

TRAFFIC OPERATIONS STANDARDS



JANUARY 1979

TRAFFIC OPERATIONS STANDARD INDEXES
FLORIDA DEPARTMENT OF TRANSPORTATION

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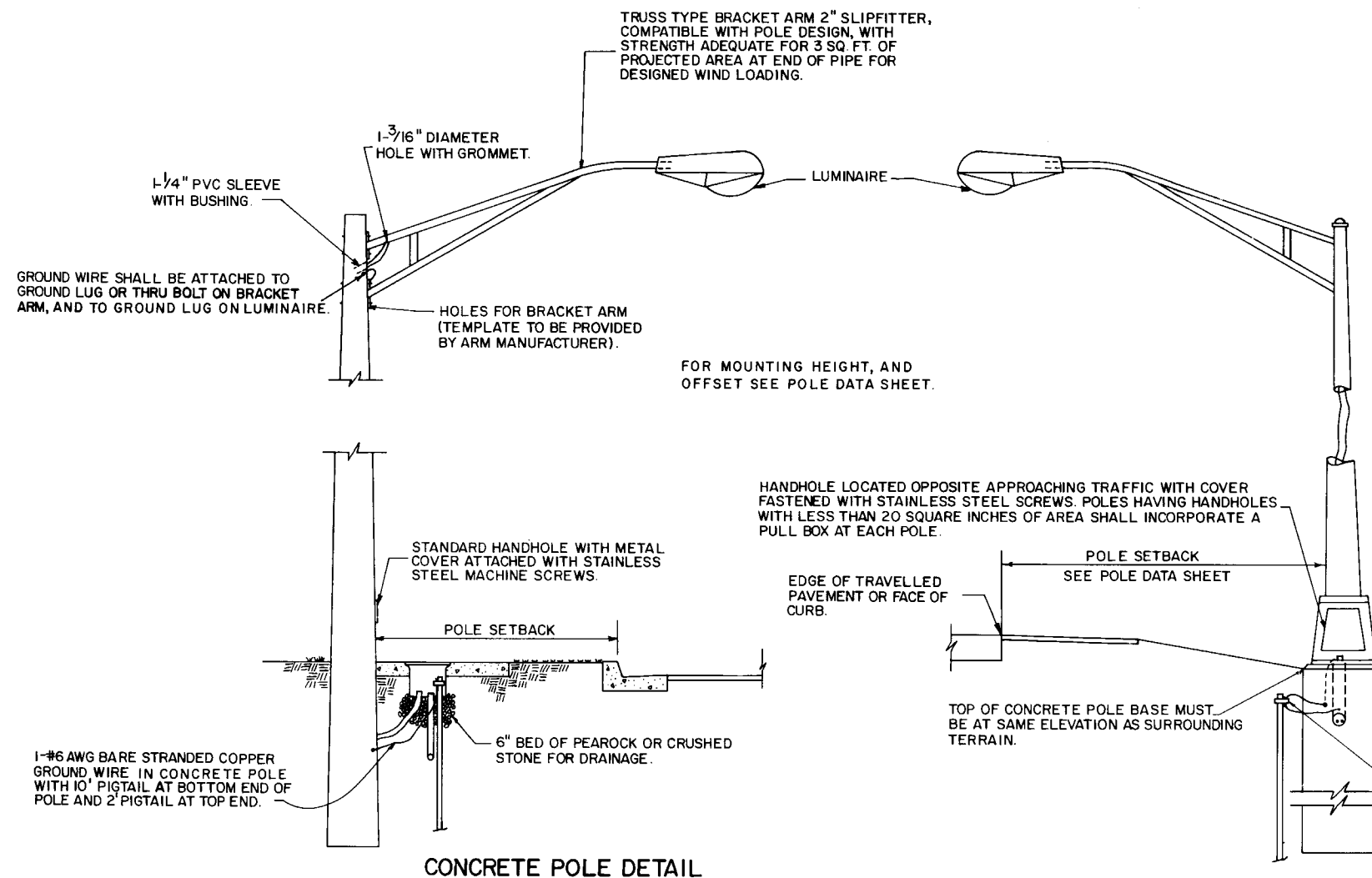
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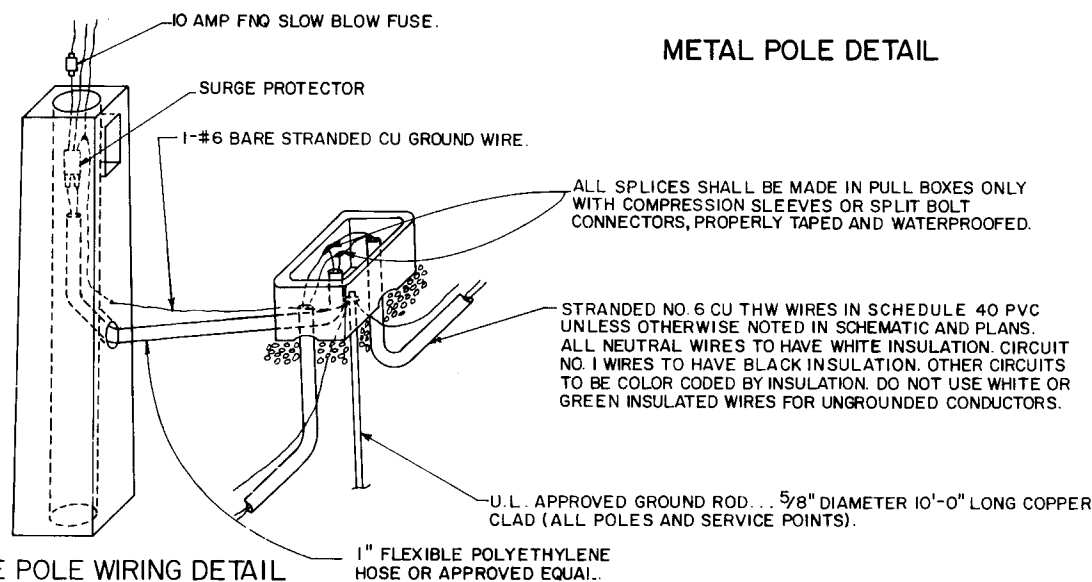
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CONCRETE POLE DETAIL

SURGE PROTECTOR SPECIFICATIONS

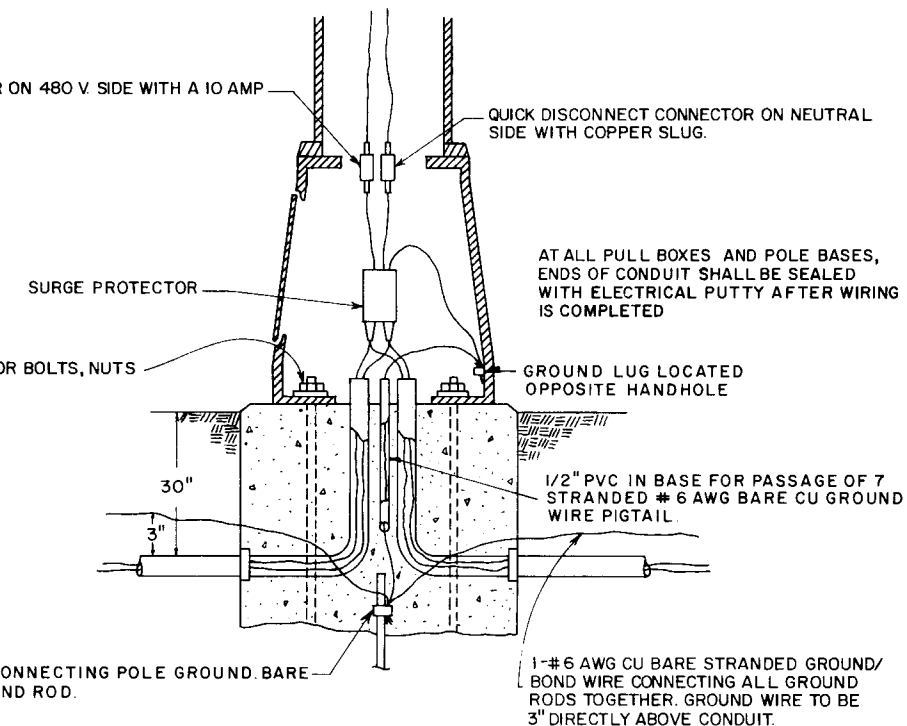
1. THE UNIT SHALL WITHSTAND A SURGE CURRENT UP TO 20,000 AMPS, AND REPETITIVE SURGES OF 200 AMPS FOR A MINIMUM OF 10,000 OCCURRENCES.
2. THE UNIT SHALL RESPOND IN LESS THAN 50 NANoseconds AND WITHIN THIS TIME HAVE A PEAK CLAMPING VOLTAGE BETTER THAN 1,100 Vrms.
3. THE MAXIMUM ALLOWABLE VOLTAGE THAT CAN PASS CONTINUOUSLY THROUGH THE HOT LEG OF THE PROTECTOR MUST BE LESS THAN 550 Vrms.
4. THE CURRENT DRAIN SHALL BE LESS THAN 100 MICROAMPS.
5. THE UNIT SHALL BE INSULATED 600 V. TO GROUND AND SHALL BE WEATHERPROOF.
6. THE UNIT SHALL NOT ALLOW HOLDOVER CURRENT OR CONDUCTION TO GROUND AFTER THE SURGE ENDS.
7. PROTECTION SHALL BE ACHIEVED FOR BOTH THE 480V. AND NEUTRAL CONDUCTORS WITH THE SURGES BEING PASSED TO GROUND AND NOT TO NEUTRAL.
8. THERE SHALL BE NO DISCHARGE LAG IN THE PROTECTION OF THE 480V. CONDUCTOR OVER THE NEUTRAL CONDUCTOR.
9. UNDERWRITERS LABORATORY APPROVAL NOT REQUIRED.



CONCRETE POLE WIRING DETAIL

METAL POLE DETAIL

QUICK DISCONNECT CONNECTOR ON 480 V. SIDE WITH A 10 AMP FNO SLOW BLOW FUSE.



METAL POLE WIRING DETAIL

NOTES:

- 1) ALLOW ENOUGH SLACK IN ALL WIRES TO ALLOW FUSE HOLDERS, SURGE PROTECTORS AND SPLICES TO BE HANDLED ONE FOOT OUTSIDE POLE OR PULL BOX.
- 2) A PULL BOX SHALL BE INSTALLED AT EACH CONCRETE POLE LOCATION.
- 3) ALL MOUNTING HEIGHTS ARE $\pm 2\frac{1}{2}$ FT. UNLESS OTHERWISE NOTED IN PLANS.

APPROVED BY FHWA II-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION

CONVENTIONAL POLE DETAILS

DATE	REVISIONS	INITIALS	DATES	Recommended for approval by	DRAWING NO.	INDEX NO.
		Designed by	G. K.	8-78	by <i>HC Price</i>	1 OF 1
		Checked by			Deputy Traffic Operations Engr.	
		Quantities by			Approved by <i>R.E. Magaley</i>	
		Checked by			State Traffic Operations Engr.	
		Supervised by	LESTER JONES			17500

- 1) GROUND RODS SHALL HAVE A RESISTANCE TO GROUND NOT TO EXCEED 25 OHMS. WHERE THE RESISTANCE IS NOT AS LOW AS 25 OHMS, TWO OR MORE GROUND RODS CONNECTED IN PARALLEL SHALL BE USED. CONTRACTOR SHALL HAVE NECESSARY TEST EQUIPMENT (CURRENT CALIBRATION CERTIFICATE REQUIRED) AT FINAL INSPECTION TO INSURE ACCEPTABILITY OF GROUNDING SYSTEM.
- 2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES PRIOR TO ANY UNDERGROUND WORK. THE UTILITY COMPANY WILL LOCATE AND IDENTIFY THEIR FACILITIES.
- 3) CONTRACTOR SHALL DETERMINE THE SERVICE REQUIRED DATE FOR THE POWER COMPANY TRANSFORMER INSTALLATION AT THE PRE-CONSTRUCTION CONFERENCE.
- 4) THE POWER COMPANY RESERVES THE RIGHT TO INSTALL THE RISER, SWITCH GEAR AND WEATHERHEAD ON POWER COMPANY POLES AT THE EXPENSE OF THE CONTRACTOR. CONTACT THE POWER COMPANY FOR COST OR FOR AUTHORIZATION FOR AN ALTERNATE PROCEDURE.
- 5) ANY DAMAGED PORTIONS OF GALVANIZED STEEL POLES AND BRACKET ARMS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 562 OF THE STANDARD SPECIFICATIONS.
- 6) POLES, BRACKET ARMS AND FRANGIBLE DEVICES SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA, AS INDICATED IN THE PLANS AND USING THE APPLICABLE EQUATIONS FOUND IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" PUBLISHED BY A. A. S. H. T. O. DATED 1975.
- 7) THE LUMINAIRE MANUFACTURER SHALL PLACE A PERMANENT TAG ON THE LUMINAIRE HOUSING ON WHICH IS IMPRINTED THE FOLLOWING INFORMATION: WATTAGE, BALLAST TYPE, LAMP SHOWN ON DESIGN PLANS, LAMP SETTING (POSITION IN LUMINAIRE), LIES LIGHT DISTRIBUTION WITH THIS LAMP IN THE POSITION SPECIFIED, INPUT VOLTAGE AND POWER FACTOR. LUMINAIRE PHOTOMETRIC SUBMITTALS REQUIRED.
- 8) BEFORE FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE 2 SETS OF FULL SIZE AS BUILT PLANS TO THE MAINTAINING AGENCY.
- 9) CONDUIT ROUTING SHALL BE POLE TO POLE, MAINTAINING POLE SETBACK DISTANCE FROM EDGE OF PAVEMENT. ANY CABLE ROUTING IN LOCATIONS WHERE GUARDRAIL IS PROPOSED SHALL BE 2'-0" IN FRONT OF THE STANDARD GUARDRAIL POSITION.
- 10) POLE POSITIONS AND CONDUIT ROUTING MAY BE ADJUSTED, AS APPROVED BY THE ENGINEER, TO PREVENT CONFLICTS WITH UTILITY AND DRAINAGE STRUCTURES NOT INDICATED, AND PREVENT GUARDRAIL POST CONFLICT WITH UNDERGROUND LIGHTING CIRCUITS.
- 11) WHERE GUARDRAIL IS CONSTRUCTED, THE POLES SHALL BE PLACED A MINIMUM OF 4' BEHIND THE FACE OF GUARDRAIL.
- 12) POLE FOUNDATION INSTALLATIONS SHALL BE BACKFILLED AND COMPACTED TO A FIRM, STABLE CONDITION APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL. THE FILL SHALL CONFORM TO EXISTING GRADE AND FULLY SODDED.

- 13) THE WIRES AT THE POLE HANDHOLE AND PULL BOXES SHALL BE LOOPED UP IN THE POLE AND PULL BOXES WITH SUFFICIENT LENGTH TO COMPLETELY REMOVE CONNECTORS TO THE OUTSIDE OF HANDHOLE AND PULL BOXES TO MAKE CONNECTORS ACCESSIBLE FOR CHANGING FUSES AND TROUBLE SHOOTING THE SYSTEM.
- 14) NEUTRAL WIRES TO HAVE WHITE INSULATION. CIRCUIT NO I WIRE TO HAVE BLACK INSULATION. OTHER CIRCUITS TO BE COLOR CODED BY INSULATION. DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNGROUNDED CONDUCTORS.
- 15) UNLESS OTHERWISE SPECIFIED, ALL CABLE SHALL BE SINGLE CONDUCTOR, 98 PERCENT CONDUCTIVITY STRANDED COPPER, WITH THW INSULATION.
- 16) ALL SPLICES SHALL BE MADE IN PULL BOXES OR THE POLE BASE. NO SPLICES SHALL BE MADE INSIDE THE CONDUIT.
- 17) ALL EXPOSED OR SURFACED MOUNTED CONDUIT SHALL BE RIGID GALVANIZED. THESE EXPOSED RUNS OF CONDUIT SHALL BE PROVIDED WITH EITHER EXPANSION JOINTS OR FLEXIBLE STEEL CONDUIT SECTIONS ADEQUATE TO TAKE CARE OF VIBRATIONS AND THERMAL EXPANSIONS. ALL GALVANIZED CONDUIT SHALL BE GROUNDED.
- 18) ALL CONDUIT THAT WILL REMAIN EMPTY AS SPARES SHALL BE MANDREL TESTED, CLEANED INSIDE AND BOTH ENDS CAPPED. LEAVE THE CORROSION RESISTANT PULL/DRAW WIRE AND PLACE DUCT MARKERS, OR PULL BOXES TO MARK THE LOCATION OF THE ENDS OF THE CONDUIT.
- 19) LOCATE BOXES TO INDICATE ENDS OF DUCT AT ROADWAY CROSSINGS.
- 20) THESE PLANS REPRESENT MINIMUM ACCEPTABLE CRITERIA. THE INSPECTION PER THESE DRAWINGS REPRESENT THE MINIMUM BASE OF ACCEPTANCE.
- 21) ALL MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNDERWRITERS LABORATORY APPROVED.
- 22) PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, EQUIPMENT SPECIFICATIONS OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT AND MUST INCLUDE SPECIFICALLY:

A) LUMINAIRE PHOTOMETRICS
B) POLE STRENGTH CALCULATIONS
C) POLE FRANGIBILITY TEST RESULTS
D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
- 23) SEVEN (7) COPIES OF SHOP DRAWINGS AND DESIGN DATA FOR HIGHWAY LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE STATE TRAFFIC OPERATIONS ENGINEER AT THE FOLLOWING ADDRESS WITH A COPY OF THE SUBMITTAL LETTER SENT TO THE DEPARTMENTS RESIDENT CONSTRUCTION ENGINEER IN CHARGE OF THE PROJECT.

STATE TRAFFIC OPERATIONS ENGINEER
DEPARTMENT OF TRANSPORTATION
HAYDON BURNS BUILDING, ROOM 345
TALLAHASSEE, FLORIDA 32304

BREAKAWAY FEATURE

ALL CONVENTIONAL MOUNTING HEIGHT POLES SHALL BE MOUNTED ON A FRANGIBLE METAL BASE OR SYSTEM OF BREAKAWAY COUPLINGS. IF COUPLINGS ARE USED, ONE COUPLING SHALL BE PROVIDED FOR EACH ANCHOR BOLT CONNECTION. THE ONLY CONTINUOUS CONNECTION OF THE POLE TO THE FOUNDATION AT EACH ANCHOR BOLT SHALL BE PROVIDED BY THE COUPLINGS. THE AREA BETWEEN THE TOP OF THE POLE FOUNDATION AND THE BASE OF THE POLE INCLUDING THE COUPLINGS SHALL BE ENCLOSED WITH A NON-STRUCTURAL ALUMINUM SKIRT.

IF A FRANGIBLE METAL BASE IS USED, IT SHALL BE ONE PIECE AND BE DESIGNED TO BREAKAWAY WITHOUT THE AID OF ANY SLIPPING OR SLIDING SURFACES.

THE DESIGN OF THE BREAKAWAY FEATURE SHALL BE IN ACCORDANCE WITH THE BREAKAWAY PERFORMANCE REQUIREMENTS OF SECTION 7, "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", A. A. S. H. T. O., COPYRIGHT 1975. THE CONTRACTOR (SUPPLIER) SHALL SUBMIT WITH EQUIPMENT SUBMITTALS, COPIES OF TEST REPORTS AS EVIDENCE THAT THE BREAKAWAY FEATURE HAS UNDERGONE FULL SCALE DYNAMIC TESTING WITH A CHANGE IN MOMENTUM OF 750 POUND-SECONDS OR LESS AND CALCULATIONS TO VERIFY THE DESIGN WILL MEET A. A. S. H. T. O. WIND LOADINGS SPECIFIED IN THE CONTRACT PLANS. NO POLES ARE TO BE INSTALLED PRIOR TO DEPARTMENT APPROVAL OF THE SUBMITTAL DATA.

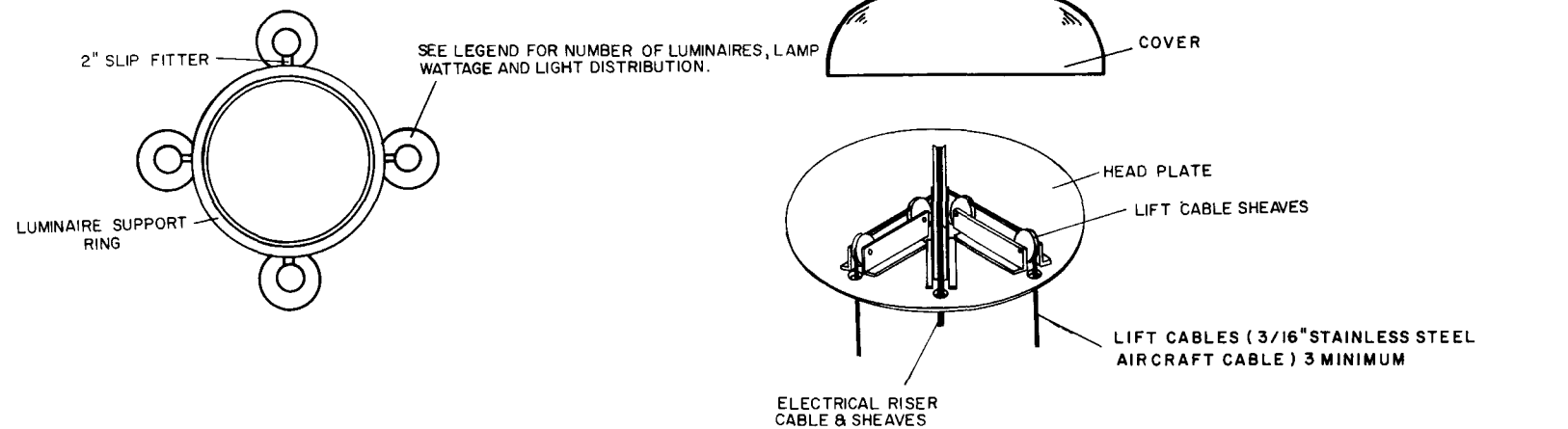
POLES MOUNTED ON BARRIER WALL OR BEHIND BRIDGE RAIL ARE EXEMPT FROM THE ABOVE FRANGIBILITY REQUIREMENTS.

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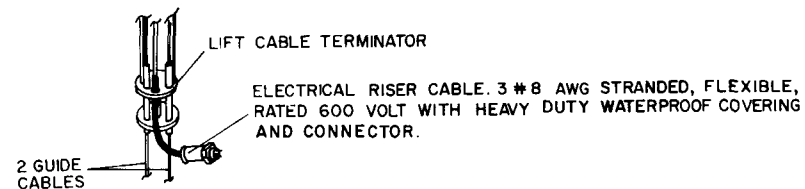
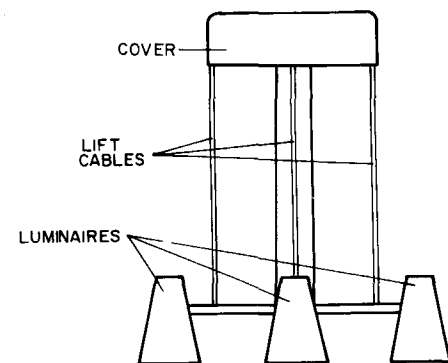
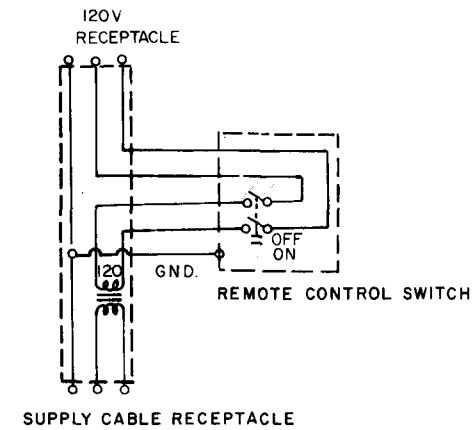
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

HIGHWAY LIGHTING GENERAL NOTES

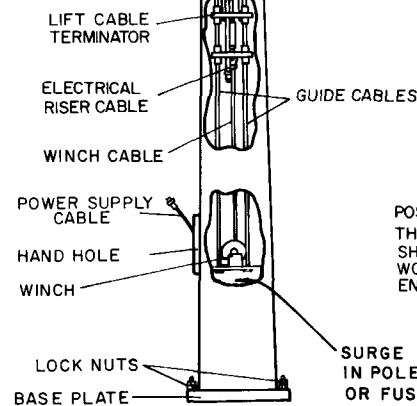
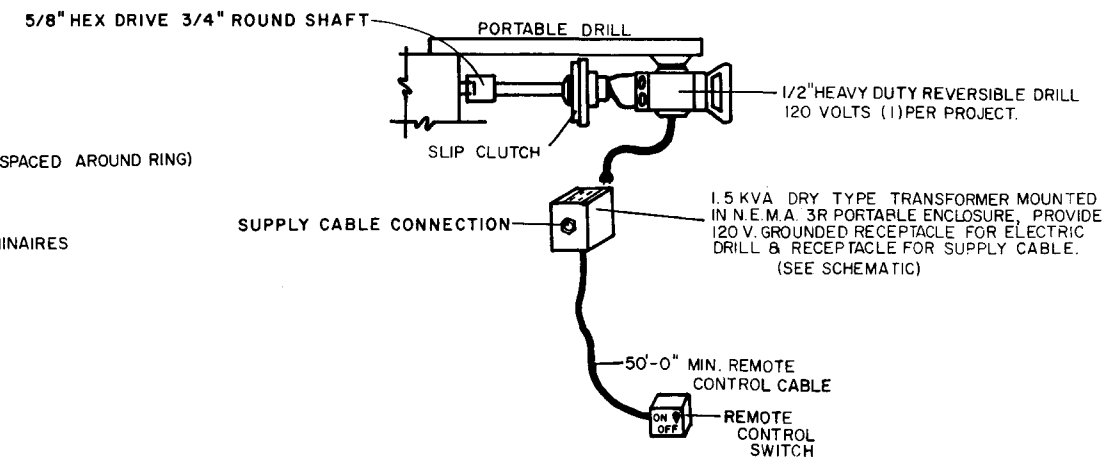
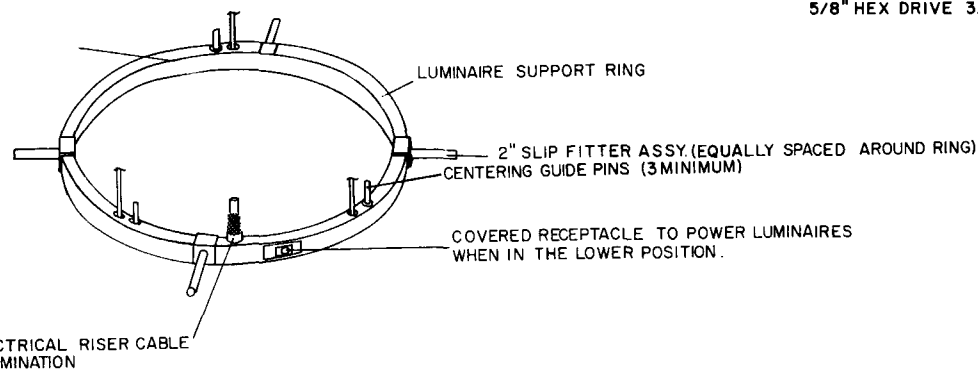
DATE	REVISIONS		INITIALS	DATES	Recommended for approval by		
		Designed by	G. K.	4-25-78	by <i>D.C. Price</i>	Deputy Traffic Operations Engr.	
		Checked by			Approved by		
		Quantities by			by <i>R.E. Maguire</i>	State Traffic Operations Engr.	
		Checked by					
		Supervised by	LESTER JONES		DRAWING NO.	INDEX NO.	
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SCHEMATIC OF REMOTE AUXILIARY POWER UNIT

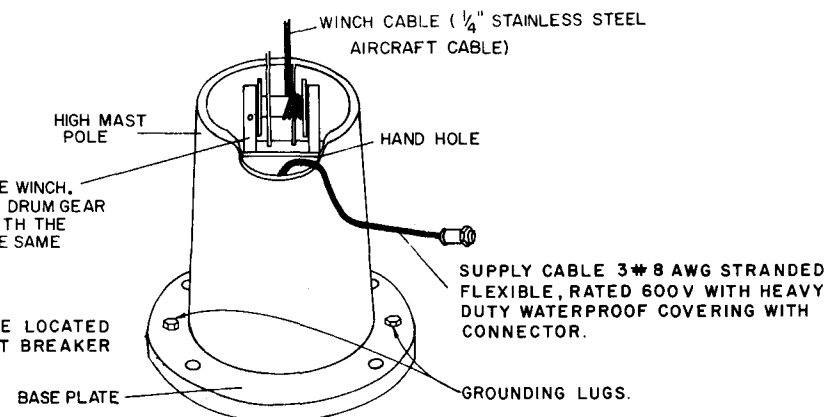


SPRING SUPPORTED CENTERING ARMS PROVIDED TO CENTER THE LUMINAIRE RING.



POSITIVE DRIVE REVERSIBLE WINCH. THE COMPLETE ENCLOSED DRUM GEAR SHALL DIRECTLY MESH WITH THE WORM GEAR TRAIN, IN THE SAME ENCLOSURE.

SURGE PROTECTOR SHALL BE LOCATED IN POLE WITH EITHER CIRCUIT BREAKER OR FUSE.



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FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

HIGHMAST LIGHTING DETAILS

REVISIONS			INITIALS	DATES	Recommended for approval by <i>R.C. Price</i>	
DATE	INITIALS	DESCRIPTION	Designed by		Deputy Traffic Operations Eng.	
			Checked by		Approved by <i>R.L. Magadey</i>	
			Quantities by		State Traffic Operations Eng.	
			Checked by			
			Supervised by	LESTER JONES	DRAWING NO. 1 OF 3	INDEX NO. 17502

LUMINAIRE SPECIFICATIONS

THE REFLECTOR WITH ITS ALUMINUM COVER SHALL BE FIRMLY ATTACHED TO A CAST RING. THIS RING SHALL HAVE KEYHOLE SLOTS IN ITS UPPER SURFACE SUCH THAT THE REFLECTOR/REFRACTOR ASSEMBLY MAY BE READILY ATTACHED TO, OR DETACHED FROM, THE LUMINAIRE BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY WITHOUT COMPLETELY REMOVING THE SUPPORT BOLTS.

EACH LUMINAIRE SHALL CONTAIN AN INTEGRAL CONSTANT WATTAGE AUTO-REGULATOR TYPE BALLAST CONNECTED FOR 480 VOLTS INPUT \pm 10% AND A POWER FACTOR OF MORE THAN 90%. THE LUMINAIRE BALLAST SHALL BE ENCLOSED WITHIN AN ALUMINUM HOUSING WHICH INTEGRALLY ATTACHES TO THE LUMINAIRE BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY. IT SHALL BE READILY REMOVEABLE WITHOUT REMOVING THE LUMINAIRE FROM THE BRACKET ARM.

THE LUMINAIRE SHALL BE ATTACHED TO THE BRACKET ARM BY MEANS OF A BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY. THE ASSEMBLY SHALL INCLUDE A SIDE ENTRY SLIPFITTER DESIGNED FOR TWO (2) INCH PIPE WITH PROVISION FOR 3° ADJUSTMENT FOR LEVELING THE LUMINAIRE. AN ENCLOSED TERMINAL BLOCK SHALL BE INCLUDED SUCH THAT ALL ELECTRICAL CONNECTIONS SHALL BE PROTECTED FROM EXPOSURE TO WEATHER.

ALL ELECTRICAL CONNECTIONS SHALL BE MADE WATERPROOF OR BE MADE INSIDE A WEATHER RESISTANT ENCLOSURE. ALL LUMINAIRES SHALL BE ANSI/IES LIGHT DISTRIBUTION AS INDICATED IN PLANS. EACH LUMINAIRE SHALL BE LABELED WITH A PERMANENT LABEL WHICH STATES THE TYPE OF LAMP, VOLTAGE INPUT, POWER INPUT, POWER FACTOR, BALLAST TYPE, SOCKET POSITION, ANSI/IES LIGHT DISTRIBUTION, AND SUCH OTHER CATALOG INFORMATION THAT A COMPLETE REPLACEMENT CAN BE READILY ORDERED.

THE CONTRACTORS ATTENTION IS DIRECTED TO THOSE PLAN SHEETS DETAILING THE MOUNTING OF LUMINAIRES AT THE POLE TOP. PARTICULAR ATTENTION IS DIRECTED TO ALIGNMENT OF LUMINAIRE LIGHT DISTRIBUTIONS. SPECIAL ATTENTION MUST BE EXERCISED IN THE PHYSICAL ALIGNMENT OF THESE LUMINAIRES TO INSURE THAT THE APPROVED PHOTOMETRIC LAYOUT IS PHYSICALLY PRODUCED AT EACH LIGHTING STANDARD IN THE FIELD. A MARKING SHALL BE PLACED ON THE EXTERNAL FACE OF THE REFRACTOR TO IMPLEMENT VISUAL INSPECTION OF ALIGNMENT. THE MARKING SHALL CORRESPOND TO THE 0° AXIS OF THE REFRACTOR. THE MARKING SHALL CONSIST OF A 1 INCH SQUARE PERMANENT BRIGHT RED IDENTIFICATION LOCATED ON THE REFRACTOR TO BE READILY VIEWED FROM THE GROUND WHILE LEAST AFFECTING THE LUMINAIRES LIGHT DISTRIBUTION. IT IS ANTICIPATED THAT VIEWING WILL BE ACCOMPLISHED BY AN INSPECTOR EMPLOYING FIELD GLASSES. ALTERNATE METHODS OF MARKING WILL BE CONSIDERED FOR APPROVAL PROVIDED THAT EASE IN CONFIRMING REFRACTOR ALIGNMENT IS FACILITATED.

FOOTING

THE HIGH MAST FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS.

ANCHOR BOLTS PER MANUFACTURERS SPECIFICATIONS. SUBMITTALS SHALL BE SUPPLIED TO THE LIGHTING ENGINEER PRIOR TO PURCHASE.

ONE LEVELING NUT, ONE HOLD-DOWN NUT, AND ONE LOCKING/JAM NUT SHALL BE SUPPLIED PER ANCHOR BOLT. ALL SMALL METAL PARTS, (NUTS, SCREWS, WASHERS, ETC.) SHALL BE RUSTPROOFED EITHER BY GALVANIZING PER ASTM A-143 OR BY THE NATURE OF THE MATERIAL USED IN THEIR FABRICATION.

LOWERING SYSTEM SPECIFICATIONS

THE LOWERING SYSTEM SHALL CONSIST OF THE FOLLOWING:

- A. HEAD FRAME AND COVER
- B. LUMINAIRE RING
- C. CABLES
- D. WINCH
- E. PORTABLE POWER UNIT (1 PER PROJECT)

THE HEAD FRAME UNIT SHALL RIGIDLY MATE THE TOP OF THE POLE TO THE HEAD FRAME PLATFORM. THIS PLATFORM WITH ITS ASSOCIATED SHEAVES, ETC. SHALL BE COVERED AND RAIN TIGHT. THE HEAD FRAME STRUCTURE SHALL BE ZINC COATED STEEL, ATTACHED TO THE POLE BY MEANS OF A STEEL SLIPFITTER. HEAD FRAME SHALL ENCOMPASS SIX FIVE (5) INCH NOMINAL STEEL CABLE SHEAVES GROOVED TO THE EXACT CABLE DIAMETER, FOR 180° CABLE BEARING SURFACE. THE SHEAVE SHALL BE ZINC ELECTROPLATED TO ASTM 164 AND DIPPED IN YELLOW CHROMATE FOR CORROSION RESISTANCE. BEARINGS AND CABLE KEEPERS SHALL HAVE PERMANENT LUBRICATION. THREE (3) STAINLESS STEEL 7 X 19 AIRCRAFT CABLES OF 3/16 INCH OR GREATER DIAMETER SHALL BE PROVIDED.

THE POWER RISER CABLE SHALL BE ATTACHED TO THE LUMINAIRE RING WITH A WATERPROOF CONNECTOR CAPABLE OF WITHSTANDING THE PULL OF THE WEIGHT OF THE POWER RISER CABLE. WHERE THE WIRE ROPES ARE REQUIRED TO BEND OVER SHEAVES OR OVER THE WINCH DRUM, THE MAXIMUM WORKING STRESS IN THE OUTER FIBERS OF WIRE ROPE SHALL NOT EXCEED ONE FIFTH (1/5) THE WIRE ROPE MANUFACTURER'S RATED ULTIMATE STRESS. SUBMITTALS MUST BE PROVIDED TO THE STATE LIGHTING ENGINEER WHICH CLEARLY STATE THE WIRE ROPE ULTIMATE STRESS. DRUM DESIGN SHALL CAUSE LEVEL WIND OF WIRE ROPE. THE POWER CORD SHALL TRAVEL ON SHEAVE(S) OR A COMBINATION OF ROLLERS PROVIDING A RADIUS FOR THE CORD OF SIX (6) INCHES OR LARGER. EACH END OF THE SHEAVE(S) OR ROLLERS SHALL HAVE A KEEPER TO PREVENT THE CABLE FROM JUMPING OUT OF THE ROLLER TRACK.

THE HEAD FRAME SHALL ALSO INCLUDE THREE (3) LATCHING DEVICES TO SUPPORT THE LUMINAIRE RING ASSEMBLY WHEN THE LOWERING DEVICE IS NOT IN OPERATION. THE LATCHES SHALL BE ACTUATED BY ALTERNATE RAISING AND LOWERING OF THE HOISTING CABLES. LOCKING OF LUMINAIRE RING SHALL BE SIGNALLED BY INDICATORS VISIBLE FROM GROUND. ALL MOVING PARTS OF THE LATCH MECHANISM SHALL BE SERVICEABLE FROM THE GROUND. EACH OF THE THREE LATCHES SHALL BE STRONG ENOUGH, BY ITSELF, TO SUPPORT TWICE THE WEIGHT OF THE RING AND ALL THE LUMINAIRES. LATCHING MECHANISMS WHICH DEPEND PRIMARILY UPON SPRING OPERATION OR CONTAIN DISSIMILAR METALS ARE NOT ACCEPTABLE. THE LATCHING MECHANISM SHALL NOT REQUIRE ADJUSTMENT AFTER THE ORIGINAL INSTALLATION.

THE LUMINAIRE RING SHALL BE CONSTRUCTED OF A MINIMUM OF 6" X 2" X 7 GAUGE HOT DIPPED GALVANIZED ASTM 386 CLASS "B" STEEL CHANNEL WITH THE APPROPRIATE NUMBER OF TWO (2) INCH STEEL PIPE MOUNTING ARMS. THE LUMINAIRE RING SHALL BE PREWIRED WITH TYPE "W" OR SPECIALLY REINFORCED TYPE "SO" POWER CABLE WITH SUITABLE CONDUCTOR QUANTITY AND SIZE FOR PROPER OPERATION AND TYPE "ST" DISTRIBUTION WIRING WITH INSULATION SUITABLE FOR AT LEAST 105° C. ALL POWER CABLES SHOULD BE ATTACHED TO THE ALUMINUM WEATHER TIGHT WIRING CHAMBER WITH WEATHER TIGHT CABLE CONNECTORS. A 600 VOLT TERMINAL BLOCK, COMPLETELY PREWIRED SHALL BE INCLUDED IN THE WEATHER TIGHT WIRING CHAMBER. A WEATHER-TIGHT TWISTLOCK POWER INLET SHALL BE PROVIDED ON THE LUMINAIRE RING TO ALLOW TESTING OF THE LUMINAIRE WHILE IN THE LOWERED POSITION. THE POWER INLET SHALL FACE AWAY FROM THE POLE FOR EASY ACCESS.

THE ULTIMATE SUPPORT OF THE LUMINAIRE RING SHALL NOT BE DEPENDENT UPON THE LOWERING AND RAISING CABLES.

THE SYSTEM SHALL BE PROVIDED WITH CIRCUIT-BREAKER SWITCHES AND TWISTLOCK DISCONNECTS IN THE POLE BASE. RAISING SPEED OF LUMINAIRE RING SHALL BE A MINIMUM OF TWELVE (12) FEET PER MINUTE.

THE WINCH SHALL BE A REVERSIBLE WORM GEAR SELF LOCKING TYPE WITH AN INTEGRAL FRICTION DRAG BRAKE TO PREVENT FREESPOOLING. THE WINCH SHALL BE DESIGNED FOR HAND OPERATION OR FOR OPERATION BY MEANS OF A 1/2" HEAVY DUTY REVERSING ELECTRIC DRILL MOTOR, REMOTE CONTROLLED TO ENABLE THE OPERATOR TO STAND FIFTY (50) FEET FROM THE POLE. STAINLESS STEEL 7 X 19 AIRCRAFT CABLES OF 1/4 INCH OR GREATER DIAMETER EQUAL TO MIL-W-5424 SHALL BE SUPPLIED ON THE WINCH. THE WINCH SHALL BE PROVIDED WITH KEEPERS ABOVE THE DRUM TO FORCE THE CABLE AWAY FROM THE ENDS OF THE DRUM FOR SPOOLING. THE DRUM SHALL HAVE A WIRE GUARD TO PREVENT THE CABLE FROM COMING OFF.

THE WINCH SHALL BE MOUNTED IN SUCH A WAY THAT THE CABLE TERMINATOR AND THE RISER CABLE CONNECTOR MAY BE REACHED AND WORKED ON BY A PERSON WITH HIS ARM THROUGH THE HANDHOLE.

ROLLER CONTACT SPRING-LOADED CENTERING ARMS SHALL BE PROVIDED TO CENTER THE LUMINAIRE RING WHILE ASCENDING OR DESCENDING THE POLE. THE ROLLERS FOR THE CENTERING ARM SHALL BE MADE OF A WATER RESISTANT NON-MARKING COMPOSITION MATERIAL. ALL SHAFTS AND WASHERS SHALL BE #304 STAINLESS STEEL. THE SPRING-LOADING MECHANISM SHALL CONSIST OF AN OIL-TEMPERED STEEL COMPRESSION SPRING OVER AN ALUMINUM ROD. THE ROLLERS SHALL BE IN CONTACT WITH THE POLE AT ALL TIMES.

POLE SPECIFICATIONS

THE POLE SHAFT MAY BE JOINTED OR SINGLE PIECE, POLYGON OR ROUND, HIGH STRENGTH STEEL HAVING A MINIMUM YIELD STRENGTH OF 50 KSI. ALL MATERIAL SHALL BE SINGLE THICKNESS STEEL PLATE WITH NO LAMINATIONS. STEEL SHALL BE AS SPECIFIED.

ALL POLES SHALL BE EQUIPPED WITH A REINFORCED HANDHOLE APPROXIMATELY 1.0' ABOVE THE BASE PLATE. THE HANDHOLE SHALL BE TEN (10) INCHES WIDE BY TWENTY (20) INCHES HIGH MINIMUM.

ALL POLES AND HARDWARE WILL BE ADEQUATELY PACKED TO ASSURE PROTECTION TO THE FINISH DURING SHIPPING AND HANDLING. POLES SHALL NOT BE SHIPPED PRE-ASSEMBLED.

DRAWINGS SHALL BE PROVIDED WITH THE EQUIPMENT WHICH SHOW ASSEMBLY SEQUENCE, LIFT POINT, AND RECOMMENDED ERECTION PROCEDURE. A PERMANENT DECAL OR CARD SHALL BE FIXED ON THE INSIDE OF THE HANDHOLE COVER WHICH DESCRIBES THE SEQUENCE FOR LOWERING THE LUMINAIRES AND THE CAUTIONS.

THE PROPORTIONING OF WELD DETAILS AND THE OPERATION OF WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES, AND THE REFERENCED AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.

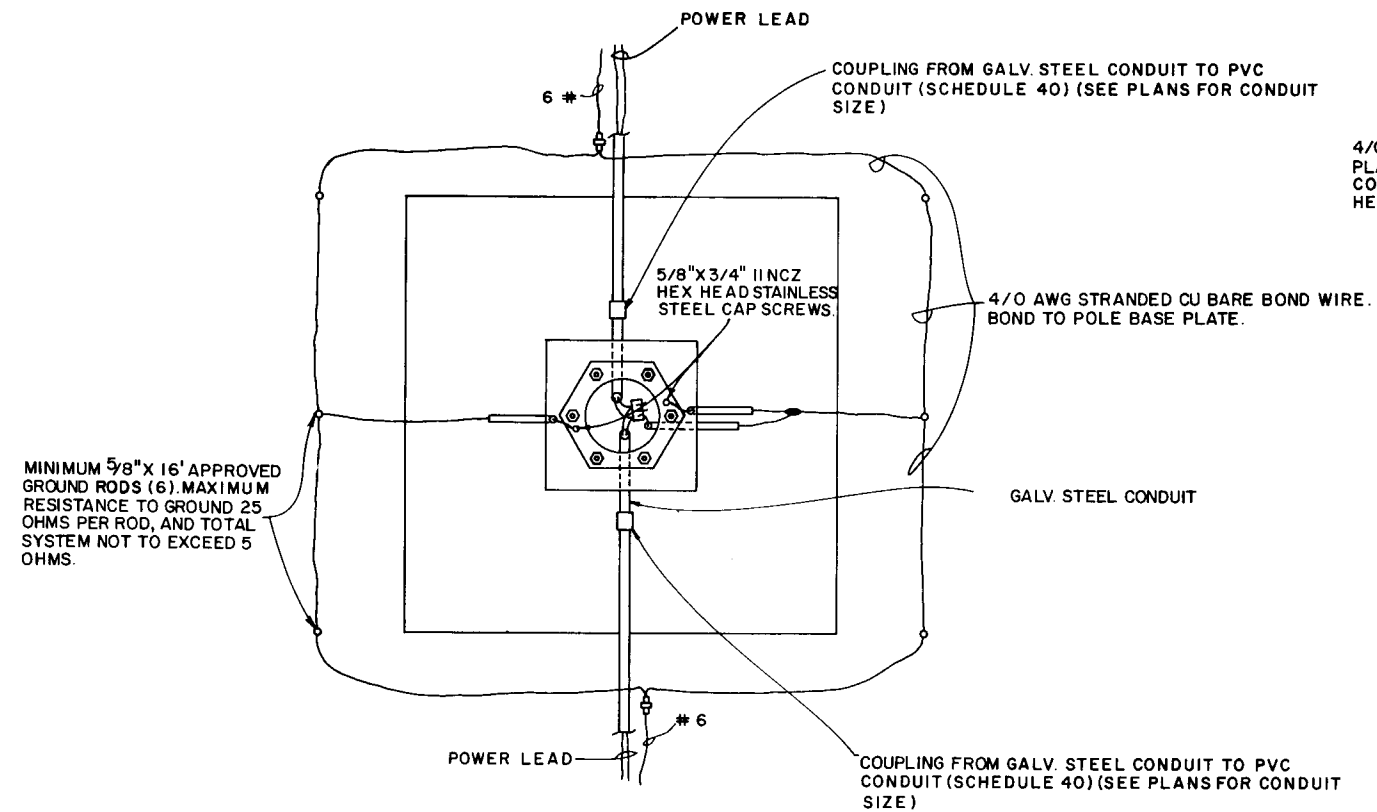
SHOP DRILL TWO (2) 5/8" DIAMETER HOLES 180 DEGREES APART THROUGH TOTAL THICKNESS OF BASE PLATE. TAP TOP OF HOLE FOR 5/8" X 3/4" UNCZ STAINLESS STEEL HEXHEAD CAPSCREW.

APPROVED BY FHWA II-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

HIGHMAST LIGHTING DETAILS

DATE	REVISIONS		INITIALS	DATES	Recommended for approval by <i>LC Price</i> Deputy Traffic Operations Engr.
		Designed by	G. K.	8-78	
		Checked by			Approved by <i>R.E. Magahan</i> State Traffic Operations Engr.
		Quantities by			
		Checked by			
		Supervised by	LESTER JONES		DRAWING NO. 2 OF 3
					INDEX NO. 17502

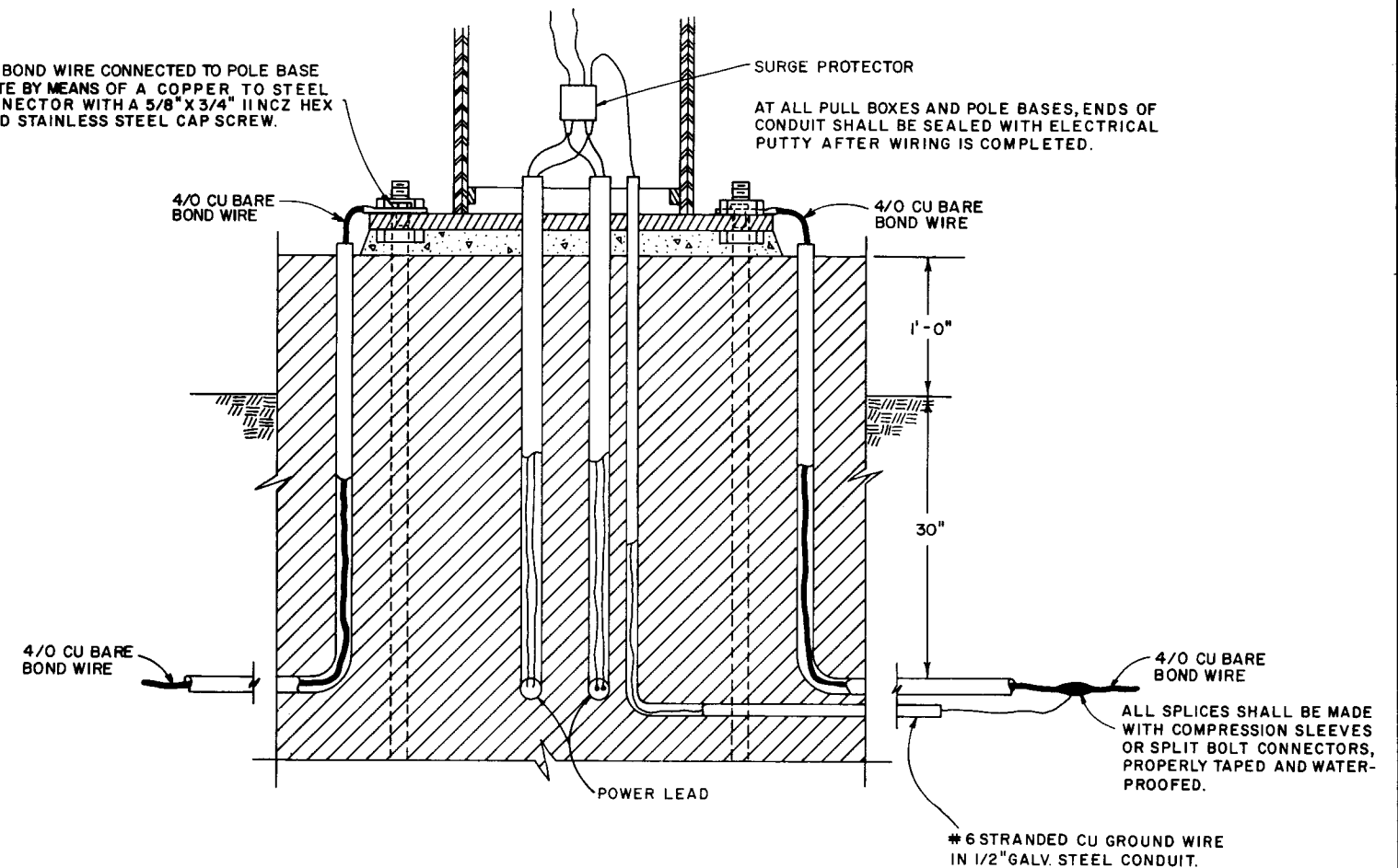


MINIMUM 5/8" X 16' APPROVED GROUND RODS (6). MAXIMUM RESISTANCE TO GROUND 25 OHMS PER ROD, AND TOTAL SYSTEM NOT TO EXCEED 5 OHMS.

SURGE PROTECTOR SPECIFICATIONS

1. THE UNIT SHALL WITHSTAND A SURGE CURRENT UP TO 20,000 AMPS, AND REPETITIVE SURGES OF 200 AMPS FOR A MINIMUM OF 10,000 OCCURRENCES.
2. THE UNIT SHALL RESPOND IN LESS THAN 50 NANoseconds AND WITHIN THIS TIME HAVE A PEAK CLAMPING VOLTAGE BETTER THAN 1,100 Vrms.
3. THE MAXIMUM ALLOWABLE VOLTAGE THAT CAN PASS CONTINUOUSLY THROUGH THE HOT LEG OF THE PROTECTOR MUST BE LESS THAN 550 Vrms.
4. THE CURRENT DRAIN SHALL BE LESS THAN 100 MICROAMPS.
5. THE UNIT SHALL BE INSULATED 600 V. TO GROUND AND SHALL BE WEATHERPROOF.
6. THE UNIT SHALL NOT ALLOW HOLDOVER CURRENT OR CONDUCTION TO GROUND AFTER THE SURGE ENDS.
7. PROTECTION SHALL BE ACHIEVED FOR BOTH THE 480V. AND NEUTRAL CONDUCTORS WITH THE SURGES BEING PASSED TO GROUND AND NOT TO NEUTRAL.
8. THERE SHALL BE NO DISCHARGE LAG IN THE PROTECTION OF THE 480 V. CONDUCTOR OVER THE NEUTRAL CONDUCTOR.
9. UNDERWRITERS LABORATORY APPROVAL NOT REQUIRED.

4/0 BOND WIRE CONNECTED TO POLE BASE PLATE BY MEANS OF A COPPER TO STEEL CONNECTOR WITH A 5/8" X 3/4" 11NCZ HEX HEAD STAINLESS STEEL CAP SCREW.

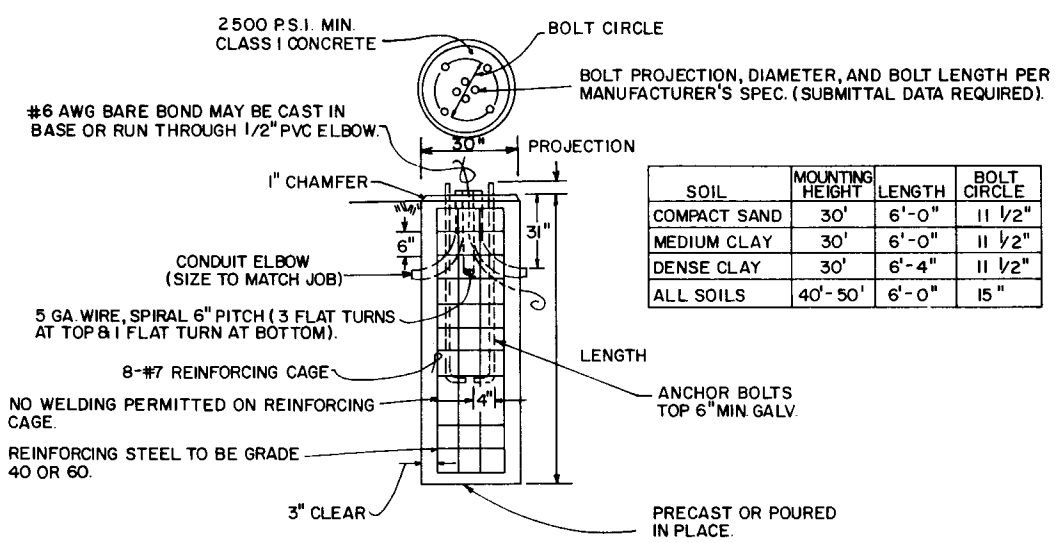


APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

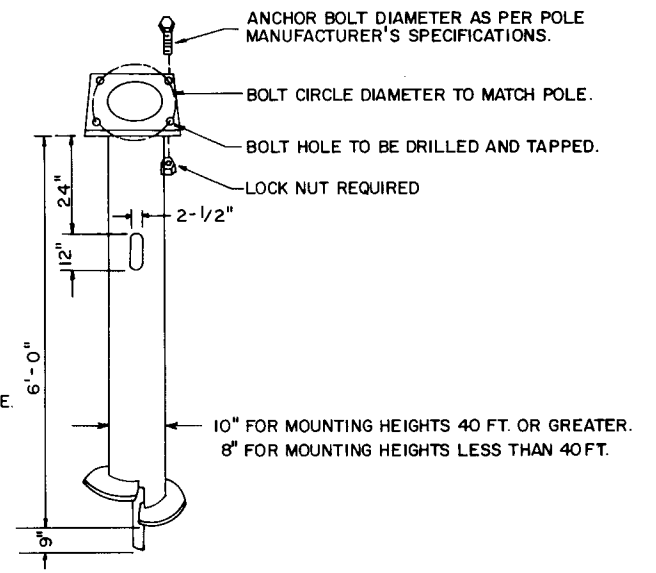
HIGHMAST LIGHTING DETAILS

DATE	REVISIONS	INITIALS	DATES	Recommended for approval by
		Designed by	G. K.	8-78
		Checked by		Deputy Traffic Operations Engr.
		Quantities by		Approved by
		Checked by		State Traffic Operations Engr.
		Supervised by	LESTER JONES	DRAWING NO. INDEX NO.
				3 OF 3 17502

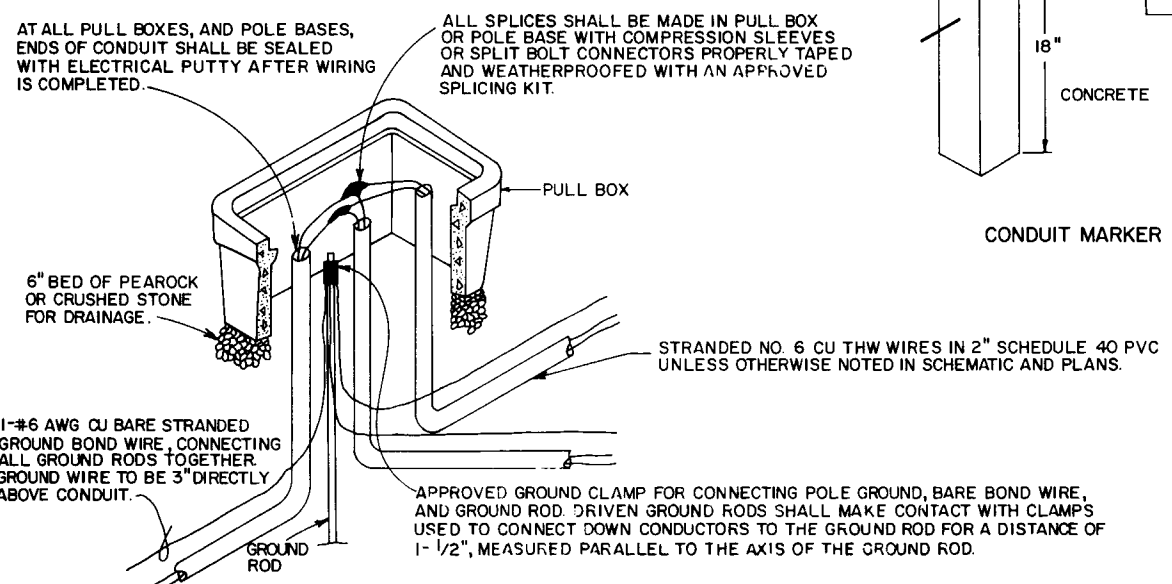


METAL POLE CONCRETE FOUNDATION DETAIL

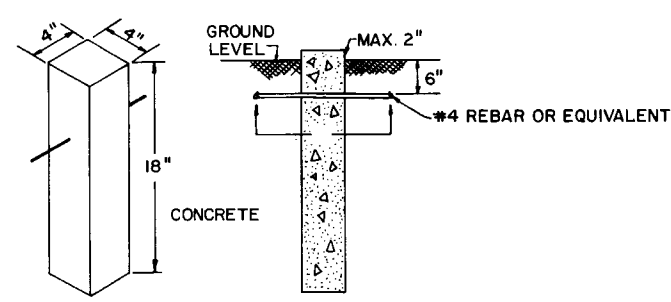
- SCREW TYPE FOUNDATION SPECIFICATIONS
- 1) THE FOUNDATION SHAFT AND BASE PLATE SHALL BE ASTM A-36 STRUCTURAL STEEL, OR BETTER.
 - 2) THE ANCHOR BOLTS SHALL BE ASTM A-325, OR BETTER.
 - 3) ALL WELDS SHALL BE SUFFICIENT TO WITHSTAND 10,000 FT.-LBS. OF TORQUE, APPLIED ABOUT THE AXIS OF THE FOUNDATION.
 - 4) THE FOUNDATION SHALL HAVE A HANDHOLE IN THE BASE PLATE AT LEAST 6" IN DIAMETER.
 - 5) THE BASE PLATE SHALL BE NOTCHED TO INDICATE THE ORIENTATION OF THE SHAFT CABLEWAYS.
 - 6) DRAINAGE SHALL BE PROVIDED IN THE BOTTOM OF THE FOUNDATION BY MEANS OF AN OPENING OF AT LEAST 3 SQUARE INCHES.
 - 7) THE FOUNDATION SHALL BE DESIGNED FOR INSTALLATION USING A RIGHT HAND TURNING MOVEMENT WITH A SLIGHT DOWN PRESSURE. THE MAXIMUM INSTALLATION TORQUE SHALL NOT EXCEED 10,000 FT.-LBS. OR BE LESS THAN 3,500 FT.-LBS.
 - 8) THE WHOLE FOUNDATION SHALL BE HOT DIP GALVANIZED AFTER FABRICATION TO ASTM A-123.



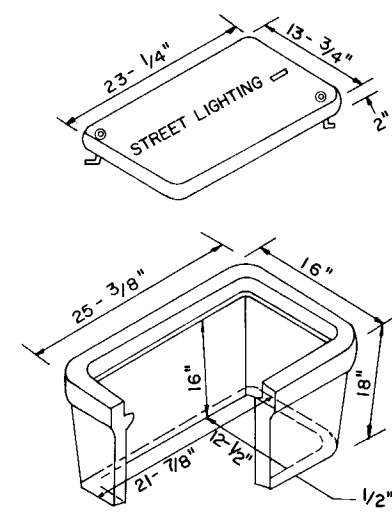
SCREW TYPE FOUNDATION DETAIL



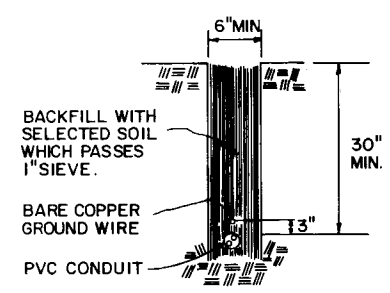
PULL BOX WIRING DETAIL



CONDUIT MARKER DETAIL



PULL BOX DETAIL



TRENCH DETAIL

PULL BOX SPECIFICATIONS :

PULL BOX SHALL BE COMPOSED OF REINFORCED PLASTIC MORTAR AND BE DESIGNED AND TESTED TO MEET ASTM D-635 FLAMMABILITY TEST AND ASHO H-10 LOADING 5000 *SINGLE AXLE LOAD OVER ANY 10" X 10" AREA. COVER TO BE MARKED "STREET LIGHTING".

BOXES MAY BE NESTED FOR DEEP CONDUIT AND FOR MORE WORKING ROOM.

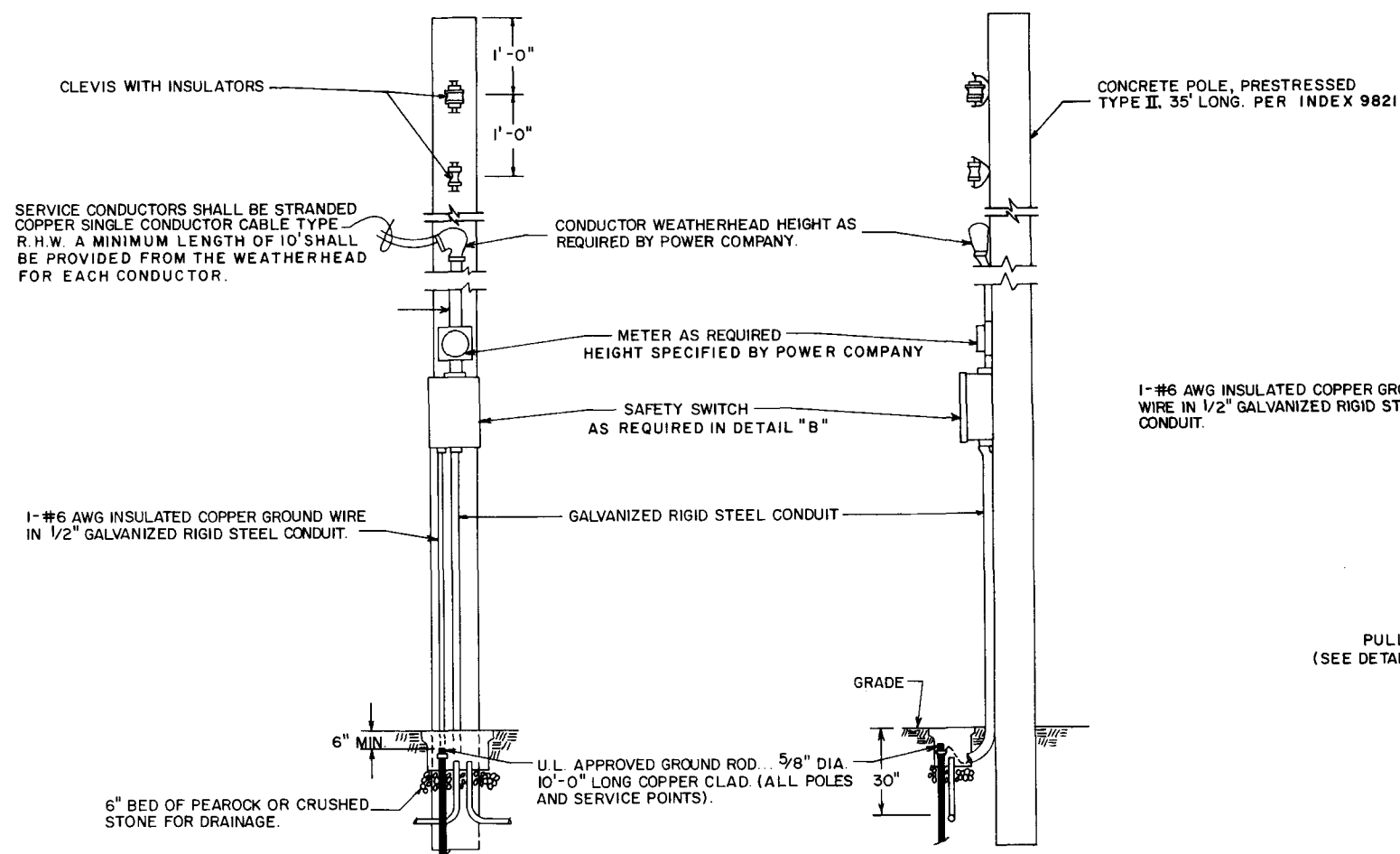
APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION

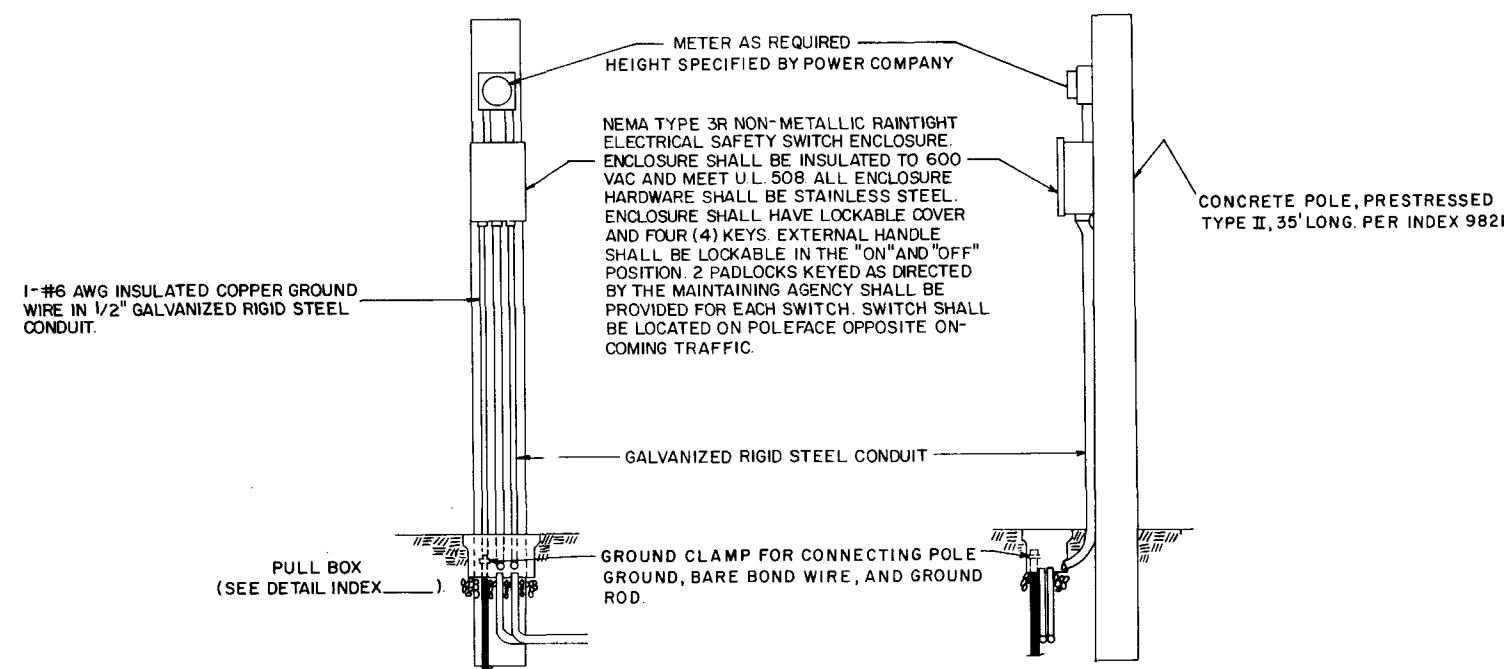
TRAFFIC OPERATIONS

ROADWAY LIGHTING DETAILS

DATE	REVISIONS	INITIALS	DATES	Recommended for approval
		Designed by	G. K.	8-78
		Checked by		by <i>R.C. Price</i> Deputy Traffic Operations Engr.
		Quantities by		Approved
		Checked by		by <i>R. J. Magahey</i> State Traffic Operations Engr.
		Supervised by	LESTER JONES	DRAWING NO. INDEX NO.
				1 OF 1 17503



DETAIL "A"
AERIAL FEED



DETAIL " B "
UNDERGROUND FEED

1. PHOTO ELECTRIC CONTROL AS REQUIRED.
2. ALL NEUTRAL WIRES TO HAVE WHITE INSULATION, CIRCUIT NO. 1 WIRES TO HAVE BLACK INSULATION. OTHER CIRCUITS TO BE COLOR CODED BY INSULATION. DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNDERGROUND CONDUCTORS.
3. LENGTH OF POLE IN GROUND PER INDEX 9821.

APPROVED BY FHWA 11-16-78

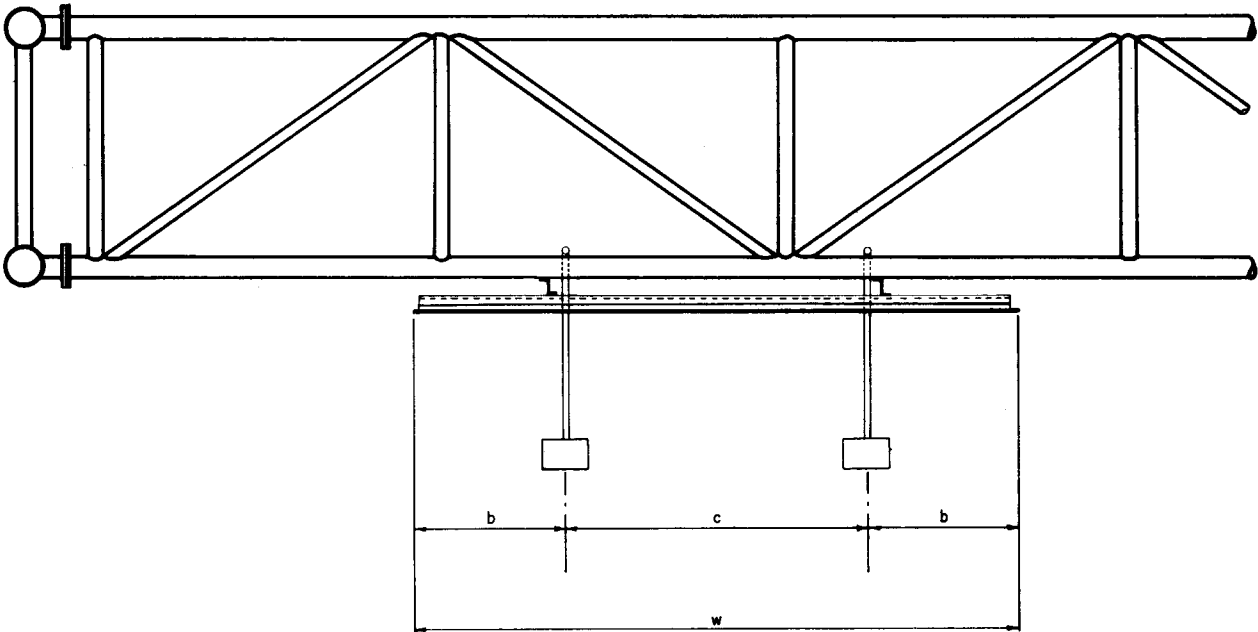
APPROVED BY FHWA 11-10-10
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

SERVICE POINT DETAILS

DATE	REVISIONS		INITIALS	DATES	Recommended for approval by <u>D.C. Price</u> Deputy Traffic Operations Engr.
		Designed by	G. K.	8-78	Approved by <u>R.E. Magadey</u> State Traffic Operations Engr.
		Checked by			
		Quantities by			
		Checked by			
		Supervised by	LESTER JONES		DRAWING NO. INDEX NO. OF 17504

SIGN LIGHTING INSTALLATION

The Roadway Lighting Contractor shall provide a means for sign service entry into a pole base or a pull-box installed in Lighting circuit, and loop 2' of Lighting circuit conductors for connection by Sign Contractor. The sign contractor shall furnish and install luminaires, fused safety switches, conduit, conductors, and all other electrical equipment necessary for connection to Roadway Lighting circuit as provided by Roadway Lighting Contractor. Compression type connectors properly taped and waterproofed shall be used. See Roadway Lighting Plans for sign service locations.

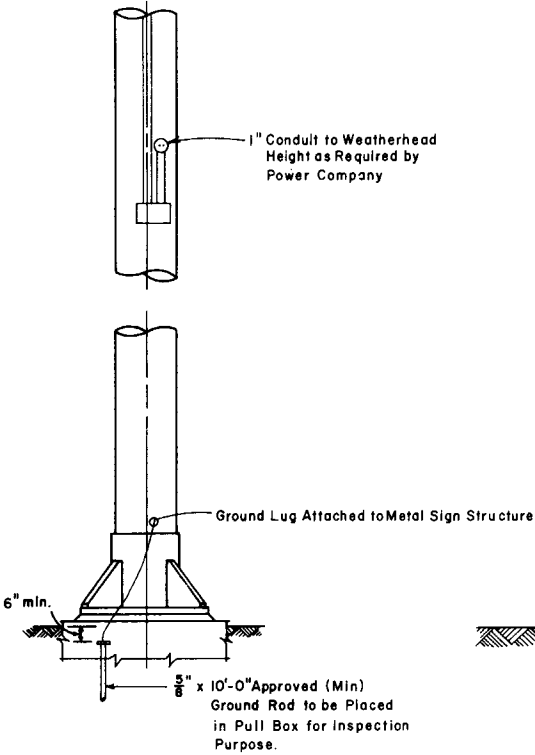
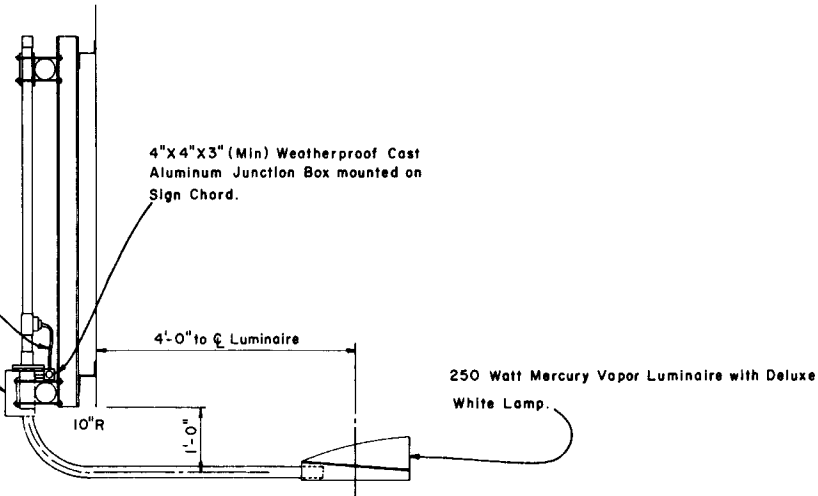


WIDTH OF SIGN FACE	10'-0" or LESS	10'-1" to 21'-0"	21'-1" to 32'-0"	32'-1" to 43'-0"
NUMBER OF FIXTURES	ONE	TWO	THREE	FOUR
EQUATIONS FOR PLACING FIXTURES ALONG SIGN WIDTH	$W = 2b$ $c = 0$	$W = 2b + c$ $c = 2.2b$	$W = 2b + 2c$ $c = 2.2b$	$W = 2b + 3c$ $c = 2.2b$

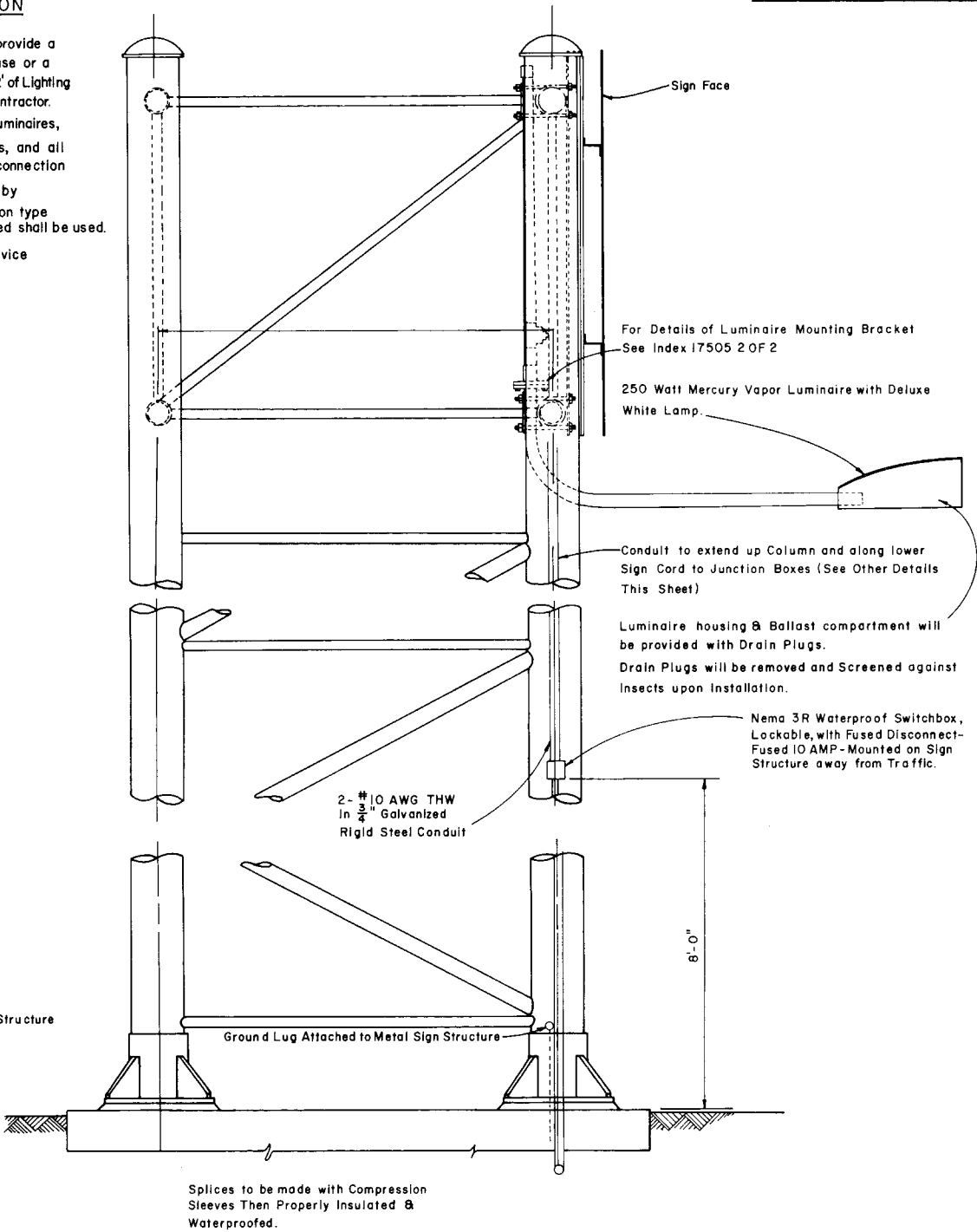
- PLACEMENT OF SIGN LIGHTS
- 1-Luminaire shall be mounted so that the Lamp Center is 4'-3" in Front of the Sign Face.
 - 2-Luminaire shall be mounted so that the back of the Fixture is Placed 1'-0" below the Bottom Edge of the Sign Face
 - 3-Luminaires from manufacturers who recommended that their Fixture be Tilted shall be Mounted on a Bracket which Provides this Recommended Tilt.
 - 4-Photometric Data For The Mercury Vapor Luminaire Proposed for Sign Lighting shall be Submitted for Approval to the Lighting Engineer Florida Department of Transportation.

Use $\frac{3}{4}$ " Liquid Tight Flexible Conduit from Junction Box to Ballast and from Junction Box to Tee in Luminaire Bracket. Conduit shall be of Sufficient Length to allow Rotation of Luminaire Bracket 90° in Either Direction.

Ballast shall be mounted to Sign Chord with Stainless Steel Band. Bracket for Ballast to be fabricated from Galvanized Steel Plate for Steel Sign Structures and Aluminum Plate for Aluminum Sign Structures. (Submittal Data Required)

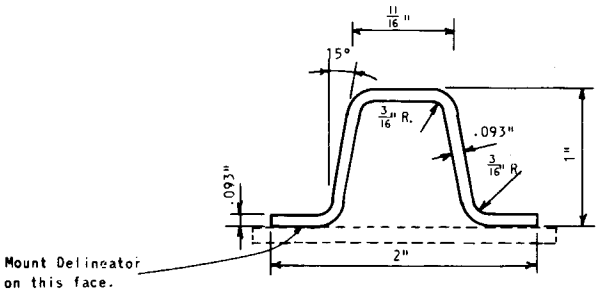


PLAN
OVERHEAD POWER SUPPLY

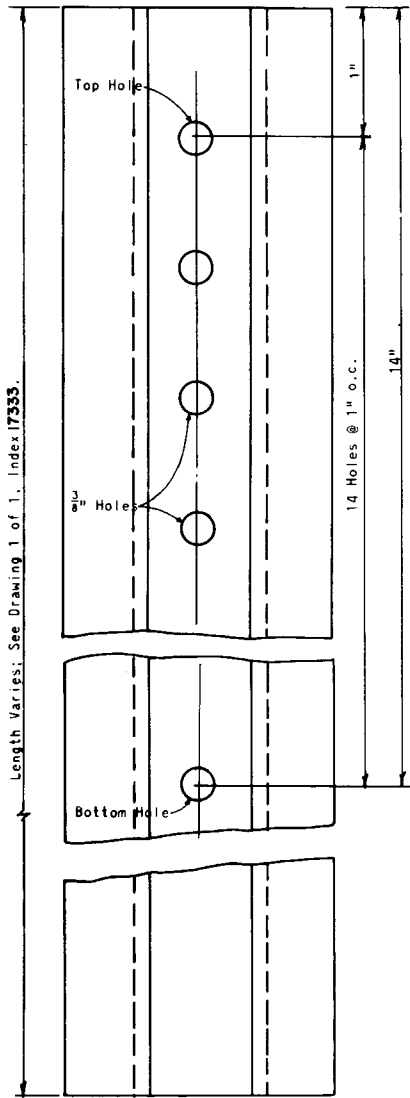
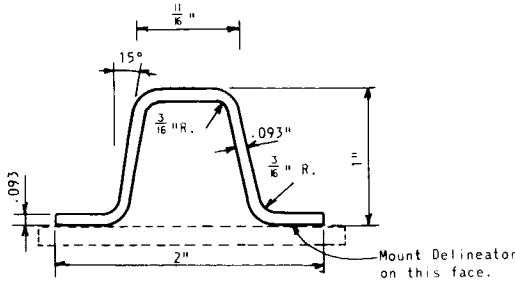


Splices to be made with Compression Sleeves Then Properly Insulated & Waterproofed.

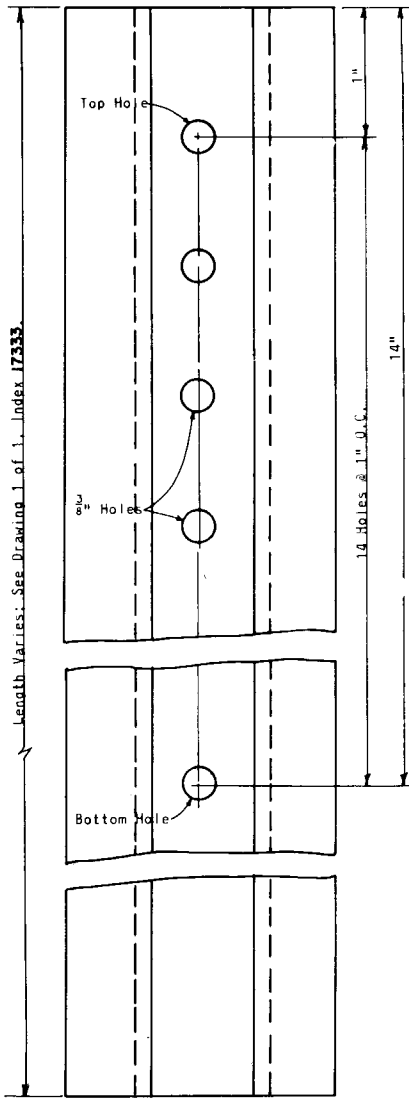
APPROVED BY FHWA 11-16-78					
FLORIDA DEPARTMENT OF TRANSPORTATION					
TRAFFIC OPERATIONS					
EXTERNAL LIGHTING FOR SIGNS (MERCURY VAPOR)					
DATE	REVISIONS	INITIALS	DATES	Recommended for approval by <i>D.C. Price</i> Deputy Traffic Operations Engr.	
10-6-78	Changed Index 17341-A TO Index 17505	Designed by		Approved by <i>P.E. Magoley</i> State Traffic Operations Engr.	
		Checked by			
		Quantities by			
		Checked by			
		Supervised by	LESTER JONES	DRAWING NO. 1 OF 2	INDEX NO. 17505



NOTE: Dimensions shown do not include galvanizing.



GALVANIZED STEEL
APPROX. WEIGHT PER FOOT=1.0 Lbs.



ALUMINUM
APPROX. WEIGHT PER FOOT=0.35 lbs.

GENERAL NOTES

MATERIALS:

STEEL: A.S.T.M. - A 499 (Hot-Rolled Rail Carbon Steel)
Galvanized A.S.T.M. - A-123

ALUMINUM: Alloy 6061-T6

HOLES: Holes for 5/16 inch diameter bolts on one inch centers.

TOLERANCES: Thickness, $\pm 5\%$, dimensions, $\pm \frac{1}{8}$ inch.

LENGTH: It shall be the Contractor's responsibility to determine the length of the delineator supports in the field prior to fabrication. See reference Drawing 1 of 1, Index 17333.


MATERIAL STRESSES: All allowable stresses are in accordance with Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O. 1975.

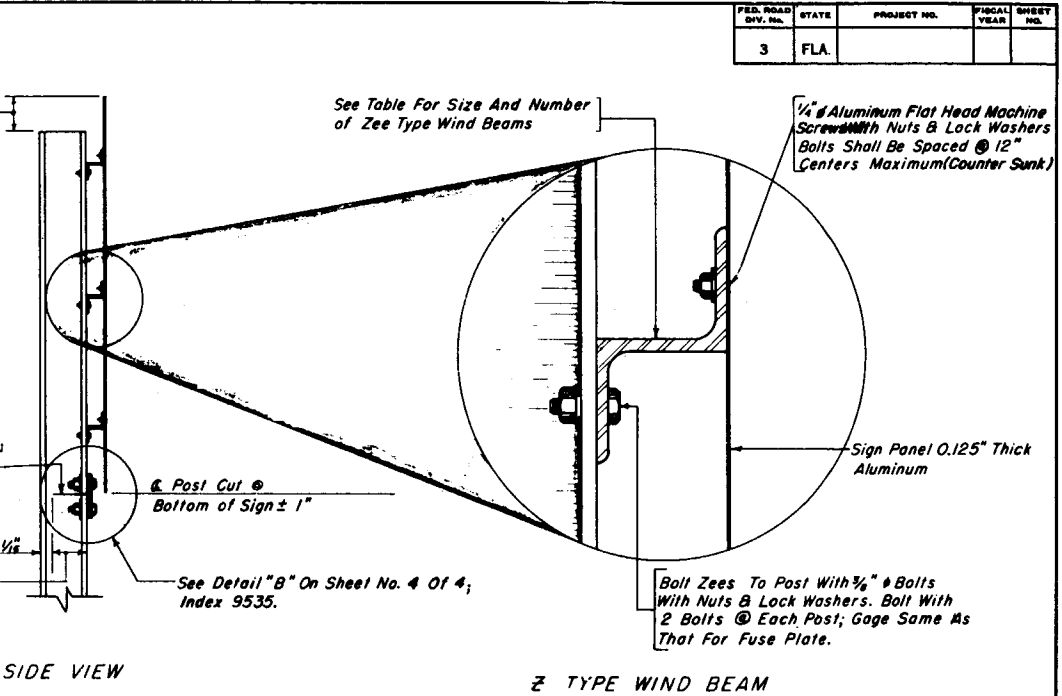
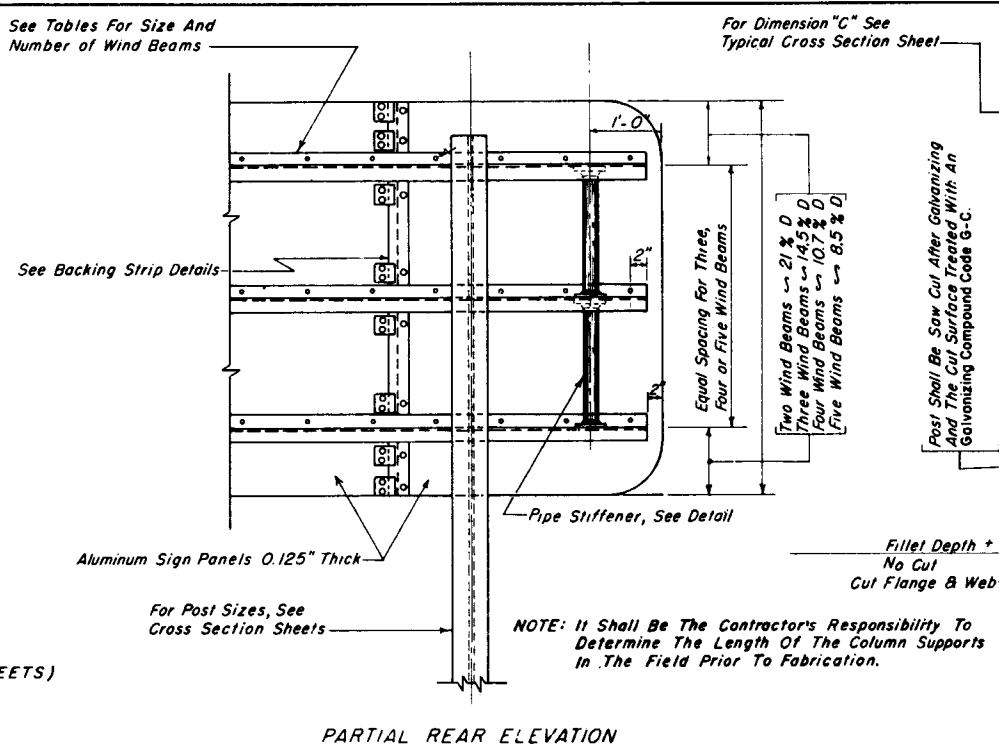
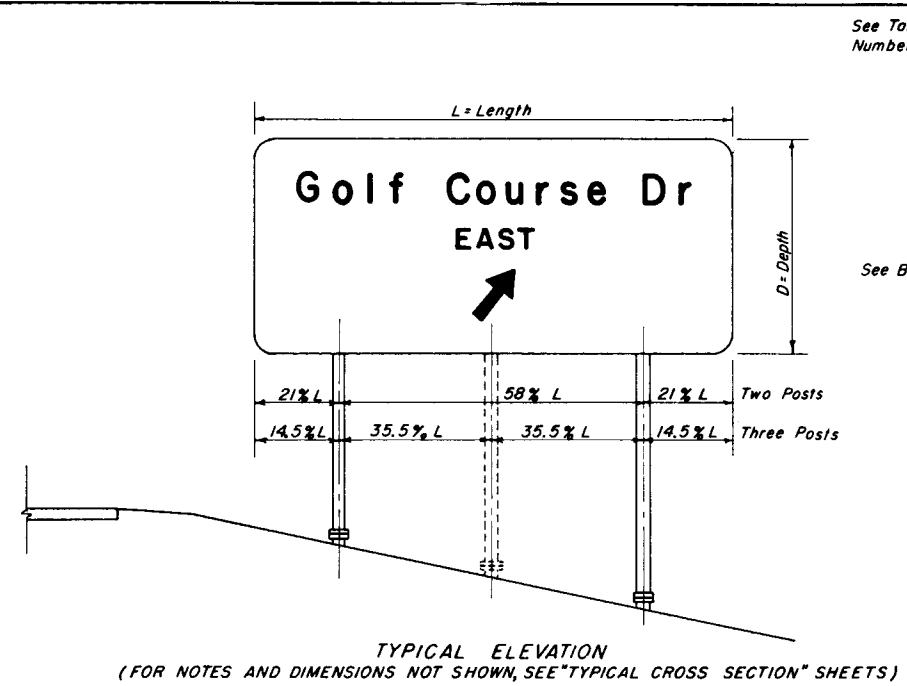
APPROVED BY FHWA 11/16/78

STATE ROAD DEPARTMENT OF FLORIDA
BRIDGE DIVISION

SIGN POSTS FOR DELINEATORS

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Descriptions			
9-63	Revised Calculated Weights		Names	Dates
11-69	Design Spec. DATE Revised To: 1968	Checked by	M.W.R.	11-60
8-74	INDEX 17333 ADDED	Quantities by		
5-76	Design Spec. Date Rev. to 1975	Checked by		
3-77	INDEX 17333 ADDED	Checked by		
1-78	Steel Note Rev.	Traced by	R.S.C.	6-67
		APPROVED BY		
		Drawing No.		Index No.
		1 of 1		7024

ROAD NO.		COUNTY		PROJECT NO.	
Name		Dates		APPROVED BY	
Detailed by	HHJ	1-67		 T. W. Fennell Assistant State Highway Engineer	
Checked by	C.W.B.	1-67			
Quantities by					
Checked by				Drawing No.	Index No.
Traced by				1 of 4	9535



GENERAL NOTES

DESIGN SPECIFICATION: Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A. A. S. H. O. 1975. — **WELDING** — Latest Edition of A. W. S. Structural Welding Code, Latest A. A. S. H. O. Standard Specifications for Welding of Structural Steel Highway Bridges and FLA. D. O. T. Standard Specifications with Supplement.

