The following are procedures to be used to revise the Guidelines for Operation presented in this document:

- Revisions may be in the form of additions, deletions or modifications.

- Deletions should be in the form of a letter from the Transportation Director withdrawing the Guideline. The contents of the appropriate section will be marked to show effective date of deletion.

- Revisions may be made through the actions of the Transportation Director, the Chief Engineer, the Assistant Chief Engineers, Bureau Chiefs, and Division Engineers.

- Revisions, other than deletions, should be submitted in draft form to the Chief Design Engineer prior to ascertaining the required signatures as outlined herein. The revised guideline will be returned to the initiator in the standard format ready for the signature process.

- Revisions initiated by the Transportation Director need bear only the signature of the Transportation Director.

- Revisions initiated by the Chief Engineer or his assistants, need to bear the signatures of the Chief Engineer and the Transportation Director.

- Revisions initiated by the Bureau Chiefs and Division Engineers need to bear three signatures. It will be the responsibility of that Division Engineer or Bureau Chief who is seeking the change to handle the coordination with others involved and present the facts and proposed modification for signature to the Chief Engineer. The Transportation Director’s signature will be the third signature required.

- Revisions in their competed form should be resubmitted to the Chief Design Engineer to be placed in line for printing and distribution.

- Guideline revisions do not have to be initiated by the original author.
SECTION 1

ADMINISTRATIVE CONTENTS

Equal Employment Statement ................................................................. 1-1
Solicitation within State Highway Building ........................................... 1-2
Firearms in State Highway Department Buildings ............................... 1-3
Microcomputers ...................................................................................... 1-4
Wearing of Hard Hats ............................................................................ 1-5
Special Work Authorization Limitations ................................................. 1-6
Employees Working for Contractors ..................................................... 1-7
Issue of Hand Tools (Manual or Power) and Personal Safety Items ........... 1-8
Leasing Rights of Way Airspace ............................................................. 1-9
Limitation on Purchase Order Asphalt Plant Mix ................................. 1-10
Sale and Acceptance of Bid Proposals .................................................. 1-11
Transportation Needs-Construction ...................................................... 1-12
Procedures for Handling Hazardous/Toxic Material Sites Involved with Highway Projects ............................................................... 1-13
Confidentiality of the bidding Process .................................................. 1-14
Architectural Services ......................................................................... 1-15
Roadway Lighting ............................................................................... 1-16
Safety Belts ............................................................................................ 1-17
Sale or Lease of Right of Way or Other Property of the Alabama Department of Transportation .......................................................... 1-18
Third Party Agreements Between the Department, Other Local Government Agencies and Consultants ............................................. 1-19
Procedures for Processing State and Industrial Access Funded County and City Projects
Administration of Surface Transportation Program (STP) Projects in Urbanized Areas Over 50,000 Population
Engineering Education and Training Program Per Diem, Transportation and Moving Expenses
Metrics and Metric Conversion Guideline #1
Metrics and Metric Conversion Guideline #2
Metrics and Metric Conversion Guideline #3
Metrics and Metric Conversion Guideline #4
Metrication of the Transportation enhancement Program
RESERVED
RESERVED
RESERVED
RESERVED
Procedure for Distribution of Federal Aid Funds to Counties
Appropriate Use of Rest Area and Welcome Center Facilities
Request for leave in Regard to Court Proceedings
Guidelines for Closure of Rail Highway Grade Crossings
Determining Final Project Costs When There is Litigation Against the Department
Safety Data Providing Friction-Skid Resistance numbers to Divisions
Family Disclosure Guideline
Rail/Highway Safety Program
Interstate Roadway Closures and Interstate Lane Closures
Text Messaging While Driving Policy
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: EQUAL EMPLOYMENT STATEMENT

It is the intent of the State of Alabama Highway Department to assure compliance with Title VII, Section 703(b) of the Civil Rights Act of 1964 and related codes, statutes and regulations.

The following is the State of Alabama Highway Department's Equal Employment Opportunity Statement:

"It is the intent of the State of Alabama Highway Department to assure that applicants are employed and employees are treated during employment without regard to their race, religion, sex, color, national origin, age, or handicap. Actions covered by this statement shall include employment, promotion, demotion, transfer, recruitment, selection for training, rates of pay, and any other form of compensation."

RECOMMENDED FOR APPROVAL:

EQUAL EMPLOYMENT OPPORTUNITY OFFICER

APPROVAL: ________________________
ADMINISTRATIVE ENGINEER

APPROVAL: ________________________
HIGHWAY DIRECTOR

5/20/88
DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: SOLICITATION WITHIN STATE HIGHWAY BUILDING

The solicitation by any group or individual within State Highway Department buildings provides a distraction to workday effort. These disruptions hinder work effort and are not in the best interest of utilization of the workday and the expenditure of the tax dollar.

In consideration of the above statements, no solicitation will be allowed within State Highway Department buildings.

RECOMMENDED FOR APPROVAL: ________________________________

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ________ Donald R. Lucas ____________
ADMINISTRATIVE ENGINEER

APPROVAL: __________ Royce G. King ____________ 5/20/88
HIGHWAY DIRECTOR DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: FIREARMS IN STATE HIGHWAY DEPARTMENT BUILDINGS

No firearms shall be brought into any State Highway Department building at any time by an Alabama Highway Department employee. Any employee violating the above statement shall be subject to disciplinary action.

This shall not apply to any duly authorized law enforcement officer.

RECOMMENDED FOR APPROVAL: _______________________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________ Donald R. Lucas _______________
ADMINISTRATIVE ENGINEER

APPROVAL: ____________ Royce G.King _______________ 5/20/88
HIGHWAY DIRECTOR DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: MICROCOMPUTERS

In order to realize the maximum benefits of microcomputers, its utilization must be coordinated with other data processing activities within the department. To accomplish this coordination, all requests for computer hardware and software, including those relating to microcomputers, must be submitted to the Bureau of Computer Services for review and approval. This procedure will also aid in the processing of requests through the Data Systems Management Division of the Finance Department.

RECOMMENDED FOR APPROVAL: _______________ Danny L. Floyd________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Donald R. Lucas________________
ADMINISTRATIVE ENGINEER

APPROVAL: __________ Royce G. King______________________ 5/20/88
HIGHWAY DIRECTOR DATE
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINE FOR OPERATION

SUBJECT: Wearing of Hard Hats and High Visibility Safety Apparel

Hard Hats

The wearing of hard hats during any hazardous activity is mandatory. These activities include those maintenance and construction work areas where exposure to head injury might logically be anticipated. Supervisors and visitors to work sites are expected to wear and enforce the wearing of hard hats as noted above. Any exceptions to this should be handled on an individual basis with appropriate documentation in the personnel files.

High Visibility Safety Apparel

All workers within a highway right-of-way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel.

Workers means people on foot whose duties place them within the right-of-way of a highway, such as construction and maintenance forces, survey crews, utility crews, responders to incidents within the right-of-way, and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way.

High-visibility safety apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and that meets 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.”

Reference is made to the requirements of Title 23 of the Code of Federal Regulations, Part 634, titled the Worker Visibility Rule.

Recommended for approval: [Signature]
Bureau Chief
Approved: [Signature]  
Chief Engineer
Approved: [Signature]  
Transportation Director
Date: November 24, 2008
SUBJECT: SPECIAL WORK AUTHORIZATION LIMITATIONS

Work to be performed for outside entities by the Department on a Special Work Authorization should be carefully reviewed by all parties concerned to ensure that this work can be accomplished without having a detrimental effect on the normal operations of the Department. The monetary amount of such work should normally be limited to a total of approximately $20,000 at any particular location. Special Work Authorizations, in excess of this amount, should be accompanied by special recommendations to the Director outlining the reasons for the overrun of the above amounts, and no work or other action should be started prior to his approval.

APPROVAL: _______________ Tom Espy, Jr. _______________
             CHIEF ENGINEER

APPROVAL: _______________ Royce G. King _______________ 7/26/88
             HIGHWAY DIRECTOR            DATE

1-6                                                  Rev. 7/88
STATE OF ALABAMA

HIGHWAY DEPARTMENT

GUIDELINES FOR OPERATION

SUBJECT: EMPLOYEES WORKING FOR CONTRACTORS

Advisory Opinion No. 1228 by the Alabama Ethics Commission states that State Highway Department personnel and county employees who are charged with the responsibility of inspecting and approving work performed under a highway construction project must not be employed by the contractor. All employees of the State Highway Department are to abide by this Ethics Commission opinion and failure to do so will result in disciplinary action.

No state employee should perform any work for any contractor and/or vendor of any type who has a contract with the State Highway Department for either doing work or furnishing any type of materials for which the State Highway Department may be responsible for testing, checking, or in any way approving for use. This includes all phases of our work and any questions concerning the propriety of doing such work on a specific case should be addressed directly to the Highway Director or his designated representative.

The above referenced opinion further states that this pertains to any work done at any time, whether it be on holidays, weekends, or whether the employee may be taking annual leave time to perform such work. It is not proper and does not appear to be in the public’s interest to allow such activities to be conducted.

Complete compliance with this guideline is expected as of the date of the Director’s signature.

APPROVAL: Royce G. King
HIGHWAY DIRECTOR
7/26/88

DATE

1-7

Rev. 7/88
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: ISSUE OF HAND TOOLS (MANUAL OR POWER) AND PERSONAL SAFETY ITEMS

All initial issues of hand tools and personal safety items will be made only upon presentation of a properly-prepared and authorized Field Requisition for Supplies (E-8) or Requisition on Stock Room (E-5) to the Inventory Clerk.

