

STANDARD BID CONDITIONS

M-12-016P

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. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
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, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may 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**

NOTICE OF NONDISCRIMINATION

The Arkansas State Highway and Transportation (Department) complies with the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964 and other federal equal opportunity laws and therefore does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in admission or access to and treatment in Department programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to James B. Moore, Jr., Section Head - EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address: james.moore@arkansashighways.com.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

ARKANSAS STATE HIGHWAY & TRANSPORTATION DEPARTMENT
LITTLE ROCK, ARKANSAS
EQUIPMENT & PROCUREMENT DIVISION

Bid No. M-12-016P

BIDDER: _____

Page 1

BASE BID					
ITEM NO.	DESCRIPTION	QTY.	UNIT	PRICE	AMOUNT
1. (202)	Removal and Disposal of Pipe Culvert	1	Ea.	\$	\$
2. (210)	Unclassified Excavation	30	C.Y.	\$	\$
3. (210)	Compacted Embankment	105	C.Y.	\$	\$
4. (215)	Trenching and Shoulder Preparation	18	Station	\$	\$
5. (SS&303)	Aggregate Base Course (Class 7)	532	Tons	\$	\$
6. (SP)	Aggregate Surface Course (Class D-8)	90	Tons	\$	\$
7. (401)	Tack Coat	490	Gallons	\$	\$
8. (SP,SS&407)	Mineral Aggregate in ACHM Surface Course (1/2")	1532	Tons	\$	\$
9. (SP,SS&407)	Asphalt Binder (PG 70-22) in ACHM Surface Course (1/2")	91	Tons	\$	\$
10. (412)	Cold Milling Asphalt Pavement	940	S.Y.	\$	\$
11. (601)	Mobilization	1	L.S.	\$	\$
12. (SS&603)	Maintenance of Traffic	1	L.S.	\$	\$
13. (SS&604)	Signs	208	S.F.	\$	\$
14. (SS&606)	24" Reinforced Concrete Pipe Culverts (Class III)	56	L.F.	\$	\$
15. (SS&719)	Thermoplastic Pavement Marking White (4")	3796	L.F.	\$	\$
16. (SS&719)	Thermoplastic Pavement Marking Yellow (4")	3696	L.F.	\$	\$
		BID TOTAL		\$ _____	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS LISTING

STATE JOB NUMBER 080425

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS FOR THIS PROJECT SUPPLEMENT THE STANDARD SPECIFICATIONS, EDITION OF 2003. IN CASE OF CONFLICT, THE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL GOVERN.

ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
JOB SP	INTERNET BIDDING
JOB SP	AGGREGATE SURFACE COURSE
JOB SP	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB SP	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB SP	WARM MIX ASPHALT
SP 108-1	LIQUIDATED DAMAGES
SS 100-1	REQUIRED CONTRACT PROVISIONS FOR STATE CONSTRUCTION JOBS
SS 100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
SS 105-1	CONSTRUCTION CONTROL MARKINGS
SS 105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
SS 107-1	WORKER VISIBILITY
SS 303-1	AGGREGATE BASE COURSE
SS 404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
SS 409-1	MINERAL AGGREGATES
SS 410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
SS 603-1	MAINTENANCE OF TRAFFIC
SS 604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
SS 606-2	PIPE CULVERTS
SS 719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB 080425

AGGREGATE SURFACE COURSE

DESCRIPTION: This item shall consist of furnishing and placing Aggregate Surface Course (Class D-8) to be placed as shoulder gravel as shown on the plans or as directed by the Engineer.

MATERIALS: This material shall consist of a natural or manufactured mixture of gravel and soil mortar uniformly well graded from coarse to fine and so proportioned as to meet all the requirements hereinafter specified. The aggregate shall consist of crushed or uncrushed hard gravel or crushed stone or a combination of crushed and uncrushed material. The material furnished shall not contain more than 15% by weight of shale, slate, and other objectionable, deleterious or other injurious matters.

GRADING REQUIREMENTS

Class D-8

<u>Sieve</u>	<u>Percent Passing</u>
2"	100
¾"	70 to 100
#4	35 to 65
#40	15 to 40
#200	3 to 30
Maximum Plasticity Index	20

The removal of oversize aggregate by hand methods, such as raking or forking, will not be permitted. The Contractor, at his option, may substitute Aggregate Base Course (Class 5 or 7) meeting the requirements of Section 303 of the specifications, provided that payment will be for the material specified. Quality control and acceptance sampling shall be performed in accordance with Section 306 of the 2003 Standard Specifications, except that no density testing will be required.

CONSTRUCTION REQUIREMENTS: Construction shall conform to subsection 303.03 of the 2003 Standard Specifications except as noted in the plans.

METHOD OF MEASUREMENT: Work performed and material accepted under this item will be measured by the ton in vehicles, in accordance with Section 109.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**SPECIAL PROVISION****JOB 080425****AGGREGATE SURFACE COURSE**

BASIS OF PAYMENT: Work performed under this item and measured as provided above, will be paid for at the contract unit price bid per ton which price shall be full compensation for preparing the subgrade; furnishing material; for loading, hauling and the delivery to the work site; for spreading, finishing, watering, manipulating, and compacting; for performing quality control and acceptance sampling and testing; and for all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Aggregate Surface Course (Class D-8)	Ton

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT**SPECIAL PROVISION****JOB NO. 080425****WARM MIX ASPHALT**

DESCRIPTION: The Department will allow the use of Warm Mix Asphalt (WMA). All provisions for the production and placement of conventional HMA mixtures as stipulated in Section 410 Construction Requirements and Acceptance of Asphalt Concrete Plant Mix Courses of the Standard Specifications for Highway Construction, Edition 2003, are applicable except as noted below.

Section 410 Construction Requirements and Acceptance of Asphalt Concrete Plant Mix Courses of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

Section 410.03: Replace the third sentence with “WMA production temperatures at the plant shall be according to the Contractor’s approved mix design, but may be adjusted based on recommendations of the WMA additive/process manufacturer.”

Add the following paragraph: “Implementation of best management practices in the control of aggregate moisture content prior to introduction to the drying or mixing drum is highly recommended in order to achieve the maximum benefit of WMA technology.”

Section 410.07: Replace the last sentence of the first paragraph with “Spreading and finishing temperatures shall be according to the Contractor’s approved mix design, but in no case shall the WMA be placed at a temperature less than 220° F.”

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

LIQUIDATED DAMAGES

As specified in the Contract, liquidated damages for this project will be as shown in the following table:

WORKING DAY PROJECTS

<u>ORIGINAL CONTRACT AMOUNT</u>		
FROM MORE THAN	TO AND INCLUDING	RATE
\$ 0	\$ 50,000	\$ 400
50,000	100,000	700
100,000	500,000	800
500,000	1,000,000	1100
1,000,000	2,000,000	1300
2,000,000	5,000,000	1500
5,000,000	10,000,000	1900
10,000,000	15,000,000	2000
15,000,000	20,000,000	2100
20,000,000	-----	2500

FIXED DATE PROJECTS

<u>ORIGINAL CONTRACT AMOUNT</u>		
FROM MORE THAN	TO AND INCLUDING	RATE
\$ 0	\$ 50,000	\$ 90
50,000	100,000	100
100,000	500,000	200
500,000	1,000,000	250
1,000,000	2,000,000	320
2,000,000	5,000,000	400
5,000,000	10,000,000	600
10,000,000	-----	750

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
REQUIRED CONTRACT PROVISIONS FOR STATE CONSTRUCTION JOBS

During the performance of this contract, the Contractor agrees as follows:

EQUAL OPPORTUNITY

Employment Practices. (a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, disability, or national origin.

(c) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract, this contract may be canceled, terminated, or suspended in whole or in part.

Selection of Subcontractors, Procurement of Materials, and Leasing of Equipment.

(a) The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, religion, sex, age, disability, or national origin in the selection and retention of subcontractors, including procurement of materials and leases for equipment.

(b) In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials or leases for equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract relative to nondiscrimination on the grounds of race, color, religion, sex, age, disability, or national origin.

(c) The Contractor shall provide all information and reports required by the Department and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department to be pertinent to ascertain compliance with such directives. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Department and shall set forth what efforts have been made by the Contractor to obtain the information.

(d) In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, the Department shall impose such contract sanctions as it may be determine to be appropriate, including, but not limited to:

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
REQUIRED CONTRACT PROVISIONS FOR STATE CONSTRUCTION JOBS

- (1) withholding of payments to the Contractor under the contract until the Contractor complies, and/or
- (2) cancellation, termination, or suspension of the contract, in whole or in part.

(e) The Contractor shall include the provisions of this Supplemental Specification in every subcontract, including procurements of materials and leases of equipment. The Contractor shall take such action with respect to any subcontractor or procurement as the Department may direct as a means of enforcing such provisions, including sanctions for non-compliance.

NONSEGREGATED FACILITIES

By submission of this bid or the execution of this contract or subcontract, the bidder or subcontractor, as appropriate, certified that segregated facilities are not maintained or provided for employees at any of its establishments, and that employees are not permitted to perform services at any location, under bidder/subcontractor control, where segregated facilities are maintained. The bidder/subcontractor further certified that segregated facilities will not be maintained or provided for employees at any of its establishments, and that employees will not be permitted to perform services at any location where segregated facilities are maintained. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, age, disability, or national origin, because of habit, local custom, or otherwise. The bidder/subcontractor agrees that, except where identical certifications have been obtained from proposed subcontractors and material suppliers for specific time periods; identical certification will be obtained from subcontractors prior to the award of subcontracts.