DESIGN LOADS: See Wind Loading Chart By Zones For Wind In Miles Per Hour On Flat Sign Area. The Allowable Working Stress Shall Be Increased By 40% For Combination Dead Load And Wind Load.

STRUCTURAL STEEL: All Structural Steel Shall Meet The Requirements of A. S. T. M. A-36.

STEEL BOLTS, NUTS AND LOCK WASHERS: Steel Bolts, Nuts And Lock Washers Shall Meet The Following A. S. T. M. Requirements; High Strength Bolts, Nuts And Washers A. S. T. M. A-325; All Other Steel Bolts, Nuts And Washers, A. S. T. M. A-307.

GALVANIZING OR METALIZING: All Steel Shapes, Angles, Tees, Plates, Bolts, Nuts And Washers Shall Be Hot Dip Galvanized Or Metalized After Fabrication Hot Dip Galvanizing Shall Be In Accordance With The Requirements Of A. S. T. M. A-123 and/or A-153.

SIGN PANELS: The Material Used Shall Meet The Requirements of The Aluminum Association Alloy, 6061-T6 And A. S. T. M. Specification B209. The Sheets Are To Be Degreased, Etched, Neutralized And Treated With Alodine 1200, Iridite 14-2, Bonderite 721, Or Equal. No Stenciling Permitted On Sheets.

ALUMINUM BOLTS, NUTS AND LOCK WASHERS: Aluminum Bolts Shall Meet The Requirements of The Aluminum Association Alloy 2024-T4 or 6061-T6 (A. S. T. M. Specification B-211). The Bolts Shall Have An Anodic Coating of At Least 0.0002" Thick And Be Chromate Sealed. Lock Washers Shall Meet The Requirements of Aluminum Association Alloy 7075-T6 (A. S. T. M. Specification B-221). Nuts Shall Meet The Requirements of Aluminum Association Alloy 6262-T9 or 6061-T6.

TOLERANCE: All Above Materials Shall Be In Keeping With The A. S. T. M. Specifications Governing.

MATERIAL STRESSES: All Allowable Stresses Are In Accordance With The Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A. A. S. H. O. 1975, For All Materials Shown In The Plans.

SHOP DRAWINGS: See Shop Drawing Note Sheet 1 of 4, 9535.

BASE CONNECTION: High Strength Bolts In The Base Connection Shall Be Tightened Only To The Torque Shown In The Table. Overtightened Base Connections Will Not Be Accepted.

FRICTION FUSE PLATE: Notched Steel Fuse Plates Shall Conform To The Requirements of A. S. T. M. Specification A-36. All Holes Shall Be Drilled. All Plate Cuts Shall, Preferably, Be Saw Cuts; However, Flame Cutting Will Be Permitted Provided All Edges Are Ground. Metal Projecting Beyond The Plane of The Plate Face Will Not Be Tolerated.

SIGN FACE: All Sign Face Corners Shall Be Rounded. See Sign Layout Sheet.

ALUMINUM MATERIALS: All Aluminum Materials Other Than Bolts, Nuts And Lock Washers Shall Meet The Requirements of The Aluminum Association Alloy 6061-T6 And Also The Following A. S. T. M. Specifications For The Following; Sheet And Plates B209; Extruded Tube, Bars, Rod And Shapes B221 And Standard Structural Shapes B308.

FABRICATOR NOTE. IMPORTANT
All Friction Fuse Bolts Shall Be Tightened In The Shop Following A Method Approved By The Engineer. Tightening Shall Be To Such Degree As To Obtain The Following Minimum Residual Tension In Each Bolt, (See Table Below).

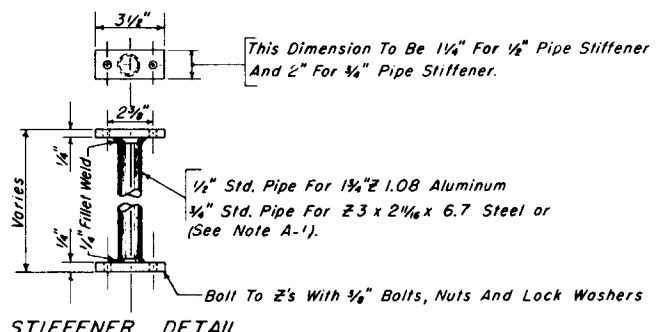
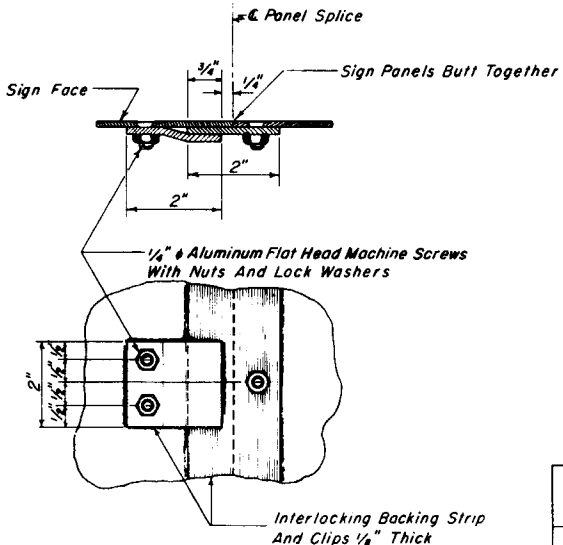
NOTE A-1
At The Contractor's Option, Aluminum Zees And Stiffener May Be Used In Lieu of Structural Steel Zees And Stiffeners. See Drawing No. 1 of 4, Index No. 9535. For Aluminum Zee And Stiffener.

HIGH STRENGTH BOLTS (A-325) MINIMUM RESIDUAL TENSION BOLT SIZE TENSION

5/8"	19,200 Lbs.
3/4"	28,400 Lbs.
1"	47,250 Lbs.
1 1/8"	56,450 Lbs.
1 1/4"	71,700 Lbs.
1 3/8"	85,450 Lbs.

APPROVED BY FHWA 11/16/78
STEEL

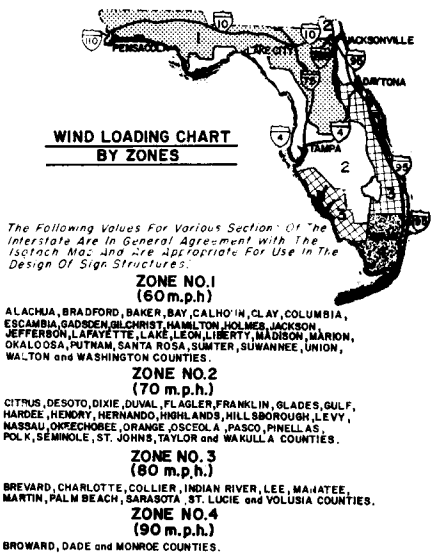
STATE ROAD DEPARTMENT OF FLORIDA BRIDGE DIVISION			
STANDARD ROADSIDE SIGN BREAK-AWAY PANEL DETAIL			
ROAD NO.	COUNTY	PROJECT NO.	
APPROVED BY		DATE	
Detailed by H.H.J.		1-67	
Checked by C.W.B.		1-67	
Quantities by			
Checked by			
Traced by			
Drawing No. 3 of 4		Index No. 9535	



NUMBER OF WIND BEAMS FOR GIVEN DEPTH AND WIND		
WIND	NO BEAMS	MAX. DEPTH
70	2	9'-0"
70	3	13'-0"
70	4	17'-6"
70	5	22'-3"
80	2	8'-3"
80	3	11'-9"
80	4	15'-9"
80	5	20'-0"
90	2	7'-3"
90	3	10'-6"
90	4	14'-3"
90	5	18'-0"
60	2	10'-3"
60	3	14'-9"
60	4	20'-0"
60	5	25'-3"

SIZE OF WIND BEAMS		
SIZE OF ZEE	LENGTH OF SIGN FOR 2 POSTS	LENGTH OF SIGN FOR 3 POSTS
1 1/2" x 108	0'-0" to 14'-0"	14'-1" to 20'-0"
2 3/8 x 2 1/2 x 6.7	14'-1" to 27'-0"	20'-1" to 38'-0"
2 3/8 x 2 1/2 x 9.8	Over 27'	Over 38'

* NOTE.
Aluminum Zee ~ No Steel Equivalent Available.



H S Bolts With Hex Head, Hex Nut & 3 Washers With Each Bolt See Table For Bolt Diameter And Torque. See Bolting Procedure.

Remove All Galvanizing Runs Or Beads In Washer Area

See Bolt Keeper Washer Detail

Top of Footing See Detail Below

SIGN COL & STUB COL ELEVATION
WF SHAPES

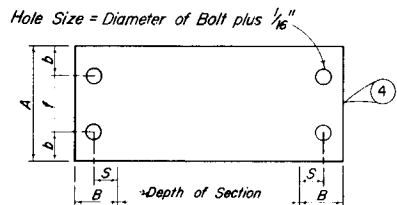
Sign Column

See Stiffener Detail

See Bolt Keeper Washer Detail

See Base R Detail (WF Shapes)

SIGN COL. & STUB COL. ELEVATION
WF SHAPES



BOLT KEEPER WASHER DETAIL
(20 Gage or .040" thick Aluminum 6061-T5)

See Bolt Keeper Washer Detail

Finished Grade

Stub Col.

#2 Plain Spiral 6" Pitch Three Flat Turns Top & One Flat Turn Bottom

Diameter (See Table)

Bars V (See Table For Size & Number)

2" Clear

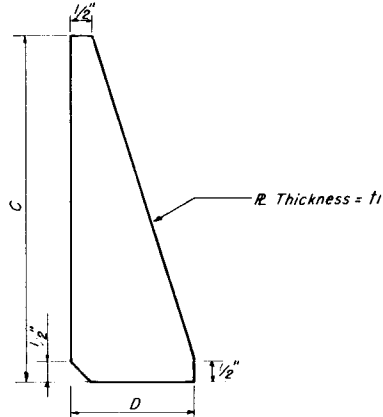
Stub Column

Bars V (See Table For Size & Number)

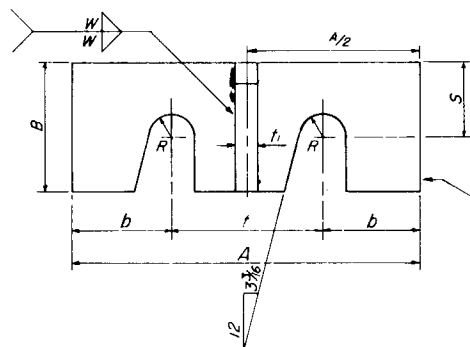
#2 Plain Spiral

Drilled Shaft (Class II Concret)

FOUNDATION DETAIL



STIFFENER PLATE DETAIL



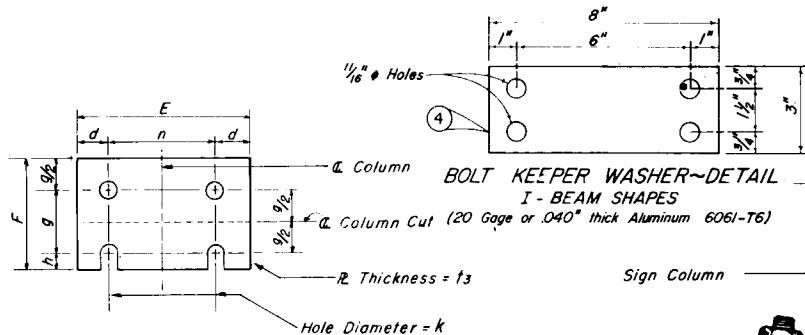
BASE PLATE DETAIL
WF SHAPES

NOTE: Sections Shown Are For Installation On Right Shoulder And In Gore. Plate Slot Bevels Are Opposite Hand From That Shown For Installations In The Median.

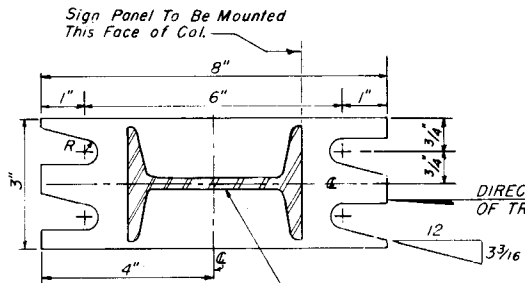
BASE CONNECTION DATA														FUSE PLATE DATA										FOUNDATION DATA					SHIM	
DIMENSION SECTION	A	B	C	D	Bolt Size & Torque	R	b	f	s	t ₁	t ₂	W	E	n	d	F	g	h	k	t ₃	Bolt Size	Dia	Depth	Stub Length	Reinf. Bars V	L	M			
3 I 5.7					3/8" x 640" #	1/32"					1"	1/4"	3"	1 1/2"	3/4"	4 1/8"	2 1/4"	3/4"		1/16"	1/8"	3/8"	1'-6"	1'-6"	1'-6"	8 x #4	13 1/2"	1 1/8"		
4 I 7.7					3/8" x 640" #	1/32"					1"	1/4"	3 1/8"	1 3/4"	3/4"	4 1/8"	2 1/4"	3/4"		1/16"	1/2"	5/8"	2'-0"	2'-0"	2'-0"	8 x #4	13 1/2"	1 1/8"		
6 B 12	4"	2"	4"	2"	3/8" x 640" #	1/32"	3/4"	2 1/2"	1 1/8"	1/2"	1/2"	1/4"	4"	2 1/4"	3/8"	4 1/8"	2 1/4"	3/4"		1/16"	1/2"	5/8"	2'-0"	2'-9"	2'-3"	8 x #5	13 1/2"	1 1/8"		
8 W 17	5 1/4"	2"	5 1/4"	2"	3/8" x 640" #	11/32"	1 1/4"	2 3/4"	1 1/4"	1/2"	1/2"	1/4"	5 1/4"	2 3/4"	1 1/4"	4 3/8"	2 1/2"	1/8"		13/16"	1/2"	3/4"	2'-0"	4'-0"	2'-9"	8 x #7	1 1/2"	1 1/8"		
8 W 24	6 1/2"	2 1/4"	6 1/2"	2 1/4"	3/4" x 940" #	13/32"	1 1/2"	3 1/2"	1 3/8"	1/2"	3/8"	3/16"	6 1/2"	3 1/2"	1 1/2"	6 3/8"	3 1/2"	1 1/8"		1 1/16"	3/8"	1"	2'-0"	5'-6"	3'-3"	8 x #9	1 3/4"	1 1/8"		
10 W 33	8"	2 1/2"	8"	2 1/2"	7/8" x 1290" #	13/32"	1 1/4"	5 1/2"	1 1/2"	1/2"	3/4"	3/8"	8"	4 1/2"	1 3/4"	7 1/4"	4"	1 1/4"		13/16"	5/8"	1 1/8"	2'-0"	7'-9"	3'-9"	9 x #11	2"	1 3/8"		
12 W 40	8"	2 3/4"	8"	2 3/4"	1" x 1580" #	11/32"	1 1/4"	5 1/2"	1 3/8"	1/2"	3/4"	3/8"	8"	4"	2"	8 1/8"	4 1/2"	1 3/8"		13/16"	3/4"	1 1/4"	2'-0"	10'-0"	4'-6"	14 x #11	2 1/4"	1 1/8"		
12 W 45	8"	3"	8"	3"	1" x 1580" #	11/32"	1 1/4"	5 1/2"	1 3/8"	1/2"	3/4"	3/8"	8"	4"	2"	8 1/8"	4 1/2"	1 1/8"		1 3/16"	3/4"	1 1/4"	2'-0"	10'-0"	4'-6"	14 x #11	2 1/4"	1 1/8"		

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

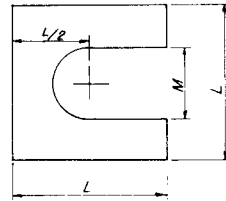
1. Assemble Post To Stub With Bolts And With One Flat Washer On Each Bolt Between Plates.
2. Shim As Required To Plumb Post (See Shim Detail)
3. Tighten All Bolts The Maximum Possible With 12" To 15" Wrench To Bed Washers And Shims And To Clean Bolt Threads Then Loosen Each Bolt In Turn And Retighten In A Systematic Order To The Prescribed Torque (See Table)
4. Burr Threads At Junction With Nut Using A Center Punch To Prevent Nut Loosening.



FUSE PLATE DETAIL



BASE PLATE I-BEAMS



SHIM DETAIL

Furnish 2 x 0.012" Thick & 2 x 0.032" Thick Shims Per Post

Sign Column

Remove All Galvanizing Runs Or Beads In Washer Area

See Bolt Keeper Washer Detail

Stub Column

SIGN COL. & STUB COL. ELEVATION
I-BEAM SHAPES

Flange Holes For Fuse Plate Shall Be Drilled Or Sub-Punched And Reamed.

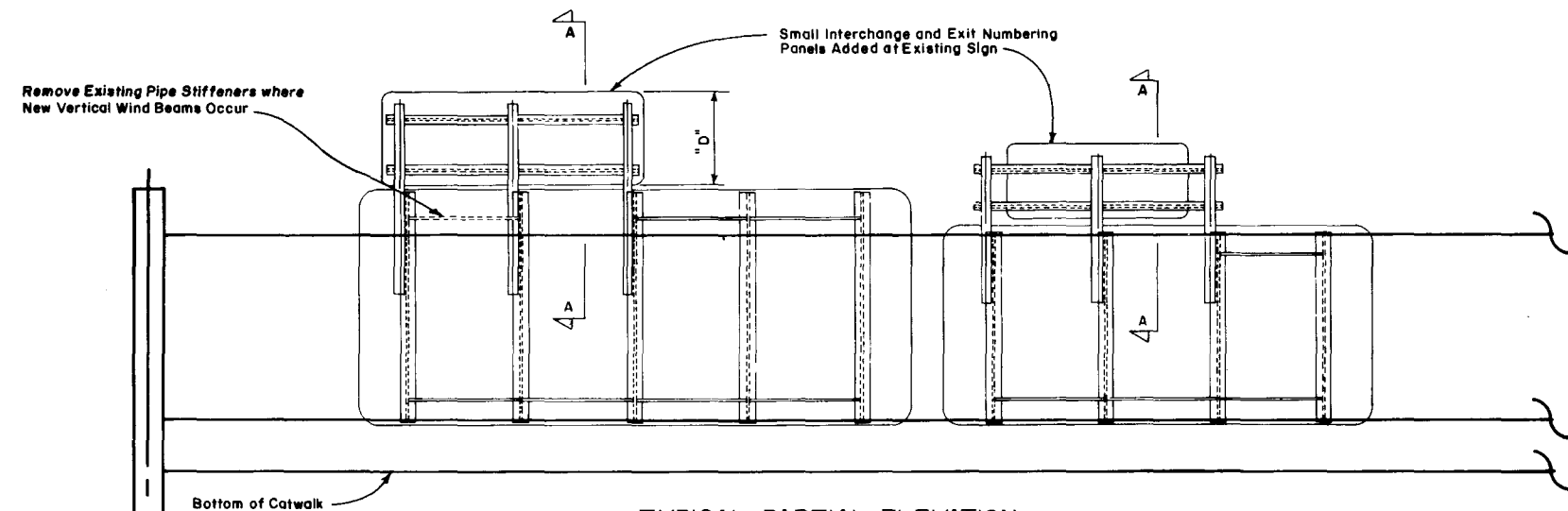
Sign Column

Beveled Washers For 3 I 5.7 And 4 I 7.7 Sign Column; Flat Washers For All Other Columns

DETAIL "B" FUSE PLATE

(See Fabrication Note On Sheet Drawing No. 3 of 4 Index No. 9535)

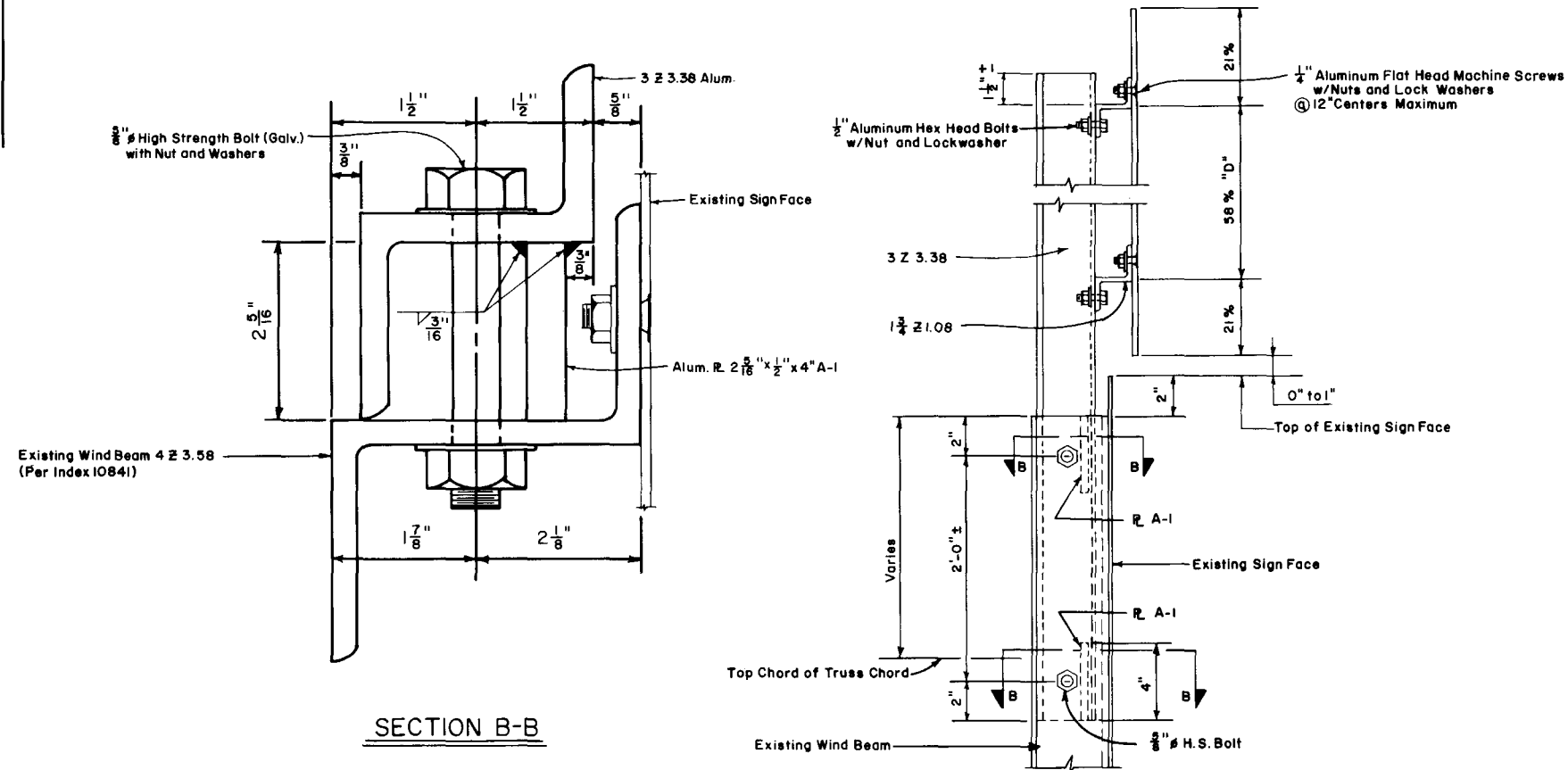
APPROVED BY FHWA 11/16/78			
STEEL BASE, FOUNDATION & FUSE R DETAILS			
STATE ROAD DEPARTMENT OF FLORIDA BRIDGE DIVISION			
STANDARD ROADSIDE SIGN BREAK-AWAY POST DETAILS			
ROAD NO.	COUNTY	PROJECT NO.	
APPROVED BY			
1	4-1-68 TORQUE	Checked by	H.H.J. 1-67
2	4-1-68 SECTION & DIM.	Checked by	C.W.B. 1-67
3	6-19-68 BOLT SIZE, TORQUE AND DIM.	Checked by	
4	5-22-69 BOLT KEEPER WASHER ADDED	Traced by	
Drawing No.		Index No.	
4 of 4		9535	



TYPICAL PARTIAL ELEVATION
(Existing Aluminum or Steel Overhead Truss)

GENERAL NOTES

(1) For "General Notes" Covering Specification and Material; See Sheets 1 of 4 and 3 of 4, Index 9535



SECTION B-B

SECTION A-A

APPROVED BY FHWA 11/16/78
INTERCHANGE AND EXIT NUMBERING FOR SIGNS
WITH VERTICAL WIND BEAMS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
DETAILS FOR ADDING SIGN ASSEMBLY TO EXISTING HIGHWAY SIGNS			
ROAD NO.	COUNTY	PROJECT NO.	
REVISIONS		APPROVED BY	
Dates	Descriptions	Names	Dates
3-74	Rev. Round HD. Bolt to Flat HD. Mach. Screws.	Designed by	CWB 11-71
		Checked by	JG 11-71
		Quantities by	
		Checked by	
		Supervised by	AJH
		Drawing No.	1 of 1
		Index No.	10905

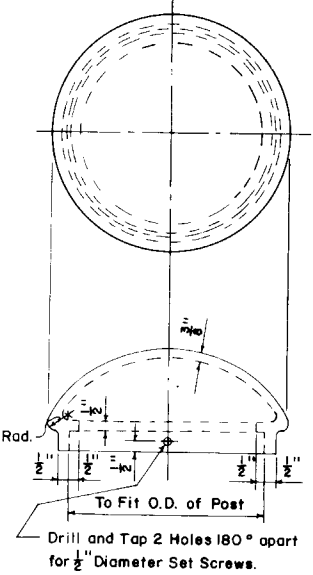
SPLICE PLATE FLANGE TABLE			
TUBE SIZE	T	BOLT SIZE "D"	
2 3/4" x 1/8" to 6 1/2" x 1/4"	1 1/4"	5/8"	
7" x 1/4" to 9" x 1/4"	1 1/4"	3/4"	
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/4"	7/8"	

NOTE:
The number of Chord Splices may be changed or omitted as necessary to facilitate fabrication and or erection.

SPLICE PLATE FLANGE DETAILS

Aluminum Alloy 6061-T6 or 5154-H38 or Alloy 356-T7

- GENERAL NOTES**
- (1) For "General Notes" Covering Specifications and Materials, see Sheet 1 of 4 Index 9535
 - (2) **SHOP DRAWINGS:** Contractor shall submit complete shop drawings before fabrication for approval.
 - (3) **COLUMN LENGTHS:** It shall be the Contractor's responsibility to determine the length of column supports.



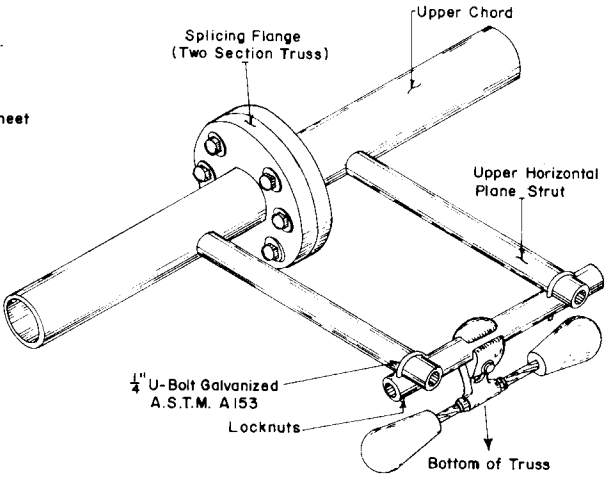
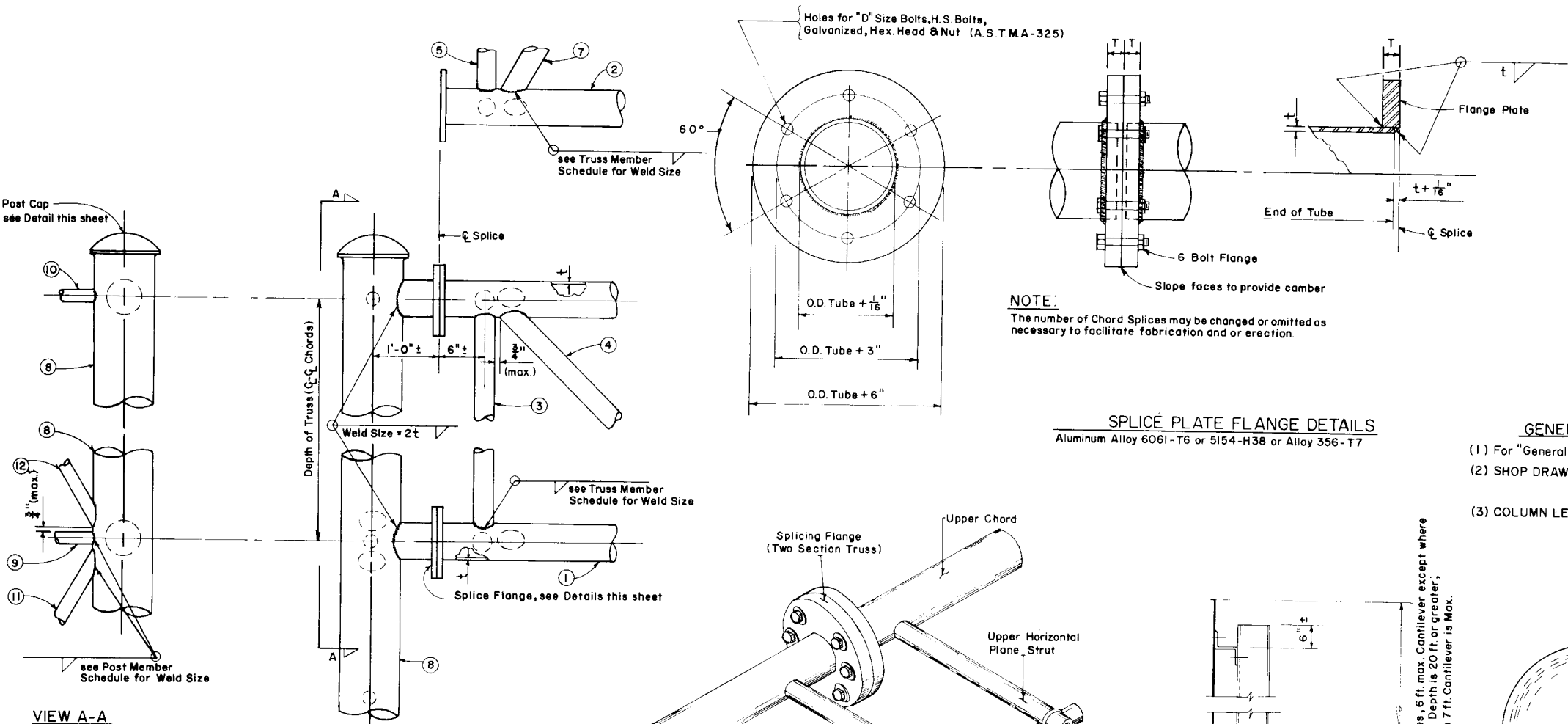
POST CAP
Aluminum Alloy 356-F

APPROVED BY FHWA 11/16/78
ALUMINUM TRUSSES
ASSEMBLY DETAILS FOR TYPE A, B or C TRUSS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

BRIDGE SPAN TRUSS FOR OVERHEAD SIGNS

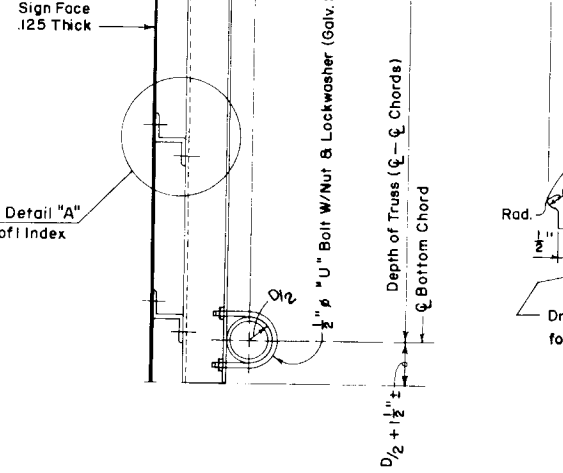
REVISIONS		ROAD NO.		COUNTY		PROJECT NO.	
Date	Description	Drawn	Date	Checked	Date	Supervised	Date
4-72	Upper Col. Strut No. 10 Rev. to No. 9	HAV	11-71	CWB	11-71		
5-72	Sign Face & Truss Connection						
8-74	INDEX 11495 ADDED						



STOCKBRIDGE-TYPE DAMPER

Stockbridge-Type Damper Cat. 1708-200.1 damper placed at mid span or at the Contractor's option in lieu of this Stockbridge-Type Damper Sign Panels shall be attached at the time the structure is erected, or a temporary sign panel placed at time of erection or the overhead sign truss shall be wrapped in canvas.

SCHEDULE FILLET WELD SIZE			
TRUSS MEMBERS		POST MEMBERS	
THICKNESS	WELD SIZE	THICKNESS	WELD SIZE
1/8"	3/16"	1/8"	1/4"
3/16"	1/2"	3/16"	5/16"
1/4"	3/8"	1/4"	3/8"
5/16"	7/16"	5/16"	1/2"
3/8"	1/2"	3/8"	5/8"
		1/2"	3/4"



DETAIL OF SIGN FACE & TRUSS CONNECTION

See Drawing 1 of 1 Index No. 11037

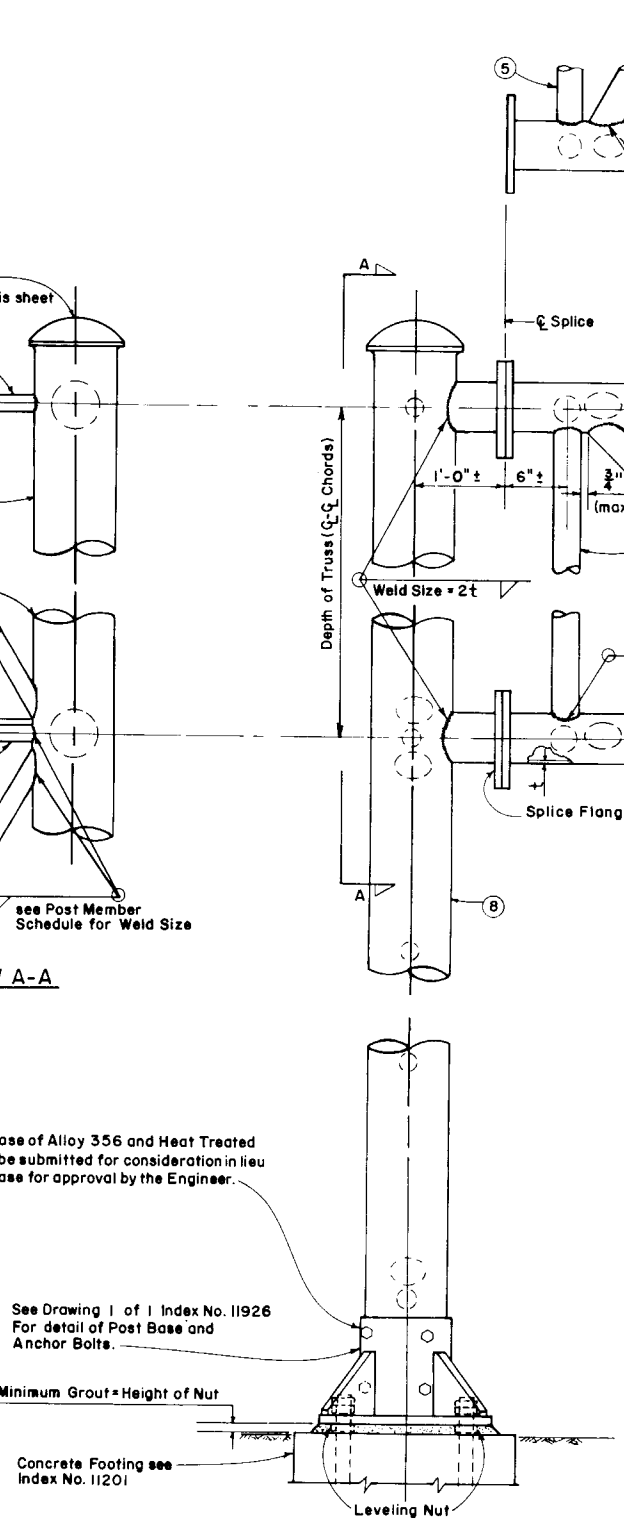
An Alternate Cast Base of Alloy 356 and Heat Treated to T6 Temper may be submitted for consideration in lieu of the Fabricated Base for approval by the Engineer.

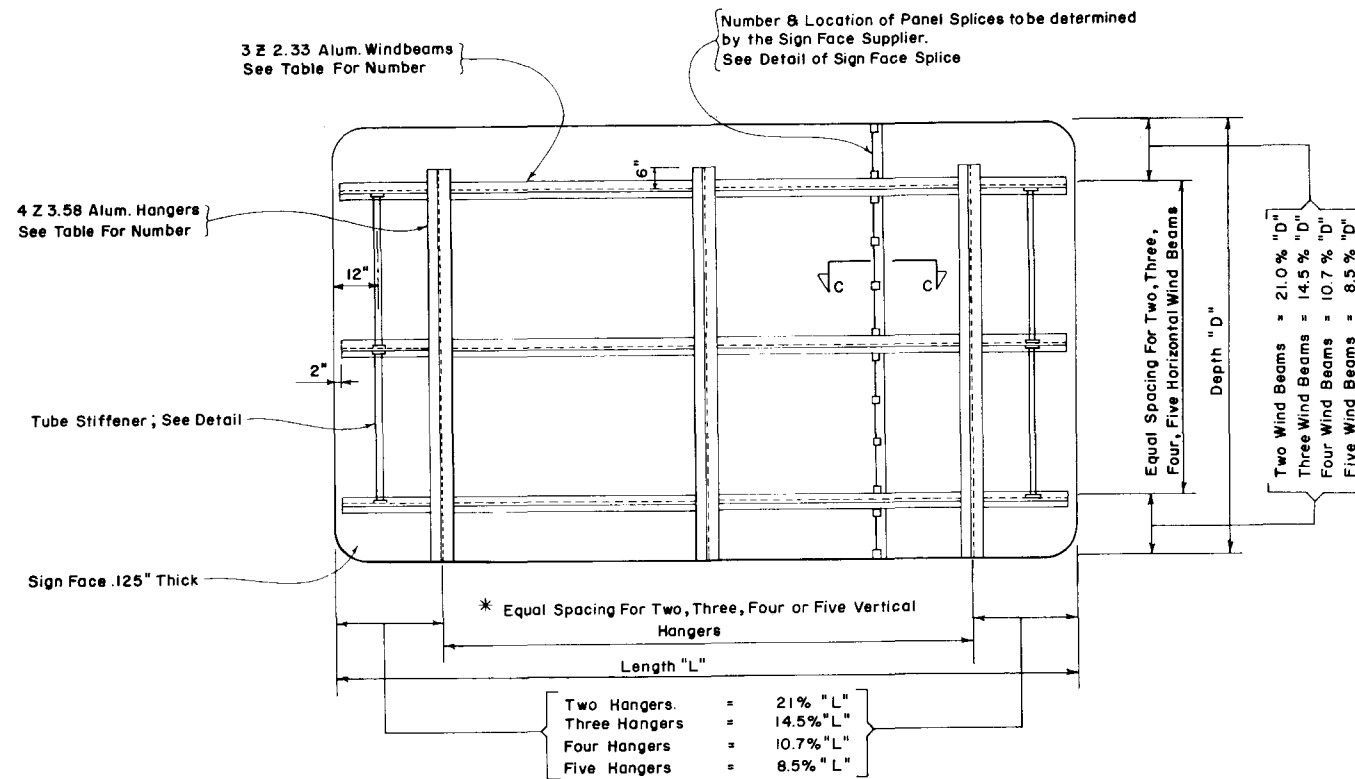
See Drawing 1 of 1 Index No. 11926 For detail of Post Base and Anchor Bolts.

Minimum Grout = Height of Nut

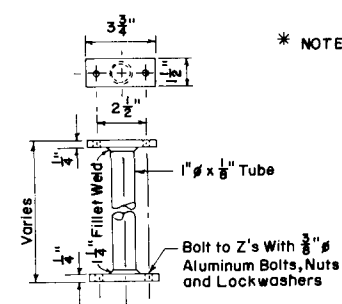
Concrete Footing see Index No. 11201

ELEVATION

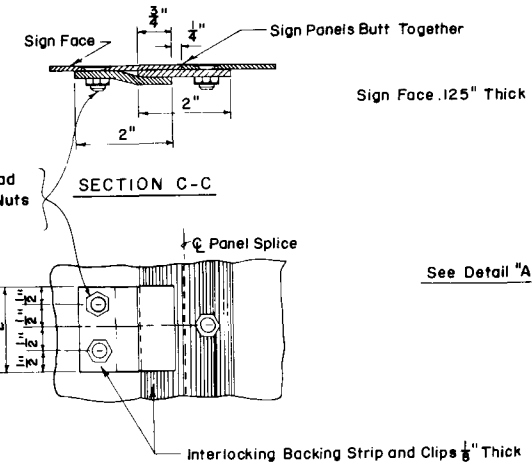




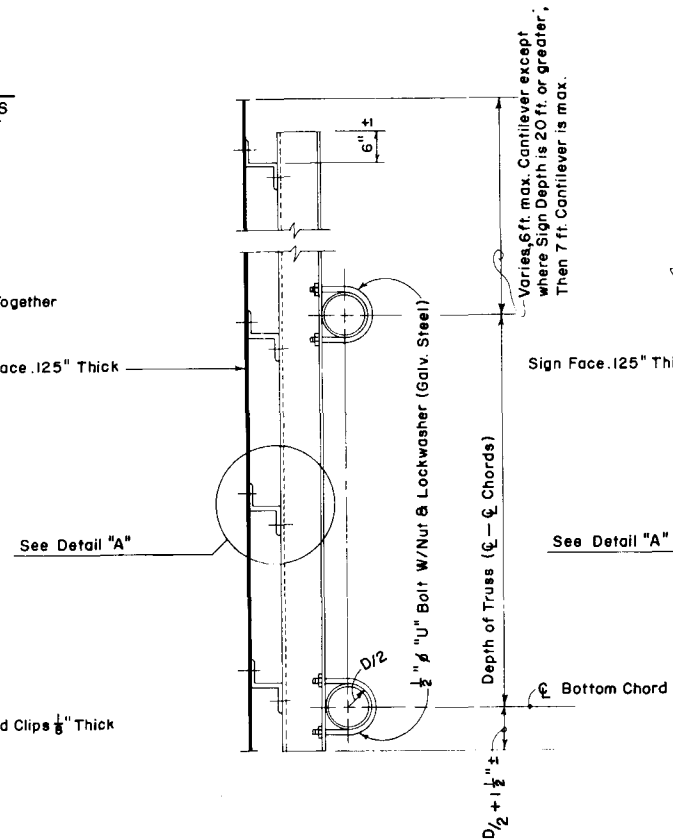
Number of 3 Z 2.33 Horizontal Wind Beams for Sign Depth and Wind			Number of 4 Z 3.58 Vertical Hanger Beams for Sign Length			
WIND M.P.H.	NO. BEAMS	MAX. DEPTH	2 HANGERS SIGN LENGTH	3 HANGERS SIGN LENGTH	4 HANGERS SIGN LENGTH	5 HANGERS SIGN LENGTH
110	2	7'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
110	3	10'-6"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
110	4	14'-3"	0 - 13'-0"	13'-1" - 18'-3"	18'-4" - 24'-9"	24'-10" - 31'-4"
110	5	18'-0"	0 - 13'-0"	13'-1" - 18'-3"	18'-4" - 24'-9"	24'-10" - 31'-4"
100	2	8'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
100	3	11'-9"	0 - 15'-0"	15'-1" - 22'-3"	22'-4" - 30'-0"	30'-1" - 38'-0"
100	4	15'-9"	0 - 15'-0"	15'-1" - 22'-3"	22'-4" - 30'-0"	30'-1" - 38'-0"
100	5	20'-0"	0 - 11'-7"	11'-8" - 16'-4"	16'-5" - 22'-2"	22'-3" - 28'-0"
90	2	9'-0"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
90	3	13'-0"	0 - 15'-0"	15'-1" - 27'-3"	27'-4" - 37'-0"	
90	4	17'-6"	0 - 15'-0"	15'-1" - 27'-3"	27'-4" - 37'-0"	
90	5	22'-6"	0 - 14'-3"	14'-4" - 20'-0"	20'-1" - 27'-0"	27'-1" - 34'-3"
80	2	10'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
80	3	14'-9"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
80	4	20'-0"	0 - 15'-0"	15'-1" - 25'-9"	25'-10" - 34'-10"	



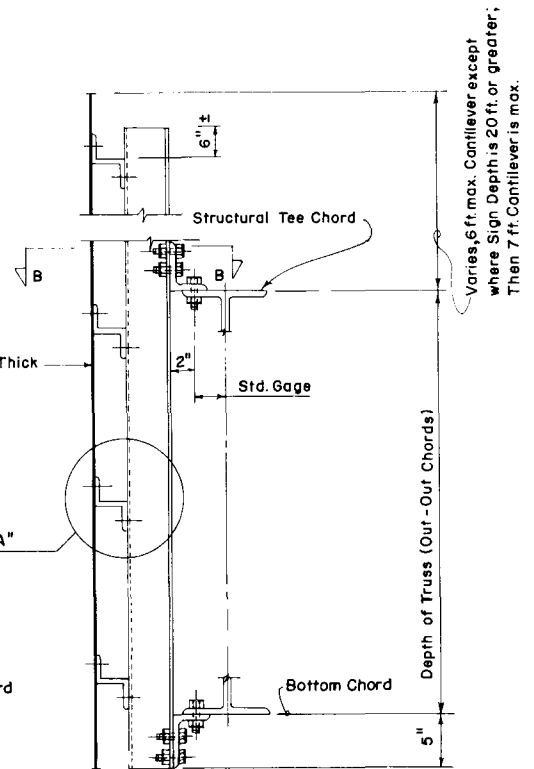
STIFFENER DETAIL



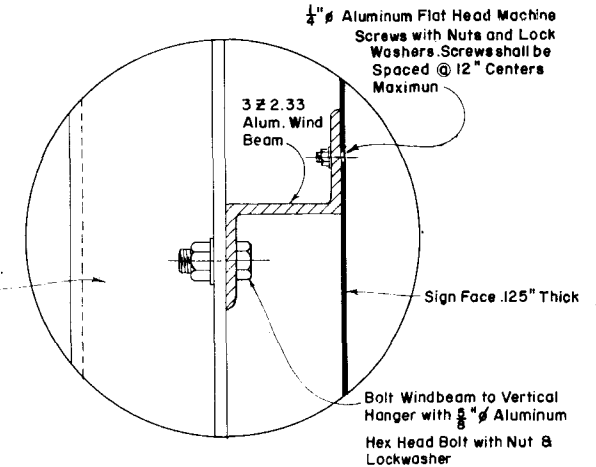
SIGN FACE SPLICE
(MAX. SPACING OF CLIPS 12")



TYPICAL DETAIL OF SIGN & TRUSS CONNECTION
FOR ROUND CHORD MEMBERS



TYPICAL DETAIL OF SIGN & TRUSS CONNECTION
FOR ROLLED STRUCTURAL SHAPES
(LIGHTING NOT SHOWN)



DETAIL "A"
(SHOWING ATTACHMENT OF SIGN FACE
PANEL TO VERTICAL HANGER SUPPORTS)

GENERAL NOTES:

(1) For "General Notes" Covering Specification, Materials and Wind Loads; see Sheets 1 of 4 and 3 of 4, Index 9535

APPROVED BY FHWA 11/16/78
DETAILS OF SIGN FACE & TRUSS CONNECTION

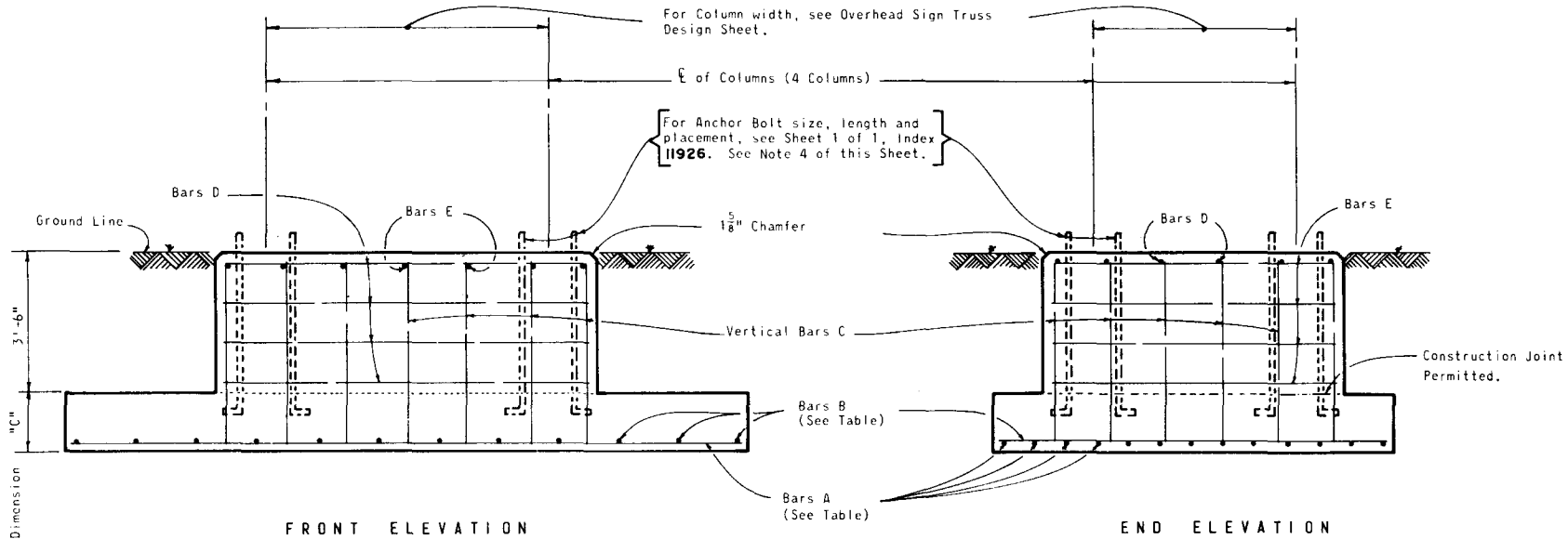
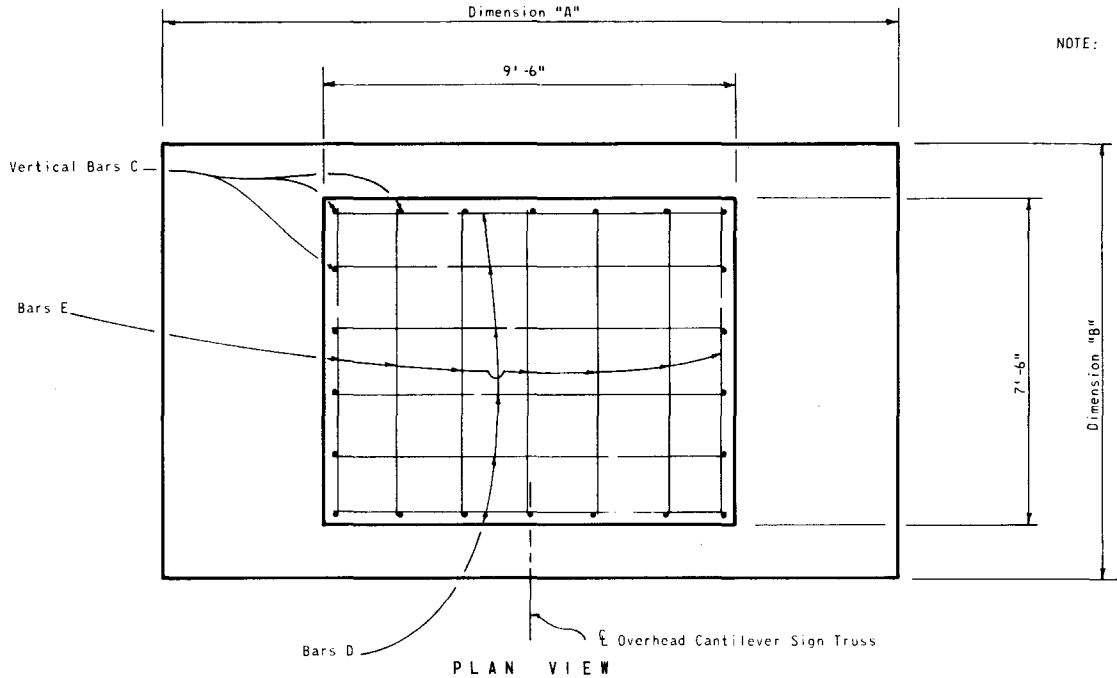
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

FOR ALUMINUM & STEEL OVERHEAD SIGN STRUCTURES

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Descriptions			
3-74	Rev Round HD Bolts to Flat HD Bolt			
5-76	REV. WIND LOADING			
1-78	REV. Truss Connection Note			
Designed by C.W.B.		5-72	APPROVED BY <i>T. J. [Signature]</i> Deputy Design Engineer, Structures	
Checked by A.J.H.		5-72		
Quantities by				
Checked by				
Supervised by			Drawing No. 1 of 1	
			Index No. 11037	

FOOTING DESIGNATION	FOOTING DIMENSION			BILL OF VARYING REINFORCING							
	DIMENSION			BARS A				BARS B			
	A	B	C	SIZE	LENGTH	SPACING	NO. REQ'D.	SIZE	LENGTH	SPACING	NO. REQ'D.
C-1	10'-0"	8'-6"	1'-6"	5	9'-6"	6"	17	5	8'-0"	9 1/2"	13
C-2	11'-0"	8'-6"	1'-6"	7	10'-6"	12"	9	6	8'-0"	14"	10
C-3	12'-0"	9'-3"	1'-6"	6	11'-6"	8 1/4"	13	5	8'-9"	11 1/2"	13
C-4	13'-0"	9'-9"	1'-6"	6	12'-6"	9 1/4"	13	6	9'-3"	15"	11
C-5	14'-0"	9'-9"	1'-6"	6	13'-6"	9 1/4"	13	6	9'-3"	18"	10
C-6	15'-0"	10'-0"	1'-6"	6	14'-6"	9 1/2"	13	6	9'-6"	14 1/2"	13
C-7	16'-0"	10'-0"	1'-6"	7	15'-6"	9 1/2"	13	5	9'-6"	11 5/8"	17
C-8	17'-0"	9'-9"	1'-6"	8	16'-6"	9 1/4"	13	6	9'-3"	18"	12
C-9	17'-6"	9'-9"	1'-9"	8	17'-0"	9 1/4"	13	5	9'-3"	12"	18
C-10	18'-0"	10'-0"	1'-9"	8	17'-6"	9 1/2"	13	5	9'-6"	10"	22
C-11	19'-0"	10'-0"	1'-9"	7	18'-6"	7 1/4"	17	6	9'-6"	17"	14
C-12	20'-0"	9'-9"	1'-9"	9	19'-6"	9 1/4"	13	6	9'-3"	18"	14
C-13	20'-5"	9'-9"	1'-9"	8	20'-0"	6 15/16"	17	5	9'-3"	12"	21
C-14	21'-0"	10'-0"	1'-9"	8	20'-6"	6"	20	5	9'-6"	10 3/4"	25
C-15	22'-0"	9'-9"	1'-9"	9	21'-5"	6 15/16"	17	5	9'-3"	10 3/4"	25
C-16	22'-6"	10'-0"	1'-9"	9	22'-0"	6"	20	5	9'-6"	12"	23
C-17	23'-0"	10'-0"	1'-9"	9	22'-6"	6"	20	5	9'-6"	10"	28
C-18	24'-0"	9'-9"	1'-9"	10	23'-6"	6 15/16"	17	5	9'-3"	11 3/4"	25
C-19	24'-0"	9'-9"	2'-0"	10	23'-6"	6 15/16"	17	5	9'-3"	11 3/4"	25
C-20	24'-6"	9'-9"	2'-0"	10	24'-0"	6 15/16"	17	5	9'-3"	12"	25
C-21	24'-6"	10'-0"	2'-0"	9	24'-0"	6"	20	5	9'-6"	12"	25
C-22	25'-0"	10'-0"	2'-0"	10	24'-6"	6"	20	6	9'-6"	14"	22
C-23	25'-6"	9'-9"	2'-0"	9	25'-0"	4 5/8"	25	5	9'-3"	12"	26
C-24	25'-6"	10'-0"	2'-0"	10	25'-0"	6"	20	5	9'-6"	12"	26
C-25	26'-0"	9'-9"	2'-0"	9	25'-6"	4 5/8"	25	6	9'-3"	18"	18
C-26	26'-0"	10'-0"	2'-0"	10	25'-6"	6"	20	6	9'-6"	18"	18
C-27	26'-6"	9'-9"	2'-0"	11	26'-0"	6 15/16"	17	5	9'-3"	12"	27
C-28	26'-6"	10'-0"	2'-0"	10	26'-0"	6"	20	5	9'-6"	12"	27
C-29	27'-0"	9'-9"	2'-0"	11	26'-6"	6 15/16"	17	6	9'-3"	16 11/16"	20
C-30	27'-0"	10'-0"	2'-0"	11	26'-6"	6"	20	6	9'-6"	16 11/16"	20
C-31	27'-6"	9'-9"	2'-0"	10	27'-0"	4 5/8"	25	5	9'-3"	12"	28
C-32	27'-6"	10'-0"	2'-0"	11	27'-0"	6"	20	5	9'-6"	12"	28
C-33	28'-0"	9'-9"	2'-0"	10	27'-6"	4 5/8"	25	5	9'-3"	10"	34
C-34	28'-0"	10'-0"	2'-0"	11	27'-6"	6"	20	5	9'-6"	10"	34
C-35	28'-6"	9'-9"	2'-0"	10	28'-0"	4 5/8"	25	5	9'-3"	12"	29
C-36	28'-6"	10'-0"	2'-0"	11	28'-0"	6"	20	5	9'-6"	12"	29
C-37	29'-0"	9'-9"	2'-0"	10	28'-6"	4 5/8"	25	6	9'-3"	18"	20
C-38	29'-0"	10'-0"	2'-0"	10	28'-6"	4 3/4"	25	6	9'-6"	18"	20
C-39	29'-6"	9'-9"	2'-0"	10	29'-0"	4 5/8"	25	5	9'-3"	12"	30
C-40	29'-6"	10'-0"	2'-0"	11	29'-0"	4 3/4"	25	5	9'-6"	12"	30

BILL OF CONSTANT REINFORCING			
MARK	SIZE	LENGTH	NO. REQ'D.
C	4	3'-0"+Dim.C	22
D	4	9'-0"	12
E	4	7'-0"	13



- NOTES:
- All Reinforcing Steel shall have a 3" Minimum of Concrete Cover and shall be of Grade 60.
 - All exposed edges to be Chamfered 3/4" unless otherwise shown.
 - All Concrete shall be Class II. The Minimum Specified Compressive Strength at 28 days (f'c) shall be 3,400 p.s.i.
 - If Contractor elects to furnish a cast base in lieu of D.O.T. Standard Detail, he shall furnish an Anchor Bolt Spacing Plan for field use.

APPROVED BY FHWA 11/16/78
OVERHEAD CANTILEVER TRUSSES

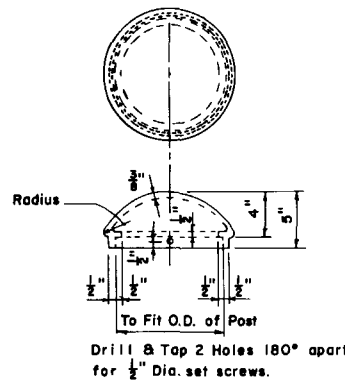
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

FOOTINGS FOR OVERHEAD SIGN TRUSSES

ROAD NO. COUNTY PROJECT NO.

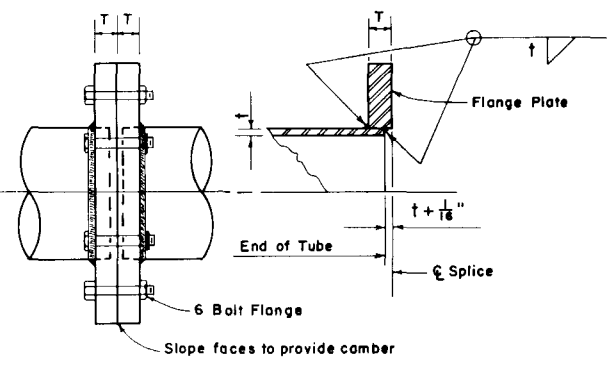
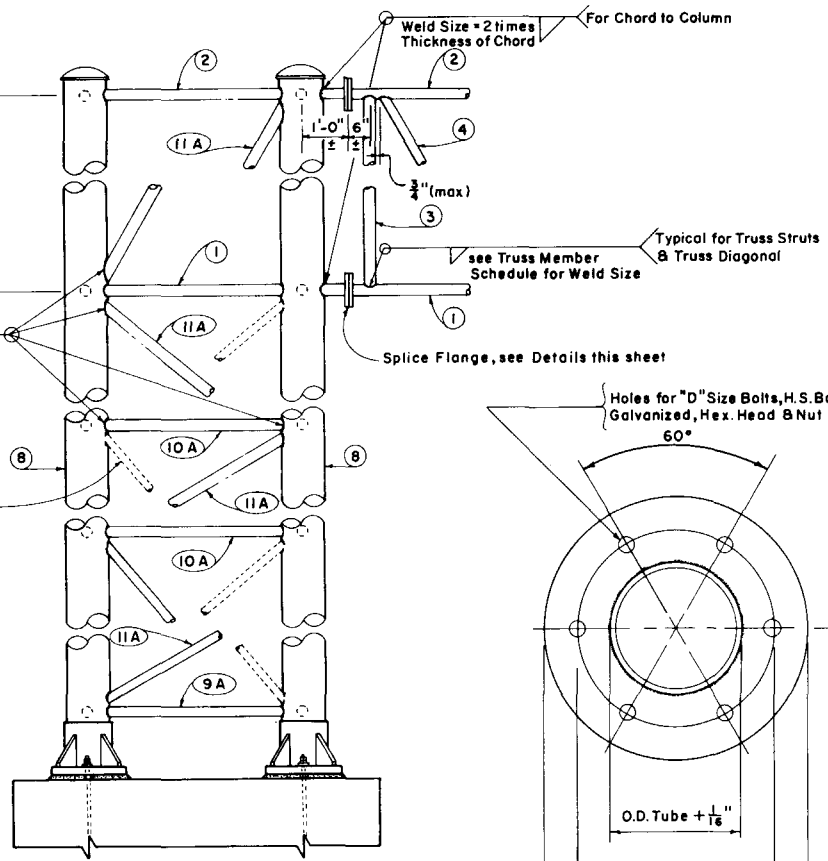
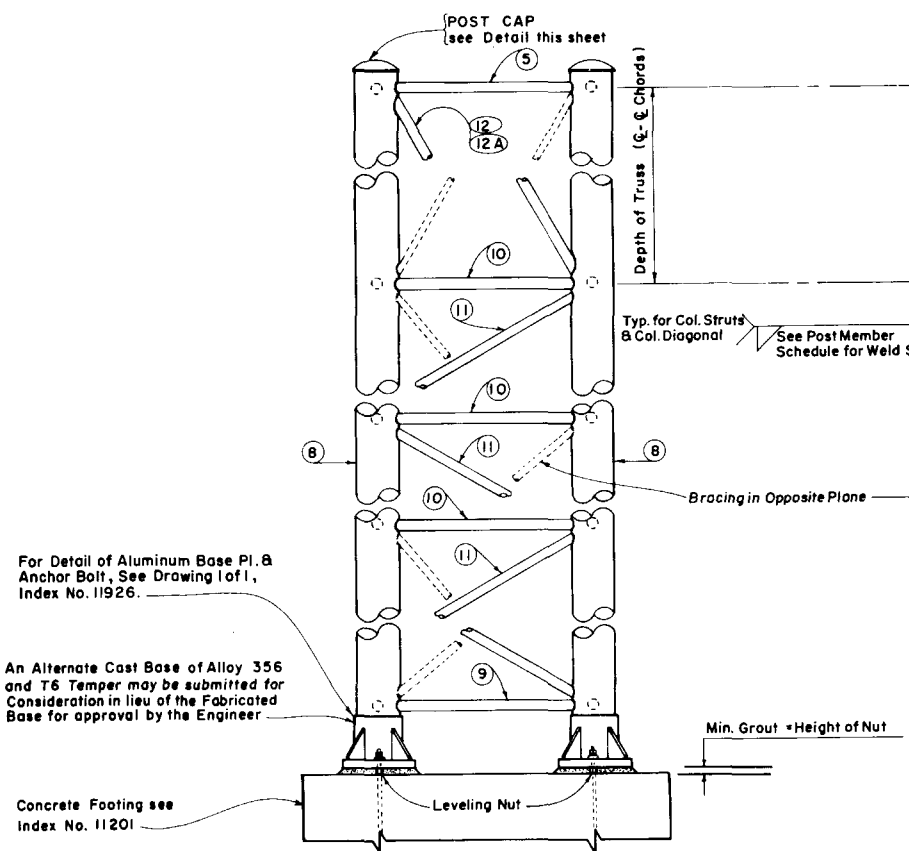
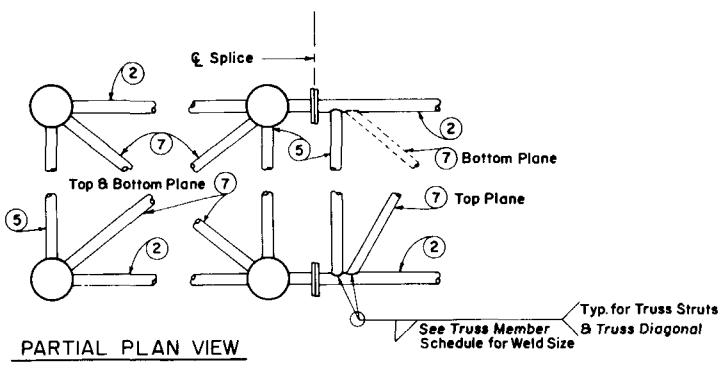
DESIGNED BY D.K.S. 4/73
CHECKED BY C.W.B. 4/73
SUPERVISOR A.J.H.

APPROVED BY T. All
Deputy Design Engineer, Structures
Drawing No. 2 of 2
Index No. 11,201



POST CAP
Aluminum Alloy 356-F

SCHEDULE FILLET WELD SIZE			
TRUSS MEMBERS		POST MEMBERS	
THICKNESS	WELD SIZE	THICKNESS	WELD SIZE
1/8"	3/16"	1/8"	1/4"
3/16"	1/4"	3/16"	5/16"
1/4"	3/8"	1/4"	3/4"
		5/16"	1/2"
		3/8"	5/8"
		1/2"	3/4"



Aluminum Alloy 6061-T6 or 5154-H38 or Alloy 356-T6

GENERAL NOTES

- (1) For "General Notes" Covering Specifications and Materials, see Sheet 1 of 4 Index 9535
- (2) SHOP DRAWINGS: Contractor shall submit complete shop drawings before fabrication for approval.
- (3) COLUMN LENGTHS: It shall be the Contractor's responsibility to determine the length of Column Supports.
- (4) DETAIL of SIGN FACE & TRUSS CONNECTION: see Drawing 1 of 1 Index No. 11037

SPLICE PLATE FLANGE TABLE			
TUBE SIZE	T	BOLT SIZE "D"	
2 3/4" x 1/8" to 6 1/2" x 1/4"	1 1/4"	3/8"	
7" x 1/4" to 9" x 1/4"	1 1/4"	3/4"	
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/4"	7/8"	

DATE	DESCRIPTION
5-73	DIMENSION E ADDED
6-76	Base & Anchor Bolt Details Deleted
3-77	Walkway Detail Note Added
1-78	Walkway Note Removed

APPROVED BY FHWA NOVEMBER 16, 1978

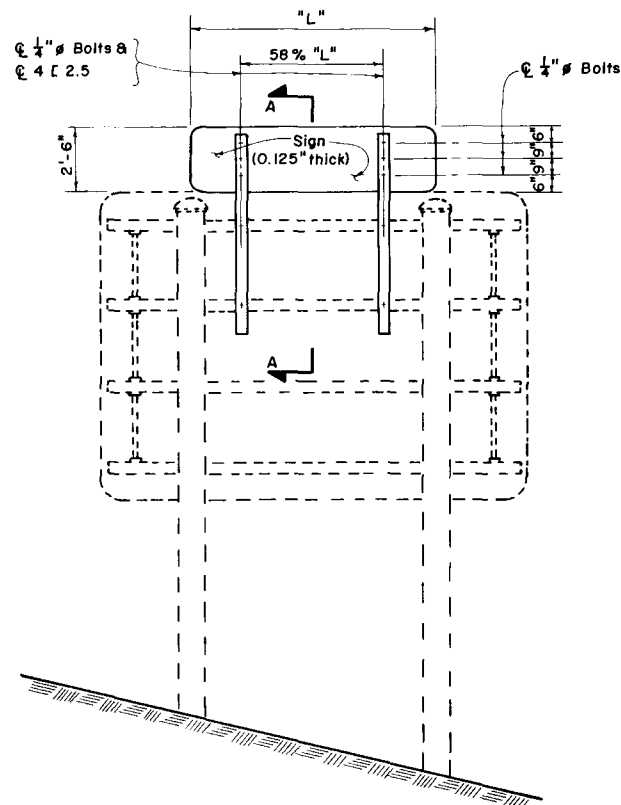
ALUMINUM CANTILEVER

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

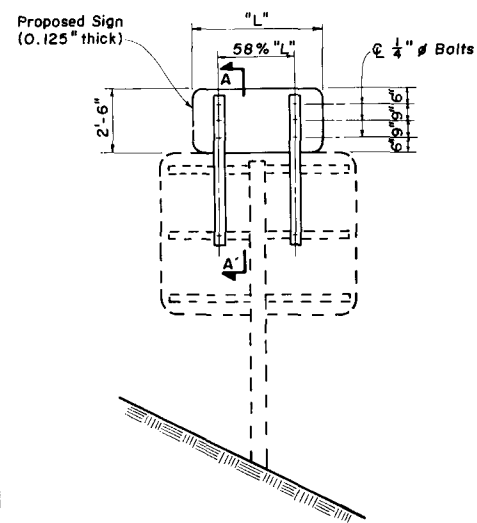
TRUSSES FOR OVERHEAD SIGNS

ROAD NO.	COUNTY	PROJECT NO.
DESIGNED BY	HAV	3-73
CHECKED BY	CWB	3-73
QUANTITIES BY		
CHECKED BY		
SUPERVISOR BY	AJH	
DRAWING NO.	1 of 1	11226

APPROVED BY
T. alb...
Design Engineer, Structures



ELEVATION
(Showing Mounting of Proposed Assembly
to Type "A" or "B" Ground Sign)



ELEVATION
(Showing Mounting of Proposed Assembly
to Type "C" Ground Sign)

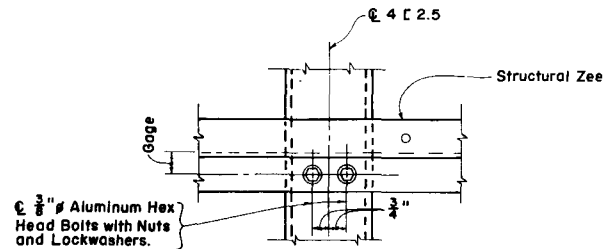
Bolt Sign to Channels using
1/4" Aluminum Flat Head
Nuts and Lock Washers (Typ.).

4 x 2.5

Top of Sign and Bottom
of Proposed Sign

Bolt Proposed Assembly to Wind
Beams with 3/8" Aluminum Hex Head
Bolts with Nuts and Lockwashers.

SECTION A-A



SECTION C-C

GENERAL NOTES

- DESIGN SPECIFICATION: Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O., 1975
- SHEETS AND PLATES: Material used shall meet the requirements of Aluminum Association Alloy 6061-T6 and ASTM Specification B-209. Sheets are to be degreased, etched, neutralized and treated with Alodine 1200, Iridite 14-2, Bonderite 721, or equal. No stenciling permitted on Sheets.
- MATERIALS: All Aluminum Materials shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the following ASTM Specifications for the following; Sheet and Plates B-209; Extruded Shapes B-221 and Standard Structural Shapes B-308.
- ALUMINUM BOLTS, NUTS & LOCKWASHERS: Aluminum Bolts shall meet the requirements of Aluminum Association Alloy 2024-T4 or 6061-T6 (ASTM Spec. B-211). The Bolts shall have an Anodic Coating of at least 0.0002" thick and be Chromate Sealed. Lockwashers shall meet the requirements of Aluminum Association Alloy 7075-T6 (ASTM Specification B-221). Nuts shall meet the requirement of Aluminum Association Alloy 6262-T9 or 6061-T6.
- SIGN FACE: All Sign Face Corners shall be rounded. See Sign Layout Sheet for Dimension "L" and Sign Face Details.
- MATERIAL STRESSES: All allowable stresses are in accordance with the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O., 1975, for all materials shown in the Plans.
- SHOP DRAWINGS: Prior to fabrication, the Contractor shall submit complete shop drawings for approval.
- OVERHEAD SIGNS: For Details to mount Proposed Assembly to Overhead Signs refer to Details for mounting to Type "A" or "B" Ground Signs.

APPROVED BY FHWA 11/16/78
INTERCHANGE AND EXIT NUMBERING FOR
SIGNS WITH HORIZONTAL WIND BEAMS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

DETAILS FOR MOUNTING EXIT
NUMBERING PANELS TO HIGHWAY SIGNS

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			
5-76	Design Spec. Date Rev. to 1975 & Removed Non-Breakway Structure Details			
10-78	Rev. 4 C to 2.5			
		Names	Dates	APPROVED BY
		Designed by	RDS	7-75
		Checked by	AJH	7-75
		Quantities by		
		Checked by		
		Supervised by		
		Drawing No.	Index No.	
		1 of 1	11671	

SIGN		TYPE OF SIGN BRACKET			
PROFILE - SIZE	SQ. FT.	WIND ZONE			
		60	70	80	90
BID ITEM NO. 700-1-1 YIELD					
1	▽ 30x30 2.7	2-I	2-I	2-I	2-I
2	▽ 36x36 3.9	2-I	2-I	2-I	2-I
3	▽ 48x48 6.9	2-I	2-I	2-I	2-I
4	▽ 60x60 10.8	2-I	2-I	2-I	2-II
BID ITEM NO. 700-1-2 RAILROAD					
5					
6					
7	○ 36"ø 7.1	2-I	2-I	2-I	2-I
8	○ 48"ø 12.6	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-3 STOP					
9	○ 24x24 3.3	2-I	2-I	2-I	2-I
10	○ 30x30 5.2	2-I	2-I	2-I	2-I
11	○ 36x36 7.5	2-I	2-I	2-I	2-I
12	○ 48x48 13.3	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-4 RT. MARKER SINGLE					
13	16x24 24x24 6.1	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
14	15x30 24x24 6.5	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
15	16x24 24x30 7.0	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
16	15x30 24x30 7.4	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
17	15x30 36x36 10.8	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
18	15x30 36x45 12.6	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
19	15x30 48x48 16.7	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
20	15x30 48x60 20.1	1-I 2-I	1-I 2-I	1-I 2-II	1-I 2-II
21	12x24 24x24 16x24 8.1	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
22	15x30 24x24 16x24 9.2	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
23	12x24 24x30 16x24 9.0	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
24	15x30 24x30 16x24 10.1	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
25	12x24 24x24 6.0	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
26	24x24 16x24 6.7	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
27	15x30 24x24 7.1	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
28	12x24 24x30 7.0	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I

SIGN		TYPE OF SIGN BRACKET			
PROFILE - SIZE	SQ. FT.	WIND ZONE			
		60	70	80	90
BID ITEM NO. 700-1-12, 4+ TO 5 SQ. FT.					
52	18x36 4.5	2-I	2-I	2-I	2-I
53	30x24 5.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-13, 5+ TO 6 SQ. FT.					
54	36x48 5.6	2-I	2-I	2-II	2-II
55	24x36 6.0	2-I	2-I	2-I	2-I
56	36x24 6.0	2-I	2-I	2-I	2-I
57	30x30 8x24 6.0	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
BID ITEM NO. 700-1-14, 6+ TO 6.25 SQ. FT.					
58	30x30 6.3	2-I	2-I	2-I	2-I
59	30x30 6.3	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-15, 6.25+ TO 9 SQ. FT.					
60	24x24 18x24 7.0	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
61	30x36 7.5	2-I	2-I	2-I	2-I
62	36x30 7.5	2-I	2-I	2-I	2-I
63	30x30 18x24 7.7	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
64	24x48 8.0	2-I	2-I	2-I	2-I
65	12x36 30x30 8.2	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
66	30x42 8.8	2-I	2-I	2-I	2-I
67	36x36 9.0	2-I	2-I	2-I	2-I
68	36x36 9.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-16, 9+ TO 12 SQ. FT.					
69	12x36 30x30 9.3	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
70	30x30 18x24 9.3	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
71	36x36 12x36 9.8	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
72	48x64 9.9	2-II	2-II	2-II	2-II
73	30x48 10.0	2-I	2-I	2-I	2-I
74	30x30 24x24 10.3	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
75	12x36 36x36 10.5	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
76	30x54 (2-6x4-6) 11.3	2-I	2-I	2-I	2-II
77	36x48 (3-0x4-0) 12.0	2-I	2-I	2-I	2-I
78	48x36 (4-0x3-0) 12.0	2-I	2-I	2-I	2-I
79	36x36 18x24 12.0	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
BID ITEM NO. 700-1-17, 12+ TO 16 SQ. FT.					
80	30x60 (2-6x5-0) 12.5	2-I	2-I	2-II	2-II
81	36x36 24x36 12.8	2-I	2-I	2-I	2-I
82	48x48 (4-0x4-0) 16.0	2-I	2-I	2-I	2-I
83	48x48 (4-0x4-0) 16.0	3-II	3-II	3-II	3-II
BID ITEM NO. 700-1-18, 16+ TO 20 SQ. FT.					
84	30x78 (2-6x6-6) 16.3	2-II	2-II	2-II	2-II
85	48x48 16x48 17.3	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
86	30x84 (2-6x7-0) 17.5	2-II	2-II	2-II	2-II
87	48x54 (4-0x4-6) 18.0	2-I	2-I	2-I	2-II

SIGN		TYPE OF SIGN BRACKET			
PROFILE - SIZE	SQ. FT.	WIND ZONE			
		60	70	80	90
BID ITEM NO. 700-1-19, 20+ TO 32 SQ. FT.					
88	48x48 18x24 19.0	3-II 2-I	3-II 2-I	3-II 2-I	3-II 2-I
89	42x66 (3-6x5-6) 19.3	2-I	2-II	2-II	2-II
90	60x48 (5-0x4-0) 20.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-20 DESTINATION, 1-LINE					
91	66x48 (5-6x4-0) 22.0	2-I	2-I	2-I	2-I
92	48x48 30x48 22.0	2-I 2-I	2-I 2-I	2-I 2-I	2-I 2-I
93	60x72 (5-0x6-0) 30.0(a) 32.0(b) 3-I	2-I 3-I	2-II 3-I	2-II 3-I	2-II 3-I
BID ITEM NO. 700-1-21 DESTINATION, 2-LINE					
94	24x78 (2-0x6-6) 13.0	2-II	2-II	2-II	2-II
95	36x78 (3-0x6-6) 19.5	2-II	2-II	2-II	2-II
SIGN OVER 32 SQ. FT.					
96	30x54 60x72 (5-0x6-0) 41.3	2-I 2-I	2-I 2-II	2-I 2-II	2-I 2-II

NOTE: "A" - See Traffic Operation Standard Index 17302 A

TYPICAL SECTION

SIGN CLEARANCE

DETAILS-WI4-3 PLAQUE

DESIGN NOTES

DESIGN SPECIFICATION: Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals A.A.S.H.T.O. 1975

MATERIALS: Aluminum Materials shall, in General, Meet the Requirements of Aluminum Association Alloy 6061-T6 (ASTM B209, B221, or B308) Permissible Alternates shall be: For sheets and Plates - Aluminum Association Alloy 5154-H38 (ASTM B209) and for Extruded Bars, Rods, Shapes and Tubes - Aluminum Association Alloy 6351-T5 (ASTM B221).

CONCRETE: All Concrete shall be Class I, The Specified Compressive Strength at 28 Days (f'c) Shall be 3,000 p.s.i. min.

SIGN PANEL: Sign Panel to be 0.125 in. Thick Aluminum Plate with all Corners Rounded. See Sign Layout Sheet. Panels are to be Degreased, Etched, Neutralized and Treated with Alodine 1200, Iridine 14-2, Bonderite 721 or Equal. No Stenciling Permitted on Panels.

ALUMINUM BOLTS, NUTS & LOCKWASHERS: Aluminum Bolts shall meet the Requirements of Aluminum Association Alloy 2024-T4 or 6061-T6 (ASTM B211). The Bolts shall have an Anodic Coating of at least 0.0002 in. Thick and be Chromate Sealed. Lockwashers shall meet the Requirements of Aluminum Association Alloy 7075-T6 (ASTM B221). Nuts shall meet the Requirements of Aluminum Association Alloy 6262-T9 or 6061-T6.

GENERAL NOTES

HOW TO USE THIS TABLE: Select the Appropriate Sign Profile and Sign Size to Determine the Sign Identification Number. If the Exact Sign Size of All Components is Not Listed, Select the Appropriate Profile and Larger Component Sizes. This Table Also Gives the Quantity and Type of Sign Brackets Required for Each Sign for Each Wind Zone.

Where the Sign Size is Given as a Vertical and Horizontal Dimension, The Vertical Dimension (Depth) is Given First and the Horizontal Dimension (Length) is Given Last.

Signs 16" and Less in Depth will be Mounted with One Bracket at the C. Signs 18" in Depth and Over Require Two Sign Brackets.

For Column Sizes, Heights and Footings See Apporiate (Wind Zone) Sheet Titled "Column Size, Column Height and Column Footings."

WIND LOADING

ZONE NO. 1
(60 M.P.H.)

Alachua, Bradford, Baker, Bay, Calhoun, Clay, Columbia, Escambia, Gadsden, Gilchrist, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Lake, Leon, Liberty, Madison, Marion, Okaloosa, Putnam, Santa Rosa, Sumter, Suwannee, Union, Walton and Washington Counties

ZONE NO. 2
(70 M.P.H.)

Citrus, DeSoto, Dixie, Duval, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Levy, Nassau, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, St. Johns, Taylor and Wakulla Counties.

ZONE NO. 3
(80 M.P.H.)

Brevard, Charlotte, Collier, Indian River, Lee, Manatee, Martin, Palm Beach, Sarasota, St. Lucie and Volusia Counties.

ZONE NO. 4
(90 M.P.H.)

Broward, Dade and Monroe Counties.

APPROVED BY FHWA 11/16/78

SIGN PROFILE & IDENTIFICATION NUMBERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

TYPE "C" SINGLE COLUMN GROUND SIGNS

REVISED	DESCRIPTION	DATE
3-77	Revised Sign No. 93	
11-78	Delete Sign No. 5 & No. 6	

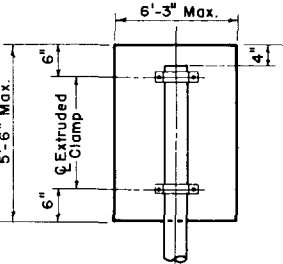
ROAD NO.	COUNTY	PROJECT NO.