Issue of replacement hand tools and personal items will require return of worn out or broken items to the Inventory Clerk with a properly-prepared request document. Failure to return an item will require an explanation, in writing, before re-issue will be permitted.

HAND TOOLS AND PERSONAL SAFETY ITEMS ARE AS FOLLOWS:

a) Electrical or air power tools under $100 value.
b) Wrench sets, socket sets, sockets, wrenches, pliers, and other related mechanical tools.
c) Shovels, picks, axes, sledge hammers, ditchblades, and other suchlike maintenance tools.
d) Rain gear, gloves, hard hats, safety flags, water coolers-portable, and etc.

RECOMMENDED FOR APPROVAL: ____________Robert W. Pickett, Jr.______________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Tom Espy, Jr. ____________
CHIEF ENGINEER

APPROVAL: __________ Royce G. King ____________ 10/31/88
HIGHWAY DIRECTOR DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: LEASING RIGHTS-OF-WAY AIRSPACE

Leases of all Rights-of-Way Airspace to proprietary users will be at fair market value on a monthly or annual rental basis. If the right-of-way airspace was acquired as a result of a project funded in whole or in part with Federal-aid, the Federal share of the net income from the revenues received must be used for projects eligible under Chapter 1 of Title 23 United States Code.

Leases of all Rights of Way Airspace to local governments or state agencies for non-proprietary use will be at one dollar per year rental rate.

Details for each specific lease will be drafted to meet the specific need of the lease involved. One year leases, having a 30 to 90 day cancellation clause exercisable by either party, will be used. The leases will be renewable unless either party wishes to terminate.

RECOMMENDED FOR APPROVAL: Paul Baumbach
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Howard S. Cantin
CHIEF ENGINEER

APPROVAL: Reuben D. White
HIGHWAY DIRECTOR

1/04/92

1-9

Rev. 2/93
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: LIMITATION ON PURCHASE ORDER ASPHALT PLANT MIX

Asphalt plant mix to be utilized and placed by state forces and purchased through our annual contract purchase orders should normally be limited to a maximum of 1000 metric tons of any one type of plant mix involved.

Exceptions to this guideline should have prior approval of the Highway Director.

RECOMMENDED FOR APPROVAL: W.E. Page
OPERATIONS ENGINEER

APPROVAL: Tom Espy Jr. 11/9/89
CHIEF ENGINEER DATE

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

1-10 Rev. 10/93
SUBJECT: SALE AND ACCEPTANCE OF BID PROPOSALS

The following guidelines should be followed in the sale and acceptance of bid proposals for projects let to contract by the Alabama Highway Department after February 1, 1990:

Bid proposals will be sold to contractors that meet the prequalification requirements set forth by the Standard Specifications for Highway Construction and applicable amendments. All sales are final and no refunds will be given.

A contractor’s bid proposal will not be accepted by the Department if the contractor has been disqualified by the Department unless the disqualification is for unsatisfactory progress and the disqualification notice was issued within 24 hours of the bid opening.

RECOMMENDED FOR APPROVAL: N.S Cauthen
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 2/1/90
HIGHWAY DIRECTOR DATE

1-11 Rev. 6/90
SUBJECT: TRANSPORTATION NEEDS - CONSTRUCTION

The assignment of construction personnel is appropriately described as temporary. Their base location coincides with the location of the project to which they are assigned; consequently, these employees are frequently transferred around the field division as project assignments change.

Costs associated with transportation of personnel constitutes only a minor part of the total costs of providing engineering and inspection for the construction program in a field division.

PROJECT ENGINEERS

Personnel who are assigned with the responsibilities of project engineer can be assigned a vehicle. Generally a radio-equipped pickup is considered appropriate.

Project engineers can be allowed to commute a reasonable distance in their assigned vehicle to their residence when off duty.

OTHER CONSTRUCTION PERSONNEL

Construction personnel can be allowed to commute in state vehicles from an approved parking site to their assigned project sites.

As a general rule, commuter vehicles should be parked at a Highway Department facility such as division or district office. However, the division engineer should be allowed to authorize off-premise parking sites (other than employees’ residence) on special occasions when the best interest of the state can be gained and proper security can be maintained.

EXCEPTIONS

Any deviation from these guidelines must be approved by the Highway Director.

APPROVAL: D.W. Vaughn
ADMINISTRATIVE ENGINEER

APPROVAL: Royce G.King  4/26/90
HIGHWAY DIRECTOR  DATE

1-12  Rev. 6/90
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: PROCEDURES FOR HANDLING HAZARDOUS/TOXIC MATERIAL SITES INVOLVED WITH HIGHWAY PROJECTS

I. Introduction and Background

A. Federal and State Legislation (and subsequent regulations) specify that owners of property containing hazardous and/or toxic material can be held responsible for cleaning up the site(s). Such clean-ups can be extremely expensive, particularly if groundwater is contaminated, and can result in a tremendous escalation in project costs as well as considerable delays. It is, therefore, in the Highway Department’s interest to identify and avoid these sites whenever possible. If sites cannot be avoided, attempts will be made to have them cleaned up prior to acquisition. When the Highway Department must pay for clean-ups, attempts will be made to recover the clean-up costs from the responsible party(ies).

B. These procedures apply to state funded as well as federally funded projects, and to projects on existing right-of-way as well as acquired right-of-way. When consulting firms are performing the location and environmental studies for a project, the consultant will perform the duties outlined below for the location and environmental personnel. When a Division is the “Lead Agency” for project development, Division location personnel will perform the duties outlined for the Location Section.

II. Identification of Potential Hazardous/Toxic Sites

A. One of the first items in the development of any project is for the Location Section (or Division Location personnel if Division is the lead agency) to develop all feasible alternates that are to be considered within a project corridor. At this point, as part of the initial site review, the Location Section (or Division) will identify as many potentially hazardous waste sites (underground storage tanks, landfills, etc.) as possible and will attempt to avoid them if at all possible with the preliminary alternates that are developed.

B. The next phase of location studies involves preparation of base maps showing the alternates to be carried forward for detailed studies. At this point, the Location Section will forward layouts to: (1) Right-of-Way (ROW) Bureau, (2) Utilities Section, (3) Environmental Technical Section (ETS), and (4) the Hazardous Material Coordinator (HMC) located in the Bureau of Materials and Tests (M&T). (If Division is the lead agency, layouts will be furnished directly to Division ROW and Utility personnel, instead of the ROW Bureau and the Utilities Section.)
1. Division ROW personnel, in performing their relocation analysis to be included in environmental documents, will note any underground storage tanks (active and inactive), landfills, industries with potential hazardous/toxic waste, etc., that will likely be acquired. For properties in developed areas, a research of ownership for the previous 50 years (at least) will be conducted in an attempt to determine if the property was previously used in an activity which could have involved hazardous/toxic materials. A site identification form will be forwarded to the ROW Bureau, who will send copies to the ETS and the Location Section of the Design Bureau.

2. Division utility personnel, in their field review to determine a utility cost estimate, will note any underground storage tanks or other sites with potential hazardous/toxic material within the anticipated right-of-way. Coordination will be made with Division ROW to eliminate duplicate sites. Site identification forms (for non-duplicate sites) will be forwarded to the Utilities Section, who will send copies to the Location Section and ETS.

3. ETS personnel, as part of their environmental studies for a proposed project, will attempt to identify underground storage tanks (active and inactive), landfills, industries with potential hazardous/toxic wastes, etc., that may be affected by the project. Site identification forms will be forwarded to the Location Section.

4. The HMC will review the layout in conjunction with appropriate Alabama Department of Environmental Management (ADEM) lists to determine conflicts with any (1) known hazardous/toxic waste generators, treaters, storers or disposers; (2) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites; or (3) registered underground storage tanks (UST’s). This information will be forwarded to the Location Section and the ETS.

5. During the public involvement and public hearing process, requests will be made to the public for information on any hazardous/toxic waste sites. Forms will be available for individuals to complete and turn in to State Personnel.

C. The Location Section (or Division Location Section) will review the location of all potential hazardous/toxic sites identified during the location phase. At this time, a field review (if deemed necessary) may be made by Location and ETS personnel and the HMC to determine if minor revisions need to be made to preliminary alignments to avoid potential hazardous/toxic sites. If practical, an alternate that avoids hazardous/toxic sites should be selected. If a hazardous/toxic site cannot be avoided, the reasons should be properly documented and furnished to the ETS.

D. For sites determined (under Item C) to be not practical to avoid, the ETS will forward the site identification forms to the HMC with a request for investigation.

III. Determination of Type and Magnitude of Contamination,
Clean-up Procedures and Estimated Cost

A. For sites involving only petroleum contamination or petroleum UST’s, the HMC will arrange to have a drill crew (either M&T or Division) take appropriate samples. The HMC will have the samples analyzed by the M&T lab for total petroleum hydrocarbons (TPH).

1. If test results indicate that the site(s) are not contaminated, tank closures will usually be handled as part of the construction contract.

2. In some cases, if lead time permits, it may be desirable to contract for tank closure prior to construction of the project. The HMC will coordinate (through the M&T Bureau Chief) with the Assistant Chief Engineer (Engineering) for this decision.

3. If tank closure is handled prior to construction, it may be handled under a consultant agreement (coordinated by the HMC) or a separate contract may be let, as determined by the Assistant Chief Engineer. All tank closure contracts will be coordinated with the HMC.

4. In either case, the HMC will forward the above information to the Design Bureau, ETS, ROW and the appropriate Division. If tank closure is to be handled during construction, appropriate notes and/or special provisions will be incorporated into the plans by the designer. All reports for UST closures or hazardous/toxic site clean-ups will be coordinated through the HMC prior to submittal to ADEM or other public agencies.