WAIVER OF CERTIFICATE OF PAYMENTS

The requirements for certification of payments to DBEs/Non-DBEs, as specified in Subsection 103.08(h), are hereby waived and are not required for this contract.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)

Sections 604, 617, 731, 732 and 734 of the Standard Specifications for Highway Construction, Edition of 2003, are hereby amended as follows:

The first paragraph of **Subsection 604.02(a)** is deleted and the following is substituted therefore:

All work zone traffic control devices used on the project, including sign supports, barricades, traffic drums equipped with flashing lights, crash cushions, and impact attenuators shall comply with the requirements of National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH). The Contractor shall furnish a certification of such compliance from the manufacturer or supplier of all work zone traffic control devices prior to using the devices on the project. The certification shall state the device meets the requirements of NCHRP 350 or MASH and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments for each device. Devices shall be fabricated and installed in accordance with the plans and with the crash testing documentation provided in the FHWA approval letter, which is available at http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/. The 2lb. (0.9 kg) minimum channel post or 4" x 4" (100 mm x 100 mm) wood post sign support systems, installed in accordance with the plans (direct buried), have been previously tested and accepted, and, therefore, do not require certification. No direct payment will be made for fulfilling the requirements of this Specification, but full compensation will be considered included in the contract unit prices bid for the various traffic control devices.

The third sentence of paragraph three of **Subsection 617.01** is deleted and the following sentence substituted therefore:

The guardrail terminal shall satisfy the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) for a test level 3 (TL-3) terminal.

The first sentence of paragraph one of **Subsection 617.02(f)** is deleted and the following sentence substituted therefore:

The Contractor shall furnish a certification from the manufacturer or supplier that the guardrail terminal meets the requirements of NCHRP Report 350 or MASH for a TL-3 terminal.

The second sentence of **Subsection 731.01** is deleted and the following sentence substituted therefore:

The attenuation barrier shall satisfy the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) requirements for a Test Level 3 (TL-3) crash cushion.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)

The first sentence of paragraph one of **Subsection 731.02** is deleted and the following sentence substituted therefore:

The Contractor shall furnish a certification from the manufacturer or supplier that the impact attenuation barrier meets the requirements of NCHRP Report 350 or MASH for a TL-3 crash cushion.

The second sentence of **Subsection 732.01** is deleted and the following sentence substituted therefore:

The crash cushion shall satisfy the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) requirements for a Test Level 3 (TL-3) crash cushion.

The first sentence of **Subsection 732.02(b)** is deleted and the following sentence substituted therefore:

The Contractor shall furnish a certification from the manufacturer or supplier that the crash cushion meets the requirements of NCHRP Report 350 or MASH for a TL-3 crash cushion.

The second sentence of **Subsection 734.01** is deleted and the following sentence substituted therefore:

The bridge end terminal shall satisfy the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) requirements for a Test Level 3 (TL-3) terminal.

The first sentence of **Subsection 734.02(b)** is deleted and the following sentence substituted therefore:

The Contractor shall furnish a certification from the manufacturer or supplier that the bridge end terminal meets the requirements of NCHRP Report 350 or MASH for a TL-3 terminal.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SUPPLEMENTAL SPECIFICATION

CONSTRUCTION CONTROL MARKINGS

Section 105 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The following is added as the last paragraph of **Subsection 105.09**:

All construction control markings made for layout work, placement of traffic control devices, spotting for placement of pavement markings, or for any other purposes on structures, curb and gutters, pavements, or any surfaces that will not either be removed or covered by succeeding pavement layers or other construction shall be made with non-permanent materials (chalk, keel, non-permanent paint, etc.). Failure to comply with this requirement will result in removal of the markings by the Contractor at no expense to the Department.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES

Section 105 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The following is added as the fifth paragraph of **Subsection 105.14**:

No vehicles weighing in excess of the legal load (or the load posted for an existing bridge), no off road hauling equipment, cranes, or other non-legal highway vehicles or equipment will be allowed to cross or be placed on an existing or newly constructed bridge deck without the submittal of an engineering analysis for review and approval by the Engineer. No materials will be permitted to be stored or stockpiled on an existing bridge deck or on a bridge deck constructed on the project without the submittal of an engineering analysis for review and approval by the Engineer. Each submitted engineering analysis shall be prepared by a Registered Professional Engineer who shall certify the adequacy of all components for the anticipated loads. Inspection records and, when available, design drawings may be obtained from the Engineer for use in the professional engineer's analysis of existing structures.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
WORKER VISIBILITY

Section 107 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The following is added as the third paragraph of **Subsection 107.01(b)**:

All workers within the right-of-way who are exposed either to traffic (vehicles using the roadway for travel purposes) or to construction equipment within the work area shall wear high-visibility safety apparel meeting the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High – Visibility Safety Apparel and Headwear."

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
AGGREGATE BASE COURSE

Section 303 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The sixth paragraph of **Subsection 303.02** is hereby deleted and the following is substituted therefore:

For Classes 1 through 8 material, the fraction passing the #200 (0.075 mm) sieve shall not be greater than three-fourths of the fraction passing the #40 (0.425 mm) sieve. For Classes 3 through 8 the fraction passing the #40 (0.425 mm) sieve shall have a liquid limit not greater than 25.

Table 303-1, Aggregate Base Course Grading, is hereby amended by deleting the percent passing the No. 200 (0.075 mm) sieve gradation for Classes 6, 7, and 8 and the following substituted therefore:

The percent passing the No. 200 (0.075 mm) sieve grading for Classes 6, 7, and 8 will be 3 – 12.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SUPPLEMENTAL SPECIFICATION

PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX

Section 404 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The third and fourth paragraphs of **Subsection 404.04, Quality Control of Asphalt Mixtures**, are hereby deleted and the following substituted therefore:

The accepted mix design shall be field verified by the Contractor at the start of mix production or after an interruption of more than 90 calendar days. The asphalt mixture shall be verified by testing mix that has been produced through the plant using the aggregate proportions shown on the accepted mix design.

The mix will be considered to be verified if test values for air voids, VMA, and asphalt binder content are within the compliance limits shown in Table 410-1, and when the accepted mix design has been produced within the gradation tolerances according to Subsection 404.04.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
MINERAL AGGREGATES

Table 409-1 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

Table 409-1
Coarse Aggregate Properties

Coarse Aggregate Type	Crushed Gravel; Crushed Stone; Crushed Steel Slag
Size	Plus No. 8 (2.36 mm)
Fractured Faces	
One Face	98 % min.
Two Faces	80 % min.
LA Abrasion (AASHTO T 96)	40 % max.
Sodium Sulfate Soundness (AASHTO T 104, 5 cycle)	12% max.
Flat, Elongated Particle	10 % max.
Wearing Surface Aggregate	
Limestone	60 % max.
Other ^{Note 1}	40 % min.
Gravel	60 % max.
Other ^{Note 2}	40 % min.

NOTE 1: Crushed sandstone, crushed siliceous gravel, syenite, novaculite, crushed steel slag or mineral aggregate which has an insoluble residue not less than 85% when tested in a 1:1 solution of hydrochloric acid and water according to AHTD Test Method 306 shall be used as the remaining coarse mineral aggregate.

NOTE 2: Crushed steel slag, crushed sandstone, syenite, novaculite, or other crushed quarry stone which has an insoluble residue not less than 85% when tested in a 1:1 solution of hydrochloric acid and water according to AHTD Test Method 306 shall be used as the remaining coarse mineral aggregate.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS

Section 410 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The following is inserted after the fourth paragraph of Subsection 410.09(a):

The following procedures shall apply for field density testing when ACHM mixes are used as a leveling course or as a bond breaker between a base material and Portland Cement Concrete Pavement:

- If the entire subplot quantity is placed for leveling or as a bond breaker and the thickness of all of the leveling/bond breaker in that subplot is less than three times the nominal maximum aggregate size, no field density sample or test will be required. The subplot will be excluded from the calculation of the average field density for the acceptance of the lot in Subsection 410.09(a).
- If the entire subplot quantity is placed for leveling or as a bond breaker and portions of the leveling/bond breaker have a thickness greater than three times the nominal maximum aggregate size, a field density sample shall be obtained by the Contractor at a location determined by the Department using AHTD Test Method 465; however the sampling area will be restricted to the area in which the thickness of the leveling course/bond breaker is greater than three times the nominal maximum aggregate size.
- If only a portion of the subplot quantity is placed for leveling or as a bond breaker, the Contractor shall obtain a field density sample at a location determined by the Department using AHTD Test Method 465; however the sampling area will be restricted to the portion of the subplot where the material used as leveling or as a bond breaker has a thickness greater than three times the nominal aggregate size and to the area where the material was not used for leveling or as a bond breaker.

When field density testing for a subplot is waived by one of the above conditions, the ACHM mix used as a leveling course or as a bond breaker shall be compacted utilizing the optimum rolling pattern to achieve the maximum density required, as required by Subsection 410.08.

