

BID INVITATION

STANDARD CONDITIONS

H-04-014P

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. Personal and company checks are not acceptable as Bid Bonds. Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. Personal and company checks are not acceptable as Performance Bonds. In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES AND LITERATURE:** Samples or technical literature must be provided within 14 days of AHTD request unless AHTD extends time. Failure to provide samples or literature within this period may cause bid to be rejected. When required, samples of items must be furnished free of charge, prior to or after the opening of bids, and, if not destroyed, will be returned upon request at the bidder's expense. Each individual sample must be labeled with bidder's name and item number. Request for return of samples must be made within 10 days following submission of sample. Samples from successful bidders will be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
 CONTRACT FOR GUARD RAIL MAINTENANCE
BID FORM

CONTRACT NO. H-04-014P

BIDDER _____

Prices bid herein are subject to discount of _____% for payment of invoices within _____ days.

Item No.	Description	Approx . Useage	Unit	Unit Price	Extended Amount
1.	Guardrail (Section 1)	278	L.F.		
2.	Guardrail (Section 2)	1987	L.F.		
3.	Guardrail (Section 3)	362	L.F.		
4.	Guardrail (Section 4)	675	L.F.		
5.	Guardrail Back-up Plate	11	EA.		
6.	Guardrail Line Posts (Steel)	225	EA.		
*7.	Install Furnished Guardrail Line Posts (concrete)	1	EA.		
8.	Guardrail Line Posts (Wood)	15	EA.		
9.	Guardrail Spacer Blocks (Steel)	204	EA.		
*10.	Install Furnished Guardrail Spacer Blocks (Concrete)	1	EA.		
11.	Guardrail Spacer Blocks (Wood)	36	EA.		
12.	Terminal Anchor Posts (Type A)	3	EA.		
13.	Terminal Anchor Posts (Type B)	1	EA.		
14.	Special End Shoe	1	EA.		
15.	Removal & Disposal of Guardrail (Type A)	2557	L.F.		
16.	Removal & Disposal of Guardrail (Type B)	1	L.F.		

*To be furnished by Arkansas State Highway and Transportation Department.

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BID FORM

CONTRACT NO. H-04-014P

BIDDER _____

Item No.	Description	Approx . Usage	Unit	Unit Price	Extended Amount
17.	Furnish and Install Guardrail System (Type A)	150	L.F.		
18.	Furnish and Install Guardrail System (Type B)	1	L.F.		
19.	Guardrail Terminal Section	5	EA.		
20.	Furnish & Install Bridge Connection – Curb (All components shown on Standard Drawing GR-13)	159	EA.		
21.	Furnish & Install Bridge Connection – Parapet Wall (All Components shown on Standard Drawing GR-13)	5	EA.		
22.	Straighten and Align existing Guardrail Posts	1	EA.		
23.	Guard Rail Terminal (Type 2), Guard Rail (12 ga.)	1	EA.		
24.	Steel Tube (6"x8"x54"x3/16")	9	EA.		
25.	Soil Plate (18"x24"x1/4")	6	EA.		
26.	Guard Rail Terminal (Type 2), Wood Posts (5-1/2"x7-1/2"x45")	9	EA.		
27.	Guard Rail Terminal (Type 2), Wood Posts (6"x8"x6'0")	1	EA.		
28.	Guard Rail Terminal (Type 2), Wood Posts (5-1/2"x7-1/2"x14")	1	EA.		
29.	Pipe Sleeve (2" Std. Pipe x 5-1/2")	1	EA.		

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
 CONTRACT FOR GUARD RAIL MAINTENANCE
BID FORM

CONTRACT NO. H-04-014P

BIDDER _____

Item No.	Description	Approx . Useage	Unit	Unit Price	Extended Amount
30.	Bearing Plate (8"x8"x5/8")	2	EA.		
31.	Cable Anchor Bracket	1	EA.		
32.	Cable Assembly	2	EA.		
33.	Offset Strut	1	EA.		
34.	Guard Rail Extruder	1	EA.		
35.	Furnish and Install Terminal System (Type 2)	1	EA.		
36.	Guard Rail (Thrie Section)	1	EA.		
37.	Guard Rail (Thrie Transition Section)	1	EA.		
38.	Guard Rail Connector Plate (Thrie Beam)	1	EA.		
39.	Guard Rail Spacer Blocks (Plastic)	1	EA.		
40.	Guard Rail Spacer Blocks (Steel Tube)	1	EA.		
41.	Furnish and Install Thrie Beam Guard Rail Terminal	1	EA.		
42.	Metal Hinged Breakaway Post		EA.		
BID TOTAL:					

SPECIAL PROVISION

GUARD RAIL MAINTENANCE

DESCRIPTION:

This work shall consist of:

1. Removing and disposing of existing sub-standard installations or those installations which have been damaged beyond repair.
2. Installation of new guard rail systems with materials furnished by the Contractor or the Department as appropriate and constructed to current standards.

