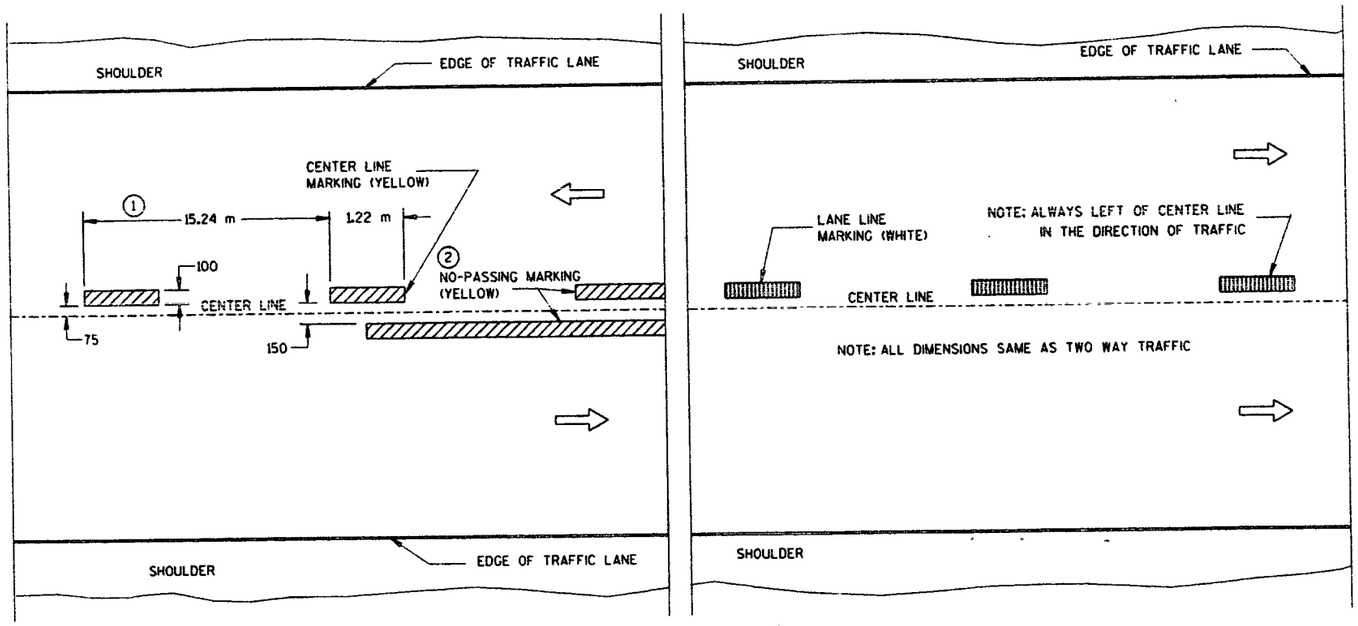
S.D.D. 15 C 2-3



TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC

ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) HALF CYCLE LENGTHS (7.62 m±) WITH 600 mm MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE,. CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.

(2) NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-85
DATE

Charles J. Sprenger
for DIRECTOR, OFFICE OF TRAFFIC

FHWA

M

S.D.D. 15 C 8-7a

S.D.D. 15 C 8-7a

LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17,18,19, 20,21,22, 23,24,25, 26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41, 42,43,44,45,46,47,48, 49,50,51, 52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

NOTES

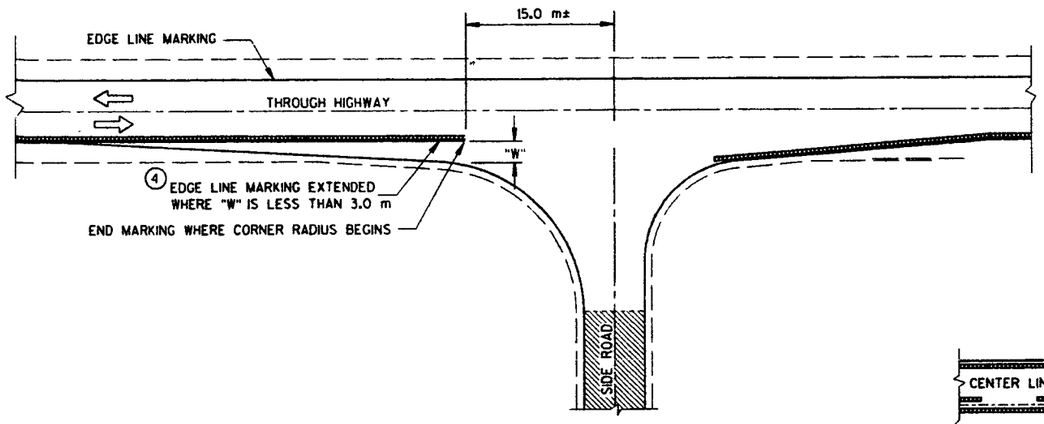
EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 76 m, OMIT LANE LINE.

