

MISSOURI HIGHWAYS and TRANSPORTATION COMMISSION

JEFFERSON CITY, MISSOURI

SUPPLEMENTAL PLANS TO JULY 2017 MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

EFFECTIVE >Ubi Ufm1, 201,

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

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203.02F	UNDERGRADING - TYPICAL DETAILS	2	01/01/2004
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203.20G	SUPERELEVATION, SPIRALS AND WIDENING (UNDIVIDED HIGHWAY)	4	07/01/2017
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502.10K	DOWEL SUPPORTING UNITS	2	06/01/2010
504.00J	CONCRETE APPROACH PAVEMENT	3	07/01/2015
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606.22U	BRIDGE ANCHOR SECTION - SAFETY BARRIER CURB ON BRIDGE	6	07/01/2016
606.23J	BRIDGE ANCHOR SECTION (THRIE BEAM RAIL ON BRIDGE)	5	07/01/2016
606.30K	GUARDRAIL - TERMINAL ANCHOR ENDS	7	04/01/2017
606.31	CRASHWORTHY END TERMINALS - TYPE A - GRADING LIMITS	1	01/01/2017
606.40D	ONE-STRAND ACCESS RESTRAINT CABLE	2	07/01/2004
606.41L	THREE-STRAND GUARD CABLE *	7	10/01/2017
606.50C	MIDWEST GUARDRAIL SYSTEM (MGS)	8	07/01/2017
606.51	MIDWEST GUARDRAIL SYSTEM (MGS) - MEDIAN PIER PROTECTION *	2	10/01/2017

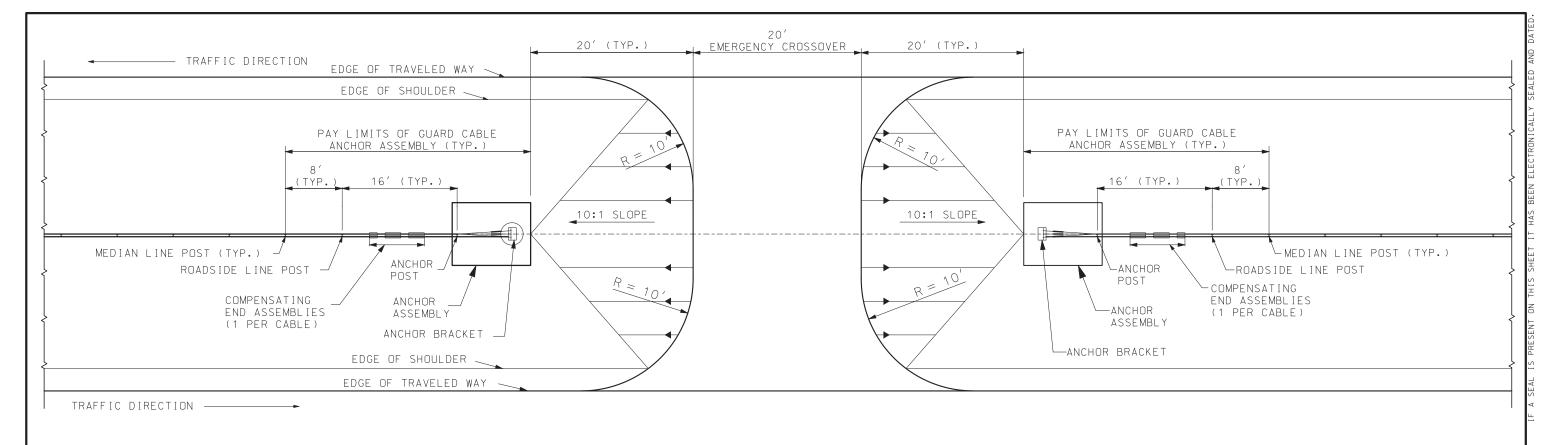
STANDARD NO.	DRAWING TITLE	NO. OF SHEETS	EFFECTIVE DATE
606.60B	MIDWEST GUARDRAIL SYSTEM (MGS) - VERTICAL BARRIER TRNSITIONS	6	07/01/2017
606.70B	MIDWEST GUARDRAIL SYSTEM (MGS) - THRIE BEAM RAIL ON BRIDGE	5	07/01/2017
606.80C	MIDWEST GUARDRAIL SYSTEM (MGS) - TERMINAL ANCHOR ENDS	7	07/01/2017
606.81	MASH - CRASHWORTHY END TERMINALS - TYPE A - GRADING LIMITS	1	01/01/2017
607.10V	CHAIN-LINK FENCE	1	02/01/2007
607.11H	CHAIN-LINK FENCE FOR RETAINING WALLS	1	06/01/2009
607.20G	WOVEN WIRE FENCE	2	07/01/2016
608.00H	PAVED APPROACHES	2	10/01/2009
608.10P	CONCRETE SIDEWALK	1	04/01/2015
608.20E	CONCRETE STAIRS	2	04/01/2015
608.30A	CONCRETE MEDIAN STRIP	1	02/01/2011
608.40	HANDRA IL ING	4	04/01/2015
608.50	CURB RAMPS	4	04/01/2015
609.00P	CONCRETE CURB, CURB AND GUTTER AND GUTTER	2	08/01/2008
609.15D	PAVED DITCHES	1	07/01/2016
609.40S	DRAIN BASIN, SHOULDER PAVING AND FILL SLOPES AT BRIDGE ENDS	3	01/01/2017
609.60C	ROCK DITCH LINER	1	03/01/1993
609.70C	ROCK LINING FOR CULVERT OUTLET	1	10/01/1981
611.60R	CONCRETE SLOPE PROTECTION	1	07/01/2015
612.20D	SAND FILLED IMPACT ATTENUATORS	1	08/01/2008
613.00S	PAVEMENT REPAIR	4	04/01/2017
614.10T	GRATES AND BEARING PLATES	1	12/01/2005
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614.30E	MANHOLE FRAMES AND COVERS	2	03/01/1996
616.10AU	TEMPORARY TRAFFIC CONTROL DEVICES *	9	10/01/2017
617.10K	PERMANENT CONCRETE TRAFFIC BARRIER *	1 1	07/01/2017
617.20D	TEMPORARY CONCRETE TRAFFIC BARRIER *	8	10/01/2015
619.10J	PAVEMENT EDGE TREATMENT *	1	10/01/2017
620.00L	PAVEMENT MARKING	5	10/01/2016
620.10G	TEMPORARY PAVEMENT MARKING	5	07/01/2017
625.00	HOLE PATTERN FOR PAVEMENT SLAB STABILIZATION	1	10/01/1998
626.00H	RUMBLE STRIPS	2	04/01/2009
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