This work shall be limited to District Nine (Baxter, Benton, Carroll, Madison, Marion, Newton, Searcy & Boone Counties). Locations within the District shall be selected by the District Engineer.

The Contract shall be limited to a one year period following the award of the Contract.

The Department reserves the right to cancel the Contract before the one year time limit.

The Department reserves the right to also perform guard rail repair as necessary within the areas covered by this Contract.

The Contractor shall assume full liability for traffic hazards that might be created by his operation and save harmless the Arkansas State Highway and Transportation Commission in all respects.

MATERIALS:

All materials furnished by the Contractor shall meet the requirements of the Standard Specifications, Edition of 2003, all applicable Special Provisions and Supplemental Specifications and Current Standard Drawings GR-7, GR-8, GR-8A, GR-9, GR-10, GR-10A, GR-11, GR-13 and GRT-1.

Department furnished materials will be available at the District Nine Headquarters at Harrison during normal working hours. Miscellaneous hardware items such as nuts, bolts, washers, etc. necessary to reset Department furnished items shall be supplied by the Contractor and shall comply with all applicable specification requirements and be approved by Materials and Research Division. Only the exact amount of materials necessary for the installation will be furnished. Any material damaged by the Contractor will be replaced at no cost to the State.

Any guard rail elements removed from an installation which the District Engineer determines to be salvageable shall become the property of the Department and shall be delivered to the District Nine Headquarters during normal working hours. Non-Salvageable materials shall be disposed of by the Contractor.

EQUIPMENT:

All equipment necessary for the satisfactory performance of this work shall be on hand before work begins.

PROCEDURE:

The Contractor will be required to begin work within ten (10) calendar days of notification from the District Engineer that work is required and will be notified in writing each time it is necessary to perform work. A list will be enclosed with the notification which includes Department furnished materials, Contractor furnished materials, and the location and length of each installation. This list will be an estimate only and may be adjusted once work begins. The Contractor shall provide the District Maintenance Engineer with their schedule for repairs at the various locations. This notification shall include anticipated traffic control. No lane closures will be allowed in the mornings between 6 a.m. and 9 a.m. and in the afternoons between 3 p.m. and 6 p.m. without the consent of the District Engineer. When the Contractor completes all of the specified work at a location, he shall notify the District Maintenance Engineer and an inspection will be made. Upon acceptance of the work and materials by the Department, a list of completed pay items will be furnished by the Contractor and the specified work will be considered complete.

The Department will endeavor, but not guarantee, to make available to the Contractor, work valued at not less than 5% of the maximum Contract amount each time he is notified to perform work. Additionally, the Department will endeavor, but not guarantee, to limit the amount of work to perform each time to no more than 20% of the maximum Contract amount. Otherwise, the number of times the Contractor will be notified to perform work and the amount of work to be performed each time shall be dependent on the extent of existing and incurred damage to guard rail.

Replacement, assembly and or installation of guard rail elements shall conform to the Standard Specifications, Edition of 2003, all applicable Special Provisions and Supplemental Specifications and Current Standard Drawings GR-7, GR-8, GR-8A, GR-9, GR-10, GR-10A, GR-11, GR-13 and GRT-1. The alignment and location of replaced guard rail elements shall conform to and match the portion of any installation which is undamaged and is to remain in place.

When the Engineer determines that an entire guard rail installation is damaged beyond repair or needs to be upgraded to current standards, the Contractor will be instructed to remove and dispose of the installation and to construct a new installation with materials supplied by the Contractor. In such instances, all materials, work, measurement and payment will be in accordance with Standard Specifications for Highway Construction, Edition of 2003, all applicable Special Provisions and Supplemental Specifications and Current Standard Drawings numbered GR-7, GR-8, GR-8A, GR-9, GR-10, GR-10A GR-11 GR-13 and GRT-1. Post holes created by the removal of concrete or wood posts shall be backfilled and thoroughly compacted using suitable material before driving the new steel posts. When possible the spacing of the steel posts shall be staggered between the vacated post holes. In such instances the backfilling may then be accomplished either before or after the steel posts are driven.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

Mobilization will not be measured and paid for directly but will be considered included in the prices bid for the various items of the Contract.