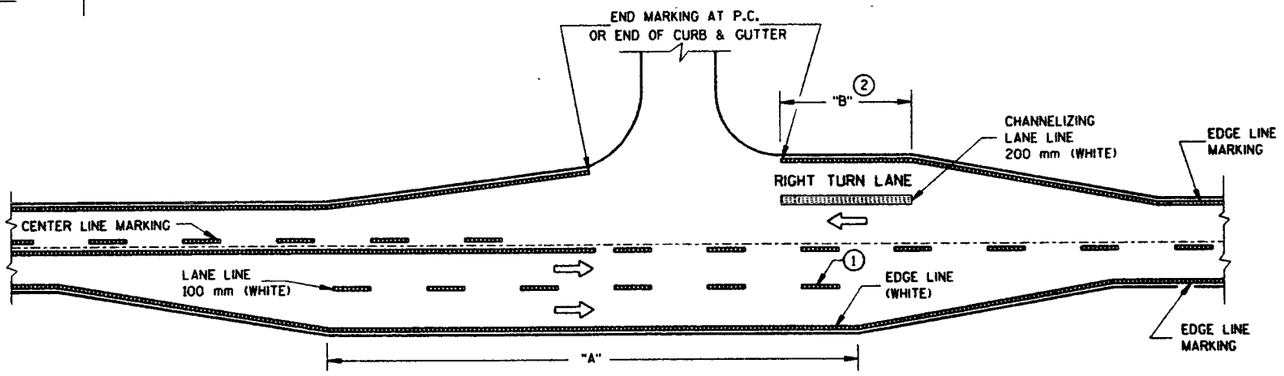
(2) WHEN DISTANCE "B" IS LESS THAN 30 m, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) LOCATE THE EDGE LINE ALONG THE TAPER WHERE "W" IS 3.0 m OR MORE.

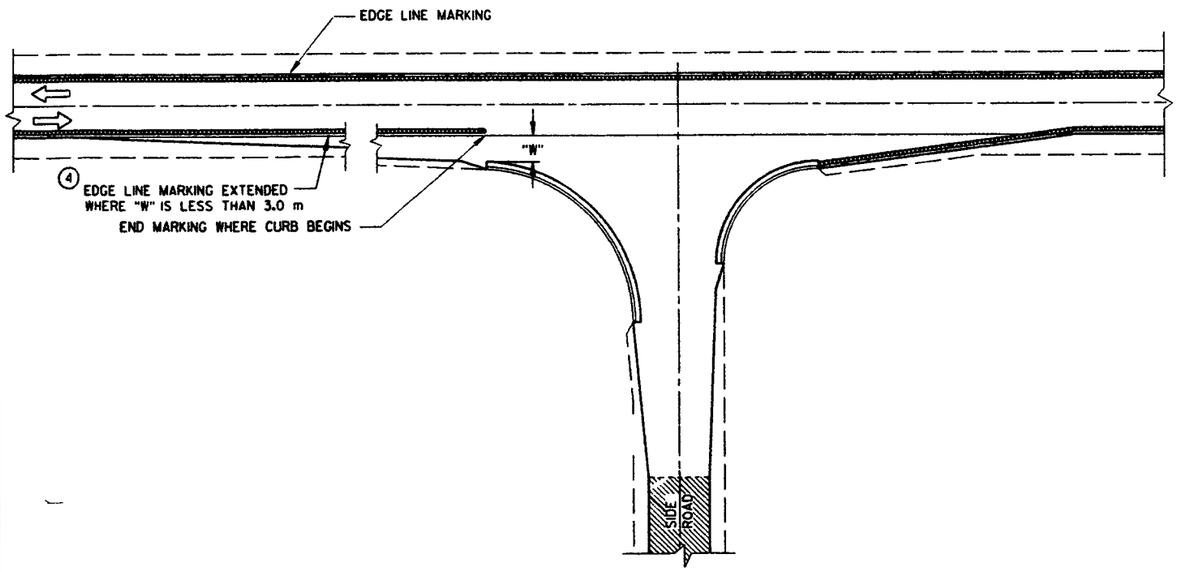


MINOR INTERSECTION WITHOUT CURBS



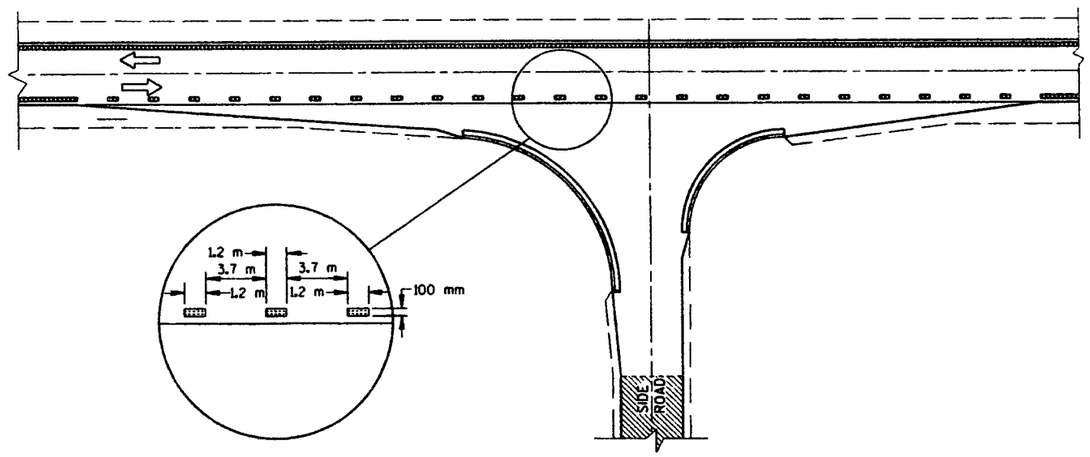
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