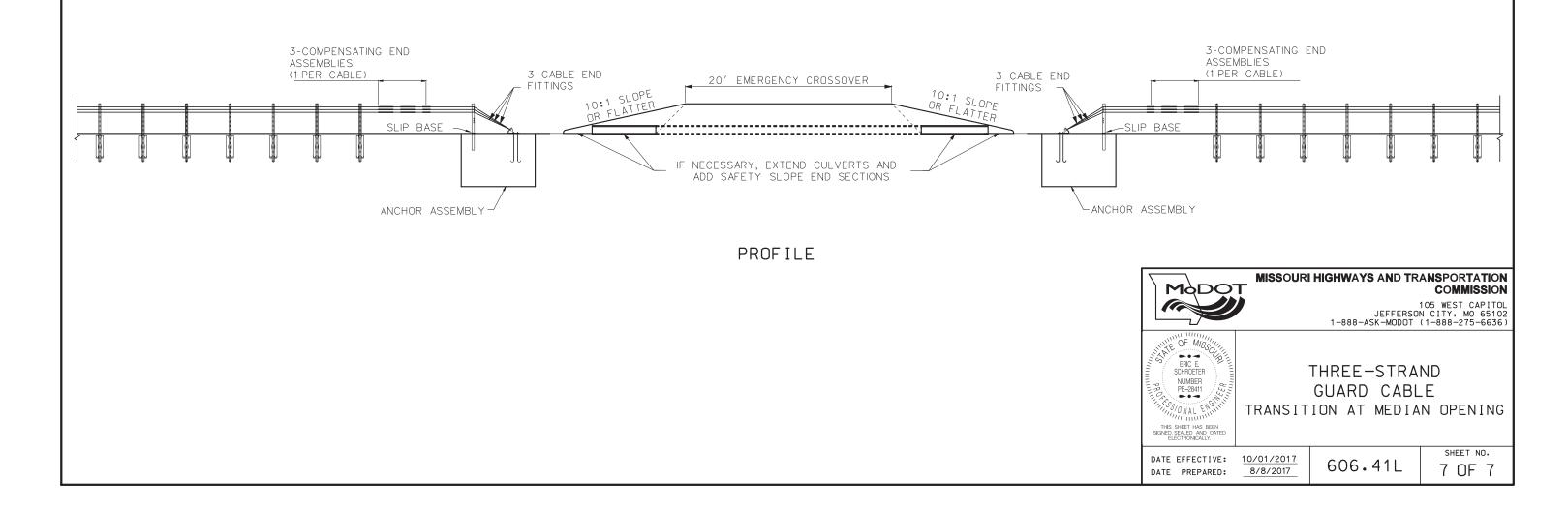
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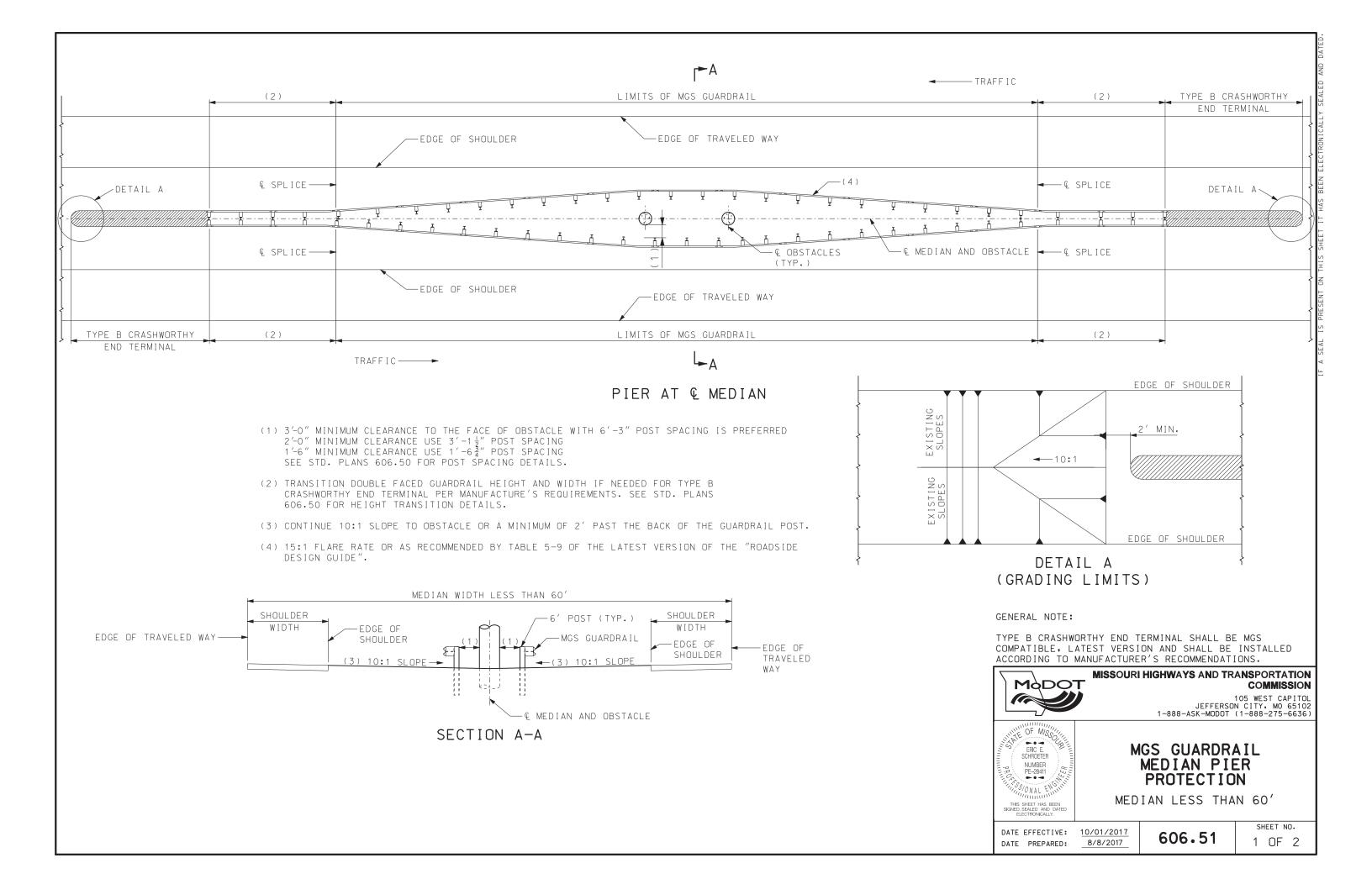
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703.10J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	07/01/2015
703.11J	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (SQUARED)	3	07/01/2015
703.12J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	07/01/2015
703.13J	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	07/01/2015
703.14J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	07/01/2015
703.15E	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	07/01/2015
703.16	CONCRETE SINGLE BOX CULVERT - CUT SECTION	1	04/01/2011
703.17	CONCRETE SINGLE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	1 4	04/01/2011
703.37C	CONCRETE BOX CULVERT - EXTERIOR WING REINFORCEMENT	2	04/01/2011
703.38A	CONCRETE BOX CULVERT - CUTTING DETAILS	2	10/01/2009
703.40H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	10/01/2011
703.41H	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (SQUARED)	3	10/01/2011
703.42H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	10/01/2011
703.43H	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	10/01/2011
703.44H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	10/01/2011
703.45C	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	10/01/2011
703.46	CONCRETE BOX CULVERT - CUT SECTION	1	10/01/2011
703.47	CONCRETE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	27	10/01/201
703.60E	CONCRETE BOX STRUCTURE - PIPE INLET	1	07/01/200
703.80H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	12/01/201
703.81H	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (SQUARED)	3	12/01/2011
703.82H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	12/01/2011
703.83H	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	12/01/2011
703.84H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	12/01/2011
703.85C	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	12/01/2011
703.86	CONCRETE TRIPLE BOX CULVERT - CUT SECTION	1	12/01/2011
703.87	CONCRETE TRIPLE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	27	12/01/2011
706.35H	BAR SUPPORTS FOR CONCRETE REINFORCEMENT	1	07/01/2004
712.40K	STEEL DAMS AT EXPANSION DEVICES	1	04/01/2016
725.00C	CORRUGATED METAL PIPE INSTALLATION METHODS	5	04/01/2011
725.31C	METAL CURTAIN WALL AND METAL INLETS	1	07/01/2004
726.30J	RIGID CULVERT INSTALLATION METHODS	2	04/01/2015
730.00E	THERMOPLASTIC PIPE INSTALLATION METHODS	1	04/01/2015
731.00U	PRECAST MANHOLES	2	07/01/2016
731.10S	PRECAST DROP INLET	8	07/01/2016
732.00S	FLARED END SECTION	3	04/01/2016
732.05C	BEVELED PIPE END TREATMENT	2	07/01/200
732.10H	SAFETY SLOPE END SECTION	3	06/01/2013
306.10J	TEMPORARY EROSION CONTROL MEASURES	6	04/01/201
808.00	TYPICAL PLANTING ILLUSTRATIONS	3	07/01/2004
901.00AA	HIGHWAY LIGHTING - POLES, FOUNDATIONS & APPURTENANCES FOR 30' M.H.	4	12/01/2013
901.01AH	HIGHWAY LIGHTING - POLES, FOUNDATIONS & APPURTENANCES FOR 45' M.H.	6	12/01/2013
901.02B	HIGHWAY LIGHTING - CABLE, CONDUIT AND TRENCHING	1	04/01/2002
901.30F	HIGHWAY LIGHTING - BASE MOUNTED CONTROL STATION	2	04/01/2005