DESIGNED BY	DATE	APPROVED BY
CK	3-76	
CWB	3-76	

QUANTITIES BY	DATE	APPROVED BY

DRAWING NO.	INDEX NO.
1 of 1	11860

COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 1/8	4 x 1/8	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 1/8	4 x 1/8	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4			
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-11	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-11	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0			
Sign Identification Number	HEIGHT (FT.)														Sign Identification Number	HEIGHT (FT.)																
1	To	13'	13'	16'	16'	20'	20'	29'	29'	30'					53	To	9'	9'	13'	13'	16'	16'	25'	25'	29'	29'	30'					
2	To	11'	11'	15'	15'	19'	19'	28'	28'	30'					54	To	7'	7'	12'	12'	14'	14'	23'	23'	28'	28'	30'					
3	To	9'	9'	12'	12'	21'	21'	25'	25'	30'					55	To	7'	7'	11'	11'	14'	14'	23'	23'	27'	27'	30'					
4	To	8'	8'	14'	14'	18'	18'	23'	23'	27'	27'	30'			56	To	7'	7'	12'	12'	14'	14'	23'	23'	28'	28'	30'					
5	To	17'	17'	21'	21'	25'	25'	30'							57	To	7'	7'	12'	12'	14'	14'	23'	23'	28'	28'	30'					
6	To	13'	13'	16'	16'	20'	20'	30'							58	To	7'	7'	11'	11'	13'	13'	23'	23'	27'	27'	30'					
7	To	6'	6'	10'	10'	13'	13'	20'	20'	25'	25'	28'	28'	30'	59	To	6'	6'	11'	11'	13'	13'	22'	22'	27'	27'	30'					
8	To	9'	9'	14'	14'	18'	18'	23'	23'	27'	27'	30'			60	To	9'	9'	12'	12'	21'	21'	25'	25'	29'	29'	30'					
9	To	13'	13'	16'	16'	20'	20'	30'							61	To	9'	9'	13'	13'	20'	20'	24'	24'	28'	28'	30'					
10	To	9'	9'	13'	13'	16'	16'	25'	25'	29'	29'	30'			62	To	6'	6'	10'	10'	13'	13'	20'	20'	25'	25'	28'	28'	30'			
11	To	6'	6'	10'	10'	13'	13'	20'	20'	25'	25'	28'	28'	30'	63	To	9'	9'	13'	13'	20'	20'	25'	25'	28'	28'	30'					
12	To	7'	7'	13'	13'	16'	16'	20'	20'	25'	25'	28'	28'	30'	64	To	9'	9'	13'	13'	19'	19'	24'	24'	28'	28'	30'					
13	To	7'	7'	12'	12'	14'	14'	24'	24'	28'	28'	30'			65	To	8'	8'	12'	12'	19'	19'	23'	23'	27'	27'	30'					
14	To	7'	7'	12'	12'	14'	14'	24'	24'	28'	28'	30'			66	To	8'	8'	12'	12'	18'	18'	22'	22'	27'	27'	30'					
15	To	6'	6'	10'	10'	13'	13'	21'	21'	26'	26'	29'	29'	30'	67	To	8'	8'	12'	12'	18'	18'	23'	23'	27'	27'	30'					
16	To	6'	6'	10'	10'	13'	13'	21'	21'	26'	26'	29'	29'	30'	68	To	7'	7'	11'	11'	18'	18'	22'	22'	27'	27'	30'					
17	To	9'	9'	15'	15'	19'	19'	23'	23'	27'	27'	30'			69	To	7'	7'	11'	11'	17'	17'	22'	22'	26'	26'	30'					
18	To	7'	7'	12'	12'	16'	16'	21'	21'	25'	25'	28'	28'	30'	70	To	6'	6'	10'	10'	16'	16'	21'	21'	25'	25'	28'	28'	30'			
19	To	6'	6'	12'	12'	14'	14'	18'	18'	22'	22'	27'	27'	30'	71	To	7'	7'	11'	11'	17'	17'	21'	21'	26'	26'	29'	29'	30'			
20	To	10'	10'	12'	12'	14'	14'	18'	18'	22'	22'	26'	26'	28'	28'	72	To	7'	7'	10'	10'	16'	16'	21'	21'	25'	25'	29'	29'	30'		
21	To	7'	7'	11'	11'	18'	18'	22'	22'	27'	27'	30'			73	To	7'	7'	10'	10'	16'	16'	20'	20'	25'	25'	28'	28'	30'			
22	To	6'	6'	10'	10'	16'	16'	21'	21'	25'	25'	28'	28'	30'	74	To	6'	6'	9'	9'	15'	15'	20'	20'	24'	24'	28'	28'	30'			
23	To	7'	7'	11'	11'	18'	18'	22'	22'	27'	27'	30'			75	To	6'	6'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'			
24	To	6'	6'	10'	10'	16'	16'	21'	21'	25'	25'	28'	28'	30'	76	To	6'	6'	9'	9'	15'	15'	19'	19'	23'	23'	28'	28'	30'			
25	To	7'	7'	12'	12'	14'	14'	23'	23'	28'	28'	30'			77	To	8'	8'	14'	14'	18'	18'	22'	22'	27'	27'	30'					
26	To	6'	6'	11'	11'	13'	13'	22'	22'	27'	27'	30'			78	To	9'	9'	14'	14'	18'	18'	23'	23'	27'	27'	30'					
27	To	6'	6'	10'	10'	13'	13'	21'	21'	26'	26'	29'	29'	30'	79	To	8'	8'	13'	13'	18'	18'	22'	22'	27'	27'	30'					
28	To	6'	6'	10'	10'	13'	13'	20'	20'	25'	25'	28'	28'	30'	80	To	8'	8'	13'	13'	17'	17'	21'	21'	26'	26'	29'	29'	30'			
29	To	9'	9'	13'	13'	20'	20'	25'	25'	28'	28'	30'			81	To	8'	8'	13'	13'	17'	17'	22'	22'	26'	26'	29'	29'	30'			
30	To	9'	9'	13'	13'	19'	19'	24'	24'	28'	28'	30'			82	To	6'	6'	13'	13'	14'	14'	18'	18'	23'	23'	27'	27'	30'			
31	To	7'	7'	10'	10'	16'	16'	21'	21'	25'	25'	29'	29'	30'	83	To	12'	12'	13'	13'	17'	17'	22'	22'	26'	26'	29'	29'	30'			
32	To	6'	6'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'	84	To	6'	6'	13'	13'	14'	14'	17'	17'	22'	22'	26'	26'	29'	29'	30'	
33	To	7'	7'	11'	11'	18'	18'	22'	22'	27'	27'	30'			85	To	12'	12'	13'	13'	16'	16'	21'	21'	25'	25'	27'	27'	30'			
34	To	5'	6'	10'	10'	16'	16'	21'	21'	25'	25'	28'	28'	30'	86	To	12'	12'	13'	13'	16'	16'	21'	21'	25'	25'	28'	28'	30'			
35	To	7'	7'	11'	11'	17'	17'	21'	21'	26'	26'	29'	29'	30'	87	To	11'	11'	13'	13'	16'	16'	20'	20'	24'	24'	28'	28'	30'			
36	To	6'	6'	9'	9'	15'	15'	20'	20'	24'	24'	28'	28'	30'	88	To	9'	9'	11'	11'	14'	14'	18'	18'	22'	22'	26'	26'	29'	29'	30'	
37	To	6'	6'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	30'	89	To	11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'	
38	To	12'	12'	14'	14'	17'	17'	22'	22'	26'	26'	29'	29'	30'	90	To	10'	10'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'	
39	To	12'	12'	13'	13'	16'	16'	21'	21'	25'	25'	27'	27'	30'	91	To	9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	25'	25'	27'	27'	30'	
40	To	10'	10'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	92	To	9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	25'	25'	27'	27'	30'
41	To	9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	25'	25'	27'	27'	93	To	10'	10'	11'	11'	14'	14'	17'	17'	21'	21'	25'	25'	27'	27'	30'
42	To	8'	8'	10'	10'	11'	11'	15'	15'	19'	19'	23'	23'	26'	26'	94	To	8'	8'	14'	14'	17'	17'	21'	21'	25'	25'	27'	27'	30'		
43	To	6'	6'	9'	9'	11'	11'	13'	13'	17'	17'	20'	20'	24'	24'	95	To	11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'
44	To	17'	17'	21'	21'	25'	25'	30'				</																				



COL. SIZE	2 x 1/8	2 1/2 x 3/8	3 x 1/2	3 1/2 x 3/8	4 x 3/8	4 x 1/2	4 1/2 x 1/2	5 x 1/2	5 1/2 x 1/2	6 x 1/2	6 1/2 x 1/2	7 x 1/2	7 1/2 x 1/2	8 x 1/2	COL. SIZE	2 x 1/8	2 1/2 x 3/8	3 x 1/2	3 1/2 x 3/8	4 x 3/8	4 x 1/2	4 1/2 x 1/2	5 x 1/2	5 1/2 x 1/2	6 x 1/2	6 1/2 x 1/2	7 x 1/2	7 1/2 x 1/2	8 x 1/2					
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0					
Sign Identification Number	HEIGHT (FT.)														Sign Identification Number	HEIGHT (FT.)																		
1	To 10'	10'	13'	13'	16'	25'	25'	28'	28'	30'					53	To 6'	6'	10'	10'	13'	13'	20'	20'	24'	24'	28'	28'	30'						
2	To 8'	8'	13'	13'	15'	23'	23'	27'	27'	30'					54	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
3	To 6'	6'	10'	10'	16'	16'	20'	20'	24'	24'	27'	27'	30'		55	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
4	To 12'	12'	12'	14'	14'	17'	17'	21'	21'	25'	25'	28'	28'	30'	56	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
5	To 14'	14'	18'	18'	21'	21'	29'	29'	30'						57	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
6	To 10'	10'	14'	14'	17'	17'	25'	25'	29'	29'	30'				58	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
7	To 7'	7'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'		59	To 8'	8'	11'	11'	17'	17'	21'	21'	25'	25'	28'	28'	30'						
8	To 6'	6'	13'	13'	14'	14'	17'	17'	21'	21'	25'	25'	28'	28'	30'	60	To 6'	6'	10'	10'	16'	16'	20'	20'	24'	24'	27'	27'	30'					
9	To 10'	10'	14'	14'	17'	17'	25'	25'	29'	29'	30'				61	To 6'	6'	10'	10'	15'	15'	19'	19'	23'	23'	27'	27'	30'						
10	To 6'	6'	10'	10'	13'	13'	20'	20'	24'	24'	28'	28'	30'		62	To 7'	7'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'						
11	To 7'	7'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'		63	To 6'	6'	10'	10'	16'	16'	19'	19'	23'	23'	28'	28'	30'						
12	To 11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	26'	26'	29'	29'	30'	64	To 6'	6'	9'	9'	15'	15'	18'	18'	22'	22'	26'	26'	29'	29'	30'			
13	To 9'	9'	13'	13'	19'	19'	23'	23'	27'	27'	30'				65	To 9'	9'	14'	14'	18'	18'	22'	22'	26'	26'	29'	29'	30'						
14	To 9'	9'	13'	13'	19'	19'	23'	23'	27'	27'	30'				66	To 8'	8'	14'	14'	17'	17'	21'	21'	25'	25'	28'	28'	30'						
15	To 7'	7'	11'	11'	16'	16'	20'	20'	24'	24'	28'	28'	30'		67	To 9'	9'	14'	14'	17'	17'	21'	21'	25'	25'	28'	28'	30'						
16	To 7'	7'	11'	11'	16'	16'	20'	20'	24'	24'	28'	28'	30'		68	To 8'	8'	13'	13'	17'	17'	21'	21'	25'	25'	28'	28'	30'						
17	To 6'	6'	12'	12'	14'	14'	18'	18'	22'	22'	26'	26'	28'	28'	30'	69	To 8'	8'	13'	13'	17'	17'	21'	21'	25'	25'	28'	28'	30'					
18	To 11'	11'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	30'		70	To 7'	7'	12'	12'	16'	16'	19'	19'	23'	23'	27'	27'	30'						
19	To 9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	24'	24'	27'	27'	30'	71	To 8'	8'	13'	13'	16'	16'	20'	20'	24'	24'	28'	28'	30'					
20	To 6'	6'	9'	9'	12'	12'	13'	13'	16'	16'	20'	20'	23'	23'	27'	27'	29'	29'	30'															
21	To 8'	8'	13'	13'	17'	17'	21'	21'	25'	25'	28'	28'	30'		72	To 7'	7'	13'	13'	16'	16'	20'	20'	24'	24'	28'	28'	30'						
22	To 7'	7'	12'	12'	16'	16'	19'	19'	23'	23'	27'	27'	30'		73	To 7'	7'	13'	13'	16'	16'	19'	19'	23'	23'	27'	27'	29'	29'	30'				
23	To 8'	8'	13'	13'	17'	17'	21'	21'	25'	25'	28'	28'	30'		74	To 6'	6'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'				
24	To 7'	7'	12'	12'	16'	16'	19'	19'	23'	23'	27'	27'	30'		75	To 7'	7'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'				
25	To 8'	8'	12'	12'	18'	18'	22'	22'	26'	26'	29'	29'	30'		76	To 6'	6'	13'	13'	14'	14'	18'	18'	22'	22'	25'	25'	28'	28'	30'				
26	To 8'	8'	11'	11'	17'	17'	21'	21'	25'	25'	28'	28'	30'		77	To 6'	6'	12'	12'	13'	13'	17'	17'	21'	21'	24'	24'	28'	28'	30'				
27	To 7'	7'	11'	11'	16'	16'	20'	20'	24'	24'	28'	28'	30'		78	To 6'	6'	13'	13'	14'	14'	17'	17'	21'	21'	25'	25'	28'	28'	30'				
28	To 7'	7'	10'	10'	16'	16'	20'	20'	24'	24'	28'	28'	30'		79	To 12'	12'	13'	13'	16'	16'	21'	21'	24'	24'	27'	27'	30'						
29	To 6'	6'	10'	10'	16'	16'	19'	19'	23'	23'	28'	28'	30'		80	To 6'	6'	12'	12'	13'	13'	16'	16'	20'	20'	24'	24'	28'	28'	30'				
30	To 6'	6'	9'	9'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'	81	To 12'	12'	13'	13'	16'	16'	20'	20'	24'	24'	27'	27'	30'					
31	To 7'	7'	13'	13'	16'	16'	20'	20'	24'	24'	28'	28'	30'		82	To 9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	24'	24'	28'	28'	30'				
32	To 7'	7'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'	83	To 9'	9'	11'	11'	12'	12'	16'	16'	20'	20'	23'	23'	27'	27'	30'			
33	To 8'	8'	13'	13'	17'	17'	21'	21'	25'	25'	28'	28'	30'		84	To 9'	9'	12'	12'	13'	13'	16'	16'	20'	20'	23'	23'	27'	27'	30'				
34	To 7'	7'	12'	12'	16'	16'	19'	19'	23'	23'	27'	27'	30'		85	To 8'	8'	11'	11'	12'	12'	15'	15'	19'	19'	22'	22'	26'	26'	29'	29'	30'		
35	To 7'	7'	12'	12'	16'	16'	20'	20'	24'	24'	27'	27'	30'		86	To 9'	9'	12'	12'	13'	13'	15'	15'	19'	19'	22'	22'	26'	26'	29'	29'	30'		
36	To 6'	6'	12'	12'	15'	15'	19'	19'	23'	23'	27'	27'	29'	29'	30'	87	To 8'	8'	11'	11'	13'	13'	15'	15'	18'	18'	21'	21'	25'	25'	28'	28'	30'	
37	To 10'	10'	12'	12'	14'	14'	18'	18'	21'	21'	25'	25'	28'	28'	30'	88	To 6'	6'	9'	9'	11'	11'	13'	13'	16'	16'	20'	20'	24'	24'	26'	26'	30'	
38	To 9'	9'	12'	12'	13'	13'	16'	16'	20'	20'	23'	23'	27'	27'	30'	89	To 7'	7'	10'	10'	13'	13'	14'	14'	17'	17'	21'	21'	24'	24'	28'	28'	30'	
39	To 8'	8'	11'	11'	12'	12'																												

3

FLA

3

FLA

5'-6" Max.

6"

6"

5'-4" Max.

1/4"

6"

6"

6"

SIGN PANEL DETAILS
TYPE I BRACKET

7'-0" Max.

6"

6"

6"

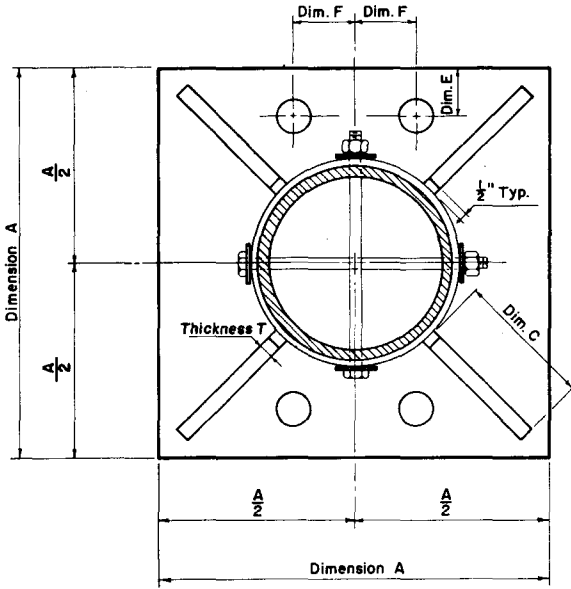
6"

1

COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 3/16	4 x 3/16	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 3/16	4 x 3/16	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-11	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-11	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	
Sign Identification Number	HEIGHT (FT.)														Sign Identification Number	HEIGHT (FT.)														
1	To 7'	7'-11"	11'-13"	13'-21"	21'-24"	24'-28"	28'-30"								53	To 8'	8'-11"	11'-17"	17'-20"	20'-24"	24'-27"	27'-30"								
2	To 6'	6'-10"	10'-13"	13'-19"	19'-23"	23'-27"	27'-29"	29'-30"							54	To 6'	6'-9"	9'-15"	15'-18"	18'-22"	22'-25"	25'-28"	28'-30"							
3			To 7'	7'-12"	12'-16"	16'-19"	19'-23"	23'-27"	27'-30"						55	To 6'	6'-9"	9'-14"	14'-18"	18'-21"	21'-25"	25'-29"	29'-30"							
4				To 9'	9'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-27"	27'-30"				56	To 6'	6'-9"	9'-15"	15'-18"	18'-22"	22'-25"	25'-28"	28'-30"							
5	To 12'	12'-15"	15'-18"	18'-25"	25'-28"	28'-30"									57	To 6'	6'-9"	9'-15"	15'-18"	18'-22"	22'-25"	25'-28"	28'-30"							
6	To 8'	8'-12"	12'-14"	14'-21"	21'-24"	24'-28"	28'-30"								58	To 6'	6'-9"	9'-14"	14'-18"	18'-21"	21'-25"	25'-28"	28'-30"							
7			To 8'	8'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-30"						59	To 6'	6'-9"	9'-14"	14'-17"	17'-21"	21'-24"	24'-28"	28'-30"							
8				To 9'	9'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-28"	28'-30"				60		To 7'	7'-12"	12'-16"	16'-19"	19'-23"	23'-27"	27'-30"							
9	To 8'	8'-12"	12'-14"	14'-21"	21'-24"	24'-28"	28'-30"								61		To 7'	7'-13"	13'-15"	15'-19"	19'-22"	22'-26"	26'-29"	29'-30"						
10		To 8'	8'-11"	11'-17"	17'-20"	20'-24"	24'-27"	27'-30"							62		To 8'	8'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-30"							
11			To 8'	8'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-30"						63		To 7'	7'-13"	13'-16"	16'-19"	19'-23"	23'-26"	26'-30"							
12				To 8'	8'-11"	11'-13"	13'-15"	15'-18"	18'-22"	22'-26"	26'-28"	28'-30"			64		To 7'	7'-14"	14'-15"	15'-18"	18'-22"	22'-25"	25'-29"	29'-30"						
13		To 6'	6'-10"	10'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"						65		To 6'	6'-12"	12'-14"	14'-17"	17'-21"	21'-25"	25'-28"	28'-30"						
14		To 6'	6'-10"	10'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"						66		To 6'	6'-13"	13'-14"	14'-17"	17'-20"	20'-24"	24'-28"	28'-30"						
15			To 8'	8'-13"	13'-16"	16'-20"	20'-23"	23'-27"	27'-30"						67		To 6'	6'-13"	13'-14"	14'-17"	17'-21"	21'-24"	24'-28"	28'-30"						
16			To 8'	8'-13"	13'-16"	16'-20"	20'-23"	23'-27"	27'-30"						68		To 6'	6'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-27"	27'-30"						
17				To 10'	10'-12"	12'-14"	14'-17"	17'-21"	21'-25"	25'-28"	28'-30"				69		To 6'	6'-12"	12'-13"	13'-16"	16'-20"	20'-24"	24'-28"	28'-30"						
18				To 8'	8'-11"	11'-12"	12'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"			70			To 11'	11'-12"	12'-15"	15'-19"	19'-22"	22'-27"	27'-29"	29'-30"					
19				To 6'	6'-9"	9'-12"	12'-13"	13'-16"	16'-20"	20'-23"	23'-27"	27'-29"	29'-30"		71		To 6'	6'-12"	12'-13"	13'-16"	16'-20"	20'-23"	23'-27"	27'-30"						
20					To 6'	6'-9"	9'-12"	12'-13"	13'-15"	15'-19"	19'-22"	22'-26"	26'-27"	27'-30"	72			To 11'	11'-13"	13'-15"	15'-19"	19'-23"	23'-27"	27'-30"						
21			To 6'	6'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-27"	27'-30"					73			To 11'	11'-13"	13'-15"	15'-19"	19'-22"	22'-26"	26'-29"	29'-30"					
22				To 11'	11'-12"	12'-15"	15'-19"	19'-22"	22'-27"	27'-29"	29'-30"				74			To 10'	10'-12"	12'-14"	14'-18"	18'-22"	22'-26"	26'-29"	29'-30"					
23			To 6'	6'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-27"	27'-30"					75			To 11'	11'-12"	12'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"					
24				To 11'	11'-12"	12'-15"	15'-19"	19'-22"	22'-27"	27'-29"	29'-30"				76			To 10'	10'-13"	13'-14"	14'-17"	17'-21"	21'-25"	25'-28"	28'-30"					
25	To 6'	6'-9"	9'-15"	15'-18"	18'-22"	22'-25"	25'-28"	28'-30"							77			To 9'	9'-12"	12'-13"	13'-16"	16'-20"	20'-24"	24'-28"	28'-30"					
26	To 6'	6'-9"	9'-14"	14'-17"	17'-21"	21'-24"	24'-28"	28'-30"							78			To 9'	9'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-28"	28'-30"					
27		To 8'	8'-13"	13'-16"	16'-20"	20'-23"	23'-27"	27'-30"							79			To 9'	9'-11"	11'-12"	12'-16"	16'-20"	20'-24"	24'-27"	27'-30"					
28		To 8'	8'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-30"							80			To 9'	9'-12"	12'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-29"	29'-30"				
29		To 7'	7'-13"	13'-16"	16'-19"	19'-23"	23'-26"	26'-30"							81			To 9'	9'-11"	11'-12"	12'-16"	16'-19"	19'-23"	23'-27"	27'-30"					
30		To 7'	7'-13"	13'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"						82			To 7'	7'-10"	10'-12"	12'-13"	13'-16"	16'-20"	20'-24"	24'-27"	27'-29"	29'-30"			
31			To 11'	11'-13"	13'-15"	15'-19"	19'-23"	23'-27"	27'-30"						83			To 6'	6'-9"	9'-12"	12'-13"	13'-15"	15'-19"	19'-22"	22'-26"	26'-28"	28'-30"			
32			To 11'	11'-12"	12'-15"	15'-18"	18'-22"	22'-26"	26'-29"	29'-30"					84			To 7'	7'-9"	9'-12"	12'-13"	13'-16"	16'-19"	19'-23"	23'-26"	26'-28"	28'-30"			
33		To 6'	6'-12"	12'-13"	13'-17"	17'-20"	20'-24"	24'-27"	27'-30"						85			To 6'	6'-8"	8'-11"	11'-12"	12'-15"	15'-18"	18'-21"	21'-25"	25'-27"	27'-30"			
34			To 11'	11'-12"	12'-15"	15'-19"	19'-22"	22'-27"	27'-29"	29'-30"					86			To 6'	6'-9"	9'-11"	11'-13"	13'-15"	15'-18"	18'-21"	21'-25"	25'-28"	28'-30"			
35			To 12'	12'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-30"						87			To 8'	8'-10"	10'-13"	13'-14"	14'-17"	17'-21"	21'-24"	24'-28"	28'-30"				
36			To 10'	10'-12"	12'-14"	14'-18"	18'-22"	22'-26"	26'-29"	29'-30"					88			To 6'	6'-9"	9'-11"	11'-12"	12'-16"	16'-19"	19'-23"	23'-26"	26'-28"	28'-30"			
37		To 7'	7'-10"	10'-12"	12'-14"	14'-17"	17'-20"	20'-24"	24'-27"	27'-30"					89			To 7'	7'-10"	10'-13"	13'-14"	14'-16"	16'-20"	20'-23"	23'-27"	27'-28"	28'-30"			
38		To 6'	6'-9"	9'-12"	12'-13"	13'-16"	16'-19"	19'-23"	23'-26"	26'-28"	28'-30"				90			To 7'	7'-10"	10'-12"	12'-13"	13'-16"	16'-19"	19'-23"	23'-27"	27'-28"	28'-30"			
39			To 6'	6'-8"	8'-11"	11'-12"	12'-15"	15'-18"	18'-21"	21'-25"	25'-27"	27'-30"																		

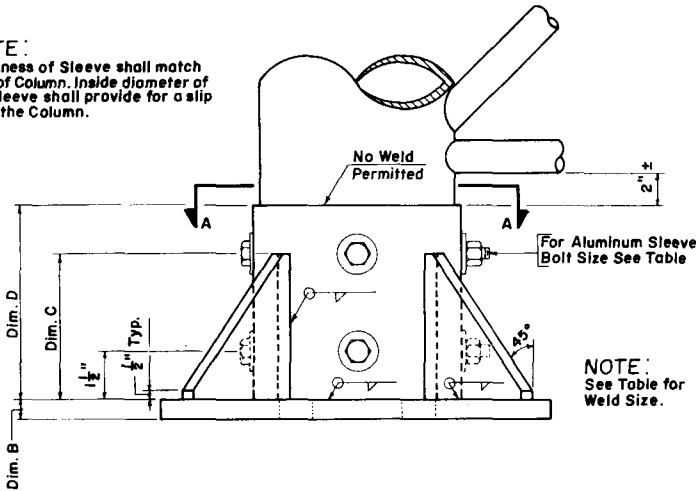
COLUMN SIZE (O.D. x WALL)	PLATE SIZE A	PLATE THICKNESS B	F I N S		FILLET WELD SIZE	SLEEVE HEIGHT DIMENSION D	ANCHOR BOLT LOCATION		ANCHOR BOLT HOLE DIAMETER	ANCHOR BOLT DIAMETER & LENGTH	DIMENSION M (NOMINAL)	SLEEVE BOLT DIAMETER
			THICKNESS T	DIMENSION C			DIMENSION E	DIMENSION F				
12" ϕ x $\frac{3}{4}$ "	2'-0"	$\frac{3}{8}$ "	$\frac{1}{4}$ "	9"	$\frac{7}{16}$ "	1'-0"	3"	3 $\frac{1}{2}$ "	2 $\frac{3}{8}$ "	2 $\frac{3}{4}$ " ϕ x 6'-6"	9 $\frac{3}{4}$ "	$\frac{7}{8}$ "
12" ϕ x $\frac{1}{2}$ "	1'-11"	$\frac{1}{4}$ "	$\frac{1}{8}$ "	8"	$\frac{7}{16}$ "	1'-0"	3"	3 $\frac{1}{2}$ "	2 $\frac{5}{16}$ "	2" ϕ x 5'-10"	9"	$\frac{3}{4}$ "
12" ϕ x $\frac{3}{8}$ "	1'-10"	$\frac{1}{8}$ "	1"	7 $\frac{1}{2}$ "	$\frac{7}{16}$ "	1'-0"	3"	3 $\frac{1}{2}$ "	2 $\frac{5}{16}$ "	2" ϕ x 5'-10"	9"	$\frac{3}{4}$ "
12" ϕ x $\frac{1}{4}$ "	1'-9"	1"	1"	7 $\frac{1}{2}$ "	$\frac{7}{16}$ "	1'-0"	2"	3 $\frac{1}{2}$ "	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
11" ϕ x $\frac{1}{2}$ "	1'-10"	$\frac{1}{8}$ "	1"	8"	$\frac{7}{16}$ "	1'-0"	2"	3 $\frac{1}{2}$ "	2 $\frac{5}{16}$ "	2" ϕ x 5'-10"	9"	$\frac{3}{4}$ "
11" ϕ x $\frac{3}{8}$ "	1'-8"	1"	1"	7"	$\frac{7}{16}$ "	1'-0"	2"	3 $\frac{1}{4}$ "	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
11" ϕ x $\frac{1}{4}$ "	1'-7"	1"	$\frac{7}{8}$ "	6 $\frac{1}{2}$ "	$\frac{3}{8}$ "	1'-0"	2"	3 $\frac{1}{4}$ "	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
10 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-9"	1"	1"	7 $\frac{1}{2}$ "	$\frac{7}{16}$ "	1'-0"	2"	3 $\frac{1}{4}$ "	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
10 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-7"	1"	$\frac{7}{8}$ "	6 $\frac{1}{2}$ "	$\frac{7}{16}$ "	1'-0"	2"	3 $\frac{1}{4}$ "	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
10 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	11"	2"	3"	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
10" ϕ x $\frac{1}{2}$ "	1'-8"	1"	1"	7"	$\frac{7}{16}$ "	11"	2"	3"	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
10" ϕ x $\frac{3}{8}$ "	1'-7"	1"	$\frac{7}{8}$ "	7"	$\frac{3}{8}$ "	11"	2"	3"	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
10" ϕ x $\frac{1}{4}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	11"	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
9 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-7"	1"	$\frac{7}{8}$ "	7"	$\frac{7}{16}$ "	11"	2"	3"	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ " ϕ x 5'-1"	7 $\frac{3}{4}$ "	$\frac{3}{4}$ "
9 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6 $\frac{1}{2}$ "	$\frac{3}{8}$ "	11"	2"	3"	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
9 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-5"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	11"	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
9" ϕ x $\frac{1}{2}$ "	1'-7"	1"	$\frac{7}{8}$ "	7"	$\frac{3}{8}$ "	10"	2"	3"	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
9" ϕ x $\frac{3}{8}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6 $\frac{1}{2}$ "	$\frac{3}{8}$ "	10"	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
9" ϕ x $\frac{1}{4}$ "	1'-5"	$\frac{6}{8}$ "	$\frac{4}{8}$ "	6"	$\frac{3}{8}$ "	10"	2"	3"	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
8 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-7"	1"	$\frac{7}{8}$ "	7"	$\frac{3}{8}$ "	10"	2"	3"	1 $\frac{13}{16}$ "	1 $\frac{1}{2}$ " ϕ x 4'-4"	6 $\frac{1}{2}$ "	$\frac{3}{4}$ "
8 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	7"	$\frac{3}{8}$ "	10"	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
8 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-4"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "	10"	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
8" ϕ x $\frac{1}{2}$ "	1'-6"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	7"	$\frac{3}{8}$ "	9 $\frac{1}{2}$ "	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
8" ϕ x $\frac{3}{8}$ "	1'-5"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	9 $\frac{1}{2}$ "	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
8" ϕ x $\frac{1}{4}$ "	1'-4"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "	9 $\frac{1}{2}$ "	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
7 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-6"	$\frac{6}{8}$ "	$\frac{3}{4}$ "	7"	$\frac{3}{8}$ "	9"	2"	3"	1 $\frac{11}{16}$ "	1 $\frac{3}{8}$ " ϕ x 4'-0"	6 $\frac{1}{4}$ "	$\frac{3}{4}$ "
7 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-5"	$\frac{6}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	9"	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
7 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	9"	2"	2 $\frac{1}{4}$ "	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
7" ϕ x $\frac{1}{2}$ "	1'-5"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	6"	$\frac{3}{8}$ "	9"	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
7" ϕ x $\frac{3}{8}$ "	1'-4"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "	9"	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
7" ϕ x $\frac{1}{4}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	9"	2"	2 $\frac{1}{4}$ "	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
6 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-4"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "	8"	2"	2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ "	1 $\frac{1}{4}$ " ϕ x 3'-8"	5 $\frac{3}{4}$ "	$\frac{3}{8}$ "
6 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	8"	2"	2 $\frac{1}{4}$ "	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
6 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-2"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{4}$ "	$\frac{3}{8}$ "	8"	2"	2"	1 $\frac{5}{16}$ "	1" ϕ x 2'-11"	5"	$\frac{3}{8}$ "
6" ϕ x $\frac{1}{2}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	8"	2"	2 $\frac{1}{4}$ "	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
6" ϕ x $\frac{3}{8}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	8"	2"	2 $\frac{1}{4}$ "	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
6" ϕ x $\frac{1}{4}$ "	1'-2"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{4}$ "	$\frac{3}{8}$ "	8"	2"	2"	1 $\frac{5}{16}$ "	1" ϕ x 2'-11"	5"	$\frac{3}{8}$ "
5 $\frac{1}{2}$ " ϕ x $\frac{1}{2}$ "	1'-3"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "	7"	2"	2"	1 $\frac{7}{16}$ "	1 $\frac{1}{8}$ " ϕ x 3'-4"	5 $\frac{1}{2}$ "	$\frac{3}{8}$ "
5 $\frac{1}{2}$ " ϕ x $\frac{3}{8}$ "	1'-1"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5"	$\frac{3}{8}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{3}{16}$ "	$\frac{7}{8}$ " ϕ x 2'-7"	4 $\frac{3}{4}$ "	$\frac{1}{2}$ "
5" ϕ x $\frac{1}{2}$ "	1'-2"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5 $\frac{1}{4}$ "	$\frac{3}{8}$ "	7"	2"	2"	1 $\frac{5}{16}$ "	1" ϕ x 2'-11"	5"	$\frac{3}{8}$ "
5" ϕ x $\frac{3}{8}$ "	1'-1"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	5"	$\frac{3}{8}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{3}{16}$ "	$\frac{7}{8}$ " ϕ x 2'-7"	4 $\frac{3}{4}$ "	$\frac{1}{2}$ "
4 $\frac{3}{4}$ " ϕ x $\frac{1}{4}$ "	1'-0"	$\frac{1}{2}$ "	$\frac{1}{2}$ "	4 $\frac{3}{4}$ "	$\frac{3}{16}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	$\frac{3}{4}$ " ϕ x 2'-3"	4 $\frac{1}{2}$ "	$\frac{1}{2}$ "
4 $\frac{1}{2}$ " ϕ x $\frac{1}{4}$ "	1'-0"	$\frac{1}{2}$ "	$\frac{1}{2}$ "	4 $\frac{3}{4}$ "	$\frac{3}{16}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	$\frac{3}{4}$ " ϕ x 2'-3"	4 $\frac{1}{2}$ "	$\frac{1}{2}$ "
4 $\frac{1}{4}$ " ϕ x $\frac{1}{4}$ "	1'-0"	$\frac{1}{2}$ "	$\frac{1}{2}$ "	4 $\frac{3}{4}$ "	$\frac{3}{16}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	$\frac{3}{4}$ " ϕ x 2'-3"	4 $\frac{1}{2}$ "	$\frac{1}{2}$ "
4" ϕ x $\frac{1}{4}$ "	1'-0"	$\frac{1}{2}$ "	$\frac{1}{2}$ "	4 $\frac{3}{4}$ "	$\frac{3}{16}$ "	7"	2"	1 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	$\frac{3}{4}$ " ϕ x 2'-3"	4 $\frac{1}{2}$ "	$\frac{1}{2}$ "

NOTE: For Column Size not Tabulated use next Larger Diameter and Wall Thickness.



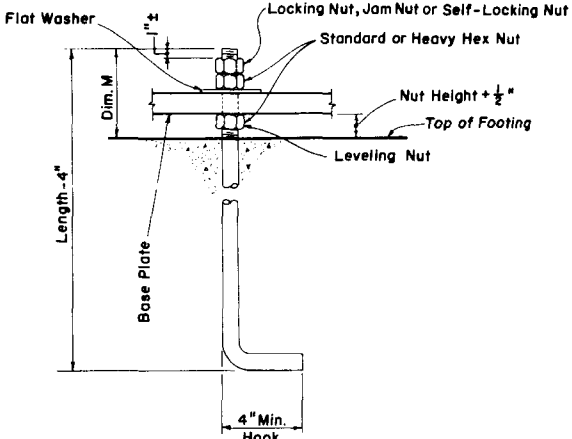
SECTION A-A

NOTE: Thickness of Sleeve shall match that of Column. Inside diameter of the sleeve shall provide for a slip fit of the Column.



ELEVATION

NOTE: See Table for Weld Size.



ANCHOR BOLT DETAIL

SPECIFICATIONS

EXTRUDED TUBING: The material used shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the A.S.T.M. Specifications B-221.

WELDING RODS: Aluminum Association Alloy No. 5556 Filler Wire.

TOLERANCE: All above materials shall be in keeping with the A.S.T.M. Specifications.

ALUMINUM BOLTS, NUTS, AND LOCKWASHERS: Aluminum Bolts shall meet the requirements of the Aluminum Association Alloy 2024-T4 or 6061-T6 (A.S.T.M. Specification B-211). The Bolts shall have an anodic coating at least 0.0002" thick and Chromate Sealed Lockwashers shall meet the requirements of the Aluminum Association Alloy 7075-T6 (A.S.T.M. Specification B-221). Nuts shall meet the requirements of the Aluminum Association Alloy 6262-T9 or 6061-T6.

MATERIAL STRESSES: All allowable stresses are in accordance with the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," A.A.S.H.O., 1975 and approved revisions for all materials shown on the Plans.

SHEETS AND PLATES: The material used shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the A.S.T.M. Specifications B-209.

SHOP DRAWINGS: The Contractor shall submit complete Shop Drawings before fabrication for approval by the Engineer.

STEEL BOLTS, NUTS & LOCKWASHERS: All Anchor Bolts, Nuts and Lockwashers shall meet the requirements of A.S.T.M. Specification A-307 and shall be hot dip galvanized in accordance with the requirements of A.S.T.M. Specification A-153.

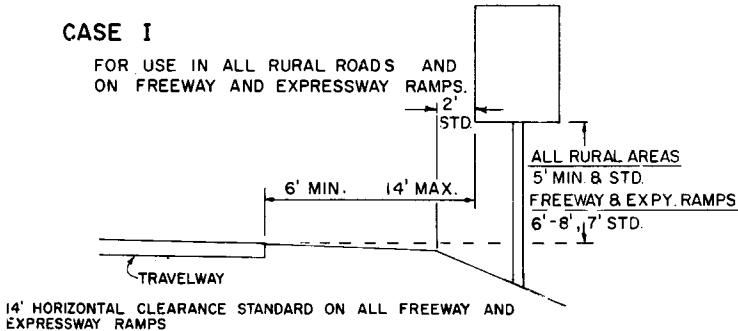
APPROVED BY FHWA 11/16/78

BASES FOR
OVERHEAD BRIDGE TRUSS
4 POST CANTILEVER TRUSS
SINGLE POST CANTILEVER

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
ALUMINUM BASES FOR COLUMN SUPPORTS			
REVISIONS		ROAD NO.	COUNTY
Date	Descriptions		
		PROJECT NO.	
		DESIGNED BY	HAV
		CHECKED BY	CWB
		QUANTITIES BY	
		CHECKED BY	
		SUPERVISED BY	AJH
		DATE	5-76
		DATE	6-76
		APPROVED BY	
		DRAWING NO.	1 of 1
		INDEX NO.	11926

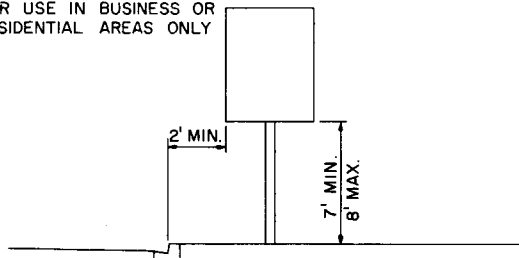
CASE I

FOR USE IN ALL RURAL ROADS AND ON FREEWAY AND EXPRESSWAY RAMPS.



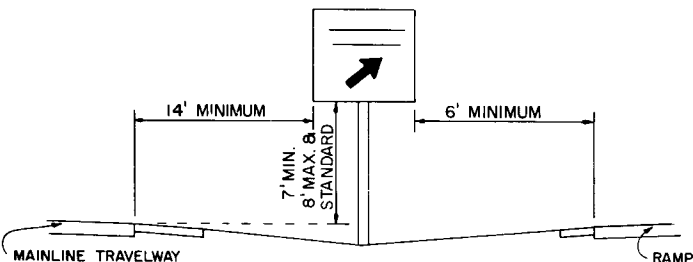
CASE V

FOR USE IN BUSINESS OR RESIDENTIAL AREAS ONLY



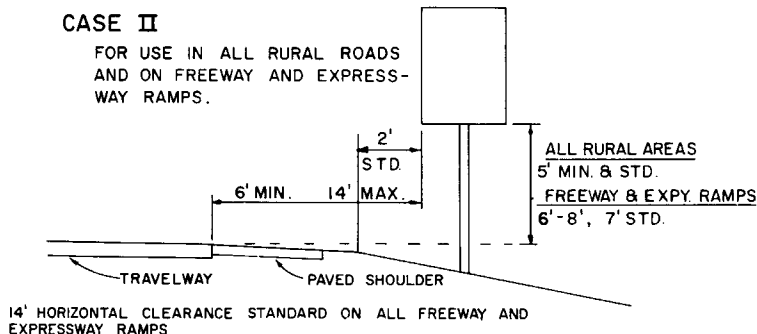
CASE IX (REST AREA & EXIT GORE SIGNS)

FOR USE ON ALL FREEWAY AND EXPRESSWAY SYSTEMS



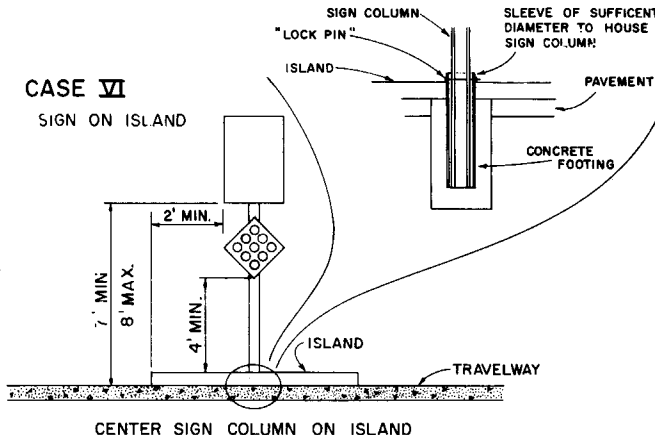
CASE II

FOR USE IN ALL RURAL ROADS AND ON FREEWAY AND EXPRESSWAY RAMPS.



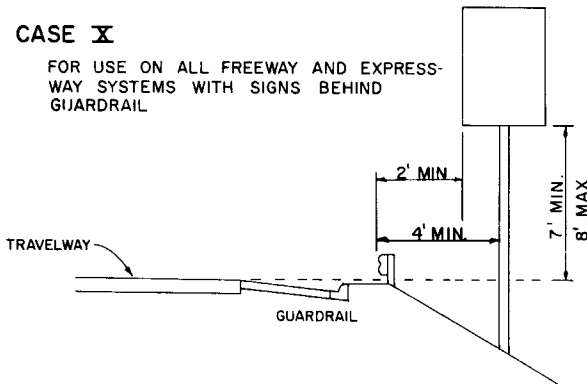
CASE VI

SIGN ON ISLAND



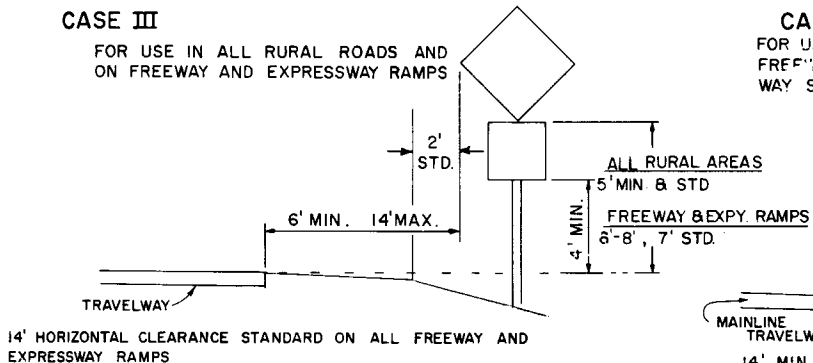
CASE X

FOR USE ON ALL FREEWAY AND EXPRESSWAY SYSTEMS WITH SIGNS BEHIND GUARDRAIL



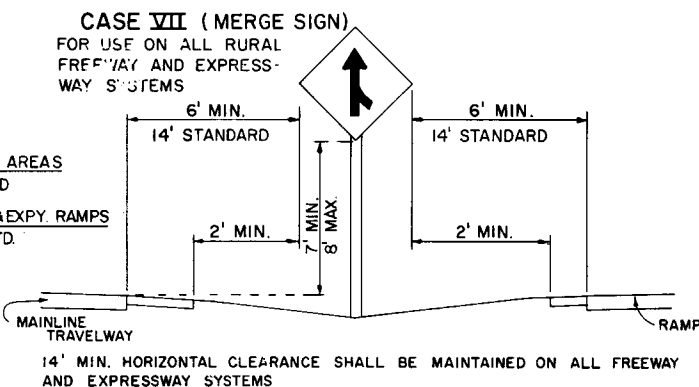
CASE III

FOR USE IN ALL RURAL ROADS AND ON FREEWAY AND EXPRESSWAY RAMPS



CASE VII (MERGE SIGN)

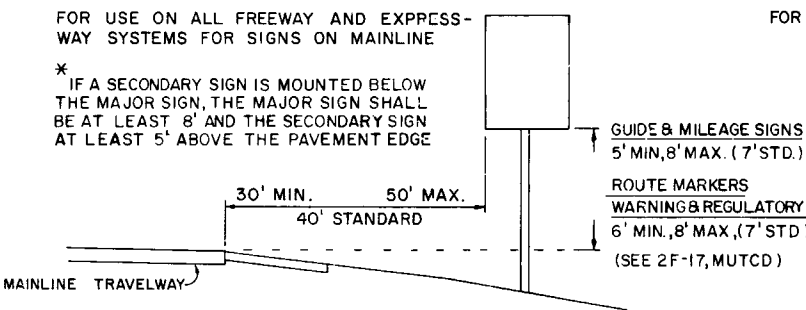
FOR USE ON ALL RURAL FREEWAY AND EXPRESSWAY SYSTEMS



CASE IV

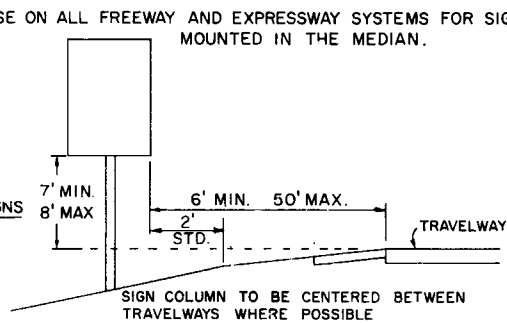
FOR USE ON ALL FREEWAY AND EXPRESSWAY SYSTEMS FOR SIGNS ON MAINLINE

* IF A SECONDARY SIGN IS MOUNTED BELOW THE MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' AND THE SECONDARY SIGN AT LEAST 5' ABOVE THE PAVEMENT EDGE



CASE VIII

FOR USE ON ALL FREEWAY AND EXPRESSWAY SYSTEMS FOR SIGNS MOUNTED IN THE MEDIAN.



GENERAL NOTES:

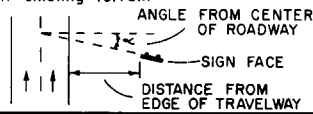
- The typical sections shown hereon serve as a guide for use in locating the traffic signs required under various roadside conditions. For size and details of sign construction and footing, refer to the appropriate standard index drawing for roadside sign.
- It shall be the CONTRACTORS responsibility to verify the length of sign supports in the field prior to fabrication
- SIGN DISTANCE FROM EDGE OF ROADWAY

LESS THAN 20'	ANGLE
≤ 30'	0°
≤ 40'	3°
≤ 50'	4°
≤ 50'	5°

Where lanes divide or on curves, sign faces shall be oriented so as to be most effective both day and night, and

to avoid the possibility of specular reflection.

- Horizontal clearance may be altered in the field by the PROJECT ENGINEER to better fit existing terrain



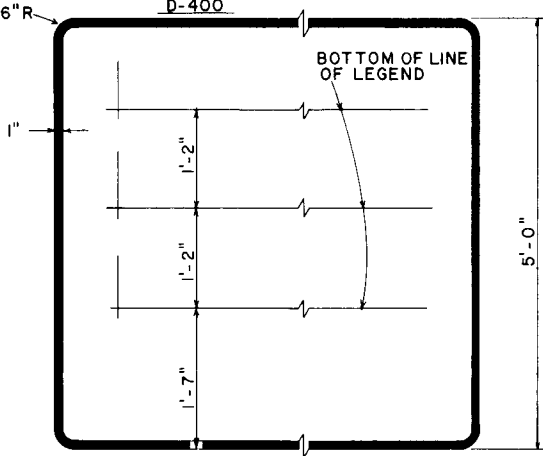
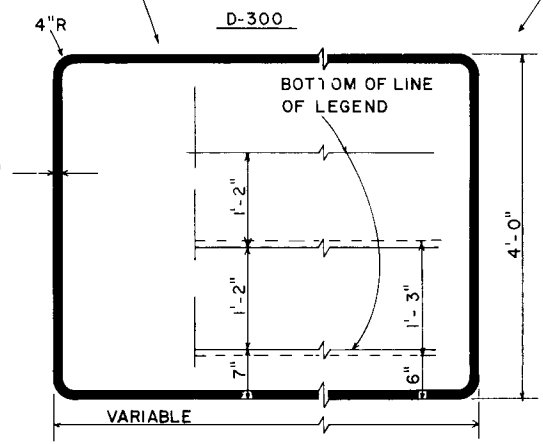
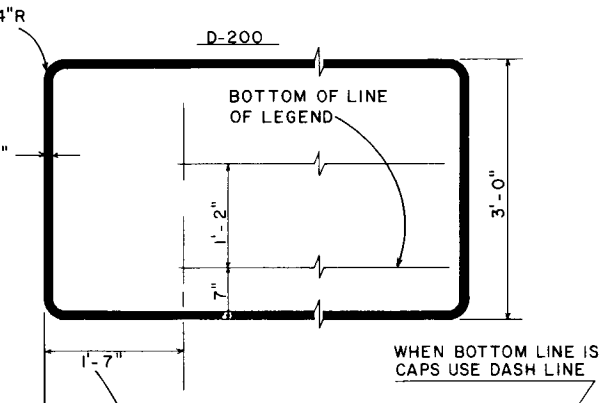
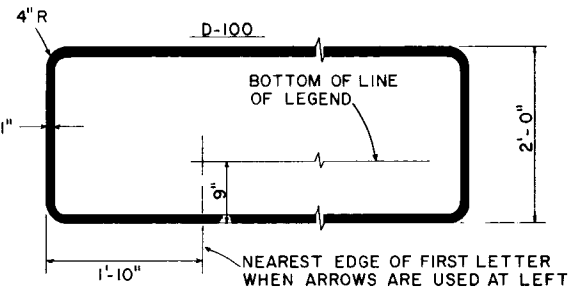
REVISIONS		
DATE	INITIALS	DESCRIPTION
11 / 75	WB-KRRM	MTG. HT + OTHER CLARIFICATIONS
1-27-76	WB-KRRM	REVISE SPACING
7-10-78	P.B.	REVISED CLEARANCE CASE X

APPROVED BY F.H.W.A 11/16/78

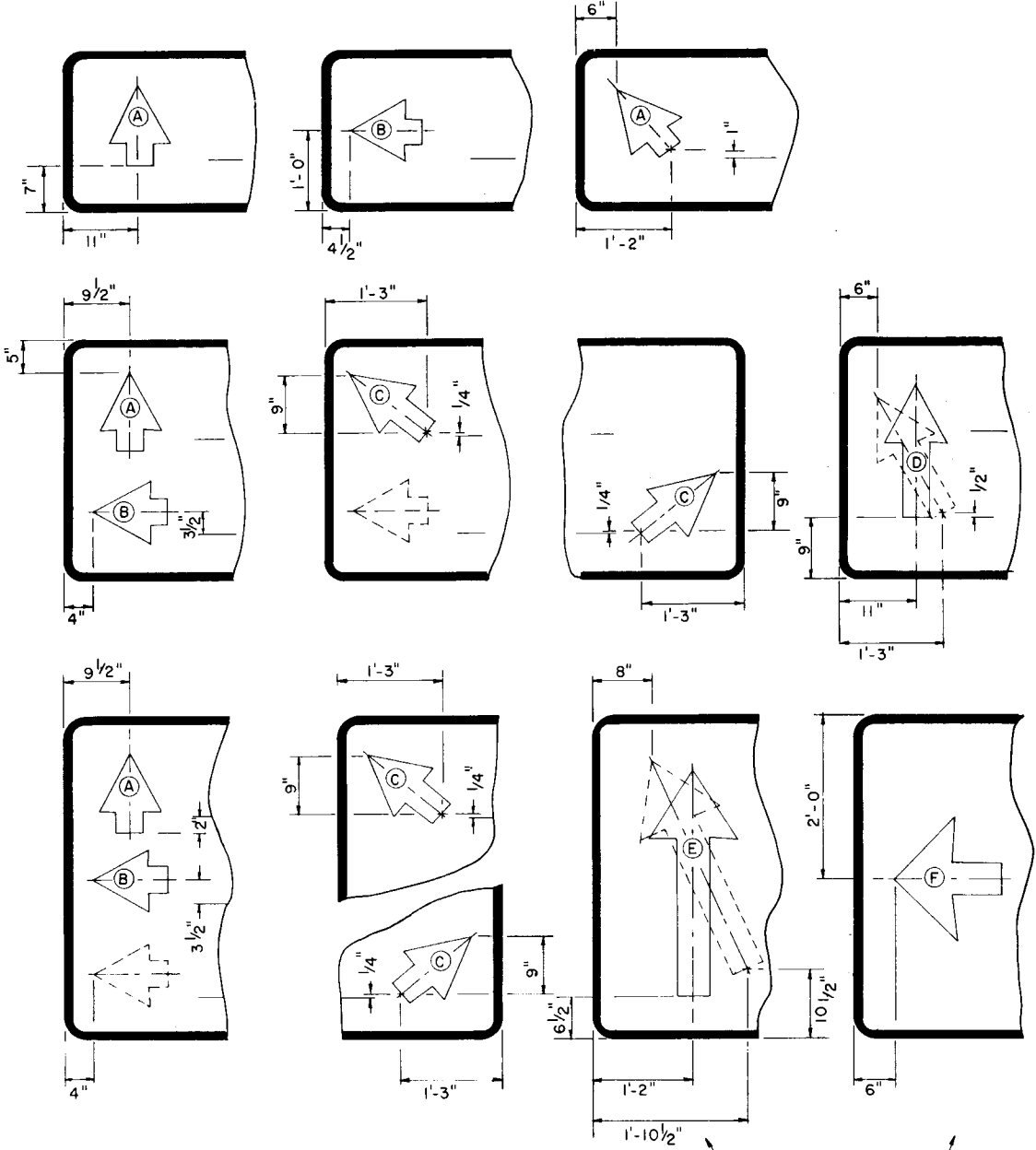
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL SECTIONS FOR ONE COLUMN SIGN PLACEMENT			
DATE	INITIALS	DATES	RECOMMENDED FOR APPROVAL
11 / 75	WB-KRRM	3-75	BY <i>Randy E. Magley</i> 3/1/75 DEPUTY TRAFFIC OPERATIONS ENGR.
1-27-76	WB-KRRM		APPROVED BY <i>E. J. Ponce</i> 3/1/76 STATE TRAFFIC OPERATIONS ENGR.
7-10-78	P.B.		
SUPERVISED BY	K.R.	3-75	DRAWING NO. 17302 A INDEX NO. 1 of 1

SIGN SIZES & LEGEND LOCATIONS

(8" UPPER CASE, 6" LOWER CASE LOOP HEIGHT)
BUREAU OF PUBLIC ROADS



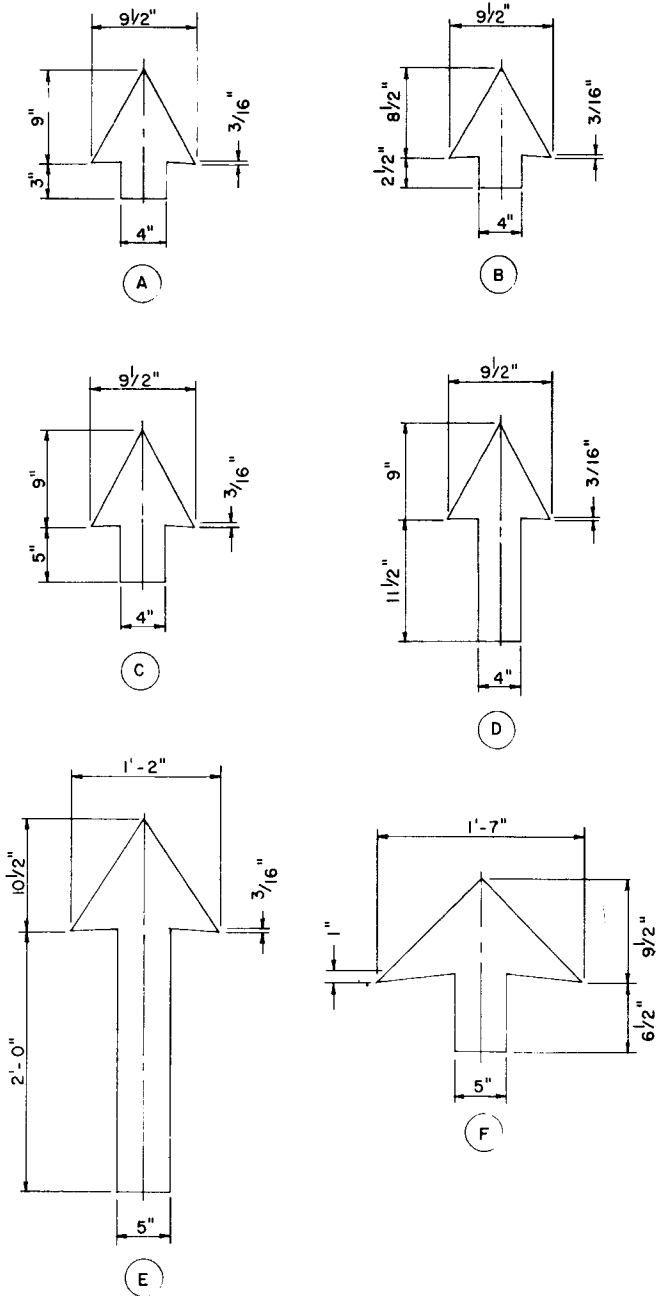
TYPICAL ARROW LOCATIONS—100-200-300-400



THESE ARROWS ARE TO BE USED WHEN U.S. SHIELD OR FLORIDA SYMBOL IS REQUIRED ON SIGN PANEL

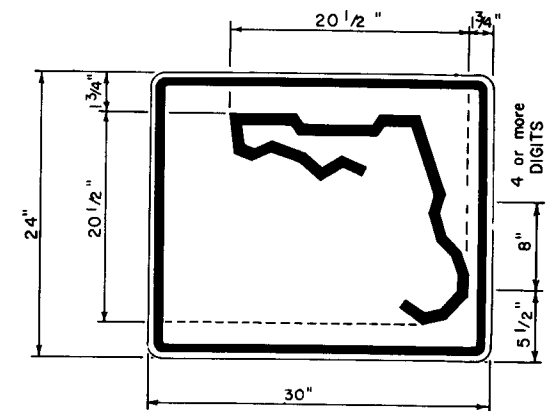
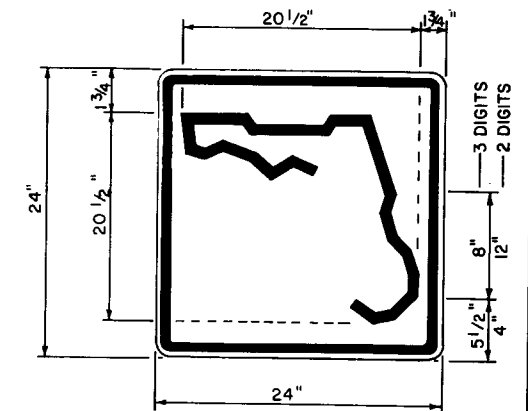
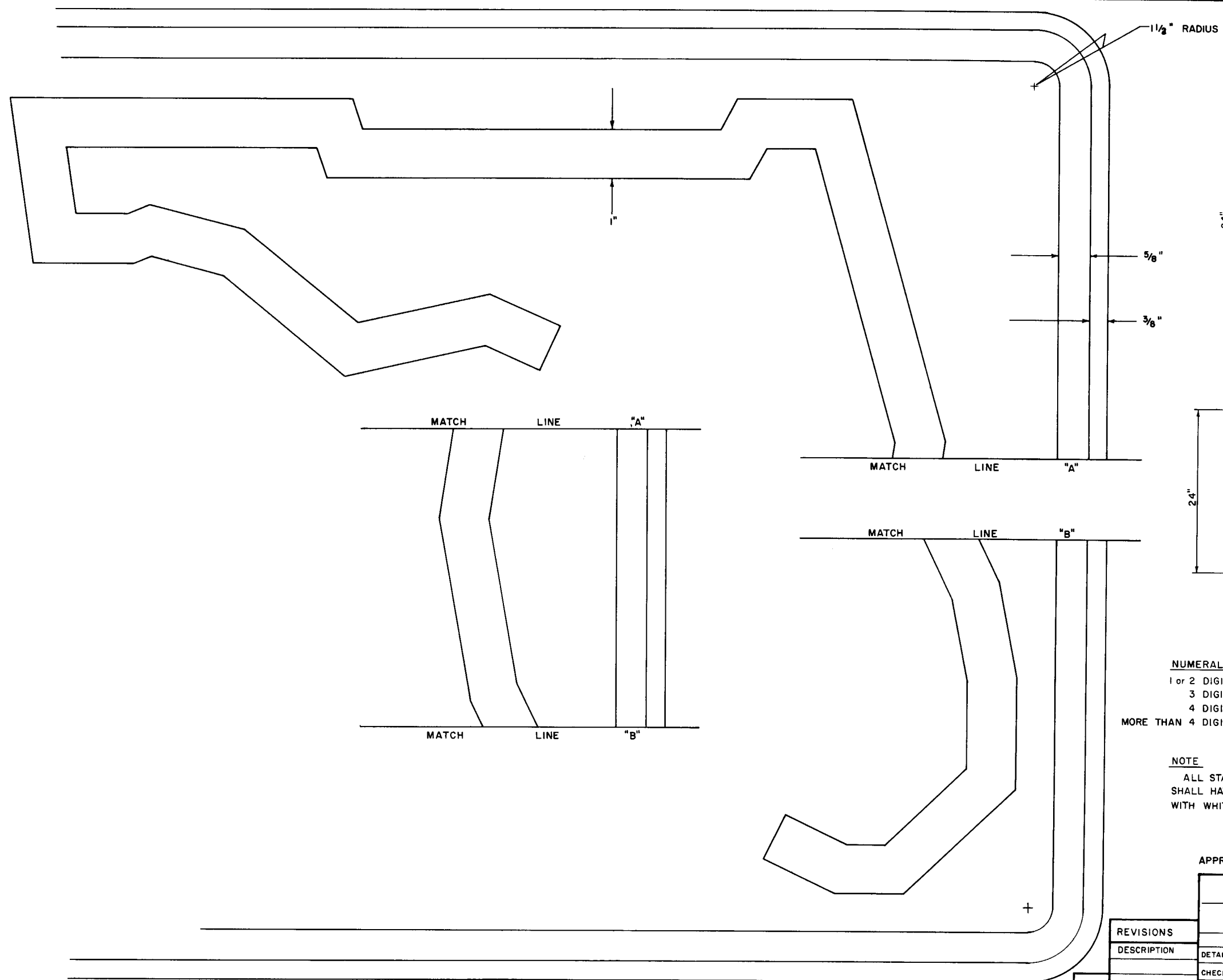
- (1) WHEN ARROW APPEAR AT LEFT OF MESSAGE, MESSAGE TO BEGIN AS SHOWN.
- (2) A, 9" MIN IS REQUIRED FROM EDGE OF SIGN TO NEAREST EDGE OF FIRST LETTER WHEN ARROWS APPEAR AT RIGHT OF MESSAGE.
- (3) DETAILS OF ARROWS ON ONE END OF PANEL MAY BE USED ON OPPOSITE END ALSO.
- (4) THE LEGEND ON THESE SIGNS MAY BE EITHER DETACHABLE OR SCREENED COPY.
- (5) BACKGROUND OVERALL REFLECTORIZED GREEN, LEGEND AND BORDER WHITE.

STATE PROJ. NO.	SHEET NO.
-----------------	-----------



APPROVED BY FHWA 11/16/78
FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

REVISIONS				INITIALS		DATES		Recommended for approval by	
Dates	Descriptions	Detailed by	T.L.	10-4-76		10-4-76		Deputy Traffic Operations Engr.	
10-4-76	REDRAFTED	Checked by	K.R.					Approved by	
7-10-78	REVISED NOTE	Quantities by						State Traffic Operations Engr.	
	GENERAL REVISIONS	Checked by						DRAWING NO.	INDEX NO.
		Supervised by	K.R.					1 of 1	17307



NUMERAL SIZE

1 or 2 DIGITS	12" SERIES "C"	- 24" x 24"
3 DIGITS	8" SERIES "B"	- 24" x 24"
4 DIGITS	8" SERIES "B"	- 24" x 30"
MORE THAN 4 DIGITS	8 SERIES "B"	- 24" x 30"

NOTE

ALL STATE ROUTE MARKERS AND AUXILIARIES
SHALL HAVE BLACK OPAQUE LEGEND AND BORDER
WITH WHITE REFLECTIVE BACKGROUND

APPROVED BY FHWA 11/16/78

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
24" FLORIDA ROUTE MARKER OTHER THAN INTERSTATE			
REVISIONS	INITIALS	DATES	
DESCRIPTION	DETAILED BY	G.W.	1-28-77
	CHECKED BY		
	QUANTITIES BY		
	CHECKED BY		
	SUPERVISED BY	K. RANSON	
		DRAWING NO.	INDEX NO.
		1 of 1	17309A

FLORIDA'S
TURNPIKE

3" R. TYPICAL

8 1/8"

14 1/2"

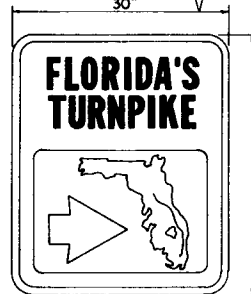
16"

1" TYPICAL

30"

MATCH LINE SEE SHEET 2 of 2

TYPE "B" ARROW
(ARROW POSITION AS INDICATED
ON SIGNING PLANS.)



GREEN REFLECTORIZED BACKGROUND WITH
WHITE REFLECTORIZED LEGEND AND BORDER.
SIGN LAYOUT AS INDICATED ON SHEETS 1 & 2 OF 2

- ARROW VERTICAL
- ARROW 45° LEFT
- ARROW 45° RIGHT
- ARROW LEFT
- ARROW RIGHT
- NO ARROW

REVISIONS		
DATE	INITIALS	DESCRIPTION
7-10-78	P.B.	GENERAL REVISIONS

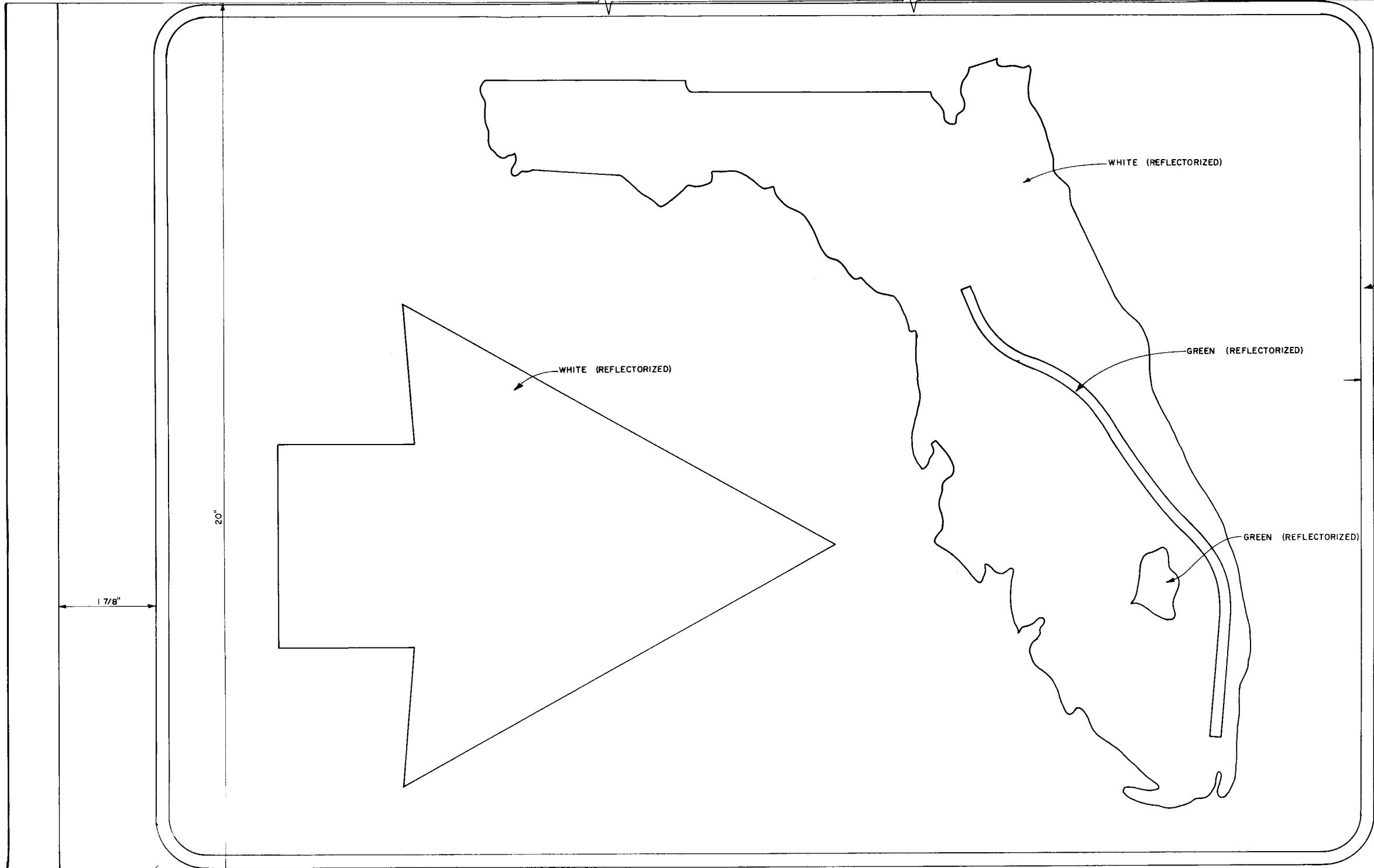
APPROVED BY FHWA 11/16/78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

DETAIL LAYOUT OF TYPE C SIGN
FLORIDA'S TURNPIKE TRAILBLAZER

RECOMMENDED FOR APPROVAL	INITIALS	DATES
BY <i>S.L. Price</i>		
DEPUTY TRAFFIC OPERATIONS ENGR.		
APPROVED		
BY <i>P.E. Magaley</i>		
STATE TRAFFIC OPERATIONS ENGR.		
DRAWING NO.	INDEX NO.	
1 of 2	17313	

MATCH LINE SEE SHEET 1 of 2



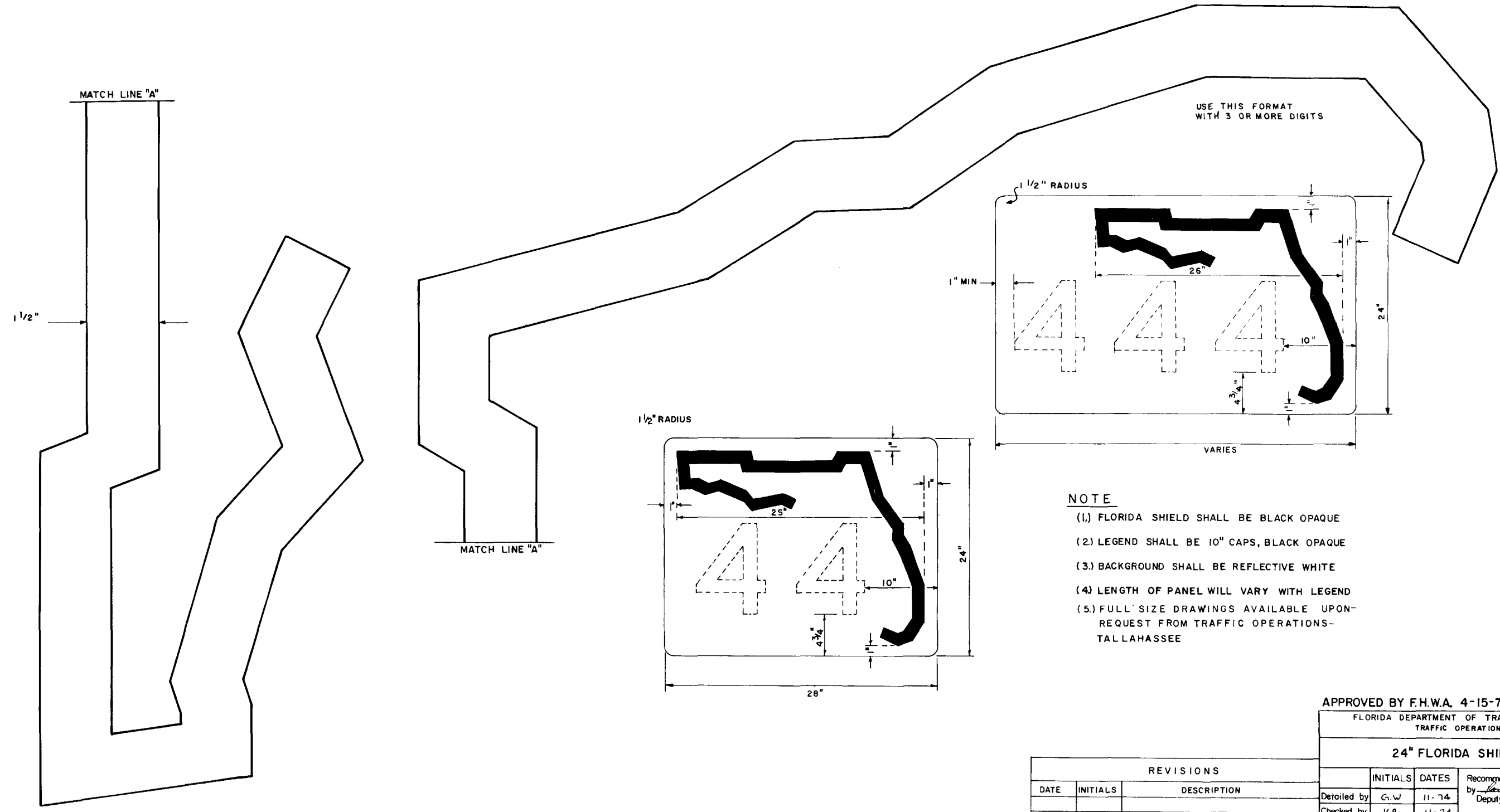
APPROVED BY FHWA 11/16/78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

DETAIL LAYOUT OF TYPE C SIGN
FLORIDA'S TURNPIKE TRAILBLAZER

REVISIONS			RECOMMENDED FOR APPROVAL	
DATE	INITIALS	DESCRIPTION	BY	DATE
			DETAILED BY M.F.M.	4-75
			CHECKED BY K.R.	4-75
			QUANTITIES BY	
			CHECKED BY	
			SUPERVISED BY K.R.	4-75
			DRAWING NO. 2 of 2	INDEX NO. 17313

APPROVED BY *[Signature]*
DEPUTY TRAFFIC OPERATIONS ENGR.
APPROVED BY *[Signature]*
STATE TRAFFIC OPERATIONS ENGR.

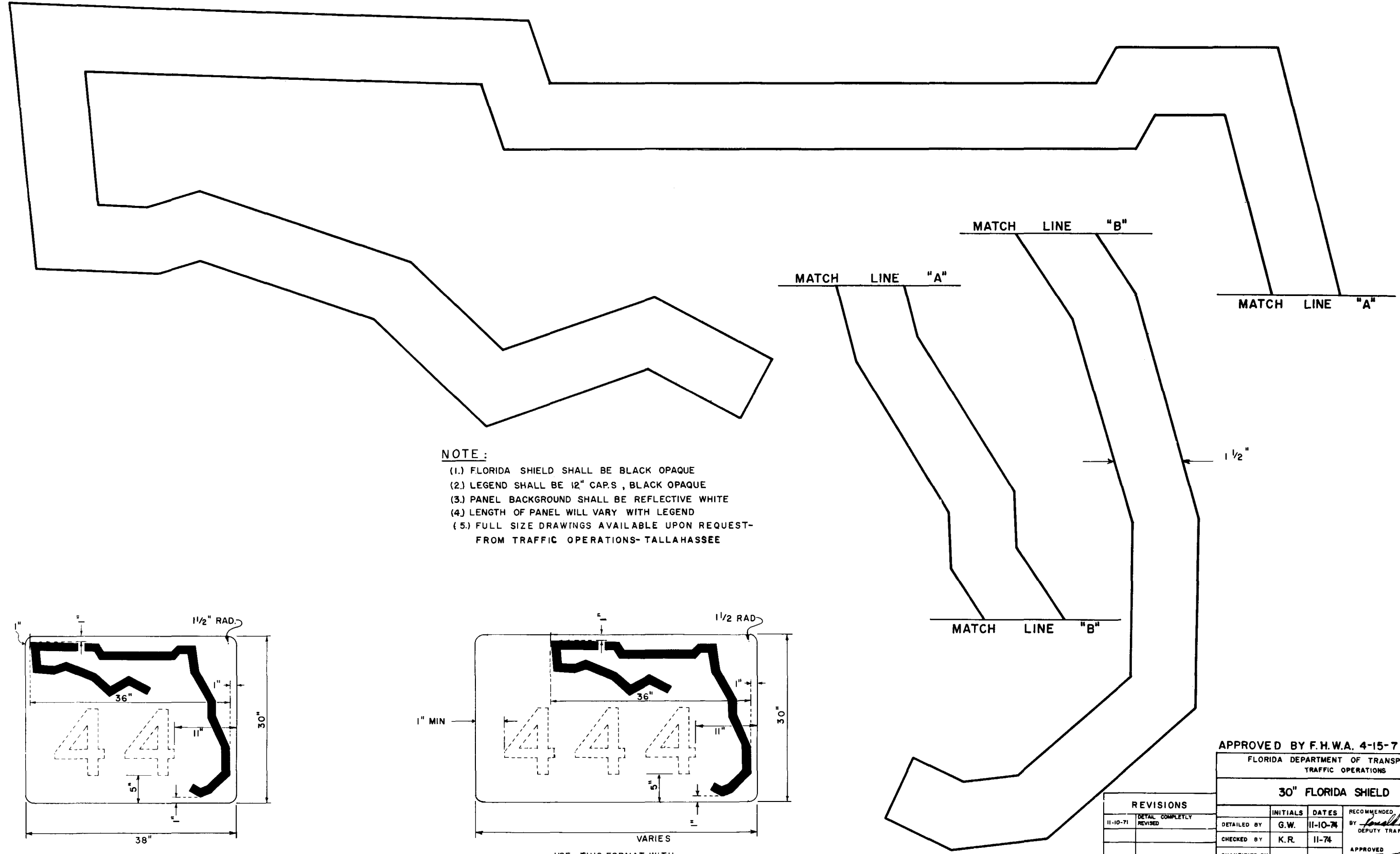


- NOTE**
- (1) FLORIDA SHIELD SHALL BE BLACK OPAQUE
 - (2) LEGEND SHALL BE 10" CAPS, BLACK OPAQUE
 - (3) BACKGROUND SHALL BE REFLECTIVE WHITE
 - (4) LENGTH OF PANEL WILL VARY WITH LEGEND
 - (5) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST FROM TRAFFIC OPERATIONS-TALLAHASSEE

APPROVED BY F.H.W.A. 4-15-75

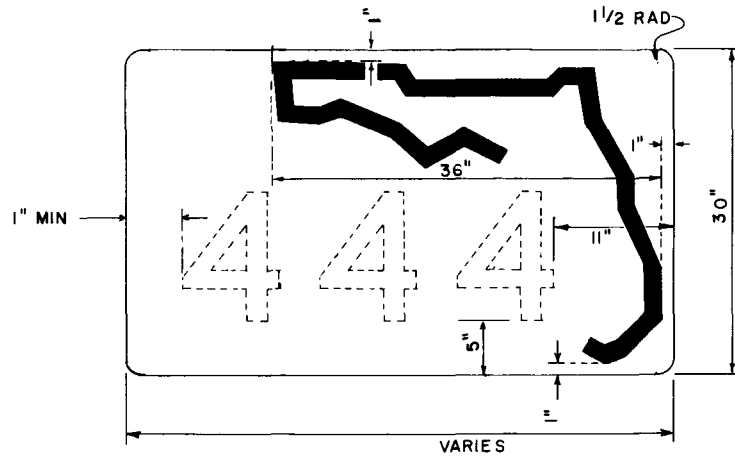
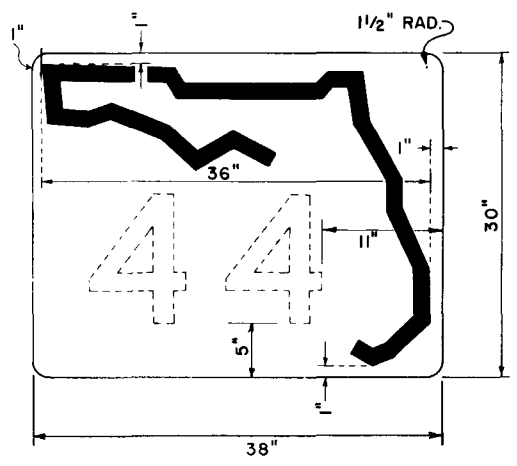
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
24" FLORIDA SHIELD			
	INITIALS	DATES	Recommended for approval by <i>Donald F. Magada</i> 3/22/75 Deputy Traffic Operations Engr
Detailed by	G.W.	11-74	Approved by <i>[Signature]</i> 3/26/75 State Traffic Operations Engr.
Checked by	K.R.	11-74	
Quantities by			
Checked by			
Supervised by	K.R.	11-74	DRAWING NO. 1 of 1
			INDEX NO. 17315

REVISIONS		
DATE	INITIALS	DESCRIPTION



NOTE:

- (1.) FLORIDA SHIELD SHALL BE BLACK OPAQUE
- (2.) LEGEND SHALL BE 12" CAPS, BLACK OPAQUE
- (3.) PANEL BACKGROUND SHALL BE REFLECTIVE WHITE
- (4.) LENGTH OF PANEL WILL VARY WITH LEGEND
- (5.) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST- FROM TRAFFIC OPERATIONS- TALLAHASSEE



USE THIS FORMAT WITH
3 OR MORE DIGITS

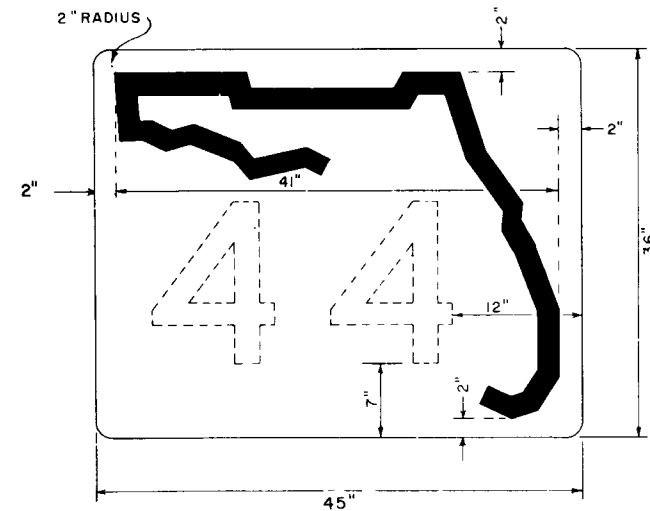
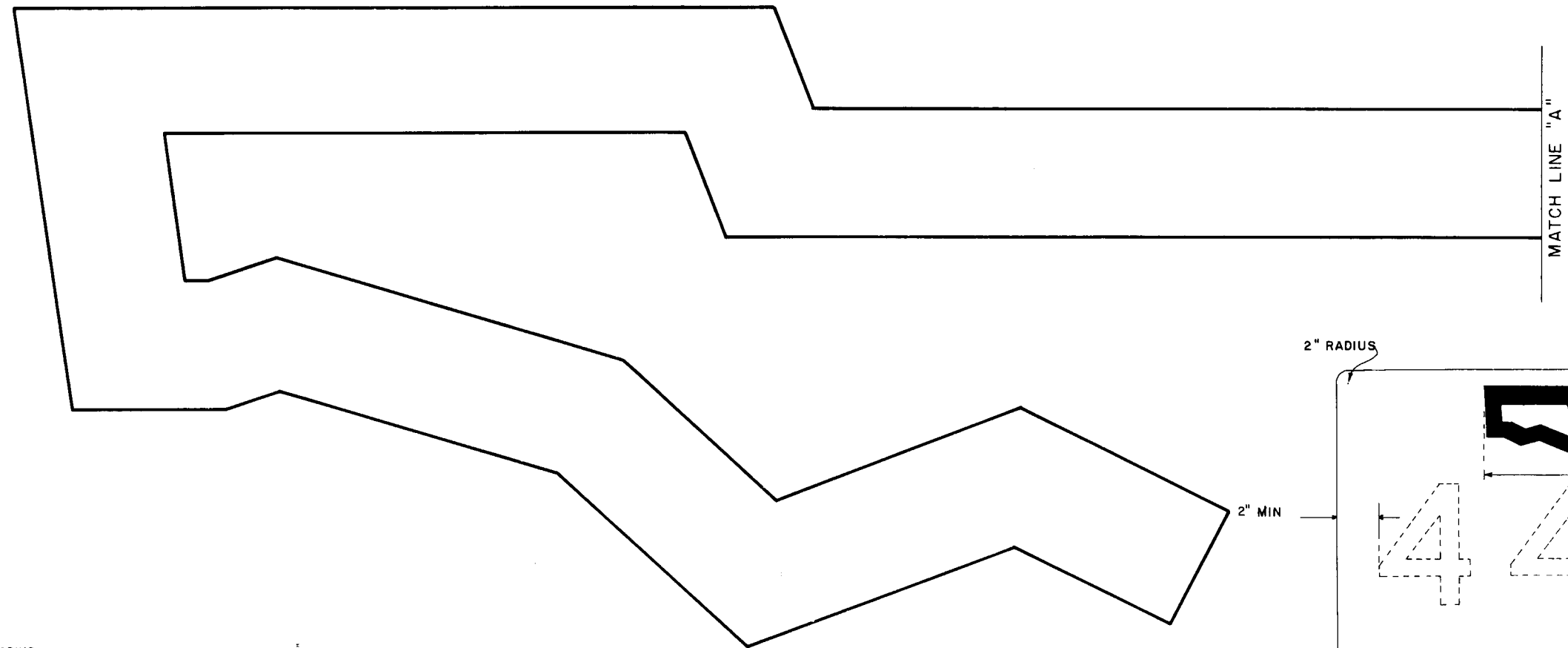
REVISIONS	
11-10-71	DETAIL, COMPLETELY REVISED

APPROVED BY F.H.W.A. 4-15-75

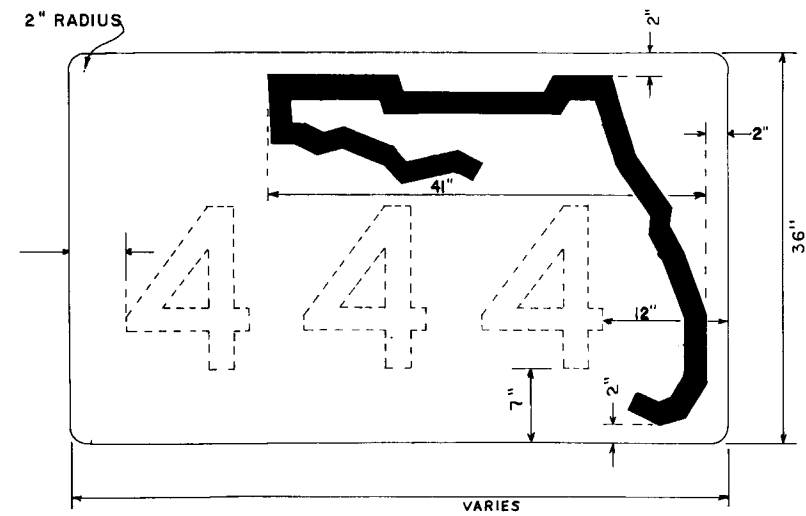
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

30" FLORIDA SHIELD

INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY G.W.	11-10-74	BY <i>Donald E. Magaha</i> 3/2/75 DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY K.R.	11-74	APPROVED BY <i>E. J. [Signature]</i> 4/1/75 STATE TRAFFIC OPERATIONS ENGR.
QUANTITIES BY		
CHECKED BY		
SUPERVISED BY K.R.	11-74	DRAWING NO. 1 of 1 INDEX NO. 17316



- NOTE:
- (1.) FLORIDA SHIELD SHALL BE BLACK OPAQUE
 - (2.) LEGEND SHALL BE 15" CAPS, BLACK OPAQUE
 - (3.) BACKGROUND SHALL BE REFLECTIVE WHITE
 - (4.) LENGTH OF PANEL WILL VARY WITH LEGEND
 - (5.) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST-
FROM TRAFFIC OPERATIONS- TALLAHASSEE



USE THIS FORMAT WITH
3 OR MORE DIGITS

APPROVED BY F.H.W.A. 4-15-75

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

36" FLORIDA SHIELD

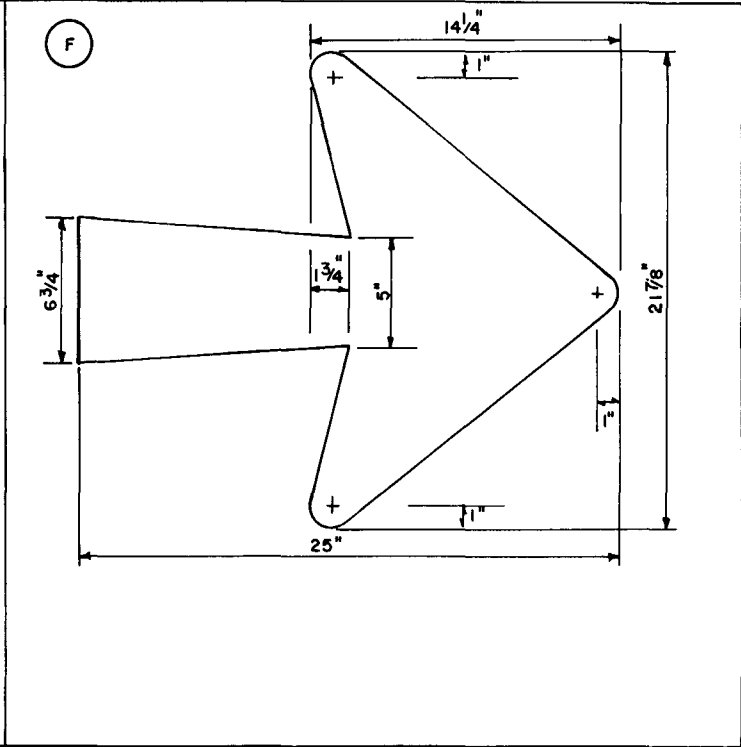
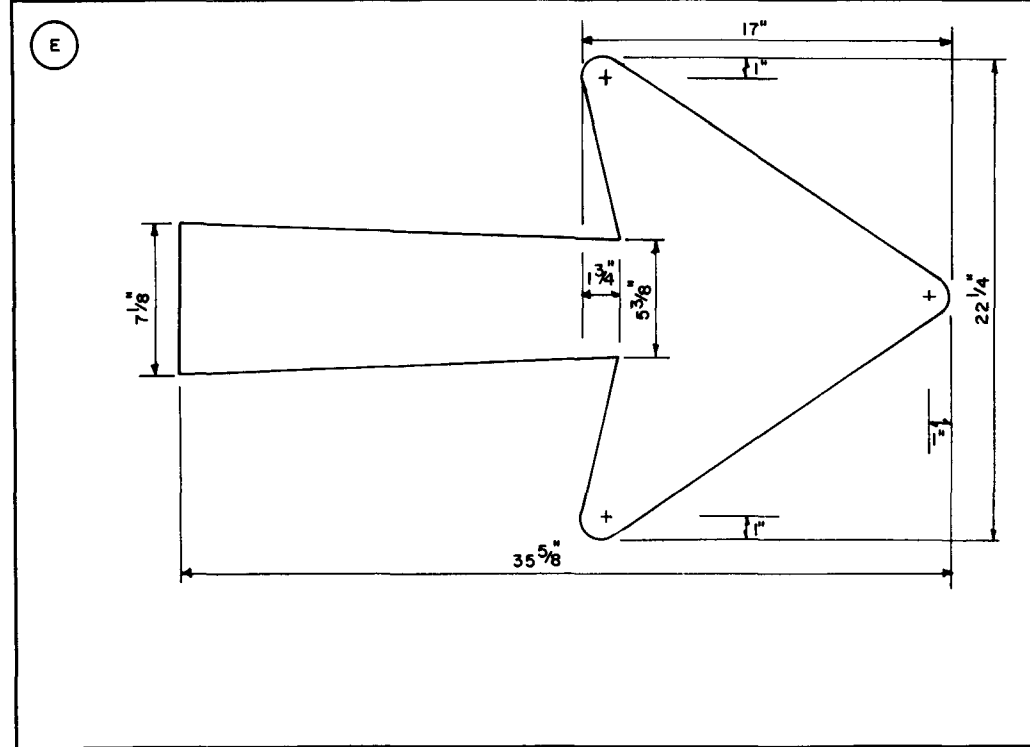
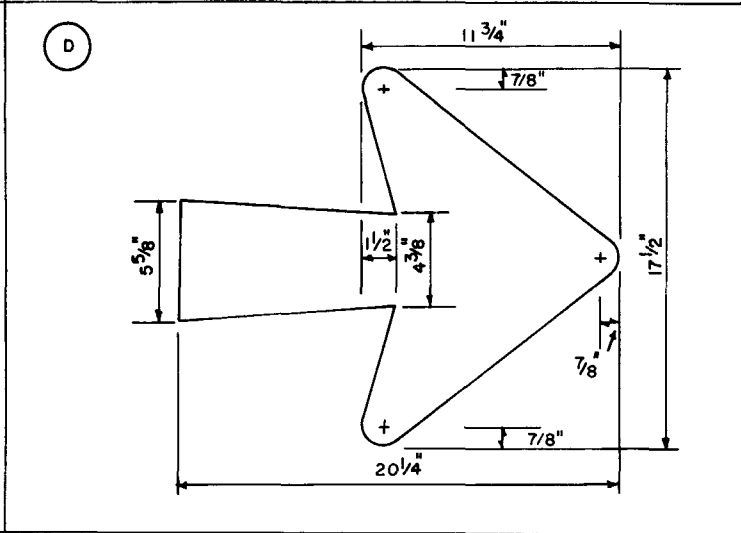
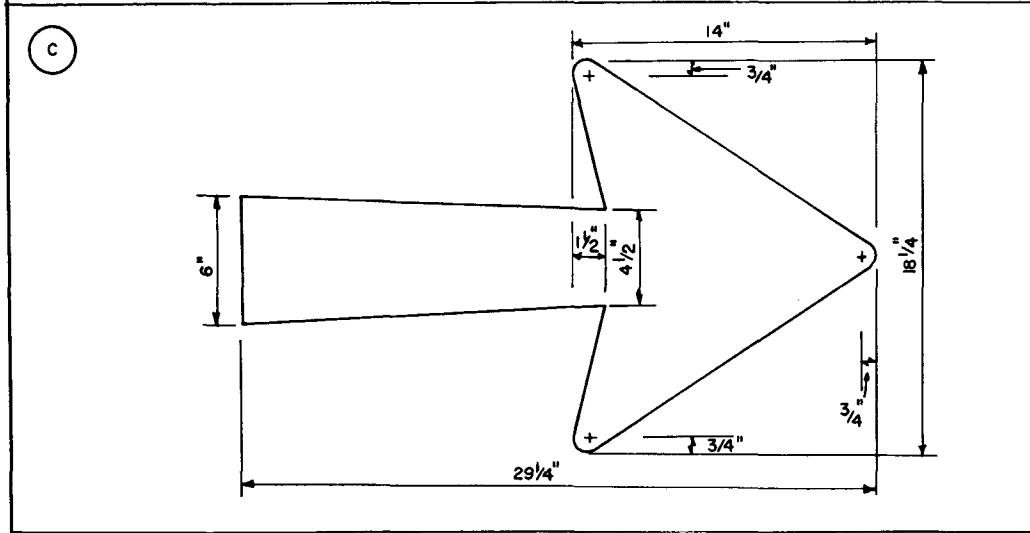
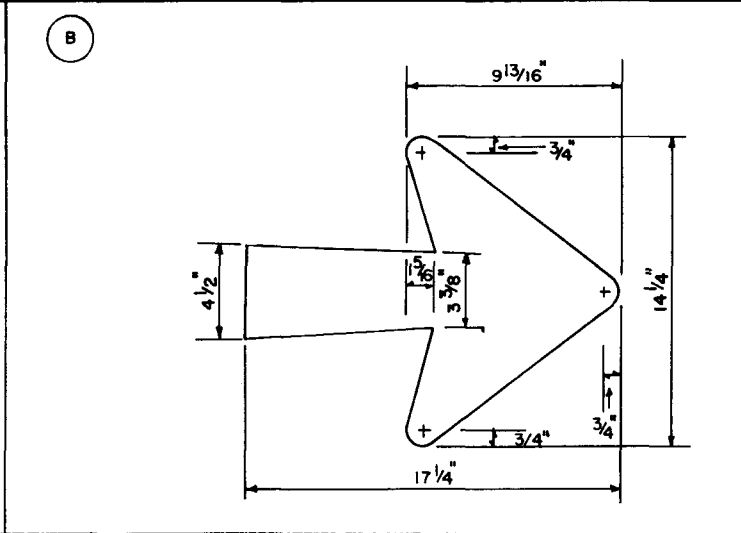
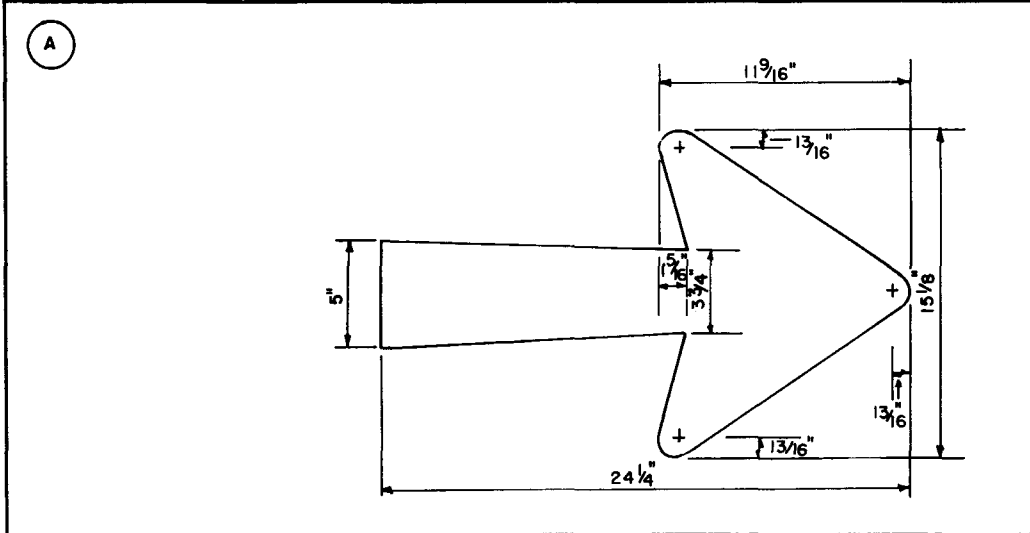
REVISIONS						
DATE	INITIALS	DESCRIPTION	INITIALS	DATES	RECOMMENDED FOR APPROVAL	
			DETAILED BY	G.W.	11-11-74	BY <i>Ronald E. Magaden</i> 3/15/75
			CHECKED BY	K.R.	11-74	DEPUTY TRAFFIC OPERATIONS ENGR.
			QUANTITIES BY			APPROVED
			CHECKED BY			BY <i>Sam L. Curran</i> 4/1/75
			SUPERVISED BY	K.R.	11-74	STATE TRAFFIC OPERATIONS ENGR.
			DRAWING NO.	1	INDEX NO.	17317
			of	2		



MATCH LINE "A"

REVISIONS		
DATE	INITIALS	DESCRIPTION

APPROVED BY F.H.W.A. 4-15-75			
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
36" FLORIDA SHIELD			
	INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY	G.W.	11-11-74	BY <i>Ronald E. Nagels</i> 3/24/75 DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY	K.R.	11-74	
QUANTITIES BY			APPROVED
CHECKED BY			BY <i>E. L. Quinn</i> 4/1/75 STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY	K.R.	11-74	DRAWING NO. INDEX NO.
			2 of 2 17317



FED. ROAD DIST. No.	STATE	PROJECT No.	FISCAL YEAR	SHEET No.
1	FLA.			