NOTE:
SDD 15 C 8-7a IS REQUIRED WHEN THIS DRAWING IS CALLED FOR IN THE PLANS.

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

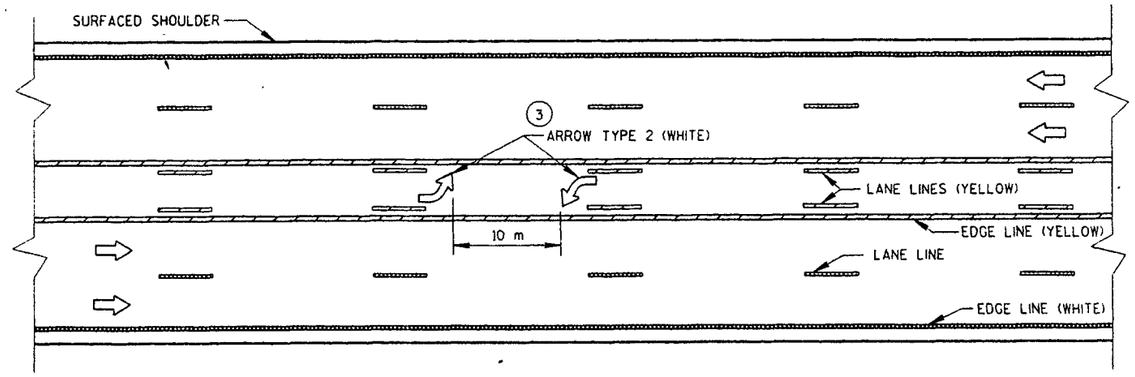
S.D.D. 15 C 8-7b

LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17,18,19, 20,21,22, 23,24, 25, 26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41,42,43,44,45,46,47,48, 49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

S.D.D. 15 C 8-7b

FILE NAME:

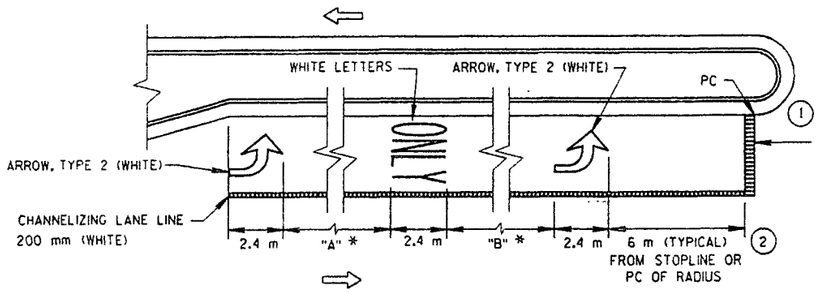
NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

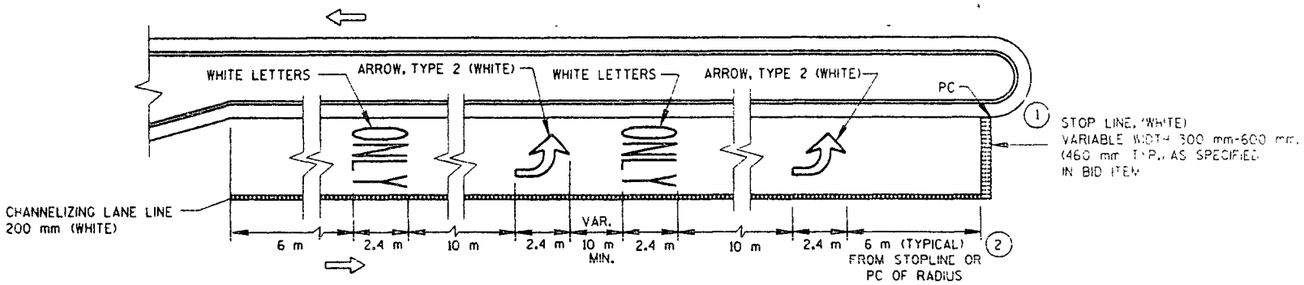
NOTES:

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 120.0 m OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