B. For sites that have the potential for contamination other than (or in addition to) petroleum contamination, the HMC will usually coordinate with a consultant to sample and analyze the site. In some situations, the HMC may arrange for samples to be picked up by the Highway Department personnel and analyzed by the State Lab (through ADEM).

C. For sites determined under Items A or B to be contaminated, the HMC will coordinate with a consultant to determine the type and extent of contamination, develop a plan for the most cost-effective method of clean-up, and provide an estimated cost for the clean-up. The HMC will coordinate the consultant’s report with ADEM for confirmation of clean-up requirements or exemptions. A copy of the consultant’s report will be forwarded to the Design Bureau, ETS, ROW and the appropriate Division. For federally funded projects, a copy will also be sent to the Federal Highway Administration (FHWA).

1. A review will be made at this time by the Lead Agency to determine if clean-up costs are so excessive as to warrant project relocation or abandonment.

2. If the project is continued as proposed (still involving the contaminated site), information about the site will be included in the environmental document by the ETS for federally funded projects. The environmental
The document will be reviewed and approved by FHWA prior to Location Approval.

3. The HMC will contact ADEM to attempt to have the property owner clean-up the site prior to acquisition of the property by the department.

4. The ROW Engineer will consult with the Assistant Chief Engineer (Engineering) for a decision on whether to purchase the property prior to clean-up will be considered in the appraisal of the property.

5. After the property is acquired, if lead time permits, it may be desirable to contract for the tank closure and/or clean-up prior to construction of the project. The HMC will coordinate (through the M&T Bureau Chief) with the Assistant Chief Engineer (Engineering) for this decision.

6. If tank closure and/or clean-up is handled prior to construction, it may be handled under a consultant agreement (coordinated by the HMC) or a separate contract may be let, as determined by the Assistant Chief Engineer. All clean-up contracts will be coordinated with the HMC.

7. If the decision is made (in Section III, Item C,5) to include clean-up of the site(s) as part of the construction contract, the HMC will forward this information to the Design Bureau and the appropriate Division. Appropriate notes and/or special provisions will be incorporated into the plans by the Designer. All reports for UST closures or hazardous/toxic site clean-ups will be coordinated through the HMC prior to submittal to ADEM or other public agencies.

IV. Late Discovery of Sites

A. During the survey of the selected alternate, location survey parties will note any UST’s, landfills, or other potentially hazardous/toxic waste site on the site identification form and forward it to the Location Section (Central Office or Division). For any site(s) not previously reviewed, the Location Section (or Division) will determine if the line can be shifted to miss the site and, if not, will forward the site identification forms to the HMC for investigation. (For federally funded projects, a copy of the form will also be sent to FHWA.) Procedures, in Section III will then be followed.

B. Some hazardous/toxic or UST sites may not be discovered until the right-of-way appraisal stage. For sites discovered at this time (not previously investigated), ROW will forward the site identification form to the HMC with a request to determine the type and extent of contamination and an estimated cost for clean-up. (For federally funded projects, a copy of the form will also be sent to FHWA.) Procedures under Section III will then be followed for these sites.

C. Some hazardous/toxic or UST sites may be discovered during construction. Site information will be forwarded by the Division through the Construction Bureau to the HMC. (For federally funded projects, a copy of the form will also be sent to FHWA.) The
HMC will coordinate the appropriate portions of Section III, and will arrange a contract for the clean-up, if required.

V. Priorities for Hazardous/Toxic Site Investigations

Since the HMC will be receiving numerous requests for site investigations from a number of different sources, it is necessary that priorities be established. Each Section or Bureau (ETS, ROW, etc.) will identify priorities for their requests. The HMC will coordinate (through the M&T Bureau Chief) with the Assistant Chief Engineer (Engineering) for overall priorities.

VI. The Assistant Chief Engineer will coordinate any final decisions on these matters through the Consultant Selection Committee, the Chief Engineer and Highway Director as appropriate.

APPROVAL: Tom Espy Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 12/26/90
HIGHWAY DIRECTOR DATE

1-13 Rev. 6/94
SUBJECT: CONFIDENTIALITY OF THE BIDDING PROCESS

Maximum confidentiality must be maintained regarding certain documents and information relating to the bid process of transportation construction projects. This includes the Department’s official estimate and the contractor’s official bid proposal, including all information pertaining thereto and contained therein.

A. OFFICIAL ESTIMATE

The Department’s official estimate will be held in strict confidence and available only to those personnel within the Department and the Federal Highway Administration who have a definite need to know until such time as the project is awarded and the estimate made a matter of public record.

B. BID REVIEW

1. The Bid Review Committee will meet following receipt of the bids and review the bids against the Department’s official estimate. Bids recommended for award or rejection will be forwarded through the Chief Engineer to the Transportation Director for his concurrence or nonconcurrence in the Bid Review Committee report.

2. All actions and deliberations of the Department’s Bid Review Committee will be kept as strict confidential information within the Department.

3. If the Bid Review Committee feels it needs additional information prior to the recommending award or rejection of a bid, the Bid Review Committee shall, by separate letter, so notify the Transportation Director through the Chief Engineer. If the Transportation Director concurs, the bidder will be requested by the Transportation Director to submit this information. The bidder will be provided with the opportunity to meet with a subcommittee of the Bid Review Committee to present information relative to those items requested by the Transportation Director. The bidder must submit or present this information to the subcommittee within five working days after receipt of notification from the Transportation Director.

The subcommittee of the Bid Review Committee will be as follows:
- Chairman of the Bid Review Committee
- Construction Engineer
- Maintenance Engineer
- Office Engineer
Advisors to the subcommittee of the Bid Review Committee will be the staff of the Office Engineer Bureau.

4. The subcommittee shall also meet with the low bidder when requested by the Director in order to provide additional information for consideration by the committee. The low bidder must present this information within five working days after receipt of notification from the Transportation Director.

5. Any meeting between the bidder and the Department regarding his bid shall be attended by a minimum of two members of the subcommittee of the Bid Review Committee. The sole purpose of the meeting is to receive information from the bidder.

6. No other contact will be made by the Department official with the bidder other than the process referenced above. If any Department employee is contacted regarding the status of any bid by any bidder, bonding company, vendor or person, their reply shall simply state the bid is under review by the Department and no discussion of the details of the review process are in order.

RECOMMENDED FOR APPROVAL: ___________________________ Dykes T. Rushing
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _______ Newal S. Cauthen _________
CHIEF ENGINEER

APPROVAL: _______ M. Roberts _________ 3/30/94
TRANSPORTATION DIRECTOR DATE

1-14 Rev. 6/94
SUBJECT: ARCHITECTURAL SERVICES

When it becomes necessary to utilize Architectural Services, the office requiring said professional services shall choose a minimum of three well qualified architectural firms for the project envisioned, of which all are satisfactory to the Division Engineer/Bureau Chief. Firms shall be chosen that are qualified, have adequate personnel to assign to the job, and have a proven successful track record on similar projects.

The Director will choose the consultant. If none on the list submitted are satisfactory to the Director, all will be rejected and a new list will be submitted by the requesting office.

The Department will no longer accept “lump sum” bids for architectural work. Bid documents must specify bid amounts for site preparation and major items of work (HVAC, plumbing, roof, electrical, etc.) for each building when there is more than one building.

Any exceptions for architectural projects currently in the “pipe line” must be approved by the Highway Director individually.

RECOMMENDED FOR APPROVAL: ___________________ D.W. Vaughn
ADMINISTRATIVE ENGINEER

APPROVAL: ______________ Perry A. Hand _____________ 3/15/91
HIGHWAY DIRECTOR DATE

1-15 Rev. 6/91
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: ROADWAY LIGHTING

The State of Alabama Highway Department will participate in providing lighting on State Highways within an urban area under the following conditions:

1. If lighting is warranted and the city involved agrees to provide 50% of the required funds to install the system, provide maintenance for the system and pay for the energy, the State will design the system and provide 50% of the installation cost contingent upon the availability of State funds and the Highway Director’s approval.

2. If lighting is not warranted, the State will install the system if the city involved agrees to provide 100% of the funds required to design, install, maintain and pay for the energy, contingent upon the Highway Director’s approval.

APPROVAL: ________ Tom Espy Jr. _________
CHIEF ENGINEER

APPROVAL: ________ Perry A. Hand _________ 4/12/91
HIGHWAY DIRECTOR DATE

1-16 Rev. 6/91
SUBJECT: SAFETY BELTS

The Code of Alabama, Title 32-5-222, requires that front seat occupants of motor vehicles wear safety belts.

Pursuant to the Code, safety belts will be worn by all Alabama Department of Transportation employees at all times while operating or riding in a State-owned or leased motor vehicle, front or back seat, where safety belts are installed.

The use of safety belts also applies to those operating State-owned or leased equipment such as tractors, mowers, forklifts, utility carts, and heavy equipment.

Drivers/Operators are responsible for informing all passengers of the requirement for wearing safety belts while the vehicle is in operation.

Supervisors will ensure that all employees are made aware of these guidelines and will set the example for their employees by adhering to and enforcing them.

RECOMMENDED FOR APPROVAL: D.W. Vaughn
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass
CHIEF ENGINEER

APPROVAL: Jimmy Butts 4/14/95
TRANSPORTATION DIRECTOR DATE

1-17 Rev. 6/94
Prior to initiating the lease, sale, or transfer of any excess right of way or other property of the Alabama Department of Transportation, the Right of Way Bureau shall obtain the recommendation of the respective Division Engineer, the Maintenance Bureau Chief, the Design Bureau Chief, and the Chief Engineer’s office. If federal funds were used in either the right-of-way or physical construction costs of a project, then approval should also be obtained from the Federal Highway Administration.