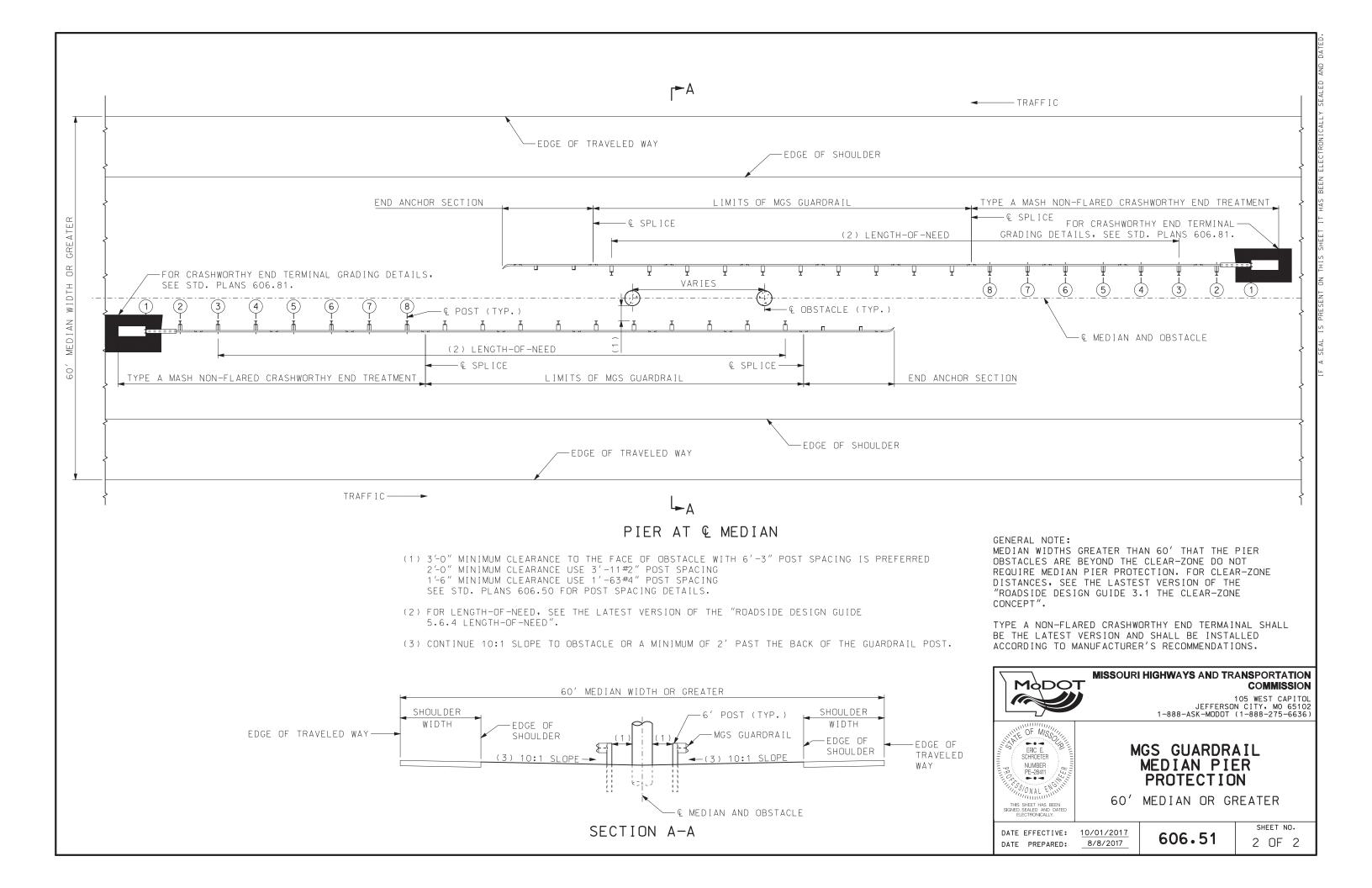
STANDARD NO.		NO, OF SHEETS	EFFECTIVE DATE
901.80D	HIGHWAY LIGHTING - POWER SUPPLY ASSEMBLY - SECONDARY SERVICE	2	04/01/2002
901.85A	HIGHWAY LIGHTING SYMBOLS	1	01/01/2003
902.00P	TRAFFIC SIGNALS	2	07/01/2017
902.100	TRAFFIC SIGNALS - CONTROLLERS CONDUIT LOCATION	1	04/01/2005
902.15K	TRAFFIC SIGNALS - POWER SUPPLY ASSEMBLY	3	07/01/2004
902.20G	TRAFFIC SIGNALS - CONCRETE PULL BOXES	3	11/01/2010
902.210	TRAFFIC SIGNALS - TELEPHONE INTERCONNECT	1	03/01/1996
902.30P	TRAFFIC SIGNALS - POST BASES *	2	02/01/2008
902.400	TRAFFIC SIGNALS - TUBULAR STEEL POSTS	3	02/01/2008
902.50L	TRAFFIC SIGNALS - INDUCTION LOOP DETECTORS	2	06/01/2009
902.70P	TRAFFIC SIGNALS - RIGID SPAN WIRE DETAILS	2	02/01/2008
902.80L	TRAFFIC SIGNALS - TRAFFIC SIGNAL SYMBOLS	1	07/01/2017
903.01J	STANDARD ARROW DETAILS	2	10/01/2016
903.02AN	HIGHWAY SIGNING	8	01/01/2017
903.03BL	POST INSTALLATIONS AND SIGN MOUNTING DETAILS *	16	07/01/2017
903.04F	HIGHWAY SIGNING - WEIGH STATION	1	02/01/2012
903.05J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE S, ONE TUBE	2	10/01/2016
903.06J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE S, TWO TUBE	2	10/01/2016
903.07J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE C	2	10/01/2016
903.08H	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE B	2	10/01/2016
903.10BC	OVERHEAD SIGN TRUSSES - ALUMINUM	6	10/01/2016
903.12Z	OVERHEAD SIGN TRUSSES - BUTTERFLY AND CANTILEVER STRUCTURAL STEEL	7	10/01/2016
903.60AB	OVERHEAD SIGN TRUSSES - STRUCTURAL STEEL	5	10/01/2016

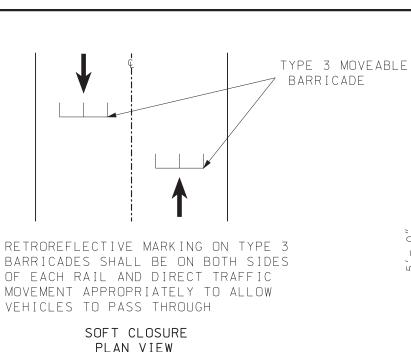


PLAN



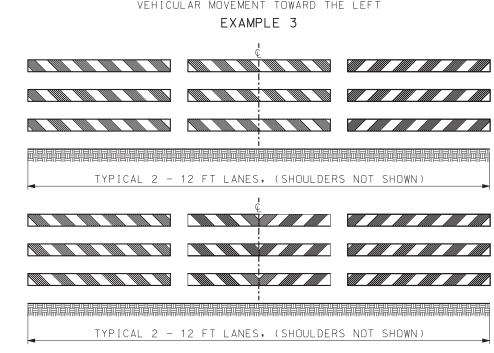






8'-0" -WARNING LIGHT (OPTIONAL) -WHITE AND ORANGE SHEETING

EXAMPLE 1 TYPICAL 2 - 12 FT LANES, (SHOULDERS NOT SHOWN) EXAMPLE SHOWS STRIPES SLOPING TO DIRECT VEHICULAR MOVEMENT TOWARD THE LEFT EXAMPLE 3



EXAMPLE 1 - ONE TYPE 3 MOVABLE BARRICADE WILL BE REQUIRED TO COMPLETELY CLOSE EACH 8' OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

SIGNS SHALL BE LIGHT WEIGHT (ROLL-UP OR PLASTIC) AND SHOULD NOT OBSCURE MORE THAN 50 PERCENT OF THE TOP 2 RAILS OR 33 PERCENT OF ALL THREE RAILS.