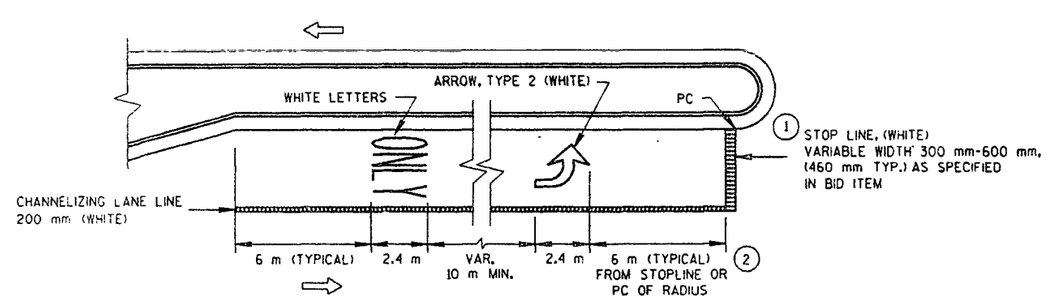


* VARIABLE, 10 m MIN.
"A" = "B" (TYPICAL)

LEFT TURN LANE
(LENGTH 35 m TO 50 m)



LEFT TURN LANE
(LENGTH OVER 50 m)



LEFT TURN LANE
(LENGTH UNDER 35 m)

NOTE:
SDD 15 C 8-7a AND SDD 15 C 7[illegible] REQUIRED
WHEN THIS DRAWING IS CALLED FOR IN THE PLANS.

PAVEMENT MARKING
(LEFT TURN LANE)

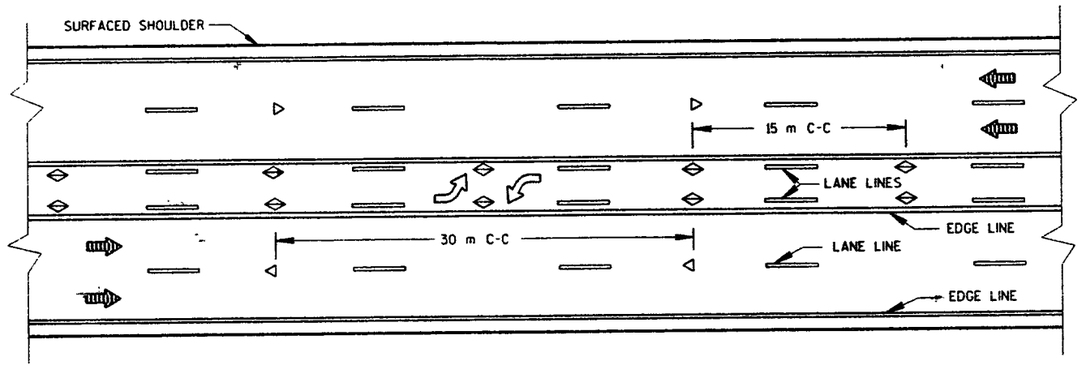
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION M

S.D.D. 15 C 8-7c

FILE NAME:

S.D.D. 15 C 8-7c

LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

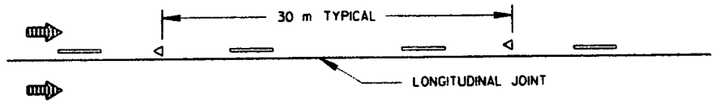


TWO WAY LEFT TURN LANE

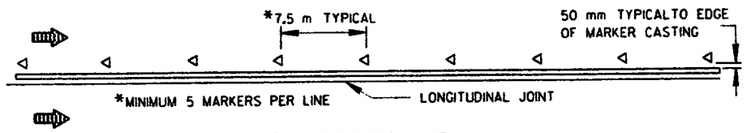
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

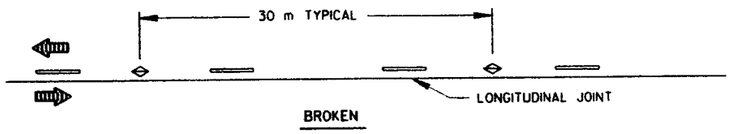
MARKERS SHALL NOT BE LOCATED DIRECTLY OVER LONGITUDINAL JOINTS. PLACE MARKERS ADJACENT TO THE JOINT LINE.

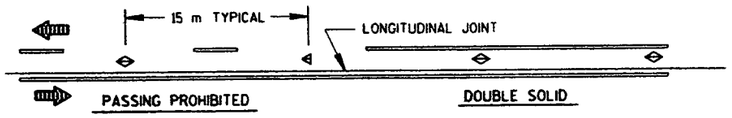


LANE LINE



CHANNELIZING LINE





NOTE:
IN 2-WAY NO-PASSING ZONE, ALL MARKERS ARE 2-WAY YELLOW
IN 1-WAY NO-PASSING ZONE, MARKERS ARE ALTERNATELY 2-WAY AND 1-WAY YELLOW

CENTER LINE

LEGEND

- ONE WAY REFLECTOR (WHITE)
- ONE WAY REFLECTOR (YELLOW)
- TWO WAY REFLECTOR (YELLOW/YELLOW)
- DIRECTION OF TRAFFIC
- PAVEMENT ARROW