APPROVAL: ___________ Newal S. Cauthen ___________
CHIEF ENGINEER

APPROVAL: ___________ M. Roberts ___________ 4/19/94
TRANSPORTATION DIRECTOR DATE

1-18 Rev. 6/94
SUBJECT: THIRD PARTY AGREEMENTS BETWEEN THE DEPARTMENT, OTHER LOCAL GOVERNMENT AGENCIES AND CONSULTANTS

All third party agreements between the Department, other local governments and consultants shall be forwarded to the Office of External Audits for a pre-award audit prior to the execution of such contracts. The Office of External Audits will then audit the Consultant and issue a report to the Department’s contracting office approving the overhead and labor additive rate and other necessary costs to be used in the agreement.

RECOMMENDED FOR APPROVAL: Lamar McDavid
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: D.W. Vaughn
ADMINISTRATIVE ENGINEER

APPROVAL: Perry A.Hand
HIGHWAY DIRECTOR

DATE

9/11/92

1-19

Rev. 2/93
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: PROCEDURES FOR PROCESSING STATE AND INDUSTRIAL
ACCESS FUNDED COUNTY AND CITY PROJECTS

No work can be performed and no contracts can be let prior to having a fully
executed project agreement, submittal of project plans to Division and notification
from the Division that advertisement for bids can be made, or, in the case of
negotiated projects, work can begin.

A project agreement will be prepared and furnished to the County/City upon
receipt of grant award letter signed by the Director or Governor. The Division will
prepare and submit a F-7A Budget Allotment request upon receipt of a project
funding agreement at the time it is submitted to the County/City for their execution.

The County/City will submit plans prepared and signed by a registered professional
engineer showing work to be performed. Plans must match the project agreement
description. It is not necessary for the Division to perform an in-depth review of
plans. The County/City will submit a certification signed by a Registered
Professional Engineer stating that the plans have been prepared so that all items
included in the plans meet ALDOT specifications. The County/City will include a
letter certifying that the County/City owns all right-of-way on which the project is
to be constructed.

Upon receipt of the executed agreement, the executed F-7A, final plans from the
County/City, and right-of-way certification, the Division may notify the County/City
to proceed with advertising the project for letting or proceed with work in the case
of a negotiated project.

For negotiated projects, the Division will prepare a cost estimate following normal
estimating procedures; then reduce each computer generated unit cost by 10%.
This will be the amount used by the County/City on their estimate for
reimbursement. In the case where a County/City is using an in-place annual bid, the
County will furnish the Division a copy of their bid and this bid price will be used
for reimbursement.

1-20

Rev. 02/2001
Where the County/City is letting a contract locally, the County/City will furnish to
the Division the three lowest bids with their recommendation for award. The
Division will review the bids, and, if in order, advise the County/City to proceed
with award of the contract to the lowest responsible bidder. The County/City's
estimate for reimbursement will be based on the bid prices concurred in by the State
and supported with documentation that the contractor has been paid for work
performed (copy of cancelled check).

A certification will be submitted with County/City final estimate stating that the
project was constructed in accordance with final plans submitted to the State and
with the specifications, supplemental specifications, and special provisions which
were shown on the plans or with the State's latest specifications which were
applicable at the time of plan approval.

The County/City will notify the Division when the project is complete and the
Division will perform a final ride-through to determine whether the project was
completed in substantial compliance with the original final plans. Final acceptance
will be made by the Division with a copy of the letter furnished to the Bureau of
County Transportation.

All required test reports, weight tickets, materials receipts, and other project
documentation required by the specifications, applicable supplemental
specifications, and special provisions will be retained by the County/City for a
period of three (3) years following receipt of final payment and made available for
audit by the State upon request. If an audit is performed and proper
documentation is not available to verify quantities and compliance with
specifications, the County/City will refund the project cost to the State or do
whatever is necessary to correct the project at their cost.

All County/City Industrial Access or State funded projects let to contract by the
State will follow normal project procedures and comply with all current plan
processing requirements.

RECOMMENDED FOR APPROVAL:  

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  

CHIEF ENGINEER

APPROVAL:  

TRANSPORTATION DIRECTOR  

DATE  

1-20

Rev. 02/2001
The ISTEA of 1991 allows considerable more flexibility in the operation of the Alabama Department of Transportation program than in previous Acts; however, the Federal Highway Administration will always look to the Alabama Department of Transportation as the agency responsible for administering the Federal Aid Program in Alabama even when local cities and counties are involved in the work.

The following administrative procedures apply as related to this program:

1. All contracts (except transportation enhancement projects) will be “let to contract” by the Alabama Department of Transportation through the Office Engineer Bureau.

2. The Alabama Department of Transportation will hire Engineering and Design Professional Services Consultants through its consultant selection procedures or cities and counties may request written permission from the Alabama Department of Transportation Director to hire a consultant in accordance with the Alabama Department of Transportation’s consultant selection procedures.

3. The Alabama Department of Transportation will be responsible for all acquisition of right-of-way.

4. The Alabama Department of Transportation will be responsible for handling the construction supervision on projects; however, they may hire a consultant to assist with construction supervision.

RECOMMENDED FOR APPROVAL: _____________J.F. Carraway_______________
ASSISTANT CHIEF ENGINEER

APPROVAL: ___________Ray D. Bass____________
CHIEF ENGINEER

APPROVAL: ___________Jimmy Butts______________ 2/27/96
TRANSPORTATION DIRECTOR DATE

1-21 Rev. 3/96
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: ENGINEERING EDUCATION AND TRAINING PROGRAM
PER DIEM, TRANSPORTATION AND MOVING EXPENSES

PER DIEM

Instructions contained in the State of Alabama Highway Department Standard Policies, Procedures and Instructions are to be followed in considering payments for travel for employees temporarily assigned under the EETP.

Overnight/continuous travel per diem is authorized for a participant who elects to reside away from their home base assignment; overnight per diem is not authorized for normal off duty days such as Saturdays, Sundays, holidays, or at other times when the participant is not actually working;

Daily/trip travel per diem is authorized for a participant who elects to commute daily from their home base during the away from base assignment.

TRANSPORTATION

An allowance will be paid for personal vehicle usage for the recorded distance traveled between home base and the away from base assignment: (1) for the first reporting trip to the away from home base assignment; (2) for each assigned return to base and return trip to the away from base assignment approximately every eight weeks; and (3) for the return trip at the completion of the away from base assignment.

MOVING EXPENSE

Reimbursement for moving expenses whether by U-Haul or private carrier is not authorized for temporary moves such as is the case for temporary assignments under the EETP.

APPROVAL: D.W. Vaughn
ADMINISTRATIVE ENGINEER

APPROVAL: M. Roberts
HIGHWAY DIRECTOR
DATE

1-22
Rev. 10/93
SUBJECT: METRICS AND METRIC CONVERSION GUIDELINE #1

The Metric Committee has adopted and approved the following document as containing the appropriate and official metric practices:


The provisions of ASTM E380 are to be followed as closely as practical and exceptions made only as approved by the Metric Committee.

RECOMMENDED FOR APPROVAL: ________________ R. Estes

METRIC COORDINATOR

APPROVAL: __________ W.E. Page

OPERATIONS ENGINEER

APPROVAL: __________ M. Roberts __________

TRANSPORTATION DIRECTOR DATE 12/13/93

1-23 Rev. 6/94
The Metric Committee has adopted and approved the following documents as containing appropriate informational data and commentaries for use in determining metric values and units:

“American Association of State Highway and Transportation Officials - Interim Selected Metric Values for Geometric Design” (or current release),

“Metric Guide for Federal Construction” (or current release),

“American Association of State Highway and Transportation Officials - Guide to Metric Conversion” (or current release).

Other documents and publications may also contain information which is useful in determining values and units. Where practical, the above documents should be used.

Reference should always be made to ASTM E380 (see Guidelines For Operation - Metrics and Metric Conversion Guideline #1).
SUBJECT: METRICS AND METRIC CONVERSION GUIDELINE #3

The Metric Committee has adopted and approved the following standards and exceptions for metric surveying:

STATIONING: Stationing shall be increments of 100 meters. Even stations shall be noted by location in hundreds of meters followed by tens and units separated by a plus sign (+) with no spaces. Stations shall be written in the general format of 1+00; 12+00; etc. Stations may be accurate to three decimal places and written 1+23.456.

ACCURACY: Distance and dimensional measurements will usually require accuracy no greater than one millimeter (or 0.001 meter). Usual accuracy will require decimal notation of meters to three decimal places and millimeters to whole units.

CROSS-SECTION INTERVAL: Cross-sections shall be at 20 meter intervals. Appropriate stations at break lines, changes in section, and as required, are acceptable. This interval will be used for plan cross-sections, plan details, and for calculating pay quantities.

ANGULAR MEASUREMENTS: Angular measurement shall be in units of degrees, minutes, and seconds. A full circle will be 360 degrees.

CIRCULAR CURVE DATA: Circular curves shall be defined by length of radius. All other circular curve data will continue to be shown as usual except that it shall be metric.