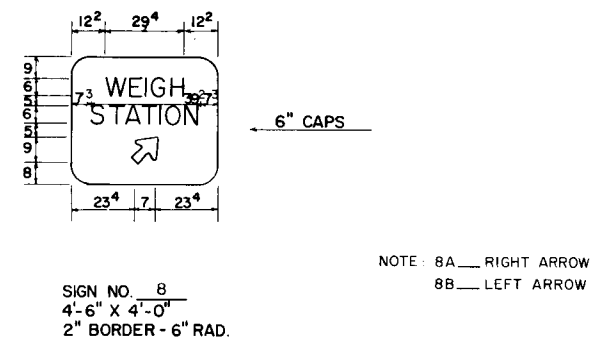
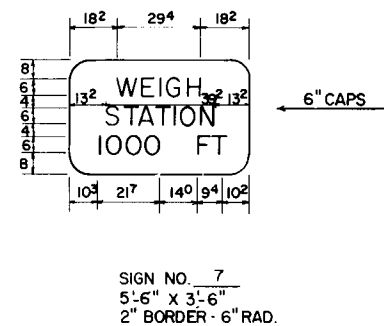
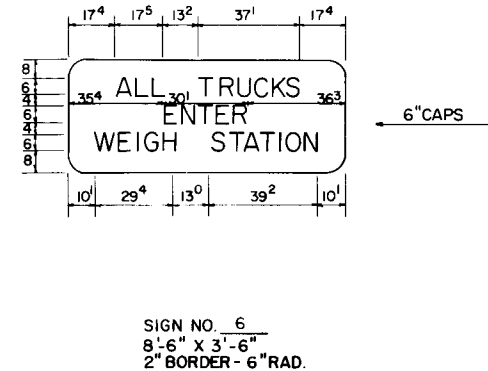
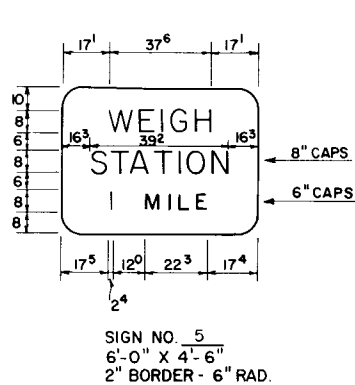
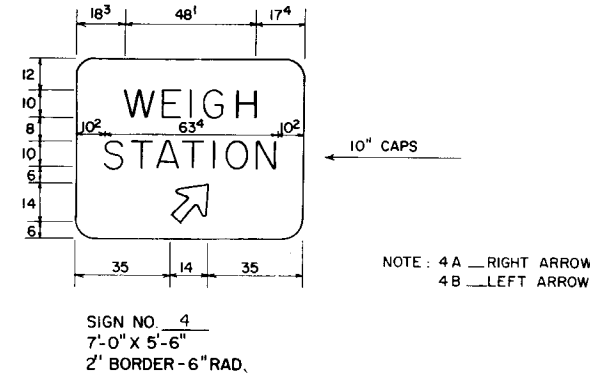
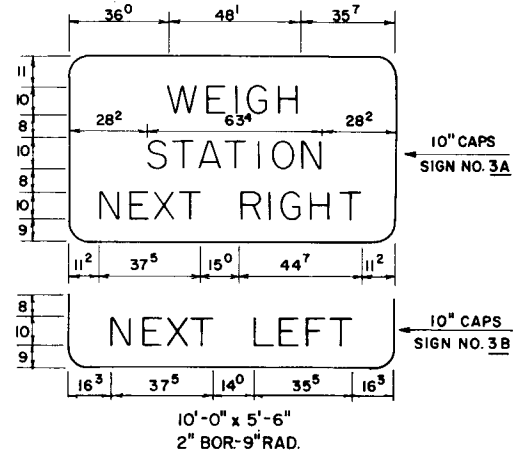
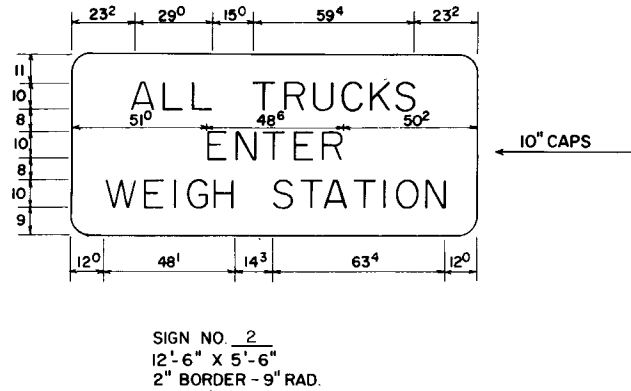
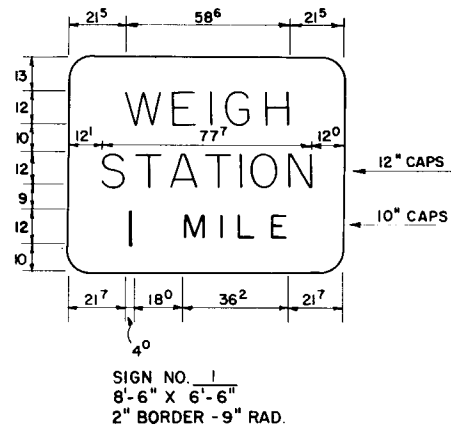
G

APPROVED BY FHWA 11/16/78

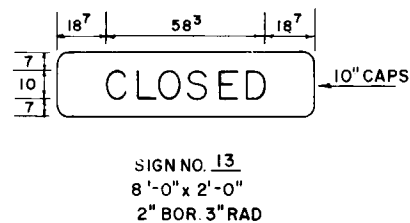
FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
ARROW LAYOUTS FOR GROUND AND OVERHEAD SIGNS			
DATE	INITIALS	DESCRIPTION	RECOMMENDED FOR APPROVAL
6-7-66		INDEX NO. CHANGE 7326 TO 17320	BY <i>[Signature]</i> DEPUTY TRAFFIC OPERATIONS ENGR.
7-10-78	P.B.	CHANGED TITLE BLOCK & GENERAL REVISION	APPROVED BY <i>[Signature]</i> STATE TRAFFIC OPERATIONS ENGR.
			DRAWING NO. 17320
			INDEX NO. 1 OF 1

REVISIONS			
DATE	INITIALS	DESCRIPTION	QUANTITIES BY
6-7-66		INDEX NO. CHANGE 7326 TO 17320	
7-10-78	P.B.	CHANGED TITLE BLOCK & GENERAL REVISION	

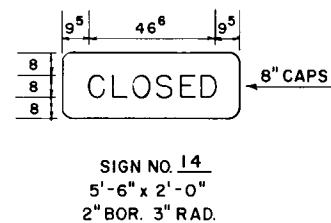
FOR FREEWAY USE



FOR OTHER THAN FREEWAY USE



NOTE
SIGN NO. 13 TO BE USED WITH SIGNS NO. 3A, 3B, 11A AND 11B.

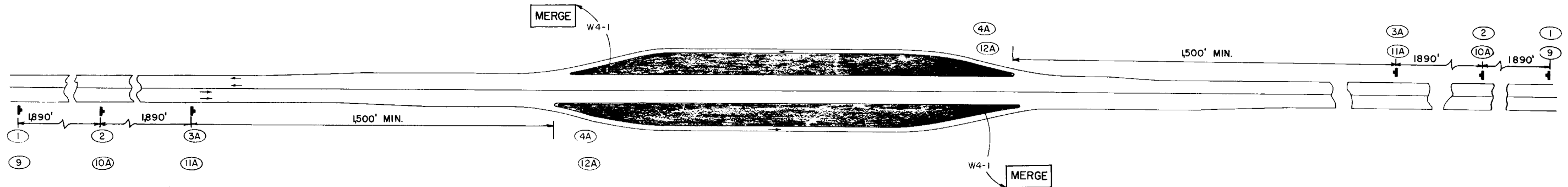


NOTE
SIGN NO. 14 TO BE USED WITH SIGN NO. 7

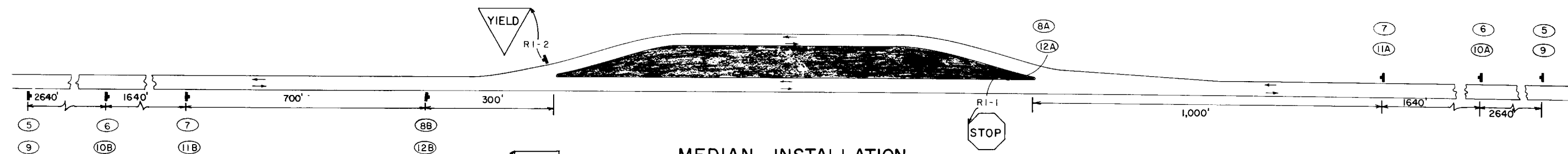
NOTE:
ALL SIGNS TO HAVE GREEN REFLECTORIZED BACKGROUND
WITH WHITE LEGEND AND BORDER
EXCEPT SIGNS NOS. 2 & 6
WHICH SHALL HAVE WHITE BACKGROUND
WITH BLACK LEGEND AND BORDER
ALL DIMENSIONS SHOWN ARE IN
INCHES AND EIGHTHS

APPROVED BY F.H.W.A. 7-31-75		
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS		
TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS		
REVISIONS		RECOMMENDED FOR APPROVAL
DATE	INITIALS	DATES
DETAILED BY M.F.M.		1-75
CHECKED BY K.R.		1-75
QUANTITIES BY		
CHECKED BY		
SUPERVISED BY K.R.		1-75
DRAWING NO. 1 of 3		INDEX NO. 17328A

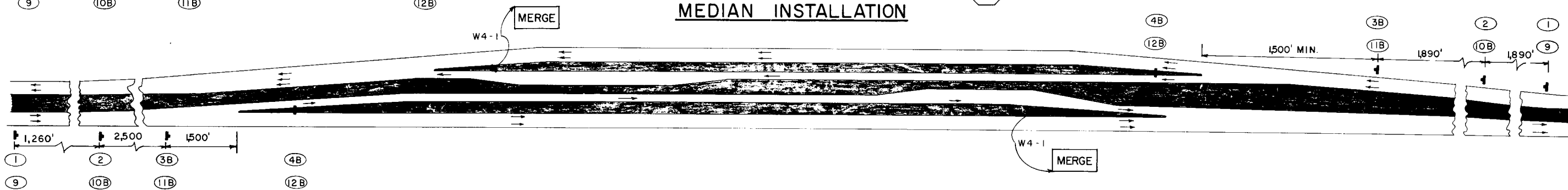
4-LANE DIVIDED INSTALLATION



2-LANE INSTALLATION



MEDIAN INSTALLATION



NOTE:
1) ALL SIGNS TO HAVE GREEN REFLECTORIZED BACKGROUND WITH WHITE LEGEND AND BORDER EXCEPT SIGNS NOS. R1-1, R1-2, & W4-1

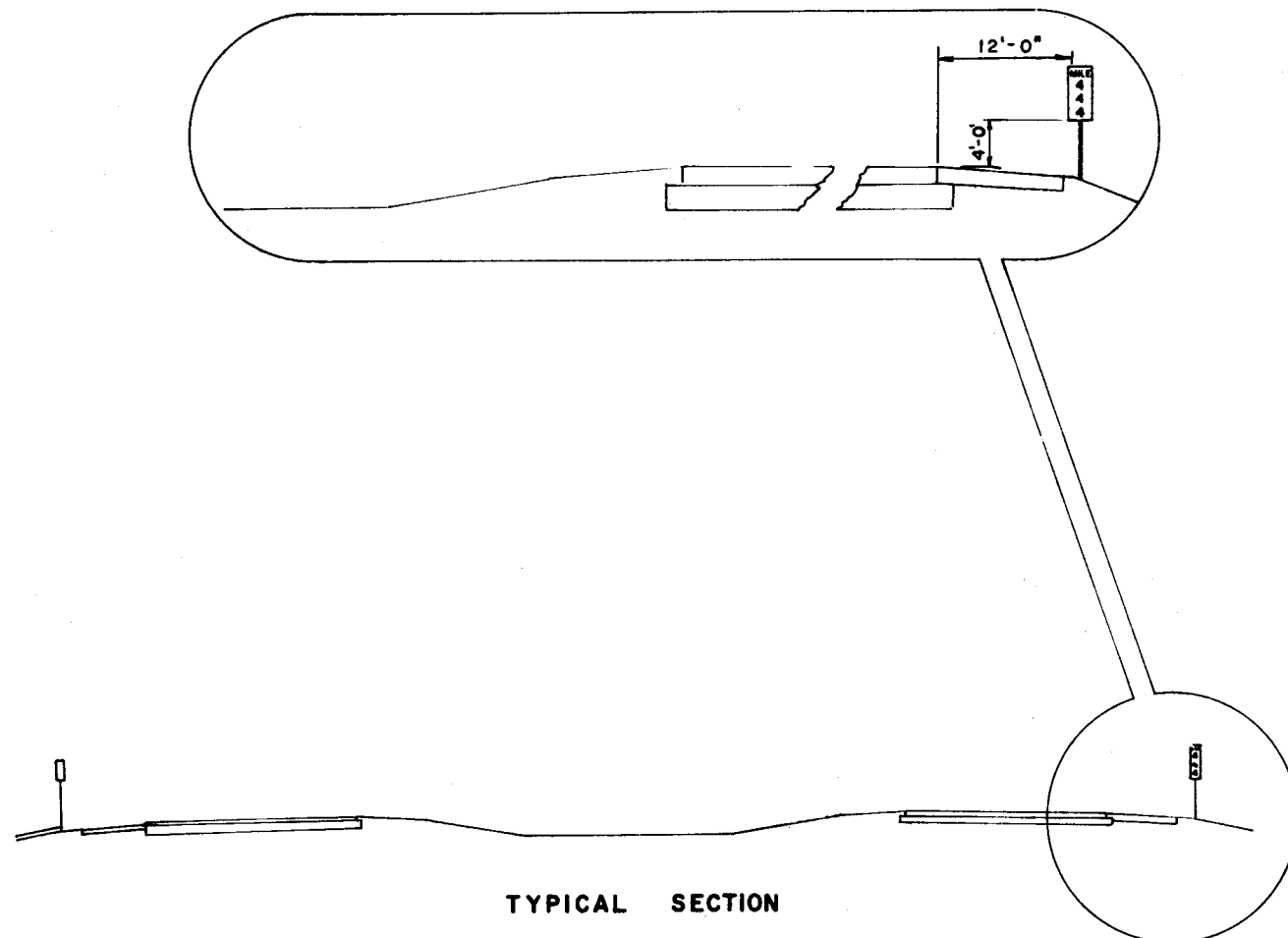
APPROVED BY F.H.W.A. 7-31-75

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

TYPICAL SIGNING FOR
TRUCK WEIGH AND INSPECTION STATIONS

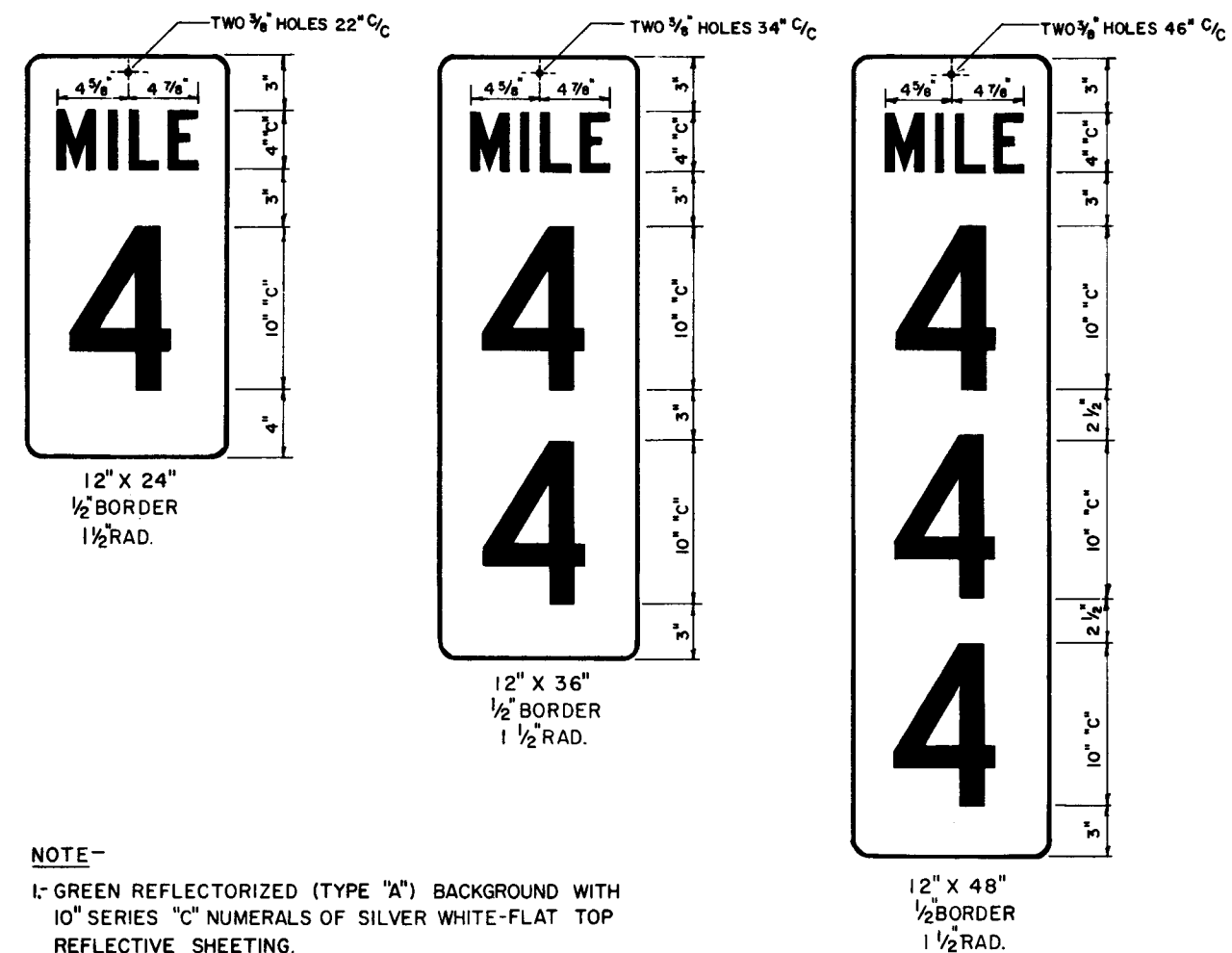
REVISIONS		
DATE	INITIALS	DESCRIPTION

INITIALS	DATES	RECOMMENDED FOR APPROVAL
M.F.M.	1-75	BY <i>Ronald F. Magala</i>
CHECKED BY	K.R.	DEPUTY TRAFFIC OPERATIONS ENGR.
QUANTITIES BY		
CHECKED BY		
SUPERVISED BY	K.R.	1-75
DRAWING NO.	3 of 3	INDEX NO.
		17328A



MILE POST INSTALLATION

WHEN A MILE POST CANNOT BE INSTALLED WITHIN A MAXIMUM OF 50' OF ITS CORRECT LOCATION IT SHOULD BE OMITTED.



NOTE-

- 1- GREEN REFLECTORIZED (TYPE "A") BACKGROUND WITH
10" SERIES "C" NUMERALS OF SILVER WHITE-FLAT TOP
REFLECTIVE SHEETING.
- 2- SIGN PANELS TO BE CONSTRUCTED OF ALUMINUM ALLOY
0.080 THICKNESS.
- 3- 4" SERIES "C" LETTERS

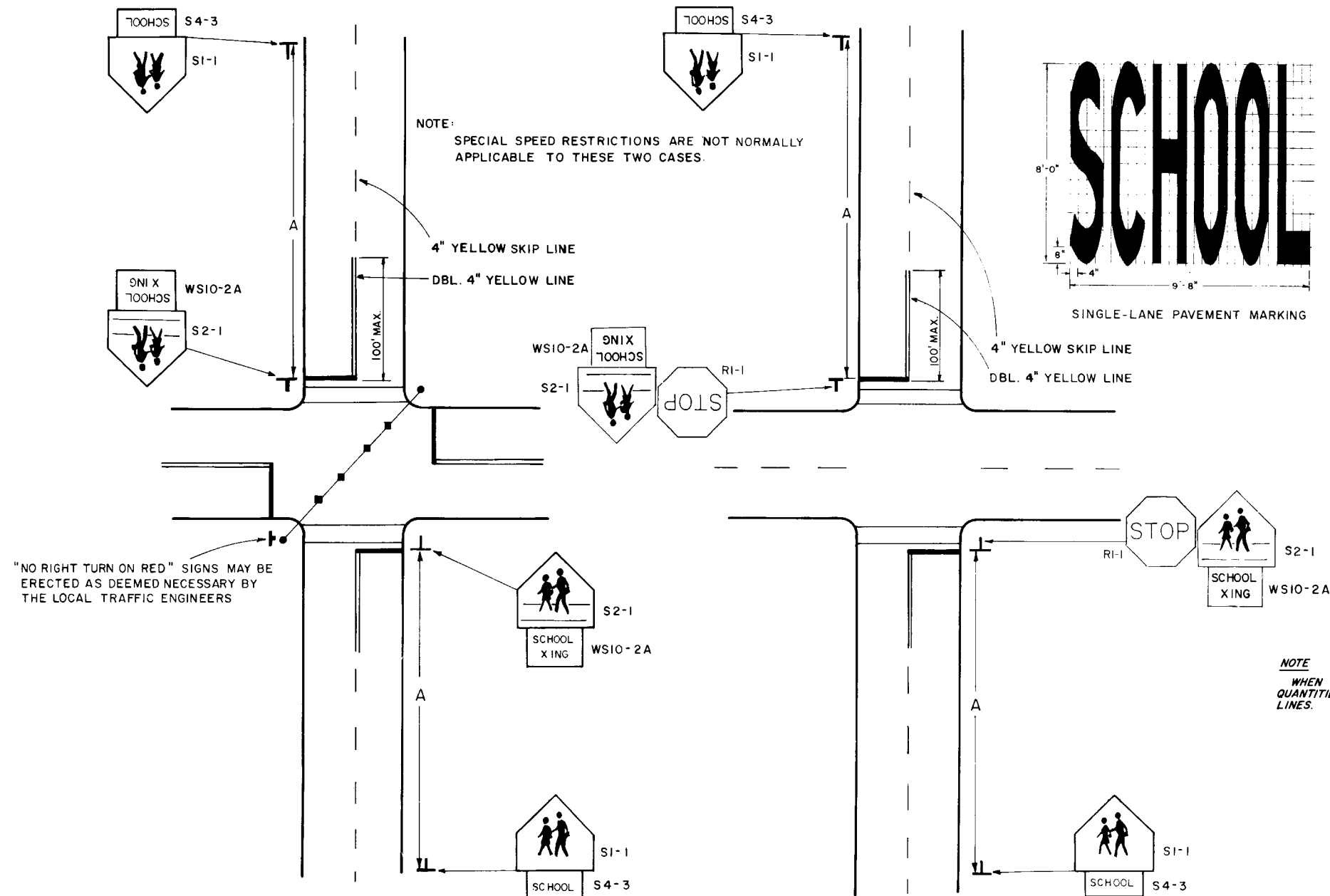
APPROVED BY FHWA 11/16/78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

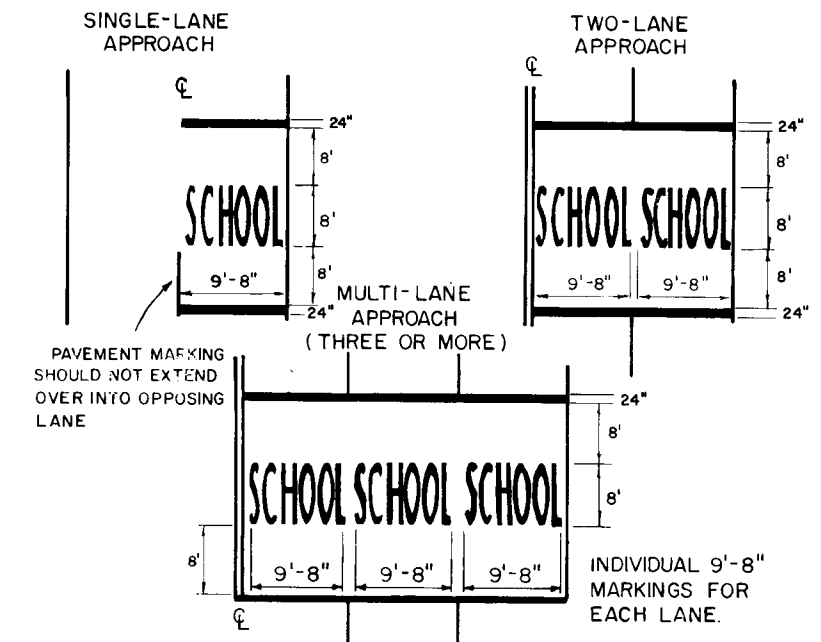
MILE POST MARKER

REVISIONS			MILE POST MARKER			
DATE	INITIALS	DESCRIPTION	DETAILED BY	INITIALS	DATES	RECOMMENDED FOR APPROVAL BY
7-11-78	PB	REVISED MOUNTING HEIGHT	CHECKED BY			DEPUTY TRAFFIC OPERATIONS ENGINEER
			QUANTITIES BY			APPROVED
			CHECKED BY	K.R.		BY
			SUPERVISED BY			STATE TRAFFIC OPERATIONS ENGINEER
						DRAWING NO. INDEX NO.
						17320

APPROACH SPEED (MPH)	DISTANCE A
25 TO 35	275 FT.
36 TO 45	350 FT.
46 TO 55	500 FT.
56 or Greater	575 FT.



PAVEMENT MARKINGS



NOTE

SIGNS ERECTED AT THE SIDE OF THE ROAD IN RURAL DISTRICTS SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 5 FEET, MEASURED FROM THE BOTTOM OF THE SIGN TO THE LEVEL OF THE ROADWAY EDGE. IN BUSINESS, COMMERCIAL AND RESIDENTIAL DISTRICTS WHERE PARKING AND/OR PEDESTRIAN MOVEMENT IS LIKELY TO OCCUR OR WHERE THERE ARE OTHER OBSTRUCTIONS TO VIEW, THE CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE AT LEAST 7 FEET.

NOTE
ALL SCHOOL SIGNS SHALL BE REFLECTORIZED

SEE SHEETS 5 AND 7 FOR DETAILED SIGN
PANEL DESIGNS

APPROVED BY FHWA 11/16/78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

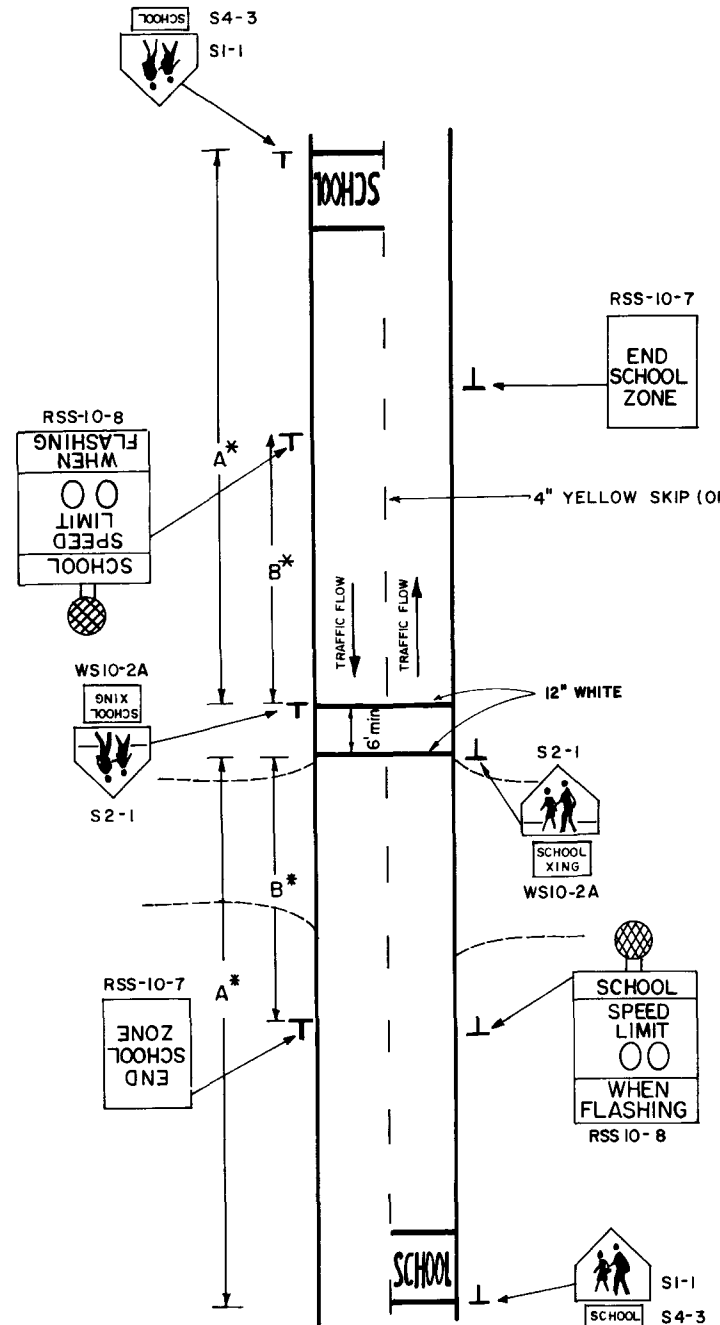
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DATE	BY	DESCRIPTION	CEJ		7-76	
9-76	SWR	Added note, & Changed size of transverse lines	KR		7-76	
			Quantities by			
			Checked by			
			Supervised by		REM	
					Approved by <i>R.E. Magalong</i>	
					State Traffic Operations Engr.	
					DRAWING NO. 1 of 9	
					INDEX NO. 17344B	

I. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK AT A SIGNALIZED INTERSECTION

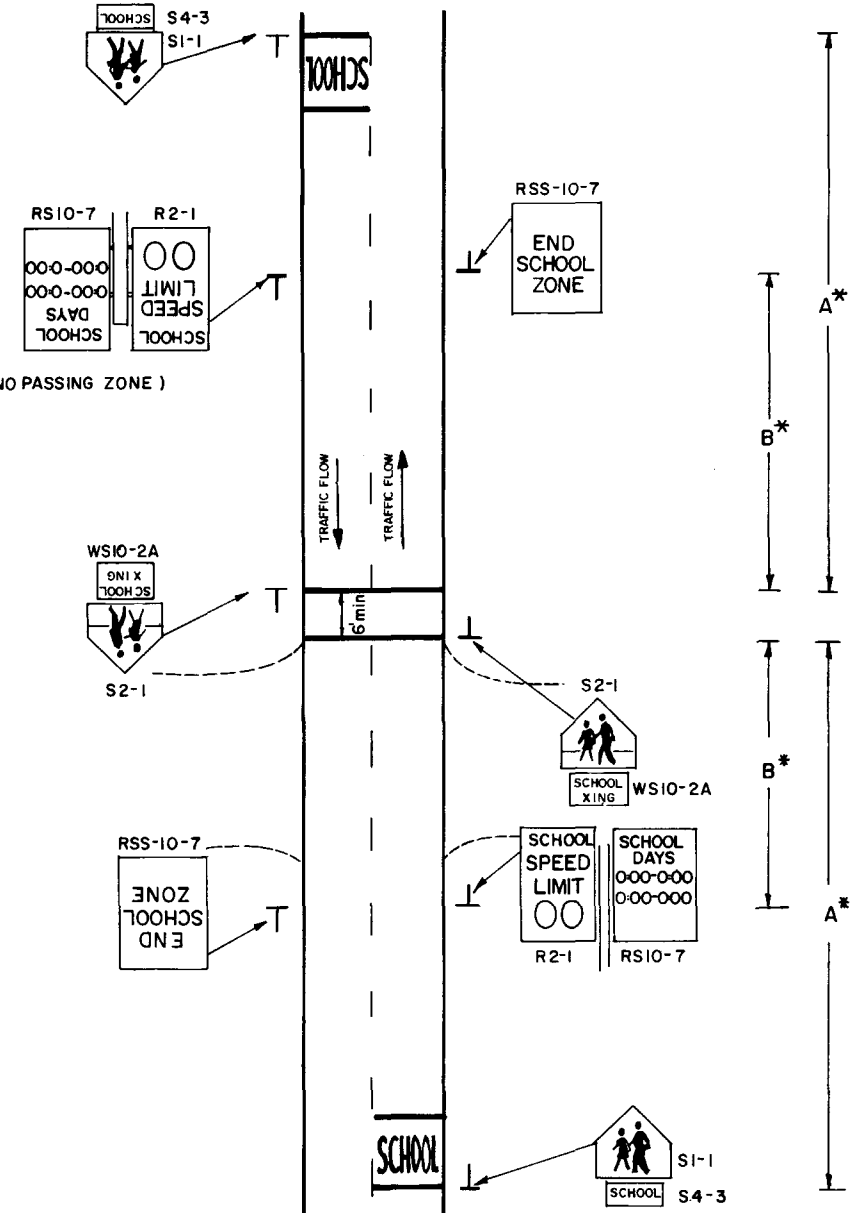
2. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK AT A STOP CONTROLLED INTERSECTION

APPROACH SPEED MPH	SUGGESTED DISTANCE IN FEET	
	A	B
25 TO 35	275	50
36 TO 45	350	65
46 TO 55	500	80
56 OR GREATER	575	100

A & B* DISTANCES SHALL BE INCREASED BY ADDING THE INTERSECTING STREET WIDTH (CURB RETURNS INCLUDED) TO DIMENSIONS GIVEN IN TABLE ABOVE.

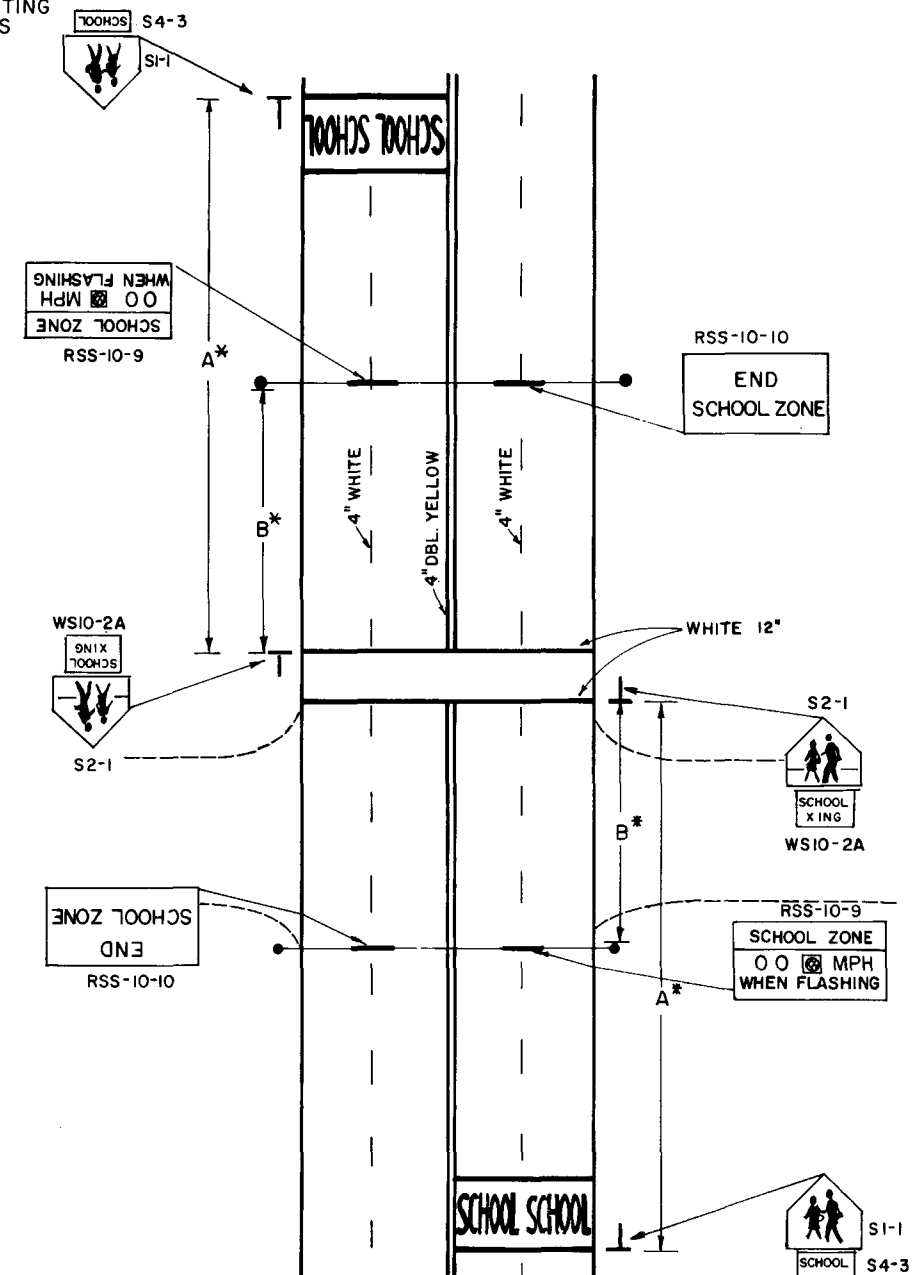


3. TRAFFIC CONTROL DEVICES WITH FLASHING BEACON FOR REDUCED SPEED ZONE AT A SCHOOL CROSSWALK (2 LANES - 2 WAY TRAFFIC) (MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



4. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK (NO FLASHING BEACON) (2 LANES - 2 WAY TRAFFIC) (MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)

5. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK WITH OVERHEAD FLASHING BEACON SPEED LIMIT SIGNS (4 LANES UNDIVIDED - 2 WAY TRAFFIC) (MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)

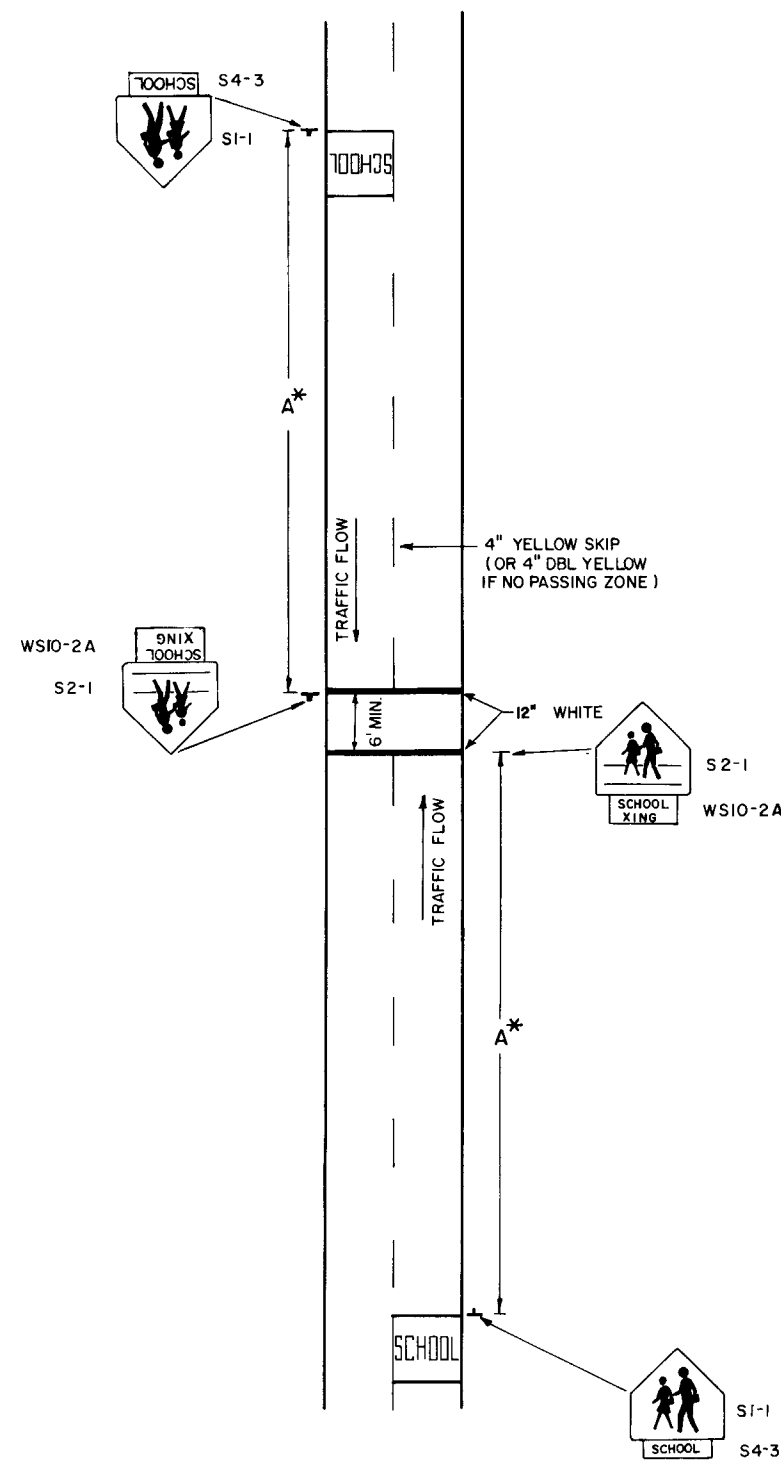


APPROVED BY FHWA 11-16-78

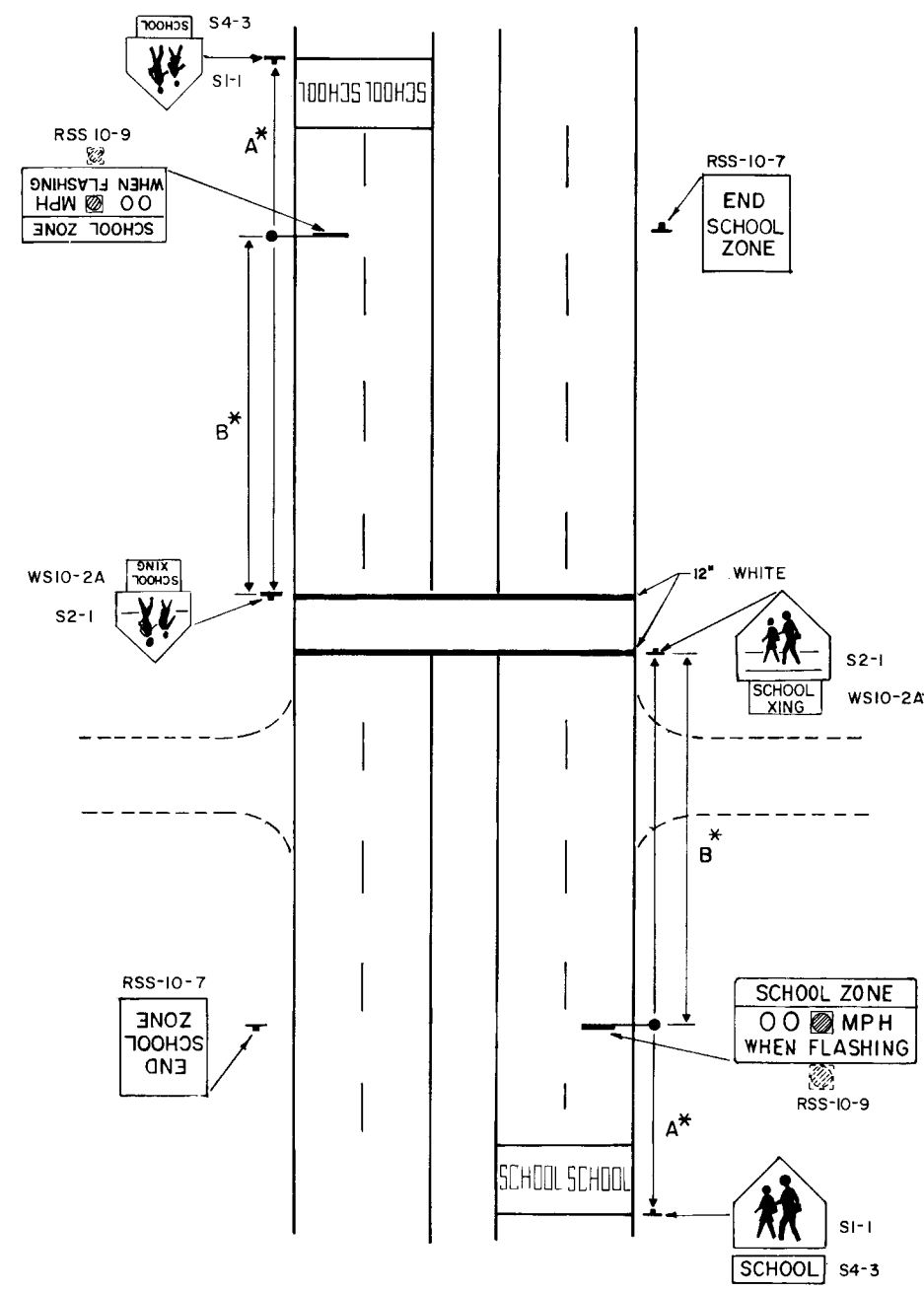
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS
SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION	Designed by	CEJ 7-76
9-78	S.W.R.	Changed crosswalk dimensions	Checked by	KR 7-76
			Quantities by	
			Checked by	
			Supervised by	REM

Approved by *R. E. Magoley*
State Traffic Operations Engr.
DRAWING NO. 2 of 9 INDEX NO. 17344B



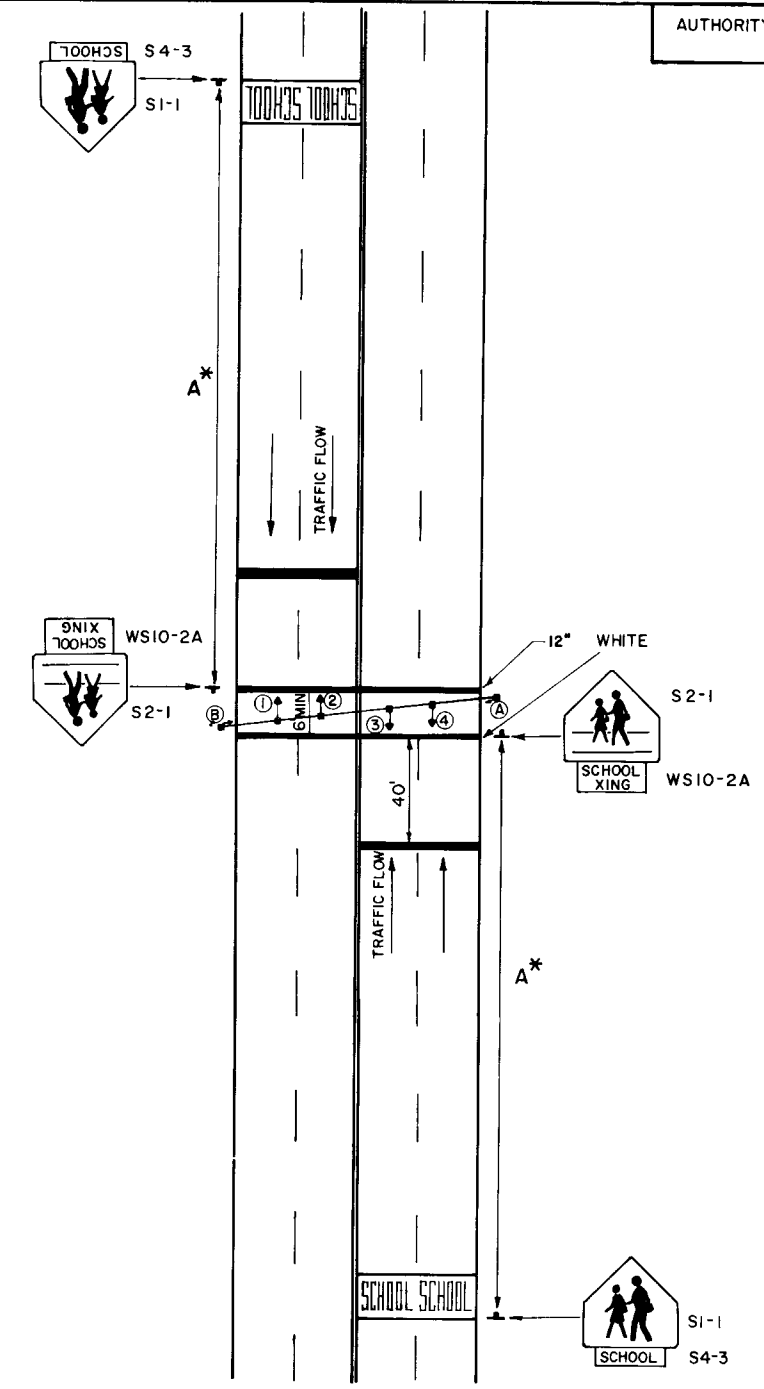
6. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK
WITHOUT A SPEED REDUCTION
(2 LANES - 2 WAY TRAFFIC)



7. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK
WITH OVERHEAD FLASHING BEACON SPEED LIMIT SIGNS
(4 LANES DIVIDED - 2 WAY TRAFFIC)

APPROACH SPEED MPH	SUGGESTED DISTANCE IN FEET	
	A	B
25 TO 35	275	50
36 TO 45	350	65
46 TO 55	500	80
56 OR GREATER	575	100

A* & B* DISTANCES SHALL BE INCREASED BY ADDING THE
INTERSECTING STREET WIDTH (CURB RETURNS INCLUDED) TO
DIMENSIONS GIVEN IN TABLE.

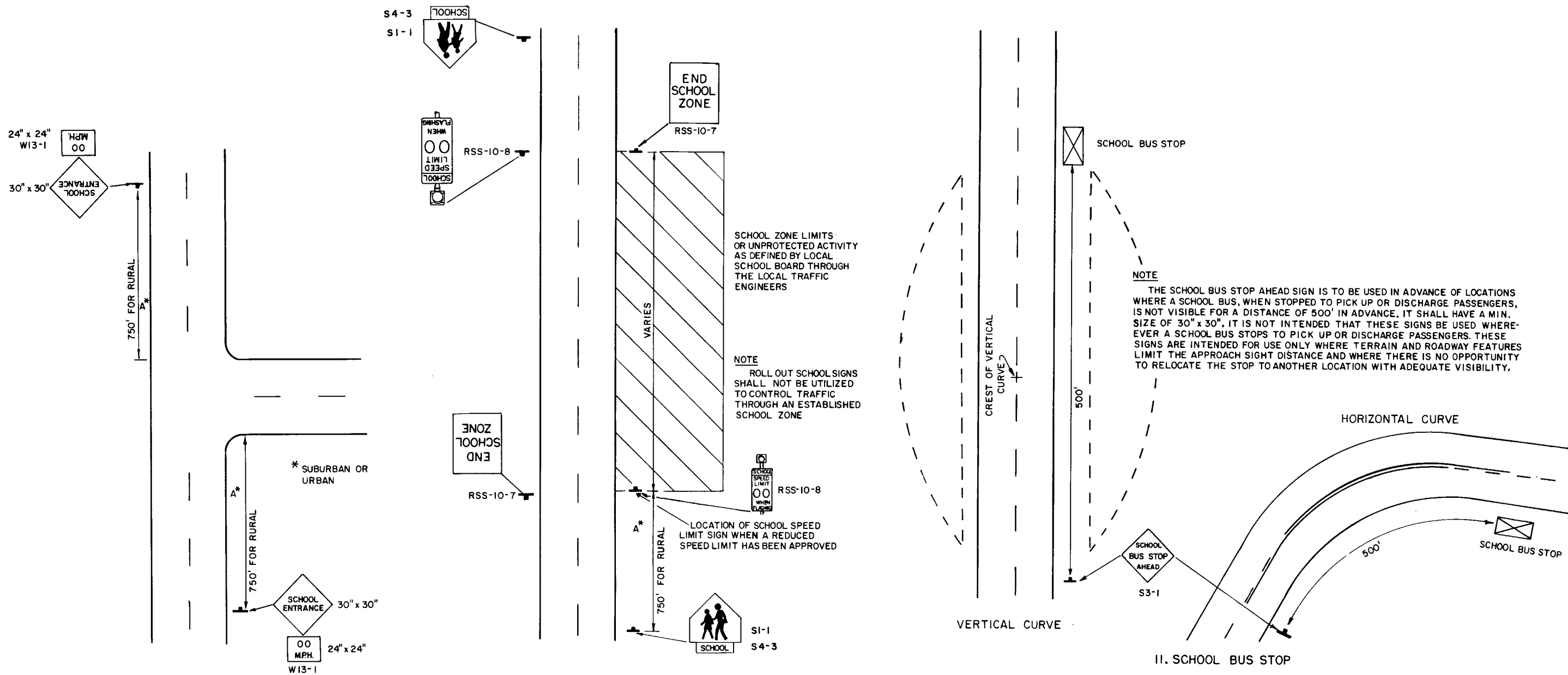


8. TRAFFIC CONTROL DEVICES FOR SIGNALIZED MIDBLOCK
SCHOOL CROSSWALK

APPROVED BY FHWA 11-16-78
FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SCHOOL SIGNS & MARKINGS

REVISIONS				INITIALS	DATES	Approved by <i>R.E. Magaley 7/8/76</i> State Traffic Operations Engr DRAWING NO. 3 OF 9 INDEX NO. 17344 B
DATE	BY	DESCRIPTION	Detailed by	CEJ	7-76	
7-10	FB	REVISED PAVEMENT ON	Checked by	KR	7-76	
9-78	SWR	Changed crosswalk demen- sions	Quantities by			
			Checked by			
			Supervised by	REM		



9. TRAFFIC CONTROL DEVICES AT SCHOOL ENTRANCES WHERE THERE ARE LITTLE OR NO WALKING STUDENTS

10. TRAFFIC CONTROL DEVICES FOR A TYPICAL SCHOOL ZONE FRONTING THE SCHOOL PROPERTY

These Signs Are Intended For Use Only At Those Few Locations Where The School Entrance Is Not Evident To The Motorist, And Must Be Approved In Advance By The Responsible Traffic Engineering Authority.

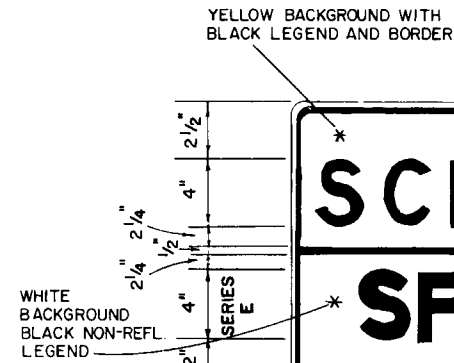
APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION		
			Detailed by CEJ	7-76
			Checked by KR	7-76
			Quantities by	
			Checked by	
			Supervised by REM	
			Approved by <i>R.E. Magaley</i> State Traffic Operations Engr.	
			DRAWING NO. 4 OF 9	INDEX NO. 17344 B

SPEED LIMIT ASSEMBLY



SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	
STD. 8 MIN.	30	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$16\frac{1}{2}$	6	$3\frac{3}{4}$	$13\frac{1}{2}$	$6\frac{1}{2}$	$1\frac{7}{8}$	$5\frac{3}{4}$	4	12	
EXPWY	36	$\frac{5}{8}$	$\frac{7}{8}$	$1\frac{1}{2}$	$19\frac{3}{4}$	$7\frac{1}{4}$	$4\frac{1}{2}$	$16\frac{1}{4}$	$7\frac{13}{16}$	$2\frac{1}{4}$	$6\frac{7}{8}$	$4\frac{3}{4}$	$14\frac{3}{4}$	
SPECIAL	48	$\frac{3}{4}$	$1\frac{1}{4}$	2	$26\frac{1}{2}$	$9\frac{1}{2}$	6	$21\frac{1}{2}$	$10\frac{3}{8}$	3	9	$6\frac{1}{2}$	$19\frac{1}{4}$	

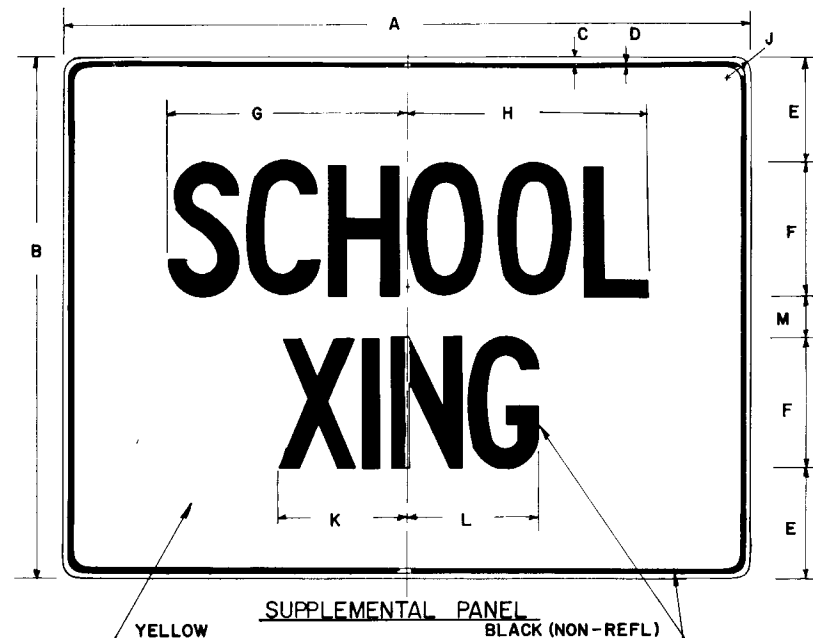


Diagram of a rectangular sign with dimensions and labels:

- Dimensions:**
 - A:** Total width of the sign.
 - B:** Total height of the sign.
 - C:** Width of the top mounting bracket.
 - D:** Height of the top mounting bracket.
 - G:** Width of the left section of the sign.
 - H:** Width of the right section of the sign.
 - J:** Height of the right mounting bracket.
- Text:** The word **SCHOOL** is printed in large, bold, black capital letters.
- Labels:**
 - BLACK (NON-REFL):** Points to the black background of the sign.
 - S4-3:** A label located below the sign.
 - 803-062:** A label in a circle located below the sign.
 - YELLOW:** Points to the yellow background of the sign.

NOTE
ALL SIGNS SHALL BE REFLECTORIZED

NOTE

STANDARD SIZE SIGNS SHOULD BE USED WHENEVER POSSIBLE. MINIMUM SIZES MAY BE USED ONLY ON LOW VOLUME, LOW SPEED (LESS THAN 35 M.P.H.) STREETS. SPECIAL SIZES SHOULD BE USED ON EXPRESSWAY FACILITIES WHERE SPECIAL EMPHASIS IS NEEDED.

SPEED LIMIT

THE VALUE OF THE ACTUAL SCHOOL ZONE SPEED LIMIT SHALL BE DETERMINED BY THE DISTRICT TRAFFIC OPERATIONS ENGINEER IN COOPERATION WITH LOCAL SCHOOL SUPERINTENDENTS, IN NO CASE SHALL IT BE LESS THAN THE 15 MPH. MINIMUM SET BY LAW.

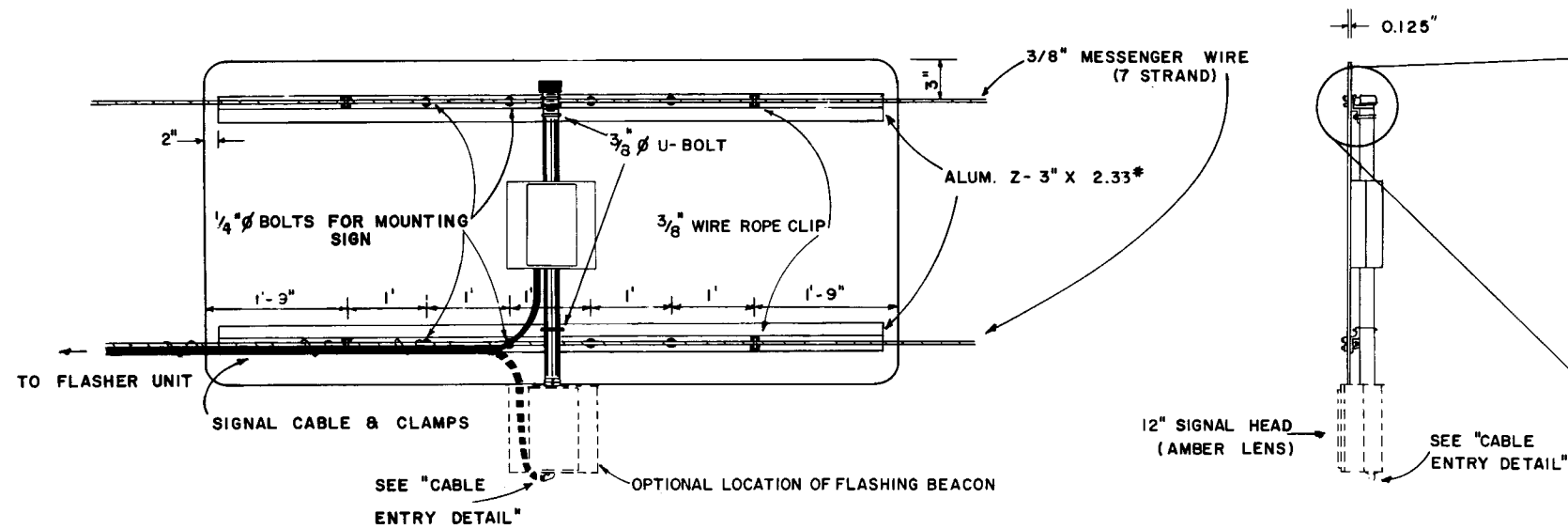
000-000 MAINTENANCE PART NUMBER

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

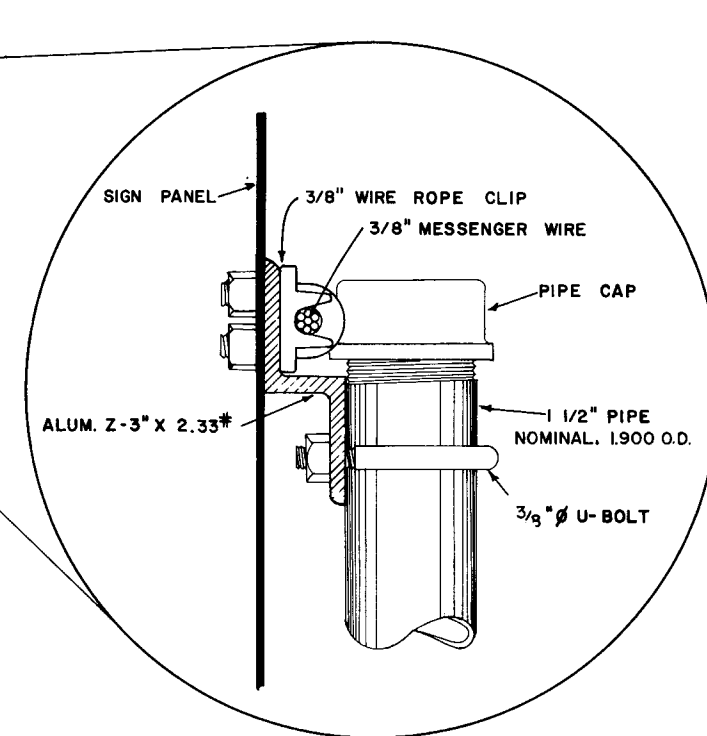
SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES	APPROVED BY <i>R.E. Magady 7/4/76</i> STATE TRAFFIC OPERATIONS ENGR.	
DATE	BY	DESCRIPTION	DETAILED BY	CEJ		7-76
9-20-77	SWR	CHANGED SIGN DIMENSION	CHECKED BY	KR		7-76
			QUANTITIES BY			
			CHECKED BY			
			SUPERVISED BY	REM		
			DRAWING NO. 5 of 9		INDEX NO. 17344 R	

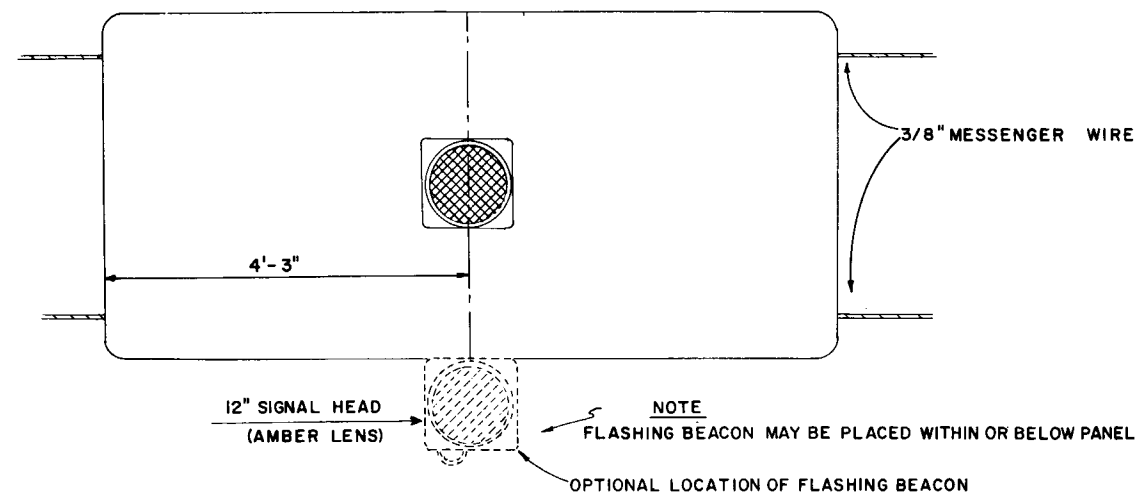


REAR VIEW

FLASHER UNIT AND CABINET TO BE PLACED ON THE STRAIN POLE SUPPORTING OVERHEAD SIGN ASSEMBLY OR ON SERVICE POLE

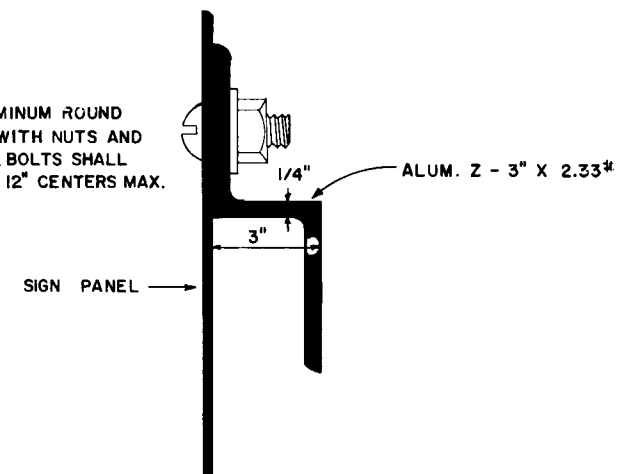


SUSPENSION DETAIL

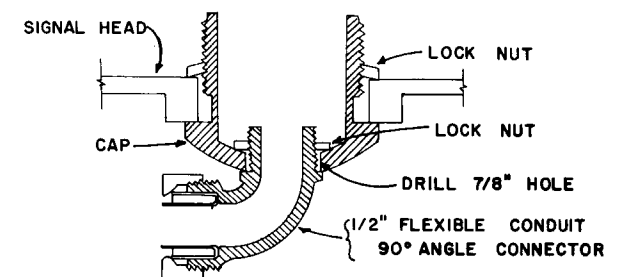


FRONT VIEW

1/4" Ø ALUMINUM ROUND HEAD BOLTS WITH NUTS AND LOCKWASHERS, BOLTS SHALL BE SPACED @ 12" CENTERS MAX.



Z SECTION DETAIL



CABLE ENTRY DETAIL

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

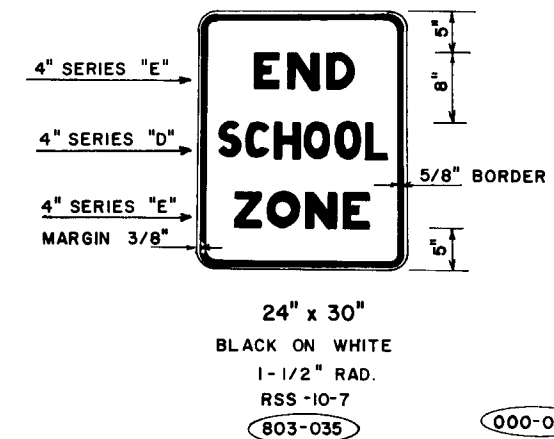
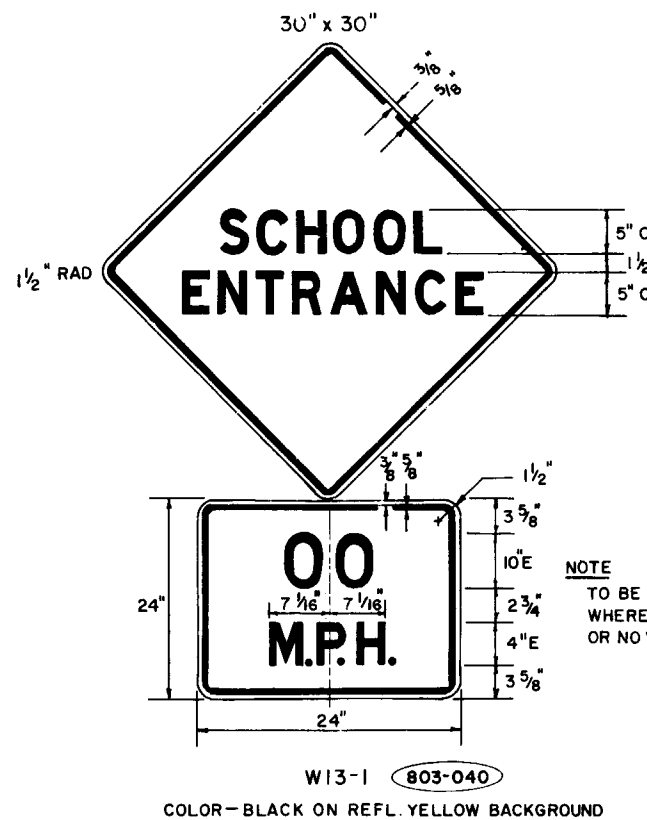
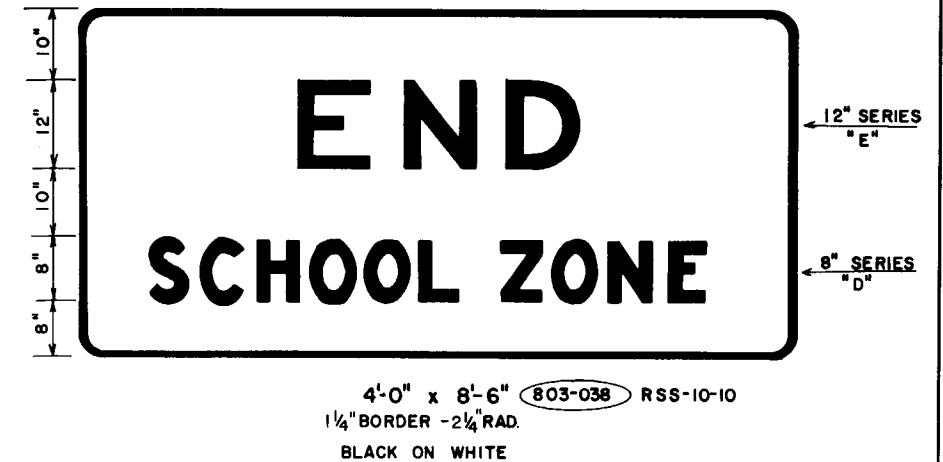
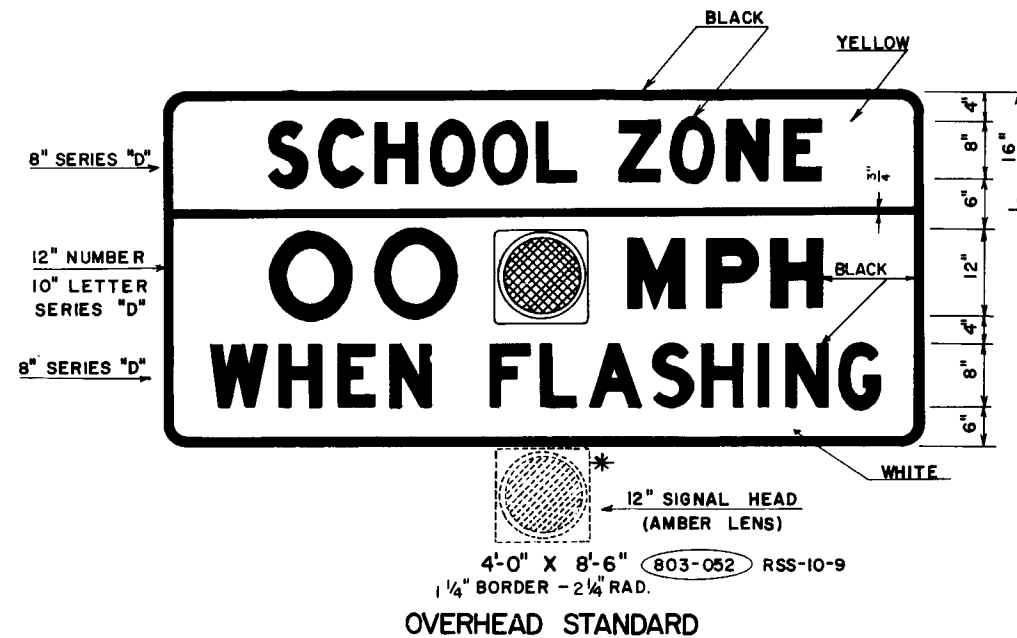
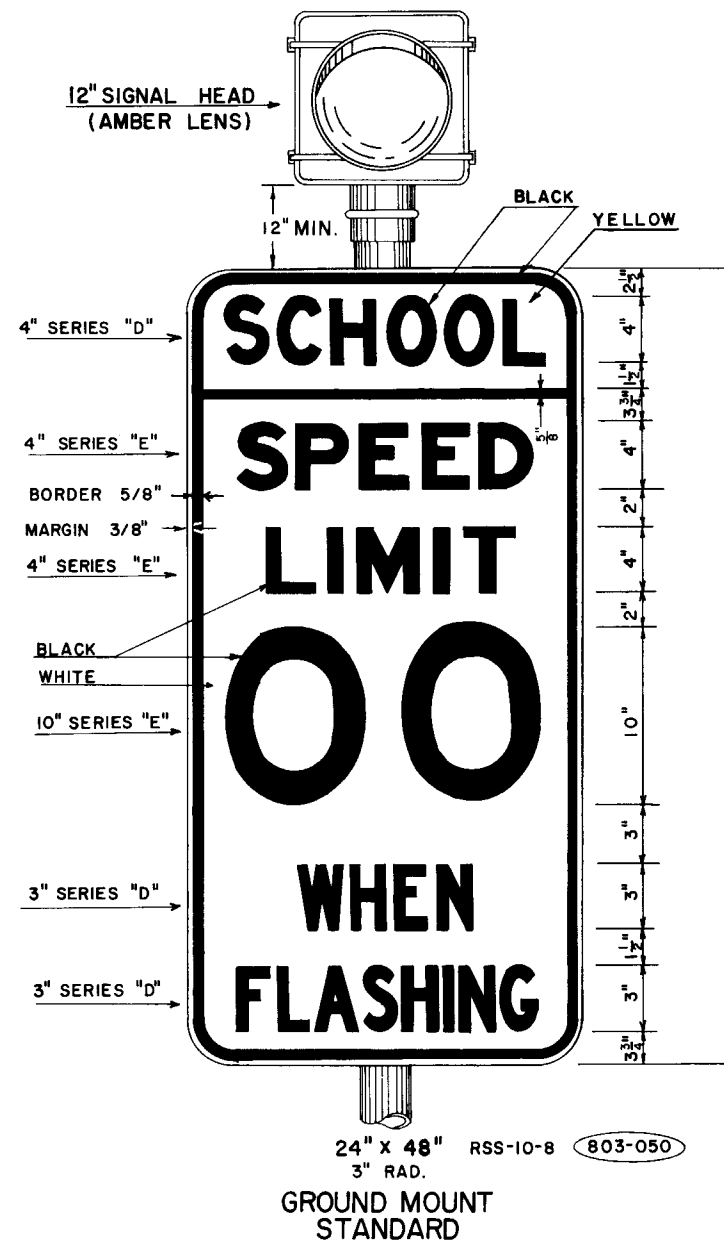
SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION		
			CEJ	7-76
			KR	7-76

APPROVED BY *P.E. Magallon 7/26/76*

STATE TRAFFIC OPERATIONS ENGR.

DRAWING NO. 6 of 9 INDEX NO. 17344B



NOTE

EXISTING SCHOOL SPEED LIMIT SIGNS (GROUND MOUNT)
UTILIZING A SINGLE 8" MIN. SIZE BEACON OR TWO 6" MIN. SIZE BEACONS
INSIDE THE SIGN BORDER ARE CONSIDERED AS MEETING THE STANDARD.
HOWEVER REPLACEMENT OR UPGRADING OF THESE SCHOOL SPEED LIMIT
SIGNS SHALL CONFORM TO THE ABOVE STANDARD.

NUMERICAL SPEED LIMIT DISPLAYED SHALL BE THE LIMIT ESTABLISHED
BY APPROPRIATE REGULATORY AUTHORITIES.

NOTE

TO BE USED AT SCHOOLS
WHERE THERE ARE LITTLE
OR NO WALKING STUDENTS.

NOTE

ALL SIGNS SHALL BE REFLECTORIZED

APPROVED BY FHWA 11-16-78

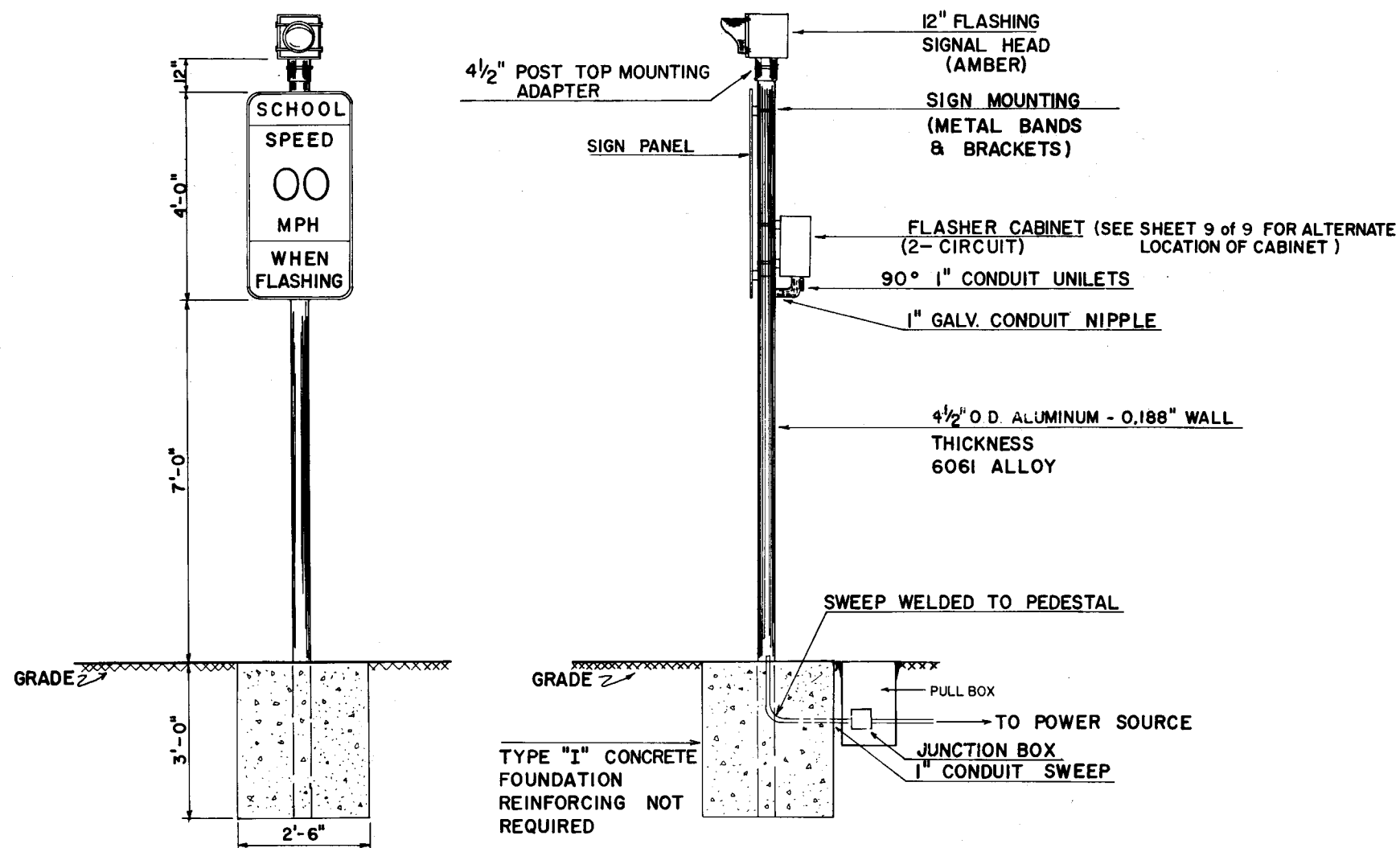
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

REVISIONS			SCHOOL SIGNS & MARKINGS		
DATE	INITIALS	DESCRIPTION		INITIALS	DATES
			DETAILED BY	CEJ	7-76
			CHECKED BY	KR	7-76
			QUANTITIES BY		
			CHECKED BY		
			SUPERVISED BY	REM	

APPROVED	
BY	<i>R.E. Magada 7/24/76</i>
STATE TRAFFIC	OPERATIONS ENGR.
DRAWING NO.	INDEX NO.
7 of 9	173449

DETAIL FOR GROUND MOUNT SCHOOL SPEED LIMIT SIGN



FLASHING BEACON SIGN ASSEMBLY PAY ITEM NUMBERS

700-90 FLASHING BEACON SIGN () ASSEMBLY

700-90-1 (GROUND MOUNT)

700-90-2 (OVERHEAD MOUNT)

THE ABOVE ITEMS INCLUDE THE COST OF ALL MATERIALS, LABOR, EQUIPMENT AND OTHER MISCELLANEOUS EXPENSES REQUIRED TO FURNISH AND INSTALL A COMPLETE FLASHING BEACON SIGN ASSEMBLY OF THE TYPE SPECIFIED

A FLASHING BEACON SIGN ASSEMBLY INCLUDES ALL SIGNS & BEACONS MOUNTED ON A SUPPORTING STRUCTURE, INCLUDING THE COMPLETE STRUCTURE, STRUCTURE FOUNDATIONS AND MISCELLANEOUS HARDWARE & ELECTRICAL CONNECTIONS. THE ASSEMBLY DOES NOT INCLUDE THE SIGN CONTROLLER & CABINET, TIME CLOCKS, ELECTRICAL POWER SERVICE ASSEMBLY, OR ANY CONDUIT, CABLE OR PULL BOXES BEYOND THE SIGN STRUCTURE FOUNDATION.