The first sentence of the second paragraph of Subsection 410.10 is hereby deleted and the following is substituted therefore:

When the entire quantity of either the ACHM Binder Course or ACHM Surface Course (including any sublots used for leveling) meets the following criteria, an incentive of the percentage designated will be applied to the dollar amount for all the components of the designated mix.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
MAINTENANCE OF TRAFFIC

Division 600 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

SECTION 603, MAINTENANCE OF TRAFFIC AND TEMPORARY STRUCTURES, IS AMENDED AS FOLLOWS:

The following is added as the third paragraph of **Subsection 603.02(a), Maintenance of Traffic:**

Traffic control plans for detours, lane closures, lane width reductions, shoulder closures, and other alterations to the original traffic pattern shall not be placed in operation more than 72 hours before the work begins which requires the traffic control changes. After a traffic control plan is placed in operation, if progress on the work that required such plan is interrupted by more than 72 continuous hours, the original traffic operations must be restored as conditions allow, unless otherwise directed by the Engineer. Removal and restoration of traffic control devices to restore original traffic operations, and the subsequent reinstallation of the traffic control modifications will be at no additional cost to the Department.

Paragraph 3 of **Subsection 603.02(d), Projects on Existing Roadways**, is hereby deleted and the following substituted therefore:

The Contractor shall provide the Engineer with a minimum of three full business days advance, written notification of any non-emergency lane closure or lane width restriction. The first full business day shall commence at midnight on the first business day following written notification to the Engineer. This advanced notification is required to allow adequate notice for the issuance of over width load permits by the Department.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
RETROREFLECTIVE SHEETING FOR
TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES

Section 604 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The first two paragraphs of **Subsection 604.02(b)** are hereby deleted and the following substituted therefore:

(b) Signs, Vertical Panels, Barricades, Drums and Traffic Cones. Materials for signs required under this subsection shall comply with materials requirement of the plans, specifications and the MUTCD for the construction of signs using ASTM D 4956 Type VII, VIII, or IX sheeting for non-orange signs and Fluorescent Orange retroreflective sheeting furnished according to the QPL for orange signs. Materials for vertical panels and barricades shall comply with ASTM D 4956 Type VII, VIII, or IX sheeting.

Retroreflective sheeting used on traffic drums shall meet the requirements of ASTM D4956 for Type III or Type IV with the additional requirements for Reboundable Sheeting. Retroreflective sheeting for delineators shall meet the requirements of ASTM D 4956 for Type IX sheeting.

Table 604-1 Fluorescent Orange Sheeting and Table 604-2 Fluorescent Orange Color Specification Limits (Daytime) in **Subsection 604.02(b)** are hereby deleted and the following substituted therefore:

TABLE 604-1
Fluorescent Orange Sheeting

Observation Angle	Minimum Coefficient Of Retroreflection Candelas Per Foot Candle Per Square Foot	
	Entrance Angle	Fluorescent Orange
0.2	-4.0	200
0.2	30.0	92
0.5	-4.0	80
0.5	30.0	30

TABLE 604-2
Fluorescent Orange Color Specification Limits (Daytime)

Corner Point:	1		2		3		4	
	x	y	x	y	x	y	x	y
	0.583	0.418	0.516	0.397	0.560	0.341	0.655	0.345

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
PIPE CULVERTS

Section 606 of the Standard Specification for Highway Construction, Edition of 2003, is hereby amended as follows:

The fifth paragraph of **Subsection 606.02 Materials (b) Reinforced Concrete Pipe** is hereby deleted and the following substituted therefor:

(4) Joints shall be sealed with either preformed rubber gaskets or bitumen/ butyl rubber plastic gaskets complying with AASHTO M 198 or with tubular cross-section closed cellular rubber gaskets complying with the physical requirements of ASTM D 1056 (Type 2, Class C, Grade 1) and meeting the chemical requirements of AASHTO M 198.

The sixth paragraph of **Subsection 606.03 Construction (d) Joining Pipe** is hereby deleted and the following substituted therefore:

(3) When tubular cross-section closed cellular rubber gaskets are selected by the Contractor, the gaskets shall be a single, continuous part conforming to the joint shape. The outer surface of the gasket shall be completely covered with a natural skin. The cross-sectional diameters and installation practices shall be in accordance with the manufactures' recommendations for the size of pipe or culvert being placed.

To ensure an even and well-filled joint, the final joining of the pipe shall be accomplished by either pushing or pulling, by approved mechanical means, each joint of the pipe as it is laid. In cold weather, when directed, the joint material shall be warmed in a hot water bath, or by other approved methods, to the extent required to keep the material pliable for placement without breaking or cracking.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SUPPLEMENTAL SPECIFICATION
THERMOPLASTIC PAVEMENT MARKING MATERIAL

Section 719 of the Standard Specifications for Highway Construction, Edition of 2003, is hereby amended as follows:

The second paragraph of **Subsection 719.02** is hereby deleted and the following substituted therefore:

The material shall meet the requirements of AASHTO M 249 with the following exceptions for color on yellow materials.

Color Specifications									
----------------------	--	--	--	--	--	--	--	--	--

Color Specification Limits -Daytime									
Initial									
Chromaticity Coordinates								Luminance Factor, Y (%)	
1		2		3		4		min	max
x	y	x	y	x	y	x	y		
0.499	0.466	0.545	0.455	0.518	0.432	0.485	0.454	40.0	60.0

Initial daytime color determination will be made in accordance with the requirements of AASHTO T 250. Values shall be evaluated on material without the drop-on beads.

Color Specification Limits -Daytime							
Retained							
Chromaticity Coordinates							
1		2		3		4	
x	y	x	y	x	y	x	y
0.560	0.440	0.490	0.510	0.420	0.440	0.460	0.400

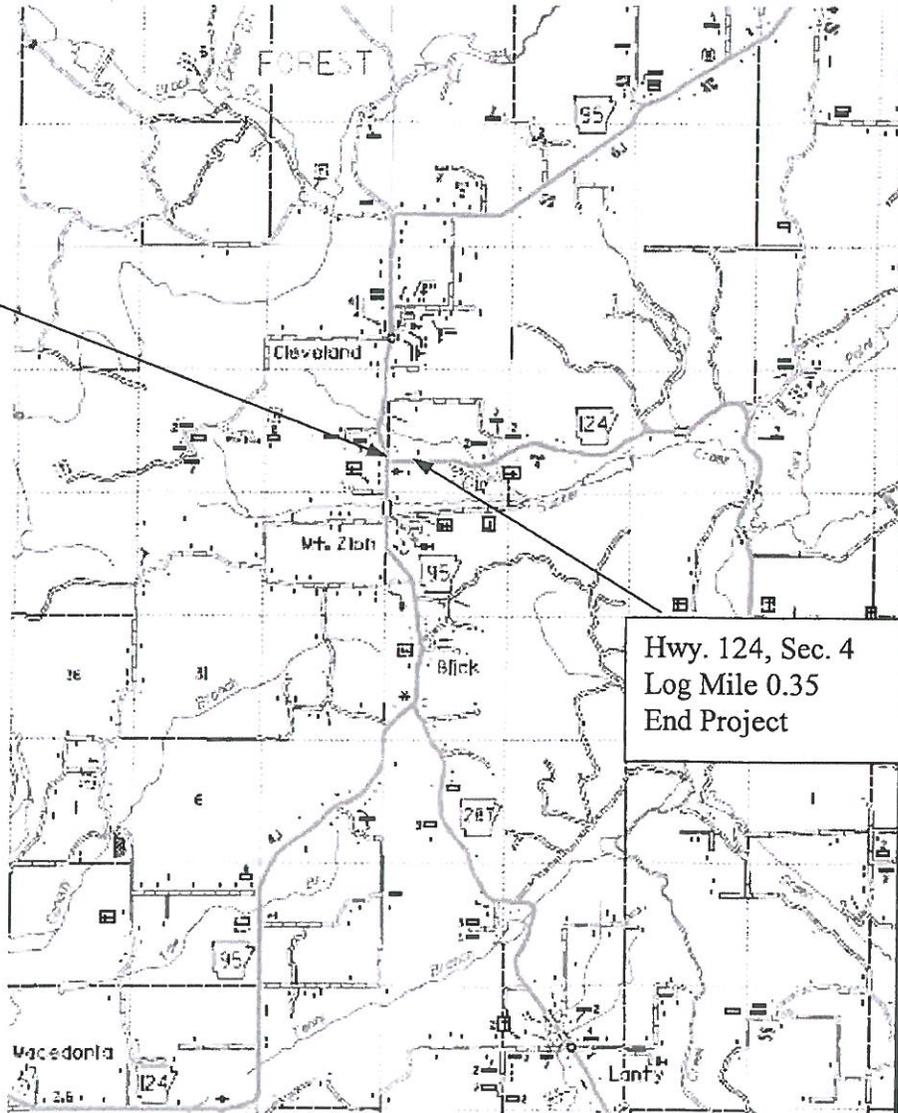
Retained daytime color limits shall conform to the specifications for a minimum of ninety days for construction pavement markings and one year for all other markings. Retained readings will be determined on a beaded surface in accordance with the requirements of ASTM E 2366.