WARNING LIGHTS SHALL BE LIGHT WEIGHT (3.3 LBS. OR LESS) OR HAVE BATTERY PACK MOUNTED NO HIGHER THAN 18-INCH AND SHALL NOT COVER ANY PORTION OF THE BARRICADE FACE.

IF WARNING LIGHTS ARE USED, THE LIGHT SHOULD BE INSTALLED ON THE BARRICADES IN THE DIRECTION OF

IF SIGNS OR LIGHTS CANNOT MEET THE ABOVE REQUIREMENTS, THEY SHALL BE MOUNTED ON SEPARATE CRASHWORTHY DEVICES AT HEIGHTS SPECIFIED FOR POST MOUNTED SIGNS, LOCATED IN TABLE A ON SHEET 1. THE BARRICADE SHALL BE LOCATED IN FRONT OF THE SIGNS OR LIGHTS WITH 7 TO 10 FEET SEPARATING THE DEVICES.

TYPE 3 MOVABLE BARRICADES SHALL BE ENTIRELY FREE STANDING AND PORTABLE. MARKING SHALL ONLY BE APPLIED TO THE FRONT OF EACH RAIL OR MAY BE APPLIED TO BOTH THE FRONT AND THE BACK OF EACH RAIL PROVIDED THE MARKING ON THE BACK DOES NOT CONFLICT WITH INTENDED OPPOSING TRAFFIC MOVEMENT.

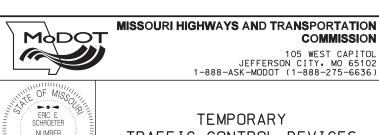
WHITE AND ORANGE REFLECTIVE SHEETING SHALL BE IN ACCORDANCE WITH SEC 104.2.7.3.

EXAMPLE 2 - FOR PAVED ROADWAYS WITH A WIDTH OF 20-FEET OR LESS AND WITHOUT PAVED SHOULDERS, TWO BARRICADES ARE ACCEPTABLE.

EXAMPLE 3 - WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, STRIPES SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.

EXAMPLE 4 - WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, STRIPES SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.

EXAMPLE 5 - WHERE NO TURNS ARE INTENDED, STRIPES POSITIONED TO SLOPE DOWNARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.



TEMPORARY TRAFFIC CONTROL DEVICES

TYPE 3 MOVABLE BARRICADE

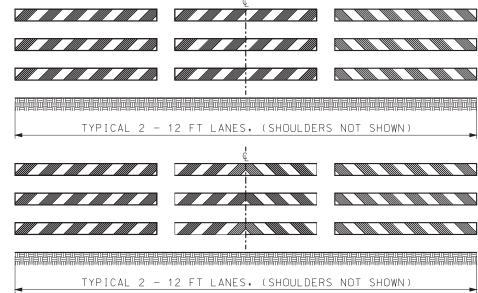
DATE EFFECTIVE: 01/01/2018 DATE PREPARED: 10/23/2017

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SHEET NO. 4 OF 9

COMMISSION 105 WEST CAPITOL



ROADWAY 20- FEET OR LESS,

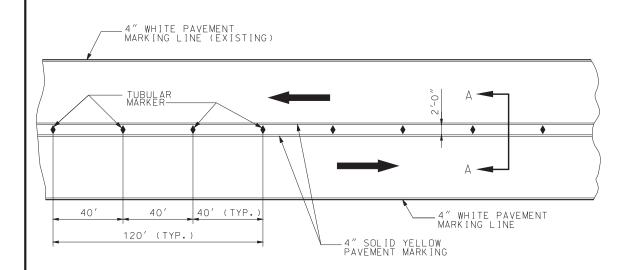
WITHOUT PAVED SHOULDERS

EXAMPLE 2

2′-0″ (MAX.)

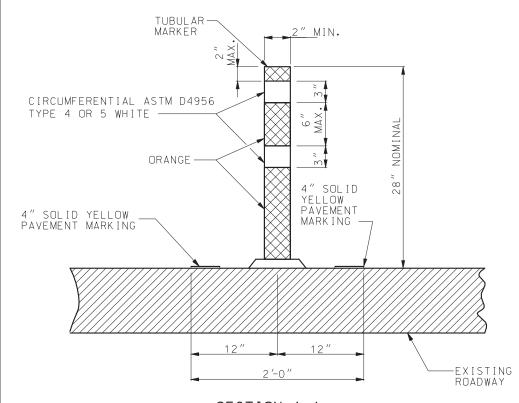
EXAMPLE 4

EXAMPLE 5



TWO LANE / TWO WAY TRAFFIC DELINEATION PLAN FOR DIVIDED HIGHWAY

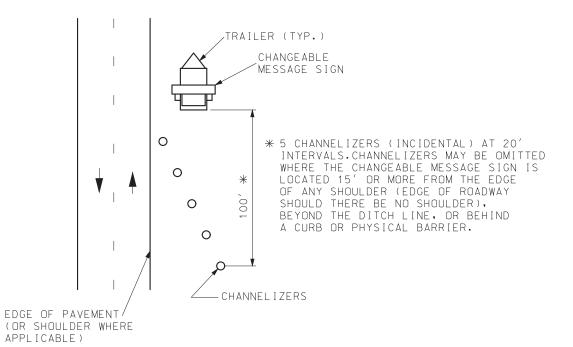
IF RAISED PAVEMENT MARKERS ARE PRESENT, THE LENSES SHALL BE REMOVED OR COVERED TO THE SATISFACTION OF THE ENGINEER.

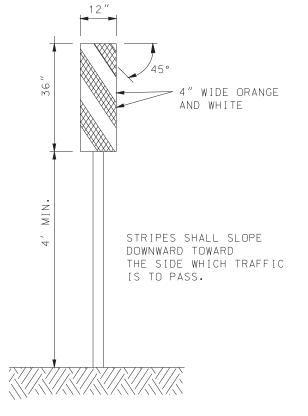


SECTION A-A TUBULAR MARKER DETAIL

AN ADHESIVE, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, SHALL BE USED TO APPLY THE TUBULAR MARKER TO THE ROADWAY SURFACE. THE ADHESIVE SHALL PERMIT EASY REMOVAL OF THE TUBULAR MARKER WITHOUT DAMAGE TO THE ROADWAY SURFACE.

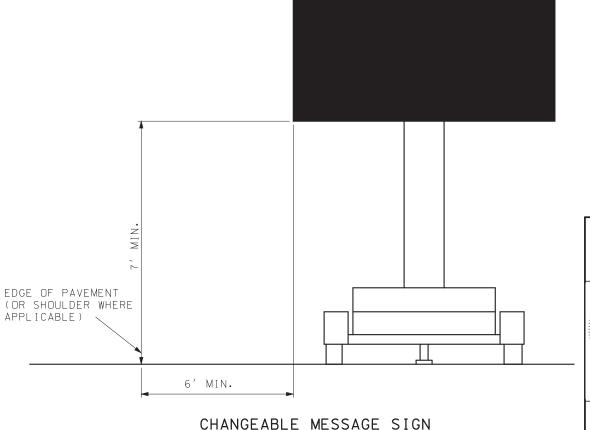
REFLECTIVE SHEETING APPLIED TO TUBULAR MARKERS SHALL BE REBOUNDABLE MEETING ASTM D4956.





TYPE 3 OBJECT MARKERS

WHITE AND ORANGE REFLECTIVE SHEETING SHALL BE IN ACCORDANCE WITH SEC 1042.2.7.3.