GENERAL NOTES FOR FLASHING BEACON INSTALLATIONS

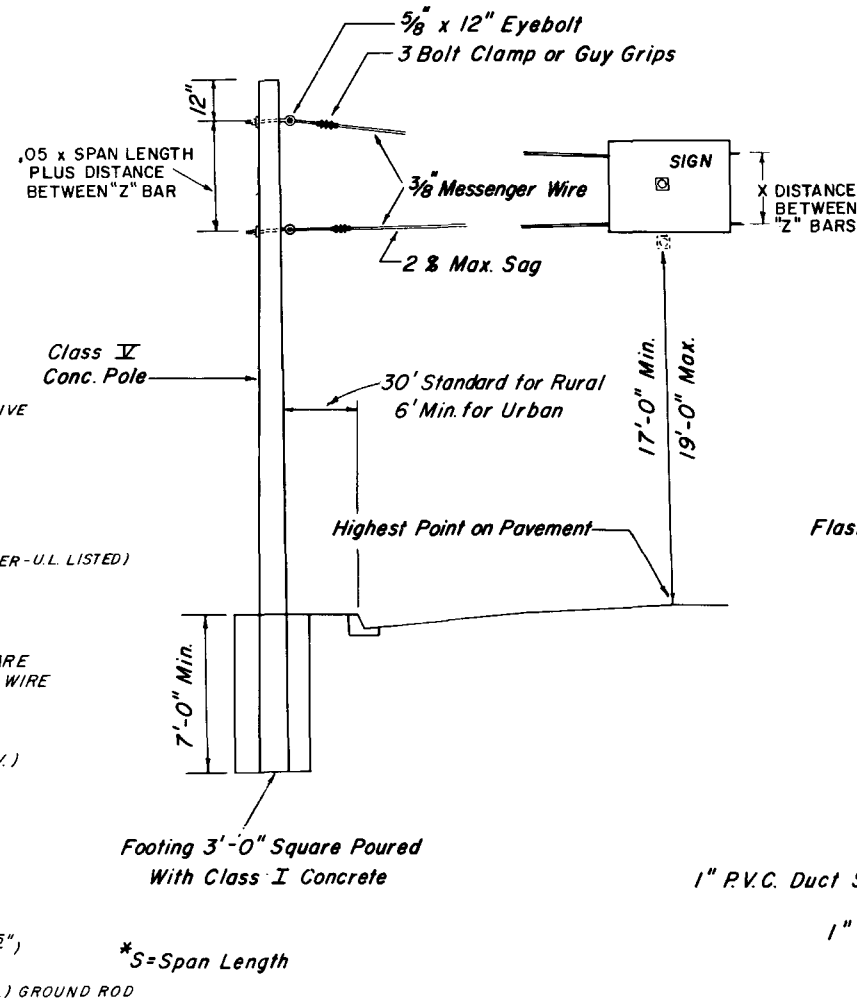
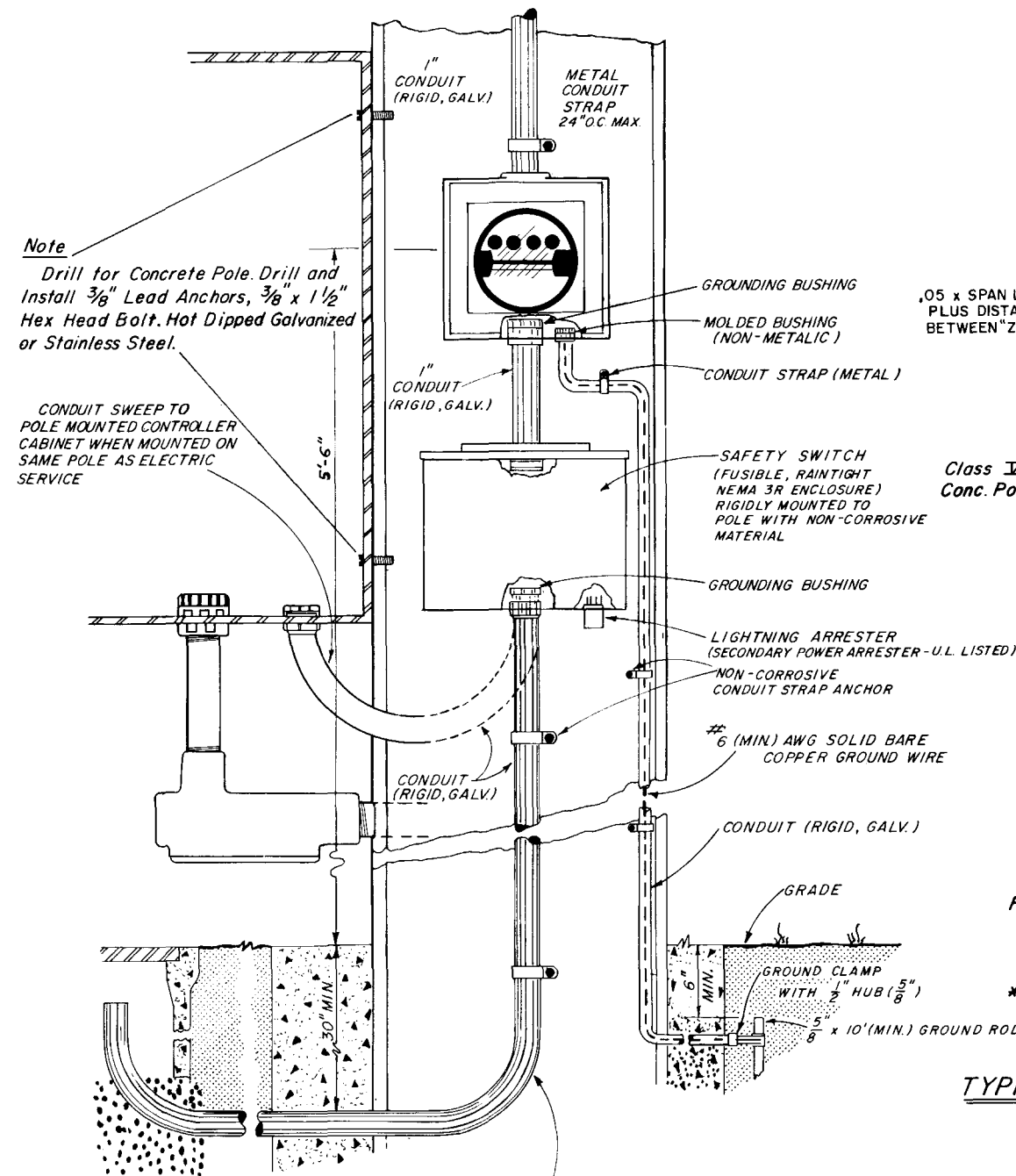
1. IT SHALL BE THE RESPONSIBILITY OF THE ENGINEER, BASED UPON SOIL CONDITIONS, TO DETERMINE IF CONCRETE FOUNDATIONS ARE REQUIRED. (COST OF CONCRETE FOUNDATION TO BE INCLUDED IN BID ITEM PROVIDED)
2. IF A CONCRETE FOUNDATION IS NOT REQUIRED, METHOD OF STABILIZATION IS TO BE DETERMINED BY THE ENGINEER AND AN APPROVED ANTI-TWIST DEVICE SHALL BE PROVIDED AND INSTALLED ON THE POST BELOW GRADE (COST OF DEVICE TO BE INCLUDED IN BID ITEM 700-90-1)
3. ONE (1) FLASHER UNIT AND CABINET TO BE USED WITH EACH SCHOOL ZONE UNLESS OTHERWISE PROVIDED ON THE INSTALLATIONS PLAN.
4. FLASHER-2 CIRCUIT-10 AMPERES EACH CIRCUIT. SOLID STATE DESIGN FOR PLUG-IN MOUNTING IN A WEATHER PROOF, VENTILATED ALUMINUM CABINET.
5. CABINET SHALL BE EQUIPPED WITH JACK PANEL, TERMINAL AND FUSE BLOCK, AND SHALL BE OF SUFFICIENT SIZE TO HOUSE ALL RELATED EQUIPMENT.
6. CABINET SHALL BE FURNISHED WITH A CYLINDER LOCK AND TWO (2) KEYS.
7. TIME CLOCK TO BE 7 DAYS, 24 HOUR DIAL WITH DAY OMIT ON ANY COMBINATION OF DAYS. TIME CLOCK TO BE SETTABLE IN 5 MINUTE INCREMENTS. MINIMUM ON AND OFF TIMES SETTABLE TO 15 MINUTES. A MINIMUM OF 4 ON-OFF CYCLES PER DAY AND A 10 HOUR RESERVE SPRING IS REQUIRED.

APPROVED BY FHWA 11-16-78

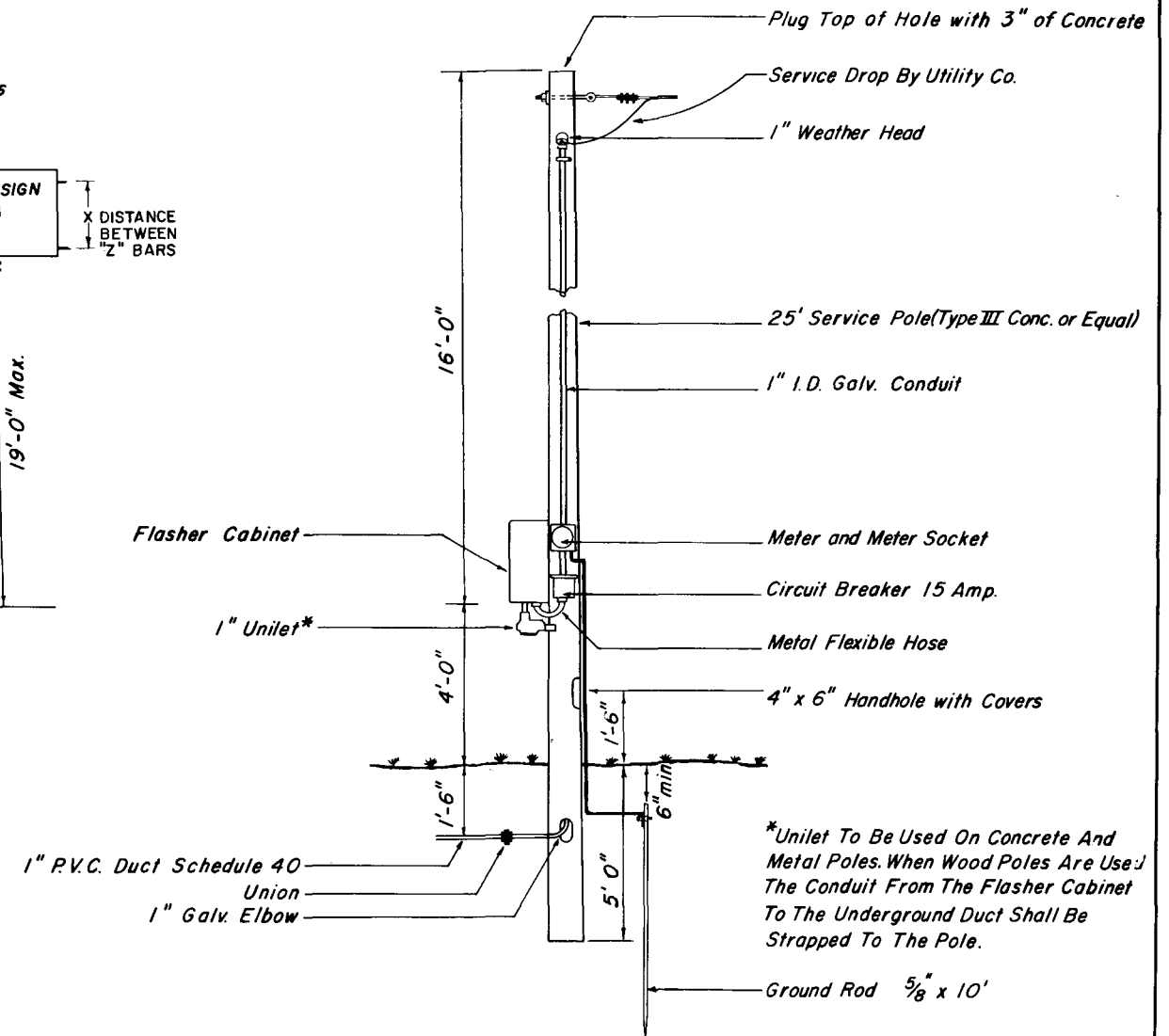
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS		DATES		
DATE	BY	DESCRIPTION	DETAILED BY	CEJ	7-76	APPROVED BY <i>R.E. Magarley</i> STATE TRAFFIC OPERATIONS ENG.	
			CHECKED BY	KR	7-76		
			QUANTITIES BY				
			CHECKED BY				
			SUPERVISED BY	REM			
						DRAWING NO. 8 of 9	INDEX NO. 17344 R



TYPICAL INSTALLATION DETAIL



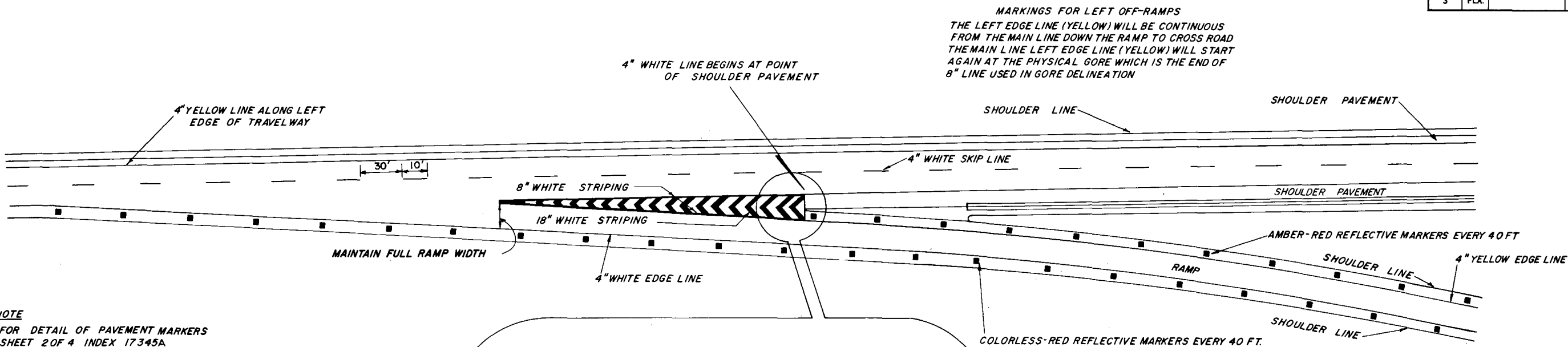
TYPICAL SERVICE POLE
WITH CABINET

APPROVED BY FHWA 11-16-78

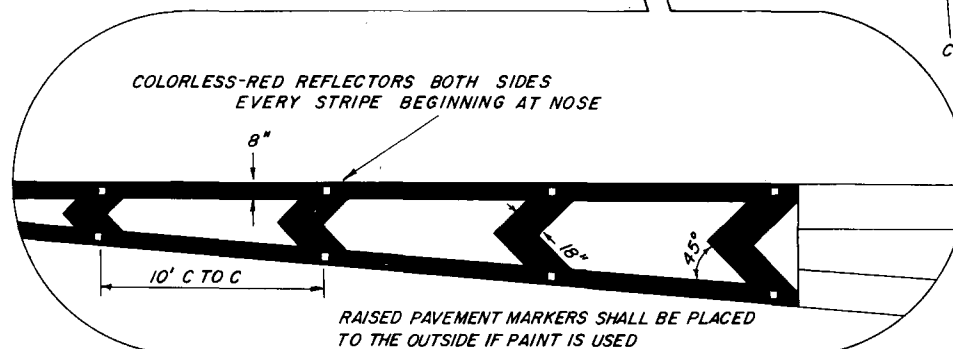
FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SCHOOL SIGNS & MARKINGS

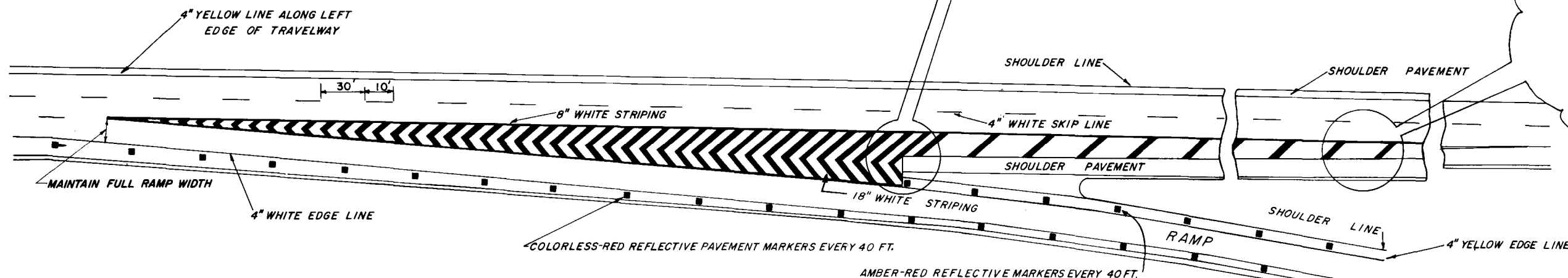
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DATE	BY	DESCRIPTION		
			Detailed by CEJ	7-76
			Checked by KR	7-76
			Quantities by	
			Checked by	
			Supervised by	
			REM	
			Approved by <i>R.E. Magarvey</i>	State Traffic Operations Engr.
			DRAWING NO. 9 OF 9	INDEX NO. 17344 B



NOTE
FOR DETAIL OF PAVEMENT MARKERS
SHEET 2 OF 4 INDEX 17345A



NORMAL TAPERED EXIT (TWO THRU LANES)



NOTE
WHERE ANY LANE, AUXILIARY OR OTHER, WHICH HAS BEEN PROVIDED AS AN ESCAPE AREA, AND IS LESS THAN 1500 FT. BEYOND THE NOSE OF THE GORE, IT SHOULD BE STRIPED AS AN EXIT ONLY AS SHOWN IN LOWER DETAIL.

NORMAL TAPERED EXIT ONLY (TWO THRU LANES-THREE APPROACH LANES)

"S"	"X"
30	20'
35	20'
40	40'
45	40'
50	60'
55	60'
60	80'
65	80'
70	80'

* PASSENGER CAR, DAYTIME, POSTED SPEEDS OR 85TH PERCENTILE (USE HIGHER VALUE).

APPROVED BY FHWA 11-16-78

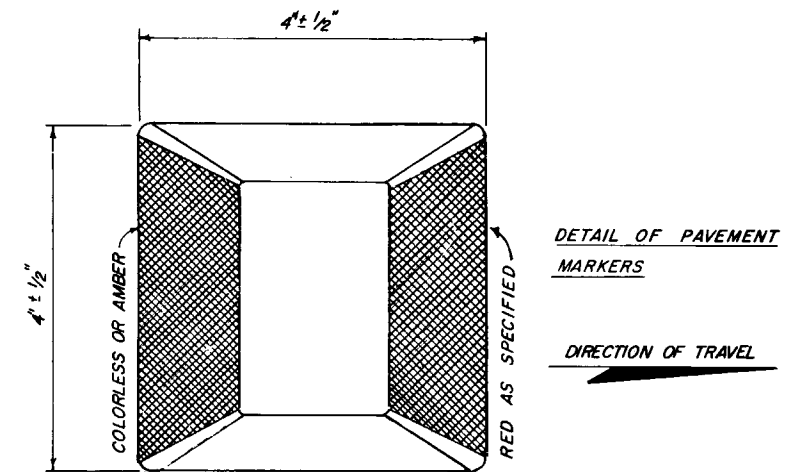
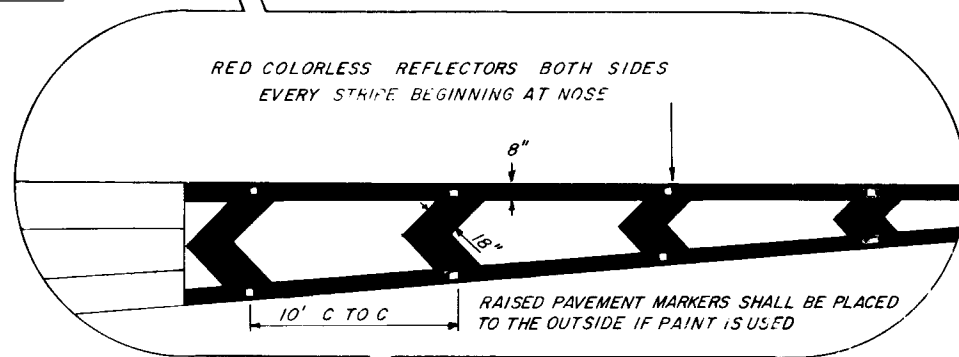
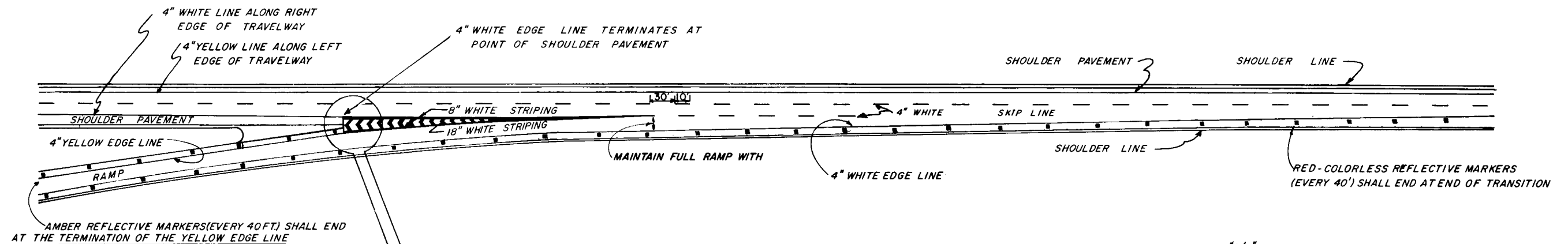
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

INTERCHANGE MARKINGS

REVISIONS		
DATE	INITIALS	DESCRIPTIONS
7-12-78	PB	REVISED NOTES & TITLE BLOCK

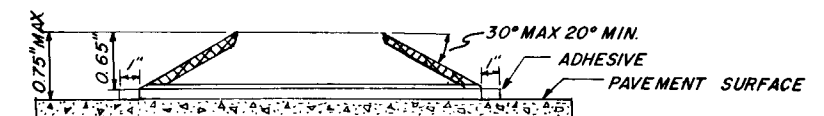
INITIALS	DATES	RECOMMENDED FOR APPROVAL
		BY <i>J. E. Price</i>
		DEPUTY TRAFFIC OPERATIONS ENGR.
		APPROVED BY <i>R. Magaley</i>
		STATE TRAFFIC OPERATIONS ENGR.
		Drawing No. 1 OF 4
		Index No. 17345 A

TWO THRU LANES

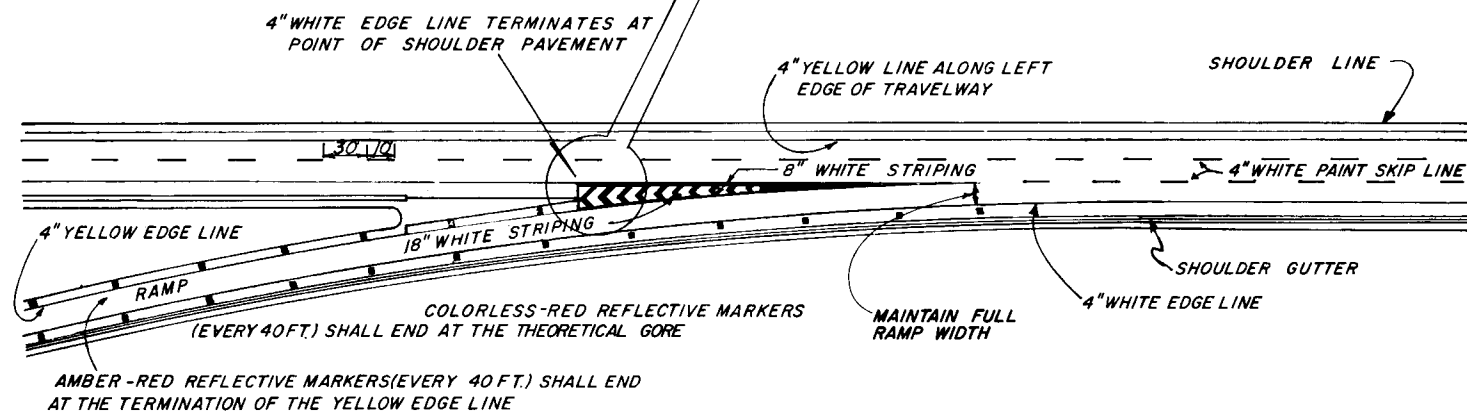


PLAN

DIRECTION OF TRAVEL

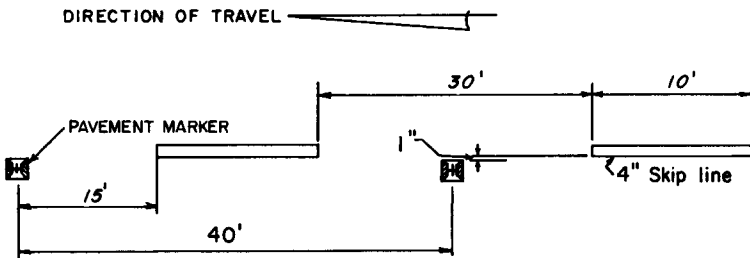


PROFILE



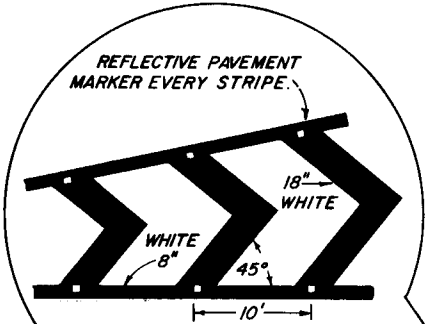
TWO THRU LANES - WITH ADDED LANE

REVISIONS			APPROVED BY FHWA 11-16-78			
DATE	INITIALS	DESCRIPTIONS	FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
7-11-78	PB	REVISED NOTES & CHANGED TITLE BLOCK	INTERCHANGE MARKINGS			
			INITIALS	DATES	RECOMMENDED FOR APPROVAL BY	
					DEPUTY TRAFFIC OPERATIONS ENGR.	
			CHECKED BY		APPROVED BY	
					STATE TRAFFIC OPERATIONS ENGR.	
			QUANTITIES BY		DRAWING NO.	INDEX NO.
			CHECKED BY	K.R.	2 OF 4	17345A
			SUPERVISED BY			

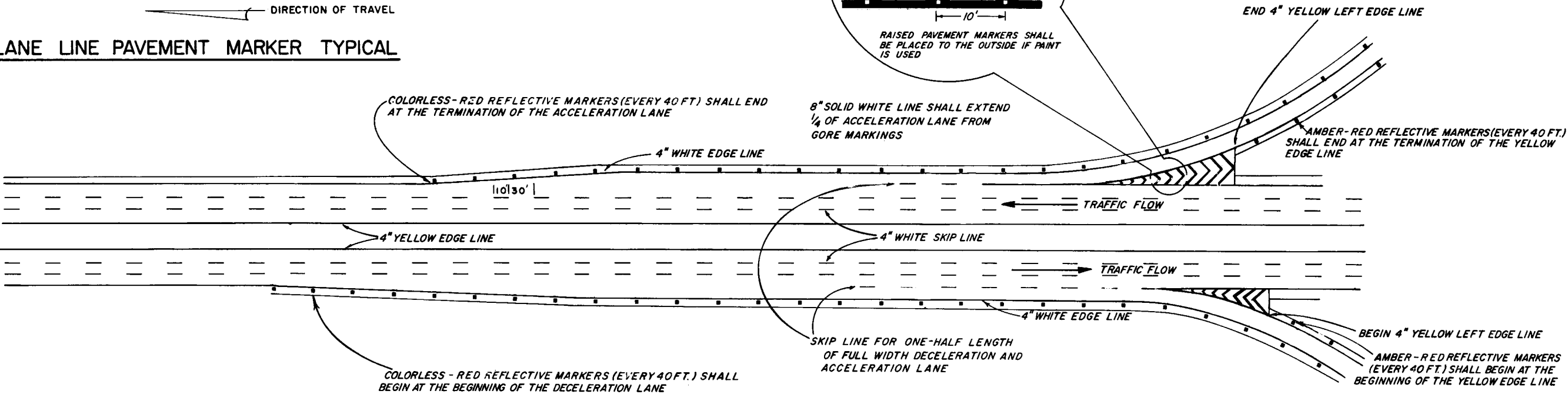


NOTE
LANE LINE PAVEMENT MARKERS
TO BE USED ONLY WHEN CALLED
FOR ON THE PLANS.

LANE LINE PAVEMENT MARKER TYPICAL



RAISED PAVEMENT MARKERS SHALL
BE PLACED TO THE OUTSIDE IF PAINT
IS USED

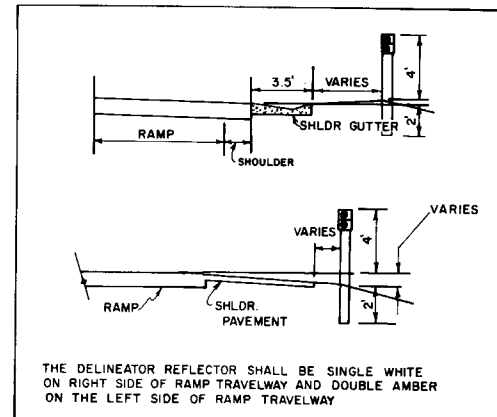
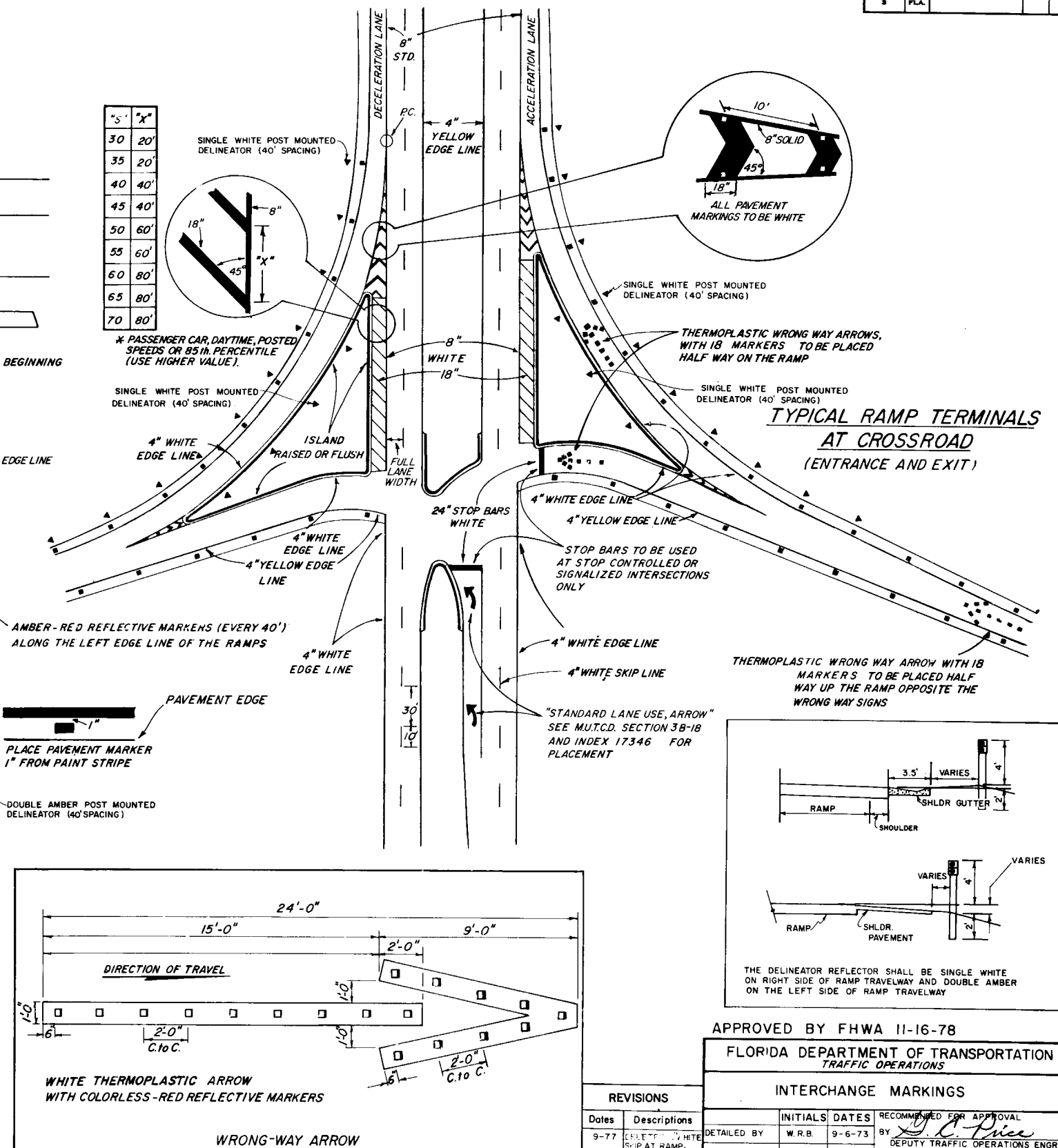
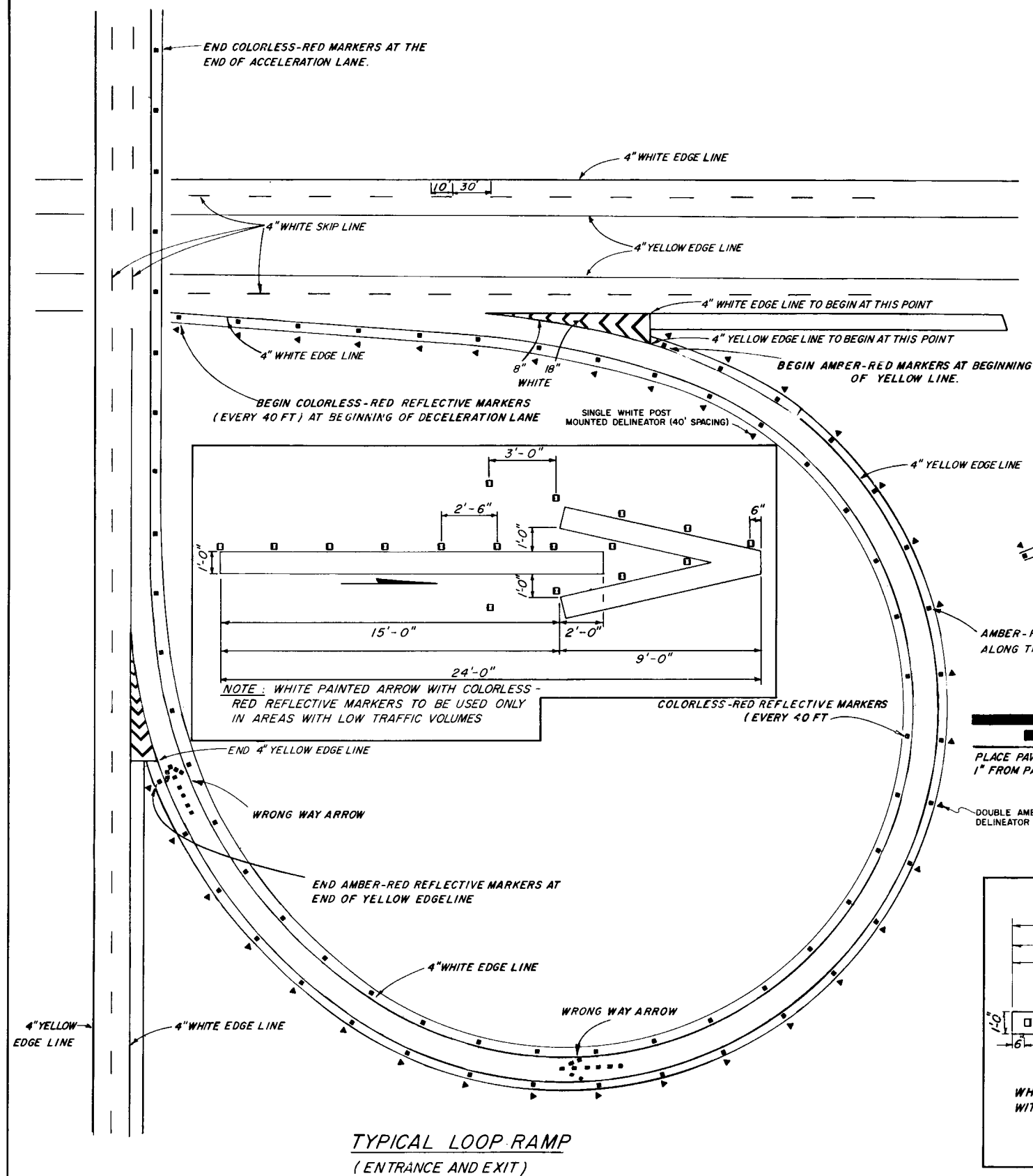


PARALLEL ACCELERATION AND DECELERATION LANE

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS				
INTERCHANGE MARKINGS				
INITIALS	DATES	RECOMMENDED FOR APPROVAL		
BY	W.R.B.	9-6-73	BY <i>[Signature]</i>	
CHECKED BY	K.R.		DEPUTY TRAFFIC OPERATIONS ENGR	
QUANTITIES BY			APPROVED	
CHECKED BY			BY <i>[Signature]</i>	
SUPERVISED BY			STATE TRAFFIC OPERATIONS ENGR	
			DRAWING NO.	INDEX NO.
			3 OF 4	17345A

REVISIONS		
DATE	INITIALS	DESCRIPTIONS
7-11-78	PB	REVISED NOTES & TITLE BLOCK

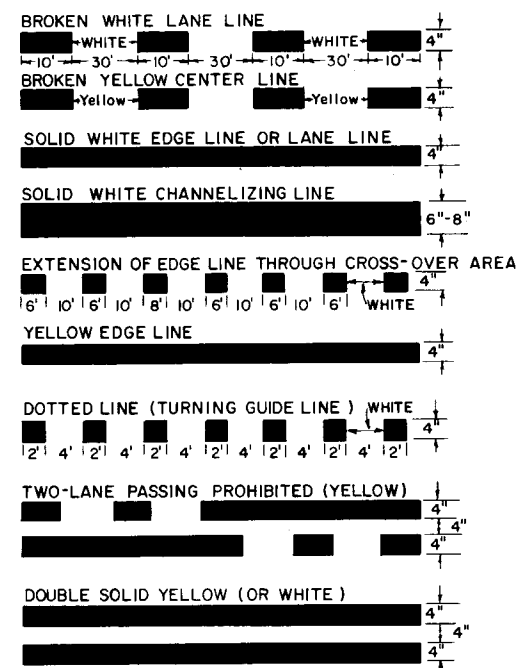


APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

REVISIONS		INTERCHANGE MARKINGS			
Dates	Descriptions	INITIALS	DATES	RECOMMENDED FOR APPROVAL	
9-7-77	CHUTE WHITE SHIP AT RAMP INTERSECTION	DETAILED BY	W.R.B.	9-6-73	BY <i>D.C. Price</i> DEPUTY TRAFFIC OPERATIONS ENGR APPROVED
7-13-78 PB	GENERAL REVISIONS.	CHECKED BY	K.R.		BY <i>R.E. Magala</i> STATE TRAFFIC OPERATIONS ENGR, DRAWING NO. 17 INDEX NO.
		QUANTITIES BY			4 OF 4 17345A
		CHECKED BY			
		SUPERVISED BY			

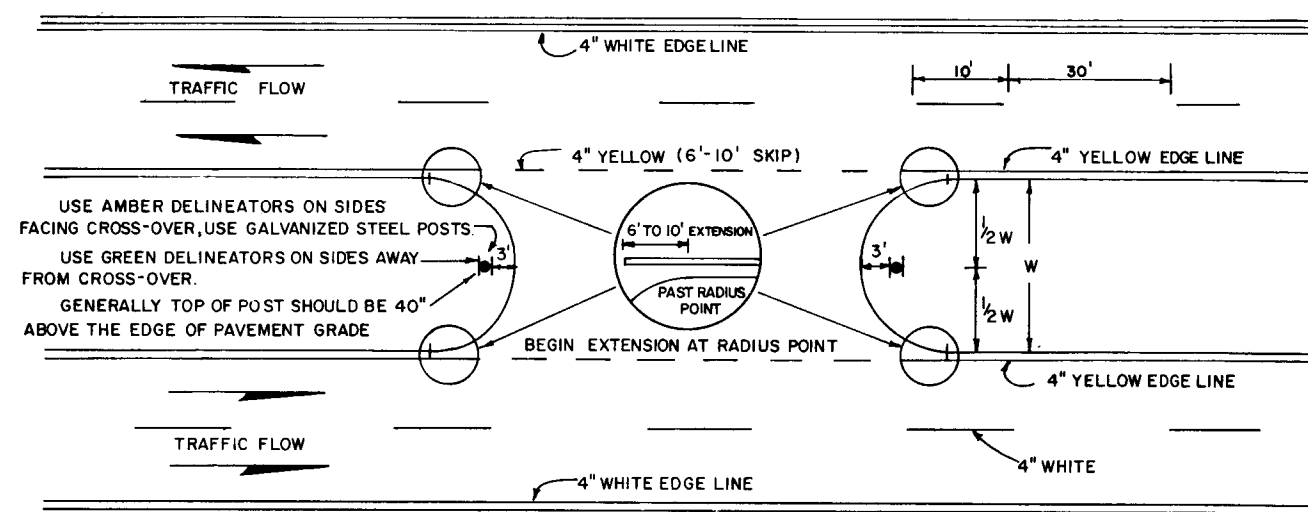
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	BRIDGE NO.
3	FLA.			



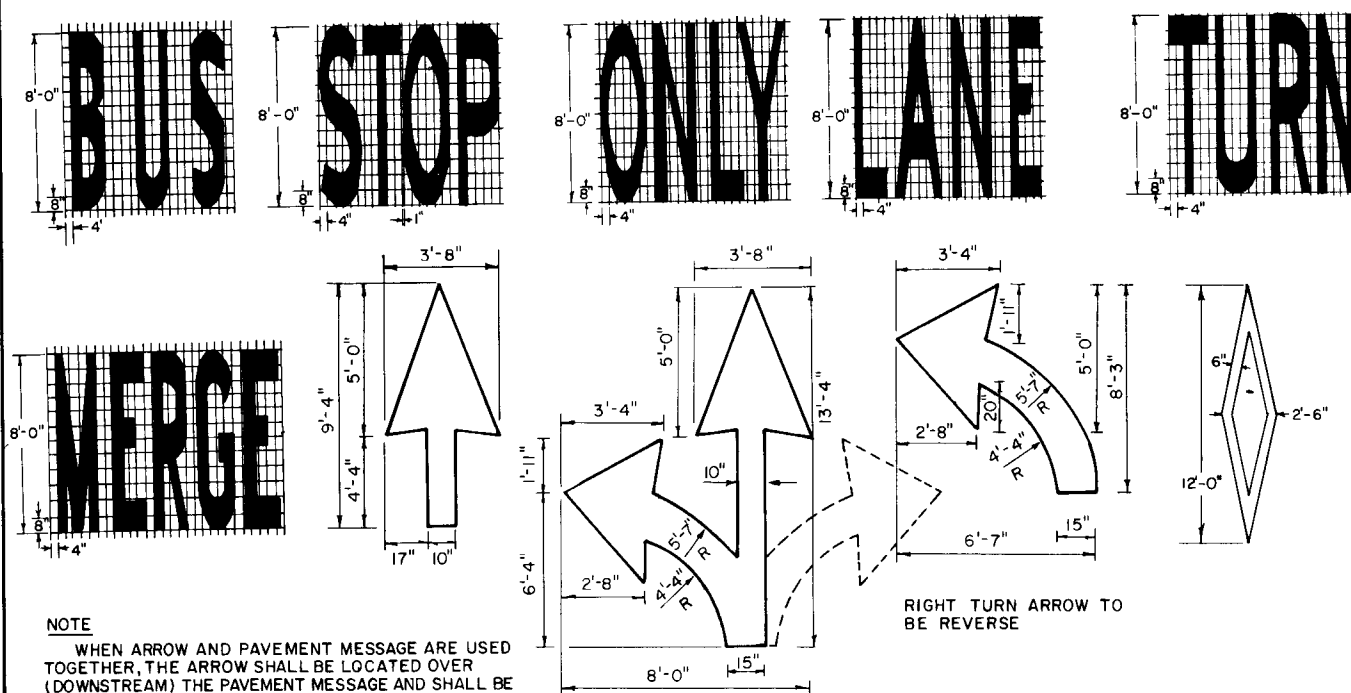
NOTE
FOR DETAILS ON TEMPORARY LINES
SEE MANUAL ON TRAFFIC CONTROLS
AND SAFE PRACTICES, FIGURE 2.19

BASIC COLOR RULE
WHITE LINES SEPARATE FLOWS IN
THE SAME DIRECTION
YELLOW LINES SEPARATE FLOWS
IN THE OPPOSITE DIRECTION

TYPES OF PERMANENT LONGITUDINAL LINES

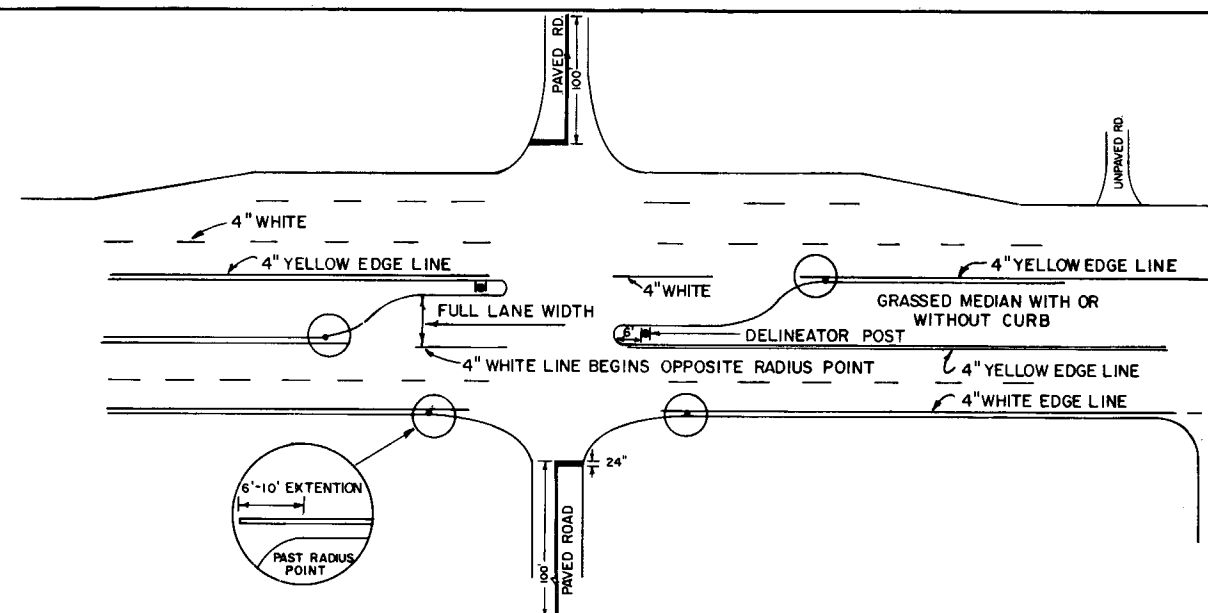


PAVEMENT MARKINGS AND DELINEATORS FOR MEDIAN CROSS-OVER



NOTE
WHEN ARROW AND PAVEMENT MESSAGE ARE USED TOGETHER, THE ARROW SHALL BE LOCATED OVER (DOWNSTREAM) THE PAVEMENT MESSAGE AND SHALL BE SEPARATED FROM THE PAVEMENT MESSAGE BY A DISTANCE OF 10 FEET

PAVEMENT ARROWS AND MESSAGES DETAILS



PAVEMENT MARKINGS FOR INTERSECTION WITH MAJOR AND MINOR ROADS

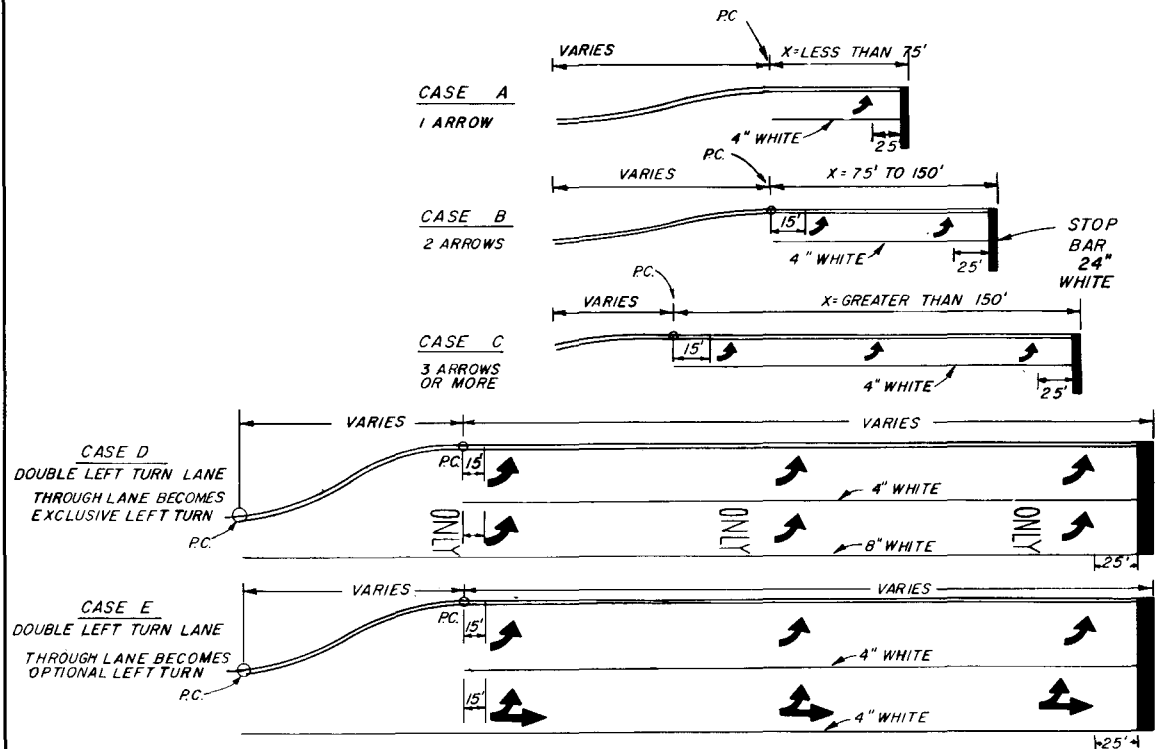
APPROVED BY FHWA. 11-16-78

APPROVED BY FWA: 11-10-70

FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SPECIAL MARKING AREAS

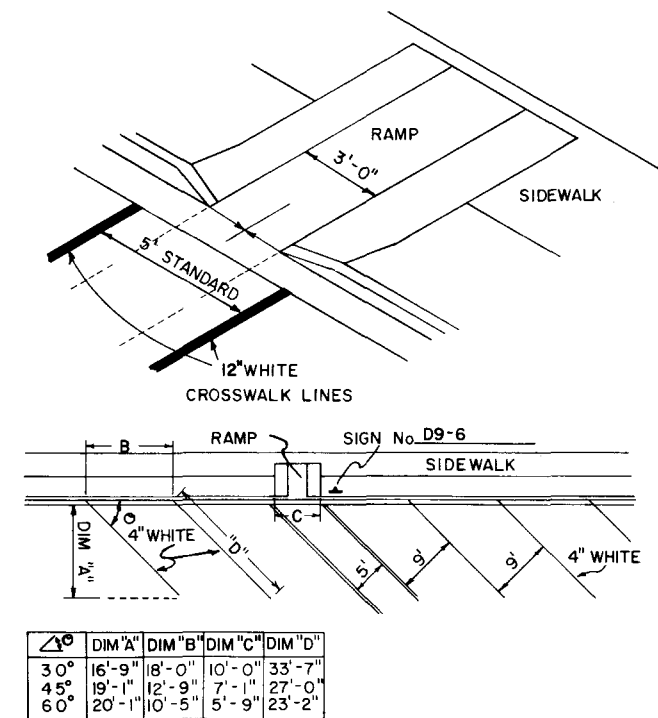
REVISIONS		INITIALS	DATES	Recommended for approval by <i>H. R. Price</i>	
Dates	Descriptions	Detailed by <i>S.W.R.</i>	<i>8-16-78</i>	Deputy Traffic Operations Engr.	
8-16-78	REDRAFTED	Checked by K. R.	8-16-78	Approved by <i>K. E. Morgan</i>	
		Quantities by		State Traffic Operations Engr.	
		Checked by			
		Supervised by	K R	DRAWING NO.	INDEX NO.
				1 OF 6	17346 B



NOTE:
YELLOW LEFT TURN EDGE MARKING MAY BE USED ADJACENT TO RAISED CURB OR GRASS MEDIANS IF LANE USE IS NOT READIABLY APPARENT TO DRIVERS APPROACHING A LEFT TURN STORAGE LANE.

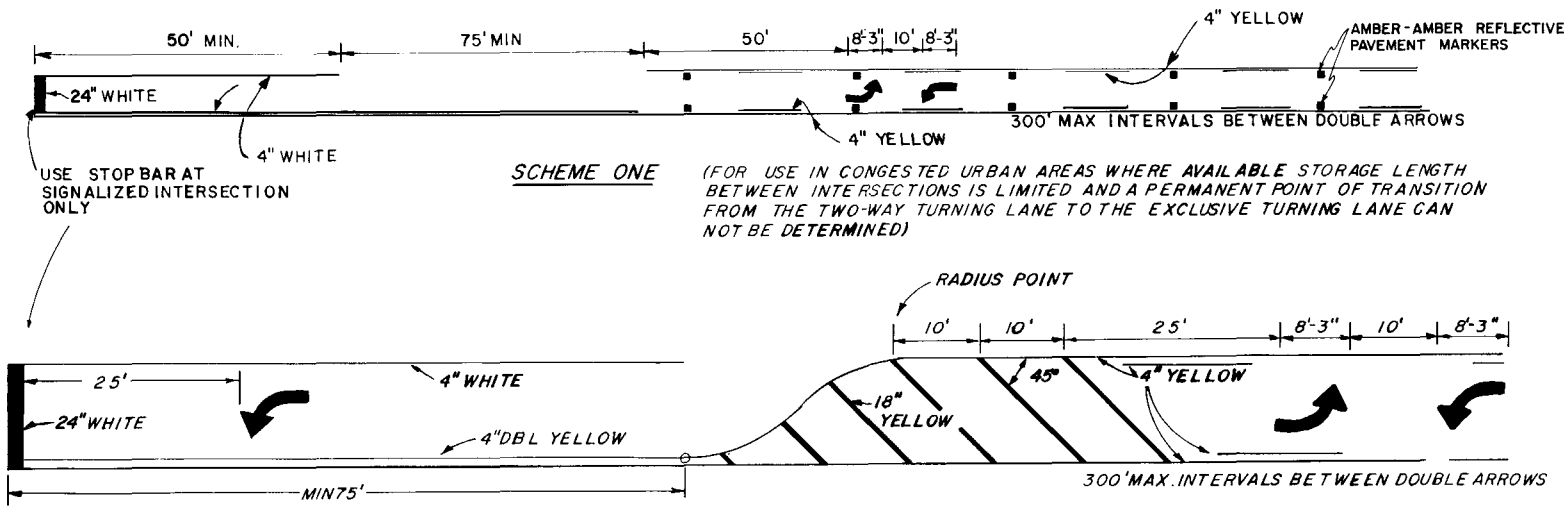
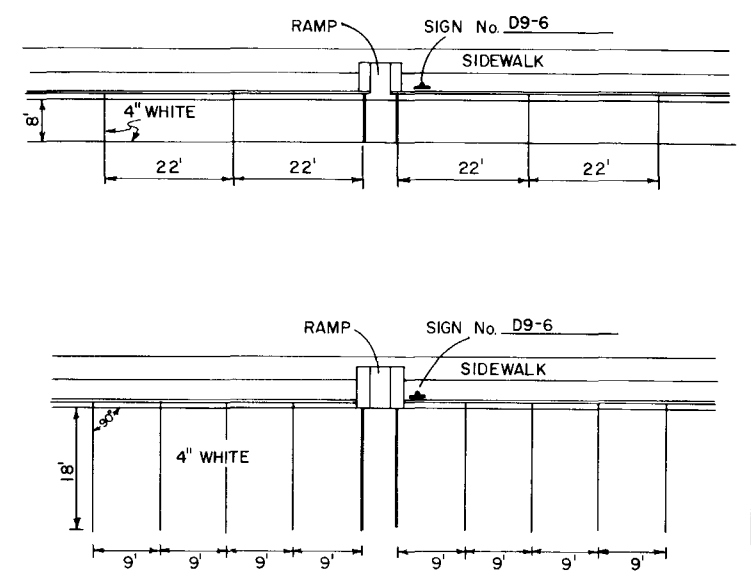
ARROWS SHOULD BE EVENLY SPACED BETWEEN FIRST AND LAST ARROW

PAINTED LEFT TURN STORAGE LANE(S) DETAILS FOR STOP CONTROLLED OR SIGNALIZED INTERSECTIONS

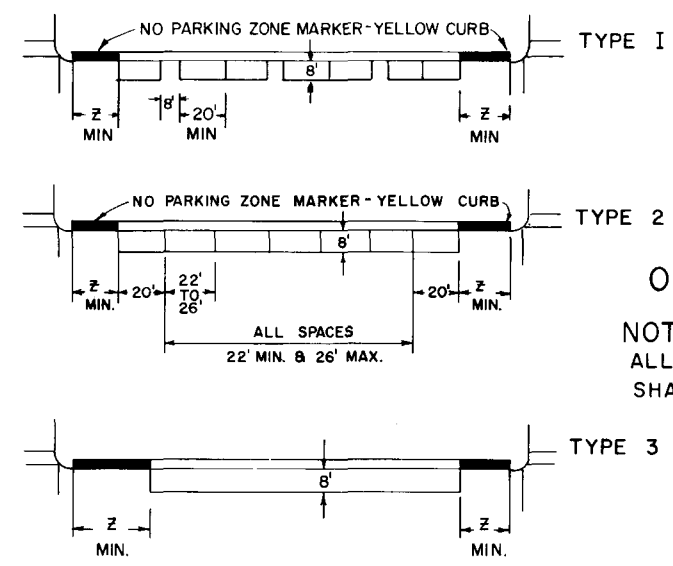


NOTE:
CRITERIA FOR PAVEMENT MARKINGS ONLY, NOT WHEELCHAIR RAMP LOCATIONS. FOR RAMP CRITERIA SEE ROADWAY DESIGN INDEX PCR-01

PAVEMENT MARKING FOR WHEELCHAIR RAMPS IN PARKING ZONES



TWO WAY LEFT TURN LANE (WITH SINGLE LANE LEFT TURN CHANNELIZATION)

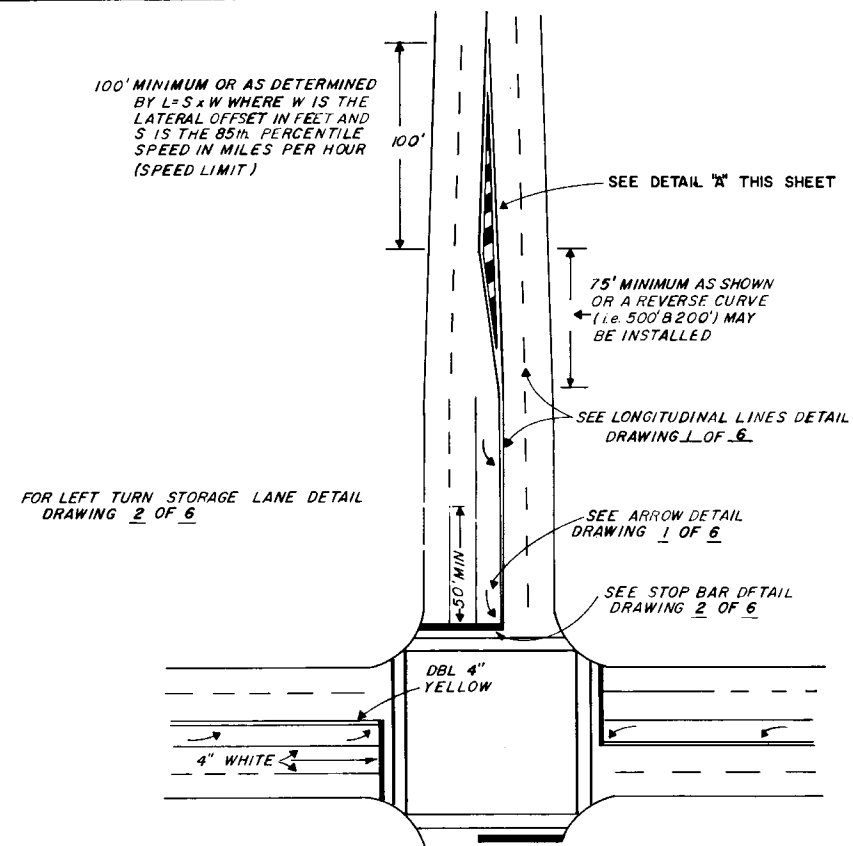


ON STREET PARKING

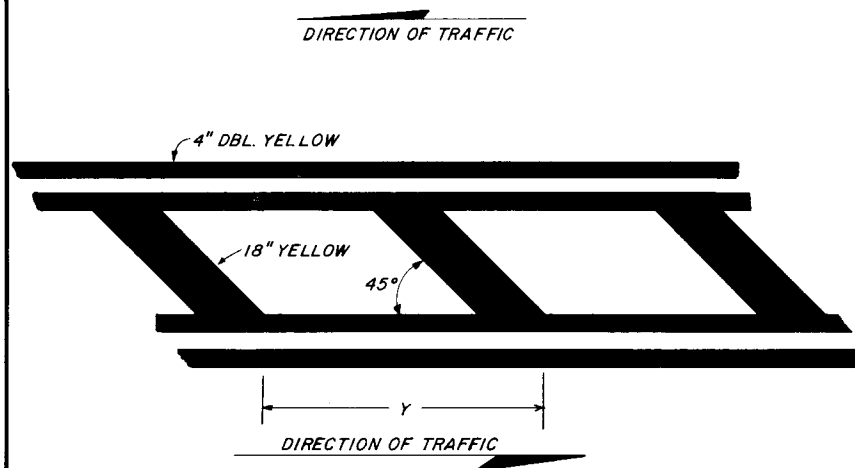
NOTE:
ALL PARKING AND REFUGE LANE MARKINGS SHALL BE 4" WHITE

PARKING RESTRICTION DISTANCE TABLE	
SPEED LIMIT	Z
30 MPH OR LESS	30 FT.
35 MPH OR MORE	50 FT.

APPROVED BY FHWA 11-16-78			
FLORIDA DEPARTMENT OF TRANSPORTATION			
Traffic Operations			
SPECIAL MARKING AREAS			
REVISIONS	INITIALS	DATES	Recommended for approval
Dates	Descriptions	Detailed by	by
9-1-76	Redrafted	Checked by	Deputy Traffic Operations Engr.
		Quantities by	Approved by
		Checked by	State Traffic Operations Engr.
		Supervised by	DRAWING NO. 2 OF 6
			INDEX NO. 17346B

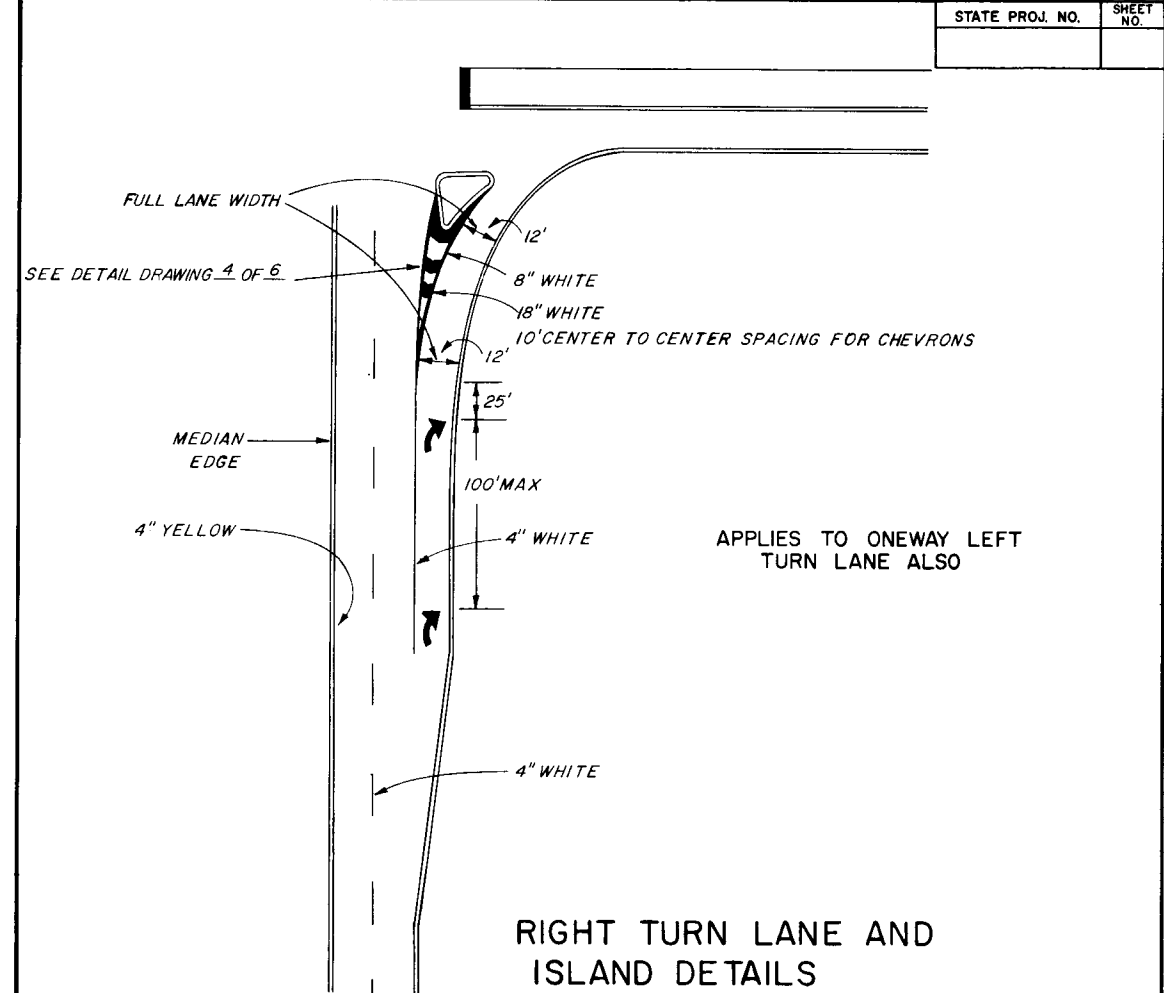


TYPICAL INTERSECTION 2 THRU LANES PLUS LEFT TURN LANE, WITH CROSSWALK

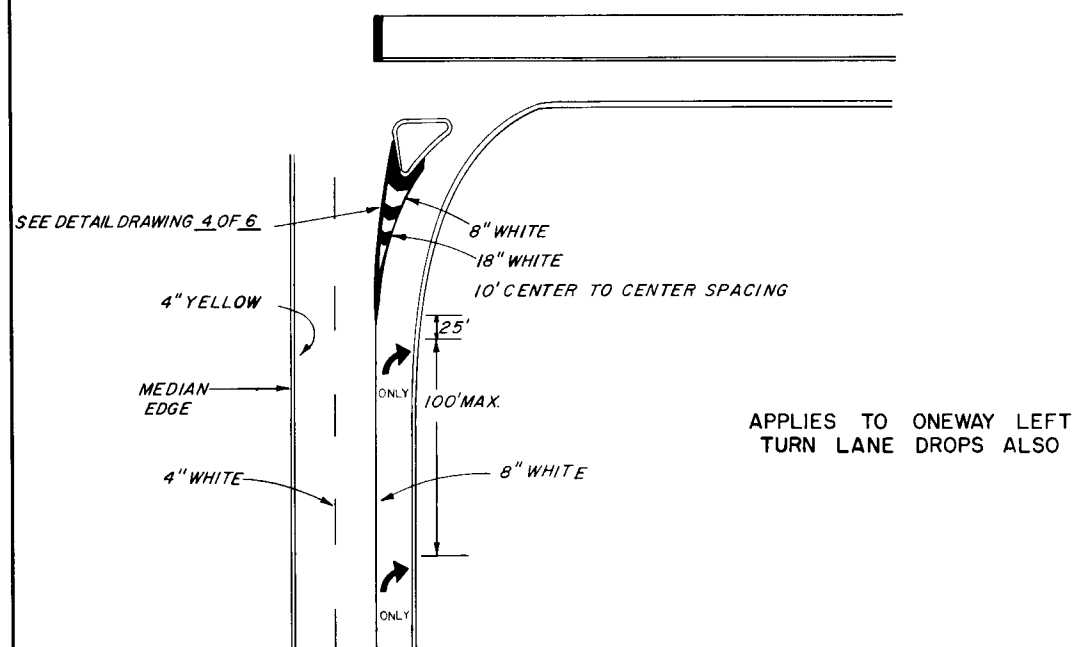


POSTED (DAY) SPEED LIMIT M.P.H.	"Y" F.T.
30 or LESS	10
35	20
40	20
45	30
50 or MORE	40

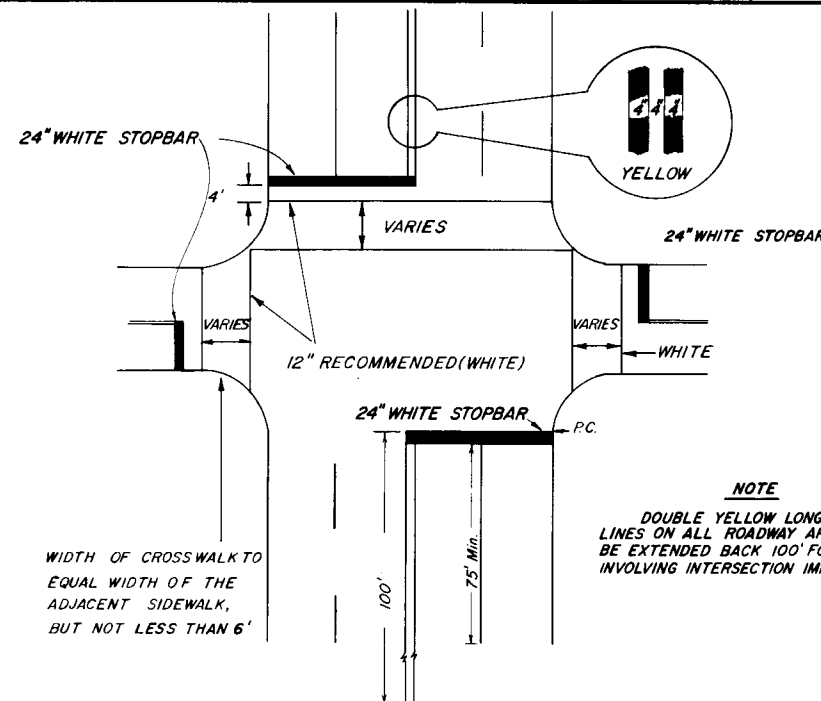
DETAIL "A"



RIGHT TURN LANE AND ISLAND DETAILS



RIGHT TURN LANE DROP AND ISLAND DETAILS



UNLESS OTHERWISE DIRECTED, STOP BARS ARE TO BE ALIGNED WITH THE MEDIAN NOSE RADIUS POINT. (DISTANCE BETWEEN STOP BAR & ONE OF SIGNAL FACES MUST BE WITHIN AT LEAST 40' TO 120', M.U.T.C.D., 4B-12)

WHERE THERE ARE NO CROSSWALKS, STOP BARS SHOULD BE NO MORE THAN 30' OR NO LESS THAN 4' BEHIND THE NEAREST EDGE OF INTERSECTING ROADWAY (M.U.T.C.D., 3B-14)

NOTE

DOUBLE YELLOW LONGITUDINAL CENTER LINES ON ALL ROADWAY APPROACHES SHALL BE EXTENDED BACK 100' FOR PROJECTS INVOLVING INTERSECTION IMPROVEMENTS ONLY

WIDTH OF CROSSWALK TO EQUAL WIDTH OF THE ADJACENT SIDEWALK, BUT NOT LESS THAN 6'

STOP BARS, CROSSWALKS AND DOUBLE CENTER LINES DETAILS

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SPECIAL MARKING AREAS

REVISIONS		INITIALS	DATES	Recommended for approval by <i>[Signature]</i> Deputy Traffic Operations Engr. Approved by <i>[Signature]</i> State Traffic Operations Engr. DRAWING NO. 3 OF 6 INDEX NO. 17346B
Dates	Descriptions	Detailed by	TL	
9-1-76	REDRAFTED	Checked by	KR	
		Quantities by		
		Checked by		
		Supervised by	KR	

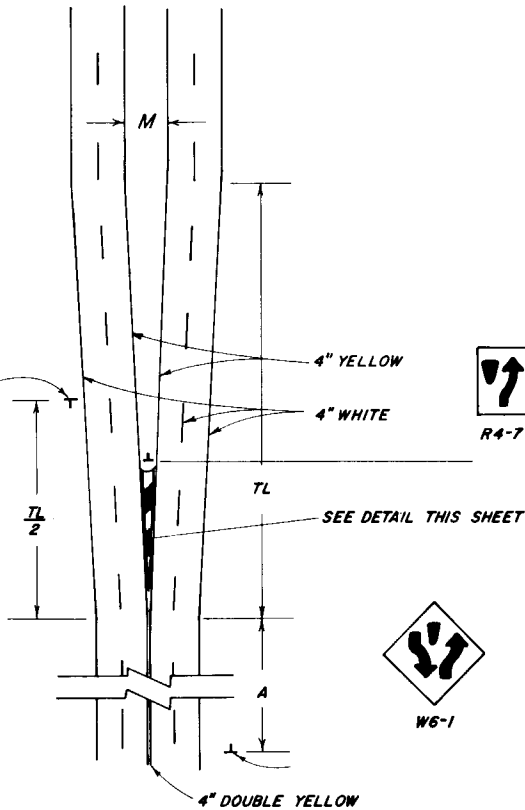
TAPER LENGTH EQUATION

$$TL = \frac{M}{2} \times S$$

TL = TAPER LENGTH(FT)
M = MEDIAN WIDTH(FT)
S = SPEED (M.P.H.)



SPEED m.p.h.	A in ft.
70	600
60	475
50	350
40	275
30	200
URBAN 50 MIN.	



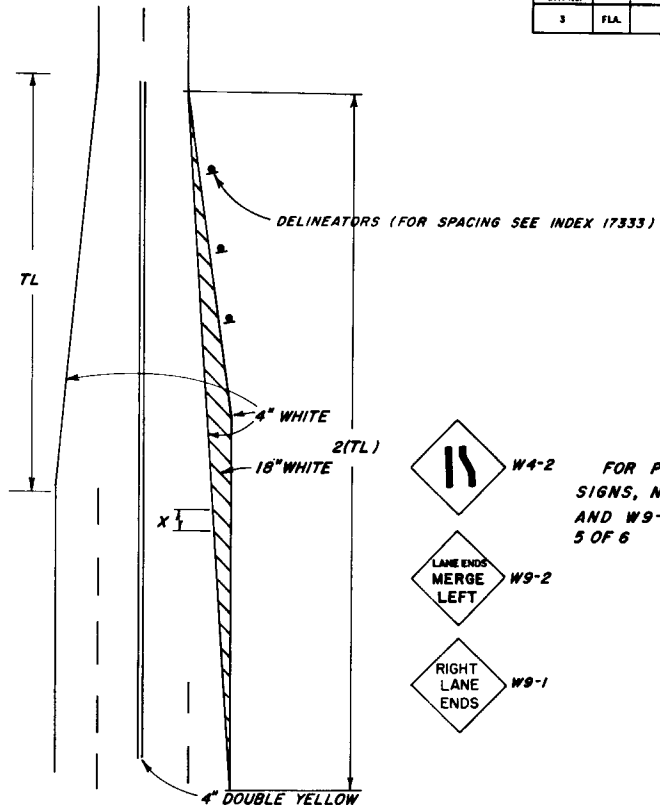
BEGINNING OF A DIVIDED HIGHWAY

POSTED (DAY) SPEED LIMIT M.P.H.	"X" FT.
25 OR LESS	10
30	20
35	20
40	40
45	40
50	60
55	60
60 OR MORE	80

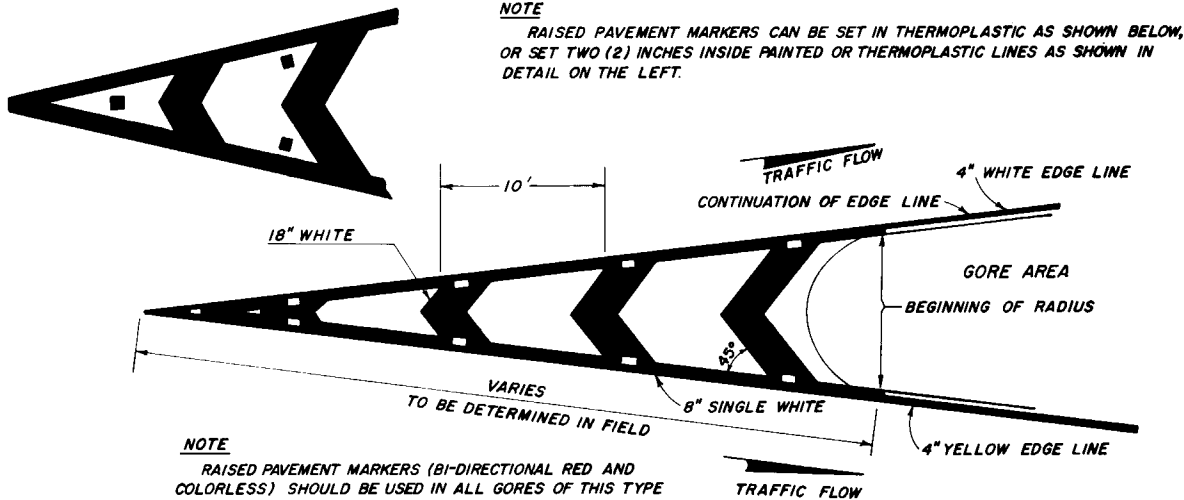
TAPER LENGTH EQUATION

$$TL = 12S$$

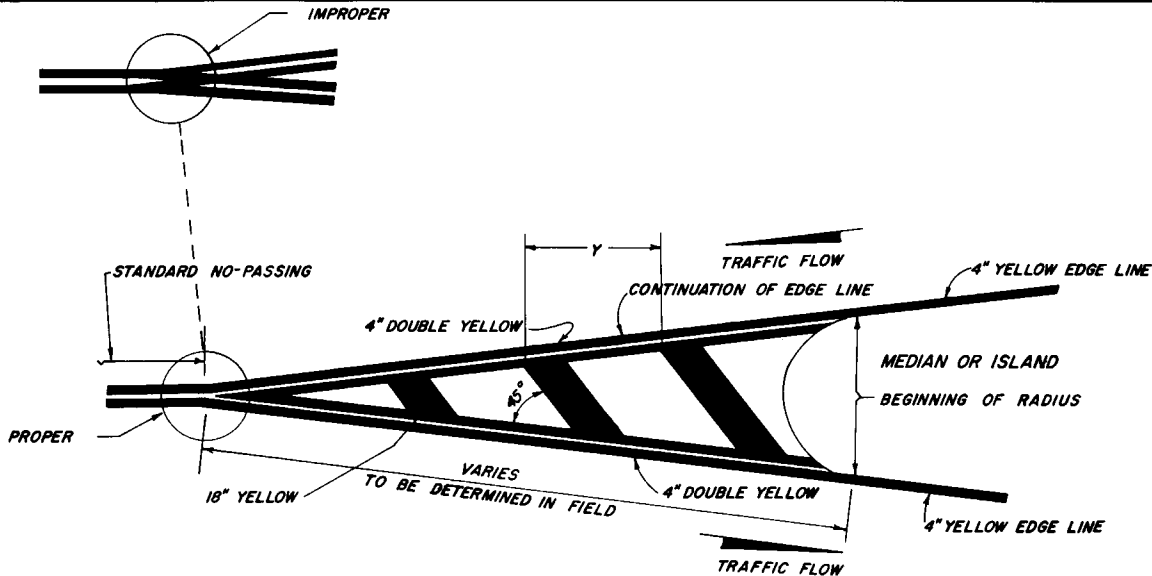
TL = TAPER LENGTH(FT)
S = SPEED(m.p.h.)



4-LANE-2-LANE TRANSITION-NO MEDIAN



PAVEMENT MARKINGS FOR TRAFFIC CHANNELIZATION AT GORE
(TRAFFIC FLOWS IN SAME DIRECTION)



PAVEMENT MARKING FOR TRAFFIC SEPARATION
(TRAFFIC FLOWS IN OPPOSITE DIRECTION)

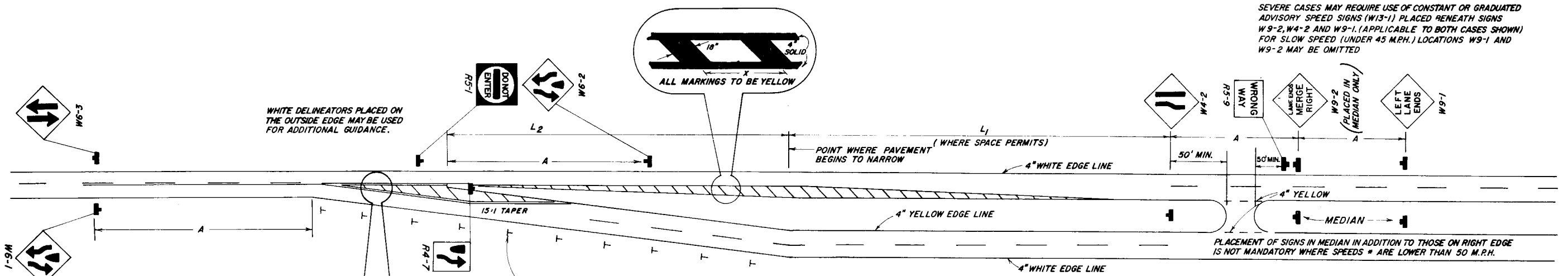
POSTED (DAY) SPEED LIMIT M.P.H.	"Y" FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

APPROVED BY FHWA 11-16-78
FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

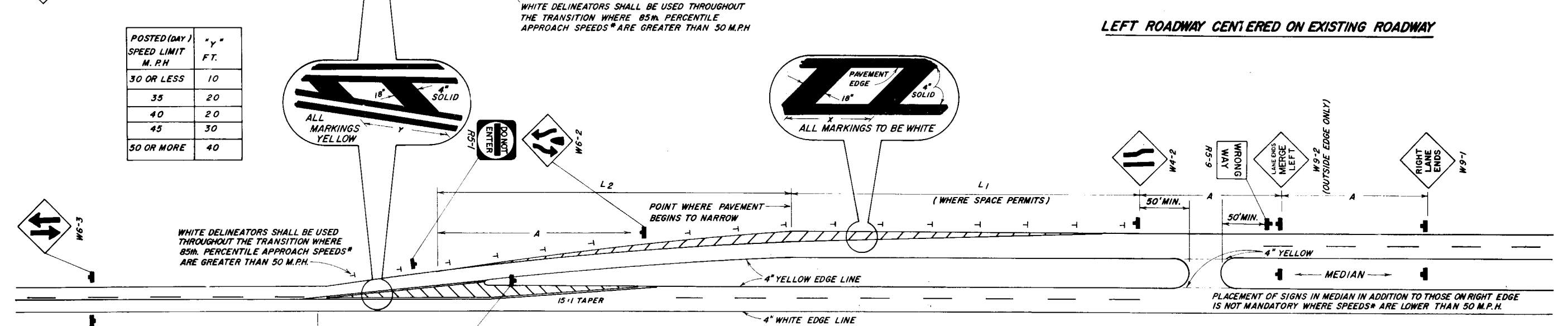
SPECIAL MARKING AREAS

REVISIONS		INITIALS		DATES		Recommended for approval by
Dates	Descriptions	Detailed by	Checked by	Dates		
8-19-78	Redrafted	SWR	KR	8-19-78		Deputy Traffic Operations Engr.
		Quantities by				Approved by
		Checked by				State Traffic Operations Engr.
		Supervised by				DRAWING NO. 4 OF 6
						INDEX NO. 17346 B

SEVERE CASES MAY REQUIRE USE OF CONSTANT OR GRADUATED ADVISORY SPEED SIGNS (W13-1) PLACED BENEATH SIGNS W9-2, W4-2 AND W9-1. (APPLICABLE TO BOTH CASES SHOWN) FOR SLOW SPEED (UNDER 45 M.P.H.) LOCATIONS W9-1 AND W9-2 MAY BE OMITTED



LEFT ROADWAY CENTERED ON EXISTING ROADWAY



RIGHT ROADWAY CENTERED ON EXISTING ROADWAY

POSTED (DAY) SPEED LIMIT M.P.H.	"Y" FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

TRANSITION DISTANCE L ₁									
LATERAL OFFSET (L ₁ = S x W)									
S	8	9	10	11	12	13	14	X	
30	240	270	300	330	360	390	420	20	
35	280	315	350	385	420	455	490	20	
40	320	360	400	440	480	520	560	40	
45	360	405	450	495	540	585	630	40	
50	400	450	500	550	600	650	700	60	
55	440	495	550	605	660	715	770	60	
60	480	540	600	660	720	780	840	80	
65	520	585	650	715	780	845	910	80	
70	560	630	700	770	840	910	980	80	

PAVEMENT WIDTH TRANSITION (L₂)

ENDPOINTS OF L₂ ARE THE PHYSICAL NOSE AND POINT AT WHICH PAVED SURFACE BEGINS TO TAPER TO ONE LANE, ON NEWER ROADS L₂ WILL USUALLY BE SIMILAR TO L₁, BUT ON OLDER ROADS MAY BE MUCH LESS. FOR THE RIGHT ROADWAY L₂ BEGINS AT POINT WHERE PAVEMENT WIDTH BEGINS TO NARROW AND CONTINUES TO POINT OF UNIFORM LANE WIDTH.

NOTE
RAISED PAVEMENT MARKERS ON EDGE LINES THROUGH TRANSITION AREA ARE OPTIONAL.

SPEED (M.P.H.)	"A" (FT.)
70	600
60	475
50	350
40	275
30	200

* PASSENGER CAR, DAYTIME POSTED SPEEDS OR 85th PERCENTILE (USE HIGHER VALUE)

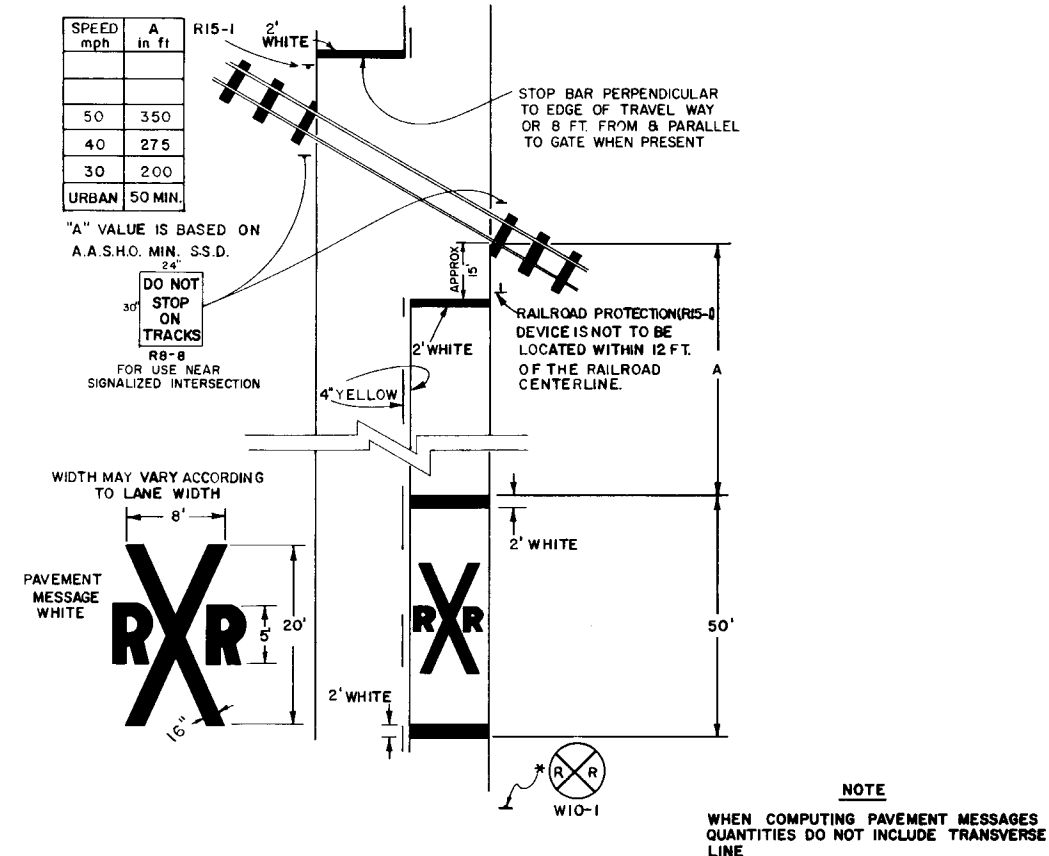
SCHEMES FOR TRANSITION FROM 2-LANE TO 4-LANE ROADWAY

APPROVED BY FHWA II-16-78
FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

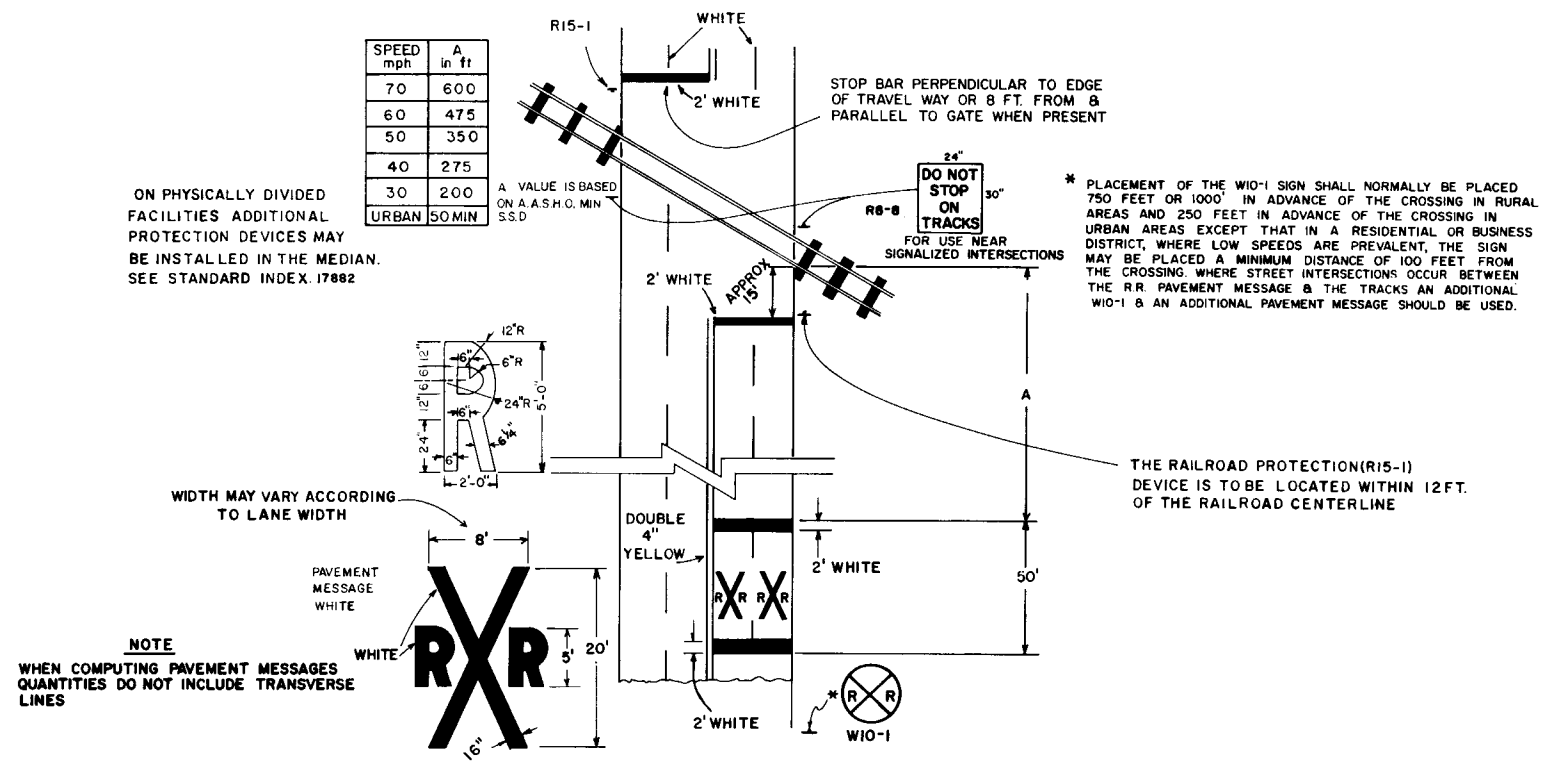
SPECIAL MARKING AREAS

REVISIONS		INITIALS		DATES		RECOMMENDED FOR APPROVAL	
Dates	Descriptions	Detailed by	S.W.R.	8-28-78	8-28-78	by	Deputy Traffic Operations Engr.
8-28-78	REDRAFTED	Checked by	K.R.	8-28-78		Approved by	
		Quantities by				by	
		Checked by				State Traffic Operations Engr.	
		Supervised by				DRAWING NO.	INDEX NO.
			K.R.			5 OF 6	17346B

* PASSENGER CAR, DAYTIME, POSTED SPEEDS OR 85th PERCENTILE (USE HIGHER VALUE)
** LATERAL OFFSET



RAILROAD CROSSING AT 2-LANE ROADWAY



RAILROAD CROSSING AT 4-LANE ROADWAY

PAVEMENT MARKINGS PRODUCTION UNITS

WORDS

STOP = 22 SF	BUS = 21 SF
ONLY = 22 SF	TURN = 25 SF
LEFT = 19 SF	LANE = 23 SF
RIGHT = 27 SF	SCHOOL = 33 SF
RXR = 89 SF *	

*DOES NOT INCLUDE BARS
USE LINES CHART TO COMPLETE
SYMBOL PRODUCTION.