Color Specification Limits -Nighttime							
Initial with drop-on beads							
Chromaticity Coordinates							
1		2		3		4	
x	y	x	y	x	y	x	y
0.575	0.425	0.508	0.415	0.473	0.453	0.510	0.490

Initial nighttime color limits will be determined in accordance with the requirements of ASTM E 2367 on a beaded surface.

The pigments used for the pavement marking material compound shall not contain any compounds that will exceed the values listed in the Environmental Protection Agency Code of Federal Regulations (CFR) 40, Section 261.24, Table 1.

Job Location Map



Hwy. 124, Sec.4
Log Mile 0.00
Begin Project

Hwy. 124, Sec. 4
Log Mile 0.35
End Project

MIDPOINT OF PROJECT
LATITUDE 35°24'22"
LONGITUDE 92°42'25"



Job No. 080425
Hwy 95 - East (S)
Hwy. 124, Section 4
Conway County

General Notes

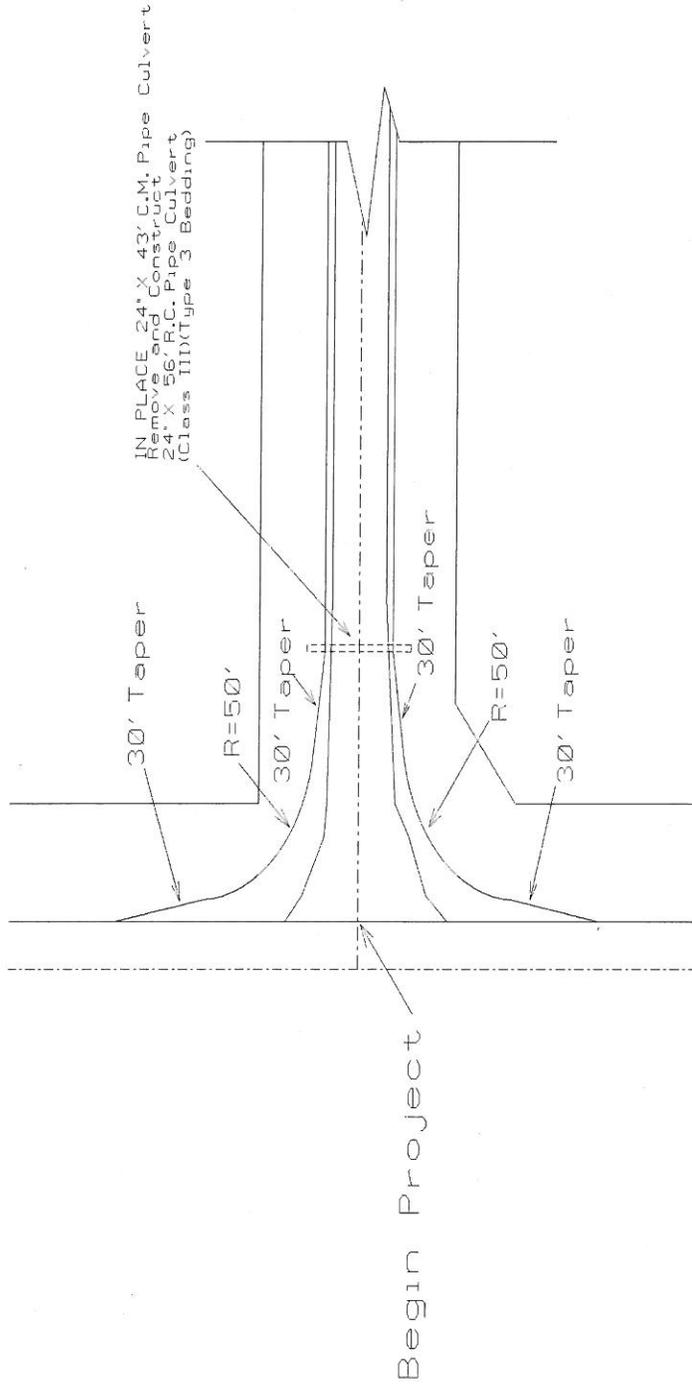
1. Preparatory Work such as clipping the grass and debris from the edge of the existing roadway will not be paid for directly but will be considered a part of the other items of work. After the roadway is completed, this material shall be pulled up to the edge of the new pavement. No direct payment will be made for this work.
2. Asphalt debris resulting from the preparatory work shall be removed from the project. This material shall not be buried within the Right Of Way.
3. Leveling shall be placed and compacted in a separate operation unless directed otherwise by the Engineer.
4. Asphalt Pavement on bridges within the project limits that shall be cold milled prior to repaving.
5. Asphalt overlay of driveways shall be extended if necessary to eliminate undesirable profiles.
6. Asphalt overlay shall be placed up to the face of all guardrail posts.
7. Removal of any existing Raised Pavement Markings will not be paid for directly, but shall be considered subsidiary to other items of work. All such markers shall be removed prior to placing the overlay.
8. Preparatory Work to the existing driveways including excavating driveways that are too high to allow them to be overlaid and tied into the roadway overlay will not be paid for directly but will be considered a part of the other items of work. After the overlay is completed, the material produced from the excavation shall be pulled up to the edge of the new pavement or disposed of as directed by the Engineer. No direct payment will be made for this work.
9. Aggregate Base Course outside the shoulders shall be uniformly compacted, stable, and free of segregated areas. The density requirements of Section 303 are hereby waived at these locations.
10. The edge lines shall not be placed until after all clippings and Aggregate Base Course (Class D-8) have been placed in their final position.
11. Length requirements for asphalt tapers will be as follows:
 - a) For temporary asphalt tapers - 10 feet per inch of overlay
 - b) For permanent asphalt tapers where the speed limit is 55 mph or greater - 100 feet per inch of overlay
 - c) For permanent asphalt tapers where the speed limit is less than 55 mph - 50 feet per inch of overlay.The lengths listed above are minimums. The lengths will be increased where directed by the Engineer to acquire the desired ride quality.

Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Section 4
Conway County

12. The Contractor shall schedule his work so that no lane closures exist for the time period of the work day before a Holiday through the work day after a Holiday and any included weekends for the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas.
13. Material produced from Cold Milling Asphalt Pavement shall remain the property of the Contractor.
14. After an area of the project has been cold milled, it shall be covered with ACHM Surface Course (1/2") within 5 working days. If an area of the project that has been cold milled is not covered with 220 lbs./SY of ACHM Surface Course (1/2") on or before the 5th working day, no additional cold milling shall take place until it is overlaid.
15. Any Construction Pavement Markings that are placed on an area that has been cold milled shall be painted markings complying with Section 718.
16. The Contractor shall remove and reset existing mailbox posts determined by the engineer to be reusable, as necessary, to restore the boxes to the proper height at completion of the overlay. This work will not be measured and paid for directly but will be considered as included in the various other pay items of the Contract. If the Contractor damages the existing post, the post shall be replaced with an acceptable post at no cost to the Department.

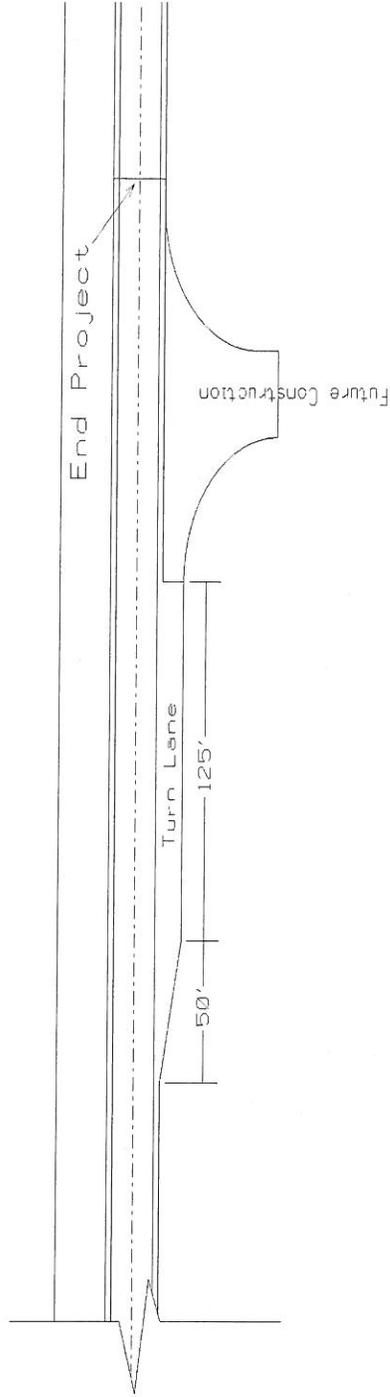
Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Section 4
Conway County