The cost of traffic control through the work zones will not be measured and paid for directly but will be considered included in the prices bid for the various items of the Contract.

Replaced steel guard rail sections, installed and accepted, will be measured by the linear foot, complete in place, and paid for at the Contract unit price bid. As indicated on the Standard Drawings Sections 1 and 2 are end sections and will each be considered as 25 feet in length. Intermediate Section 3 shall be measured along the roadway face from centerline of post to centerline of post. NOTE: The item, Guard Rail Section 1, as shown on Standard Drawing GR-8A, is required to be a double section. Each Section 1 of the double rail will be paid as 50 L.F. of guard rail plate. For the items, Guard Rail Sections 2, 3 and 4, each installation will be paid for as a 25 L.F. section of guard rail plate. This note applies only when individual parts or pieces of a guard rail installation are being replaced and does not apply to the items "Furnish and Install Guard Rail (Type ____).

Replaced guard rail line posts, spacer blocks, back-up plates, terminal sections and terminal anchor posts (Type A & B), installed and accepted, will be measured by the unit and paid for at the Contract unit price bid.

Furnishing and placing anchor bolts, splicing hardware, and/or attachment hardware will not be measured and paid for directly but will be considered included in the prices bid for the various items of the Contract.

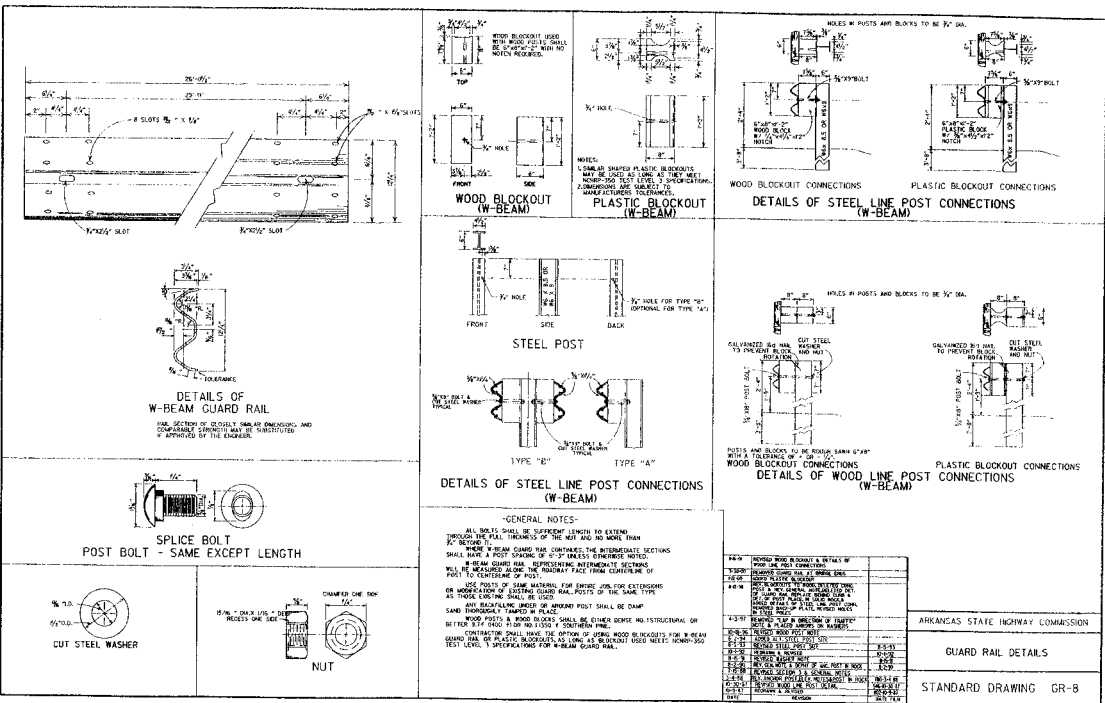
No measurement and payment will be made for necessary excavation and/or backfilling performed in connection with replacing damaged elements of guard rail.

Removal and disposal of guard rail will be measured as provided in the Standard Specifications for Highway Construction, Edition of 2003, all applicable Special Provisions and Standard Drawings GR-7, GR-8, GR-8A, GR-9, GR-10, GR-10A, GR-11, GR-13, GRT-1 and paid for at the contract unit price bid. Removal and disposal of posts, spacer blocks, and miscellaneous hardware will not be measured and paid for directly but will be considered included in the price bid for the various items of the contract.

Work completed at each designated location shall be paid for upon acceptance of the work. Payment shall be based upon the list of completed pay items furnished by the Contractor to the Department and the Contract unit price for those items.