SCALES: The preferred metric scales are 1:1 (full size), 1:5, 1:10, 1:20, 1:25, 1:40, 1:50, 1:100, 1:200, 1:250, 1:400, 1:500, and 1:1000. “Inch = foot” scales will generally be replaced as follows:

<table>
<thead>
<tr>
<th>CURRENT SCALE</th>
<th>PREFERRED METRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch = 50 feet</td>
<td>1:500</td>
</tr>
<tr>
<td>1 inch = 100 feet</td>
<td>1:1000</td>
</tr>
</tbody>
</table>

For plan/profile plotting, the standard scales shall be 1:1000 for the horizontal and 1:100 for the vertical.

STATIONING NOTATIONS: Stationing notation shall be in hundreds of meters. Example: the survey station at 123.456 meters from the beginning shall be written and noted as 1+23.456. The stationing notation on plans shall be shown only at one hundred meter intervals and for “full” stations as 1+00, 2+00, etc.

“Tic marks” shall be shown at 20 meter intervals.

UNITS: Distance measurements shall be in meters. Usually, this measurement will be to three decimals accuracy where appropriate. Dimensions commonly less than one meter may be measured in whole millimeters (no decimals).

Dimensions in meters shall be designated as “meters” or “m.” Dimensions in millimeters shall be designated as “millimeters” or “mm.”

Plan sheets shall be clearly noted if undesignated values or dimensions are used.

All provisions of ASTM E380 shall be observed unless specifically excepted.
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: METRICS AND METRIC CONVERSION GUIDELINE #4

The Metric Committee has adopted and approved the following document as containing appropriate informational data and commentaries for use in determining metric values and units:

“American Society of Testing Materials E621, Standard Practice for the Use of Metric (SI) Units in Building Design and Construction (Committee E-6 Supplement to E380)” (or current release).

Reference should always be made to ASTM E380 (see Guidelines for Operation - Metrics and Metric Conversion Guideline #1).

RECOMMENDED FOR APPROVAL: R.Estes
METRIC COORDINATOR

APPROVAL: W.E.Page
OPERATIONS ENGINEER

APPROVAL: M.Roberts
TRANSPORTATION DIRECTOR

1-26 Rev. 6/94

1-31/94
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: METRICATION OF THE TRANSPORTATION ENHANCEMENT PROGRAM

As of October 1, 1995, the Alabama Department of Transportation, in accordance with appropriate Federal regulations, requires all plans, specifications, estimates, contracts, agreements and correspondence be prepared using metric (SI) values and units. The Federal Highway Administration has made an exception to metrication requirements for Transportation Enhancement projects and the recently passed National Highway System (NHS) bill relaxed the metrication requirements by extending the implementation date to September 30, 2000. However, ALDOT intends to maintain and adhere to its policy to metricate all business with the exception of some of the Transportation Enhancement projects.

Transportation Enhancement projects that involve vertical construction are exempt from the requirements to be in metric. The Transportation Enhancement projects which are defined as vertical construction would include, but not be limited to, buildings. Transportation Enhancement projects which involve horizontal construction are not exempt and are, therefore, required to be in metric. Horizontal construction would include, but not be limited to, pedestrian or vehicle carrying structures such as bridges (including truss bridges), culverts, and pipes that are built as a part of a road or trail system.

RECOMMENDED FOR APPROVAL: ____________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________
TRANSPORTATION DIRECTOR

4-24-96
DATE

1-27
Rev. 12/96
Federal funds for each Alabama county will be allocated by the Alabama Department of Transportation on October 1 of each year. Each county will have until May 1 of the following fiscal year (a total of 19 months) to deliver completed plan assemblies to the Bureau of County Transportation to utilize at least 90 percent of the funds allocated. Any county not meeting the May 1 deadline will forfeit that allocation, but will continue to be eligible for the allocation of federal funding made on October 1 of each year.

Allocation and expenditure of federal funding will follow the annual schedule set out below:

- **October 1**: Federal funds are allocated to each county.

- **November 1**: Department of Transportation notifies each county engineer and county commission chairman of the total federal funds available for the county, with the time frame for spending each portion.

- **May 1**: A county forfeits its funding for the previous fiscal year unless it has delivered a completed plan assembly to the Bureau of County Transportation to expend at least 90 percent of its allocation of these funds or received written approval from the Transportation Director based on legitimate reasons for not having completed plans. This forfeited federal funding is returned to Reallocation Pool to be used at the Director’s discretion on other County projects.

- **June 1**: Department of Transportation notifies the Association of County Commissions of Alabama the balance of funding remaining in the account for each county and the list of the counties which forfeited their funding on the May 1 deadline.

A county may "carry over" its federal funds under the following guidelines:

Provide a completed plan assembly, along with a letter requesting a "carry over" of federal funds by May 1 to the Bureau of County Transportation for a project that will require a level of federal funding that exceeds the balance available in the county's account. Once a completed plan assembly is received, the request to carry over the year's allocation will be forwarded to the Director of the Department of Transportation for written approval. This approval may be for a project that requires funding from the allocations in two or more years. Counties will
A completed plan assembly is defined as a complete set of plans ready for review and forwarding to the Office Engineer for letting to contract along with all supporting documentation required by the "Procedural Guidelines for County Projects" as published by the Bureau of County Transportation.
SUBJECT: APPROPRIATE USE OF REST AREA AND WELCOME CENTER FACILITIES

The sole purpose of Rest Area and Welcome Center facilities is to provide safety to the traveling motorist. Safety is provided by allowing intermittent rest stops of short duration, for use of restroom facilities, picnic and walking areas and concessions provided by Industries for the Blind.

Use by governmental agencies for the promotion of motorist safety may be authorized with prior approval of the Transportation Director. No use by private industry, individuals, civic groups, clubs, non-profit organizations, etc., will be allowed for conducting commercial or non-profit activities of any nature.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass
CHIEF ENGINEER

APPROVAL: Jimmy Butts
TRANSPORTATION DIRECTOR

1/25/96

1-33

Rev. 3/96
SUBJECT: REQUEST FOR LEAVE IN REGARD TO COURT PROCEEDINGS

Attendance in court by employees of the Alabama Department of Transportation as witnesses in their official capacities (job related) shall be considered as a part of their assigned duties and does not require any type leave to be charged.

Employees who are subpoenaed as witnesses in their individual capacities (not job related) or otherwise are required to appear in court in non-official capacities, must arrange for time off from work through approved annual leave or approved leave without pay.

RECOMMENDED FOR APPROVAL: ____________________
Jack F. Norton
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________
Ray D. Bass
CHIEF ENGINEER

APPROVAL: ____________________ 10/13/95
Jimmy Butts
TRANSPORTATION DIRECTOR

1-34 Rev. 3/96
SUBJECT: GUIDELINES FOR CLOSURE OF RAIL-HIGHWAY
GRADE CROSSINGS

Please reference Section 37-2-84, Code of Alabama 1975, amended and signed by the Governor of Alabama on April 22, 1994. (Act No. 94582)

I. The Department of Transportation is given authority and power to abandon and discontinue any portion of a state highway, or street on a STATE HIGHWAY ROUTE with the approval of the city council or governing body of any municipality, crossing the tracks or right-of-way of any railroad or street railway within the state, and to close the grade crossing, whenever in the judgment of the Department the grade crossing has ceased to be necessary for the public as a part of any state highway, because of relocation of the highway, or because the construction of an underpass or overpass, or other provision made for the elimination of the grade crossing. Whenever the Department orders the abandonment of a portion of the highway or street and the closing of a grade crossing, it shall enter its order providing therefore in the Department minutes. Notice in writing of the abandonment and discontinuance of the portion of the highway or street and the closing of the grade crossing shall be given by the Department by posting a notice on each side of the railroad or street railway at the grade crossing for a period of 30 days. Thereafter, the railroad or street railway shall not be required to maintain the grade crossing for use as a public highway or street.

II. Notwithstanding any other provision of law, the Department of Transportation may abandon, close, and discontinue a portion of a MUNICIPAL or COUNTY HIGHWAY, STREET, or RIGHT-OF-WAY crossing the tracks or right-of-way of any railroad within the state whenever in the judgment of the Department the grade crossing is dangerous or redundant or the enhancement of public safety resulting from the closing outweighs any inconvenience caused by rerouting the vehicular traffic or materially impair the provision of police, fire, or ambulance service, the Department may also order a relocation of the crossing or the building of an alternate crossing at another location. If the Department orders the relocation of the crossing or the building of an alternate crossing, the crossing shall be built at no costs to the municipality or county unless the municipality or county enters into an agreement to share in the costs of the relocation of the crossing or the building of an alternate crossing.

A. Prior to issuing the order to close a crossing, the appropriate Division Railroad Coordinator with the Department of Transportation shall:

1. Give written notice of intention to close the crossing to the municipality or county in the event it is a municipal or county road or street.
2. Publish legal notice of intention to close the crossing in a newspaper of
general circulation in the county once a week for three consecutive weeks
prior to issue of the order of closure. The notice shall state the procedure
to request a hearing prior to the closure. Any citizen who uses a crossing
or who owns property abutting a crossing or the county or municipality
may give a notice in writing to the Department of Transportation
requesting a hearing prior to the closing.

3. Upon request, conduct a public hearing in the municipality or county in
which the crossing is located by giving at least 10 days notice to the person
or persons requesting the hearing and to the municipality or county in
which the crossing is located.

   a. At the public hearing, the Division Railroad Coordinator and a D
      Department representative from the Rail/Highway Safety Section
      of the Bureau of Multimodal Transportation, shall hear all persons
      interested and shall receive any written statements from interested
      persons.

   b. The Division Railroad Coordinator conducting the hearing shall
      file a written report with the Department’s Multimodal
      Transportation Engineer together with all written statements filed
      by persons attending the hearing and shall make a written
      recommendation concerning the proposed closing. The
      recommendation shall be reviewed by the Multimodal
      Transportation Engineer and forwarded to the Transportation
      Director.

   c. After consideration of the report, the recommendation and the
      statements submitted therewith, the Transportation Director shall
      enter an order closing the crossing or requiring the crossing to
      remain open or requiring the crossing to be relocated within the
      judgment of the Director.