Radius Improvement Detail



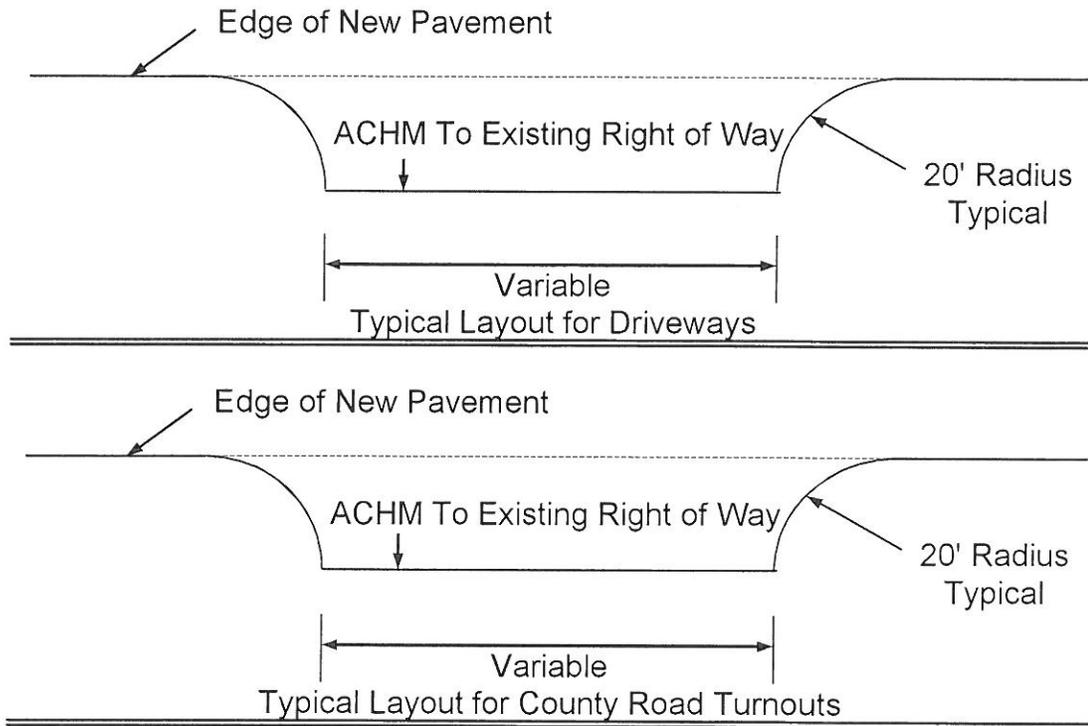
Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Sec. 4
Conway County

Turn Lane Detail



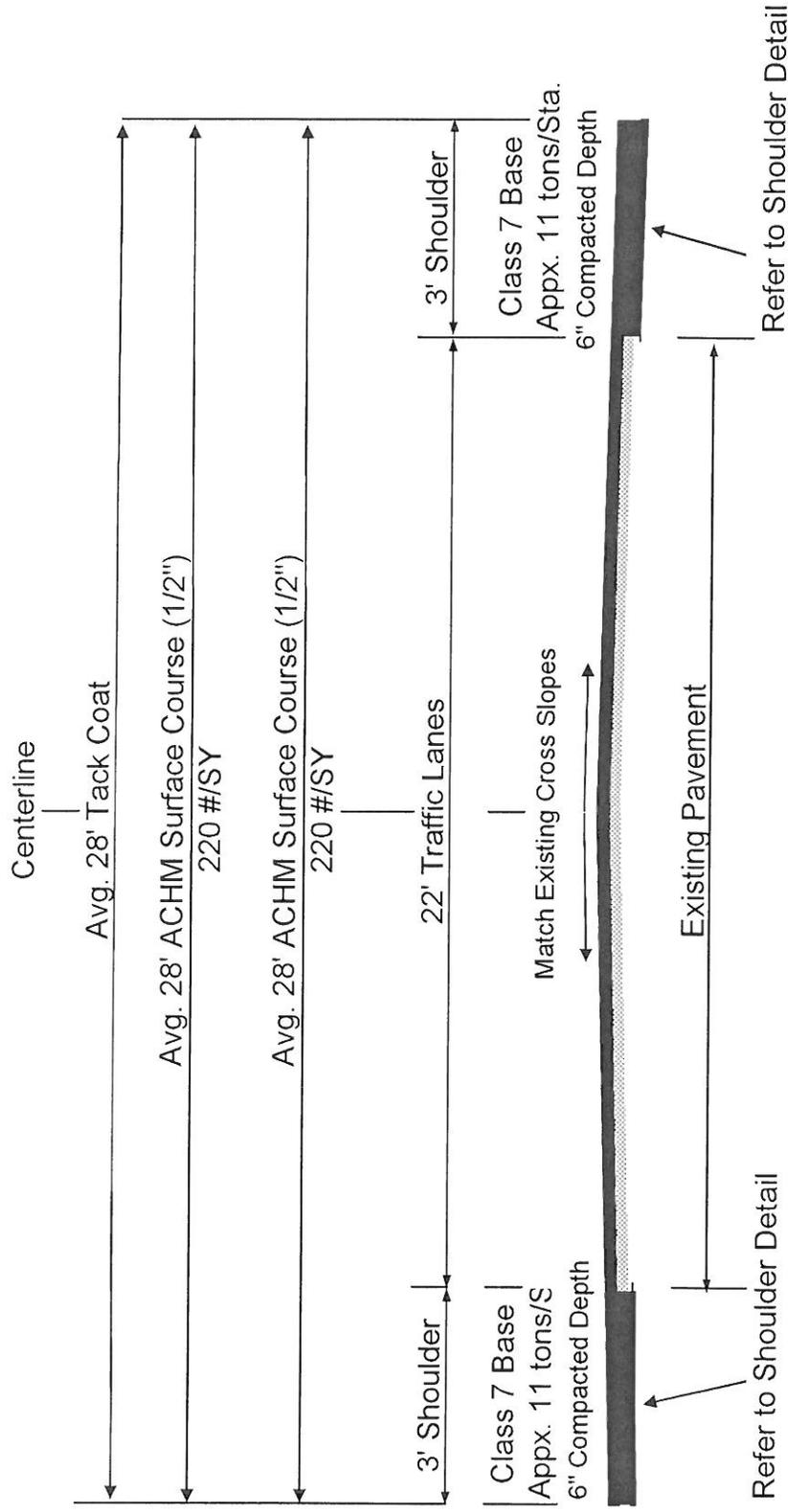
Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Sec. 4
Conway County

Typical Layouts for Driveways, County Roads, and State Highway Intersections



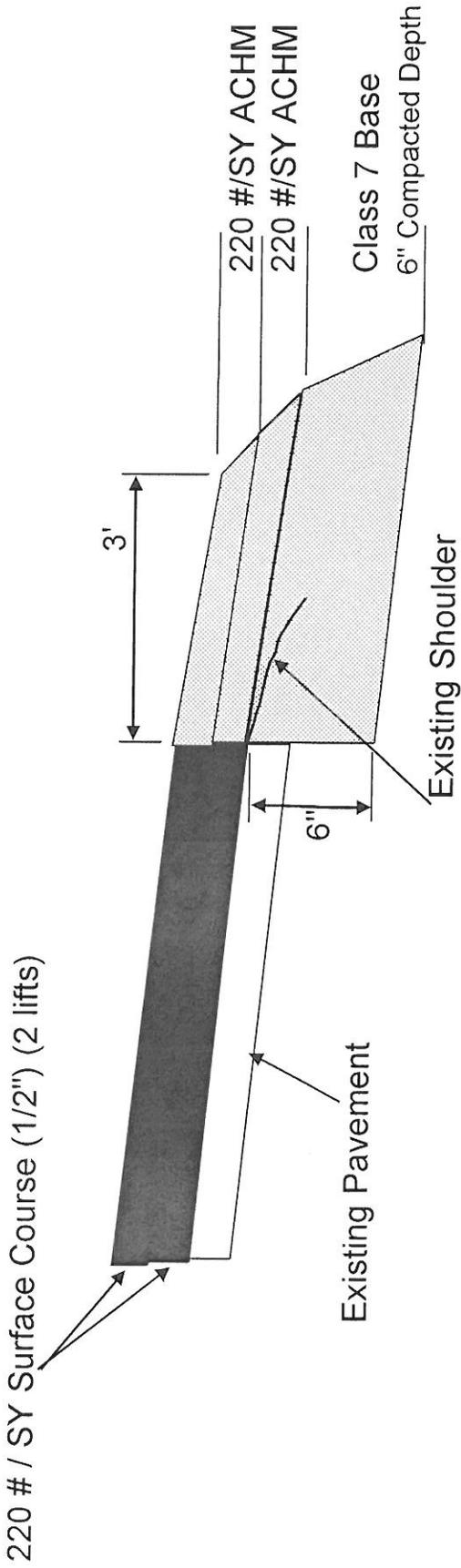
Typical Section

Log Mile 0.00 to Log Mile 0.35



Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Sec. 4
Conway County

Shoulder Detail



Typical Section of Shoulder Improvement

The Contractor shall grade shoulders, including trimming asphalt beyond the paving edge, removing vegetation, excavating excess material, reconstructing the roadway slope with excavated material and disposing of material as directed by the Engineer. This will be paid for with the item "Trenching and Shoulder Prepara