SYMBOLS

↔ or ↔ = 16 SF	↔ or ↔ = 29 SF
↑ = 12 SF	→ = 35 SF

LINES

4" = .333 SF	18" = 1.500 SF
6" = .500 SF	24" = 2.000 SF
8" = .666 SF	
12" = 1.000 SF	
16" = 1.333 SF	

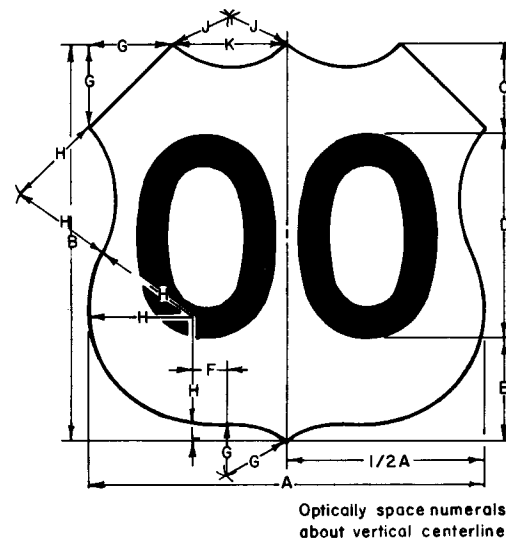
4" SKIP LINE = 440.00 sf PER MILE
4" SOLID LINE = 1760.00 sf PER MILE

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

SPECIAL MARKING AREAS

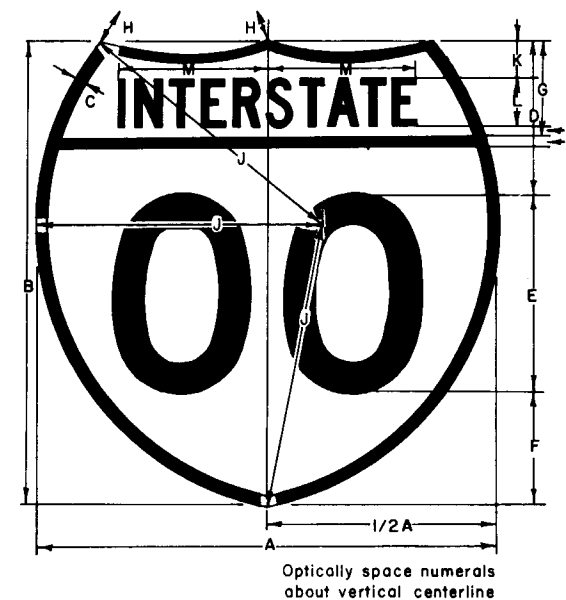
REVISIONS		INITIALS	DATES	Recommended for approval by <i>[Signature]</i> Deputy Traffic Operations Engr.
Dates	Descriptions	Detailed by	TL	
8-16-78	REDRAFTED	Checked by	K.R.	9-1-76
		Quantities by		
		Checked by		
		Supervised by	KR	Approved by <i>[Signature]</i> State Traffic Operations Engr.
		DRAWING NO.	6 OF 6	INDEX NO. 17346 B



MI-4 U.S. ROUTE MARKER FOR GUIDE SIGN USE

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
1,2-digits	24	24	5-1/2	12D	6-1/2	1	5	7	5	7	2
1,2-digits	36	36	8-1/4	18D	9-3/4	1-1/2	7-1/2	10-1/2	7-1/2	10-1/2	3
1,2-digits	48	48	11	24D	13	2	10	14	10	14	4
3-digits	30	24	5-1/2	12D	6-1/2	4	5	7	9	10	2
3-digits	45	36	8-1/4	18D	9-3/4	5-1/2	7-1/2	10-1/2	13-1/2	15	3
3-digits	60	48	11	24D	13	8	10	14	18	20	4

COLORS
LEGEND - BLACK (NON-REFL.)
BACKGROUND - WHITE (REFL.)



MI-1 INTERSTATE SHIELD FOR GUIDE SIGN USE

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
1,2 digits	24	24	1/2	6-1/2	12D	5-1/2	5	15	15	2	2-1/2C	7-13/16
1,2 digits	36	36	3/4	9-3/4	18D	8-1/4	7-1/2	22-1/2	22-1/2	3	3-3/4C	11-11/16
1,2 digits	48	48	1	13	24D	11	10	30	30	4	5C	15-9/16
3 digits	30	24	1/2	6-1/2	12D	5-1/2	5	24	17	2	2-1/2C	7-13/16
3 digits	45	36	3/4	9-3/4	18D	8-1/4	7-1/2	36	25-1/2	3	3-3/4C	11-11/16
3 digits	60	48	1	13	24D	11	10	48	34	4	5C	15-9/16

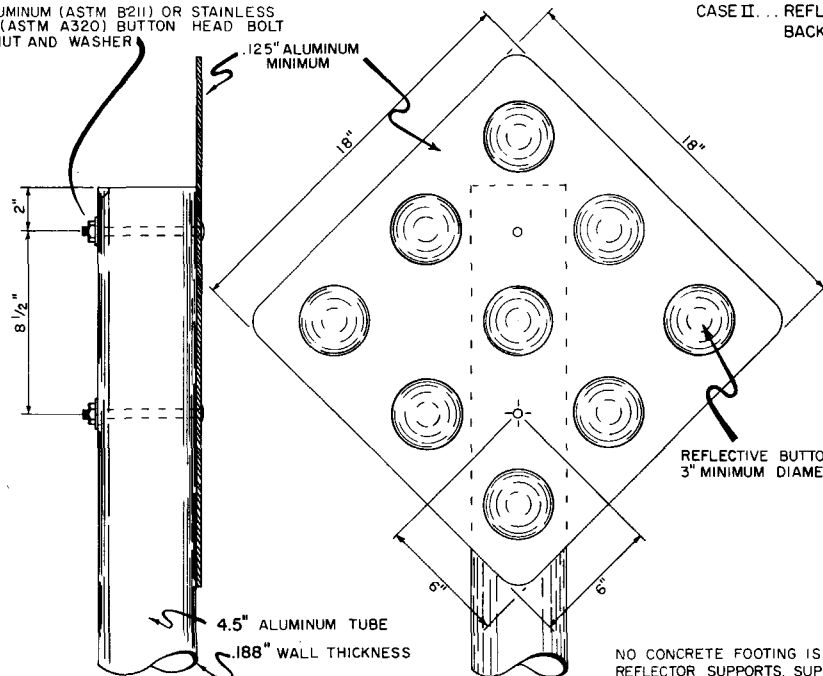
COLORS
LEGEND WHITE (REFL.)
TOP RED (REFL.)
BOTTOM BLUE (REFL.)

Approved by FHWA 7-18-74

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
SHIELDS FOR USE ON GUIDE SIGNS			
ROAD NO.		COUNTY	
REVISIONS		INITIALS	DATES
Dates	Descriptions	Designed by	L.W. 6-24-74
		Checked by	
		Quantities by	
		Checked by	
		Supervised by	KR 6-24-74
		Recommended for approval by <i>R. J. Pasade</i>	
		Deputy Traffic Operations Engr.	
		Approved by <i>[Signature]</i>	
		State Traffic Operations Engr.	
		DRAWING NO.	INDEX NO.
		1 OF 1	17347

3/8" ALUMINUM (ASTM B211) OR STAINLESS STEEL (ASTM A320) BUTTON HEAD BOLT WITH NUT AND WASHER

.125" ALUMINUM MINIMUM

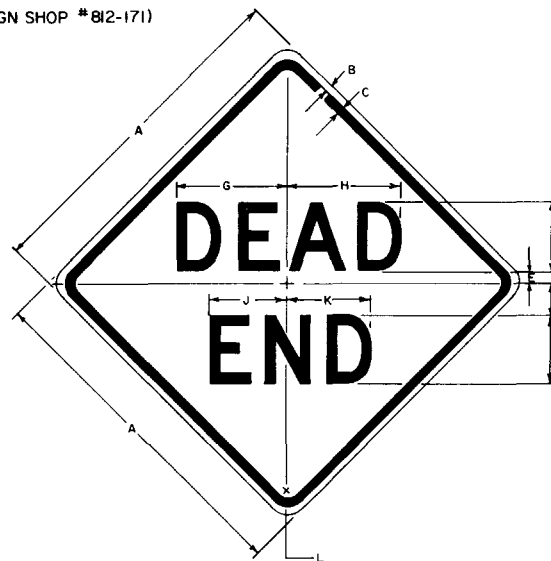


CASE I... REFLECTOR SHALL HAVE A YELLOW REFLECTIVE BACKGROUND, AND YELLOW REFLECTIVE BUTTONS. (SIGN SHOP #812-170)

CASE II... REFLECTOR SHALL HAVE A RED REFLECTIVE BACKGROUND, AND RED REFLECTIVE BUTTONS. (SIGN SHOP #812-171)

REFLECTIVE BUTTONS SHALL HAVE A 3" MINIMUM DIAMETER

NO CONCRETE FOOTING IS REQUIRED FOR REFLECTOR SUPPORTS. SUPPORTS SHALL BE DRIVEN 3' INTO THE GROUND.

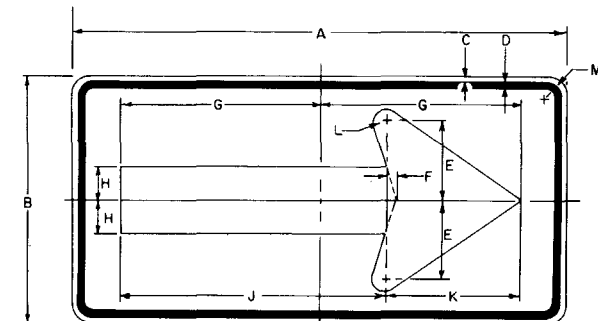


W14-1

SIGN	A	B	C	D	E	F	G	H	J	K	L
MIN.	24	3/8	5/8	5/8	1	2	8-1/4	8-9/16	5-5/8	6-1/4	1-1/2
STD.	30	1/2	3/4	6/8	1-1/2	2-1/2	9-3/4	10-1/4	6-3/4	7-1/2	1-7/8
SPECIAL	36	5/8	7/8	7/8	2	3	11-3/8	11-5/16	7-7/8	8-3/4	2-1/4

COLORS

LEGEND - BLACK (NON-REFL.)
BACKGROUND - YELLOW (REFL.)

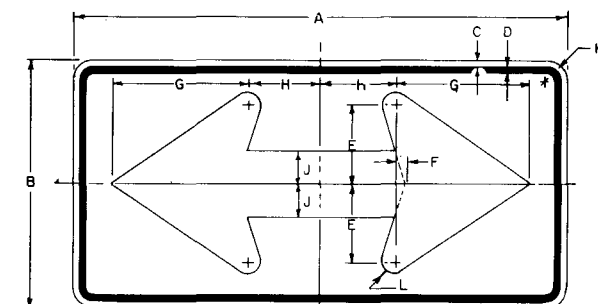


W1-6

SIGN	A	B	C	D	E	F	G	H	J	K	L	M
MIN.	36	18	3/8	5/8	5-3/4	3/4	14-5/8	2-1/2	19-1/8	10-1/8	1	1-1/2
STD.	48	24	1/2	3/4	7-1/2	1	19-1/2	3-1/4	25-13/16	13-3/16	1-5/16	1-7/8
SPECIAL	60	30	5/8	7/8	9-3/16	1-1/4	24-3/8	4	32-1/2	16-1/4	1-5/8	2-1/4

COLORS

LEGEND - BLACK (NON-REFL.)
BACKGROUND - YELLOW (REFL.)

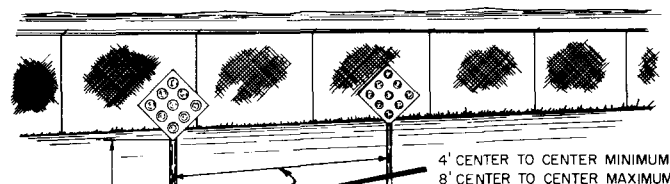


W1-7

SIGN	A	B	C	D	E	F	G	H	J	K	L
MIN.	36	18	3/8	5/8	5-3/4	3/4	10-1/8	5-1/2	2-1/2	1-1/2	1
STD.	48	24	1/2	3/4	7-1/2	1	13-3/16	7-5/16	3-1/4	1-7/8	1-5/16
SPECIAL	60	30	5/8	7/8	9-3/16	1-1/4	16-1/4	9-1/8	4	2-1/4	1-5/8

COLORS

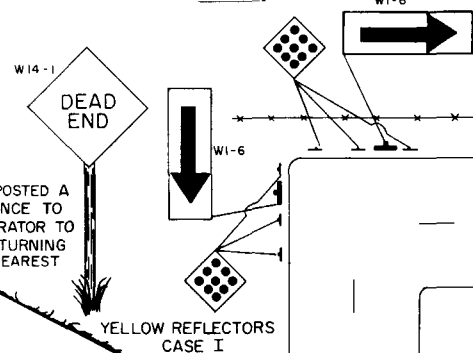
LEGEND - BLACK (NON-REFL.)
BACKGROUND - YELLOW (REFL.)



CASE II
RED REFLECTORS

DEAD END SIGN SHALL BE POSTED A SUFFICIENT ADVANCE DISTANCE TO PERMIT THE VEHICLE OPERATOR TO AVOID THE DEAD END BY TURNING OFF IF POSSIBLE, AT THE NEAREST INTERSECTING STREET

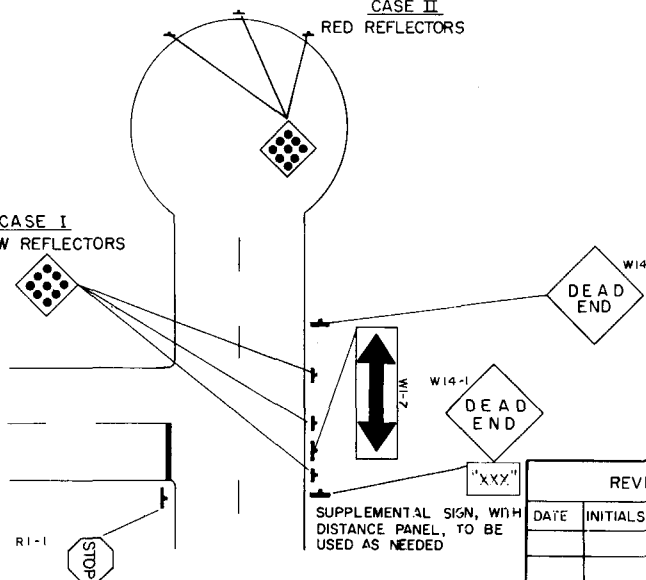
YELLOW REFLECTORS
CASE I



YELLOW REFLECTORS
CASE I

CASE II
RED REFLECTORS

CASE I
YELLOW REFLECTORS



NOTE: For Pavement Marking See Index No. 17346A
NO GUARDRAIL IS REQUIRED UNLESS SPECIAL FIELD CONDITIONS REQUIRE ITS USE

APPROVED BY FHWA 4-11-75

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

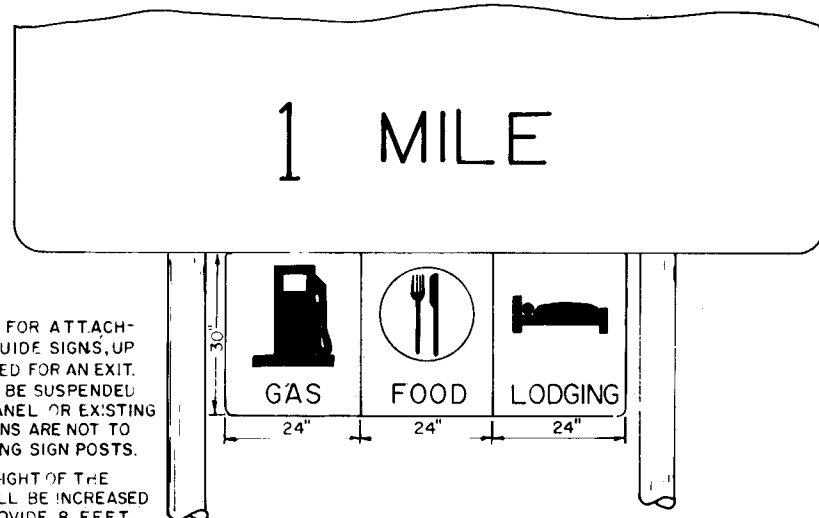
TRAFFIC CONTROLS FOR STREET TERMINATIONS

REVISIONS

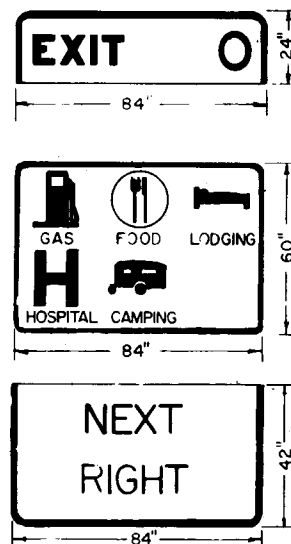
DATE	INITIALS	DESCRIPTION

INITIALS	DATES	RECOMMENDED FOR APPROVAL
GW	11-4-74	BY <i>Donald E. Magala</i> DEPUTY TRAFFIC OPERATIONS ENGR.
KR	11-4-74	BY <i>E. J. Owen</i> STATE TRAFFIC OPERATIONS ENGR.
KR	11-4-74	BY <i>E. J. Owen</i> STATE TRAFFIC OPERATIONS ENGR.

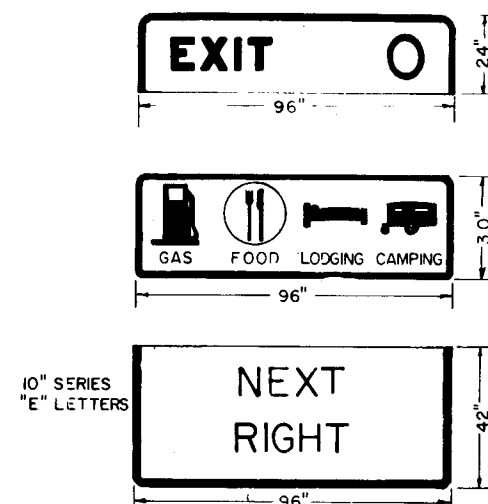
DRAWING NO. 17349
INDEX NO. 1



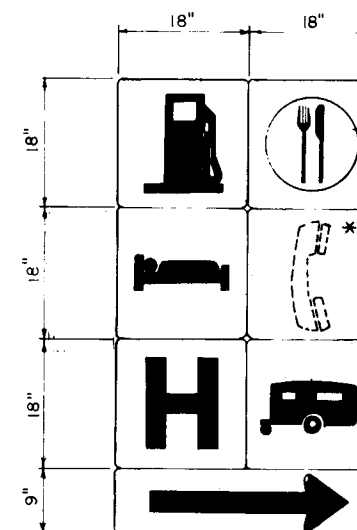
DETAIL "A"
(1 TO 3 SYMBOLS)



DETAIL "B"
(4 TO 6 SYMBOLS)



DETAIL "C"
(4 SYMBOLS)



DETAIL "D"

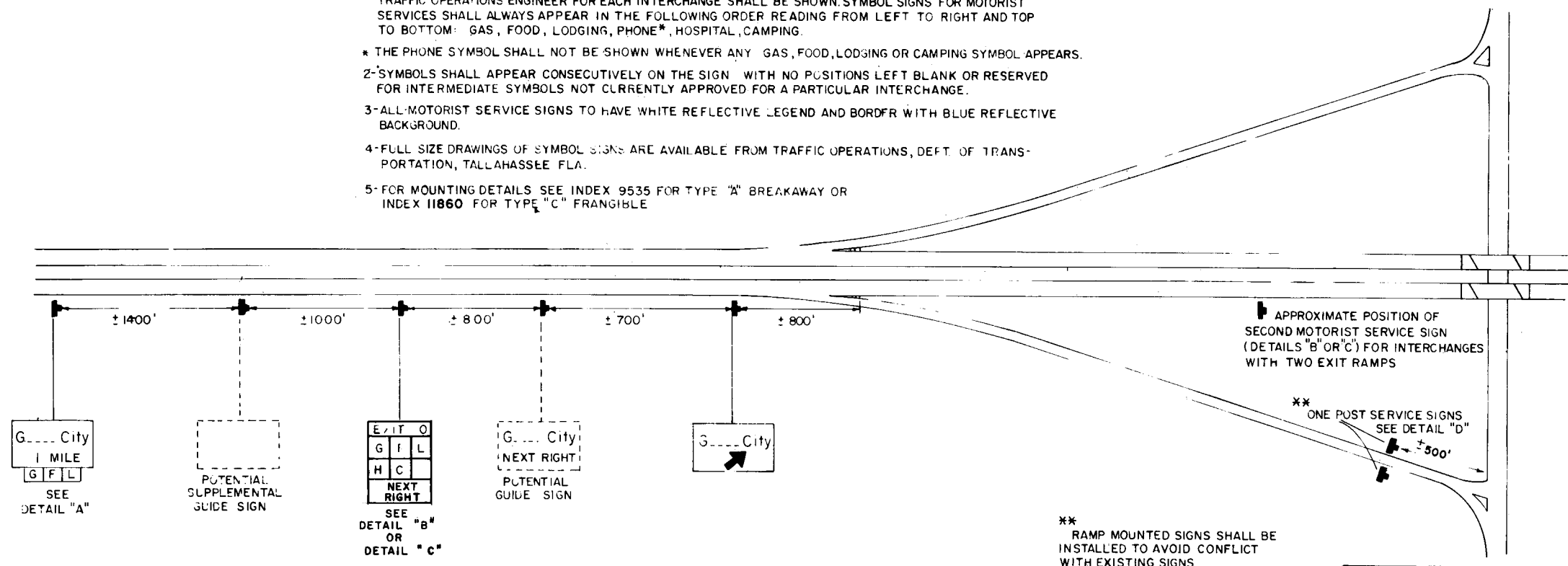
NOTE:
TWO ASSEMBLIES ARE REQUIRED; ONE FOR EACH SIDE OF THE RAMP, SHOWING THOSE SERVICES IN EACH PARTICULAR DIRECTION FROM THE RAMP TERMINAL.
"RAMP MOUNTED SIGNS SHALL BE INSTALLED TO AVOID CONFLICT WITH EXISTING SIGNS AND IN NO CASE SHOULD THEY BE PLACED WITHIN 100' OF ANOTHER SIGN."

NOTE:
WHEN APPROVED FOR ATTACHMENT TO THE ADVANCE GUIDE SIGNS, UP TO 3 SERVICES MAY BE USED FOR AN EXIT. THE SYMBOL SIGNS SHALL BE SUSPENDED FROM THE GUIDE SIGN PANEL OR EXISTING WIND BEAMS. SYMBOL SIGNS ARE NOT TO BE CONNECTED TO EXISTING SIGN POSTS.
THE MOUNTING HEIGHT OF THE ADVANCE GUIDE SIGN SHALL BE INCREASED WHERE NECESSARY TO PROVIDE 8 FEET BETWEEN THE LEVEL OF THE PAVEMENT EDGE AND THE BOTTOM OF THE GUIDE SIGN, PRIOR TO MOUNTING THE SUPPLEMENTARY PANEL.

GENERAL NOTES

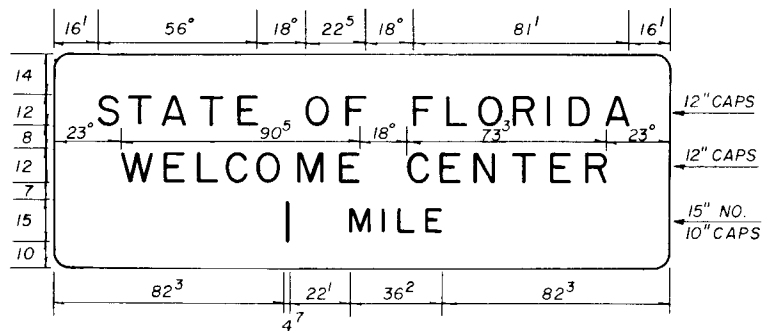
- 1- ONLY THOSE SERVICES MEETING CRITERIA ESTABLISHED BY THE DEPARTMENT AND APPROVED BY THE STATE TRAFFIC OPERATIONS ENGINEER FOR EACH INTERCHANGE SHALL BE SHOWN. SYMBOL SIGNS FOR MOTORIST SERVICES SHALL ALWAYS APPEAR IN THE FOLLOWING ORDER READING FROM LEFT TO RIGHT AND TOP TO BOTTOM: GAS, FOOD, LODGING, PHONE*, HOSPITAL, CAMPING.
- * THE PHONE SYMBOL SHALL NOT BE SHOWN WHENEVER ANY GAS, FOOD, LODGING OR CAMPING SYMBOL APPEARS.
- 2- SYMBOLS SHALL APPEAR CONSECUTIVELY ON THE SIGN WITH NO POSITIONS LEFT BLANK OR RESERVED FOR INTERMEDIATE SYMBOLS NOT CURRENTLY APPROVED FOR A PARTICULAR INTERCHANGE.
- 3- ALL MOTORIST SERVICE SIGNS TO HAVE WHITE REFLECTIVE LEGEND AND BORDER WITH BLUE REFLECTIVE BACKGROUND.
- 4- FULL SIZE DRAWINGS OF SYMBOL SIGNS ARE AVAILABLE FROM TRAFFIC OPERATIONS, DEPT. OF TRANSPORTATION, TALLAHASSEE FLA.
- 5- FOR MOUNTING DETAILS SEE INDEX 9535 FOR TYPE "A" BREAKAWAY OR INDEX 11860 FOR TYPE "C" FRANGIBLE.

NOTE:
FOR ATTACHMENT DETAILS TO ADVANCE GUIDE SIGN SEE INDEX NO. 11671

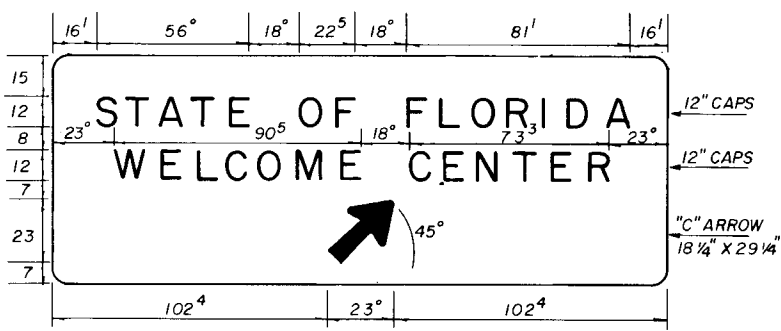


REVISIONS		
DATE	INITIALS	DESCRIPTION
8-30-76	T.L.	RELOCATED SERVICE SIGNS
9-27-76	T.L.	RELOCATED SIGN & ADD NOTE (Detail "D")

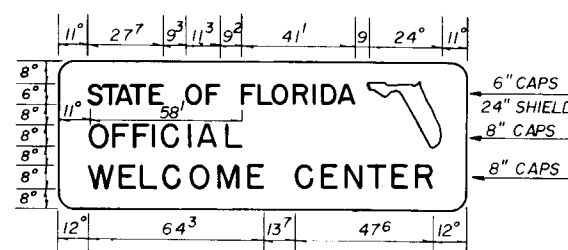
APPROVED BY FHWA 11-16-78			
FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
SIGNING FOR MOTORIST SERVICES			
DATE	INITIALS	DATES	RECOMMENDED FOR APPROVAL
8-30-76	T.L.	3-76	BY [Signature] DEPUTY TRAFFIC OPERATIONS ENGR
9-27-76	T.L.	3-76	APPROVED BY [Signature] STATE TRAFFIC OPERATIONS ENGR
SUPERVISED BY		K.R.	DRAWING NO. 1 of 1 INDEX NO. 17350A



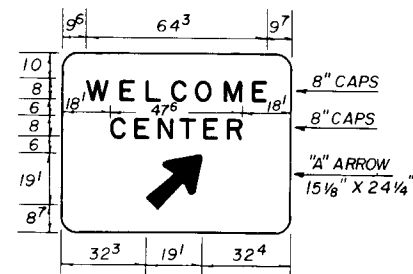
SIGN NO. 1
6'-6" x 19'-0"
3" BOR. 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND &
BORDER



SIGN NO. 2
7'-0" x 19'-0"
3" BOR. 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND &
BORDER



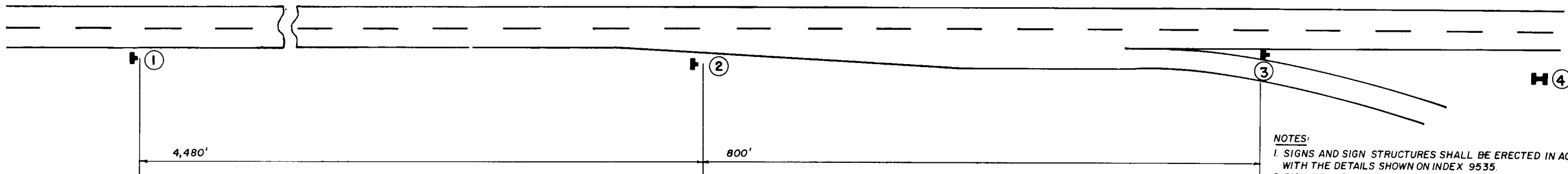
SIGN NO. 4
4'-6" x 12'-6"
2" BOR. 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND & BORDER
ORANGE REFL. STATE SILHOUETTE
(SIGN NO. 4 TO BE PAID FOR WITH FUNDS
OTHER THAN D.O.T.)



SIGN NO. 3
5'-6" x 7'-0"
2" BOR. 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND &
BORDER

NOTE

DISTANCE MESSAGE OF 1/2 MILE MAY BE USED TO KEEP THIS SIGN WITHIN THE STATE LINE.

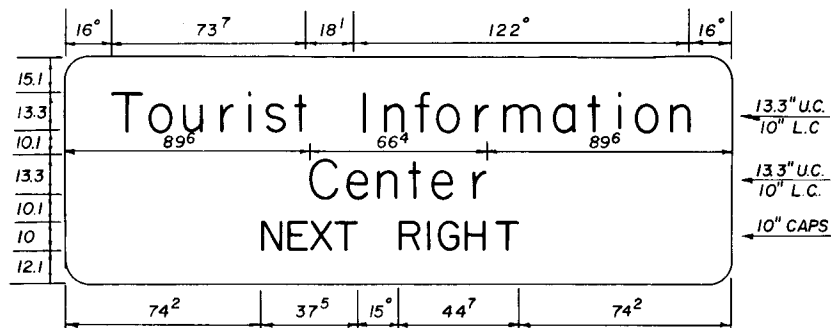


NOTES:

1. SIGNS AND SIGN STRUCTURES SHALL BE ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON INDEX 9535.
2. SIGN NO. 4 SHALL BE LOCATED ON THE WELCOME CENTER GROUNDS IN PROXIMITY TO THE BUILDING AND AS FAR FROM THE MAIN LINE ROADWAYS AS POSSIBLE (2 SIGNS BACK TO BACK).
3. SIGN NO. 1, 2, 3 SHALL BE LOCATED ON LIMITED ACCESS HIGHWAYS ONLY.
4. DETAIL OF FLORIDA SYMBOL IS AVAILABLE ON REQUEST FROM TRAFFIC OPERATIONS OFFICE OF D.O.T.

NOTE:

ROADWAY NOT DRAWN TO SCALE
DISTANCES SHOWN ARE APPROPRIATE FOR ADEQUATE DRIVER COMMUNICATION BUT MAY BE ALTERED SLIGHTLY IF FIELD CONDITIONS REQUIRE.



SIGN NO. 5
7'-0" x 20'-6"
3" BOR. 9" RAD.

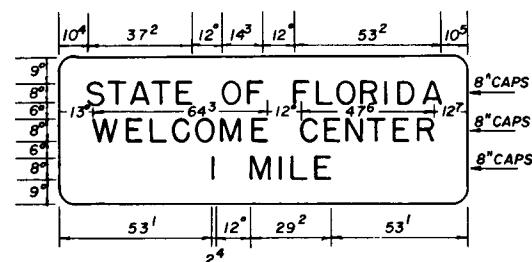
NOTE: SIGN SHALL HAVE BLUE REFLECTORIZED BACKGROUND WITH WHITE REFLECTORIZED LEGEND & BORDER. SIGN NO. 5 SHALL BE USED AS A SUPPLEMENTAL GUIDE SIGN AT INTERCHANGES WHICH HAVE A TOURIST INFORMATION CENTER APPROVED FOR SUCH SIGNING (LOCATE HALF-WAY BETWEEN NORMAL GUIDE SIGNS)

APPROVED BY F.H.W.A. 8-1-75

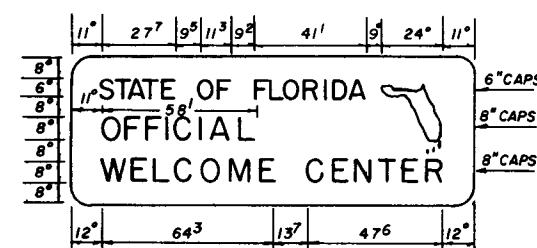
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

FOR LIMITED ACCESS HIGHWAYS

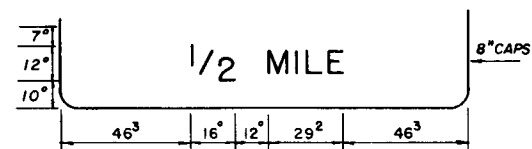
REVISIONS			TYPICAL WELCOME CENTER SIGNING			
DATE	INITIALS	DESCRIPTION	INITIALS	DATES	RECOMMENDED FOR APPROVAL	
			DETAILED BY	W.B.	6-75	BY <i>R.E. Magaly</i> 7/4/75 DEPUTY TRAFFIC OPERATIONS ENGR
			CHECKED BY			APPROVED BY <i>E. R. ...</i> 7/4/75 STATE TRAFFIC OPERATIONS ENGR
			QUANTITIES BY			DRAWING NO. INDEX NO. 1 OF 2 17351
			CHECKED BY			
			SUPERVISED BY	K.R.	6-75	



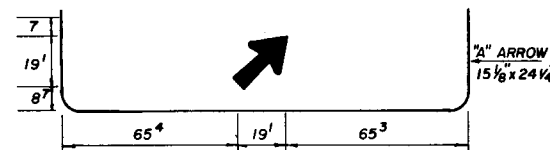
SIGN NO. 7A
4'-6" x 12'-6"
2" BOR - 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND & BORDER



SIGN NO. 4
4'-6" x 12'-6"
2" BOR - 9" RAD.
BLUE REFL. BACKGROUND
WHITE REFL. LEGEND & BORDER
ORANGE REFL. STATE SILHOUETTE
(SIGN NO. 4 TO BE PAID FOR WITH FUNDS
OTHER THAN D.O.T.)



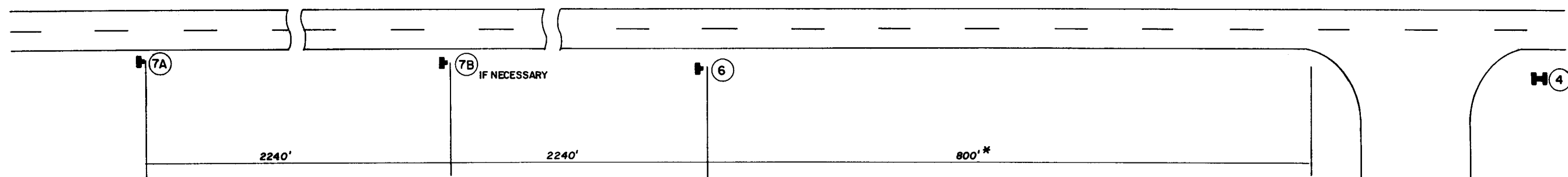
SIGN NO. 7B
5'-0" x 12'-6"
2" BOR - 9" RAD.



SIGN NO. 6
5'-6" x 12'-6"
2" BOR - 9" RAD.

NOTES

- (1) SIGNS AND SIGN STRUCTURES SHALL BE ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON INDEX 9535.
- (2) SIGN NO. 4 SHALL BE LOCATED ON THE WELCOME CENTER GROUNDS IN PROXIMITY TO THE BUILDING AND AS FAR FROM THE MAIN LINE ROADWAYS AS POSSIBLE (2 SIGNS BACK TO BACK)
- (3) DETAIL OF FLORIDA SYMBOL IS AVAILABLE ON REQUEST FROM TRAFFIC OPERATIONS OFFICE OF D.O.T.



NOTE
ROADWAY NOT DRAWN TO SCALE

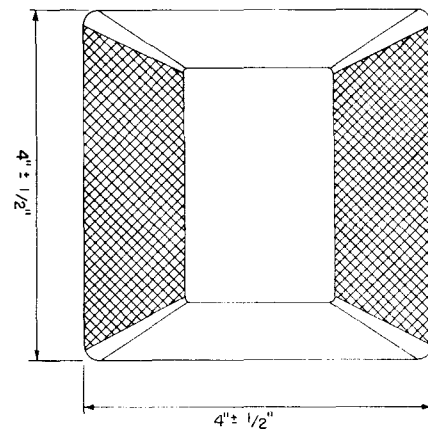
* 800' MAXIMUM FOR RURAL CONDITIONS
50' MINIMUM FOR CONGESTED AREAS

NOTE
EITHER ONE BUT NOT BOTH OF SIGNS 7A OR 7B
SHOULD BE USED DEPENDING ON SPEED, ROADSIDE
DEVELOPMENT & GEOMETRIC CONDITIONS.

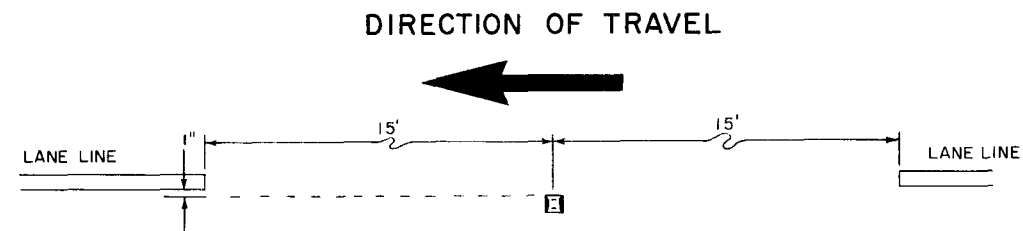
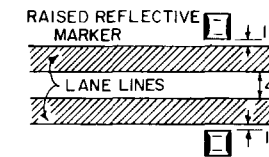
APPROVED BY FHWA 11-16-78
FOR PRIMARY HIGHWAYS

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL WELCOME CENTER SIGNING			
DATE	INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY	W.B.	6-75	BY <i>R.E. Magada</i> 7/6/75 DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY			APPROVED
QUANTITIES BY			BY <i>E.R. Quince</i> 7/6/75
CHECKED BY			STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY	K.R.	6-75	DRAWING NO. 2 OF 2 INDEX NO. 17351

REVISIONS		
DATE	INITIALS	DESCRIPTION

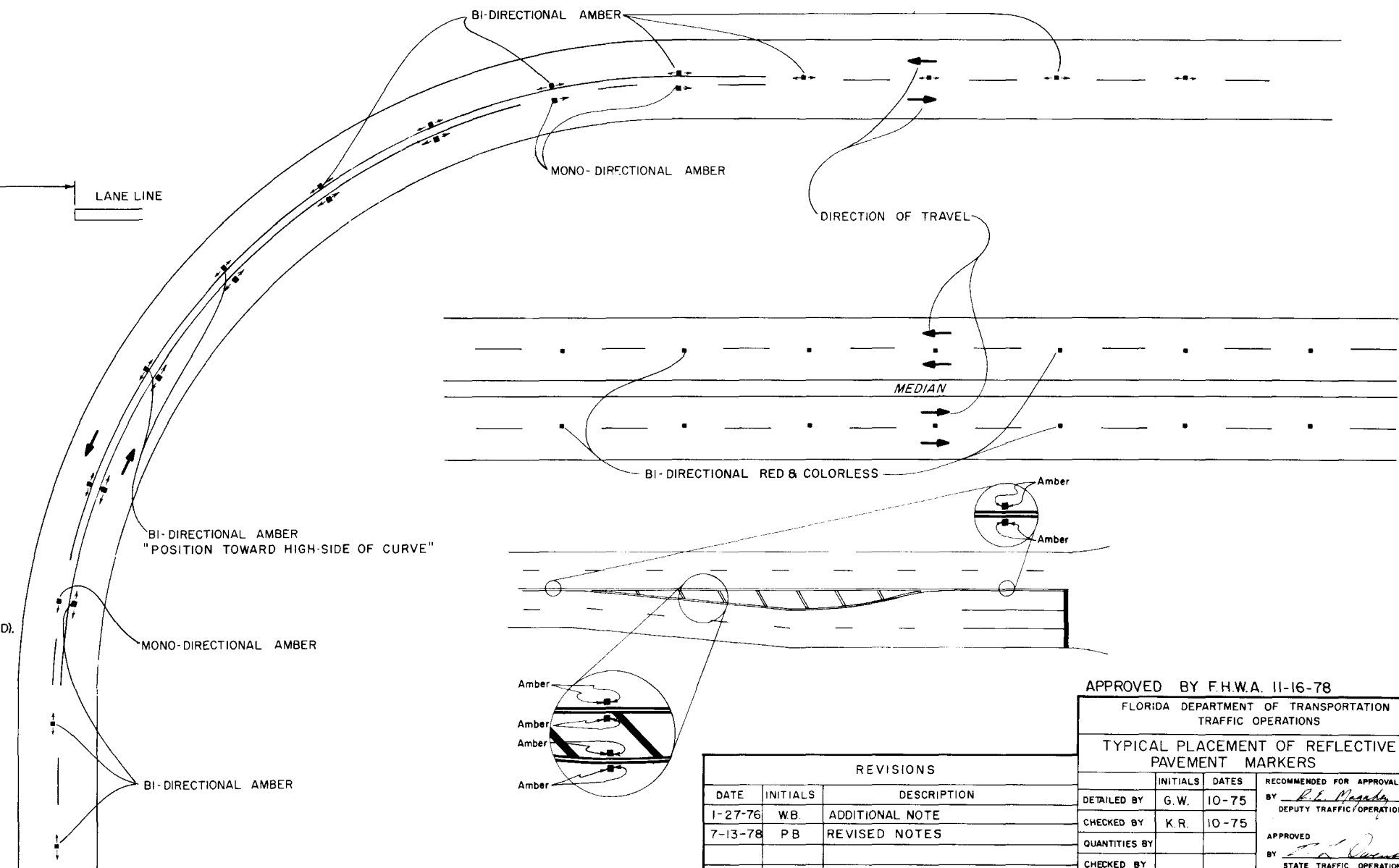


RAISED REFLECTIVE MARKER DETAIL



NOTES

1. FOR LANE LINES SEPARATING ONE-WAY TRAFFIC, RAISED REFLECTIVE MARKERS SHALL BE BI-DIRECTIONAL (COLORLESS & RED).
2. FOR CENTER LANE MARKINGS, FOR TWO-WAY TRAFFIC, RAISED REFLECTIVE MARKERS SHALL BE BI-DIRECTIONAL (AMBER & AMBER), EXCEPT WHERE PASSING IS RESTRICTED IN ONE DIRECTION ONLY.
3. RAISED REFLECTIVE MARKERS SHALL BE PLACED 40' C/C, (80' C/C FOR "PMS" PROJECTS) HOWEVER ON SHARP CURVES LESS THAN 40' MAY BE USED, AT THE DIRECTION OF THE DISTRICT TRAFFIC OPERATIONS ENGINEER.
4. ALL PAINT SHALL BE APPLIED BEFORE RAISED MARKERS ARE INSTALLED.
5. PREPARATION OF ROADWAY SURFACES FOR RAISED MARKERS AND ADHESIVE:
A. SURFACE TREATMENTS SHALL BE PREPARED BY GRINDING SMOOTH AND THEN BLOWN CLEAN BY COMPRESSED AIR (NOT BRUSHED).
B. SMOOTH SURFACES SHALL BE CLEANED BY COMPRESSED AIR (NOT BRUSHED).

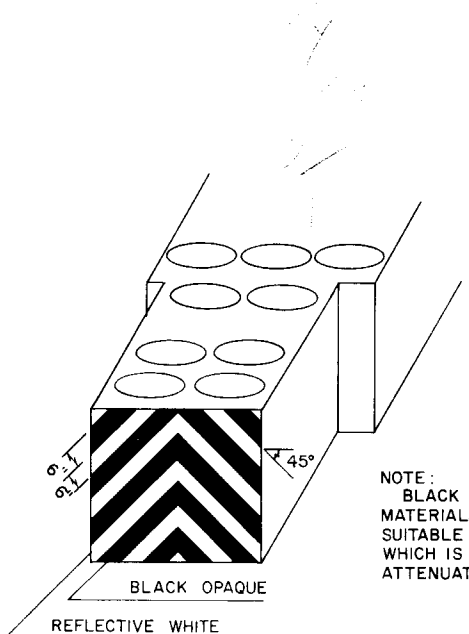
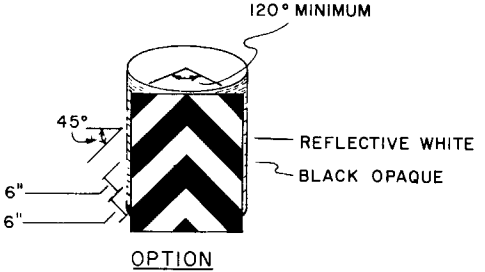
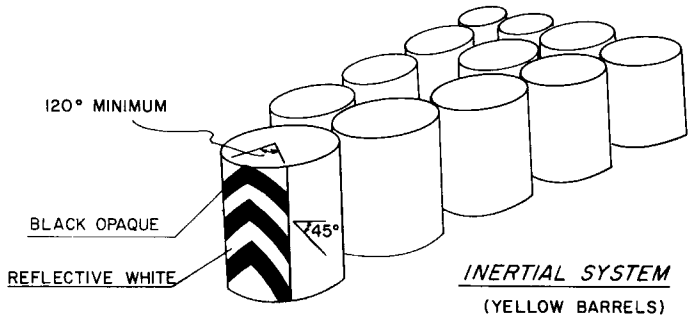


REVISIONS		
DATE	INITIALS	DESCRIPTION
1-27-76	W.B.	ADDITIONAL NOTE
7-13-78	P.B.	REVISED NOTES

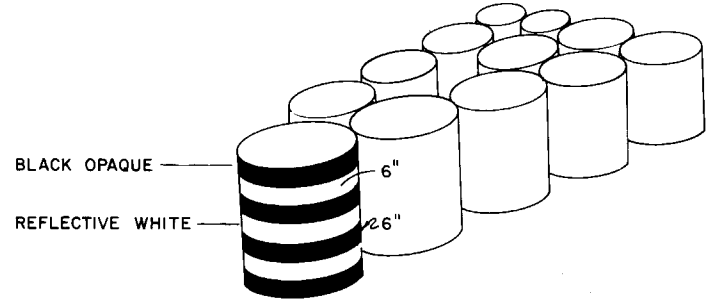
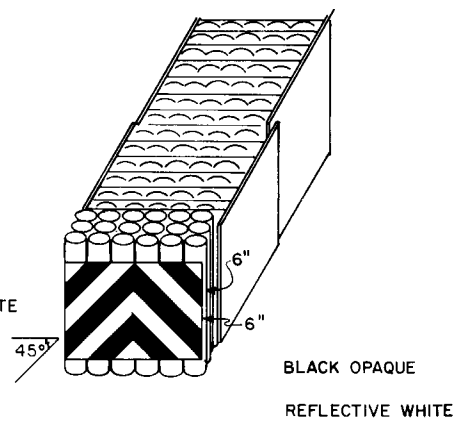
APPROVED BY F.H.W.A. 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONSTYPICAL PLACEMENT OF REFLECTIVE
PAVEMENT MARKERS

INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY G.W.	10-75	BY <i>R.L. Magada</i> 11/76 DEPUTY TRAFFIC/OPERATIONS ENGR.
CHECKED BY K.R.	10-75	APPROVED BY <i>R.L. Magada</i> 11/76 STATE TRAFFIC OPERATIONS ENGR.
QUANTITIES BY		
CHECKED BY		
SUPERVISED BY K.R.	10-75	DRAWING NO. 1 of 1 INDEX NO. 17352



NOTE: BLACK OPAQUE AND REFLECTIVE WHITE MATERIALS SHALL BE APPLIED TO A SUITABLE WOOD OR ALUMINUM FACING WHICH IS FIRMLY ATTACHED TO THE ATTENUATOR (SEE NOTE 3)



NOTE: Striping may be circular around steel drums

LIGHTWEIGHT CELLULAR CONCRETE

HYDRO CELL UNIT

STEEL DRUM

General Notes:

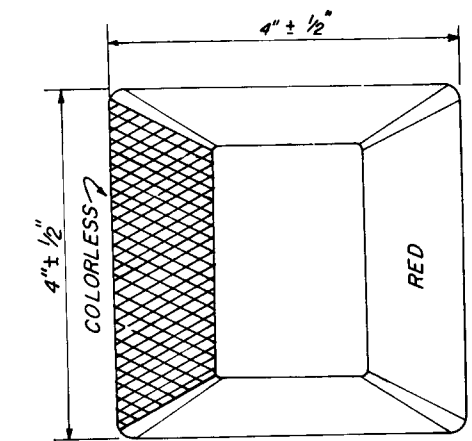
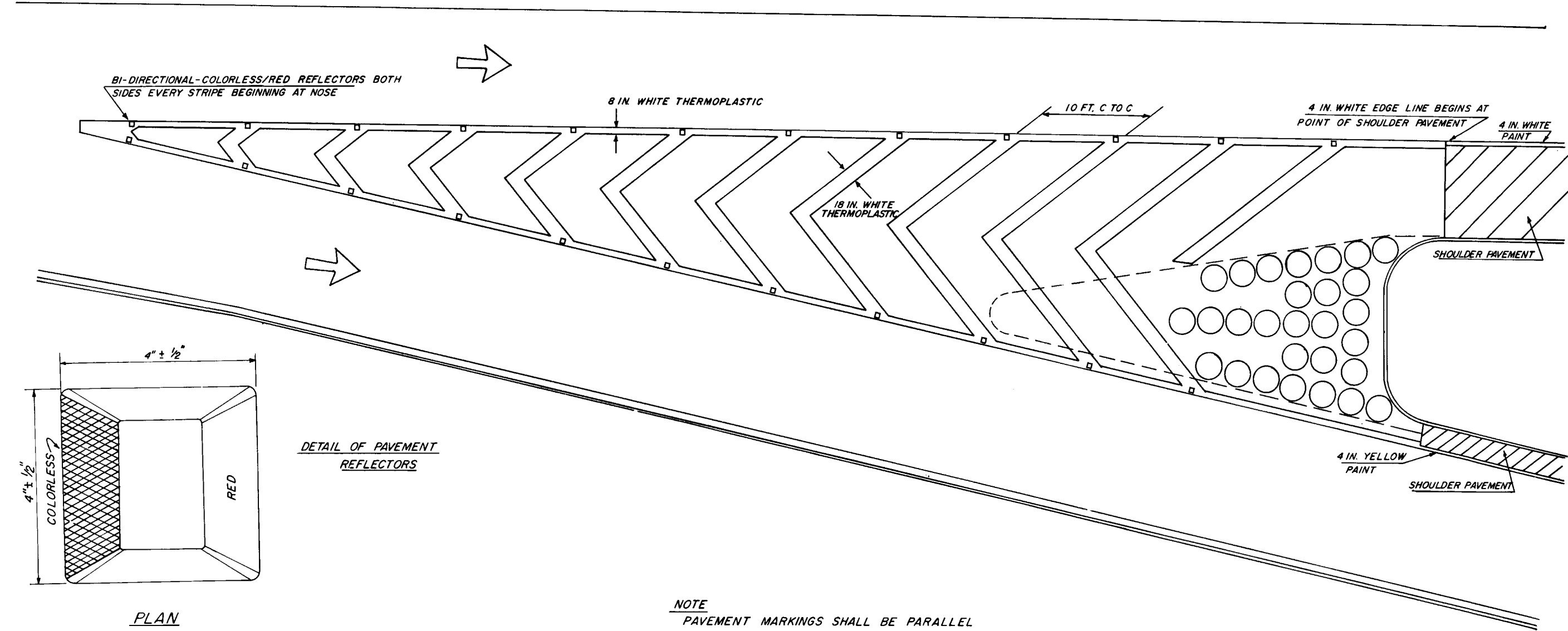
1. The black and white object marking treatment shall be placed on the visible front (apex) unit or units, of all attenuators as shown above.
2. Pressure sensitive applied reflective white sheeting with black opaque stripes is an acceptable material application which may be supplied with the unit or by the contractor in the field.
3. The object markings may be applied directly to barrel units (steel drum or inertial) or they shall be applied to an aluminum facia (0.125 inches thick) or on painted exterior plywood (1/2 inches thick) in the case of cellular concrete, hydro cell unit, or other types of attenuator systems.
4. Physical Dimensions:
 - Height — The height of the object marker should be no less than 2/3 the height of the attenuators and preferable equal to the attenuator height
 - Width — The width of flat surface object markers should be equal to the width of the attenuator nose.
Object markers placed on barrels or drums should cover at least 120° for drums equal to or larger than 30" in diameter and at 180° for drums less than 30" in diameter.

APPROVED BY F.H.W.A. II-16-78
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

REVISIONS		
DATE	INITIALS	DESCRIPTIONS
7-14-78	P.B.	REVISED TITLE BLOCK

MARKINGS FOR ATTENUATION SYSTEMS		
INITIALS	DATES	RECOMMENDED FOR APPROVAL
		BY <i>[Signature]</i> DEPUTY TRAFFIC OPERATIONS ENGR.
		APPROVED
		BY <i>[Signature]</i> STATE TRAFFIC OPERATIONS ENGR.
		Drawing No. <i>[Signature]</i> Index No. <i>[Signature]</i>
		1 of 4 17353

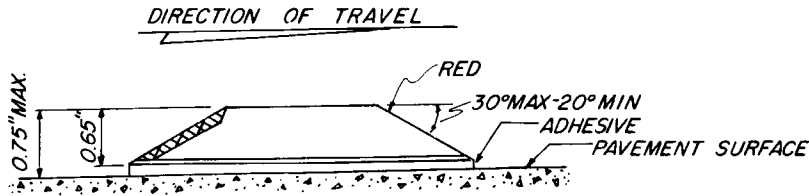
NOTE
THE LENGTH, WIDTH AND NUMBER OF CHEVRONS VARIES WITH EACH INSTALLATION.



DETAIL OF PAVEMENT REFLECTORS

PLAN

NOTE
PAVEMENT MARKINGS SHALL BE PARALLEL WITH LANE LINES.



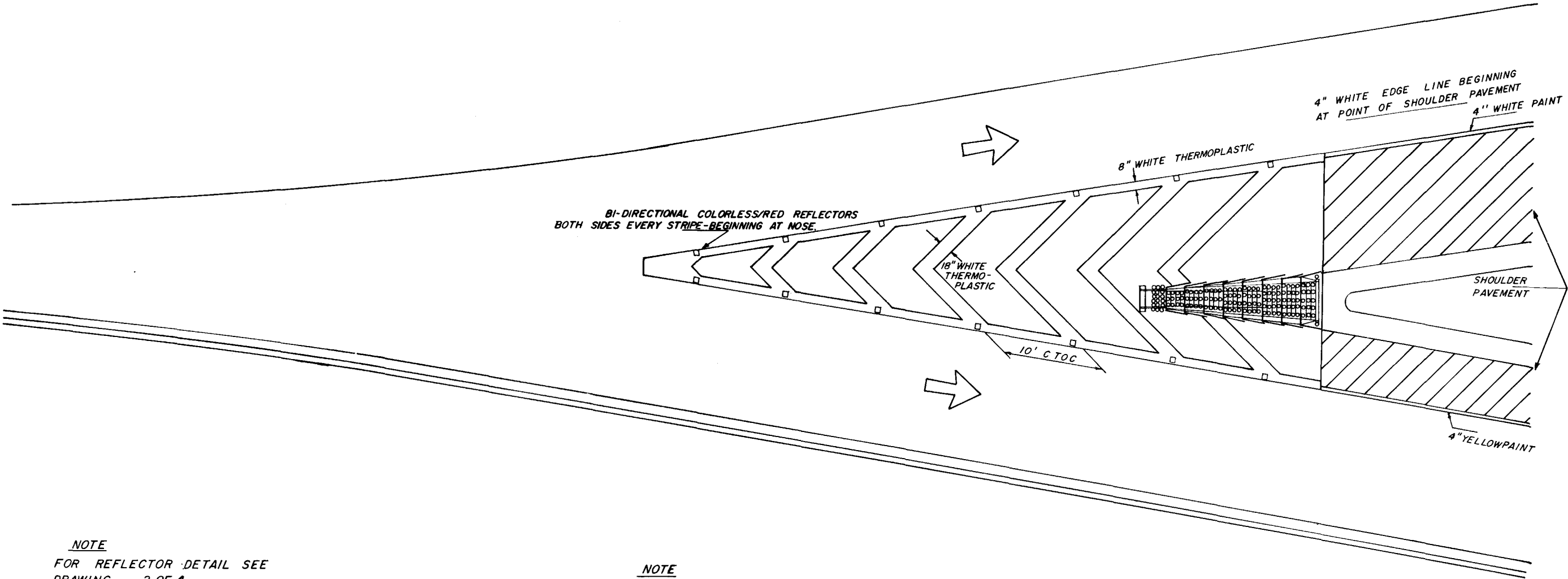
PROFILE

APPROVED BY F.H.W.A. 11-16-78
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

REVISIONS		
DATES	INITIALS	DESCRIPTIONS
7-17-78	P.B.	REVISED TITLE BLOCK

MARKINGS FOR ATTENUATION SYSTEMS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
	10-76	BY	DEPUTY TRAFFIC OPERATIONS ENGR.
		CHECKED BY	APPROVED
		QUANTITIES BY	
		CHECKED BY	BY
		SUPERVISED BY	STATE TRAFFIC OPERATIONS ENGR.
			DRAWING NO. INDEX NO.
			2 OF 4 17353

NOTE
THE LENGTH, WIDTH AND NUMBER OF CHEVRONS VARIES WITH EACH INSTALLATION



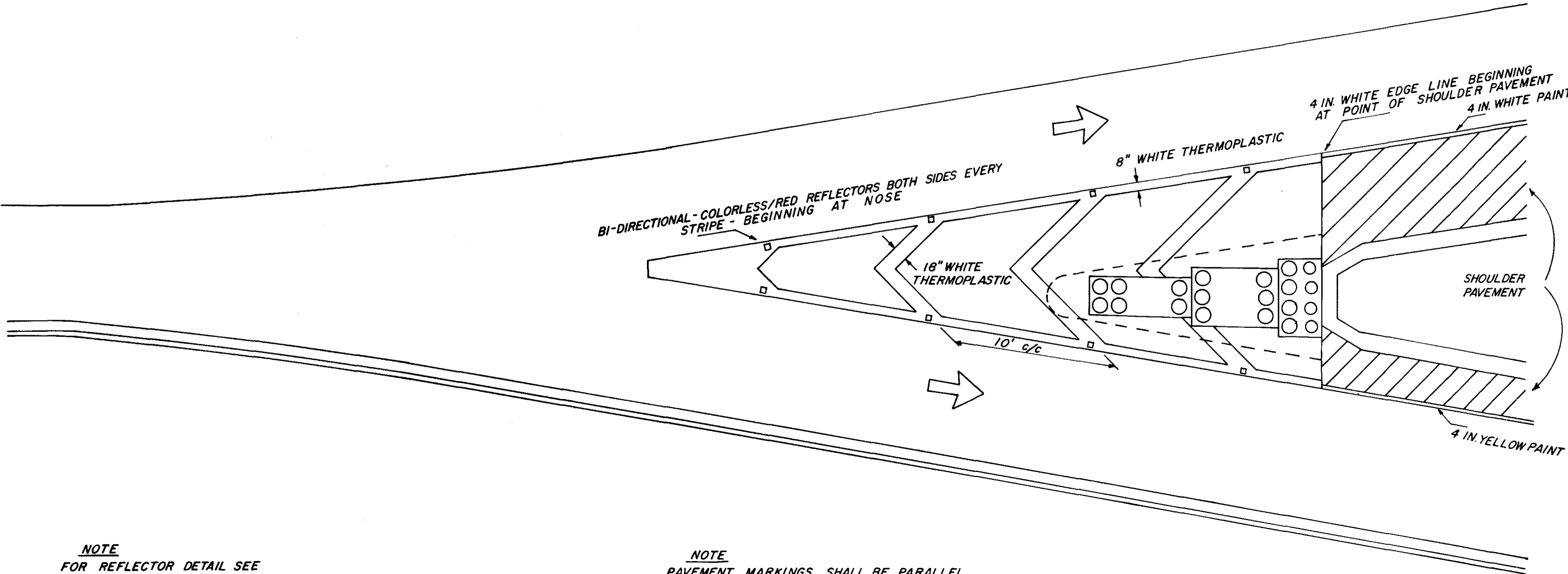
NOTE
FOR REFLECTOR DETAIL SEE
DRAWING 2 OF 4

NOTE
PAVEMENT MARKINGS SHALL BE PARALLEL
WITH LANE LINES

REVISIONS		
DATES	INITIALS	DESCRIPTIONS
7-17-78	P.B.	REVISED TITLE BLOCK & NOTES

APPROVED BY F. H.W.A. 11-16-78			
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
MARKINGS FOR ATTENUATION SYSTEMS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
		BY <i>[Signature]</i> DEPUTY TRAFFIC OPERATIONS ENGR.	
DETAILED BY		APPROVED	
CHECKED BY		BY <i>[Signature]</i> STATE TRAFFIC OPERATIONS ENGR.	
QUANTITIES BY			
CHECKED BY			
SUPERVISED BY			
Drawing No. 3 of 4		Index No. 17353	

NOTE
THE LENGTH, WIDTH AND NUMBER OF CHEVRONS
VARIES WITH EACH INSTALLATION



NOTE
FOR REFLECTOR DETAIL SEE
DRAWING 2 of 4

NOTE
PAVEMENT MARKINGS SHALL BE PARALLEL
WITH LANE LINES

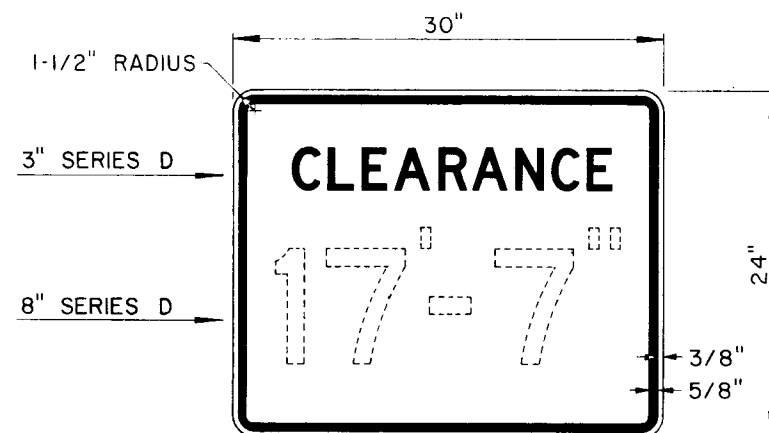
APPROVED BY FHWA 11-16-78

PAVEMENT MARKING
FOR LIGHTWEIGHT CELLULAR CONCRETE SYSTEM

FLORIDA DEPARTMENT OF TRANSPORTATION
Traffic Operations

MARKINGS FOR
ATTENUATION SYSTEMS

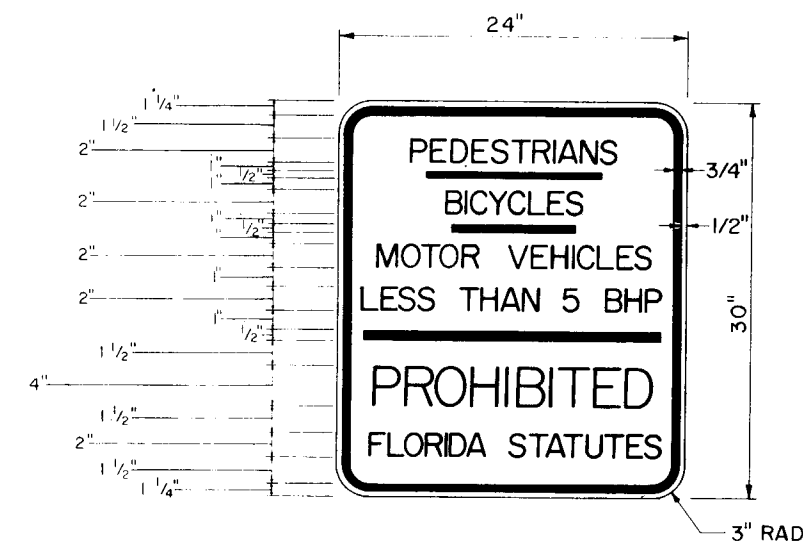
REVISIONS	INITIALS	DATES	Recommended for approval
Dates	Descriptions	Detailed by	by
		Checked by	Deputy Traffic Operations Engr.
		Quantities by	Approved
		Checked by	by
		Supervised by	State Traffic Operations Engr.
		K R	DRAWING NO. 4 OF 4 INDEX NO. 17353



RDT-03

NOTES:

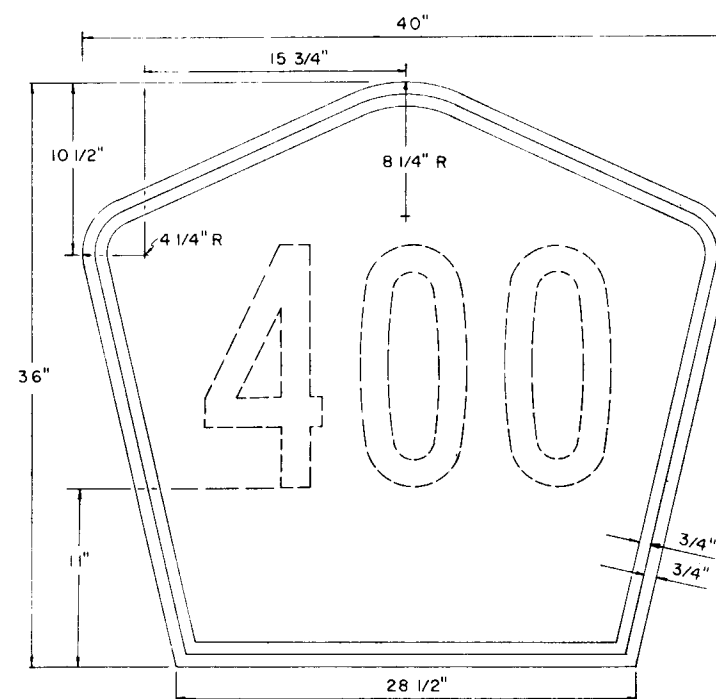
1. THE COLOR OF THE SIGN SHALL BE HIGH INTENSITY SILVER-WHITE REFLECTORIZED BACKGROUND WITH BLACK OPAQUE BORDER AND LEGEND.
2. STRUCTURES SPANNING A HIGHWAY WITH TRAFFIC IN OPPOSITE DIRECTIONS SHALL HAVE A SIGN FOR BOTH APPROACHES MOUNTED TO THE RIGHT OF THE DRIVER VIEWING THE SIGN.
3. CLEARANCE SIGNS SHOULD BE MOUNTED FOUR FEET FROM RIGHT EDGE OF RIGHT GUIDE SIGN WHEN PRACTICAL.
4. CLEARANCES SHOWN ON SIGN SHALL BE TO THE NEAREST WHOLE INCH. ANY FRACTION SHALL BE ROUNDED DOWN. (EXAMPLE 18'-6 7/8" SHALL BE SHOWN 18'-6")
5. SIGNED CLEARANCE TO BE MEASURED FROM LOWEST POINT OF OVERHEAD STRUCTURE TO HIGHEST POINT OF TRAVELED ROADWAY.



RJ-5

NOTES:

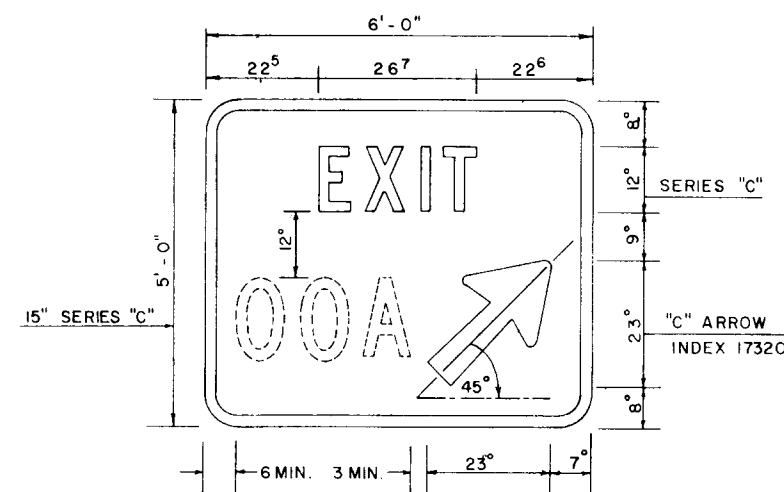
1. THE COLOR OF THE SIGN SHALL BE HIGH INTENSITY SILVER-WHITE REFLECTORIZED BACKGROUND WITH BLACK OPAQUE BORDER AND LEGEND.
2. LINES 1, 2, 3, 4, AND 6 ARE 2" SERIES "C"
3. LINE 5 IS 4" SERIES "C"



MI-5 FOR GUIDE SIGN USE

FOR TWO DIGITS USE 15" SERIES D.
FOR THREE DIGITS USE 15" SERIES B.

COLOR: YELLOW REFLECTORIZED
LEGEND AND BORDER ON BLUE
REFLECTORIZED BACKGROUND.



SIGN NO. (E5-10)
2" BORDER, 6" RADII

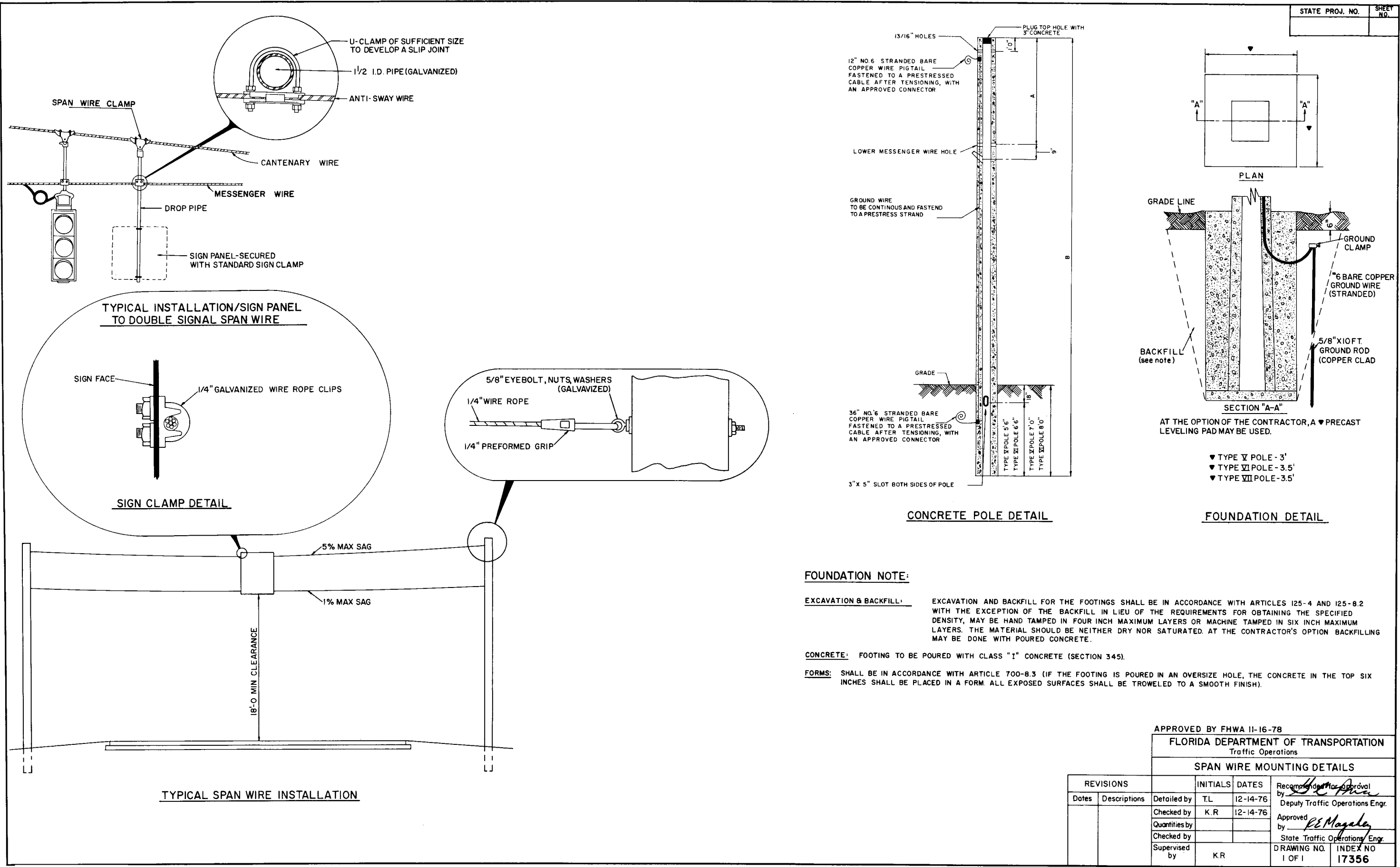
COLOR: WHITE ON GREEN

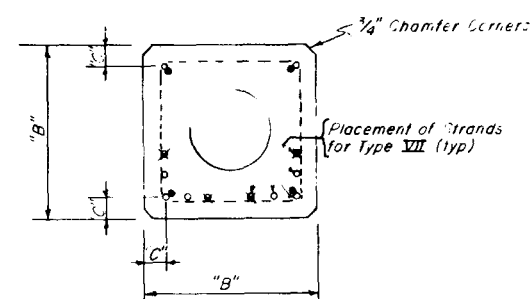
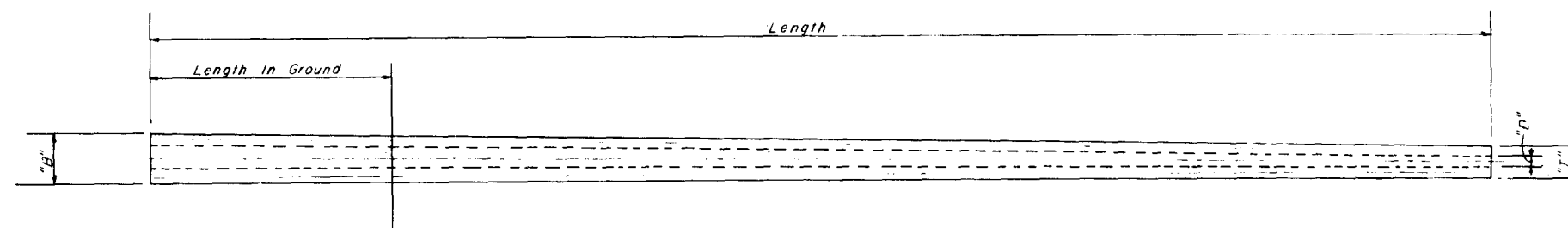
THE EXIT NUMBER SHALL BE CENTERED
IN THE SPACE PROVIDED ON SIGN PANEL

700-1-19

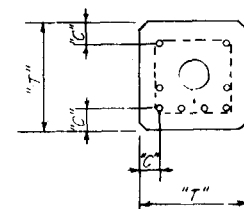
REVISIONS		
DATE	INITIALS	DESCRIPTION

APPROVED BY FHWA 11-16-78			
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
SPECIAL SIGN DETAIL			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
		BY <i>Robert Kolar</i>	
DETAILED BY		DEPUTY TRAFFIC OPERATIONS ENGR.	
CHECKED BY			
QUANTITIES BY			
CHECKED BY		APPROVED <i>R. S. Magales</i> 10/14/77	
SUPERVISED BY		STATE TRAFFIC OPERATIONS ENGR.	
		DRAWING No.	INDEX No.
		1 of 1	17355



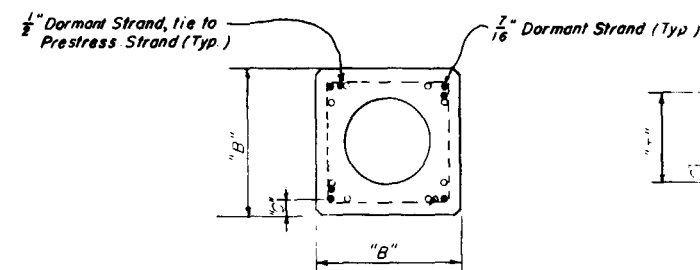


SECTION AT BOTTOM

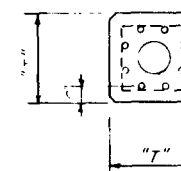


SECTION AT TOP

TYPICAL SECTION FOR TYPE
V, VI and VII
(STRANDS ECCENTRICALLY PLACED)

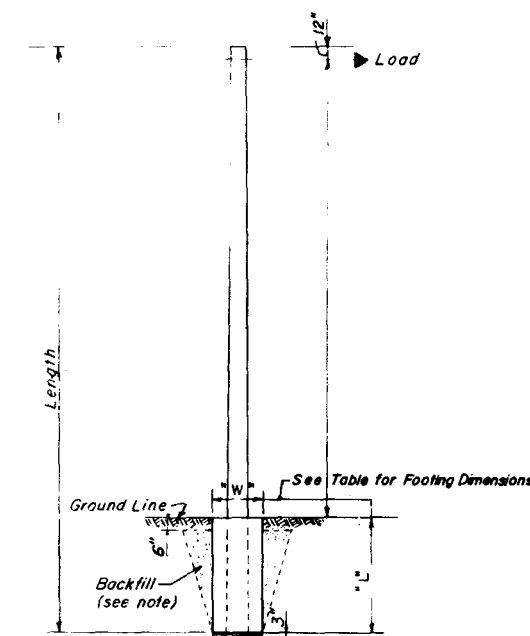


SECTION AT BOTTOM



SECTION AT TOP

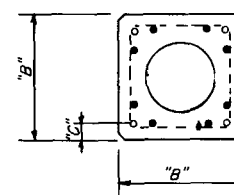
TYPICAL SECTION FOR TYPE IV
(STRANDS SYMMETRICALLY PLACED)



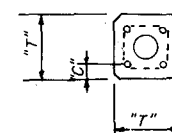
SIGNAL STRAIN POLE LOADING

[At The Option of The Contractor a 3" Precast Leveling Pad May be Used.

TYPE	DESIGNATION	SIZE AT TOP "T"	SIZE AT BOTTOM "B"	CUTSIDE FOUL TAPER	HOLE DIA. "D" AT TOP	MANDREL DETAIL	STRAND TAPER "C"	NO. OF STRANDS	SIZE * and TYPE STRAND	LOAD WITH NO CRACKING	MINIMUM ULTIMATE LOAD CAPACITY	APPLICATION OF LOAD	f_c'	f_c	FOOTING DIMENSIONS "W" B "L"	SHIELDING (From Top)	SHEAR REINFORCING (From Bottom)	DORMANT STRANDS
SIGNAL STRAIN POLES	VII	14" Sq.	Size at Top + (Lg. x Taper)	.16"/Ft.	2.87" \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	12	1/2" \emptyset Strands 270 K	7000 #	10,000 \pm # (Min.)	12 Inches From Top	6000psi	4000psi	3'x3'x9.0'	Shield 2 at 10' Shield 2 at 26'	3 Wire @ 3" @ 9' up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" \emptyset Tie to Corner
	VI	13" Sq.	Size at Top + (Lg. x Taper)	.16"/Ft.	3" \pm \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" \emptyset Strands 250 K	5000 #	7500 \pm # (Min.)	12 Inches From Top	6000psi	4000psi	3'x3'x8.0'	Shield 2 at 12'	3 Wire @ 3" @ 9' up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" \emptyset Tie to Corner
	V	10" Sq.	Size at Top + (Lg. x Taper)	.16"/Ft.	2.87" \pm \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" \emptyset Strands 250 K	3500 #	6000 \pm # (Min.)	12 Inches From Top	6000psi	4000psi	3'x3'x7.0'	Shield 2 at 6' Shield 2 at 21'	3 Wire @ 3" @ 10' up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" \emptyset Tie to Corner
	IV	8.25" Sq.	Size at Top + (Lg. x Taper)	.16"/Ft.	3" \pm \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" \emptyset ASTM 250 K	1850 #	3000 \pm # (Min.)	12 Inches From Top	6000psi	4000psi	3'x3'x6.0'	Shield 2 at 6' Shield 2 at 12'	5 Ga. Spiral @ 6"	4 - 3/16" \emptyset Ea. Co. 4 - 1/2" \emptyset Tie Press.
LIGHT POLES	II	6" Sq.	Size at Top + (Lg. x Taper)	.16"/Ft.	2" \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	4	7/16" \emptyset A.S.T.M. 250 K	900 #	1200 \pm # (Min.)	2 Feet From Top	6000psi	4000psi	3'x3'x6.0'		9 Ga. Spiral @ 6"	8 - 7/16" \emptyset
	II	6.4" Round	Size at Top + (Lg. x Taper)	.16"/Ft.	2" \emptyset (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	4	1/2" \emptyset A.S.T.M. 250 K	900 #	1200 \pm # (Min.)	2 Feet From Top	6000psi	4000psi	3'x3'x6.0'	Shield 2 at 6' Shield 2 at 12'		4 - #4 Bars



SECTION AT BOTTOM



SECTION AT TOP

TYPICAL SECTION FOR TYPE II
(STRANDS SYMMETRICALLY PLACED)

* Steel strand used to prestress the Concrete shall not be tensioned above 70% of the rated ultimate strength.

SYMBOLS

- ☐ Placement of Prestressed Strands
☒ Placement of Prestressed Strands for Type VII
☐ Placement of Dormant Strands

FOOTING NOTES.

EXCAVATION AND BACKFILL

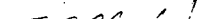
EXCAVATION AND BACKFILL
Excavation and Backfill for the Footings shall be in accordance with section 125-8.2 with the exception that for the Backfill, in lieu of the requirements for obtaining the specified density. The Backfill may be handtamped in four inch maximum layers or machine tamped in six inch maximum layers. The material should be neither dry nor saturated. At the Contractor's option Backfilling may be done with poured concrete.

FORMS: Shall be in accordance with Article 700-8.3

SIGNAL STRAIN POLES & LIGHT POLE

STATE ROAD DEPARTMENT OF FLORIDA
STRUCTURES DIVISION

PRESTRESSED CONCRETE POLES

REVIEWS		ROAD NO.	COUNTY	PROJECT NO.
00-68	Descriptions			
10-68	Revised Pole Footing	Names	DATE	APPROVED BY
10-68	Revised Pole Upright	Checked by	C. W. B. 5-15-68	
00-69	5' Round Light Pole	Checked by	A. J. H. 5-27-68	
02-70	Revised Footing - 4" x 6" x 8"	Quantities by		
02-71	Revised Footing - 4" x 6" x 8"	Checked by		Engineer of Structures
		Traced by		Drawing No.
				Index No.
				1 of 1
				9821

		STATE PROJ. NO.		SHEET NO.	
630-ABC		CONDUIT ("INCHES")		LF	
A. OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
B. CONDUIT TYPE		1 PVC, UNDERGROUND			
		2 RIGID LAID, UNDERGROUND			
		3 RIGID JACKED			
		4 PVC, SLEEVE JACKED			
		5 PVC, UNDER PAVEMENT			
		6 RIGID LAID, UNDER PAVEMENT			
		7 RIGID, ABOVE GROUND			
C. CONDUIT SIZE		1 (1")		5 (5")	
		2 (2")		6 (1/2")	
		3 (3")		7 (1 1/2")	
		4 (4")		8 (2 1/2")	
				9 (1 1/4")	
635-A-B		PULL BOXES		EACH	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
B PULL BOX TYPE		1 NON-TRAFFIC			
		2 TRAFFIC BEARING			
		3 AERIAL JUNCTION BOX			
		4 INTERCONNECT JUNCTION BOX			
639-1		ELECTRICAL POWER SERVICE		ASSEMBLY	
643-ABC		WOOD STRAIN POLES		EACH	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
BC POLE LENGTH		(NOTE: POLES SHALL ONLY BE ORDERED IN 5' INCREMENTS)			
653-ABC		PEDESTRIAN SIGNALS ("TYPE SIGNAL")		ASSEMBLY	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
B TYPE SIGNAL		1 (12" INCANDESCENT)			
		2 (12" FIBER OPTIC)			
		3 (OPTICALLY PROGRAMED)			
		4 (NEON)			
		5 (9" INCANDESCANT)			
		6 (9" FIBER OPTIC)			
C NUMBER OF DIRECTIONS (WAYS)					
632-1-BC		SIGNAL CABLE ("SPAN LENGTH RANGE") PER INTERSECTION			
		(FURNISH & INSTALL ONLY)			
BC TOTAL HORIZONTAL SPAN LENGTH		(SEE CODE SHEET)			
		(SHEET 3)			
632-2-DE		SIGNAL CABLE		LF	
		(FURNISH ONLY)			
DE NUMBER OF CONDUCTORS					
632-3-BC		SIGNAL CABLE ("SPAN LENGTH RANGE") PER INTERSECTION			
		(INSTALL ONLY)			
BC TOTAL HORIZONTAL SPAN LENGTH RANGE		(SEE CODE SHEET)			
		(SHEET 3)			
632-4-E		INTERCONNECT CABLE		LF	
E. INSTALLATION TYPE		1 AERIAL, FIGURE 8			
		2 AERIAL, MESSENGER WIRE WITH CLAMPS OR WRAPPED			
		3 UNDERGROUND			
641-AB-CD		CONCRETE STRAIN POLE (TYPE "X")		EACH	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL (WITH FOUNDATION)			
		2 FURNISH			
		3 INSTALL (WITH FOUNDATION)			
		4 FURNISH & INSTALL (DIRECT BURIAL)			
		5 INSTALL (DIRECT BURIAL)			
B POLE TYPE		1 (BLANK)			
		2 (TYPE III) (SERVICE POLE)			
		3 (TYPE IV)			
		4 (TYPE V)			
		5 (TYPE VI)			
		6 (TYPE VII)			
CD POLE LENGTH		(NOTE: POLE LENGTHS ARE TO BE SPECIFIED IN EVEN NUMBERS ONLY.)			
646-AB-CD		MAST ARMS		EACH	
647-AB-CD		MAST ARM COMBINATIONS, STD.		EACH	
648-AB-CD		MAST ARM COMBINATIONS, SPECIAL		EACH	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
B MATERIAL AND CONFIGURATION TYPE		1 STEEL, SINGLE ARM			
		2 ALUMINUM, SINGLE ARM			
		3 STEEL, DOUBLE ARM			
		4 ALUMINUM, DOUBLE ARM			
		5 STEEL, SINGLE ARM WITH LUMINAIRE ATTACHMENT			
		6 ALUMINUM, SINGLE ARM WITH LUMINAIRE ATTACHMENT			
		7 STEEL, DOUBLE ARM WITH LUMINAIRE ATTACHMENT			
		8 ALUMINUM, DOUBLE ARM WITH LUMINAIRE ATTACHMENT			
CD LENGTH OF MAST ARM (TOTAL LENGTH WHEN DOUBLE ARM)					
650-1-ABC		TRAFFIC SIGNAL, 12" STD ("X-SECTION, Y-WAY")		ASSEMBLY	
650-2-ABC		TRAFFIC SIGNAL, 12" OPT PROG ("X-SECTION, Y-WAY")		ASSEMBLY	
650-3-ABC		TRAFFIC SIGNAL, 12" LIGHTWEIGHT ("X-SECTION, Y-WAY")		ASSEMBLY	
650-4-ABC		TRAFFIC SIGNAL, 8" STD ("X-SECTION, Y-WAY")		ASSEMBLY	
650-5-ABC		TRAFFIC SIGNAL, 8" LIGHTWEIGHT ("X-SECTION, Y-WAY")		ASSEMBLY	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL			
		2 FURNISH			
		3 INSTALL			
B NUMBER OF SECTIONS ON EACH FACE					
C NUMBER OF DIRECTIONS (WAYS)					
634-1-ABC		SPAN WIRE ASSEMBLY ("SPAN LENGTH RANGE") PER INTERSECTION			
		(FURNISH & INSTALL ONLY)			
A ASSEMBLY TYPE		1 STANDARD DUAL SPAN			
		2 STANDARD DUAL SPAN AND TETHER CABLE			
BC TOTAL HORIZONTAL SPAN LENGTH RANGE		(SEE CODE SHEET)			
		(SHEET 3)			
634-2-D		MESSENGER WIRE		LF	
		(FURNISH ONLY)			
D CABLE SIZE		1 3/8"			
		2 1/4"			
		3 1/8"			
634-3-BC		SPAN WIRE ASSEMBLY ("SPAN LENGTH RANGE") PER INTERSECTION			
		(INSTALL ONLY)			
BC TOTAL HORIZONTAL SPAN LENGTH RANGE		(SEE CODE SHEET)			
		(SHEET 3)			
642-ABC-DE		STEEL STRAIN POLES (TYPE "X")		EACH	
A OPERATION TO BE PERFORMED		1 FURNISH & INSTALL (WITH FOUNDATION)			
		2 FURNISH			
		3 INSTALL (WITH FOUNDATION)			
		4 FURNISH & INSTALL (DIRECT BURIAL)			
		5 INSTALL (DIRECT BURIAL)			
BC POLE TYPE (REFER TO STEEL POLE SCHEDULE SHEET)		01 (TYPE "A")		08 (TYPE "H")	
		02 (TYPE "B")		09 (TYPE "I")	
		03 (TYPE "C")		10 (TYPE "J")	
		04 (TYPE "D")		11 (TYPE "K")	
		05 (TYPE "E")		12 (SPECIAL DESIGN)	
		06 (TYPE "F")			
		07 (TYPE "G")			
DE POLE LENGTH		(NOTE: POLE LENGTHS ARE TO BE SPECIFIED IN EVEN NUMBERS ONLY.)			
APPROVED BY FHWA, DEC. 17, 1974		FLORIDA DEPARTMENT OF TRANSPORTATION		TRAFFIC OPERATIONS	
		SIGNALIZATION BID ITEM NUMBERS			
REVISIONS		INITIALS		DATES	
DATE		DESCRIPTION		Designed by	
3-2-75		634-3-BC, 639-BC, 12-13-14		CG	
1-2-76		ADDED 648 AB-CD, REV 630-B, 642-CC, 653-B & 659-BC		RK	
1-3-77		ADDED 643-ABC REV 653-ABC			
7-7-78		ADDED NOTE TO 641 & 642			
Supervised by		RVK			
Recommended for approval by		Deputy Traffic Operations Engr.			
Approved by		State Traffic Operations Engr.			
DRAWING NO.		INDEX NO.			
1 OF 3		17710			

* 679-AB-C		COORDINATING UNIT ("UNIT FUNCTION")	EACH	* 683 ABC		SYSTEM COMMUNICATIONS ("ITEM")	LUMP SUM	REMOVAL ITEMS		632-1-BC		SIGNAL CABLE ("SPAN LENGTH RANGE")	PER INTERSECTION
A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED				690-10 REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY EACH		634-1-IBC		SPAN WIRE ASSEMBLY ("SPAN LENGTH RANGE	PER INTERSECTION
1 FURNISH & INSTALL				1 FURNISH & INSTALL				690-20 REMOVE PEDESTRIAN SIGNAL ASSEMBLY EACH		BC TOTAL HORIZONTAL SPAN LENGTH RANGE			
2 FURNISH				2 FURNISH				690-30 REMOVE POLES EACH		CODE		SPAN LENGTH IN FEET	
3 INTALL				3 INSTALL				690-31 REMOVE SIGNAL PEDESTAL EACH		01		10 - 20	
B UNIT DESIGN				4 MODIFY				690-40 REMOVE MAST ARM ASSEMBLY EACH		02		20 - 30	
1 SOLID STATE DIGITAL				BC ITEM AS DESCRIBED				690-50 REMOVE CONTROLLER ASSEMBLY EACH		03		30 - 40	
2 (BLANK)				01 (FDM)				690-60 REMOVE VEHICLE DETECTOR ASSEMBLY EACH		04		40 - 50	
3 MECHANICAL				02 (TDM)				690-70 REMOVE PEDESTRIAN DETECTOR ASSEMBLY EACH		05		50 - 75	
C UNIT FUNCTIONS: (FUNCTION SPECIFIES THE MINIMUM NUMBER OF CYCLES IN THE CASE OF A DIGITAL UNIT AND THE NUMBER OF DIALS IN THE CASE OF A MECHANICAL UNIT)				* 685 ABC		SYSTEM AUXILIARIES ("ITEM")	EACH	690-80 REMOVE SPAN WIRE ASSEMBLY EACH		06		75 -100	
1 (SINGLE)				A OPERATION TO BE PERFORMED				690-90 REMOVE CABLING AND CONDUIT PER INTERSECTION		07		100 -125	
2 (TWO)				1. FURNISH & INSTALL				690-100 REMOVE MISCELLANEOUS SIGNAL EQUIP. PER INTERSECTION		08		125 -150	
3 (TRIPLE)				2. FURNISH						09		150 -175	
				3. INSTALL						10		175 -200	
				BC ITEM AS DESCRIBED						11		200 -225	
				01. (BLANK)						12		225 -250	
				02. (BLANK)						13		250 -275	
				03. (BLANK)						14		275 -300	
				04. (BLANK)						15		300 -325	
				05. (MASTER CLOCK UNIT)						16		325 -350	
				06. (UNINTERRUPTABLE POWER SOURCE)						17		350 -375	
				07. (TEST EQUIPMENT)						18		375 -400	
										19		400 -425	
										20		425 -450	
										21		450 -475	
										22		475 -500	
										23		500 -525	
										24		525 -550	
										25		550 -575	
										26		575 -600	
										27		600 -625	
										28		625 -650	
										29		650 -OR GREATER	
												NOTE: SPAN LENGTH RANGE IS GIVEN FOR DEPARTMENT ESTIMATE PURPOSES ONLY. ACTUAL AMOUNT OF CABLE & WIRE REQUIRED IS THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT IS MADE AS A LUMP SUM ITEM PER INTERSECTION. INCLUDED IN THE ITEM FOR SIGNAL CABLE IS ALL CABLE REQUIRED AT AN INTERSECTION TO OPERATE BOTH VEHICULAR SIGNALS, SIGNS AS REQUIRED AND PEDESTRIAN SIGNALS.	
* 680 ABC		SYSTEM CONTROL EQUIPMENT ("ITEM")	EACH	* 712-70-ABC		MOVEABLE BRIDGE SIGNAL ("TYPE")	ASSEMBLY	* 712-73		RAILROAD CROSSING GATE	ASSEMBLY		
A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED				* 712-71-AB		MOVEABLE BRIDGE GATE ("CLASS")	ASSEMBLY		
1 FURNISH & INSTALL				1. FURNISH & INSTALL				A OPERATION TO BE PERFORMED					
2 FURNISH				2. FURNISH				1. FURNISH & INSTALL					
3 INSTALL				3. INSTALL				2. FURNISH					
4 MODIFY				B INSTALLATION TYPE				3. INSTALL					
BC ITEM AS DESCRIBED				1. (TYPE I)				B CLASS GATE AS DESIGNATED BY NUMBER OF APPROACH LANES TO GATE					
01 (CPU)				2. (TYPE II)				1. (CLASS I) ONE LANE					
02 (CARD READER)								2. (CLASS II) TWO LANE					
03 (KEYBOARD PRINTER)								3. (CLASS III) THREE LANE					
04 (LINE PRINTER)													
05 (DISC MEMORY SYSTEM)													
06 (COMMUNICATIONS INTERFACE)													
07 (DISPLAY MAP INTERFACE)													
08 (MAG TYPE SYSTEM)													
09 (KEYBOARD CRT)													
10 (CONTROL CONSOLE)													
11 (ROADSIDE MASTER)													
* 681 ABC		SYSTEM SOFTWARE ("ITEM")	LUMP SUM	* 712-72		RAILROAD CROSSING SIGNAL	ASSEMBLY	* 785-70-AB		CABINET ENCLOSURE ("TYPE")	EACH	* NOTE: ITEMS WITH ASTERISK SHALL ONLY BE USED WHEN ACCOMPANIED WITH SPECIFICATIONS.	
A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED					
1 FURNISH & INSTALL				1. FURNISH & INSTALL				1. FURNISH & INSTALL					
2 FURNISH				2. FURNISH				2. FURNISH					
3 INSTALL				3. INSTALL				3. INSTALL					
BC ITEM AS DESCRIBED				B CLASS GATE AS DESIGNATED BY NUMBER OF APPROACH LANES TO GATE				B ASSEMBLY TYPE					
01 (CPU SOFTWARE)				1. (CLASS I) ONE LANE				1. (TYPE I) CABINET HOUSING WITH CONCRETE WALL					
02 (UTCS FORTRAN ROUTINES)				2. (CLASS II) TWO LANE				2. (TYPE II) CABINET HOUSING WITH CONCRETE WALL AND ONE BENCH					
03 (UTCS ASSEMBLY LANGUAGE ROUTINE)				3. (CLASS III) THREE LANE				3. (TYPE III) CABINET HOUSING WITH CONCRETE WALL AND TWO BENCHES					
04 (DATA BASE)								4. (TYPE IV) CABINET HOUSING WITH CONCRETE WALL PLANTER					
05 (CONTROL PATTERNS)								5. (TYPE V) CABINET HOUSING WITH CONCRETE WALL PLANTER AND ONE BENCH					
06 (DATA BASE GENERATOR)								6. (TYPE VI) CABINET HOUSING WITH CONCRETE WALL PLANTER AND TWO BENCHES					
07 (PATTERN GENERATOR)													
* 682-ABC		SYSTEM DISPLAY ("ITEM")	LUMP SUM	* 712-72		RAILROAD CROSSING SIGNAL	ASSEMBLY	* 785-70-AB		CABINET ENCLOSURE ("TYPE")	EACH	* NOTE: ITEMS WITH ASTERISK SHALL ONLY BE USED WHEN ACCOMPANIED WITH SPECIFICATIONS.	
A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED				A OPERATION TO BE PERFORMED					
1 FURNISH & INSTALL				1. FURNISH & INSTALL				1. FURNISH & INSTALL					
2 FURNISH				2. FURNISH				2. FURNISH					
3 INSTALL				3. INSTALL				3. INSTALL					
4 MODIFY				B CLASS GATE AS DESIGNATED BY NUMBER OF APPROACH LANES TO GATE				B ASSEMBLY TYPE					
BC ITEMS AS DESCRIBED				1. (CLASS I) ONE LANE				1. (TYPE I) CABINET HOUSING WITH CONCRETE WALL					
01 (CRT DISPLAY)				2. (CLASS II) TWO LANE				2. (TYPE II) CABINET HOUSING WITH CONCRETE WALL AND ONE BENCH					
02 (PANEL BOARD MAP)				3. (CLASS III) THREE LANE				3. (TYPE III) CABINET HOUSING WITH CONCRETE WALL AND TWO BENCHES					
03 (PROJECTED DISPLAY)								4. (TYPE IV) CABINET HOUSING WITH CONCRETE WALL PLANTER					
								5. (TYPE V) CABINET HOUSING WITH CONCRETE WALL PLANTER AND ONE BENCH					
								6. (TYPE VI) CABINET HOUSING WITH CONCRETE WALL PLANTER AND TWO BENCHES					

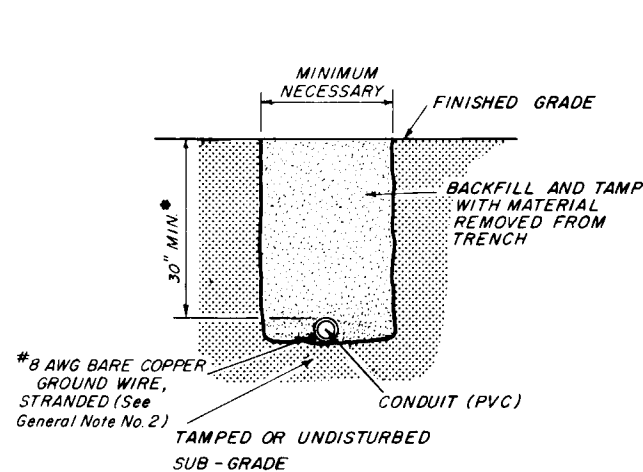


FIGURE - A

FOR USE IN AREAS NOT EXPOSED TO VEHICULAR TRAFFIC

• MAY BE ADJUSTED IN FIELD DUE TO FIELD CONDITIONS UPON APPROVAL OF PROJECT ENGINEER.