B. The order of the Transportation Direction shall be final.

C. Upon the issuance of the order by the Transportation Director, it is the
responsibility of the railroad or railroads involved to physically remove the
crossing from the tracks and it is the responsibility of the municipality or county
where the crossing is located to install any signs or barricades which might be
appropriate. The costs of any signs or barricades shall be shared equally by the
Department of Transportation and the city or county where the crossing is located.

III. Whenever a railroad crossing or any highway, street, or right-of-way crossing the tracks
or right-of-way of any railroad is closed, abandoned, or discontinued pursuant to this
section, that action shall not affect any right-of-way for the lines, structures, equipment,
and facilities of any utility as defined in Title 37, which cross the tracks or right-of-way of
the railroad at the crossing or along, over, or through the highway, street, or right-of-way abandoned.

IV. The provisions stated in this guideline shall be the exclusive method of closing railroad grade crossings located on any public drive, street, road, or highway in this state, as per subsections (a) through (d) of Section 37-2-84, Code of Alabama 1975.

RECOMMENDED FOR APPROVAL: ____________J.L. Peters_________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________J.D. Brown__________________________
CHIEF ENGINEER

APPROVAL: ____________M.Roberts__________________________ 9/15/94
TRANSPORTATION DIRECTOR DATE

1-35 Rev. 12/94
SUBJECT: DETERMINING FINAL PROJECT COSTS WHEN THERE IS LITIGATION AGAINST THE DEPARTMENT

The purpose of this guideline is to provide guidance in determining the final project amount agreed to pay a contractor as final settlement of litigation against the Department when the amount of settlement is contingent upon calculation of the final contractor’s estimate. The following shall apply:

Any amount given as the final payment on a contract will be processed through the Bureau of Office Engineer, for review and approval, prior to the Department utilizing the amount in litigation settlement.

RECOMMENDED FOR APPROVAL: __________________________ Dykes T. Rushng
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _____________ Newal S. Cauthen _______________
CHIEF ENGINEER

APPROVAL: _______________ M. Roberts _______________________
TRANSPORTATION DIRECTOR

DATE

1-36

Rev. 6/94
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: SAFETY DATA PROVIDING FRICTION-SKID RESISTANCE NUMBERS TO DIVISION

In order to properly protect safety program information, the following process should be followed when a Division needs skid resistance numbers for a particular roadway:

1. The Multimodal Transportation Bureau shall be the custodian of friction/skid resistance data for the Department.

2. The Materials & Tests Bureau shall gather friction/skid resistance data for the Multimodal Transportation Bureau.

3. The Division shall send a written request for friction-skid information to the Multimodal Transportation Bureau to the attention of the Safety Section.

4. Multimodal Transportation Bureau, Safety Section will forward the information to the Division.

The request must state that it is being made “for the purpose of developing a highway safety construction improvement project, which may be implemented utilizing federal-aid highway funds.” All correspondence regarding the request and use of skid resistance numbers should always reference the above language.

Any project developed must state it is a highway safety construction improvement project, regardless of the source of funding.

Once the Division has used the skid resistance numbers, they should be: (1) destroyed, (2) returned to Multimodal, or (3) maintained in a file expressly and specifically labeled that the information was requested for the purpose of developing a highway safety construction improvement project, which may be implemented using federal-aid highway funds.

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature] 10/11/04
TRANSPORTATION DIRECTOR  DATE

1-37
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: FAMILY DISCLOSURE GUIDELINE

It is the responsibility of every employee of the Department of Transportation to disclose the employment of any family member (spouse and dependants) with any public or private venture doing business either directly or indirectly with the Alabama Department of Transportation.

Such disclosure shall be made to the Transportation Director in writing immediately upon discovery of said employment.

RECOMMENDED FOR APPROVAL: [Signature]
Deputy Director, Operations

APPROVAL: [Signature]  Date: Feb 6, 2003
Transportation Director
Transportation Director
Alabama Department of Transportation
Montgomery, AL 36130

FAMILY DISCLOSURE GUIDELINE STATEMENT

My __________________________ relative's name

relation

is employed with ______________________________ company name

and that company does business with the Alabama Department of Transportation.

____________________________
Sign Name

____________________________
Print Name
State of Alabama
Department of Transportation
Guideline for Operations

SUBJECT: Rail/Highway Safety Program

This guideline has been developed to provide information about the procedures used to develop and implement projects using Federal Safety Funds (23USC130) for improvements at rail/highway grade crossings.

Recommended for Approval:  

[Signature]
Multimodal Transportation Engineer

Approval:  

[Signature]
Deputy Director Operations

Approval:  

[Signature]
Transportation Director
Background

The rail/highway safety program is one of the Alabama Department of Transportation's (ALDOT) key elements in the statewide effort to reduce crashes, injuries and deaths. This program was developed to minimize the hazards at rail/highway grade crossings. Alabama has approximately 3300 public road grade crossings but only 35% of these have active warning devices (signals, bells, gates, etc.). The remainder of the crossings have passive protection (crossbucks, signs, markings, etc.). During the past ten years, there have been 126 deaths, 518 injuries, and 1211 crashes at rail/highway grade crossings.

Efforts are underway to improve these statistics. An Interdepartmental Agreement dated September 21, 1999 jointly signed by the Department of Public Safety, the Department of Economic and Community Affairs and the Alabama Department of Transportation is a coordinated effort to reduce crashes and improve safety on the State’s highways. (See Attachment No. 1) The goal is a 25% reduction in crashes, injuries, and fatalities over a 10 year period. ALDOT has made a commitment to significantly increase funding to reduce hazards at highway grade crossings in Alabama by increasing funding for active devices along a number of rail corridors throughout the State.

The Rail/Highway Section of the Multimodal Bureau has the oversight responsibility for all aspects of the rail/highway safety program.

Funding

Each year Alabama receives $3.2 million of Federal Safety Funds (23 USC 130) earmarked for rail/highway improvements. These funds are used to improve grade crossings on public highways. Crossings are selected for improvement according to a ranking developed using the US DOT Accident Prediction Formula index.

Another source of funding for rail/highway grade crossing safety improvements is Optional Safety Funds. Alabama receives $7.7 million of Federal Safety Funds that can be used for either the hazard elimination safety program or the rail/highway safety program. ALDOT has agreed to use Optional Safety Funds to improve a number of corridors on the CSX Transportation, Inc. and Norfolk Southern Railroad networks throughout the State.

The Agreement with Norfolk Southern Corporation provides for ALDOT to pay 100% of the cost using Federal Safety Funds. It is expected that approximately $16 million will be expended over a three-four year period to provide signalization at approximately 120-140 rail/highway crossings. Section 130 (Railroad Safety Funds) or Optional Safety Funds will be used for these improvements.
The Agreement with CSX Transportation proposes to use $12 million of Section 130 Funds or Optional Safety Funds to signalize or construct grade separations. ALDOT will provide 100% of the cost for these improvements.

The approach signs and markings will be placed by State forces using Section 130 or Optional Safety Funds.

Program Implementation

The Rail/Highway Section in the Multimodal Bureau has four major areas of responsibility:

1) Rail/Highway Safety
2) Contract and Maintenance Project Review including Railroad Agreement Preparation and Processing
3) Providing data and input for the National Highway/Railroad Crossing Inventory
4) Maintaining and updating the State Rail Plan and Rail Directory.

A brief description of the specific program areas follows:

Rail/Highway Safety

The Rail/Highway Safety Program is responsible for planning, developing and implementing rail/highway safety projects financed with Section 23USC130 or Optional Safety Funds. This process consists of the following activities: (1) identifying candidate rail/highway crossings; (2) conducting diagnostic reviews of rail/highway crossings; (3) preparation of program documents for crossings to be upgraded; (4) reviewing construction plans; (5) preparing and processing agreements and resolutions and (6) processing the final plans for authorization.

Each year the Department uses the Section 130 Funds to provide signalization at between 29-32 crossings across the State. A ranking is given to each crossing in the State using the US DOT Accident Prediction Formula Index. This allows a prioritized list of projects to be developed.

The US DOT Accident Prediction Formula Index selects crossings for improvements based on accident history for the past five years along with other factors from the National Rail/Highway Crossing Inventory. These factors include the number of vehicles and trains per day, number of highway lanes, type highway surface, maximum train speed and the number of main tracks, etc. After the crossings are selected from the Index, a diagnostic review is held at the site. A diagnostic review form is prepared by the Division and forwarded to the Multimodal Bureau for review. Documents are sent to FHWA for review and approval. After approval by FHWA, plans and maintenance agreements are prepared by the Divisions and forwarded to the Multimodal Bureau. Documents are then forwarded to the railroad company for review and signatures. After the railroad prepares the detailed plans and executes the Agreements and necessary signatures are obtained, the
assembly is forwarded to Office Engineer for authorization. The railroad company is notified to begin work after the authorization process is completed.