MISSOURI HIGHWAYS AND TRANSPORTATION MODOT COMMISSION 105 WEST CAPITOL

JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

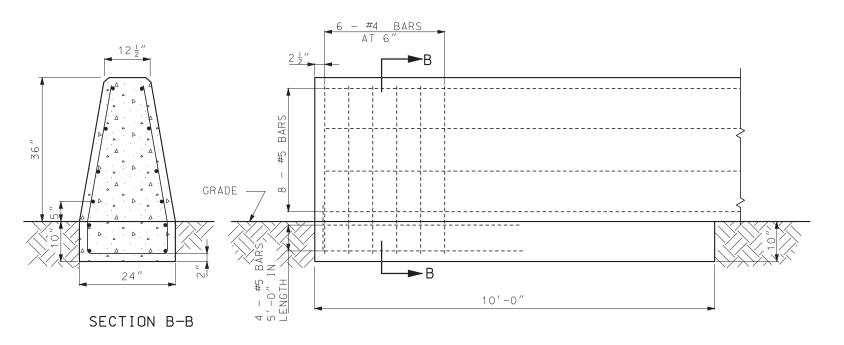


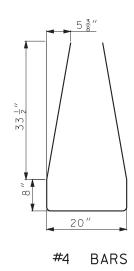
TEMPORARY TRAFFIC CONTROL DEVICES

DATE EFFECTIVE: 10/01/2017 DATE PREPARED: 8/8/2017

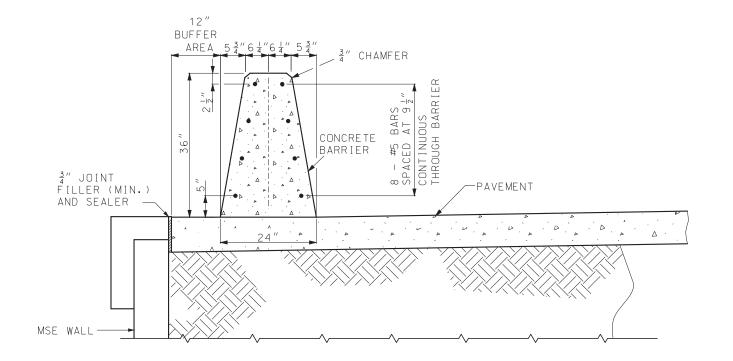
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SHEET NO. 5 OF 9





CONCRETE BARRIER END ANCHORAGE ON GRADE



TRAFFIC BARRIER ON TOP OF MSE WALL

GENERAL NOTES:

ALL REINFORCEMENT SHALL BE GRADE 60 EPOXY COATED.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 $\frac{1}{2}$ %, UNLESS OTHERWISE SHOWN.

A 12" BUFFER REQUIRED WITHIN THE LIMITS OF THE TRAFFIC BARRIER EXCLUDING THE END ANCHORAGE SECTIONS.

FOR CONCRETE TRAFFIC BARRIER DELINEATION DETAILS SEE STD PLAN 903.03.

PAVEMENT SURFACE DIFFERENTIAL SHALL NOT EXCEED $1\frac{1}{2}"$.

BAR SPLICES SHALL BE A MINIMUM OF 24 TIMES THE NOMINAL DIAMETER OF THE BAR.



MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



PERMANENT CONCRETE TRAFFIC BARRIER

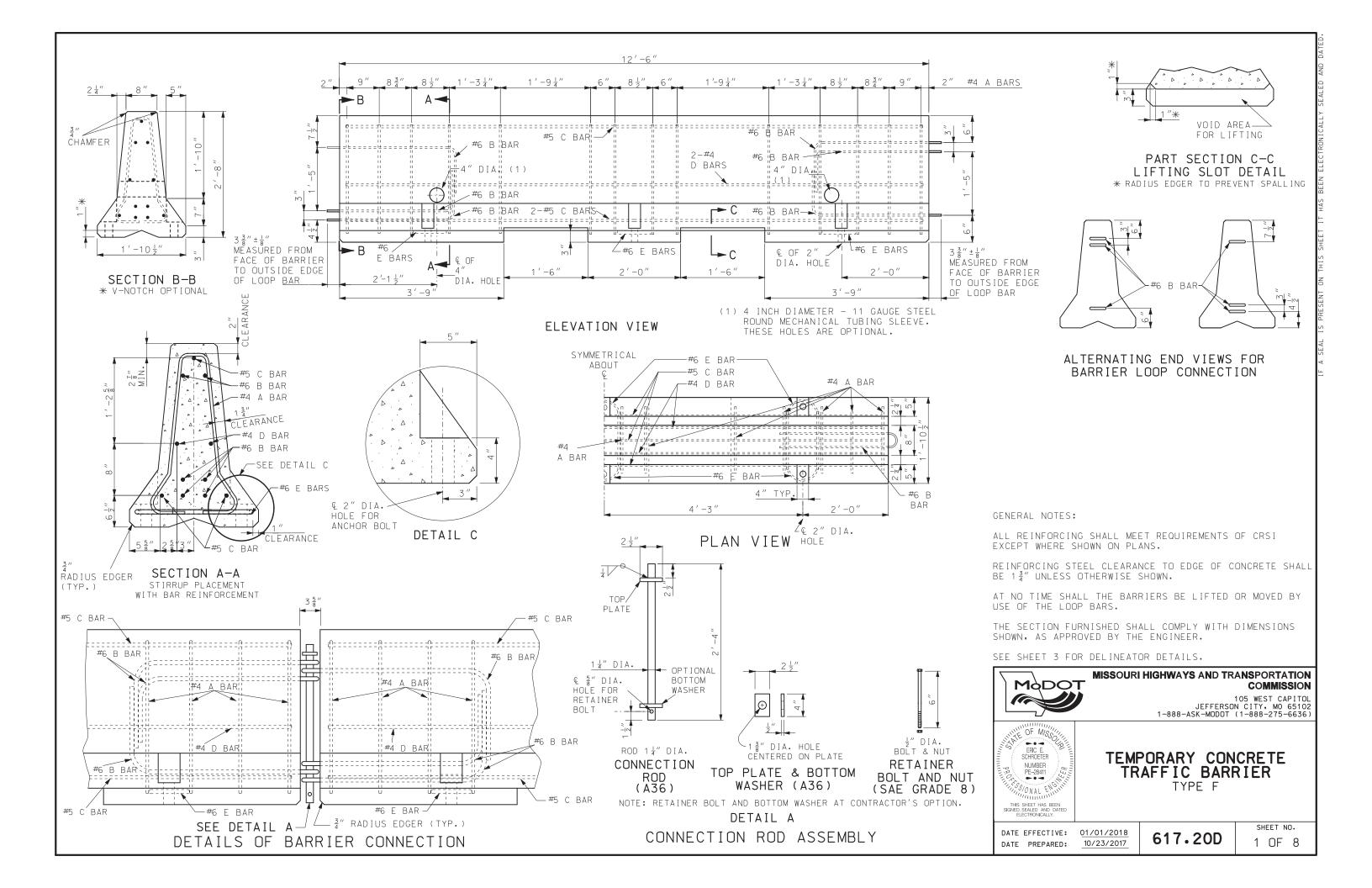
TYPE E ATOP MSE WALL

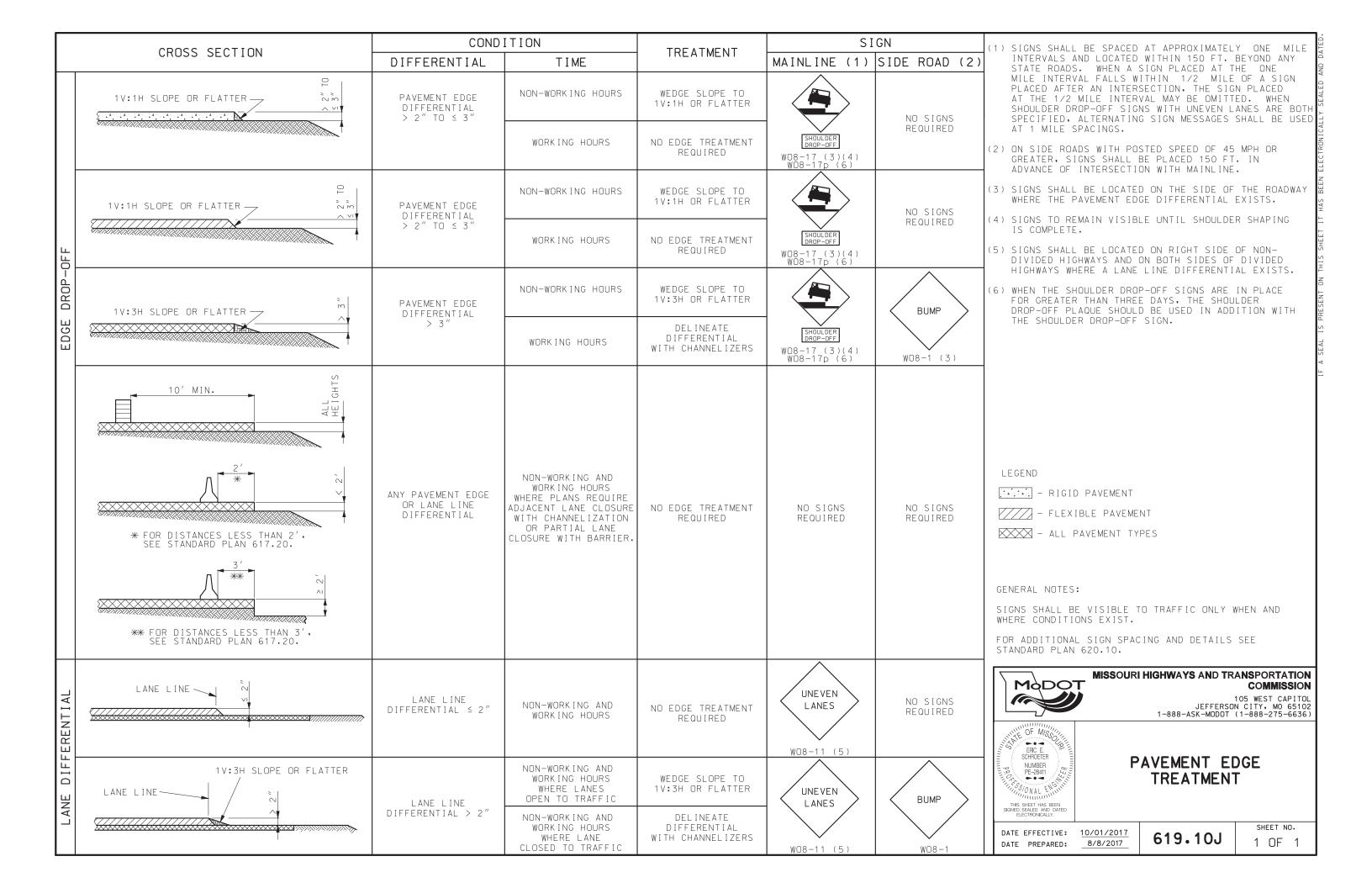
DATE EFFECTIVE:
DATE PREPARED:

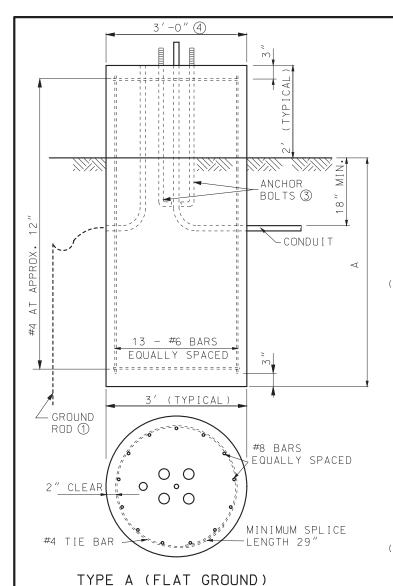
01/01/2018

617.10K

SHEET NO. 110F11

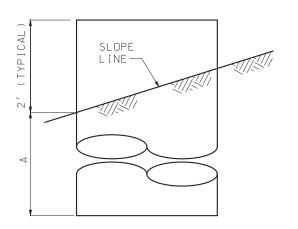






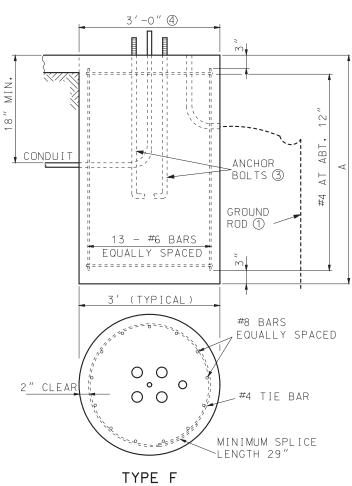
-SLOPE LINE

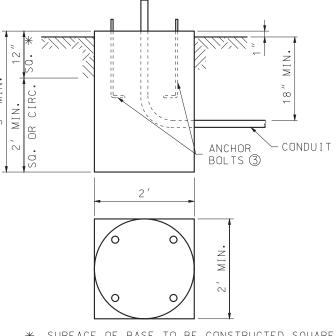
TYPE A (FILL) (FOR ADDITIONAL DETAILS SEE TYPE A FLAT GROUND)



TYPE A (CUT) (FOR ADDITIONAL DETAILS SEE TYPE A FLAT GROUND)

POST BASES





* SURFACE OF BASE TO BE CONSTRUCTED SQUARE FOR A DEPTH OF 12".

TYPE C

- 1) APPLICABLE ONLY WHERE CONTROLLER IS MOUNTED TO A SIGNAL POLE.
- BASE PLATE SHALL STAY WITHIN THE TOP OF THE POST BASE DIAMETER.
- (3) ANCHOR BOLT DIMENSIONS ARE SHOWN ON THE MANUFACTURER'S APPROVED DRAWINGS.
- (4) MAXIMUM BOLT CIRCLE DIAMETER IS 26". BASE PLATE SHALL STAY WITHIN THE TOP OF THE POST BASE DIAMETER.
- (5) ARM LENGTH DETERMINED BY LENGTH OF LONGEST ARM FOR TYPE B & BL SIGNAL POSTS.
- BASE TYPE A OR F DETERMINED BY LOCATION OF POST BASE.
- 7 SOIL DEPTH, NO ROCK.
- (8) WEIGHT INCLUDES #4 TIE BARS.
- (9) WHEN CONCRETE BASE IS LOCATED WITHIN 8" CONCRETE DIVISIONAL ISLAND, EMBEDMENT LENGTH MAY BE REDUCED BY \(\frac{1}{2} \) DIAMETER OF THE DRILLED SHAFT,

	BASE EMBEDMENT IN S	SOLID ROCK
	SOLID ROCK	REQUIRED EMBEDMENT FOR BASE TYPE
	ENCOUNTER POINT	A-10 F-10
ΑТ	SURFACE	4′-9″
ΑТ	ONE-FOURTH NORMAL DEPTH	4′-0″
ΑТ	ONE-HALF NORMAL DEPTH	3′-3″
ΑТ	THREE-FOURTHS NORMAL DEPTH	1'-3"

- . REQUIRED EMBEDMENT DEPTHS CAN BE INTERPOLATED BETWEEN ENCOUNTER POINTS FOR OTHER SOLID ROCK ENCOUNTER DEPTHS.
- 2. NORMAL LENGTHS FOR ANCHOR BOLTS AND REINFORCING STEEL WILL BE REQUIRED.
- 3. CORE DRILL HOLES FOR ANCHOR BOLTS AND REINFORCING STEEL IN SOLID ROCK SHALL BE PROVIDED. CORE DRILL HOLES SHALL BE TWICE THE DIAMETER OF THE ANCHOR BOLT AND REINFORCING STEEL DIAMETER AND TO WITHIN 3 INCHES OF THE NORMAL BASE DEPTH.
- 4. IF SOIL, SHALE, GRAVEL, FRACTURED ROCK, OR VOIDS ARE ENCOUNTERED DURING CORE DRILLING, THE ROCK SHALL BE REMOVED TO THE POINT OF ENCOUNTER.
- ANCHOR BOLTS AND REINFORCING STEEL SHALL BE GROUTED IN THE CORE DRILL HOLES WITH NON-SHRINK GROUT HAVING A MINIMUM STRENGTH OF 9,000 POUNDS IN 24 HOURS.
- STRAIGHT ANCHOR BOLTS OF THE LENGTH SHOWN IN THE ANCHOR BOLT TABLE UNDER THE COLUMN "BOLT LENGTH' ARE ADEQUATE FOR USE IN GROUTED CORE DRILLED