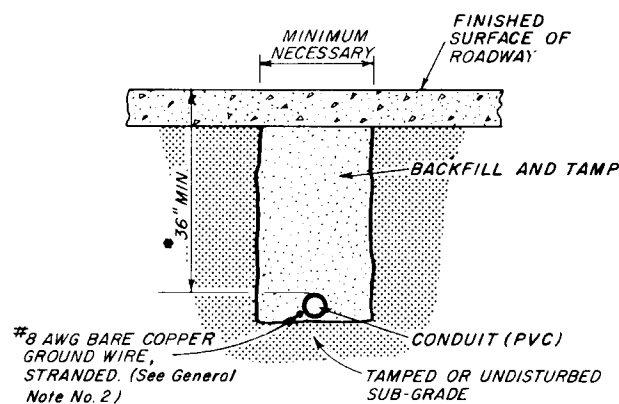


FIGURE - D

FOR USE INSTALLING CONDUIT UNDER A NEW ROADWAY PRIOR TO INSTALLATION OF CURBS, BASE AND PAVEMENT

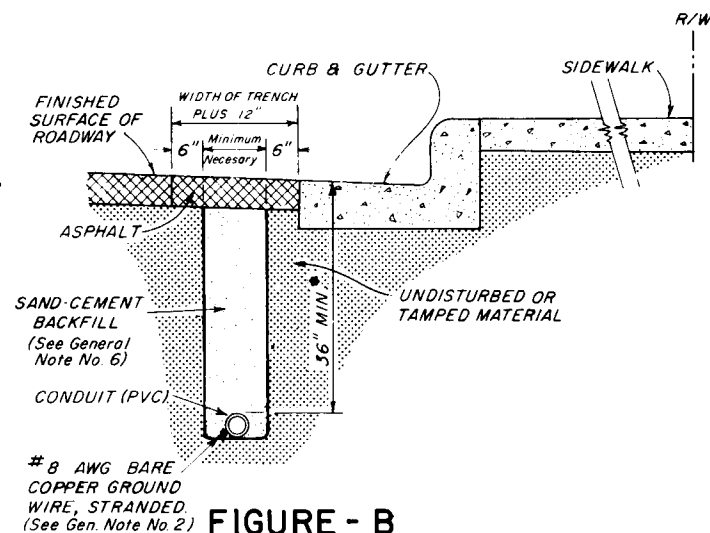


FIGURE - B

FOR USE IN ASPHALT ROADWAY ADJACENT TO GUTTER WHEN PLACEMENT OUTSIDE OF THE PAVEMENT IS NOT FEASIBLE.

NOTE:

1. TRENCH NOT TO BE OPEN MORE THAN 250' AT A TIME WHEN CONSTRUCTION AREA IS SUBJECT TO VEHICULAR OR PEDESTRIAN TRAFFIC.
2. ASPHALT TO BE SAWCUT AND REMOVED TO LEAVE NEAT LINES ON BOTH SIDES OF THE 12" PAVEMENT CUT.

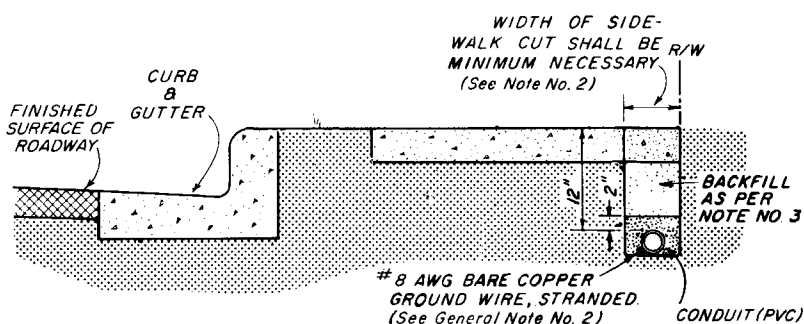


FIGURE - E

FOR USE IN INSTALLING CONDUIT UNDER SIDEWALK

NOTE:

1. SIDEWALK PATCHES TO MATCH EXISTING JOINTS.
2. ENTIRE SIDEWALK SLAB MUST BE REPLACED WHEN SPECIFIED IN THE PLANS.
3. BACKFILL AND TAMP WITH MATERIAL FROM TRENCH EXCEPT AT DRIVEWAYS. AT DRIVEWAYS, BACKFILL A LENGTH OF TRENCH FOR A DISTANCE EQUAL TO TWICE THE WIDTH OF THE DRIVEWAY ENTIRELY WITH CLASS 1 CONCRETE.

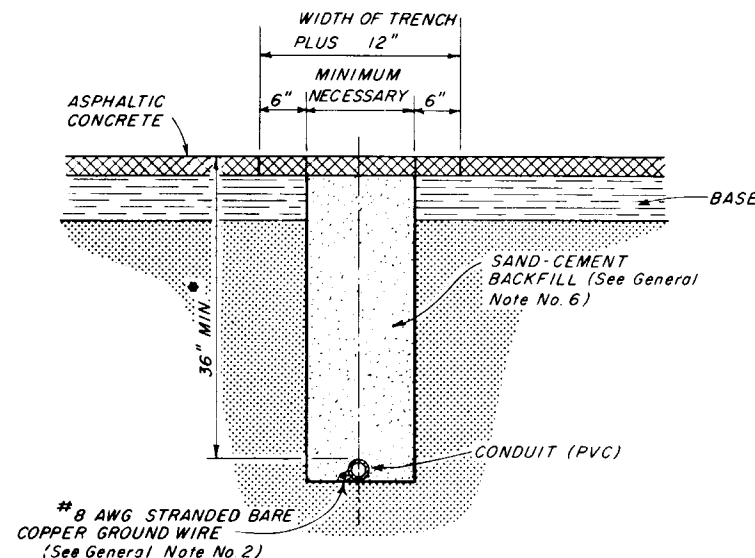


FIGURE - C

FOR USE IN INSTALLING CONDUIT UNDER EXISTING ASPHALT PAVEMENT NOT ADJACENT TO GUTTER WHEN JACKING IS NOT FEASIBLE

NOTE:

1. RIGID CONDUIT MUST BE USED WHEN JACKING UNDER EXISTING PAVEMENT AT 3 FT. MINIMUM DEPTH.
2. ASPHALT TO BE SAWCUT AT THE EDGES OF THE TRENCH.

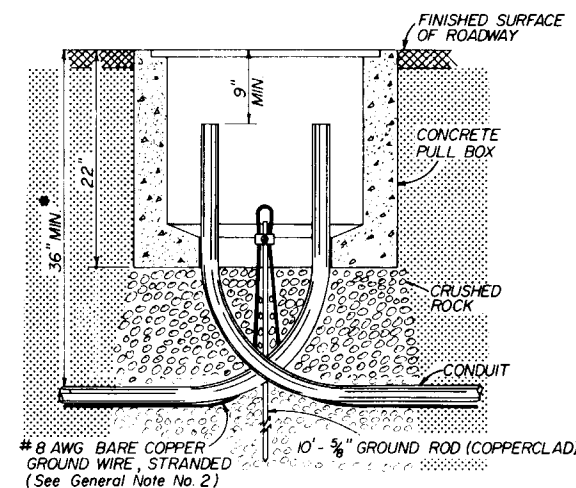


FIGURE - F

CONDUIT ENTRY IN TRAFFIC TYPE PULL BOX

GENERAL NOTES

1. A NO 12 AWG PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS WHICH ARE PROVIDED FOR FUTURE USE. AT LEAST 2 FT OF PULL WIRE SHALL BE ACCESSIBLE AT EACH CONDUIT TERMINATION.
2. LOCAL CODES MAY REQUIRE USE OF A LARGER GROUND WIRE. (Not required with galvanized conduit)
3. EACH PULL BOX SHALL HAVE A 5/8" X 10' GROUND AS SHOWN.
4. RECOMMENDED STANDARD CLEARANCE BETWEEN UNDERGROUND CONTROL CABLE OR ELECTRICAL SERVICE CABLE AND ANOTHER APPROXIMATELY PARALLEL UNDERGROUND ELECTRICAL SERVICE CABLE IS FOUR (4) FEET.
5. WHEN EARTH BACKFILL AND TAMPING IS CALLED FOR ON THESE DETAILS, IT SHALL BE ACCOMPLISH IN APPROXIMATELY 12 INCH LAYERS WITH EACH LAYER TAMPED TO DENSITY EQUAL TO OR GREATER THAN THE ADJACENT SOIL.
6. COMMERCIALLY AVAILABLE SAND CEMENT (APPROXIMATELY 10:1 MIX RATIO) SHALL BE USED TO BACKFILL TRENCHES IN EXISTING PAVEMENT. A SUFFICIENT AMOUNT OF WATER SHOULD BE ADDED TO THE MIX TO MAKE IT FLUID SO THAT NO TAMPING OR VIBRATING IS REQUIRED (6 TO 8 INCH SLUMP SUGGESTED).
7. ALL PAVEMENT AND SIDEWALKS SHALL BE SAWCUT WHEN TRENCHING.
8. RIGID CONDUIT USED WHEN JACKING SHOULD BE LEFT AS A SLEEVE FOR PVC CONDUIT.

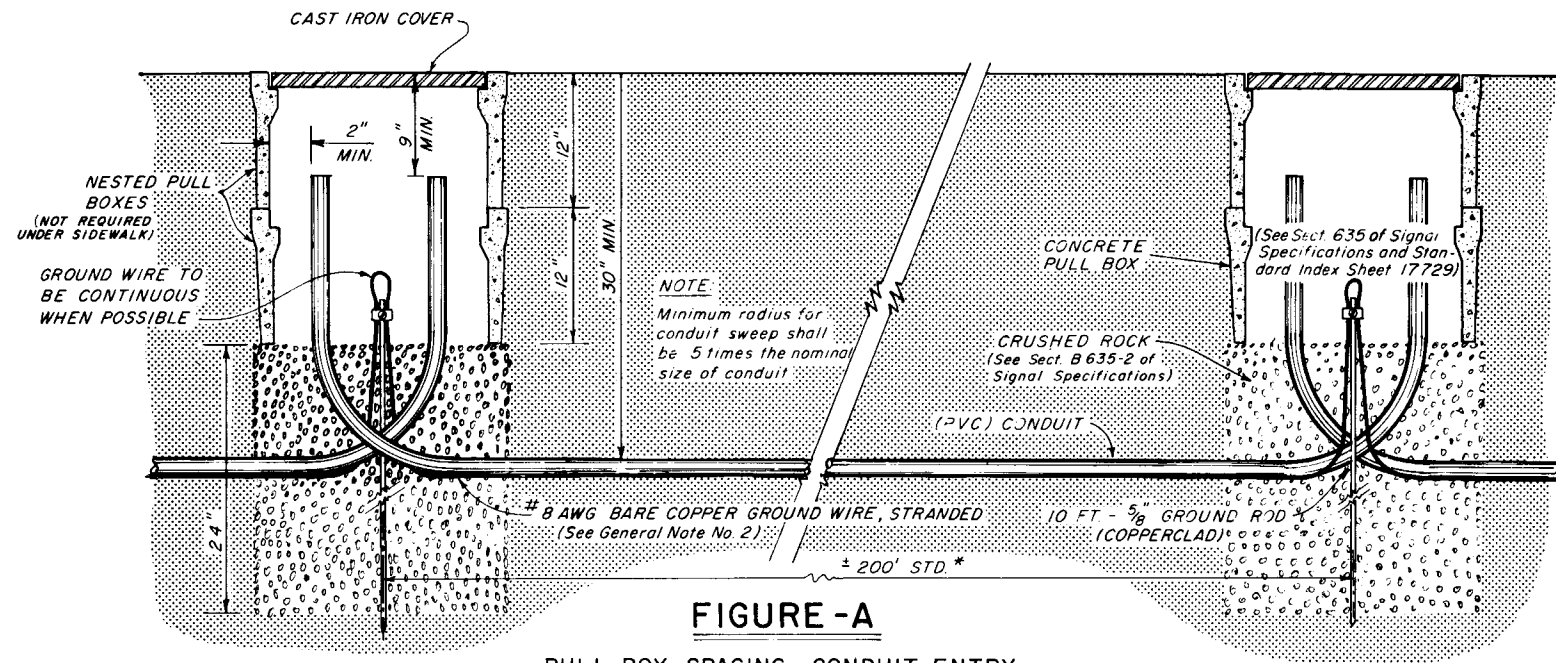
APPROVED BY FHWA, APRIL 15, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

CONDUIT INSTALLATION DETAILS

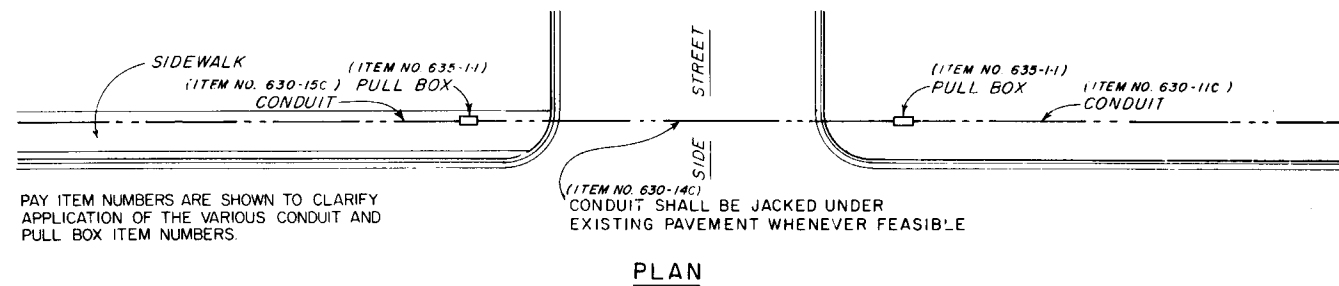
REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 2-26-75
4-6-76	CG	ADDITION TO GENERAL NOTE NO. 6. NOTE NO. 3 OF FIGURE E REVISED	Checked by	RK 2-26-75
8-11-76	CJ	NOTE ADDED, REVISED GENERAL NOTES 1 & 2, REVISED TITLE BLOCK	Quantities by	
			Checked by	
			Supervised by	RVK

Approved by *R. E. Magala*
State Traffic Operations Engr.
DRAWING NO. 1 OF 2
INDEX NO. 17721



PULL BOX SPACING, CONDUIT ENTRY AND GROUNDING DETAIL

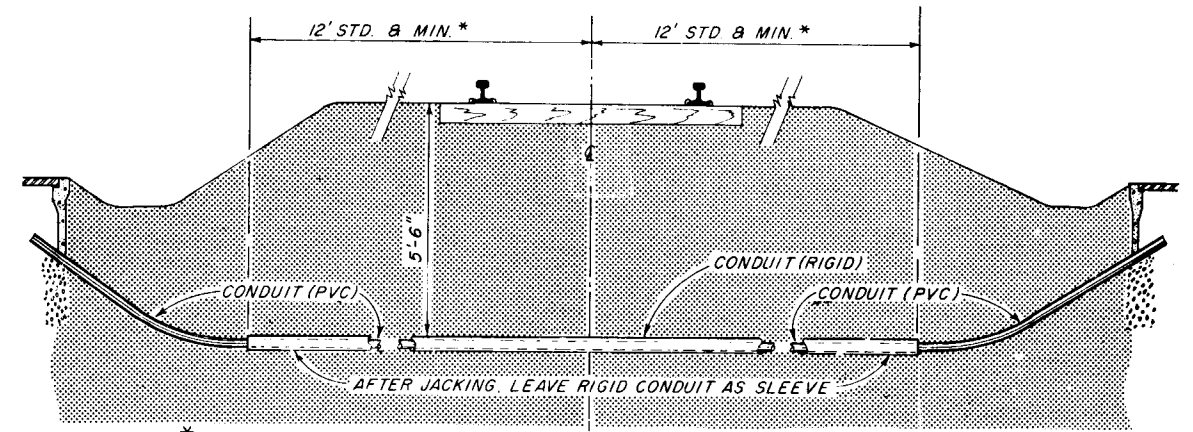
* PULL BOX SPACING SHOULD BE ADJUSTED IN THE FIELD TO AVOID PLACING BOXES IN DRIVEWAYS OR CROSS STREETS.



* SEE FIGURE "A" OR FIGURE "E", SHEET 1,
FOR MINIMUM DEPTH UNDER SIDEWALKS OR
OTHER AREAS NOT EXPOSED TO VEHICULAR
TRAFFIC.

NOTE: CONDUIT SHALL BE JACKED UNDER
EXISTING PAVEMENT WHENEVER
FEASIBLE

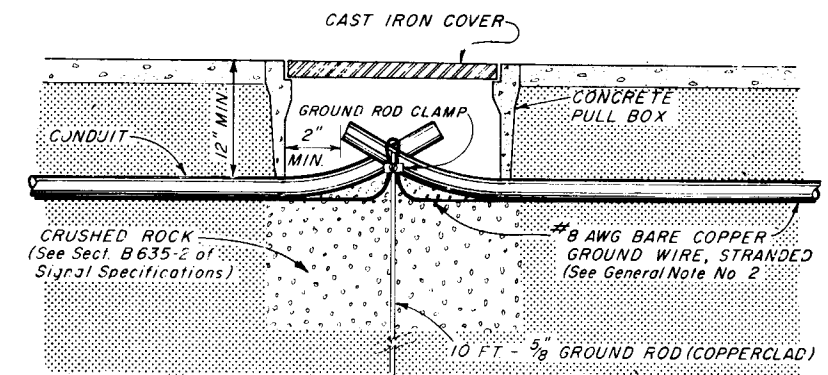
NOTE:
ONE RUN OF CONDUIT (BETWEEN PULL BOXES)
SHALL NOT CONTAIN MORE THAN 360° OF BEND
INCLUDING PULL BOX BENDS.



* IN CASE OF MULTIPLE TRACKS, THE MEASUREMENT IS TO BE FROM THE CENTERLINE OF THE OUTSIDE TRACK.

NOTE:

1. PVC CONDUIT TO CONTAIN 6 AWG INSULATED COPPER GROUND WIRE (TW)
2. A PULL BOX IS REQUIRED ON EACH SIDE OF THE RAILROAD, 12' TO 30' FROM THE OUTSIDE TRACK.



APPROVED BY FHWA, APRIL 15, 1975

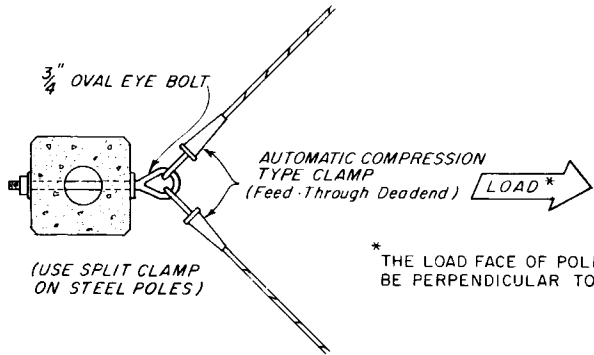
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

CONDUIT INSTALLATION DETAILS

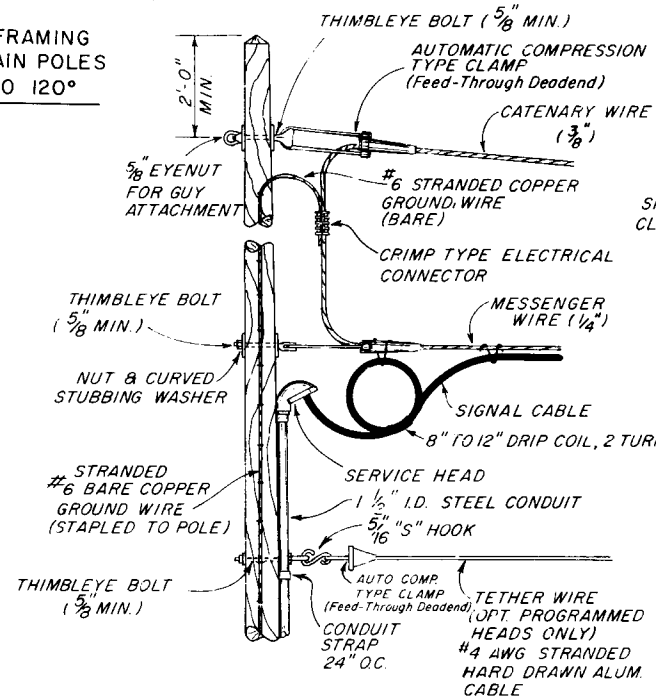
FHWA 9-3-76	REVISIONS			INITIALS	DATES	Approved by <i>D. S. McFarley</i> State Traffic Operations Eng.	
	DATE	INITIALS	DESCRIPTION	Designed by	CG		2-25-75
	8-11-76	L.J.	ADDED PAY ITEM NUMBERS TO FIGURE C, REVISED TITLE BLOCK	Checked by	RK		2-26-75
				Quantities by			
				Checked by			
				Supervised by	R V K		
			DRAWING NO.	INDEX NO.			
			2 OF 2	17721			

NOTE

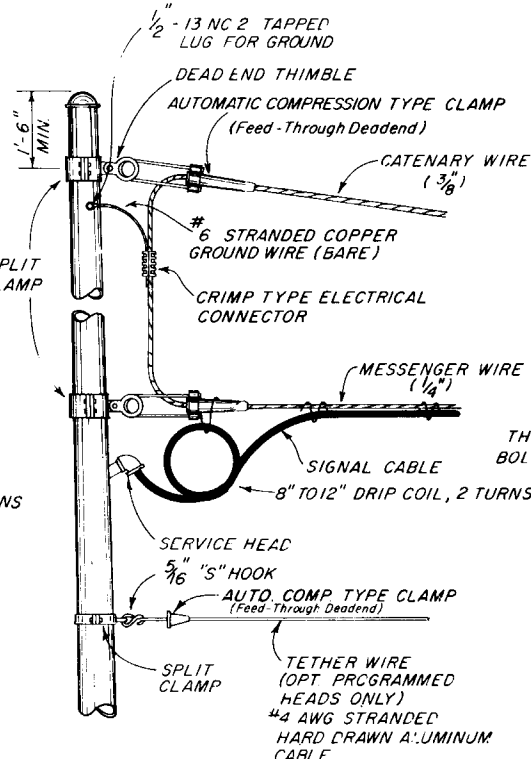
1. DISTANCE BETWEEN CATENARY WIRE AND MESSENGER WIRE ATTACHMENT LOCATION ON POLE IS 5% OF SPAN PLUS 1 FT.
2. METAL COLLARS MAY BE USED INSTEAD OF EYEBOLTS WHEN ATTACHING SPAN WIRES TO CONCRETE STRAIN POLES.
3. EVERY POLE SHALL BE A GROUNDING POINT FOR SPAN WIRE ASSEMBLY.
4. POLE AND POLE FOUNDATION DETAILS ARE SHOWN FOR THE PURPOSE OF SHOWING GROUNDING AND CABLE ROUTINGS. REFER TO POLE SCHEDULE SHEET FOR THE SPECIFIC POLE AND POLE FOUNDATION DESIGN DETAILS.



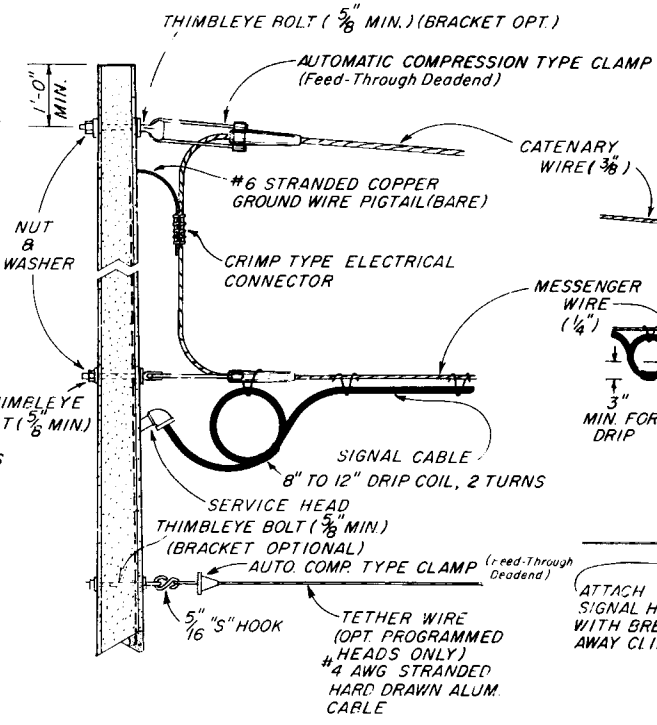
METHOD OF FRAMING CORNER STRAIN POLES ANGLES 10° TO 120°



WOOD POLE



METAL POLE



CONCRETE POLE

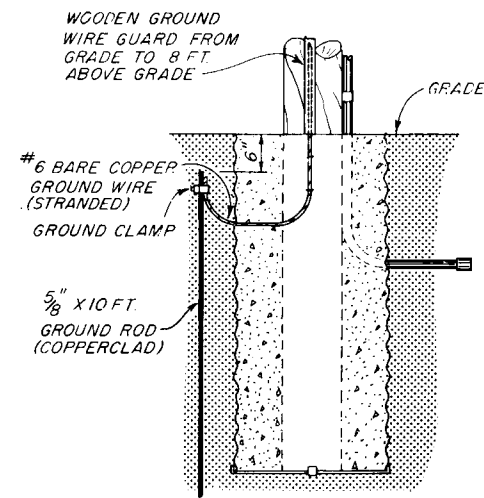


FIGURE - A

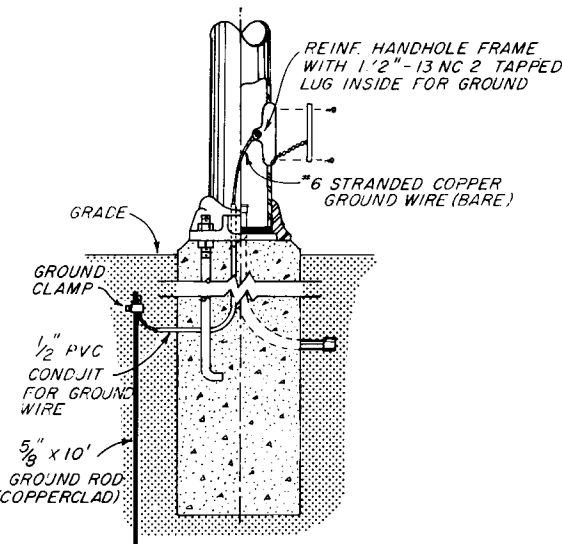


FIGURE - B

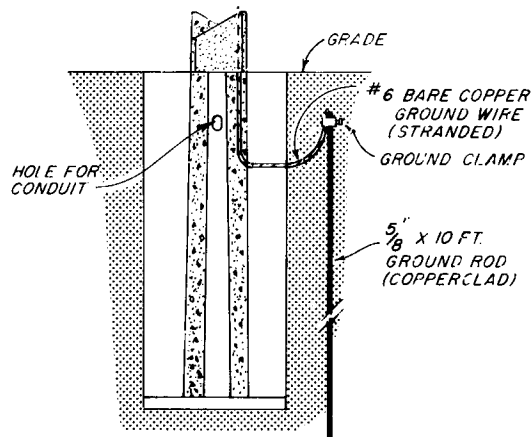


FIGURE - C

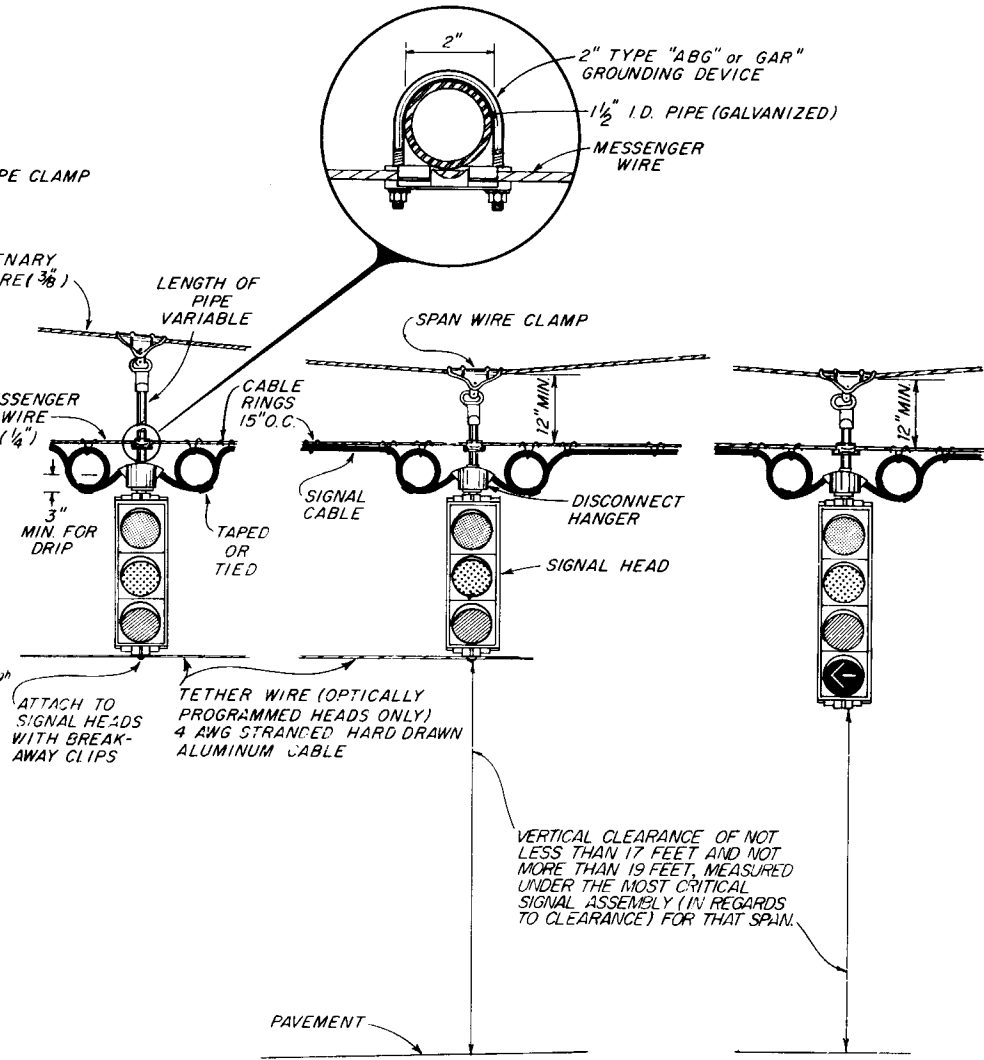


FIGURE - D

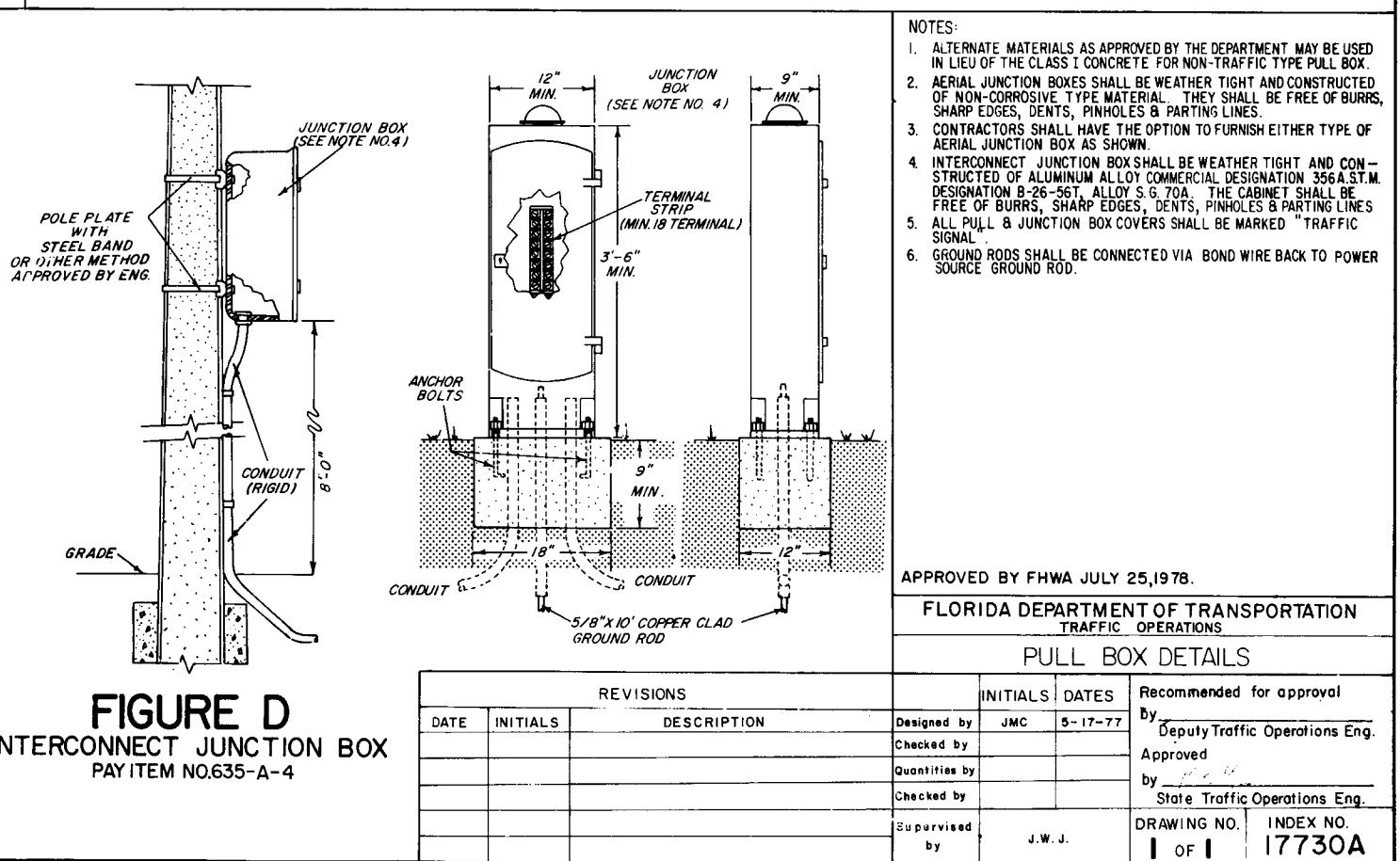
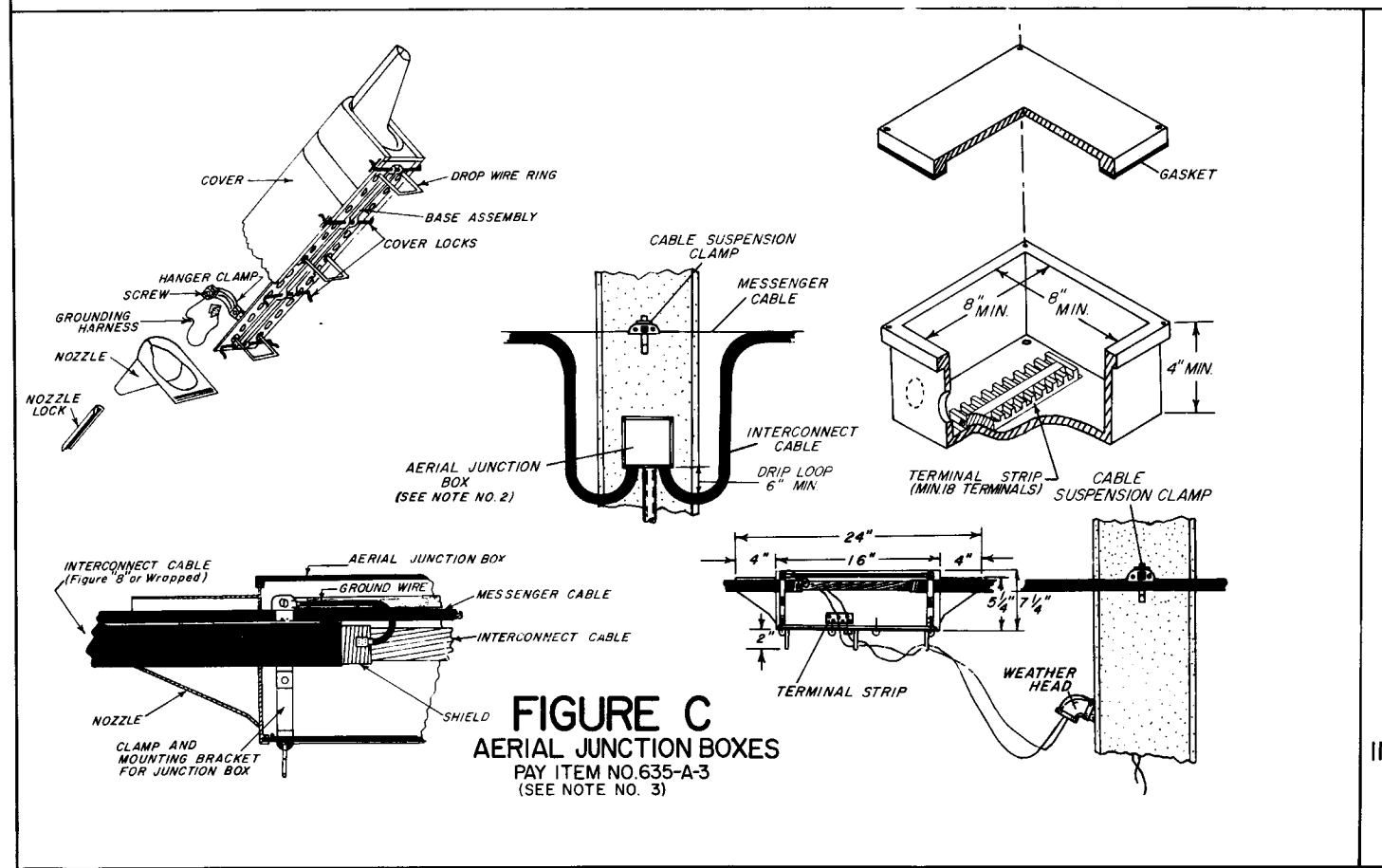
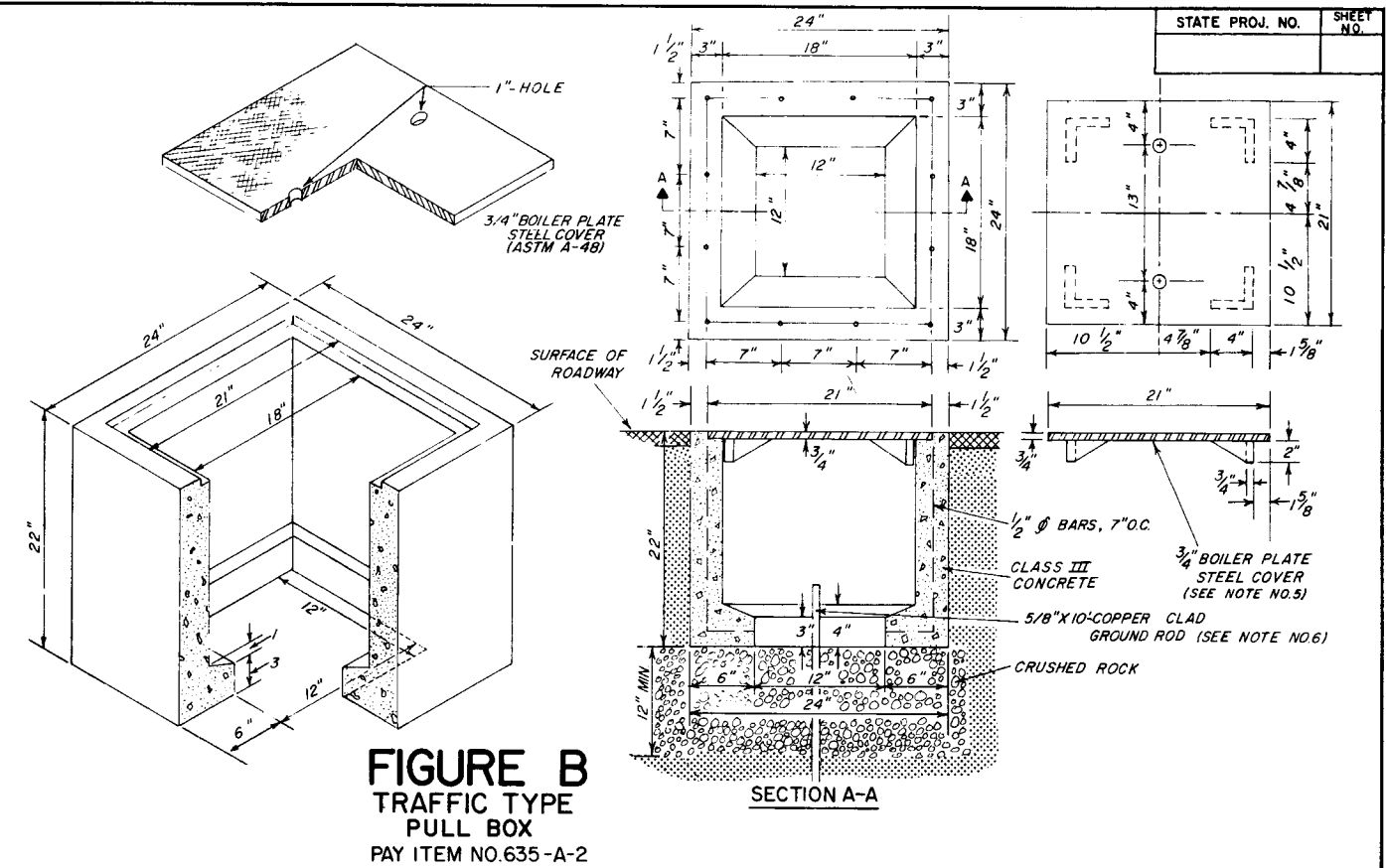
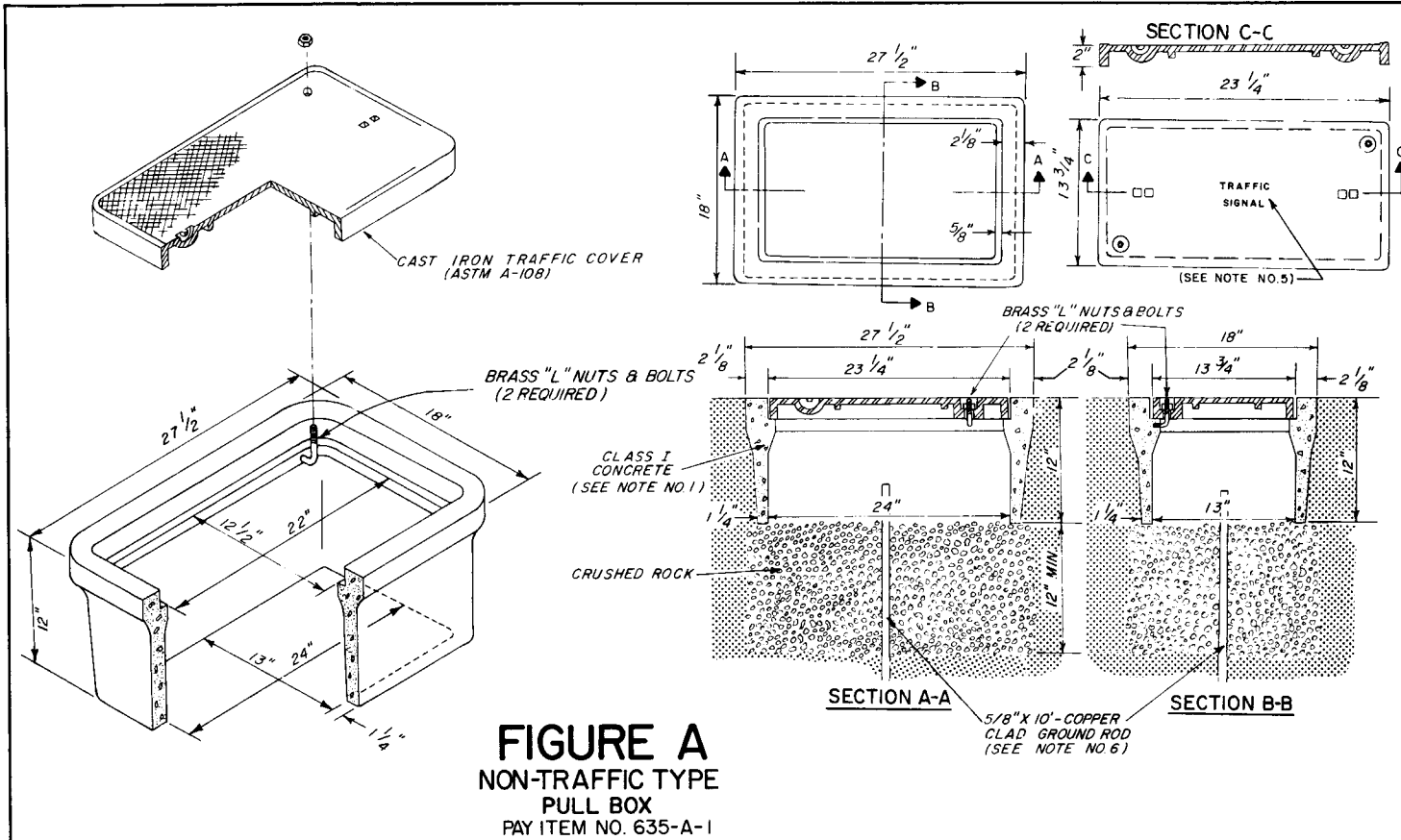
APPROVED BY FHWA APRIL 2, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
SIGNAL CABLE & SPAN WIRE INSTALLATION DETAILS			
REVISIONS			
DATE	INITIALS	DESCRIPTION	
5-14-75	CG	SLIP JOINT FOR DROP WIRE REDESIGNED. DRIP COIL TO 2 TURNS. NOTE NO 4 REWORKED.	
6-16-76	CV	ADDED 4 SECTION HEAD AND VERTICAL CLEARANCE NOTE. CHANGED SLIP JOINT DETAIL TO RING CLAMP. CHANGED PROPOSED DIMENSION (FIGURE D)	

	INITIALS	DATES	Recommended for approval	
Designed by	CG	2/28/75	by <u>Kenneth M. Magada 5/1/75</u>	
Checked by	RK	2/28/75	Deputy Traffic Operations Engr.	
Quantities by			Approved	
Checked by			by <u>E. L. Rouse 5/1/75</u>	
Supervised by	RVK		State Traffic Operations Engr.	
		DRAWING NO.	INDEX NO.	
		1 OF 1	17727	

FHWA 7-24-75

FHWA 6-28-76



- NOTES:
1. ALTERNATE MATERIALS AS APPROVED BY THE DEPARTMENT MAY BE USED IN LIEU OF THE CLASS I CONCRETE FOR NON-TRAFFIC TYPE PULL BOX.
 2. AERIAL JUNCTION BOXES SHALL BE WEATHER TIGHT AND CONSTRUCTED OF NON-CORROSIVE TYPE MATERIAL. THEY SHALL BE FREE OF BURRS, SHARP EDGES, DENTS, PINHOLES & PARTING LINES.
 3. CONTRACTORS SHALL HAVE THE OPTION TO FURNISH EITHER TYPE OF AERIAL JUNCTION BOX AS SHOWN.
 4. INTERCONNECT JUNCTION BOX SHALL BE WEATHER TIGHT AND CONSTRUCTED OF ALUMINUM ALLOY COMMERCIAL DESIGNATION 356A.S.T.M. DESIGNATION B-26-56T. ALLOY S.G. 70A. THE CABINET SHALL BE FREE OF BURRS, SHARP EDGES, DENTS, PINHOLES & PARTING LINES.
 5. ALL PULL & JUNCTION BOX COVERS SHALL BE MARKED "TRAFFIC SIGNAL".
 6. GROUND RODS SHALL BE CONNECTED VIA BOND WIRE BACK TO POWER SOURCE GROUND ROD.

APPROVED BY FHWA JULY 25, 1978.

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

PULL BOX DETAILS

REVISIONS			INITIALS	DATES	Recommended for approval by
DATE	INITIALS	DESCRIPTION			
			Designed by	JMC	5-17-77
			Checked by		Deputy Traffic Operations Eng.
			Quantities by		Approved
			Checked by		by
			Supervised by	J.W.J.	State Traffic Operations Eng.
			DRAWING NO.	INDEX NO.	
			1 OF 1	17730A	

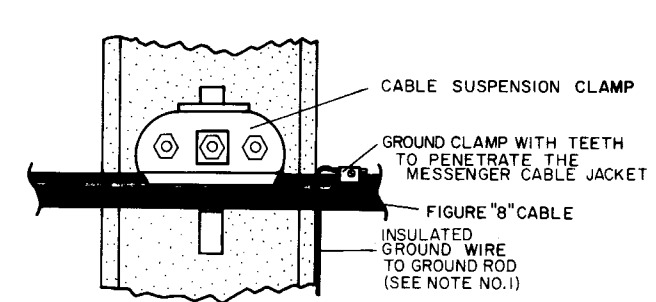


FIGURE A
CONTINUATION DETAIL
AERIAL INTERCONNECT FIGURE "8"
PAY ITEM NO. 634-2-1

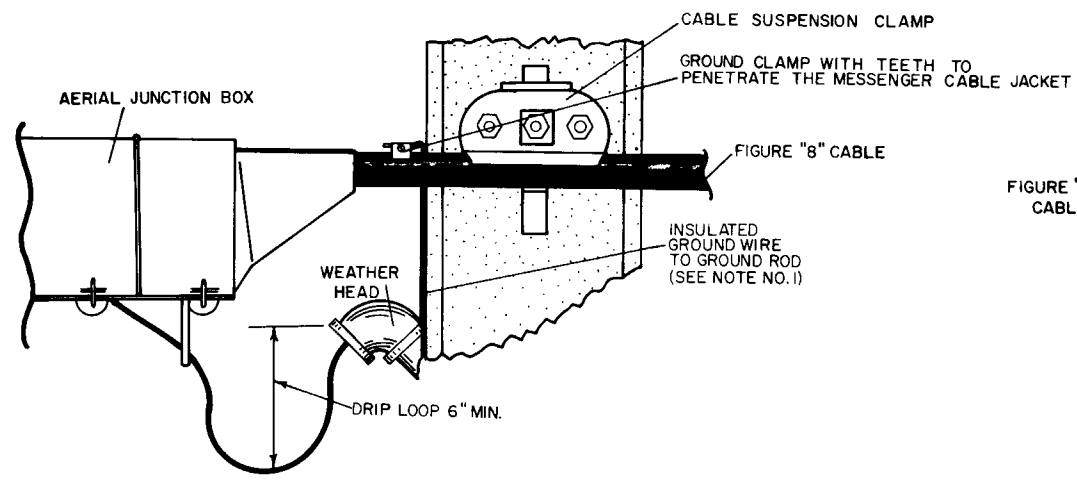


FIGURE B
CABLE DROP DETAIL
AERIAL INTERCONNECT FIGURE "8"
PAY ITEM NO. 634-2-1

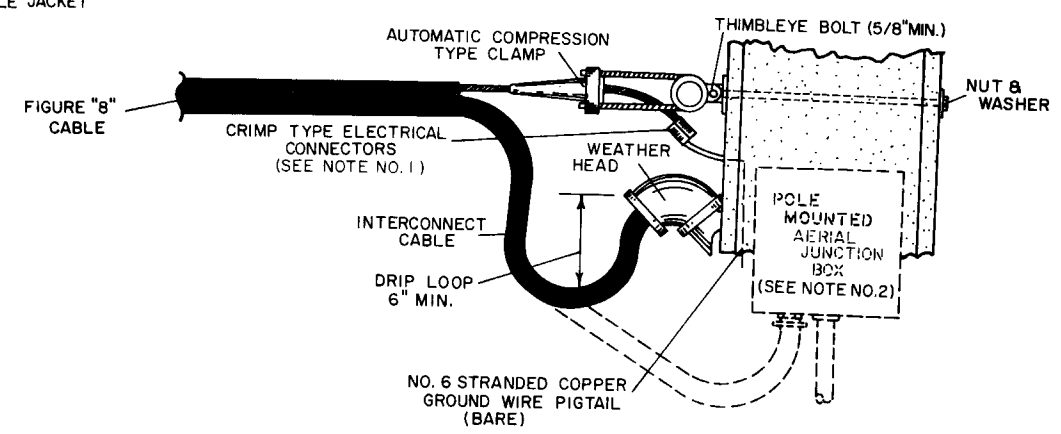


FIGURE C
TERMINATION DETAIL
AERIAL INTERCONNECT FIGURE "8"
PAY ITEM NO. 634-2-1

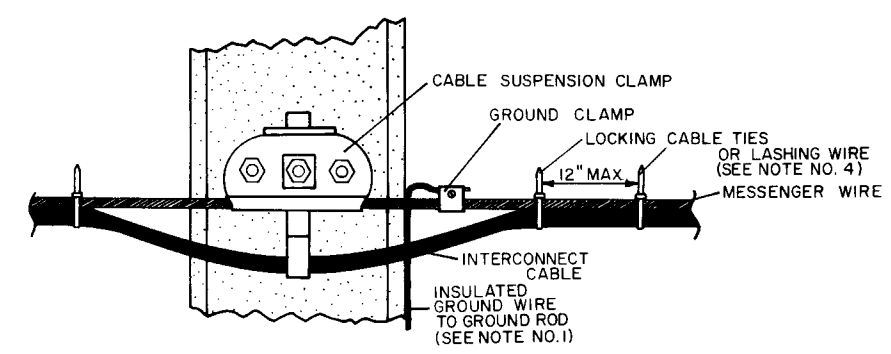


FIGURE D
CONTINUATION DETAIL
AERIAL INTERCONNECT MESSENGER WIRE WITH CLAMPS
PAY ITEM NO. 634-2-2

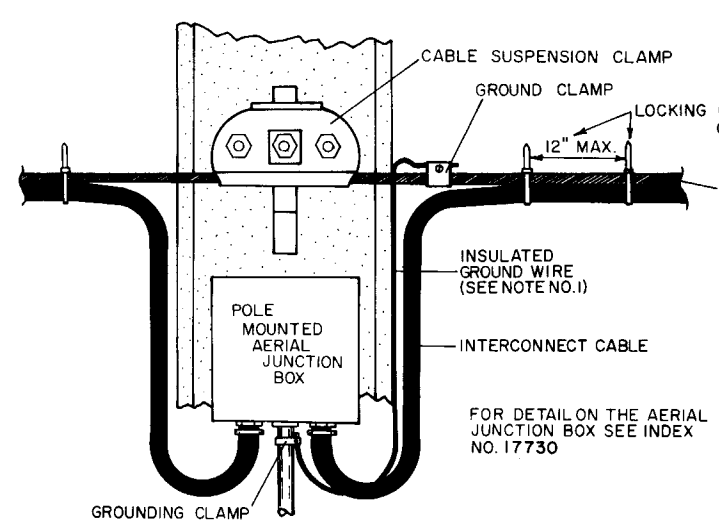


FIGURE E
CABLE DROP DETAIL
AERIAL INTERCONNECT MESSENGER WIRE WITH CLAMPS
PAY ITEM NO. 634-2-2

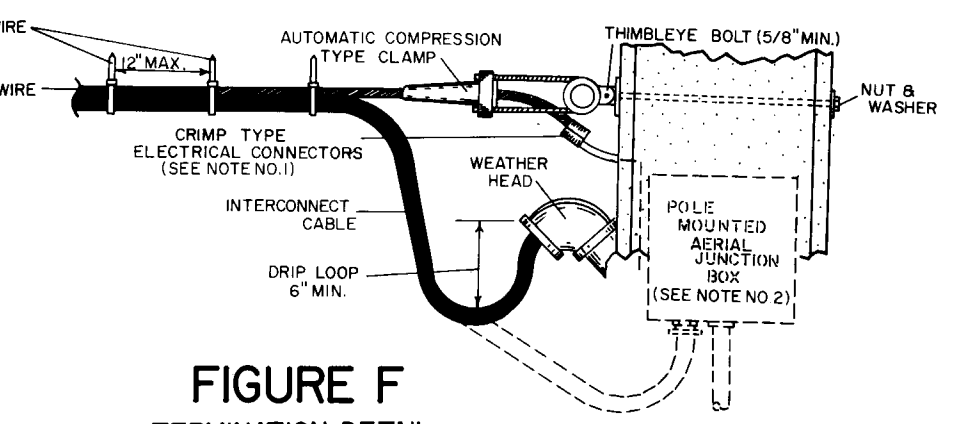


FIGURE F
TERMINATION DETAIL
AERIAL INTERCONNECT MESSENGER WIRE WITH CLAMPS
PAY ITEM NO. 634-2-2

NOTES:

1. WHERE POLES HAVE AN INTEGRAL GROUNDING SYSTEM, THEN GROUNDING OF THE MESSENGER CABLE SHOULD BE ATTACHED TO THE POLE GROUNDING SYSTEM. WHERE RIGID CONDUIT EXIST ON POLE THEN MESSENGER GROUND SHOULD BE CONNECTED TO THE RIGID CONDUIT TO PROVIDE FOR GROUND CONTINUITY.
2. TERMINATION OF THE AERIAL SUPPORTED INTERCONNECT CABLE MAY BE ACCOMPLISHED BY TWO MEANS: (1) INTERCONNECT CABLE MAY BE STRIPPED FROM MESSENGER WIRE TO A LENGTH SUFFICIENT TO EXTEND FROM MESSENGER WIRE TO CONTROLLER CABINET OR (2) THROUGH USE OF AN INTERMEDIATE AERIAL JUNCTION BOX.
3. ALL CONNECTORS TO JUNCTION BOXES SHALL BE WATERTIGHT. CONNECTORS SHOULD BE OF NON-CORROSIVE TYPE METAL.
4. LOCKING CABLE TIES OR LASHING WIRE WHEN USED SHALL BE PLACED NO FURTHER THAN ONE(1) FOOT APART.
5. PAYMENT FOR EACH TYPE OF INTERCONNECT CABLE SHALL INCLUDE THE CABLE, SUPPORTING WIRE, SUPPORT CLAMP, GROUND WIRE, GROUND ROD WHEN NOT EXISTING, AND MISCELLANEOUS MATERIALS REQUIRED FOR COMPLETE INSTALLATION. PAYMENT FOR JUNCTION BOXES SHALL BE PAID UNDER SEPARATE PAY ITEM.

APPROVED BY FHWA JULY 25, 1978.

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

AERIAL INTERCONNECT

REVISIONS			INITIALS	DATES	Recommended for approval - by <i>[Signature]</i> Deputy Traffic Operations Eng.
DATE	INITIALS	DESCRIPTION			
			Designed by	J.M.C.	8-15-77
			Checked by		
			Quantities by		
			Checked by		
			Supervised by	J.W.J.	
					DRAWING NO. INDEX NO. OF 17733

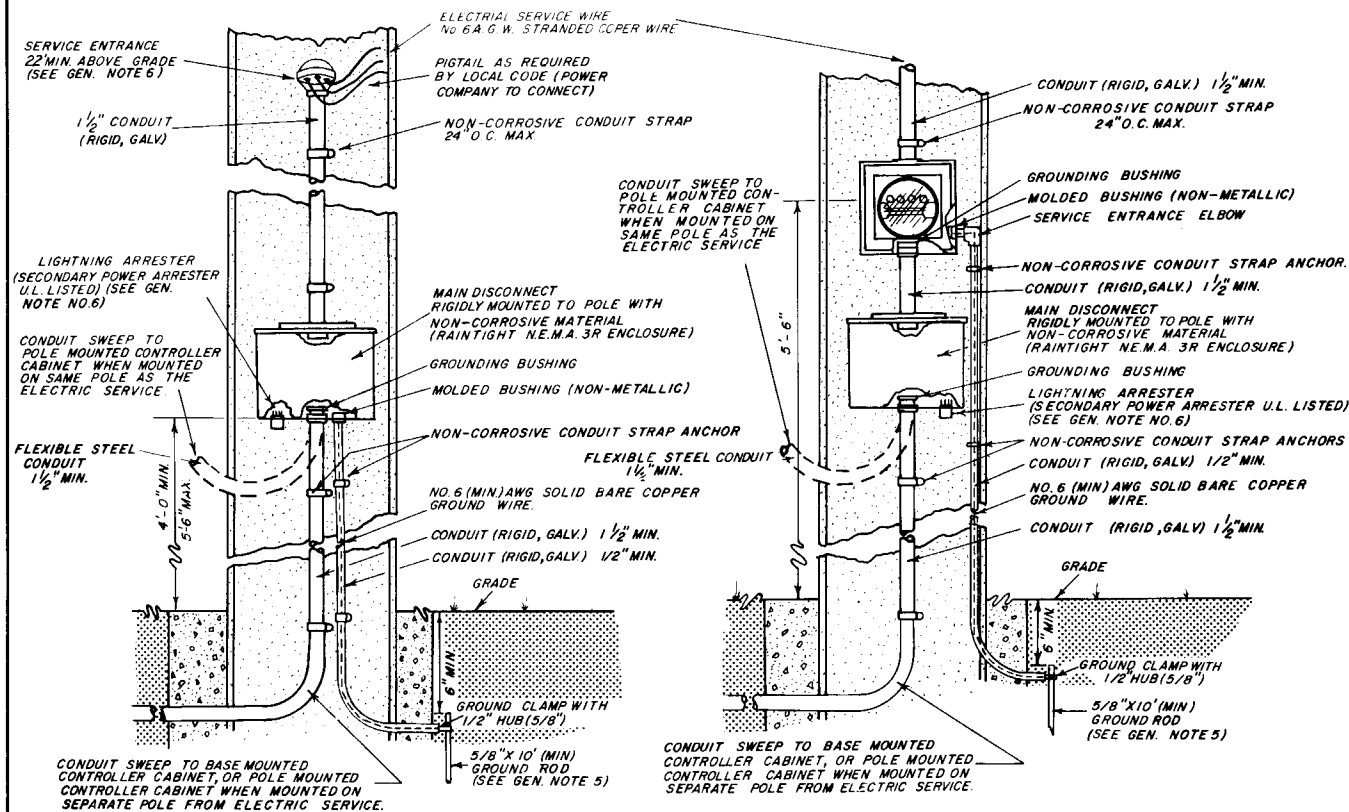


FIGURE A
TYPE "A" AERIAL FEED
(NO METER USED)
PAY ITEM NO. 639-1

FIGURE B
TYPE "A" AERIAL FEED
(METER USED)
PAY ITEM NO. 639-1

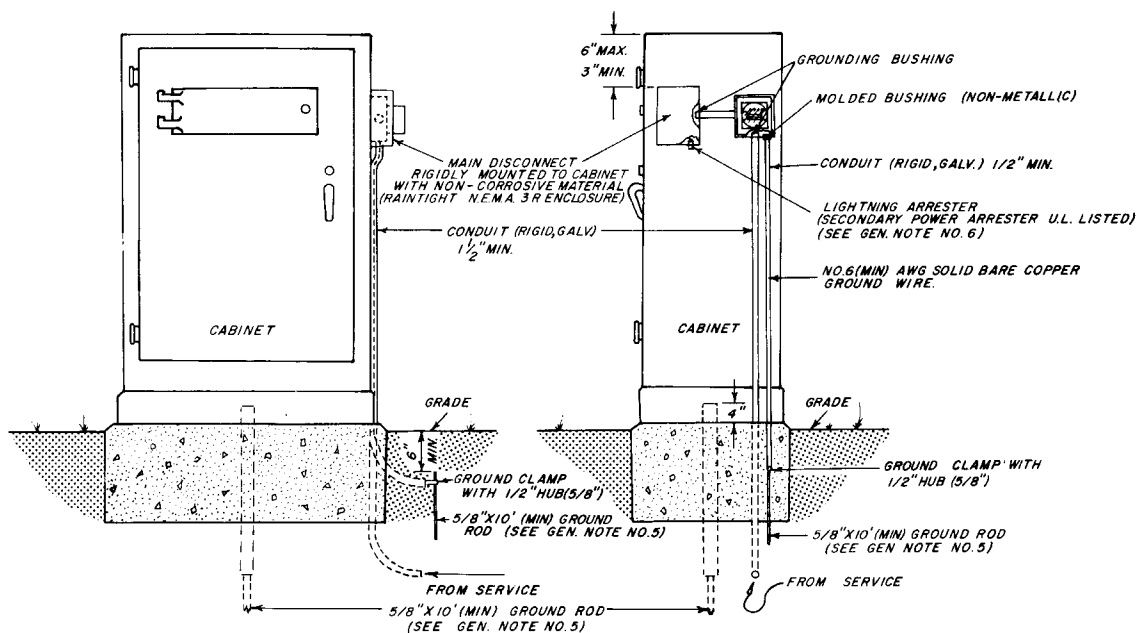


FIGURE E
TYPE "B" UNDERGROUND CABINET MOUNTED
(METER USED)
PAY ITEM NO. 639-1

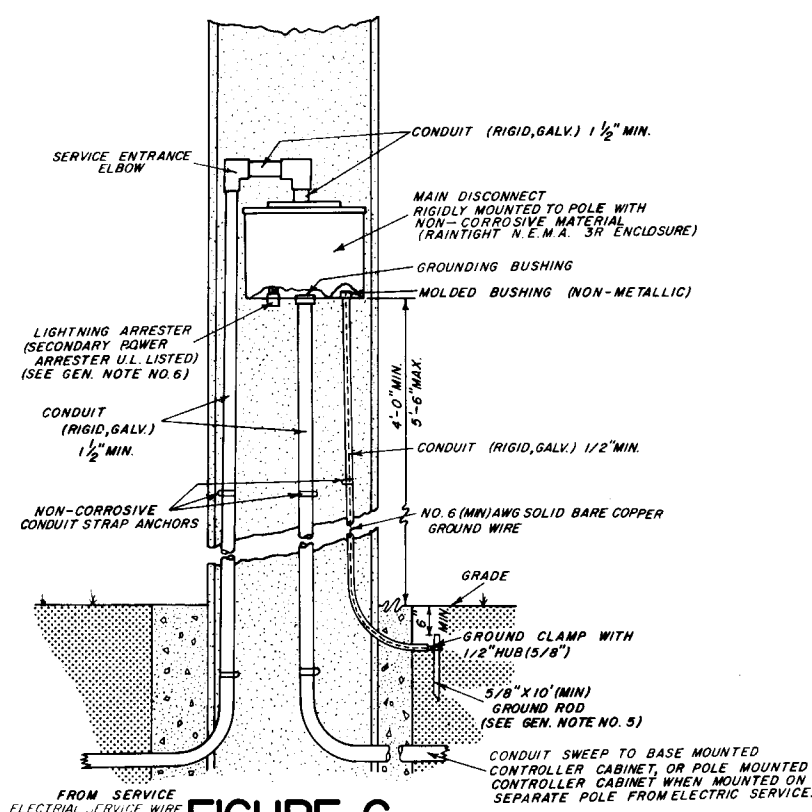


FIGURE C
TYPE "B" UNDERGROUND FEED
(NO METER USED)
PAY ITEM NO. 639-1

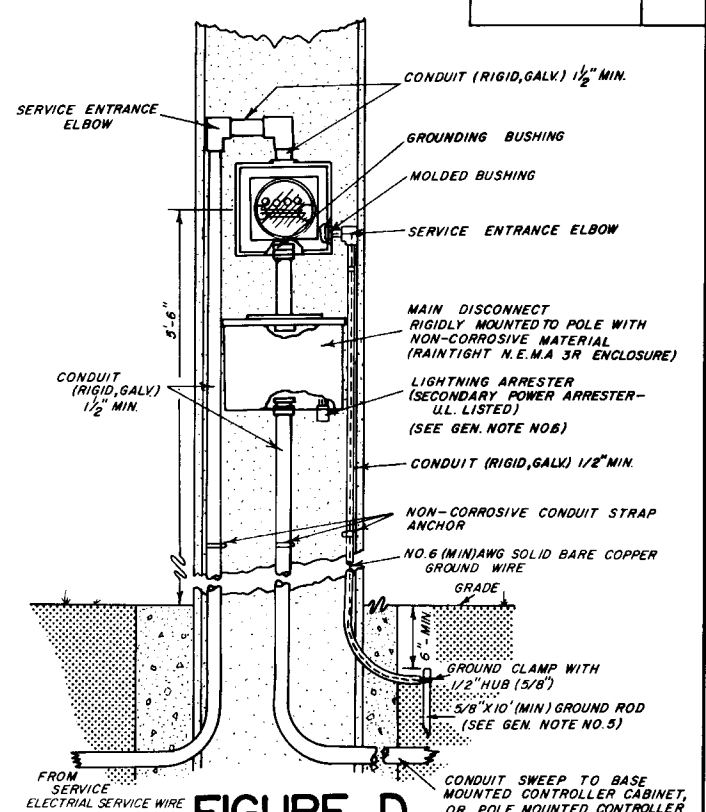


FIGURE D
TYPE "B" UNDERGROUND FEED
(METER USED)
PAY ITEM NO. 639-1

GENERAL NOTES

1. GROUND WIRE IS TO BE CONNECTED TO ELECTRIC SERVICE NEUTRAL IN ACCORDANCE WITH LOCAL CODE.
2. GROUND ROD MUST BE INSTALLED OUTSIDE THE POLE FOUNDATION.
3. THE ELECTRIC SERVICE CABLE MUST ENTER THE CONTROLLER CABINET THROUGH A SEPARATE CONDUIT FROM THE SIGNAL CONTROLLER CABLE.
4. CONDUIT ANCHOR BOLTS TO BE OF SUCH A LOCATION AND SUCH A DEPTH AS NOT TO INTERFERE WITH PRE-STRESS STRANDS.
5. ALL GROUND RODS SHALL CARRY THE UNDEWRITERS LABORATORY SEAL, AND SHALL BE SOLID COPPER OR COPPER BONDED STEEL. COPPER BONDED STEEL GROUND RODS SHALL HAVE A PURE COPPER JACKET OF 0.010" MINIMUM THICKNESS PERMANANTLY BONDED, ELECTRICALLY AND MECHANICAL, TO THE STEEL CORE. ALL GROUND ROD CLAMPS SHALL BE U.L. LISTED OR LABELED AND SHALL BE STAMPED WITH THE WIRE SIZE AND GROUND ROD SIZE FOR WHICH

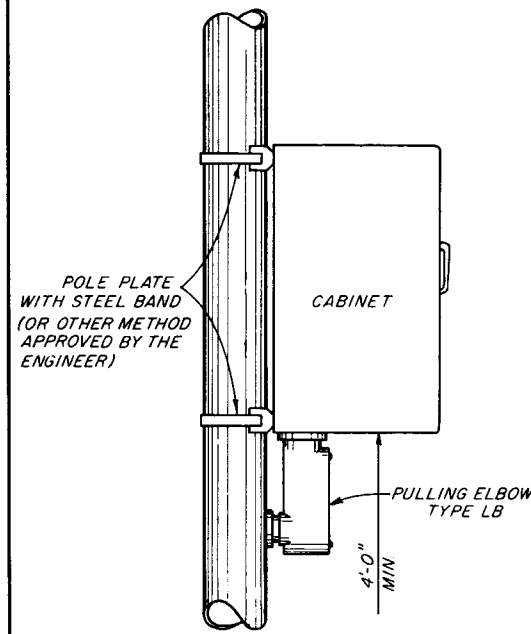
THEY WERE DESIGNED. WHERE ONE OR MORE SECTIONS ARE CONNECTED TO OBTAIN AN ADEQUATE GROUND ROD, EACH SECTION SHALL BE U.L. LISTED, AND SHALL BE SPECIFICALLY DESIGNED TO BE A SECTIONAL GROUND ROD. ALL SECTIONAL GROUND ROD COUPLING DEVICES SHALL BE U.L. LISTED. ALL GROUND RODS AT THE INTERSECTION SHALL BE BONDED TO THE GROUND ROD AT THE POWER SERVICE BY A NUMBER 6 (MIN) A.W.G. STRANDED COPPER BOND WIRE.

MINIMUM MOUNTING HEIGHT AS SHOWN MAY BE INCREASED TO COMPLY WITH LOCAL POWER COMPANY STANDARD PRACTICES.

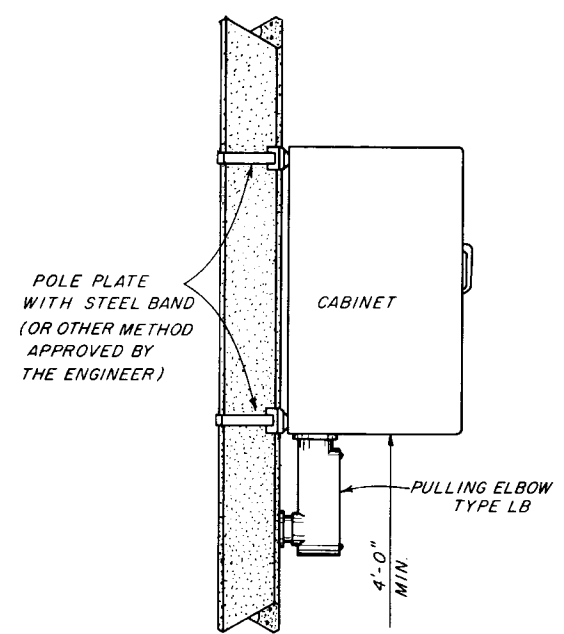
APPROVED BY FHWA JULY 25, 1978.

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS
ELECTRIC POWER SERVICE

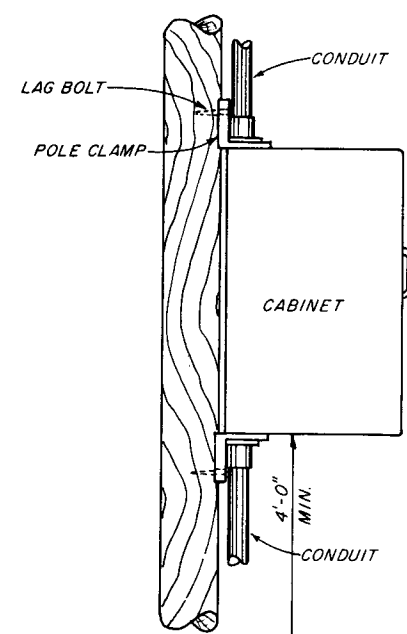
REVISIONS			INITIALS	DATES	Recommended for approval by <u><i>[Signature]</i></u> Deputy Traffic Operations Eng. Approved by <u><i>KE Magaley 7/13/78</i></u> State Traffic Operations Eng.	
DATE	INITIALS	DESCRIPTION	Designed by	JMC		6-15-77
			Checked by			
			Quantities by			
			Checked by			
			Supervised by	J.W.J.	DRAWING NO. 1 OF 1	INDEX NO. 17736A



METAL POLE



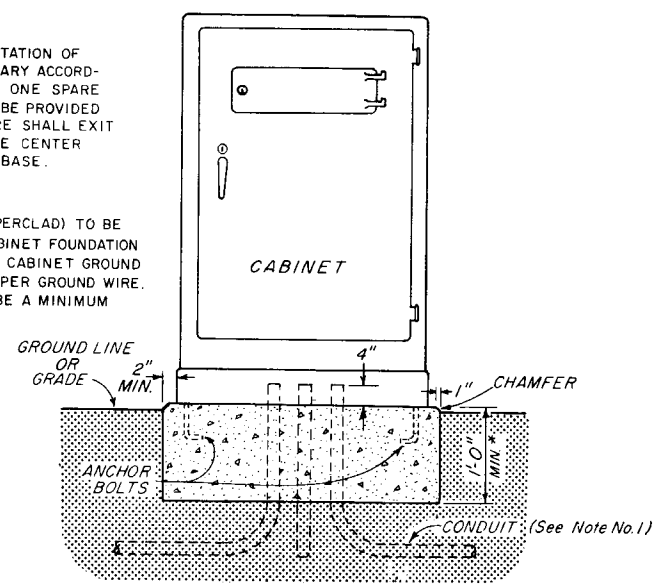
CONCRETE POLE



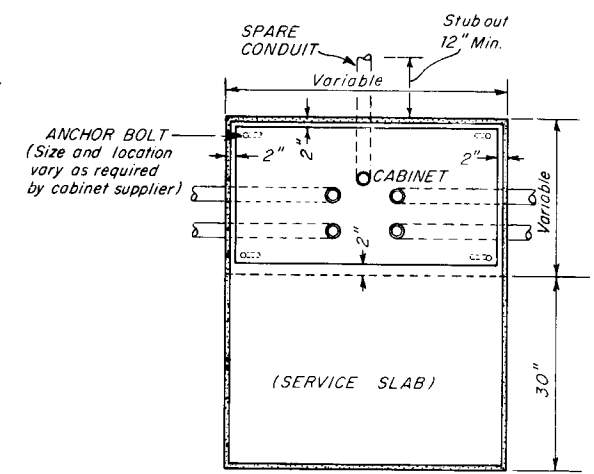
WOOD POLE

NOTE NO. 1
NUMBER, SIZE AND ORIENTATION OF CONDUIT SWEEPS WILL VARY ACCORDING TO SITE CONDITIONS. ONE SPARE 2" PVC CONDUIT SHALL BE PROVIDED IN ALL BASES. THE SPARE SHALL EXIT IN THE DIRECTION OF THE CENTER REAR OF THE CABINET BASE.

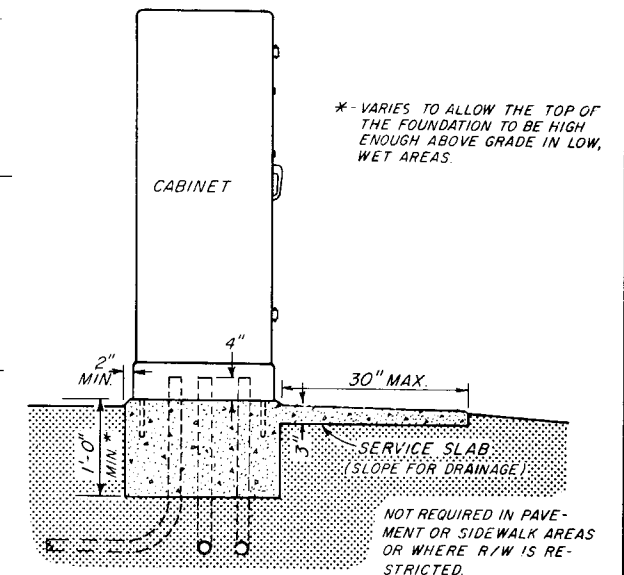
NOTE NO. 2
5/8" X 10' GROUND ROD (COPPERCLAD) TO BE LOCATED OUTSIDE THE CABINET FOUNDATION AND CONNECTED TO THE CABINET GROUND LUG BY A #4 BARE COPPER GROUND WIRE. TOP OF GROUND ROD TO BE A MINIMUM OF 6" BELOW GRADE.



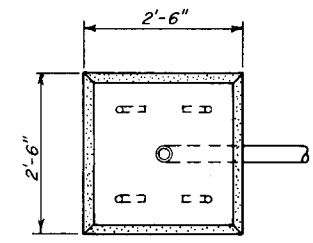
FRONT VIEW



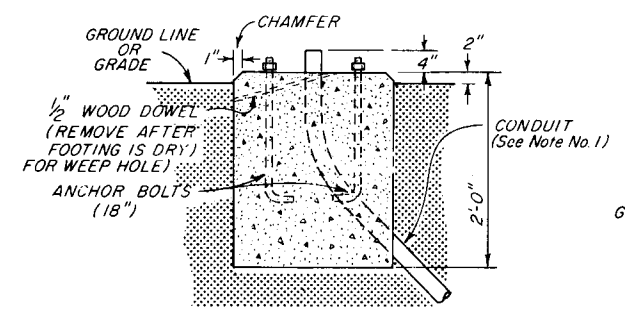
PLAN



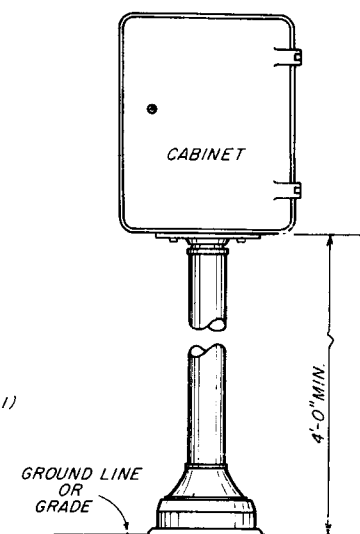
SIDE VIEW



PLAN



CONCRETE FOOTING FOR PEDESTALS



FRONT VIEW

BASE MOUNT

APPROVED BY FHWA JUNE 11, 1975
FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS
CABINET INSTALLATION DETAILS

REVISIONS			INITIALS	DATES	Recommended for approval by <i>Ronald E. Maganley</i> Deputy Traffic Operations Engr. Approved by <i>[Signature]</i> State Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION	Designed by	C G	5-6-75
			Checked by	R K	5-6-75
			Quantities by		
			Checked by		
			Supervised by		
			DRAWING NO. INDEX NO.		
			1 OF 1 17841		

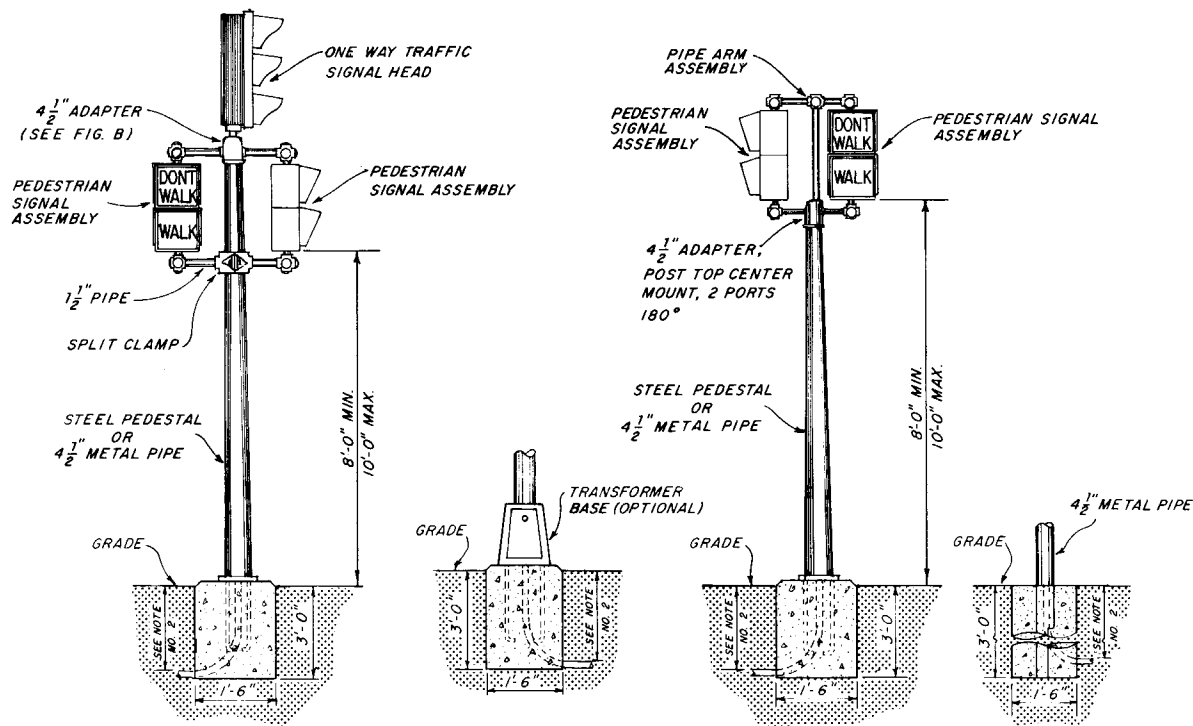


FIGURE A

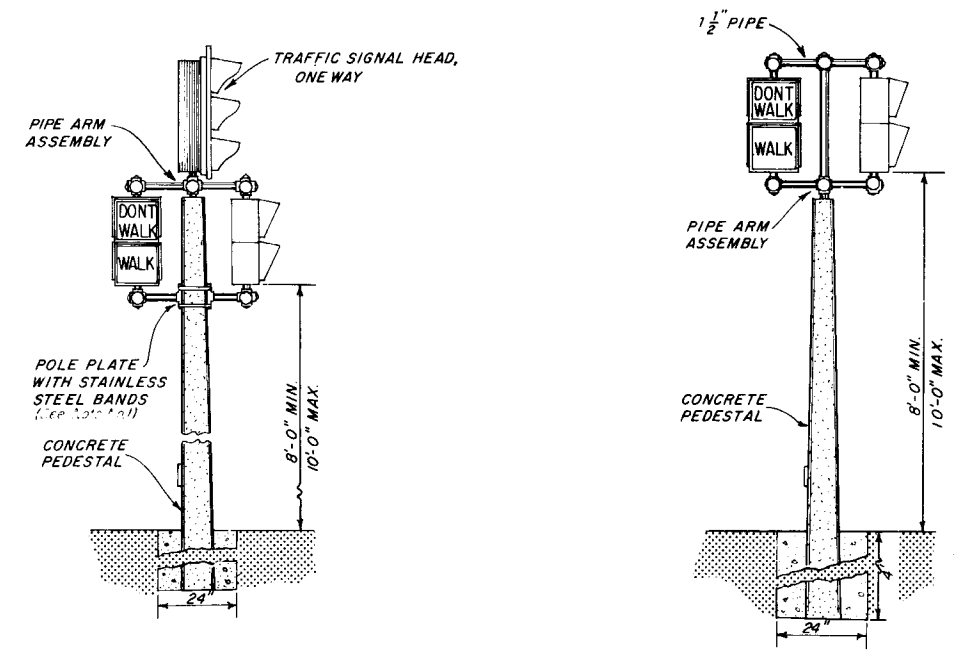


FIGURE B

- NOTES:
1. AS AN OPTION, THE PROJECT ENGINEER MAY ALLOW PEDESTAL SIGNALS TO BE INSTALLED ON CONCRETE POLE AND PEDESTALS WITH THE USE OF LEAD ANCHORS. IN THIS CASE CARE SHOULD BE TAKEN.
 2. ALL REQUIREMENTS OF THIS INDEX SHALL BE APPLICABLE WHEN EVER A 1-SECTION HEAD IS UTILIZED IN LIEU OF THE 2-SECTION.
 3. DEPTH AND SWEEP OF CONDUIT SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARD INDEX NO. 17721.
 4. HOLES DRILLED OR PUNCHED IN METAL POLE OR PEDESTALS SHALL BE THOROUGHLY REAMED, CLEANED OF ALL BURRS AND COVERED WITH TWO COATS OF ZINC RICH PAINT. GROMMETS OR WIRING GUIDES SHALL BE INSTALLED IN HOLES.