- **Contract and Maintenance Review**

  This section is responsible for the review of construction plans for all contract projects involving railroads. Personnel attend the Plan-in-Hand and PS&E Inspections for the contract projects and provide input for plan preparation and process agreements with the railroad for all contract and maintenance projects that have railroad involvement. Personnel are responsible for conducting on-site reviews of all construction projects with railroad involvement to assure that no utility or right-of-way conflicts exist on these projects. Personnel attend the monthly schedule meeting to give progress reports to the Chief Engineer, Bureau Chiefs, and Division Engineers on the status of the Railroad Agreement and Plans. Personnel in this section provide railroad liability data to the Office Engineer for Railroad Protective Liability Insurance compliance.

- **National Highway/Railroad Crossing Inventory**

  This Inventory contains a record of each highway railroad crossing in the State. This includes all at grade public and private crossings, grade separations, and pedestrian crossings. Information collected includes train traffic data and operating characteristics, motor vehicle data and operating characteristics, physical characteristics of the roadway and railroad, past crash history, and any special use vehicles using the crossing. The data is supported by a current photograph of the crossings in the Inventory.

  The Rail Planning Section is responsible for collecting, validating, updating and inputting data for the Inventory in Alabama. The validated data is furnished to the Federal Railroad Administration (FRA) for the National file.

  The FRA recently changed the reporting format and has requested that each State update their Inventory. The Rail Planning Section personnel have been actively involved in the updating of this Inventory. Site reviews have been made at approximately 1020 public road crossings or 31% of the statewide total. At the current rate of progress, it is estimated that it will take at least another year to complete this Inventory update.

- **State Rail Plan and Directory**

  The State Rail Plan was updated in 2001. This was the first update of the Rail Plan since 1992. A Rail Directory was developed in 2001. This was the first Rail Directory developed for the State.

  The Rail Plan contains an inventory of railroads operating in Alabama, rail line density and usage, abandonments, intermodal facilities, and a summary of passenger rail service in the State.
The Directory contains a summary of pertinent information about each railroad operating in Alabama. This summary provides a history of each railroad, track mileage, stations served, major commodities transported, tonnage transported, connecting railroads, etc.

Periodic updates of these documents will be implemented as needed.

**Grade Crossing Closures**

Section 37-2-84, Code of Alabama 1975, (Act No. 94-82) was amended and signed by the Governor of Alabama on April 22, 1994. This law gives ALDOT the authority to close a crossing on a municipal or county highway, street or right-of-way crossing the tracks or right-of-way of any railroad within the state whenever in the judgment of the Department the grade crossing is dangerous or redundant or the enhancement of public safety resulting from the closing outweighs any inconvenience caused by rerouting the vehicular traffic. The Multimodal Bureau is responsible for implementation of the procedures stated in the rail/highway closure law.

ALDOT considers grade crossing closures an alternative to signalization or other type improvements. (See Attachment No. 2) Closure proposals require coordination with local governments, railroad companies, and ALDOT to develop alternative plans to enhance safety at these locations.

**High Speed Rail Corridors**

ALDOT is a member of the Southern Rapid Rail Transit Commission (SRRTC) which seeks to develop and implement high speed rail facilities in Alabama, Mississippi, and Louisiana. The east/west corridor extends from Pensacola, Florida through New Orleans, Louisiana to Houston, Texas. A north/south corridor links New Orleans to Atlanta, Georgia via Hattiesburg, Mississippi, and Tuscaloosa and Birmingham, Alabama. Development of these corridors will be in phases. The initial focus will be to improve the existing infrastructure to accommodate train speeds in the range from 80 to 125 miles per hour. Emphasis during the first phase is being placed on grade crossing improvements, closures, track conditions and geometrics, signalization and track capacity.

Alabama has received funding during the past four years to enhance safety at high speed rail/highway grade crossings in these corridors. These funds have been used to install signals, bells and gates and improve crossing surfaces.

ALDOT contributes financially to the operation of the SRRTC. Governor Bob Riley and Transportation Director Joe Mannes are members of the SRRTC. Meetings are scheduled bi-monthly to conduct business for the SRRTC membership.
The Multimodal Bureau is responsible for the management and oversight of the rail/highway safety program statewide. The following is a list of primary contact personnel involving railroad-related activities:

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>CONTACT PERSON</th>
<th>TEL NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail/Highway Safety Program Coordinator</td>
<td>Wesley E. Elrod</td>
<td>(334) 353-6407</td>
</tr>
<tr>
<td>Rail/Highway Safety Projects</td>
<td>Clarence Hodges</td>
<td>(334) 353-6429</td>
</tr>
<tr>
<td>Rail/Highway &amp; SRRTC Contact Project Agreements</td>
<td>Donald Lovelace</td>
<td>(334) 353-6428</td>
</tr>
<tr>
<td>National Highway/Rail Crossing Inventory</td>
<td>Craig Thomas</td>
<td>(334) 353-6449</td>
</tr>
<tr>
<td></td>
<td>David Nichols</td>
<td>(334) 353-6430</td>
</tr>
<tr>
<td></td>
<td>Jenny Williams</td>
<td>(334) 353-6427</td>
</tr>
</tbody>
</table>

All correspondence concerning rail transportation should be addressed as follows:

Robert J. Jilla  
Multimodal Transportation Engineer  
Alabama Department of Transportation  
1100 John Overton Drive  
Montgomery, AL 36110  
Telephone (334) 353-6401  
Fax (334) 353-6451

Each ALDOT Division Office has a person designated to manage the rail safety program within a specific geographic area. If you need information, have questions or want to make comments about this program, we welcome your input.

The following is a list of Division Railroad Coordinators:

<table>
<thead>
<tr>
<th>DIVISION</th>
<th>COORDINATOR</th>
<th>ATTNet Tel. No.</th>
<th>Regular Tel. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Lynn Wood</td>
<td>8-524-1231</td>
<td>(256) 592-1226</td>
</tr>
<tr>
<td>Second</td>
<td>Andy Leveille</td>
<td>8-455-1483</td>
<td>(256) 389-1483</td>
</tr>
<tr>
<td>Third</td>
<td>Ronnie Hooks</td>
<td>8-526-5883</td>
<td>(205) 681-5883</td>
</tr>
<tr>
<td>Fourth</td>
<td>Ken Cush</td>
<td>8-550-2495</td>
<td>(205) 234-8495</td>
</tr>
<tr>
<td>Fifth</td>
<td>Wesley Ballard</td>
<td>8-556-2495</td>
<td>(205) 234-8455</td>
</tr>
<tr>
<td>Sixth</td>
<td>Rozalyn Clifton</td>
<td>8-527-4272</td>
<td>(205) 554-3244</td>
</tr>
<tr>
<td>Seventh</td>
<td>Edward Kelly</td>
<td>8-241-8575</td>
<td>(334) 241-8574</td>
</tr>
<tr>
<td>Eighth</td>
<td>Ronnie Baldwin</td>
<td>8-279-2424</td>
<td>(334) 670-2424</td>
</tr>
<tr>
<td>Ninth</td>
<td>Jeff Powell</td>
<td>8-275-7212</td>
<td>(251) 275-7212</td>
</tr>
<tr>
<td></td>
<td>Dewayne Hood</td>
<td>8-665-3253</td>
<td>(251) 470-8253</td>
</tr>
</tbody>
</table>
**Standard Operating Procedures/Guidelines**

Standard operating procedures have been developed for rail-highway safety projects. (Attachment No. 3). Any specific questions or details not addressed in these procedures should be forwarded to the Multimodal Bureau. As conditions warrant, updates of the procedures or details will be made.
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: INTERSTATE ROADWAY CLOSURES
AND INTERSTATE LANE CLOSURES

1) All planned Interstate Roadway Closures are to be approved by the Chief Engineer’s office prior to implementing such closures. This includes roadway closures for planned construction work, maintenance work, accident investigations and any other non-emergency work.

Requests for Interstate Roadway Closures should be submitted in writing and should include the following:

- Purpose of the closure
- Times of day and days of week
- ADT and calculated length of traffic queue.

2) All planned Interstate Lane Closures are to be reported to the Chief Engineer’s office prior to beginning the work. This notification should be by electronic mail or facsimile. Telephone notification will be allowed if for some reason electronic mail or facsimile is not available.

3) Emergency Interstate closures, of either type, shall be reported to the Chief Engineer’s Office as soon as possible. This notification may be by telephone or electronic mail.

RECOMMENDED FOR APPROVAL: [Signature] BUREAU CHIEF

APPROVED: [Signature] CHIEF ENGINEER

APPROVED: [Signature] TRANSPORTATION DIRECTOR 12.20.06 DATE

1-41
INTERDEPARTMENTAL AGREEMENT
BETWEEN
THE ALABAMA DEPARTMENT OF TRANSPORTATION
THE ALABAMA DEPARTMENT OF PUBLIC SAFETY
AND
THE ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS

This agreement is made and entered into by and between the Alabama Department of Transportation, hereinafter referred to as ALDOT, the Alabama Department of Public Safety, hereinafter referred to as DPS, and the Alabama Department of Economic and Community Affairs, hereinafter referred to as ADECA, in cooperation with the U.S. Department of Transportation, Federal Highway Administration, hereinafter referred to as FHWA; and

WHEREAS, the ALDOT, DPS, and ADECA will share safety ideas and information between agencies; and

WHEREAS, the ALDOT, DPS, and ADECA will have equal input on funding mechanisms and will work jointly so that highway safety efforts and programs are not duplicated; and

WHEREAS, the ALDOT, DPS, and ADECA will work to reduce highway accidents and fatalities by 20% in coordination with the 10-year goal of FHWA; and

WHEREAS, the ALDOT, DPS, and ADECA will coordinate all Highway Safety Projects through the Governor’s Office.

IN WITNESS WHEREOF, the aforementioned parties have caused this agreement to be executed by their officials who are thereunto duly authorized.