TYPICAL RAISED PAVEMENT MARKER PLACEMENT

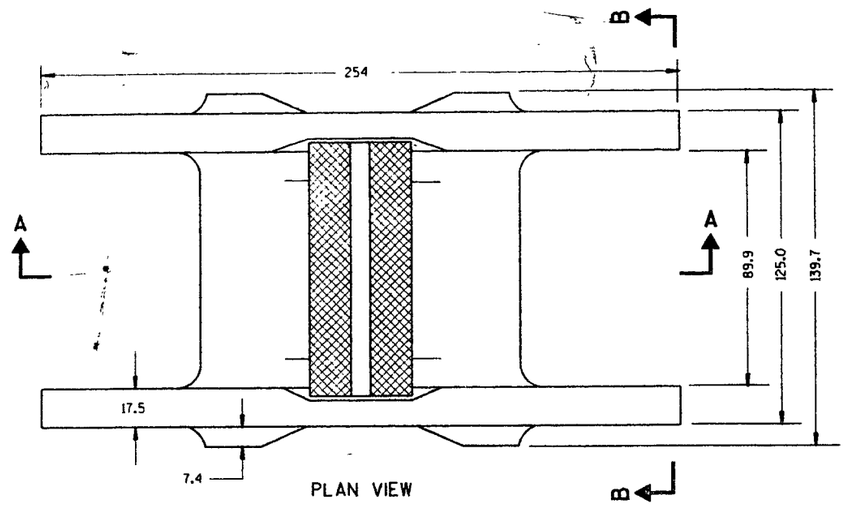
NOTE: SHEET 4c IS REQUIRED WITH THIS DRAWING IN CONTRACT PLANS.

RAISED PAVEMENT MARKERS
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

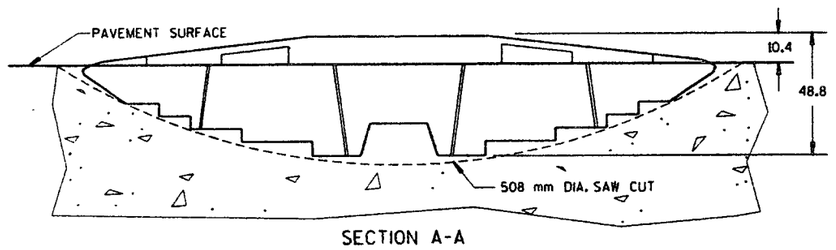
APPROVED
8-7-95
DATE
Charles J. Strong
for DIRECTOR, OFFICE OF TRAFFIC
FHWA
M

S.D.D. 15 C 10-4a

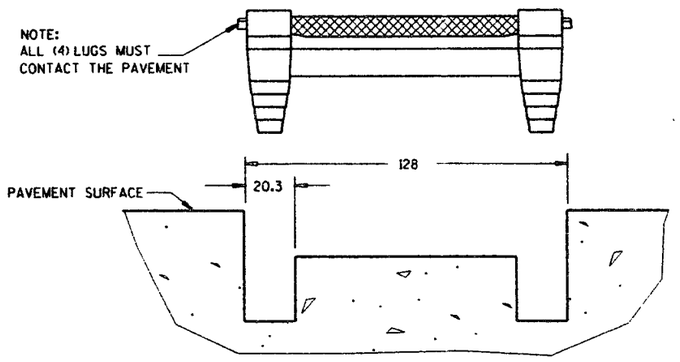


PLAN VIEW

RAISED MARKER
INSTALLED IN PAVEMENT



SECTION A-A



SECTION B-B

GENERAL NOTES

THE PAVEMENT SHALL BE SAW CUT TO THE DIMENSIONS SHOWN ON THIS DRAWING.

THE CONCRETE SAW SHALL BE FITTED WITH A GANG OF 457.2 mm DIAMETER CONCRETE BLADES, BORDERED BY 508 mm DIAMETER BLADES AT EACH END.

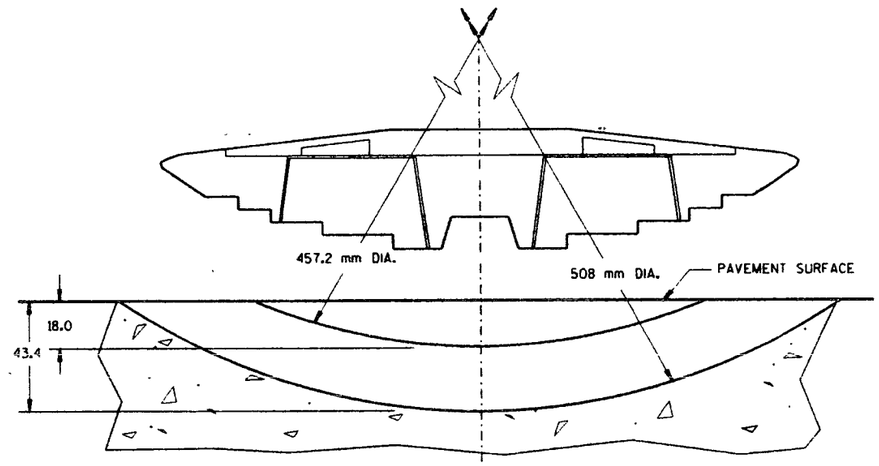
FOR PROPER FIT OF THE MARKER THE CASTING SHOULD HAVE APPROXIMATELY 3 mm INCH CLEARANCE (SIDE TO SIDE MOVEMENT) WHEN INSERTED AT EACH END. ALL FOUR LEVELING LUGS MUST CONTACT THE PAVEMENT, AND THE LEADING EDGES OF THE CASTING MUST

LIE BELOW THE PAVEMENT SURFACE.