TRAFFIC CONTROL THROUGH WORK ZONE:

The Contractor shall sign and mark all work zones and lane closures in accordance with the Manual on Uniform Traffic Control Devices and Current Standard Drawings TC-1, TC-2, TC-3, TC-4 and TC-5. All signing materials shall be High Intensity. The Contractor shall conduct repair operations in such a manner that all feasible traffic lanes will be open to traffic. Lane closures may be established as needed to perform the work, except that during period of adverse weather or peak high traffic, lane closures will be permitted only if approved by the Engineer.



GENERAL NOTES-

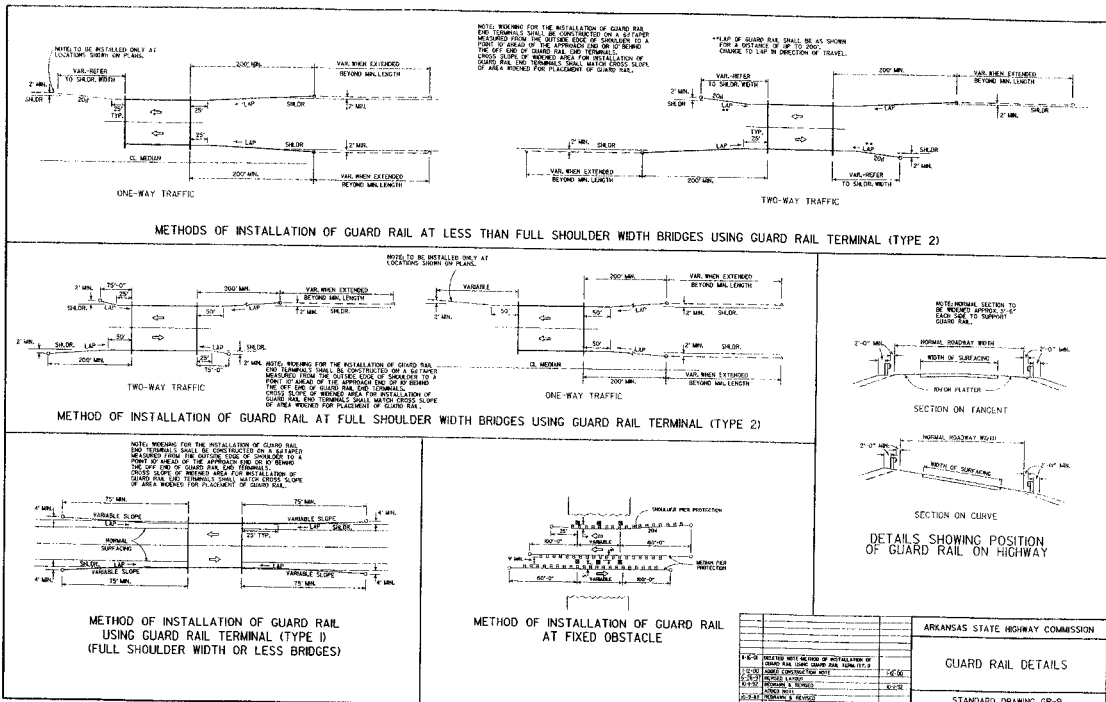
- 1. ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE W-BEAM AND NO MORE THAN 1/2" IN EXCESS.
- 2. WHERE W-BEAM GUARD RAIL CONTAINS THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-0" UNLESS OTHERWISE NOTED.
- 3. W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE FRONT FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.
- 4. USE PORTLAND CEMENT MORTAR FOR ENTIRE JOINT FOR EXTENSIONS AS THOSE LISTED SHALL BE USED.
- 5. THE NUMBER OF SECTION GUARD RAIL POSTS OF THE SAME TYPE AND MATERIAL SHALL BE THE SAME FOR ENTIRE JOINT FOR EXTENSIONS.
- 6. THE NUMBER OF SECTION GUARD RAIL POSTS SHALL BE SAME THROUGHOUT ENTIRE JOINT.
- 7. WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DRY OR KILN DRIED OR AIR DRIED 15% MOISTURE OR LESS.
- 8. WOOD BLOCKS SHALL BE EITHER DRY OR KILN DRIED OR AIR DRIED 15% MOISTURE OR LESS.
- 9. WOOD BLOCKS SHALL BE EITHER DRY OR KILN DRIED OR AIR DRIED 15% MOISTURE OR LESS.
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ITEM	DESCRIPTION	QUANTITY	UNIT
1404	WOOD LINE POSTS & W-BEAM GUARD RAIL		
1405	WOOD LINE POSTS & W-BEAM GUARD RAIL		
1406	WOOD LINE POSTS & W-BEAM GUARD RAIL		
1407	WOOD LINE POSTS & W-BEAM GUARD RAIL		
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1450	WOOD LINE POSTS & W-BEAM GUARD RAIL		