Job No. 080425
 Hwy. 95-East (S)
 Hwy. 124, Sec. 4
 Conway County

Surfacing Quantities

Location		Description	Length		Tack Coat				ACHM Surface Course (1/2")				Aggregate Base Course (Class 7)	
			Log Mile	Linear Feet	Avg. Width	Sq. Yards	Total Gal.	Avg. Width	Sq. Yards	Rate	Total Tons	Tons		
0.01	0.35	Main Lanes/ Shoulders First Lift	1795	28	5584	168	28	5584	220	614				
0.01	0.35	Main Lanes/ Shoulders 2nd Lift	1795	28	5584	168	28	5584	220	614				
0.35	0.39	Hwy 124 - 100' tapers	200	24	533	16	24	533	440	117				
0.01	0.35	Shoulder Construction	1795								410			
		Hwy. 95 Intersection 1st lift			470	14		470	220	52				
		Hwy. 95 Intersection 2 nd lift			470	14		470	220	52				
		Hwy. 95 Intersection									65			
		Turn Lane 1st lift	125	11	153	5	11	153	220	17				
		Turn Lane 1st lift	125	11	153	5	11	153	220	17				
		Turn Lane									57			
		Drives								40				
		Leveling				100				100				
As Directed														
Totals			5835			490				1623	532			

Basis of Estimates:

Tack Coat 0.03 Gal/SY
 Mineral Aggregate in ACHM Surface Course (1/2") 94.40%
 Asphalt Binder (70-22) in ACHM Surface Course (1/2") 5.60%
 Nmax Gyration shall be 160

Earthwork

Location		Description	Unclassified Excavation		Compacted Embankment	
			Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.
End of Proj.		Turn Lane	20	80		
0.00	0.01	Hwy. 95 / Hwy. 124 Intersection	10	25		
Total			30	105		

Shoulder Prep

Location		Description	Trenching and Shoulder Preparation	
			Log Mile	Station
0.01	0.35	Shoulders	18	
Total			18	

Note: All Earthwork Quantities Shown Above to be Paid as Plan Quantity.

Cold Milling

Location		Description	Cold Milling Square Yards
Log Mile	Log Mile		
		Hwy. 95 North 1st pass	235
		Hwy. 95 North 1st pass	235
		Hwy. 95 North 2nd pass	235
		Hwy. 95 North 2nd pass	235
		Totals	940

NOTE: Hwy. 124 will not be milled. Each ACHM lift will have a 100' taper.

Aggregate Surface Course (ClassD-8)

Location		Description	Aggregate Surface Course (Class D-8) Tons
Log Mile	Log Mile		
0.00	0.35	Shoulders	90
		Totals	90

Job No. 080425
Hwy. 95-East (S)
Hwy. 124, Sec. 4
Conway County

Traffic Control Devices

Location	W20-1												G20-1		G20-2		R4-1		R4-2	
	1500'		1000'		500'		AHEAD													
	No.	SF	No.	SF	No.	SF	No.	SF	No.	SF	No.	SF	No.	SF	No.	SF	No.	SF		
Begin Job	2	32	2	32	2	32			2	20	2	16								
End Job	1	16	1	16	1	16			1	10	1	8								
Entire Project																	2	10		
Totals	48	48	48	48	48	48	0	30	24	0	0	24	0	0	0	208				

Note: Retroreflective sheeting materials used in the construction of signs shall comply with AASHTO M 268 Type V Sheeting.

Pavement Markings

Location		Description	Thermoplastic Pvmt. Markings	
Log Mile	Log Mile		White (4")	Yellow (4")
0.00	0.35	Main Lanes	3696	3696
		Turn Lane	100	
				Linear Feet
		Totals	3796	3696

This Roadway is Considered a " Low Volume Highway"
 For Pavement Marking Purposes
 See 604.03 for Final Surface Markings

Structures

Location		Description	R.C. Pipe Culverts	Removal and Disposal of Pipe Culverts
Log Mile	Log Mile		24"	
0.01	0.01	Cross Drain	56	Each 1
		Totals	56	1

Job No. 080425
 Hwy. 95-East (S)
 Hwy. 124, Sec. 4
 Conway County

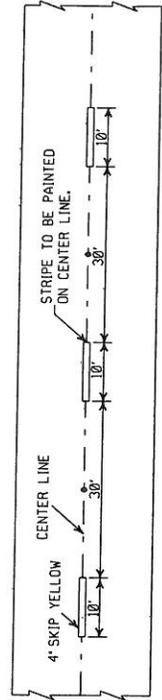
Summary of Quantities

Item No.	Item	Quantity	Unit
202	Removal and Disposal of Pipe Culvert	1	Each
210	Unclassified Excavation	30	Cubic Yard
210	Compacted Embankment	105	Cubic Yard
215	Trenching and Shoulder Preparation	18	Station
SS&303	Aggregate Base Course (Class 7)	532	Ton
SP	Aggregate Surface Course (Class D-8)	90	Ton
401	Tack Coat	490	Gallon
SPSS & 407	Mineral Aggregate In ACHM Surface Course (1/2")	1532	Ton
SPSS & 407	Asphalt Binder (PG 70-22) In ACHM Surface Course (1/2")	91	Ton
412	Cold Milling Asphalt Pavement	940	Square Yard
601	Mobilization	1.00	Lump Sum
SS & 603	Maintenance of Traffic	1.00	Lump Sum
SS & 604	Signs	208	Square Feet
SS & 606	24" Reinforced Concrete Pipe Culverts (Class III)	56	Linear Feet
SS & 719	Thermoplastic Pavement Marking White (4")	3796	Linear Feet
SS & 719	Thermoplastic Pavement Marking Yellow (4")	3696	Linear Feet

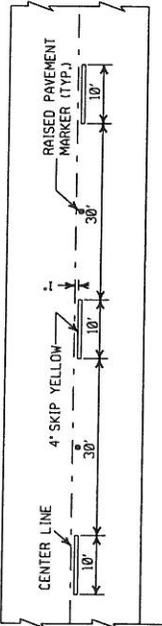
Job No. 080425
 Hwy. 95-East (S)
 Hwy. 124, Sec. 4
 Conway County

NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.

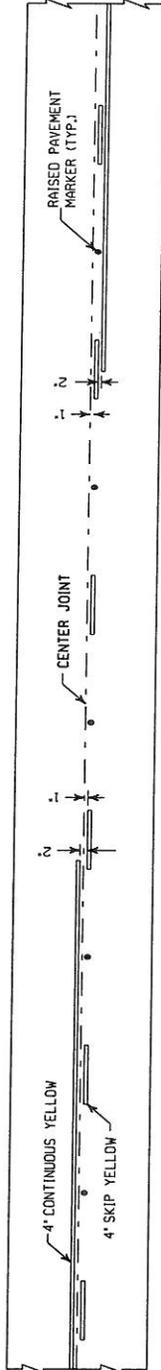


ASPHALT PAVEMENT

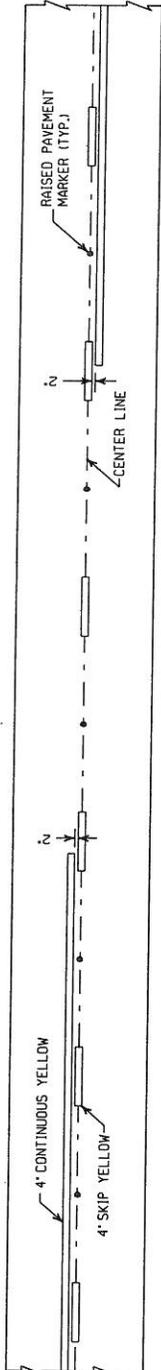


CONCRETE PAVEMENT

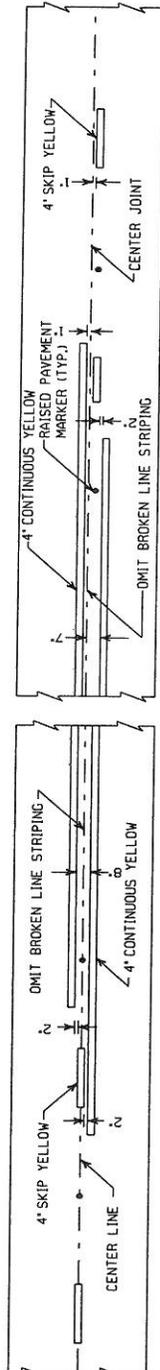
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



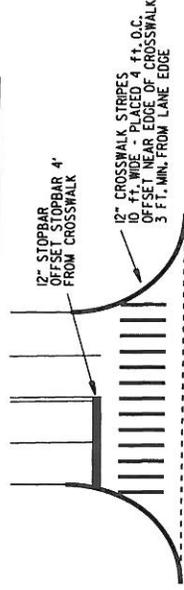
SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



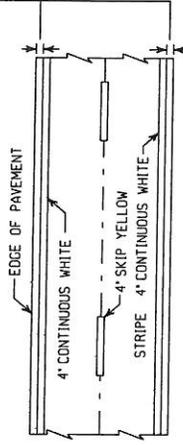
CROSSWALK AND STOPBAR DETAILS

GENERAL NOTES:
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

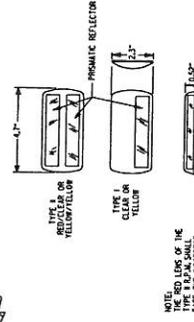
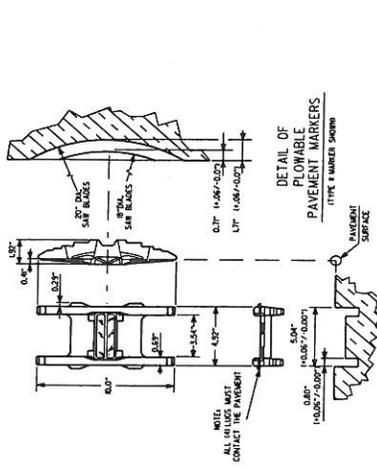
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR PLOWABLE PAVEMENT MARKERS AND RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHD QUALIFIED PRODUCTS LIST.