THE SAW CUT AREA MUST BE DRY AND FREE OF DUST, DIRT OR ANY MATERIAL WHICH WILL ADVERSELY AFFECT THE BOND OF THE ADHESIVE.

INSTALL THE MARKER WITH AN APPROVED TWO COMPONENT EPOXY ADHESIVE, BY FIRST FILLING THE SAW CUT TO WITHIN APPROXIMATELY 10 mm OF PAVEMENT SURFACE AND THEN PLACING THE MARKER BY HAND INTO THE EPOXY FILLED SAW CUT. AFTER PLACEMENT OF MARKER, EPOXY SHOULD BE FLUSH WITH THE PAVEMENT SURFACE. EPOXY SHOULD NOT BE ALLOWED TO BUILD UP IN FRONT OF THE MARKER LENS, COVER THE MARKER LENS OR ADJACENT PAVEMENT MARKING. ANY DEBRIS OR RESIDUE CAUSED BY THE PAVEMENT SAWING, CUTTING AND MARKER INSTALLATION SHALL BE REMOVED FROM THE PAVEMENT MARKINGS.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS.



SAW CUT DETAIL

RAISED PAVEMENT MARKERS
(CASTING & SAWCUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95
DATE

Charles J. Spang
for DIRECTOR, OFFICE OF TRAFFIC

FHWA

M

S.D.D. 15 C 10-4c

PLOT NAME:
PLOT SCALE:
REV. DATE: 7-19-95
ORIGINATOR:
LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
S.D.D. 15 C 10-4c
FILE NAME:

S.D.D. 15 C 10-4c

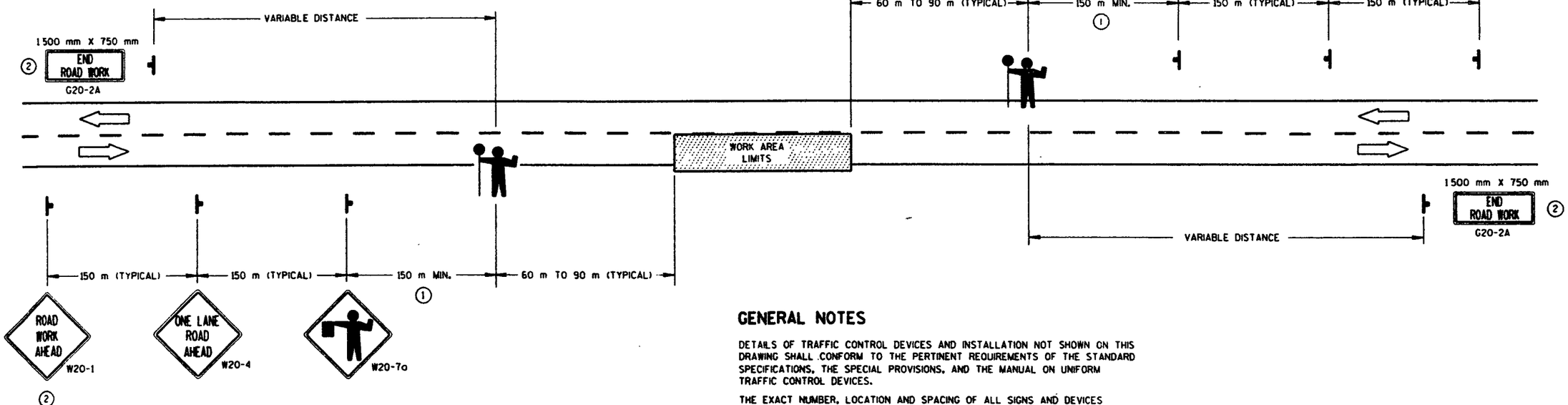
TWO-LANE ROADWAY

SYMBOLS

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT



W20-7b

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 150 m TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.

① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 10 km INTERVALS IN THE MOVING WORK OPERATION OR AS DIRECTED BY THE ENGINEER.

② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

ALL SIGNS ARE 1200 mm X 1200 mm UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95
DATE

Charles J. Senger
for DIRECTOR, OFFICE OF TRAFFIC

FHWA

M

S.D.D. 15 C 12-2

LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

S.D.D. 15 C 12-2

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 2.4 m TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 60 m, (150 m DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 1200 mm X 1200 mm UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROU D IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLI T WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVE ED" OR "DOWNED" SIGNS.

① CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE LOSURE DRUMS FOR A MINIMUM 500 m IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 COI.TINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

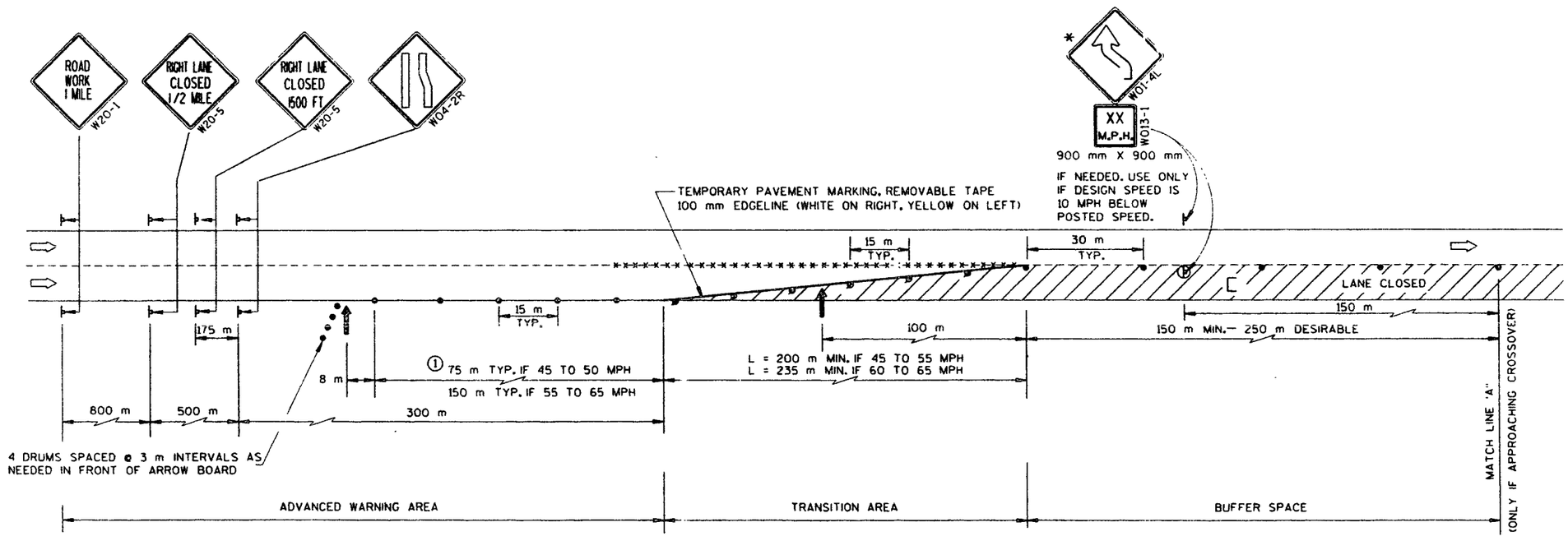
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 15 m.

IF LANE CLOSURE IS MORE THAN 1.6 km, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 400 m ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUAT BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RA P SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOU) BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 250 m DESIRABLE PRIOF TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