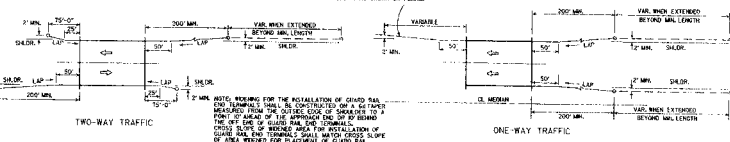
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

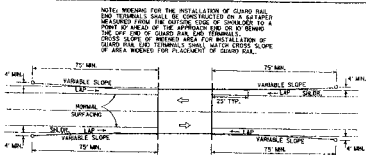
STANDARD DRAWING GR-8



METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

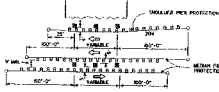


METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)



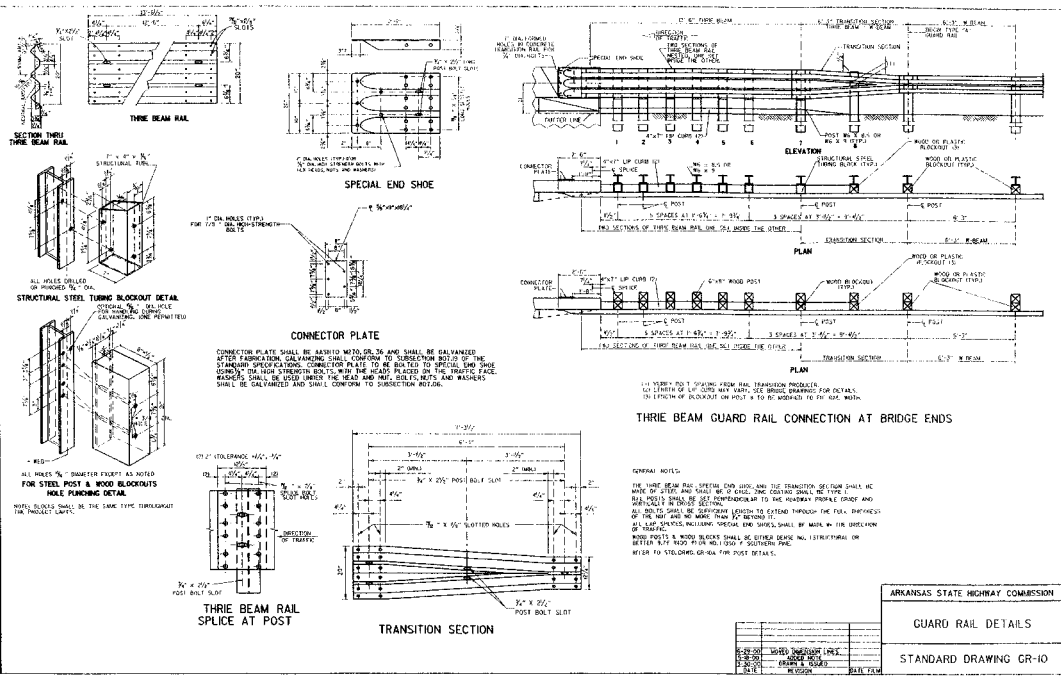
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE



DATE	REVISION	DATE	REVISION

ARKANSAS STATE HIGHWAY COMMISSION
GUARD RAIL DETAILS
 STANDARD DRAWING GR-9

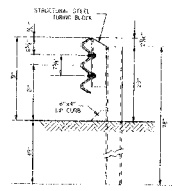


ARKANSAS STATE HIGHWAY COMMISSION

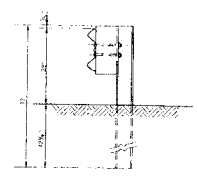
GUARD RAIL DETAILS

STANDARD DRAWING GR-10

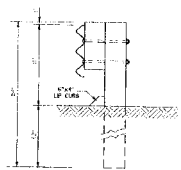
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
SCALE	AS SHOWN



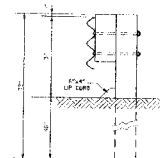
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POSTS I-7



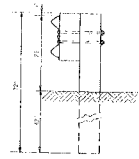
W-BEAM TO THREE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST POST B