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LINES OF THE TYPE I MARKER SHALL FACE THE APPROXIMATE TRAFFIC IMPACT.

DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

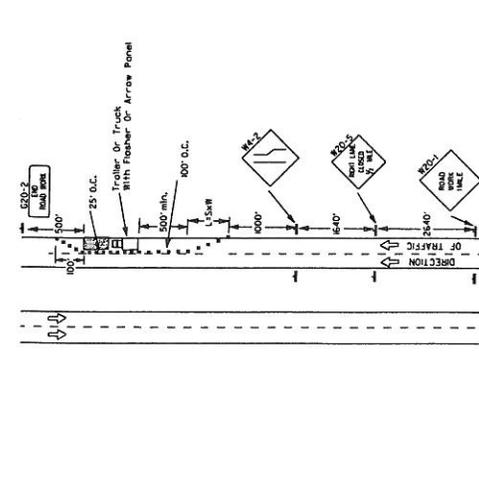
DATE	REVISION	FILED
11-18-84	REVISED NOTE 2 & GENERAL NOTES	
8-22-82	CROSSWALK & STOPBAR	
7-02-88	RAISED DETAILS OF STD. RAISED PAVT. MARKERS	
4-26-95	REV. NOTES 3&4; ADDED R.P.M.	
9-30-88	DRAWN	
1-9-80-80		

ARKANSAS STATE HIGHWAY COMMISSION

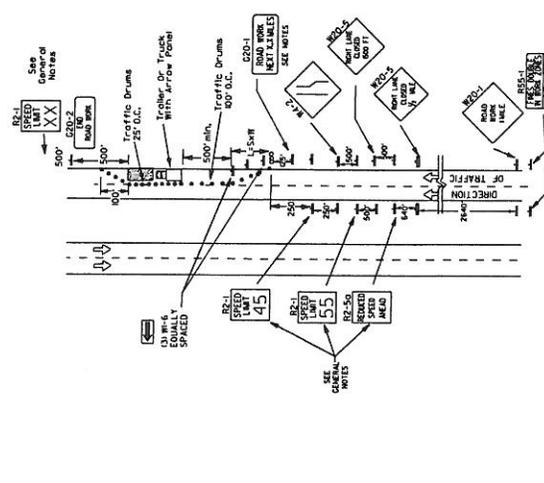
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

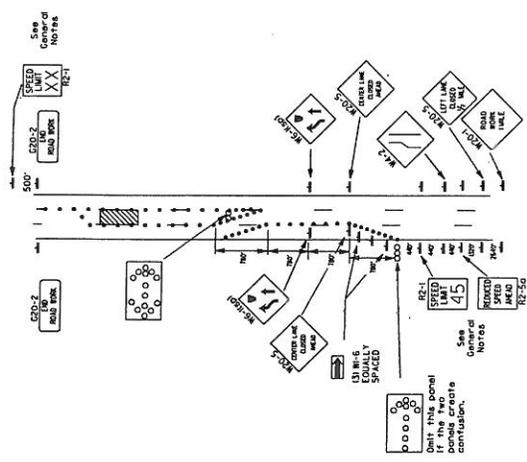
ADVANCE DISTANCES (XXXX)		500 FT 1000 FT 1500 FT		1/2 MILE 3/4 MILE 1 MILE AHEAD	
RI-1		STANDARD EXPRESSWAY SPECIAL	30"x30" 36"x36" 48"x48"	RS-1	
RI-2			36"x36"x36" EXPWY, 48"x48" FRY, 60"x60"x60"	RI-2	
R2-1			24"x30" EXPWY, 36"x48" FRY, 48"x60"	RI-3A	
R2-5A			24"x30" EXPWY, 36"x48" FRY, 48"x60"	RI-4	
R2-5C			24"x30" EXPWY, 36"x48" FRY, 48"x60"	RSP-1	
R4-1			24"x30" EXPWY, 36"x48" FRY, 48"x60"	WI-1	
R4-2			24"x30" EXPWY, 36"x48" FRY, 48"x60"	WI-2	
W1-1			36"x36" 48"x48"	WI-3	
W1-2			36"x36" 48"x48"	WI-4	
W1-3			30"x30" SPECIAL 48"x48"	WI-5	
W1-4			60"x30"	WI-6	
W1-5			48"x24"	WI-7	
W1-6			48"x24" SPECIAL 60"x30"	WI-8	
W1-7			48"x24"	WI-9	
W1-8			48"x24" SPECIAL 24"x30" FRY, 36"x48"	WI-10	
W1-9			36"x36" SPECIAL 48"x48"	WI-11	
W1-10			36"x36" SPECIAL 48"x48"	WI-12	
W2-1			36"x36" SPECIAL 48"x48"	W2-1	
W2-2			36"x36" SPECIAL 48"x48"	W2-2	
W2-3			36"x36" SPECIAL 48"x48"	W2-3	
W2-4			36"x36" SPECIAL 48"x48"	W2-4	
W2-5			36"x36" SPECIAL 48"x48"	W2-5	
W2-6			36"x36" SPECIAL 48"x48"	W2-6	
W2-7			36"x36" SPECIAL 48"x48"	W2-7	
W2-8			36"x36" SPECIAL 48"x48"	W2-8	
W2-9			36"x36" SPECIAL 48"x48"	W2-9	
W2-10			36"x36" SPECIAL 48"x48"	W2-10	
W2-11			36"x36" SPECIAL 48"x48"	W2-11	
W2-12			36"x36" SPECIAL 48"x48"	W2-12	
W2-13			36"x36" SPECIAL 48"x48"	W2-13	
W2-14			36"x36" SPECIAL 48"x48"	W2-14	
W2-15			36"x36" SPECIAL 48"x48"	W2-15	
W2-16			36"x36" SPECIAL 48"x48"	W2-16	
W2-17			36"x36" SPECIAL 48"x48"	W2-17	
W2-18			36"x36" SPECIAL 48"x48"	W2-18	
W2-19			36"x36" SPECIAL 48"x48"	W2-19	
W2-20			36"x36" SPECIAL 48"x48"	W2-20	
W2-21			36"x36" SPECIAL 48"x48"	W2-21	
W2-22			36"x36" SPECIAL 48"x48"	W2-22	
W2-23			36"x36" SPECIAL 48"x48"	W2-23	
W2-24			36"x36" SPECIAL 48"x48"	W2-24	
W2-25			36"x36" SPECIAL 48"x48"	W2-25	
W2-26			36"x36" SPECIAL 48"x48"	W2-26	
W2-27			36"x36" SPECIAL 48"x48"	W2-27	
W2-28			36"x36" SPECIAL 48"x48"	W2-28	
W2-29			36"x36" SPECIAL 48"x48"	W2-29	
W2-30			36"x36" SPECIAL 48"x48"	W2-30	
W2-31			36"x36" SPECIAL 48"x48"	W2-31	
W2-32			36"x36" SPECIAL 48"x48"	W2-32	
W2-33			36"x36" SPECIAL 48"x48"	W2-33	
W2-34			36"x36" SPECIAL 48"x48"	W2-34	
W2-35			36"x36" SPECIAL 48"x48"	W2-35	
W2-36			36"x36" SPECIAL 48"x48"	W2-36	
W2-37			36"x36" SPECIAL 48"x48"	W2-37	
W2-38			36"x36" SPECIAL 48"x48"	W2-38	
W2-39			36"x36" SPECIAL 48"x48"	W2-39	
W2-40			36"x36" SPECIAL 48"x48"	W2-40	
W2-41			36"x36" SPECIAL 48"x48"	W2-41	
W2-42			36"x36" SPECIAL 48"x48"	W2-42	
W2-43			36"x36" SPECIAL 48"x48"	W2-43	
W2-44			36"x36" SPECIAL 48"x48"	W2-44	
W2-45			36"x36" SPECIAL 48"x48"	W2-45	
W2-46			36"x36" SPECIAL 48"x48"	W2-46	
W2-47			36"x36" SPECIAL 48"x48"	W2-47	
W2-48			36"x36" SPECIAL 48"x48"	W2-48	
W2-49			36"x36" SPECIAL 48"x48"	W2-49	
W2-50			36"x36" SPECIAL 48"x48"	W2-50	
W2-51			36"x36" SPECIAL 48"x48"	W2-51	
W2-52			36"x36" SPECIAL 48"x48"	W2-52	
W2-53			36"x36" SPECIAL 48"x48"	W2-53	
W2-54			36"x36" SPECIAL 48"x48"	W2-54	
W2-55			36"x36" SPECIAL 48"x48"	W2-55	
W2-56			36"x36" SPECIAL 48"x48"	W2-56	
W2-57			36"x36" SPECIAL 48"x48"	W2-57	
W2-58			36"x36" SPECIAL 48"x48"	W2-58	
W2-59			36"x36" SPECIAL 48"x48"	W2-59	
W2-60			36"x36" SPECIAL 48"x48"	W2-60	
W2-61			36"x36" SPECIAL 48"x48"	W2-61	
W2-62			36"x36" SPECIAL 48"x48"	W2-62	
W2-63			36"x36" SPECIAL 48"x48"	W2-63	
W2-64			36"x36" SPECIAL 48"x48"	W2-64	
W2-65			36"x36" SPECIAL 48"x48"	W2-65	
W2-66			36"x36" SPECIAL 48"x48"	W2-66	
W2-67			36"x36" SPECIAL 48"x48"	W2-67	
W2-68			36"x36" SPECIAL 48"x48"	W2-68	
W2-69			36"x36" SPECIAL 48"x48"	W2-69	
W2-70			36"x36" SPECIAL 48"x48"	W2-70	
W2-71			36"x36" SPECIAL 48"x48"	W2-71	
W2-72			36"x36" SPECIAL 48"x48"	W2-72	
W2-73			36"x36" SPECIAL 48"x48"	W2-73	
W2-74			36"x36" SPECIAL 48"x48"	W2-74	
W2-75			36"x36" SPECIAL 48"x48"	W2-75	
W2-76			36"x36" SPECIAL 48"x48"	W2-76	
W2-77			36"x36" SPECIAL 48"x48"	W2-77	
W2-78			36"x36" SPECIAL 48"x48"	W2-78	
W2-79			36"x36" SPECIAL 48"x48"	W2-79	
W2-80			36"x36" SPECIAL 48"x48"	W2-80	
W2-81			36"x36" SPECIAL 48"x48"	W2-81	
W2-82			36"x36" SPECIAL 48"x48"	W2-82	
W2-83			36"x36" SPECIAL 48"x48"	W2-83	
W2-84			36"x36" SPECIAL 48"x48"	W2-84	
W2-85			36"x36" SPECIAL 48"x48"	W2-85	
W2-86			36"x36" SPECIAL 48"x48"	W2-86	
W2-87			36"x36" SPECIAL 48"x48"	W2-87	
W2-88			36"x36" SPECIAL 48"x48"	W2-88	
W2-89			36"x36" SPECIAL 48"x48"	W2-89	
W2-90			36"x36" SPECIAL 48"x48"	W2-90	
W2-91			36"x36" SPECIAL 48"x48"	W2-91	
W2-92			36"x36" SPECIAL 48"x48"	W2-92	
W2-93			36"x36" SPECIAL 48"x48"	W2-93	
W2-94			36"x36" SPECIAL 48"x48"	W2-94	
W2-95			36"x36" SPECIAL 48"x48"	W2-95	
W2-96			36"x36" SPECIAL 48"x48"	W2-96	
W2-97			36"x36" SPECIAL 48"x48"	W2-97	
W2-98			36"x36" SPECIAL 48"x48"	W2-98	
W2-99			36"x36" SPECIAL 48"x48"	W2-99	
W2-100			36"x36" SPECIAL 48"x48"	W2-100	
W2-101			36"x36" SPECIAL 48"x48"	W2-101	
W2-102			36"x36" SPECIAL 48"x48"	W2-102	
W2-103			36"x36" SPECIAL 48"x48"	W2-103	
W2-104			36"x36" SPECIAL 48"x48"	W2-104	
W2-105			36"x36" SPECIAL 48"x48"	W2-105	
W2-106			36"x36" SPECIAL 48"x48"	W2-106	
W2-107			36"x36" SPECIAL 48"x48"	W2-107	
W2-108			36"x36" SPECIAL 48"x48"	W2-108	
W2-109			36"x36" SPECIAL 48"x48"	W2-109	
W2-110			36"x36" SPECIAL 48"x48"	W2-110	
W2-111			36"x36" SPECIAL 48"x48"	W2-111	
W2-112			36"x36" SPECIAL 48"x48"	W2-112	
W2-113			36"x36" SPECIAL 48"x48"	W2-113	
W2-114			36"x36" SPECIAL 48"x48"	W2-114	
W2-115			36"x36" SPECIAL 48"x48"	W2-115	
W2-116			36"x36" SPECIAL 48"x48"	W2-116	
W2-117			36"x36" SPECIAL 48"x48"	W2-117	
W2-118			36"x36" SPECIAL 48"x48"	W2-118	
W2-119			36"x36" SPECIAL 48"x48"	W2-119	
W2-120			36"x36" SPECIAL 48"x48"	W2-120	
W2-121			36"x36" SPECIAL 48"x48"	W2-121	
W2-122			36"x36" SPECIAL 48"x48"	W2-122	
W2-123			36"x36" SPECIAL 48"x48"	W2-123	
W2-124			36"x36" SPECIAL 48"x48"	W2-124	
W2-125			36"x36" SPECIAL 48"x48"	W2-125	
W2-126			36"x36" SPECIAL 48"x48"	W2-126	
W2-127			36"x36" SPECIAL 48"x48"	W2-127	
W2-128			36"x36" SPECIAL 48"x48"	W2-128	
W2-129			36"x36"		