POST BASES						
POST TYPE	ARM LENGTH (FEET) ⑤	BASE TYPE ⑥				
C OR CL	15 - 25	A-9 OR F-9				
C OR CL	30 - 35	A-9.5 OR F-9.5				
C OR CL	40 - 55	A-10.5 OR F-10.5				
B OR BL	15 - 25	A-10 OR F-10				
B OR BL	30 - 35	A-11 OR F-11				
B OR BL	40 - 55	A-12 OR F-12				

STEEL AND CONCRETE REQUIREMENTS FOR POST BASES _③							
	BASES	#6 STEEL BAR		CONC.			
TYPE	A 7	LENGTH	WEIGHT LBS. (8)	C.Y.			
A-9	9′-0″	10′-6″	300	2.88			
A-9.5	9'-6"	11'-0"	310	3.01			
A-10	10′-0″	11′-6″	320	3.14			
A-10.5	10′-6″	12′-0″	330	3.27			
A-11	11'-0"	12′-6″	350	3.40			
A-12	12′-0″	13′-6″	380	3.67			
F-9	9′-0″	8′-6″	240	2.36			
F-9.5	9′-6″	9′-0″	250	2.49			
F-10	10′-0″	9′-6″	270	2.62			
F-10.5	10′-6″	10'-0"	280	2.75			
F-11	11'-0"	10′-6″	300	2.88			
F-12	12′-0″	11′-6″	320	3.14			
C *				0.44			

* SURFACE OF BASE TO BE CONSTRUCTED SQUARE FOR A DEPTH OF 12".

MISSOURI HIGHWAYS AND TRANSPORTATION MODOT COMMISSION 105 WEST CAPITOL

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TRAFFIC SIGNALS

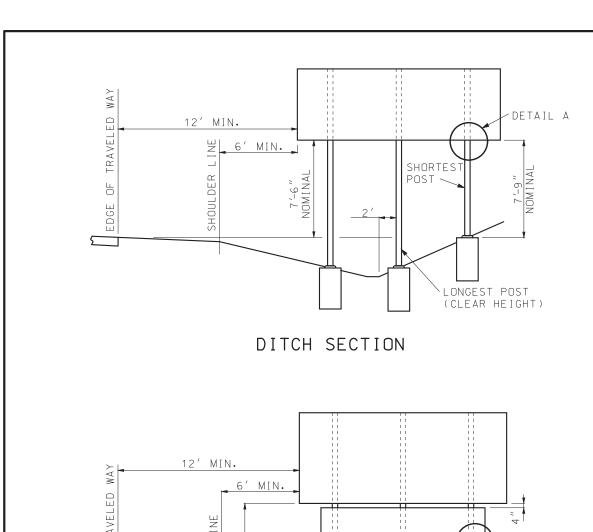
POST BASES

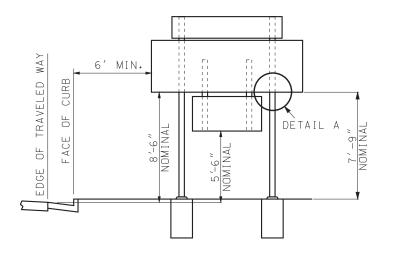
DATE EFFECTIVE: 01/01/2018 DATE PREPARED:

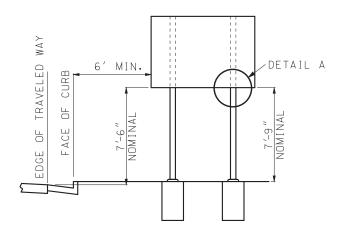
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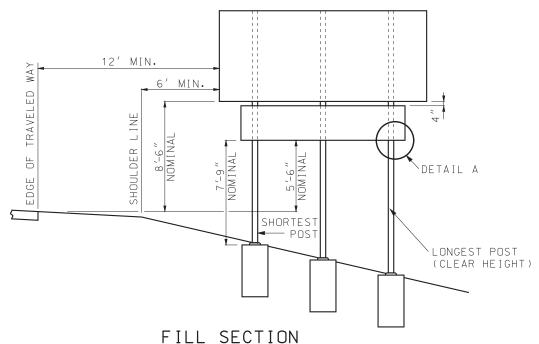
SHEET NO. 1 OF 2

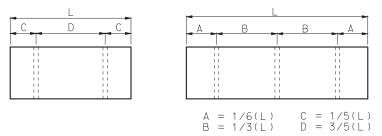






BARRIER CURB SECTIONS





POST SPACING

FOR POST DESIGNS NUMBERS 3, 4, 5 AND 6 HAVING WEIGHTS GREATER THAN 18LBS./FT., POSTS SHALL BE SPACED AT LEAST 7' APART.

FOR POST DESIGNS NUMBERS 1 AND 2, POSTS MAY BE SPACED LESS THAN 7' APART.

DO NOT USE THREE NUMBER 1 OR 2 POSTS FOR L LESS THAN 11'.

FOR L GREATER THAN 11' AND LESS THAN 17', 3 POSTS MAY BE USED DEPENDING ON SOIL CONDITIONS.

FOR L OF 6' TO 17' TYPICALLY USE 2 POSTS.

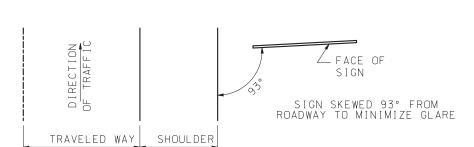
FOR L GREATER THAN 17' TYPICALLY USE 3 POSTS.

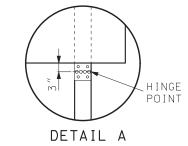
GENERAL NOTES:

FOR GENERAL NOTES, SEE SHEET 1 OF 16.

VERTICAL CLEARANCE FROM THE ROADWAY SHALL BE MET AND INCREASED ONLY TO MEET THE 7'9" MINIMUM VERTICAL CLEARANCE FROM THE GROUND.

POST SIZE IS DETERMINED USING SIGN HEIGHT, SIGN WIDTH AND CLEAR HEIGHT. THE CLEAR HEIGHT IS EQUAL TO THE LENGTH OF THE LONGEST POST MEASURED FROM THE GROUND TO THE BOTTOM OF THE SIGN.





NOTE: SEE SHEET 2 FOR FUSE PLATE DETAILS.

MODOT

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POST INSTALLATION DETAILS

TYPICAL SECTION, MOUNTING HEIGHT AND POST SPACING WIDE FLANGE (WF) POSTS

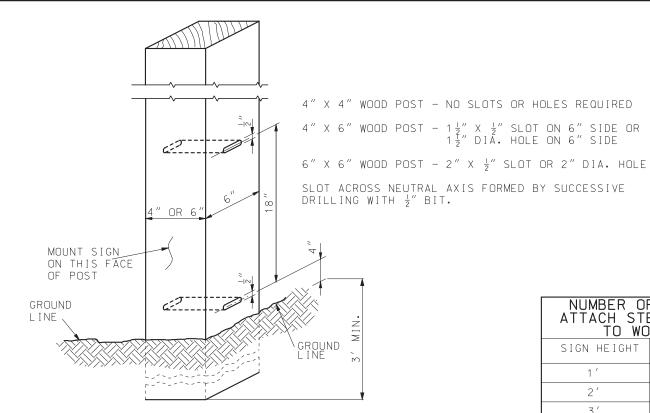
DATE EFFECTIVE: 07/01/2017 DATE PREPARED:

10/23/2017

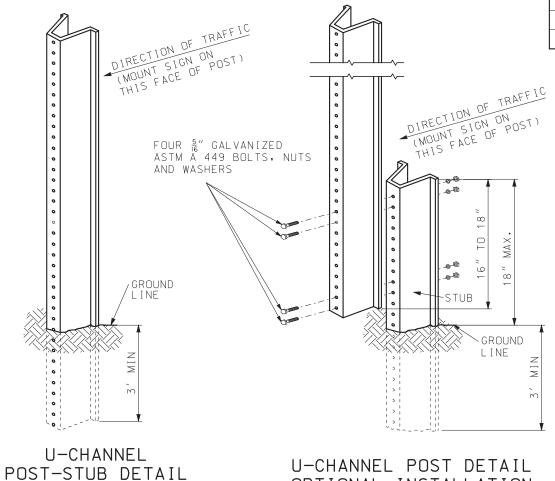
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SHEET NO. 3 OF 16