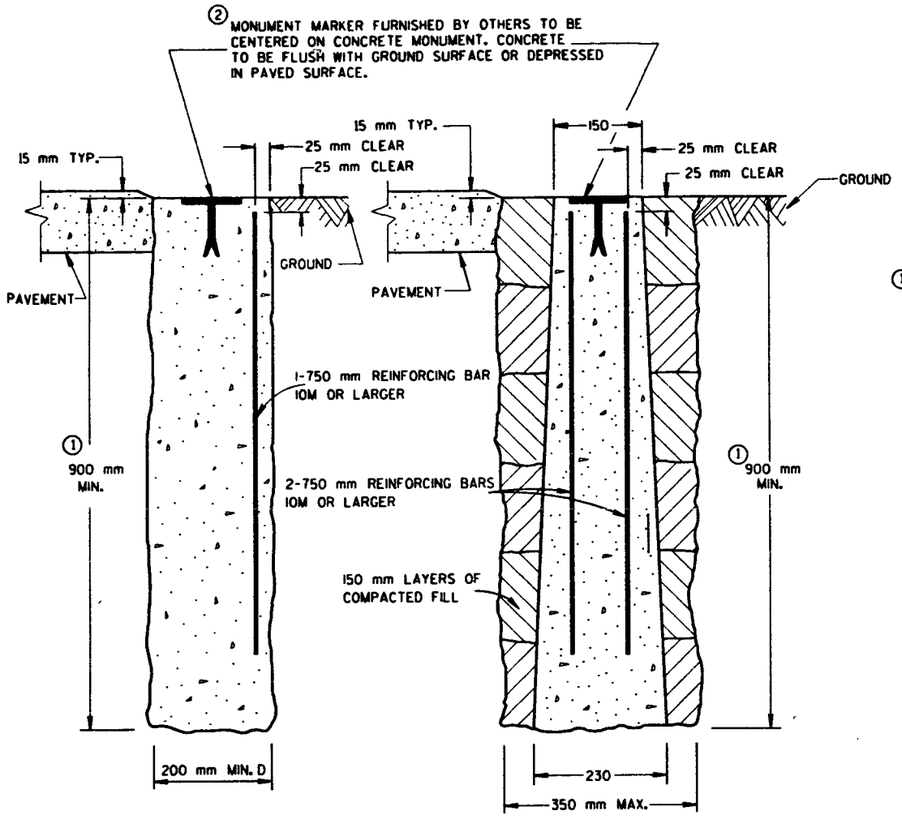
APPROVED
8-7-95
DATE

Charles J. Sparge
for DIRECTOR, OFFICE OF TRAFFIC

FHWA

M

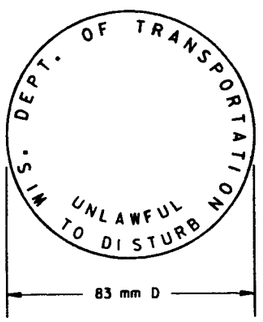
S.D.D. 15 D 12-2



CAST-IN-PLACE PRECAST

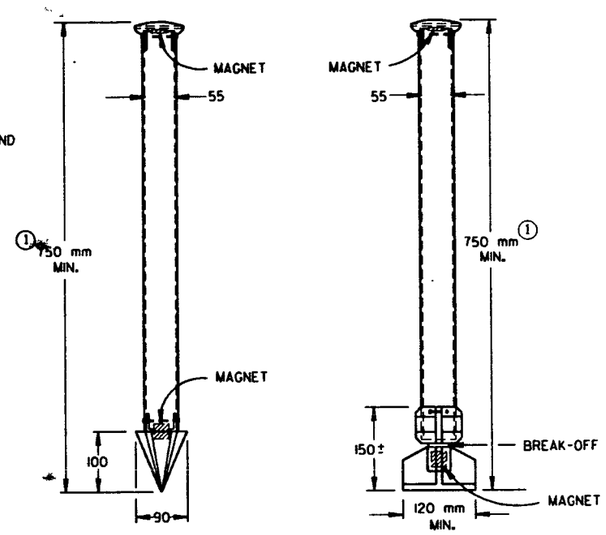
CONCRETE MONUMENTS

TYPE A



② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



TYPE C DRIVE-IN MONUMENT

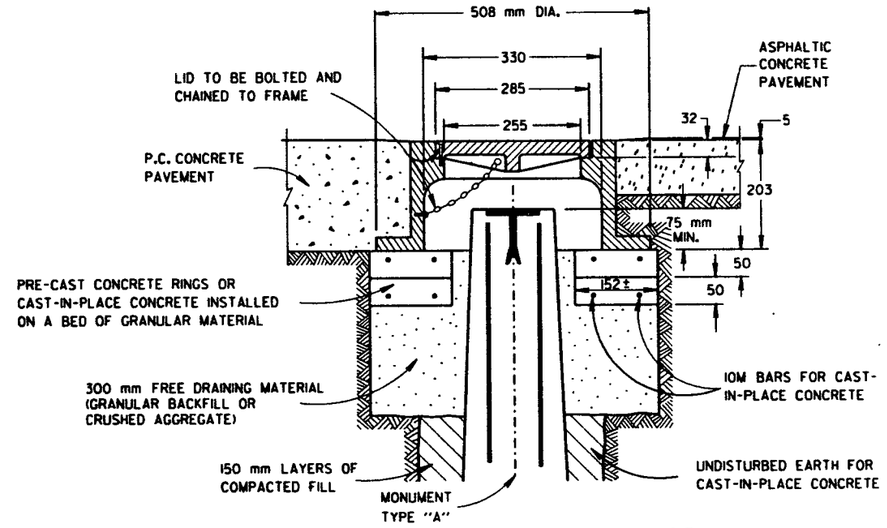
TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SPECIFIED OTHERWISE



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 43 kg)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

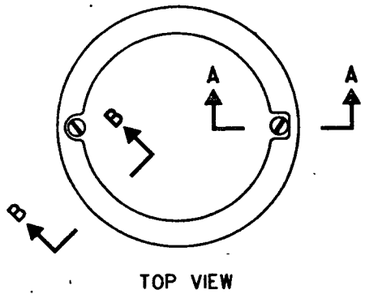
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

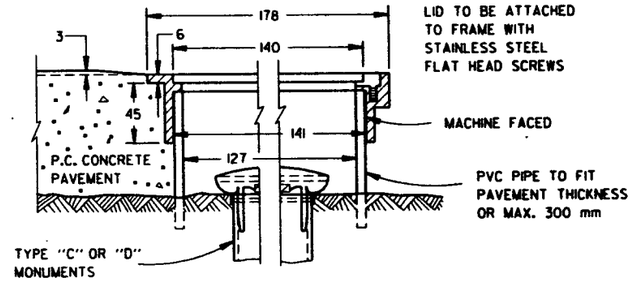
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 1.2 m FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 0.9 kg)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 02/07/95 DATE

Roy L. Thomsen
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

S.D.D. 16 A 1-5

FILE NAME:

S.D.D. 16 A 1-5