(A) Typical application - daytime maintenance operations of short duration on a 2-lane divided roadway where half of the roadway is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



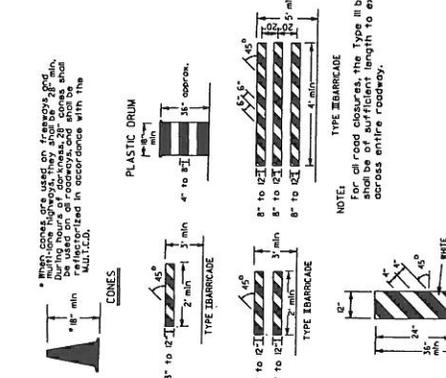
(B) Typical application - 3-lane roadway where center lanes is closed.

KEY:
 ○○○○ Arrow Panel Required
 ■ Channelizing Device
 ● Traffic drum

- GENERAL NOTES:
1. Speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
 2. When the existing speed limit is 55mph and the plans require a speed limit reduction, the speed limit sign shall be installed at the beginning of the work zone. Additional speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work zone a R2-111 shall be installed to match original speed limit.
 3. When the existing speed limit is 65mph and the plans require a speed limit reduction, the speed limit sign shall be installed at the beginning of the work zone. At the end of the work zone a R2-111 shall be installed to match original speed limit.
 4. The maximum spacing between channelizing devices in a taper shall be approximately equal in feet to the speed limit. Beyond the taper, the spacing shall be 100 feet. The speed limit or as directed by the Engineer.
 5. Warning lights and/or flags may be mounted on signs or channelizing devices at night as needed.
 6. Pavement markings no longer applicable which might create confusion shall be removed or obliterated as needed.
 7. The R2-1 sign will be required on jobs of 1/2 mile or less in length. When the lane closure is not at the beginning of the project, the R2-1 sign shall be erected 125 feet in advance of the job limit. Additional R2-1 signs shall be placed at 1/2 mile intervals in advance of lane closures that begin inside the project limits.
 8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
 9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
 10. Message signs shall be shown on the front of the trailer, when placed on a continuous line on the face of the trailer. When placed on or adjacent to a continuous line, the message shall be shown on the front and adjacent side of the trailer. The message shall be shown on the front and adjacent side of the trailer. The message shall be shown on the front and adjacent side of the trailer. The message shall be shown on the front and adjacent side of the trailer.

(D) Typical application - closing multiple lanes of a multilane highway.

Channelizing devices

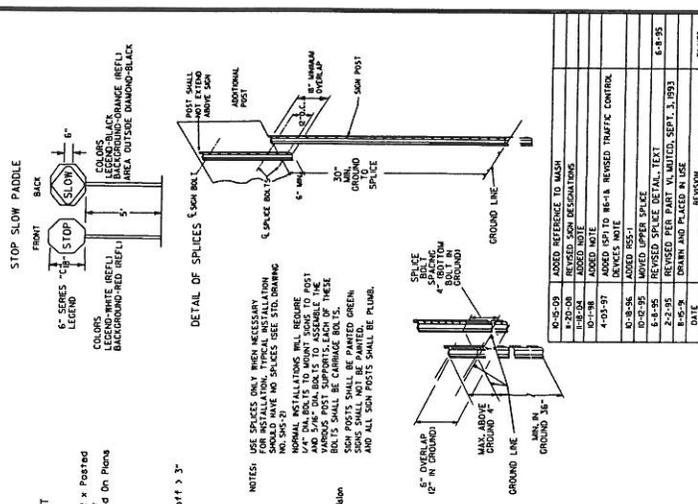


TRAFFIC CONTROL DEVICES FOR PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL DEVICES
1" to 3"	Center-line, lane lines	WB-1
Greater than 3"	Edge of shoulder	WB-9
Greater than 3"	Edge of traveled lane	Standard lane closure required
Greater than 3"	Edge of shoulder	Standard lane closure required

When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels and be used.

NOTE: For all road closures, the Type II barricade shall be of sufficient length to extend across entire roadway.



ARKANSAS STATE HIGHWAY COMMISSION
 STANDARD TRAFFIC CONTROLS
 FOR HIGHWAY CONSTRUCTION
 STANDARD DRAWING TC-3