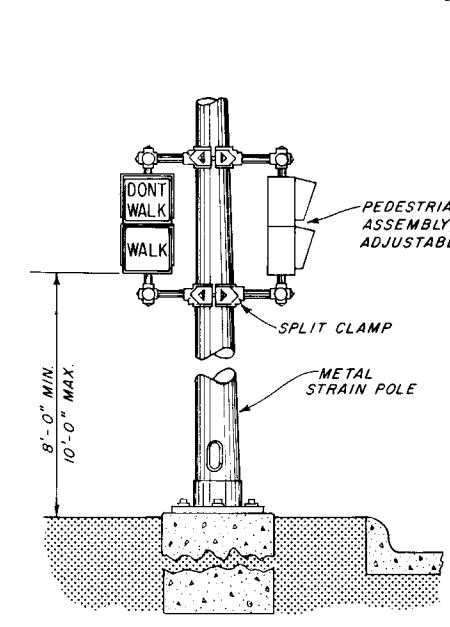


FIGURE C

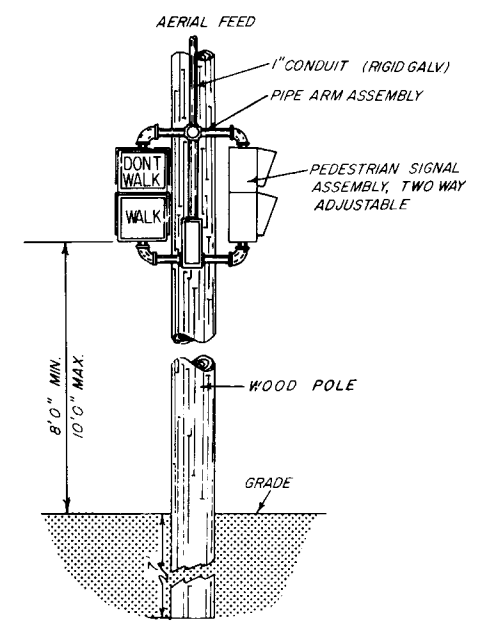


FIGURE D

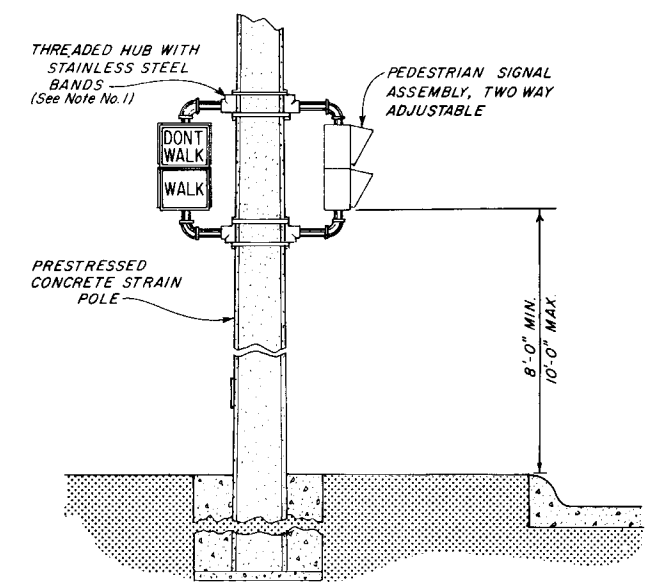


FIGURE E

APPROVED BY FHWA JULY 25, 1978.

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
PEDESTRIAN CONTROL SIGNALS INSTALLATION DETAILS			
REVISIONS		INITIALS	DATES
DATE	INITIALS	DESCRIPTION	
		Designed by J.M.C.	Recommended for approval by
		Checked by	Deputy Traffic Operations Engr.
		Quantities by	Approved by
		Checked by	State Traffic Operations Engr.
		Supervised by J.J.	DRAWING NO. 1 OF 1
			INDEX NO. 17764

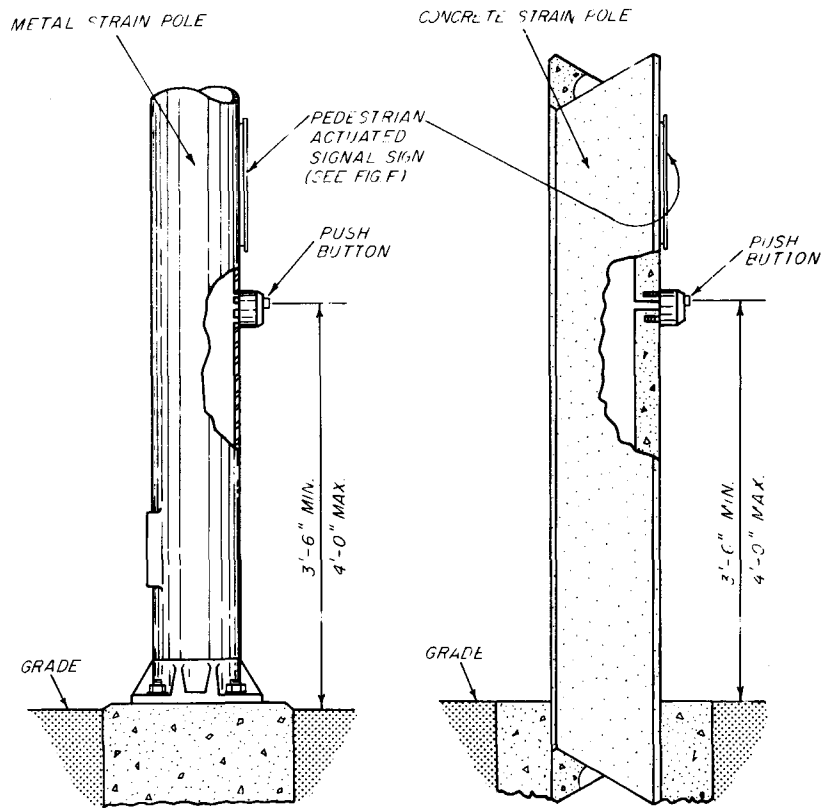


FIGURE A
POLE MOUNTED
DETECTOR STATION
PAY ITEM NO. 665-A1

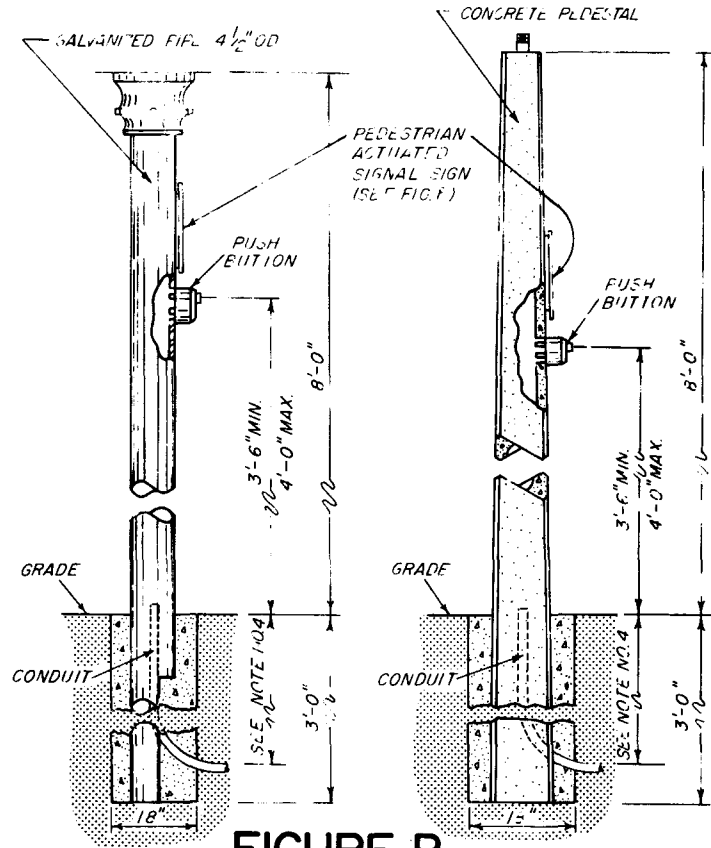


FIGURE B
PEDESTAL STATION
DETECTOR STATION
PAY ITEM NO. 665-A1

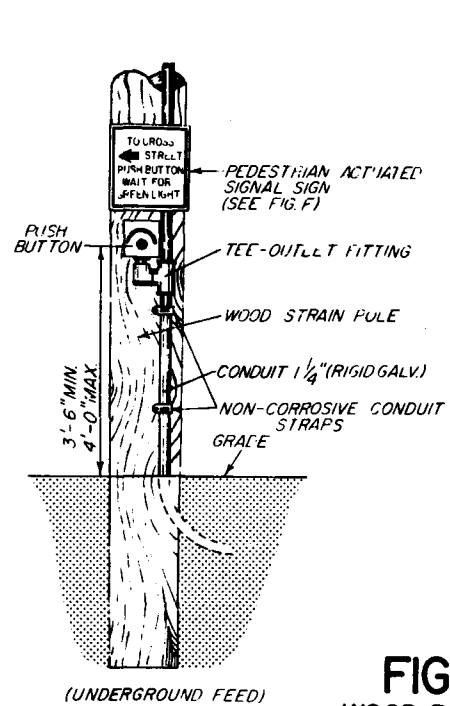
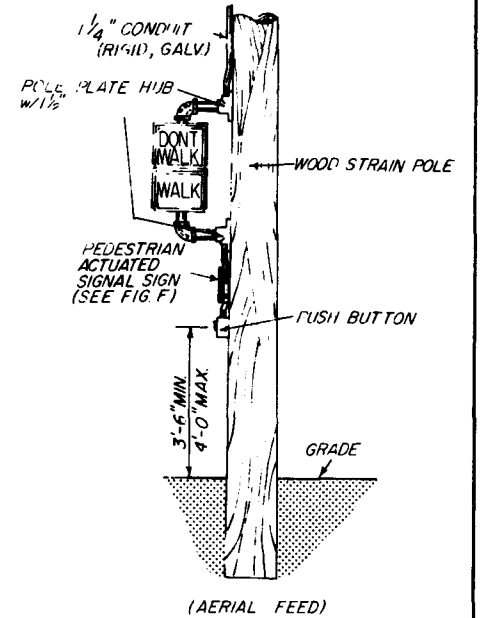


FIGURE C
WOOD POLE MOUNTED
DETECTOR STATION
PAY ITEM NO. 665-A1



NOTES

- SIGNS (R10-3a & R10-4a) SHALL BE MOUNTED ABOVE DETECTORS, EXPLAINING THEIR PURPOSE AND USE.
- THE POSITIONING OF PEDESTRIAN PUSH BUTTON SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSH BUTTON.
- PUSH BUTTONS AND SIGNS ARE TO BE MOUNTED BY METHOD APPROVED BY PROJECT ENGINEER WITH STAINLESS STEEL SCREWS OR STRAPS.
- DEPTH OF CONDUIT SHALL BE IN ACCORDANCE WITH SECTION 630 AND STANDARD INDEX 17721.

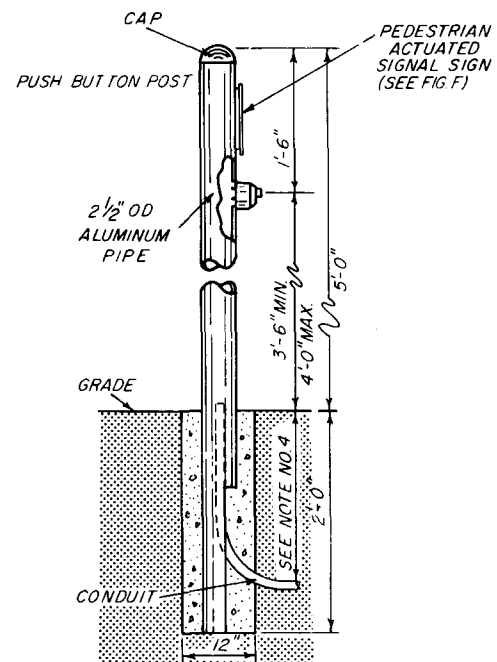


FIGURE D
POST DETECTOR STATION
DETECTOR STATION
PAY ITEM NO. 665-A2

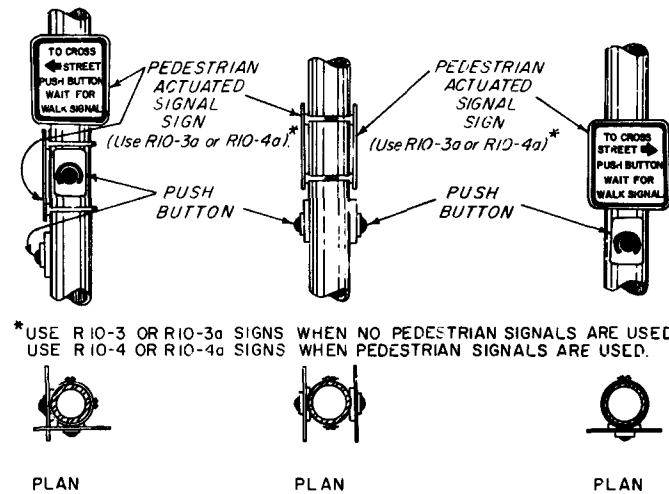
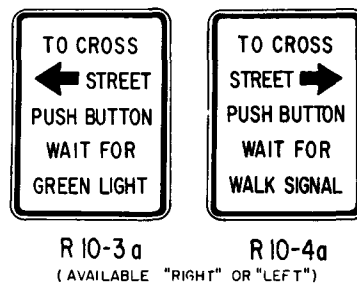


FIGURE E



PEDESTRIAN ACTUATED SIGNAL SIGN
FIGURE F

*USE R10-3 OR R10-3a SIGNS WHEN NO PEDESTRIAN SIGNALS ARE USED.
*USE R10-4 OR R10-4a SIGNS WHEN PEDESTRIAN SIGNALS ARE USED.

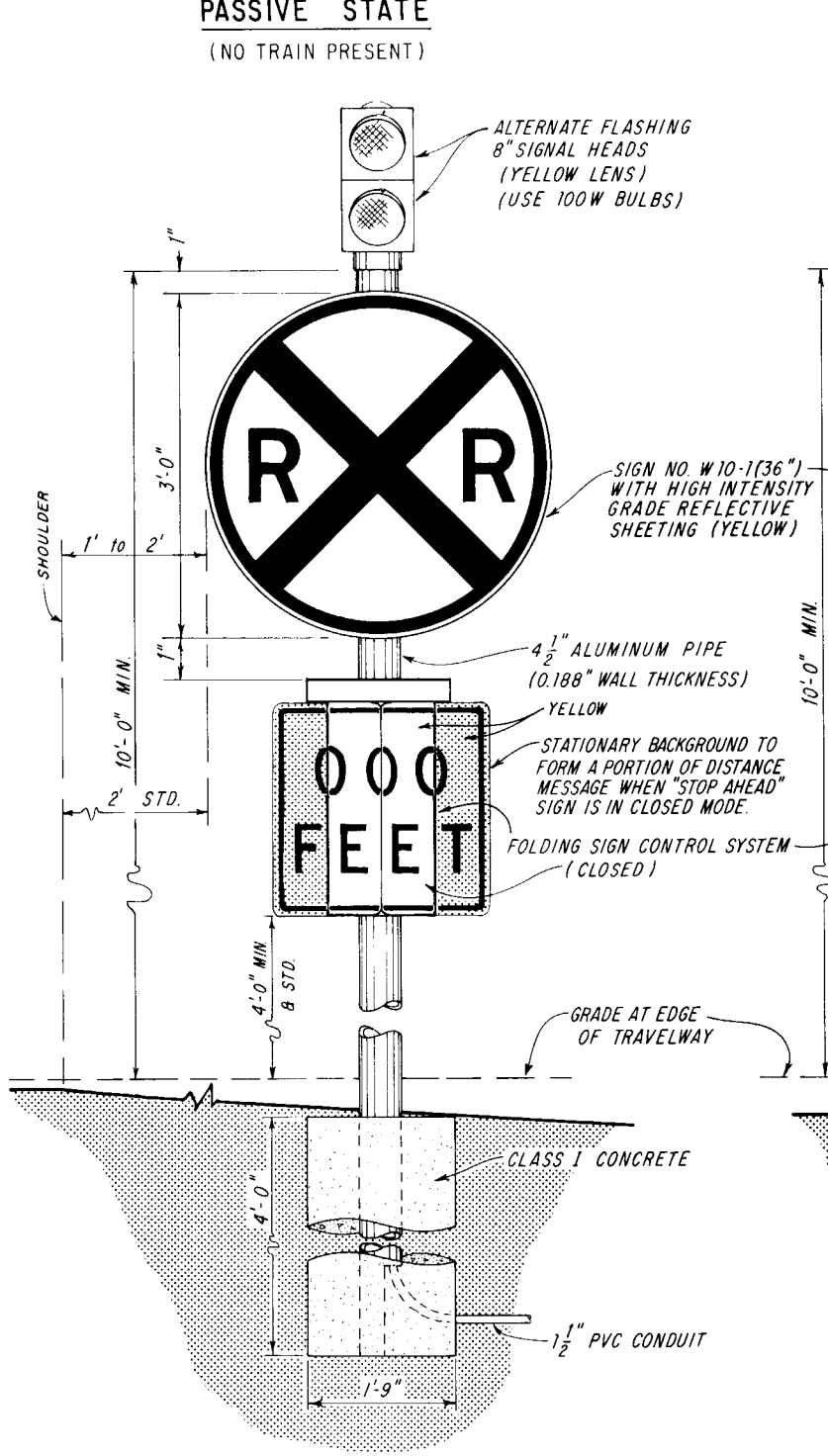
APPROVED BY FHWA JULY 25, 1978.

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

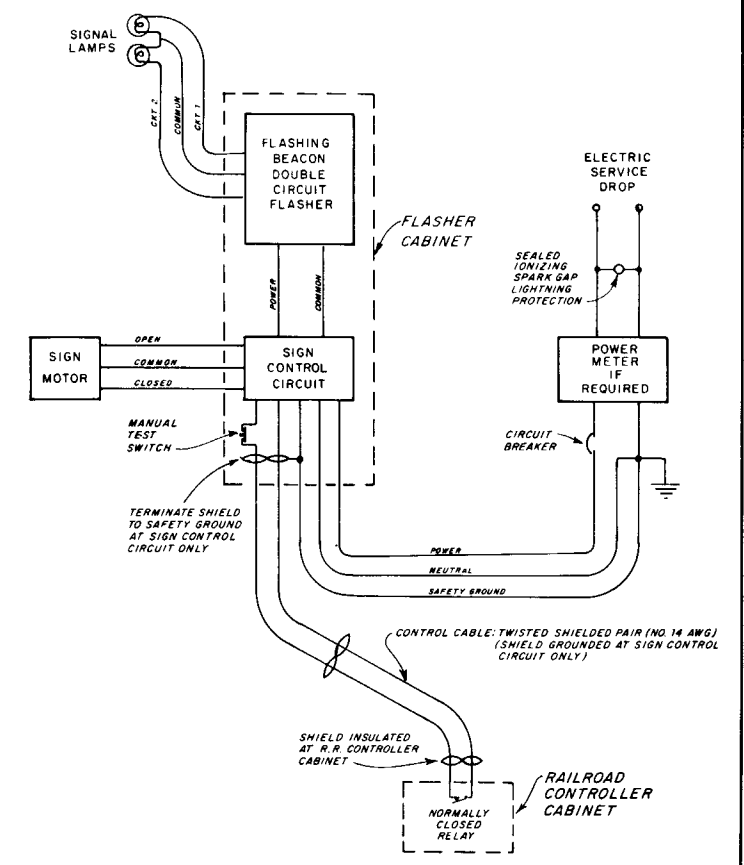
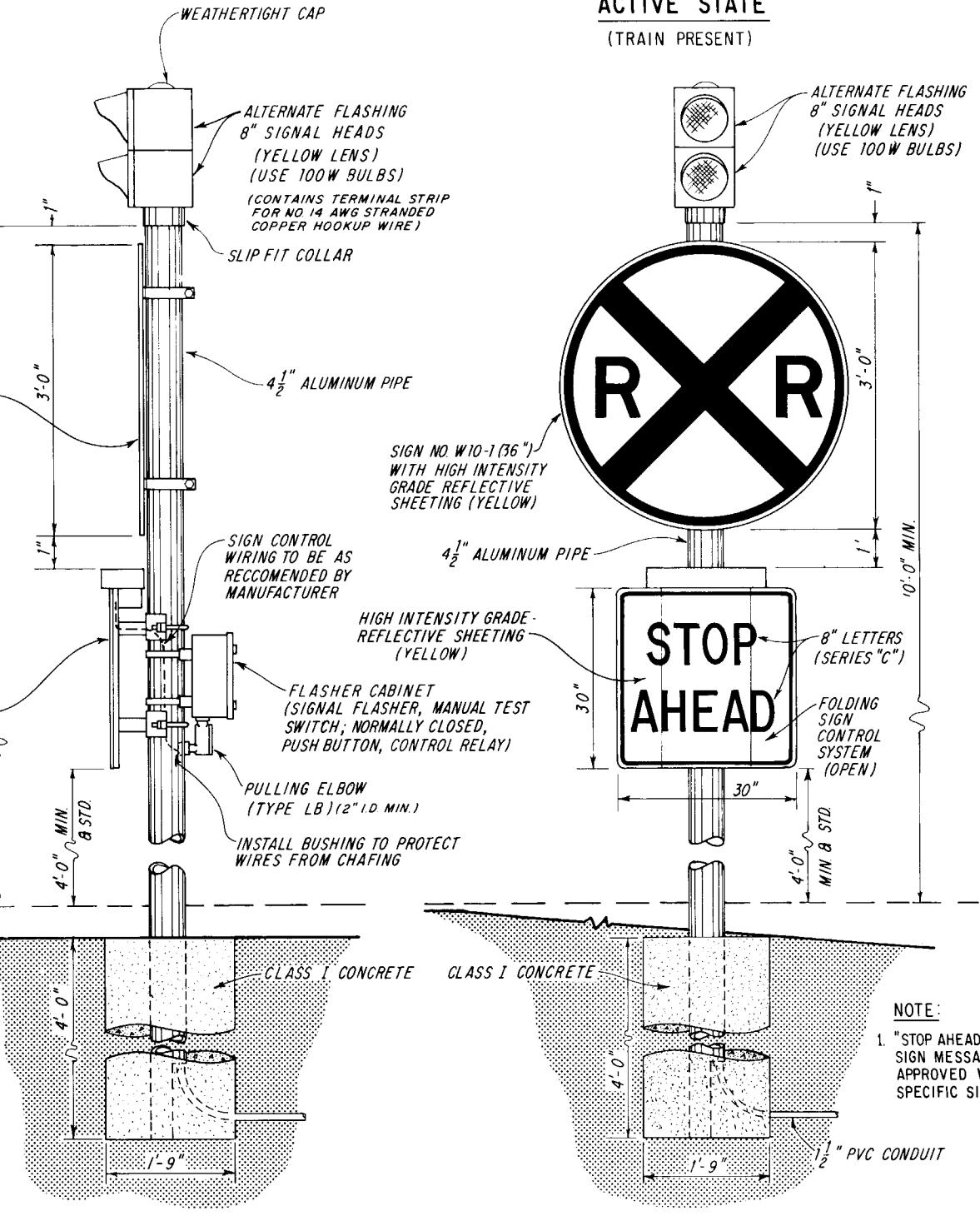
PEDESTRIAN DETECTOR ASSEMBLY INSTALLATION DETAILS

REVISIONS			INITIALS	DATES	Recommended for approval	
DATE	INITIALS	DESCRIPTION	Designed by	J.M.C.	7-13-77	by Deputy Traffic Operations Eng.
			Checked by			Approved by
			Quantities by			State Traffic Operations Eng.
			Checked by			
			Supervised by	J. J.		DRAWING NO. INDEX NO.
						1 OF 1 17784

PASSIVE STATE
(NO TRAIN PRESENT)



ACTIVE STATE
(TRAIN PRESENT)



FUNCTIONAL BLOCK DIAGRAM
(TYPICAL)

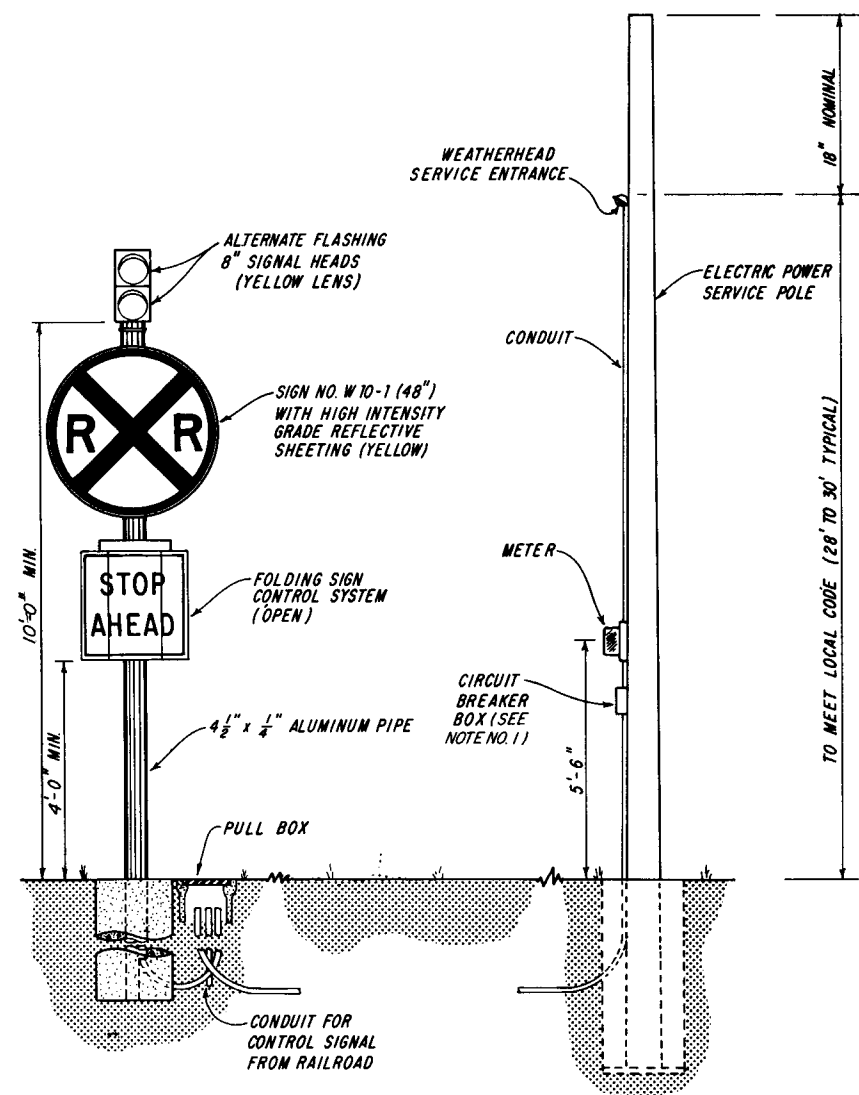
NOTE:
1. "STOP AHEAD" IS STANDARD AND PREFERRED SIGN MESSAGE. ANOTHER MESSAGE MAY BE APPROVED WHEN APPROPRIATE FOR SPECIFIC SITUATIONS.

FHWA
11-16-78

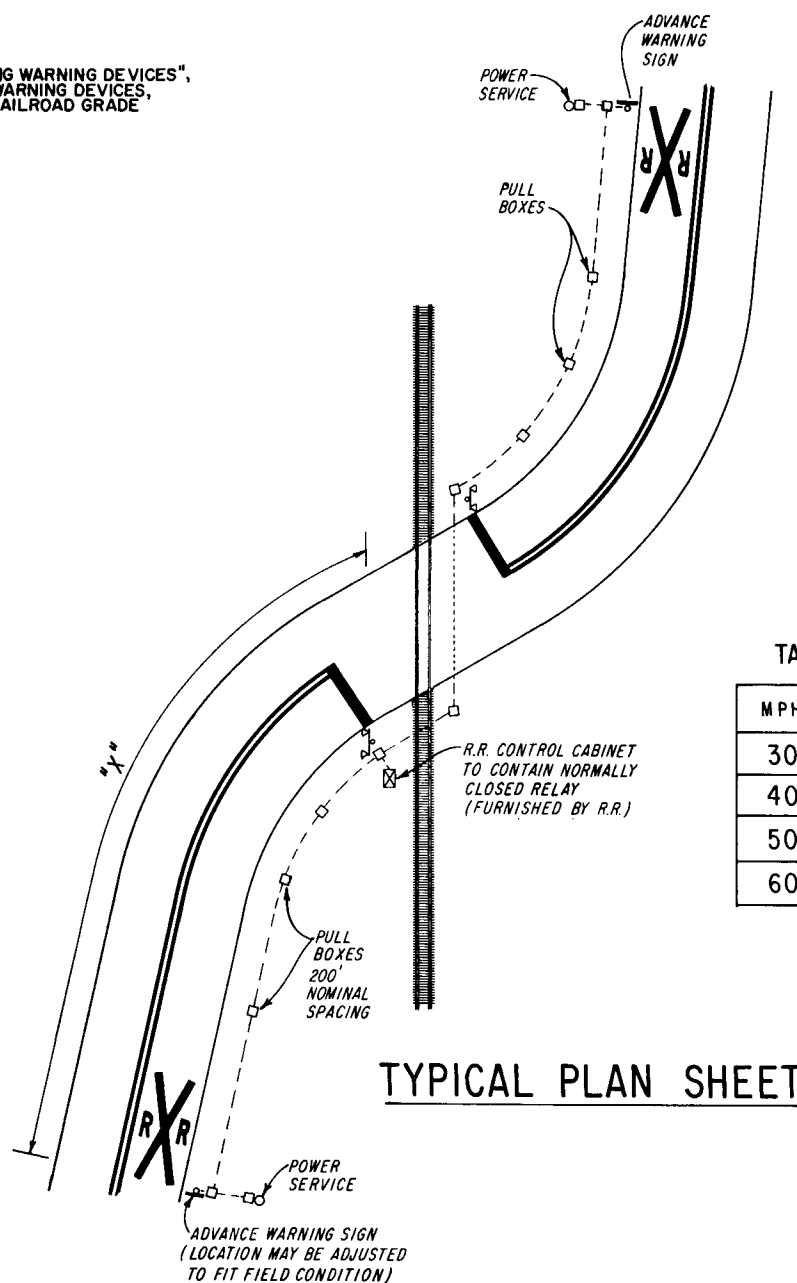
REVISIONS		
DATE	INITIALS	DESCRIPTION
8/28/78	J.M.C.	DELETED NOTE NO. 2

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
ADVANCE WARNING FOR R.R. CROSSING			
	INITIALS	DATES	Recommended for approval
Designed by	CG	12/12/75	by <i>R.E. Magarity</i> 2/3/76 Deputy Traffic Operations Engr.
Checked by	REM-RVK	12/12/75	Approved
Quantities by			by <i>E.D. Dumas</i> 2/3/76 State Traffic Operations Engr.
Checked by			
Supervised by	REM		
DRAWING NO.	INDEX NO.		
1 OF 2	17881		

- NOTES:
1. BOTTOM OF CIRCUIT BREAKER BOX TO BE 7' ABOVE GRADE WHEN NO METER IS USED.
 2. SEE STANDARD INDEX NO. 17882, "GRADE CROSSING WARNING DEVICES", FOR DESIGN AND PLACEMENT OF GRADE CROSSING WARNING DEVICES, AND FOR PAVEMENT MARKINGS IN ADVANCE OF RAILROAD GRADE CROSSING.



TYPICAL POWER SERVICE



TYPICAL PLAN SHEET

TABLE OF DIMENSION "X"

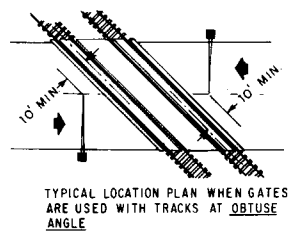
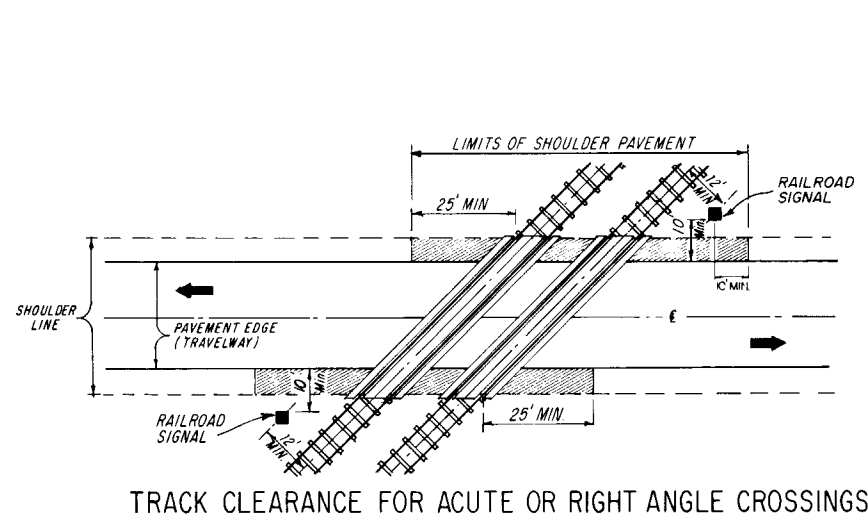
M P H	"X" (FEET)	
	DESIRABLE	MINIMUM
30	200	200
40	300	275
50	450	350
60	650	475

APPROVED BY FHWA FEBRUARY 24, 1976

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

ADVANCE WARNING FOR R.R. CROSSING

REVISIONS				INITIALS	DATES	REMARKS
DATE	INITIALS	DESCRIPTION				
8-27-78	J.M.C.	ADDED GENERAL NOTES 1, 2. REALIGN STOP BARS.	Designed by	CG	12/15/75	Recommended for approval by <i>R.E. Magarity</i> 2/15/76 Deputy Traffic Operations Engr.
		REVISED MOUNTING HEIGHT ON R/R CROSSING SIGN.	Checked by	REM-RVK	12/16/75	Approved by <i>E.L. Davis</i> 2/15/76 State Traffic Operations Engr.
			Quantities by			
			Checked by			
			Supervised by	REM		
						DRAWING NO. INDEX NO. 2 OF 2 17881



NOTE:
IT IS INTENDED THAT THE FULL SHOULDER WIDTH OF THE EXISTING ROADWAY BE PAVED. WHERE AN EXISTING SHOULDER IS SUBSTANTIALLY SUBSTANDARD FOR THE FACILITY INVOLVED, THE SHOULDER WIDTH SHOULD BE UPGRADED TO MEET CURRENT STANDARDS.

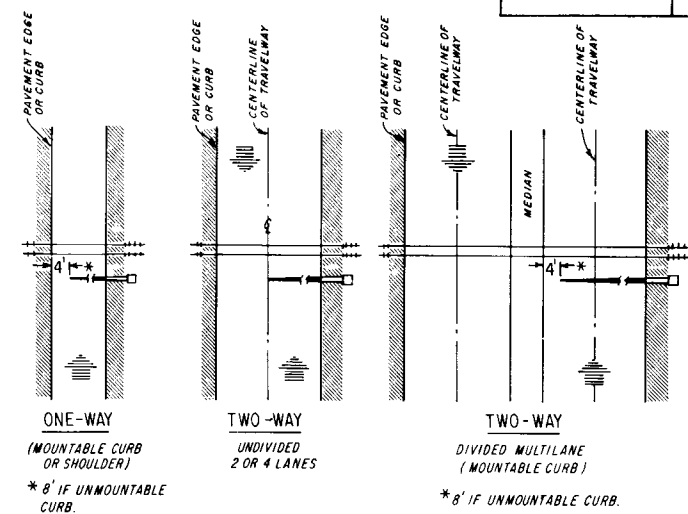
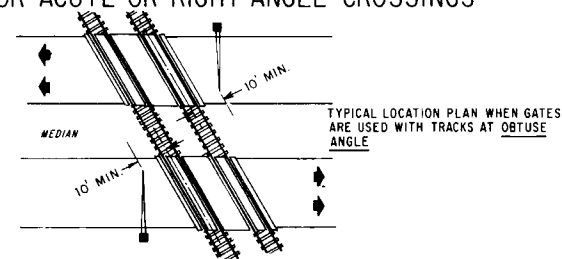
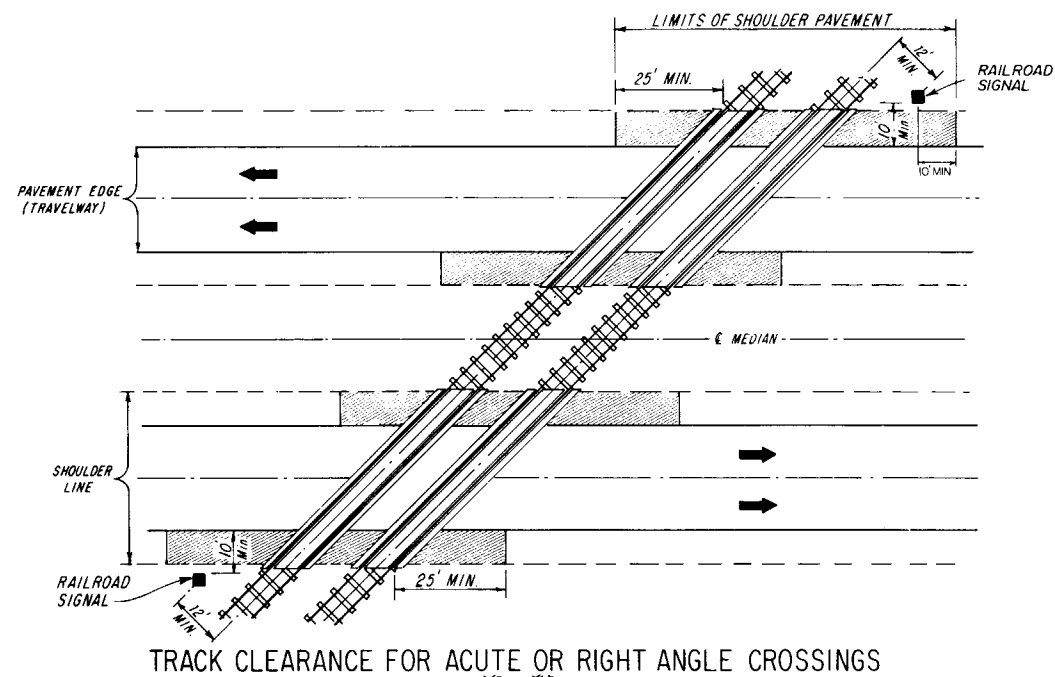
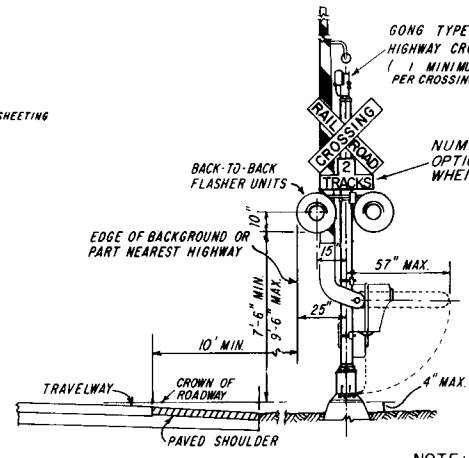
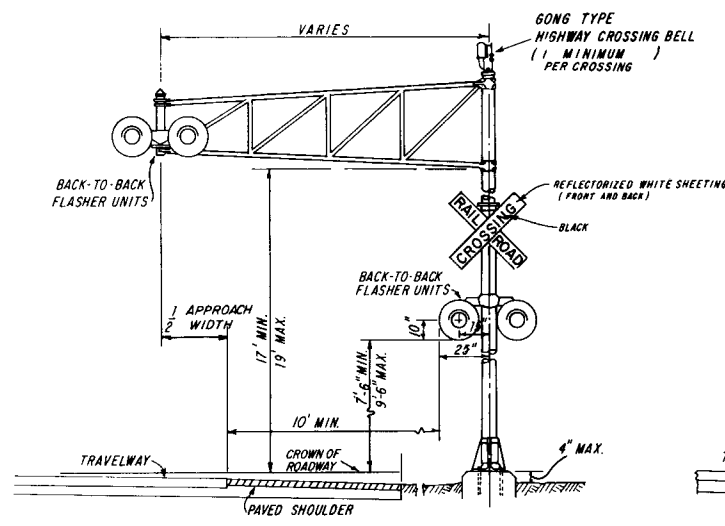
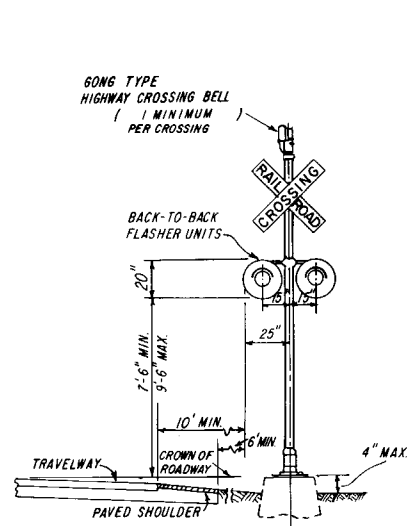


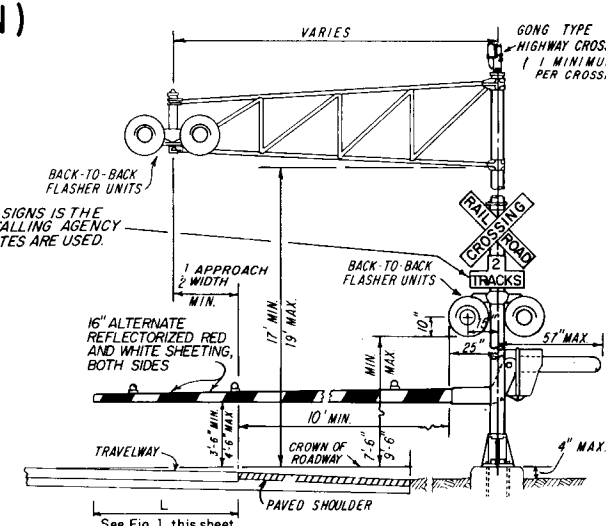
FIGURE 1
GATE LENGTH REQUIREMENTS

SIGNAL PLACEMENT AT RAILROAD CROSSING (2-LANE DESIGN)

SIGNAL PLACEMENT AT RAILROAD CROSSING (4-LANE DESIGN)



NOTE:
TWO SEPARATE FOUNDATIONS MAY BE REQUIRED (ONE FOR SIGNALS, ONE FOR GATE), DEPENDING ON TYPE OF EQUIPMENT USED.



GENERAL NOTES

- NO GUARDRAIL IS PROPOSED FOR SIGNALS; HOWEVER, SOME FORM OF IMPACT ATTENUATION DEVICE MAY BE SPECIFIED FOR CERTAIN LOCATIONS.
- ADVANCE FLASHER TO BE INSTALLED WHEN AND IF CALLED FOR IN PLANS OR SPECIFICATIONS.
- TOP OF FOUNDATION SHALL BE NO GREATER THAN 4" ABOVE FINISHED GRADE.
- TYPE OF TRAFFIC CONTROL DEVICES
 - FLASHING SIGNALS
 - FLASHING SIGNALS WITH CANTILEVER
 - FLASHING SIGNALS WITH GATE
 - FLASHING SIGNALS WITH CANTILEVER & GATE
 - GATE
- CLASS OF TRAFFIC CONTROL DEVICES
 - FLASHING SIGNALS-ONE TRACK
 - FLASHING SIGNALS-MULTIPLE TRACKS
 - FLASHING SIGNALS AND GATES-ONE TRACK
 - FLASHING SIGNALS AND GATES-MULTIPLE TRACKS
- SIX LANE GRADE CROSSINGS ARE SPECIAL CONDITIONS. PLACEMENT OF RAILROAD TRAFFIC CONTROL DEVICES ARE NOT COVERED UNDER THIS INDEX.

APPROVED BY FHWA JULY 29, 1976

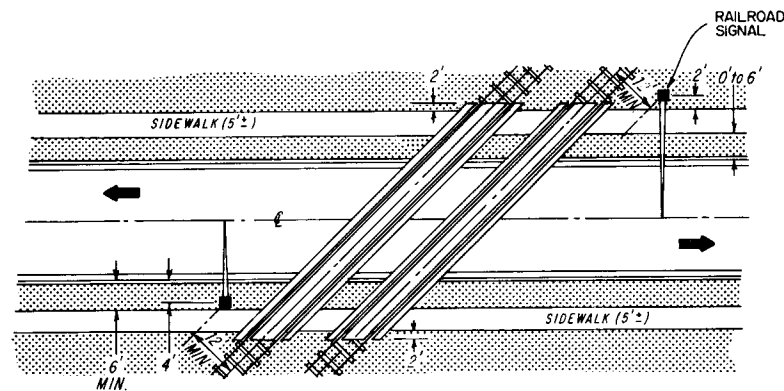
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES			
DATE	INITIALS	DATES	REVISIONS
7-19-77	J.J.	4-8-76	ADDED GONG TYPE HIGHWAY CROSSING BELL
11-9-77	J.J.	4-8-76	ADDED SHEET 3 OF 3 TO INDEX
8-27-78	J.M.C.		REVISED NOTE 3, ADDED NOTE TO NO. OF TRACKS SIGNS
			REVISED TYPE II & III OVERHEAD SIGNAL PLACEMENT TO 1/2 APPROACH WIDTH.

FHWA
8-24-77
FHWA
11-22-77
FHWA
11-10-78

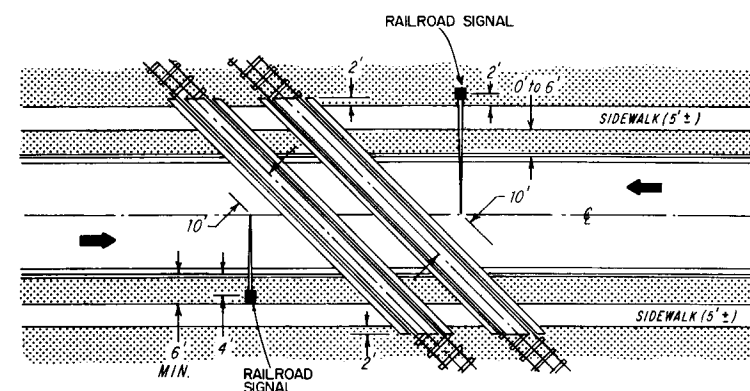
Designed by	CG	4-8-76
Checked by	RM	4-8-76
Quantities by		
Checked by		
Supervised by	REM	

Recommended for approval
by *P. Magallon* 6/25/76
Deputy Traffic Operations Engr
Approved
by *E. J. Dyer* 6/25/76
State Traffic Operations Engr.

DRAWING NO.
1 OF 3
INDEX NO.
17882



ACUTE ANGLE (AND RIGHT ANGLE)

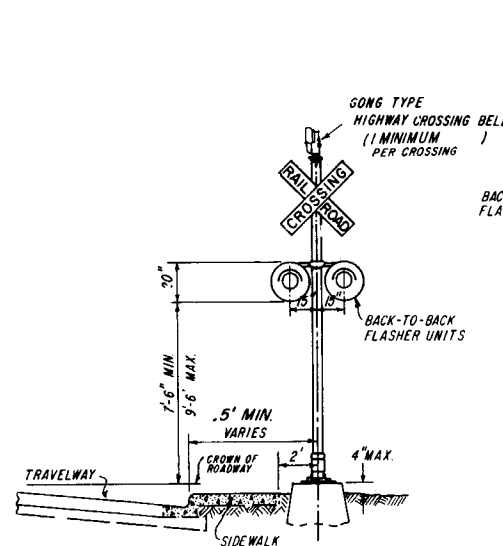
SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

OBTUSE ANGLE

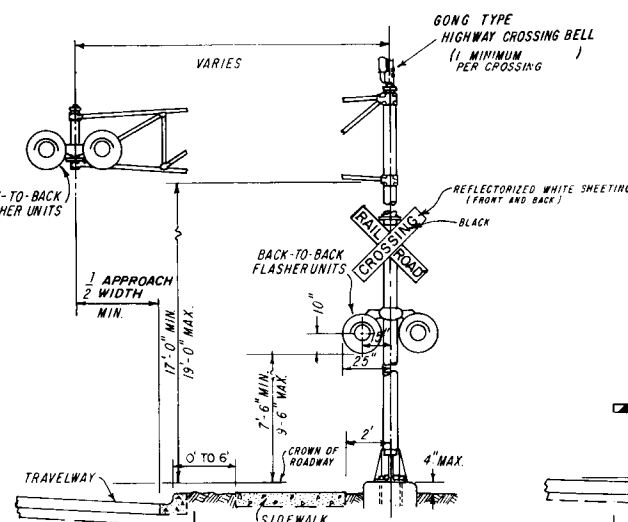
SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

GENERAL NOTES

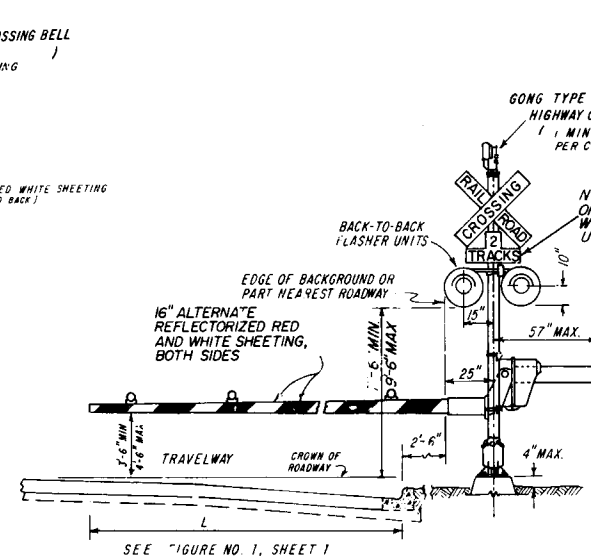
7. WHERE PLANS CALL FOR RAILROAD TRAFFIC CONTROL DEVICES TO BE INSTALLED IN CURBED MEDIANS, THE MINIMUM MEDIAN WIDTH SHALL BE 10 FEET.
8. LOCATION OF RAILROAD TRAFFIC CONTROL DEVICE IS BASED ON THE DISTANCE AVAILABLE BETWEEN FACE OF CURB & SIDEWALK.
- 0' TO 6' - LOCATE DEVICE OUTSIDE SIDEWALK.
OVER 6' - LOCATE DEVICE BETWEEN FACE OF CURB AND SIDEWALK.
9. STOP LINE TO BE PERPENDICULAR TO EDGE OF ROADWAY, APPROX. 15' FROM NEAREST RAIL; OR 8' FROM AND PARALLEL TO GATE WHEN PRESENT.



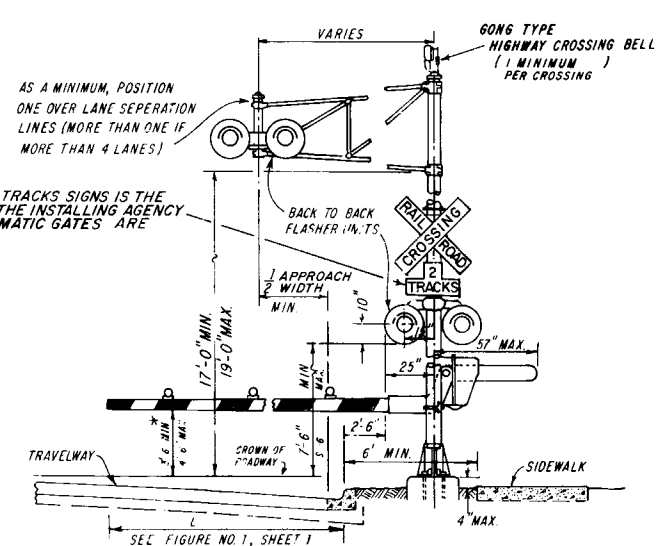
TYPE I



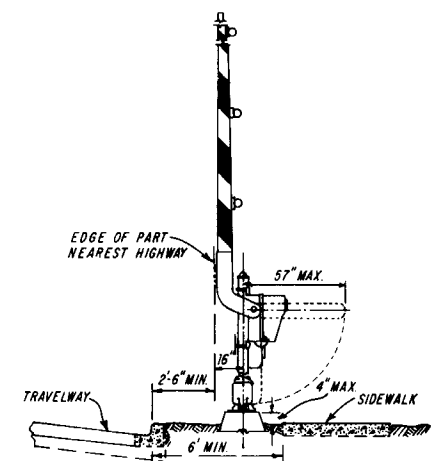
TYPE II



TYPE III



TYPE IV



TYPE V

APPROVED BY FHWA JULY 29, 1976

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES

REVISIONS			INITIALS	DATES	Recommended for approval by <i>R.E. Magley</i> 4/15/76 Deputy Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION			
7-19-77	J.J.	ADDED GONG TYPE HIGHWAY CROSSING BELL	Designed by	CG	4-8-76
11-9-77	J.J.	ADDED SHEET 3013 TO INDEX	Checked by	RM	4-8-76
8-27-78	J.M.C.	REVISED NOTES 7&8 AND ADDED NOTE TO NUMBER OF TRACKS SIGNS	Quantities by		Approved by <i>S. J. ...</i> 6/15/78 State Traffic Operations Engr.
		REVISED TYPE II & III OVERHEAD SIGNAL PLACEMENT TO 1/2 APPROACH WIDTH	Checked by		
			Supervised by	REM	
			DRAWING NO.	INDEX NO.	
			2 OF 3	17882	

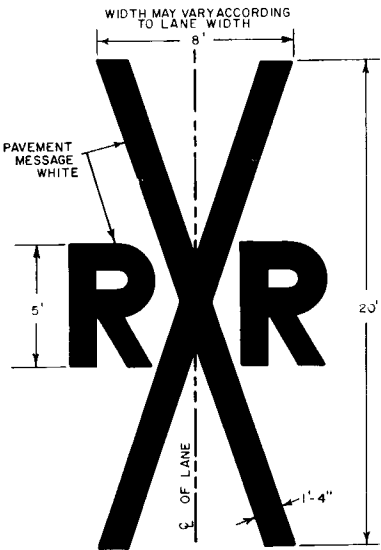
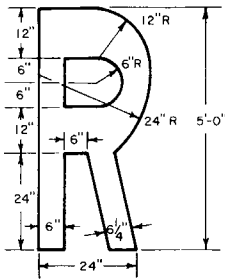
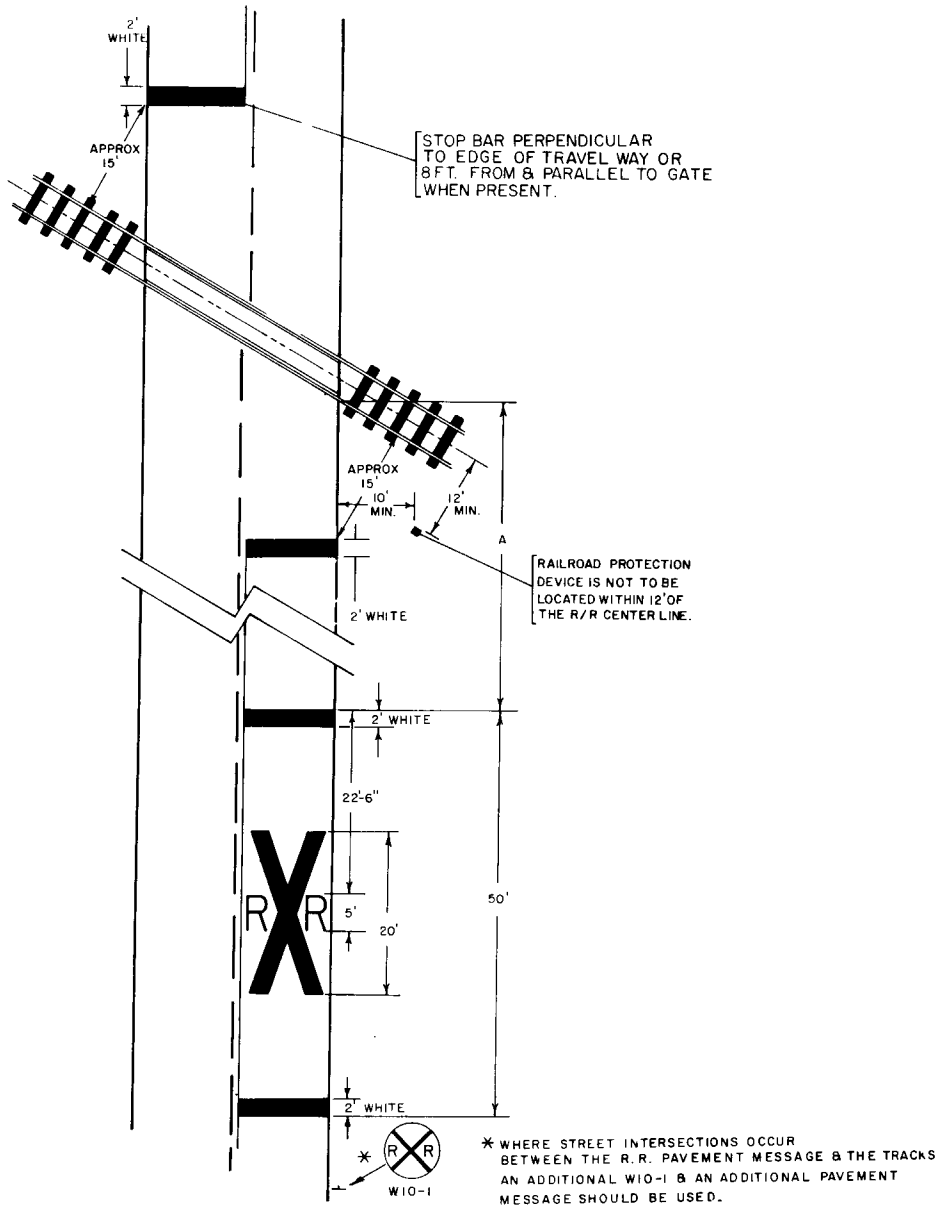
FHWA
8/24/77
FHWA
11/22/77
FHWA
11/16/78

RAILROAD CROSSING AT
TWO (2)-LANE ROADWAY

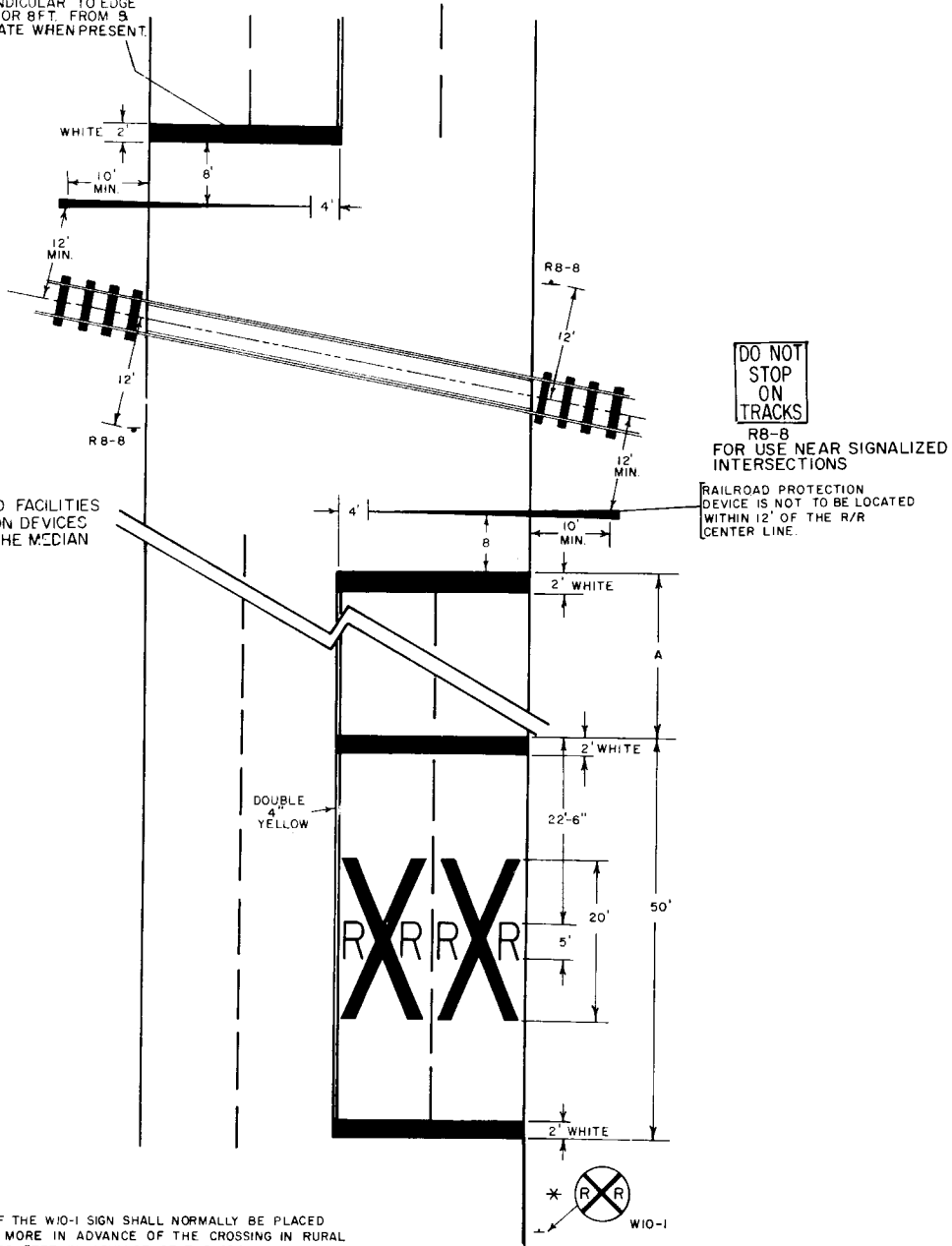
RAILROAD CROSSING AT
MULTI-LANE ROADWAY

SPEED M.P.H.	"A" IN FT.
70	600
60	475
50	350
40	275
30	200
URBAN	50 MIN.

"A" VALUE IS BASED ON A A.S.H.O. MIN. S.S.D..



STOP BAR PERPENDICULAR TO EDGE OF TRAVEL WAY OR 8 FT. FROM & PARALLEL TO GATE WHEN PRESENT.

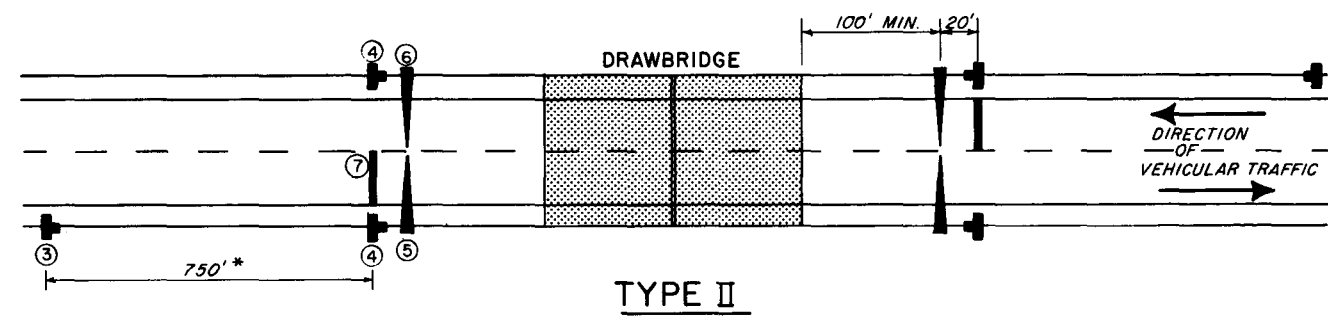
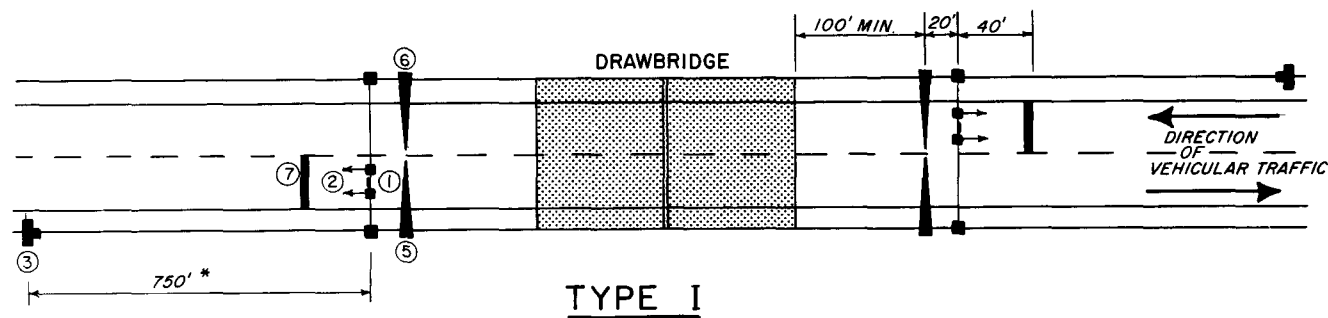


* PLACEMENT OF THE W10-1 SIGN SHALL NORMALLY BE PLACED 750 FEET OR MORE IN ADVANCE OF THE CROSSING IN RURAL AREAS AND 250 FEET IN ADVANCE OF THE CROSSING IN URBAN AREAS EXCEPT THAT IN A RESIDENTIAL OR BUSINESS DISTRICT, WHERE LOW SPEEDS ARE PREVALENT, THE SIGN MAY BE PLACED A MINIMUM DISTANCE OF 100 FEET FROM THE CROSSING. IF THERE IS A STREET INTERSECTION WITHIN 100 FEET AN ADDITIONAL SIGN OR SIGNS MAY BE PLACED TO WARN TRAFFIC APPROACHING THE CROSSING FROM EACH INTERSECTED STREET.

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS

RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES

FHWA 11-22-77 FHWA 11-16-78	REVISIONS			INITIALS	DATES	Recommended for approval	
	DATE	INITIALS	DESCRIPTION	Designed by	J. M. C.	10/26/77	by _____
	11-9-77	J. J.	ADDED TO INDEX	Checked by			Deputy Traffic Operations Eng.
	8-27-78	J. M. C.	REALIGN STOP BARS & RELOCATE SIGN R8-8.	Quantities by			Approved
			RELOCATE SIGN & ADDED NOTE TO W10-1	Checked by			by _____
				Supervised by	W. C. C.		State Traffic Operations Eng.
						DRAWING NO.	INDEX NO.
						3 OF 3	17882

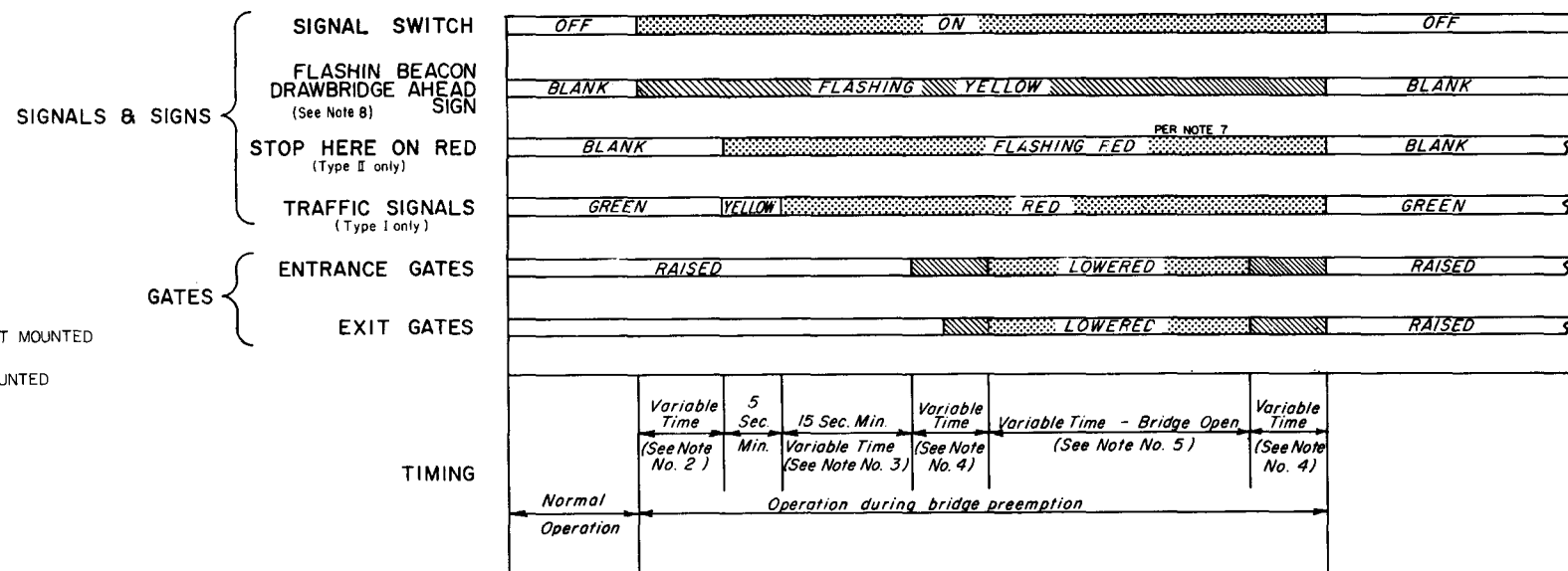


* FIELD CONDITIONS MAY REQUIRE ADJUSTMENT OF THIS STANDARD DISTANCE.

TO BE USED WHERE BRIDGE OPERATORS ARE FULL TIME OR ON A DAILY BASIS

TO BE USED WHERE TYPE I IS NOT APPLICABLE (USUALLY WHEN THE BRIDGE OPERATOR IS "ON CALL")

SEQUENCE CHART



- LEGEND**
- ① TRAFFIC SIGNALS MONOTUBE SUPPORT MOUNTED
 - ② DRAWBRIDGE SIGN
 - ③ DRAWBRIDGE AHEAD SIGN GROUND MOUNTED
 - ④ STOP HERE ON RED SIGN
 - ⑤ ENTRANCE GATE
 - ⑥ EXIT GATE
 - ⑦ 24" THERMOPLASTIC STOP BAR

PAYMENT FOR SIGNAL AND GATE ASSEMBLIES TO BE PAID FOR UNDER ITEM NOS.:

712-70-ABC MOVEABLE BRIDGE SIGNAL ("TYPE") ASSEMBLY

A OPERATION TO BE PERFORMED

- 1 FURNISH & INSTALL
- 2 FURNISH
- 3 INSTALL

B INSTALLATION TYPE

- 1 (TYPE I)
- 2 (TYPE II)

C NUMBER OF TOTAL LANES TO BE SIGNALIZED

- 1 TWO LANES
- 2 THREE LANES

712-71-AB MOVEABLE BRIDGE GATE ("CLASS") ASSEMBLY

A OPERATION TO BE PERFORMED

- 1 FURNISH & INSTALL
- 2 FURNISH
- 3 INSTALL

B CLASS GATE AS DESIGNATED BY NUMBER OF APPROACH LANES

- 1 (CLASS I) ONE LANE
- 2 (CLASS II) TWO LANES
- 3 (CLASS III) THREE LANES

NOTES:

- "STOP HERE ON RED" is omitted in Type I operation and "TRAFFIC SIGNALS" are omitted in Type II operation.
- The time between beginning of flashing yellow on "Drawbridge Ahead" sign and the clearance of traffic signal to red, or beginning of flashing red, should not be less than the travel time of a passenger car, from the sign location to the stop line, traveling at the 85 percentile approach speed.
- Beginning of operation of drawbridge gates shall not be less than 15 seconds after steady red or 20 seconds after flashing red (Actual time may be determined by the bridge tender).
- Time of gate lowering and raising is dependant upon gate type.
- Time of bridge opening is determined by the bridge tender.
- Each gate shall be operated by a separate switch.
- On each approach (Type II), all four red signals shall be on the same two circuit flasher, with the two top signals on one circuit, and the two bottom signals on the alternately flashing circuit.
- A drawbridge ahead sign is required for both types of signal operation. However a flashing beacon shall be added to the sign when physical conditions prevent a driver traveling at the 85% approach speed from having a continuous view of at least one signal indication for approximately 10 secs.
- Requirements on Gate Installation Are Contained In Section 4E-13 through 4E-17 of the Manual on Uniform Traffic Control Devices as revised by Official Rulings, Volume VII Ruling sg 67

FWHA 7-29-76
FHWA 11-16-78

REVISIONS				INITIALS		DATES	
DATE	INITIALS	DESCRIPTION		Designed by	CG	4-7-75	
7-20-76	CEJ	ADDED ITEM 7 TO LEGEND AND PLAN AND ADDED PAYMENT FOR SIGNAL AND GATE ASSEMBLIES & REVISED TITLE BLOCK		Checked by	RK	4-7-75	
10-6-78	J.M.C.	ADDED NOTES 8 & 9.		Quantities by			
				Checked by			
				Supervised by	RVK		

APPROVED BY FHWA JUNE 11, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS
TRAFFIC CONTROL DEVICES FOR
MOVEABLE SPAN BRIDGE SIGNALS

Approved by *RE Magale* 7/16/76
State Traffic Operations Engr.

DRAWING NO. 1 OF 3 INDEX NO. 17890

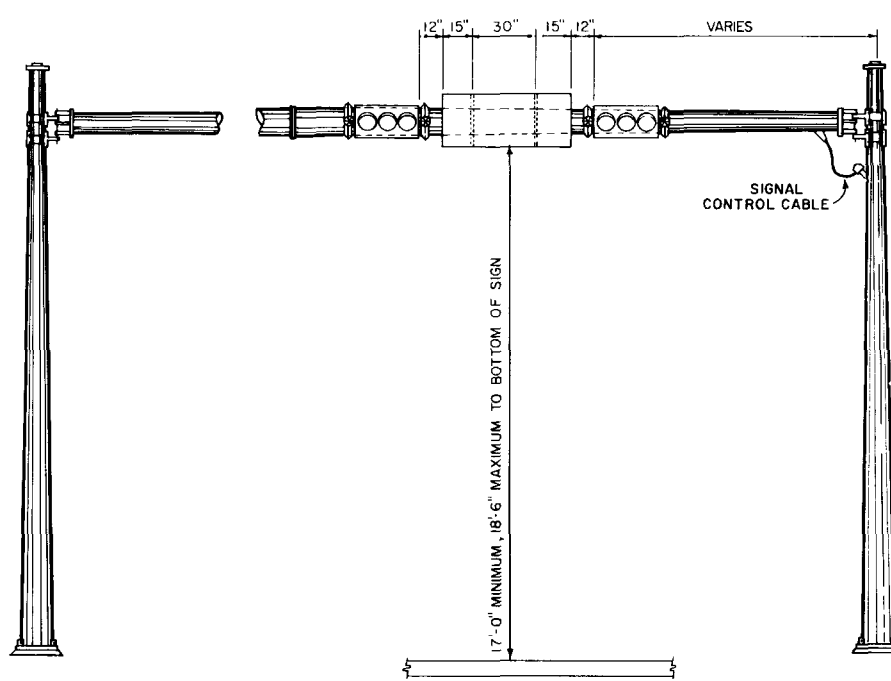
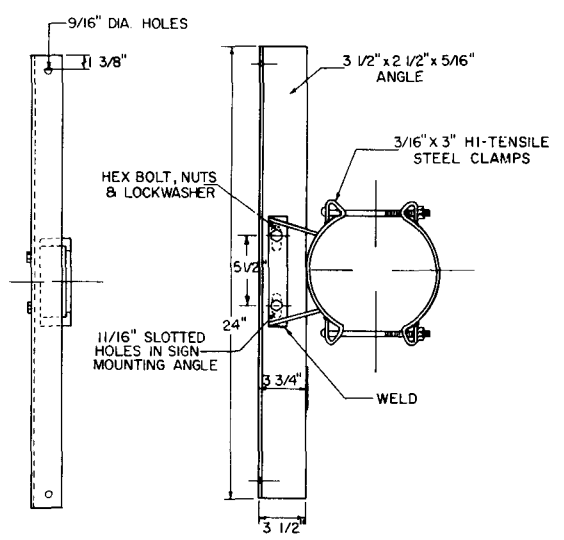


FIGURE - A
MONOTUBE SUPPORT MOUNTING



SIGN PANEL MOUNTING ASSEMBLY

FIGURE - B

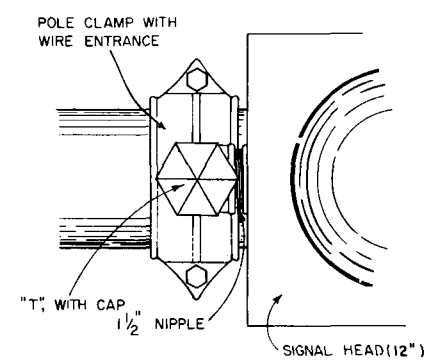


FIGURE - C

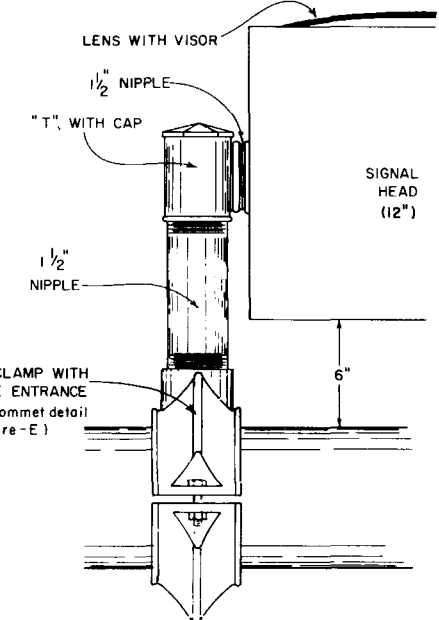


FIGURE - D

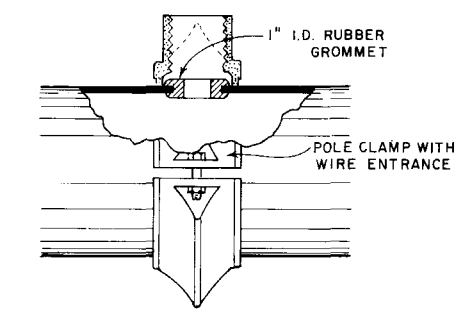


FIGURE - E

SIGNAL HEAD MOUNTING ASSEMBLY

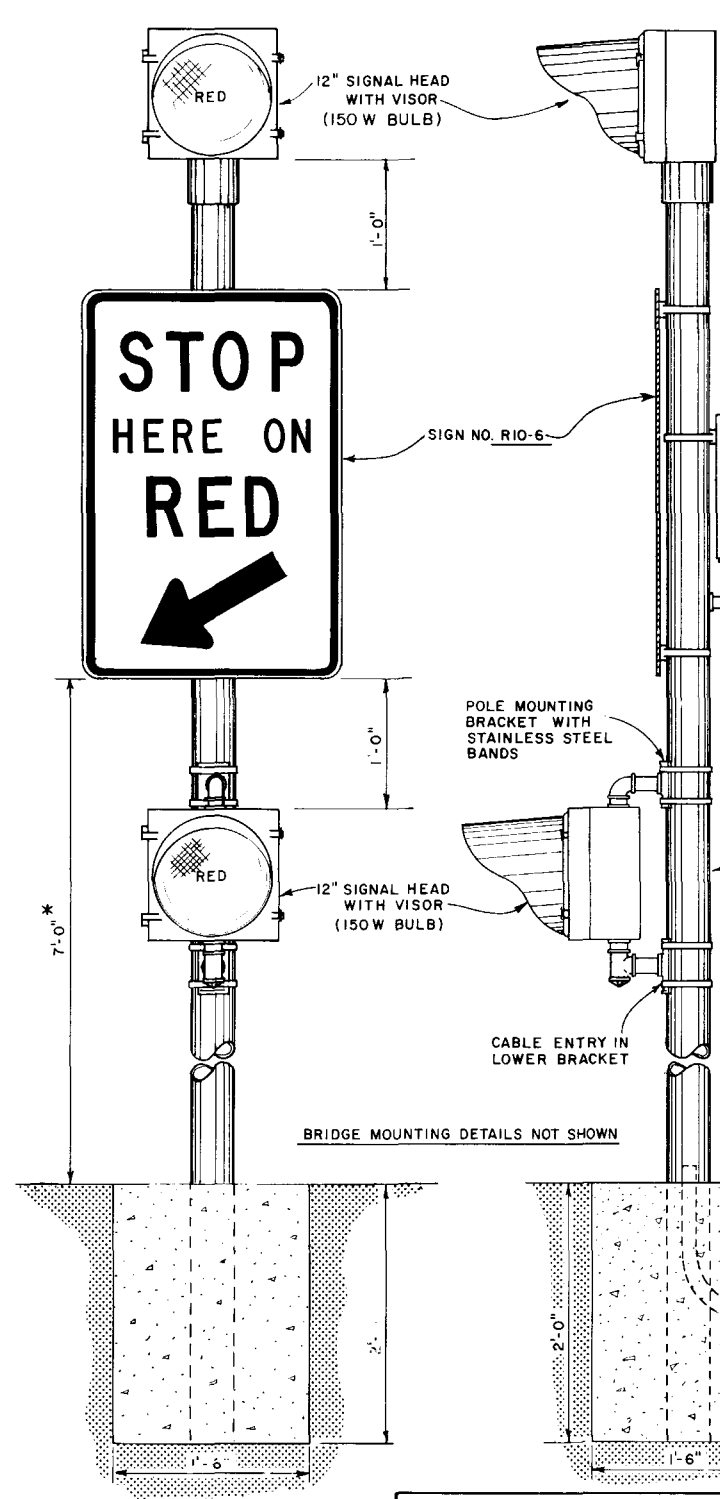


FIGURE - F

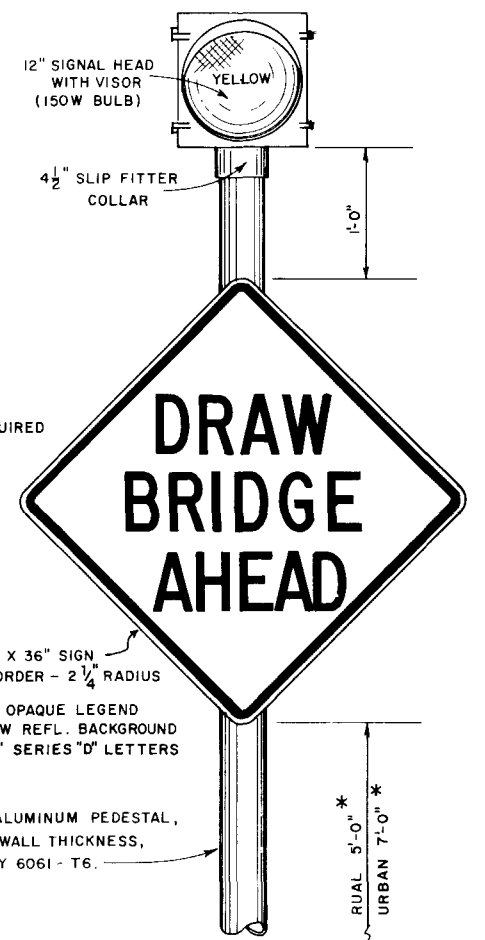


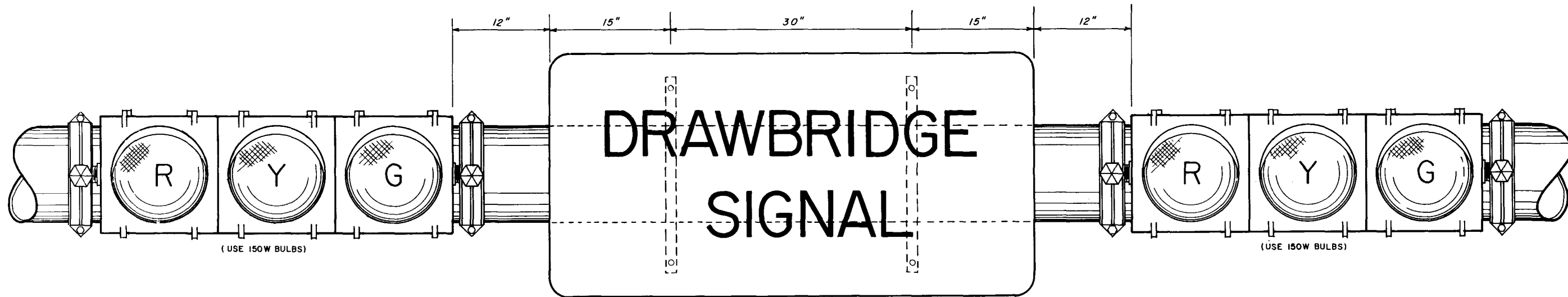
FIGURE - G

* MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. HORIZONTAL DISTANCE BETWEEN EDGE OF THE PAVEMENT AND INSIDE EDGE OF SIGN WILL VARY WITH CONDITION AT JOB SITE.

REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 4-7-75
7-20-76	CEJ	REMOVE HEADERS & REVISED TITLE BLOCK	Checked by	RK 4-7-75
			Quantities by	
			Checked by	
			Supervised by	RVK

APPROVED BY FHWA JUNE 11, 1975
FLORIDA DEPARTMENT OF TRANSPORTATION
 TRAFFIC OPERATIONS
 TRAFFIC CONTROL DEVICES FOR
 MOVEABLE SPAN BRIDGE SIGNALS

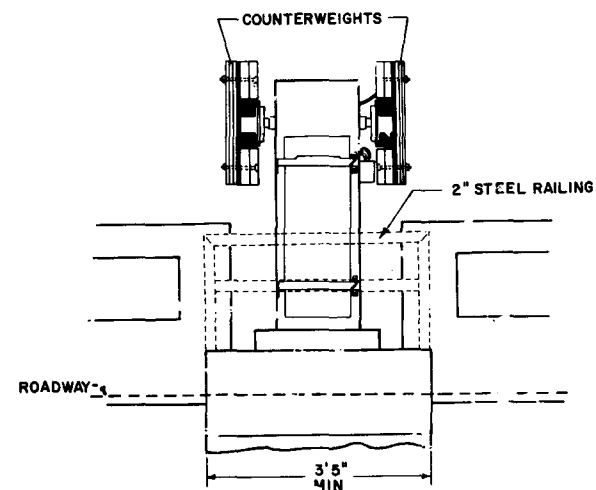
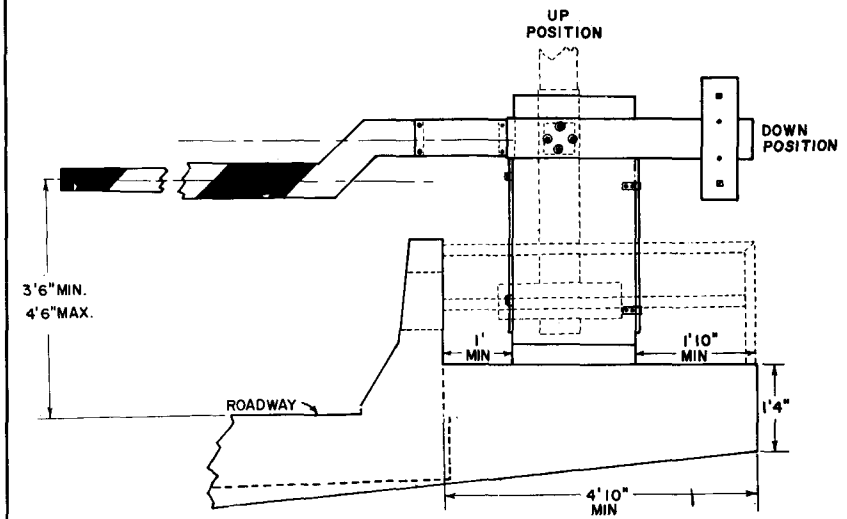
Approved by *R.E. Magadey* 7/20/76
 State Traffic Operations Engr.
 DRAWING NO. 2 OF 3
 INDEX NO. 17890



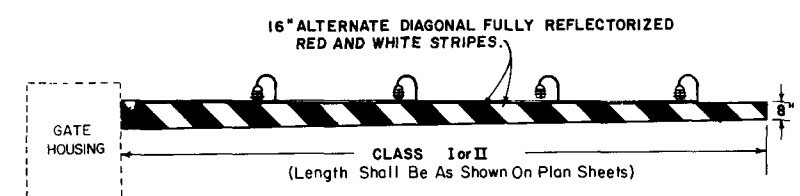
2'-6" X 5'-0"
2" BORDER- 4" RADIUS
6" SERIES "D" LETTERS

BLACK OPAQUE LEGEND AND BORDER ON REFLECTORIZED YELLOW BACKGROUND

TO BE USED WITH TYPE I OPERATION, AS SHOWN
ON PREVIOUS SHEET
MONOTUBE SUPPORT MOUNTING



GATE & ARM DETAIL



APPROVED BY FHWA JUNE 11, 1975			
FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
TRAFFIC CONTROL DEVICES FOR MOVEABLE SPAN BRIDGE SIGNALS			
REVISIONS		INITIALS	DATES
DATE	INITIALS	DESCRIPTION	
12/22/75	CG	DELETED NOTE "AVAILABLE GAINESVILLE WAREHOUSE"	Designed by J.M.C.
7-20-76	CEJ	ADDED CLASS I & CLASS II TITLE AND REVISE TITLE BLOCK	Checked by
10-6-78	J.M.C.	REVISED GATE ARM DETAIL	Quantities by
			Checked by
			Supervised by
			Approved by <i>R.E. Magaly</i> State Traffic Operations Engr.
			DRAWING NO. INDEX NO. 3 OF 3 17890