THREE BEAM RAIL WITH WOOD BLOCKOUTS & WOOD POSTS POSTS I-6



THREE BEAM RAIL WITH WOOD BLOCKOUT & WOOD POST POST 7

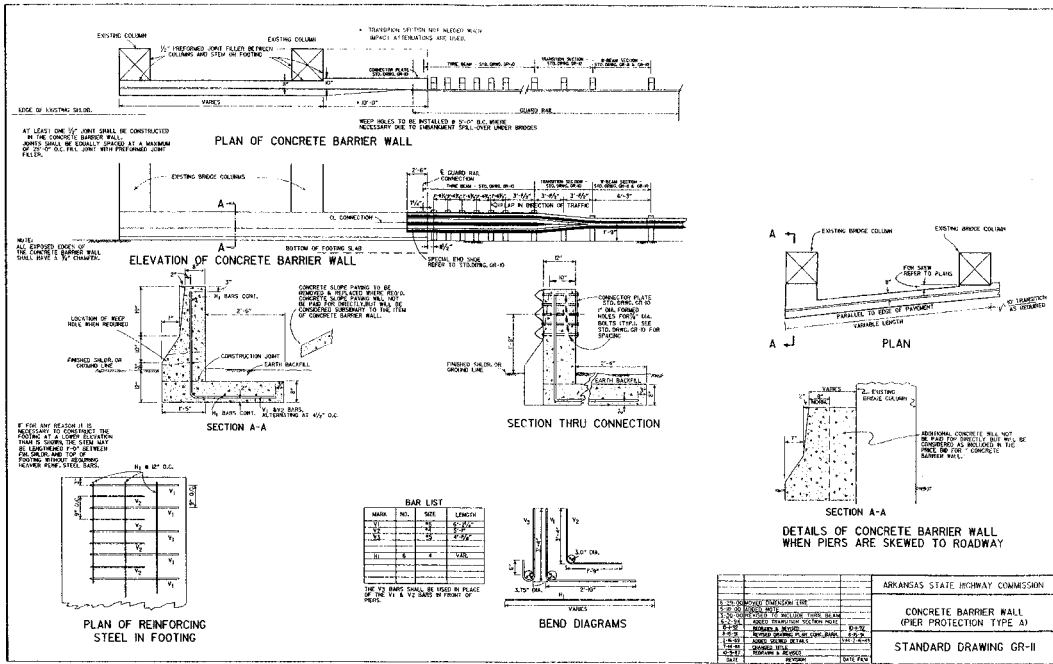


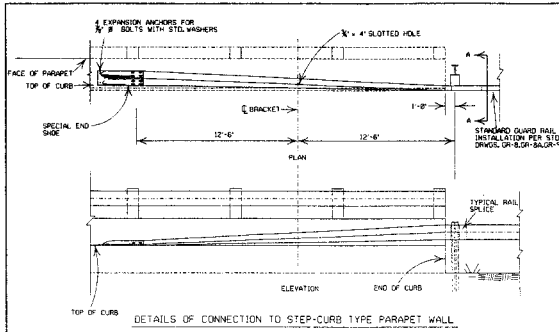
W-BEAM - THREE BEAM TRANSITION WITH WOOD BLOCKOUT & WOOD POST POST 8

GENERAL NOTES:
 1. ALL POSTS SHALL BE SET PERPENDICULAR TO THE HIGHWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.
 2. WOOD POSTS & WOOD BLOCKS SHALL BE EITHER GRADE OR STRUCTURAL OR BETTER AND WOOD SHALL BE SOFTWOOD.