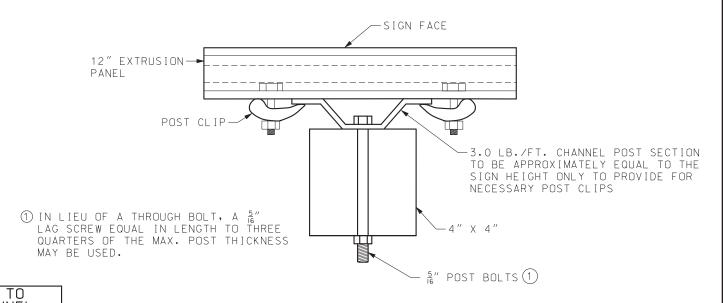
SIGN ORIENTATION



WOOD POST DETAIL



OPTIONAL INSTALLATION



NUMBER OF BOLTS TO ATTACH STEEL CHANNEL TO WOOD POST SIGN HEIGHT NO. OF BOLTS PER WOOD POST USED 2 2′ 3 4 4 ′ 5 5′ 6

6′

1½" DIÁ. HOLE ON 6" SIDE

PLAN VIEW

MOUNTING DETAILS FOR EXTRUDED PANELS ON WOOD POST

NOTES:

FOR GENERAL NOTES, SEE SHEET 1 OF 16.

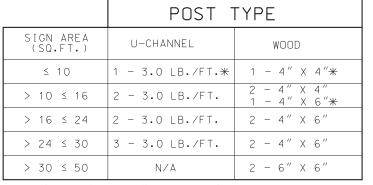
ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 3 FEET INTO THE GROUND.

U-CHANNEL POST-STUB OVERLAP SHALL BE POSITIONED ENTIRELY BETWEEN GROUND LINE AND 18" ABOVE GROUND LINE.

FOR POST SIZING SEE ENGINEERING POLICY GUIDE.

FOR POST CLIP DETAILS, SEE STANDARD PLANS 903.02 SHEET 4 OF 7.

FOR MOUNTING HEIGHT AND OFFSET DETAILS, SEE SHEET 10 OF 16.

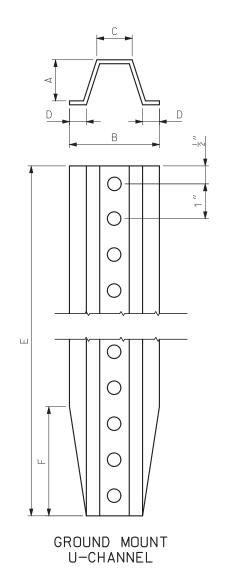


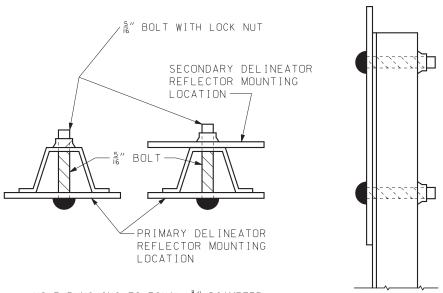
* SIGNS GREATER THAN 4 FEET IN WIDTH REQUIRE TWO POSTS, EXCEPT DIAMOND SHAPED WARNING SIGNS, YIELD SIGNS, AND ONE WAY SIGNS.

POST SIZE REQUIREMENTS

Modo	7		COMMISSION 105 WEST CAPITOL N CITY, MO 65102 (1-888-275-6636)
OF M/SSONAL ERIC E SCHROETER NUMBER PE-28411 THIS SHEET MAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY.		MOUNTING D WOOD AND U-CHANNEL PO	
DATE EFFECTIVE: DATE PREPARED:	01/01/2018 10/23/2017	903.03BL	SHEET NO. 9 OF 16

MISSOURI HIGHWAYS AND TRANSPORTATION





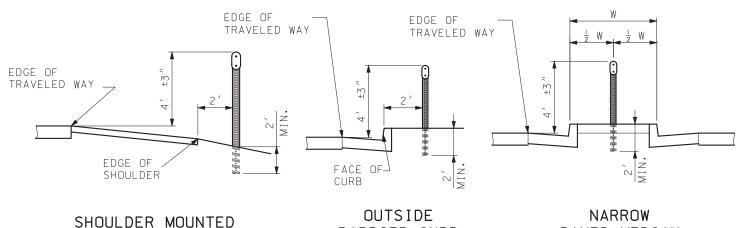
HOLE PUNCHING TO EQUAL $\frac{3}{8}''$ DIAMETER HOLES, ONE INCH CENTER TO CENTER, BEGINNING ONE-HALF INCH FROM THE END AND CONTINUING THE ENTIRE LENGTH OF THE POST.

DELINEATOR POST							
LIMITS	LBS/FT		DII	MENSION	S - INC	HES	F
L I IVI I I 3	(2)	А	В	С	D	E	F
NOMINAL	1.12	1	2 1/4	7/8	<u>3</u> 8	84	1
TOLERANCE	± 5%	± 1/8	± 1/8	± 8	± 8	±1	± 1/4

(2) WEIGHT BEFORE GALVANIZING OR PUNCHING.

THE CHANNEL POST FOR DELINEATORS SHALL BE MANUFACTURED FROM DUCTILE ASTM A 36 OR ASTM A 1011 GR 60.

DELINEATOR POST AND FASTENER DETAILS



DELINEATOR MOUNTING DETAILS

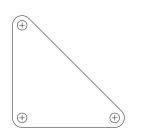
BARRIER CURB

PAVED MEDIAN

CHANNEL POST DELINEATOR REFLECTOR

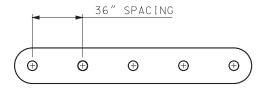
DOUBLE STACKED

SINGLE

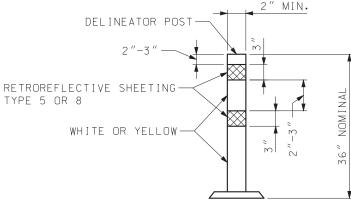


DELINEATOR PLACEMENT LOCATED AT THE RADIUS POINTS

DELINEATOR PLACEMENT FOR ISLANDS



DELINEATOR PLACEMENT FOR MEDIAN STRIPS



36 INCH SURFACE-MOUNT DELINEATOR POST DELINEATOR POST DETAIL

COLOR OF DELINEATOR POST AND REFLECTIVE SHEETING SHALL MATCH THE COLOR OF THE CLOSEST PAVEMENT MARKING OR CURB MARKING.

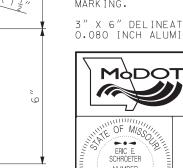
DELINEATOR POST SHAPE MAY BE ROUND OR T-SHAPED. DELINEATOR POST SHALL BE PERMANENTLY MOUNTED TO THE PAVEMENT SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

NOTES:

RETROREFLECTIVE YELLOW, WHITE OR RED SHEETING IN ACCORDANCE WITH ASTM D4956 TYPE 5 OR 8 SHALL BE APPLIED TO ONLY ONE SIDE OF THE DELINEATOR REFLECTOR BODY.

RETROREFLECTIVE SHEETING SHALL FOLLOW GUIDELINES OUTLINED IN SEC 1042.2.7 FOR CORRECT APPLICATION OF SHEETING TO DELINEATOR BODY. THE COLOR OF THE SHEETING SHALL MATCH THE CLOSEST ADJACENT PAVEMENT

 $3\,^{\prime\prime}$ X $6\,^{\prime\prime}$ delineator body shall be made from 0.080 Inch aluminum.



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SIGN MOUNTING DETAILS **DELINEATORS**

DATE EFFECTIVE: 01/01/2018 DATE PREPARED:

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SHEET NO. 11 OF 16