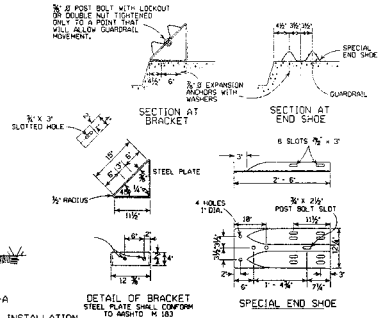
DATE	BY	CHKD	APPROVED

ARKANSAS STATE HIGHWAY COMMISSION
 GUARD RAIL DETAILS
 STANDARD DRAWING GR-10A





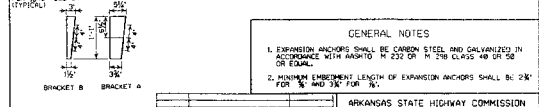
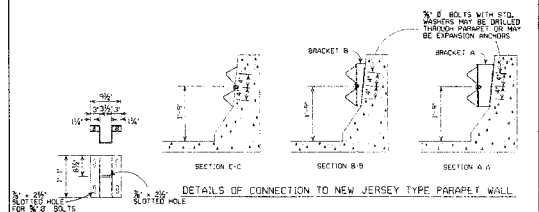
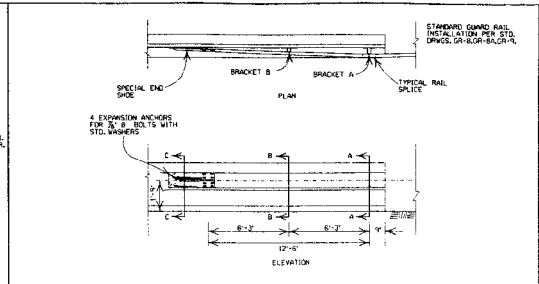
DETAILS OF CONNECTION TO STEP-CURB TYPE PARAPET WALL



SECTION A-A
STANDARD GUARDRAIL INSTALLATION

DETAIL OF BRACKET
STEEL PLATE SHL. CONFORM TO A510 1/2

SPECIAL END SHOE



BRACKET B
BRACKET A

GENERAL NOTES

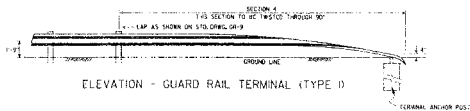
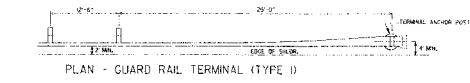
1. EXPANSION ANCHORS SHALL BE COMMON STEEL AND GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR M 238 CLASS 48 OR 56 OR EQUAL.
2. MINIMUM EMBEDMENT LENGTH OF EXPANSION ANCHORS SHALL BE 2' FOR 3/8" AND 3' FOR 1/2".

ARKANSAS STATE HIGHWAY COMMISSION

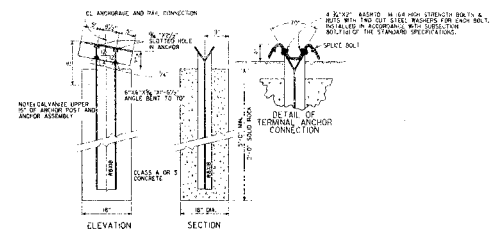
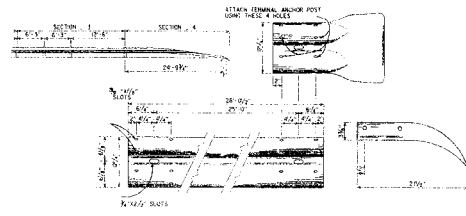
DETAILS OF
GUARD RAIL CONNECTIONS
TO EXISTING BRIDGES

STANDARD DRAWING GR-13

DATE	REVISION	FILED



NOTE:
 SECTION 4 AND 5 OF GUARD RAIL TERMINAL SHALL BE IDENTICAL AS THE ABOVE FOR LAPS EXCEPT BY THE TYPE OF GUARD RAIL SPECIFIED.

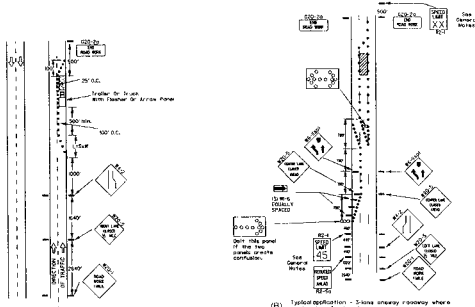


VERTICAL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ANCHORS PROVIDED TO BE SPACED ALONG THE FRONT TO PLACING CONCRETE AROUND 8" TO 12" IF CONTRACTOR SO DESIRES.

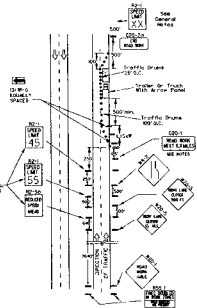
DETAIL OF TERMINAL ANCHOR POST (TYPE D)

ARKANSAS STATE HIGHWAY COMMISSION	
GUARD RAIL DETAILS	
DATE: 10/15/84 DRAWN BY: J. W. BRYAN CHECKED BY: J. W. BRYAN DESIGNED BY: J. W. BRYAN IN CHARGE: J. W. BRYAN SCALE: AS SHOWN SHEET NO. 1 OF 1 PROJECT NO. 100-1-100	STANDARD DRAWING GRT-1

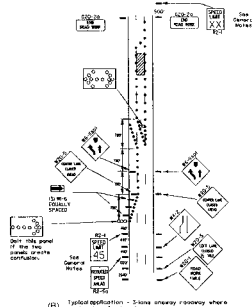
Channeling devices



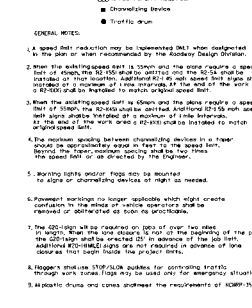
(A) Typical application - daytime maintenance operations of short duration on a three-lane divided roadway where half of the roadway is closed.



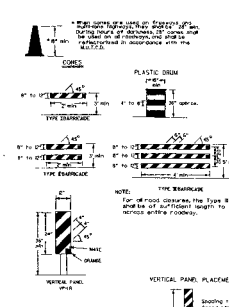
(B) Typical application - daytime maintenance operations of short duration on a three-lane divided roadway where half of the roadway is closed.



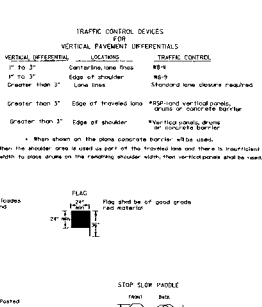
(C) Typical application - daytime maintenance operations of short duration on a three-lane divided roadway where half of the roadway is closed.



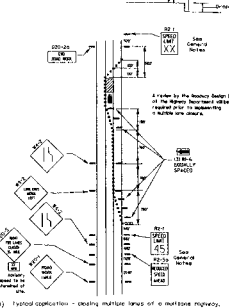
(D) Typical application - daytime maintenance operations of short duration on a three-lane divided roadway where half of the roadway is closed.



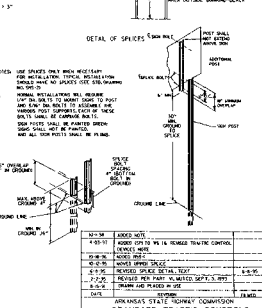
Channeling devices



Traffic control devices



Vertical panel placement



Detail of splays

- GENERAL NOTES:
1. Speed limit reduction may be implemented ONLY when designated in the plan or when indicated by the Designer/Design Director.
 2. When the speed limit is 30 mph and the design requires a speed limit of 20 mph, the 20 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 20 mph and the design requires a speed limit of 15 mph, the 15 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 15 mph and the design requires a speed limit of 10 mph, the 10 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 10 mph and the design requires a speed limit of 5 mph, the 5 mph speed limit shall be indicated on the plan.
 3. When the design requires a speed limit of 30 mph and the design requires a speed limit of 20 mph, the 20 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 20 mph and the design requires a speed limit of 15 mph, the 15 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 15 mph and the design requires a speed limit of 10 mph, the 10 mph speed limit shall be indicated on the plan. When the design requires a speed limit of 10 mph and the design requires a speed limit of 5 mph, the 5 mph speed limit shall be indicated on the plan.
 4. The maximum spacing between channeling devices in a taper shall be approximately equal to 1/2 the speed limit.
 5. Warning lights and/or flags may be required on the edge or channeling devices of night, as needed.
 6. Channeling devices to larger vehicles which might create contact in the edge of vehicle operators shall be required or indicated as such in the plan.
 7. The design shall be based on the design of the project. The design shall be based on the design of the project. The design shall be based on the design of the project.
 8. Properly placed traffic signs for controlling traffic through work zones shall be used only for emergency situations.
 9. All traffic signs and cones shall meet the requirements of MDP-100.

ITEM	QUANTITY	UNIT	NOTES
1. CONES			
2. PLASTIC DRUMS			
3. STOP SLOW PADDLES			
4. CHANNELING DEVICES			
5. TRAFFIC SIGNS			
6. BARRIERS			
7. FLAGMEN			
8. TRAFFIC CONTROL DEVICES			
9. TRAFFIC CONTROL DEVICES			
10. TRAFFIC CONTROL DEVICES			
11. TRAFFIC CONTROL DEVICES			
12. TRAFFIC CONTROL DEVICES			
13. TRAFFIC CONTROL DEVICES			
14. TRAFFIC CONTROL DEVICES			
15. TRAFFIC CONTROL DEVICES			
16. TRAFFIC CONTROL DEVICES			
17. TRAFFIC CONTROL DEVICES			
18. TRAFFIC CONTROL DEVICES			
19. TRAFFIC CONTROL DEVICES			
20. TRAFFIC CONTROL DEVICES			

MINNESOTA STATE TRUCKER TRAINING CENTER
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3