G. M. Roberts, Transportation Director
Alabama Department of Transportation

Col. Michael Sullivan, Acting Director
Department of Public Safety

Dewayne Freeman, Director
Alabama Department of Economic and Community Affairs

DONE ON THIS 21 DAY OF September, 1999.
Section 37-2-34, Code of Alabama 1975, (Act No. 94582) was amended and signed by the Governor of Alabama on April 21, 1994, giving the Alabama Department of Transportation (ALDOT) the authority to close a crossing on a MUNICIPAL or COUNTY HIGHWAY, STREET or RIGHT-OF-WAY crossing the tracks or right-of-way of any railroad within the state whenever in the judgment of the Department the grade crossing is dangerous or redundant or the enhancement of public safety resulting from the closing outweighs any inconvenience caused by rerouting the vehicular traffic. (For amended law, see Attachment No. 1).

Closure Procedures

When a closure request is received by the Multimodal Transportation Engineer, the Division Railroad Coordinator is notified by letter to proceed with the closure pursuant to the ALDOT’s Guidelines for Operation 1-35, 1-35.1 and 1-35.2, Revised 12/94. (For Guidelines, see Attachment No. 2).

The Division Railroad Coordinator publishes the legal notice of intention to close the crossing in a newspaper of general circulation in the county once a week for three consecutive weeks. The notice states the procedure to request a public hearing prior to the closure. Upon request, a hearing is conducted in the municipality or county in which the crossing is located. (For Legal Notice, see Attachment No. 3)

The Division Railroad Coordinator files a written report together with all written statements filed by persons attending the hearing and, a written recommendation concerning the proposed closure to the Multimodal Transportation Engineer.

The recommendation is reviewed by the Multimodal Transportation Engineer and forwarded to the Transportation Director.

After consideration of the report, the recommendation and the statements submitted, the Transportation Director enters the final order.

Recommended for approval: ____________________________

[Signature]

Multimodal Transportation Engineer

Approval: ____________________________ Date: 2/8/2001

[Signature]

Transportation Director
Rail/highway crossings are identified on an annual basis for investigation by ranking using the US DOT Accident Prediction Formula Index. This is done by personnel of Multimodal Bureau.

Investigative information is compiled for each crossing and personnel of Multimodal Bureau sets a time and date for each diagnostic review. These dates are coordinated with the Division Railroad Coordinator, the affected railroad, and local governments. The Multimodal Bureau will forward a letter to the Division Railroad Coordinator and to the railroad advising of the date and time for the review. The Division will notify the local governing agencies of the times, dates and locations of the reviews.

Diagnostic reviews are held and recommendations are developed. The diagnostic teams are composed of representatives of the Multimodal Bureau, ALDOT Division personnel, affected railroad company and local governing agency.

The Division Railroad Coordinator prepares the Diagnostic Review Form, collision diagram, and the area map and forwards these documents to the Multimodal Bureau.

A reference number is assigned to each project by the Multimodal Bureau. A program document listing all the crossings to be upgraded, corresponding improvements, and the estimated cost is prepared by the Multimodal Bureau and sent to FHWA for review and approval.

After approval is attained from FHWA, the Multimodal Bureau advises the Division Railroad Coordinator of the crossings that are to be upgraded.

The Division Railroad Coordinator will forward the maintenance agreements and resolutions to the Multimodal Bureau for further handling. The Division Railroad Coordinator will enter the project in CPMS and send an area map to Mr. George Ray, Transportation Planning Engineer, with a copy to the Multimodal Bureau. The Division will also enter the cost estimate in PES.
The Multimodal Bureau secures the remaining signatures for the maintenance agreements and resolutions.

The Bureau of Office Engineer assigns project numbers to each project.

Supplemental agreements to the Master Agreements are prepared for each project by the Multimodal Bureau and these are sent to the appropriate Railroad Company for review and signatures. Requests for detailed signalization construction plans and estimates for each project are made at this time.

The railroad company signs the supplemental agreement and prepares the signalization construction plans and estimate and returns them to the Multimodal Bureau.

The Multimodal Bureau submits the signed Agreements, estimates, and plans to the Office Engineer to obtain authorization from FHWA.

The Office Engineer issues a work order letter to the railroad to begin work and notifies the appropriate Division to proceed with the project.

The Railroad Company orders the signal equipment for each project and schedules the project for construction.

The Railroad Company notifies the Multimodal Bureau and the Division Railroad Coordinator a minimum of ten days before work is started.

The Railroad Company or its contractor (when approved) installs the signal equipment. State forces or local governments perform any additional work, such as pipe extensions, embankment construction, and the installations of signs and pavement markings.

While the project is under construction, the Division will be responsible for inspecting the project and recording the results on the Daily Utility Relocation Report (Form SP-1). The Interdepartmental Memorandum dated June 27, 1989 from Mr. Tom Espy, Jr., Chief Engineer, provides the instructions for using this form.

The Railroad will send invoices to the Multimodal Bureau to request partial periodic payments while the project is under construction. These invoices will be sent to the Divisions to validate the charges on the invoice and returned for further processing. The Multimodal Bureau forwards the request to the Accounts and Finance Bureau for payment.
When the project is completed a final inspection will be conducted by the Division. The Final Acceptance Form will be completed and the Office Engineer will be notified that the project can be closed out.

The final invoice is submitted to the Multimodal Bureau for review. This review is coordinated with the Division. The final invoice is submitted to the Accounts and Finance Bureau with a recommendation to make the payment.

The project is evaluated in ALDOT's annual Safety Report one year after the project is closed out.

A chart is attached showing the normal time line for the Development and Implementation of a complete Phase under the Section 130 Program. (Attachment 4)
GUIDELINES FOR OPERATIONS

ALDOT TEXT MESSAGING WHILE DRIVING POLICY

Section 1 Policy: ALDOT employees are prohibited from using text messaging while driving on official business and while operating ALDOT-supplied motorized equipment.

Section 2 Terms:

(a) "Texting" or "Text Messaging" means reading from or entering data into any handheld or other electronic device, including but not limited for the purposes of SMS texting, receiving, reading or sending emails, instant messaging, surfing the internet, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication.

(b) "Driving" means operating a motorized vehicle on an active roadway with the motor running, including while temporarily stationary because of traffic, a traffic light or stop sign, or otherwise. It does not include operating a motor vehicle with or without the motor running when one has pulled over to the side of, or off, an active roadway and has halted in a location where one can safely remain stationary.

(c) "Operating" means using motorized equipment that is not stationary or turned off.

Section 3 Discipline: Violation of this policy will result in disciplinary action.

Approval: D. W. Vaughn, Deputy Director/Chief Engineer
Date: 1-12-2010

Approval: D. J. McInnes, Transportation Director
Date: 1-12-2010

1-42
SECTION 2

PLANNING

CONTENTS

Combining Projects in the Project Management System................................. 2-1
Updating Cost Estimates of Planned Projects in the PMS............................ 2-2
Supplementing Authorized PE and ROW Projects......................................... 2-3
Adding and Deleting Milepost on the State Highway System......................... 2-4
Project Estimates.......................................................................................... 2-5
Prohibition against Disclosure and Admission as Evidence
Of State Reports and Surveys for Safety Projects.......................................... 2-6
Rail-Highway Diagnostic Reviews................................................................. 2-7
Guidelines for the Upgrading with Federal-Aid Safety Funds of Rail-Highway
Crossings Located on Industrial Tracks and Spurs Owned and/or Maintained
By Private (Non-Railroad) Companies or Governmental Agencies.............. 2-8
Agreed Unit Prices for Railroad Safety Projects with Cities or Counties......... 2-9
General Criteria for Improved Rail-Highway Crossing Surface Material........ 2-10
Guidelines for Reworking Rail-Highway Grade Crossings When the
Rail Line has been Abandoned and Tracks are Removed.......................... 2-11
Engineer’s Estimate...................................................................................... 2-12
Guidelines for the Use of State Funds for Safety Improvements for the Rehabilitation
Of Railroad Grade Crossing Surfaces on State Highway System............. 2-13
Reports to the Joint Highway Committee...................................................... 2-14
Bridge Replacement Projects-Funding Eligibility Determination............... 2-15
Funding of Rail-Highway Safety Projects..................................................... 2-16
Exit Numbers............................................................................................... 2-17
Content Sensitive Solutions Policy Statement............................................... 2-18
SUBJECT: COMBINING PROJECTS IN THE PROJECT MANAGEMENT SYSTEM

The term “project” is defined as an undertaking for a particular phase of work at one or more specifically defined locations for which a unique project number has been assigned.

When the preliminary engineering phase has been authorized for two or more projects, they shall remain separate entities and shall not be combined into one project. Two or more projects may be let to contract together by typing them into a single contract proposal when conditions warrant. However, each project shall retain its own unique project number.

RECOMMENDED FOR APPROVAL: George Ray
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR 5/20/88
DATE
Subject: Updating Cost Estimates of Planned Projects in the Project Management System

Projects are to be updated as follows:

1. The original right-of-way, utility, and construction cost estimates included on the initial PMS-1 form MUST be updated:
   a. at the conclusion of location study, GN-7
   b. at the design hearing stage, GN-26
   c. at the plans, specifications, and estimates inspection stage, GN-51
   d. immediately after the plans, specifications, and estimates inspection corrections are complete, GN-56
   e. when the final preliminary estimate is prepared, GN-63
   f. at any other time the estimates are revised.

2. These costs estimates, with the exception of the above, are to be furnished to the State Planning Engineer by a printout of the project funding screen from the Project Management System which can be corrected with the revised information shown on the printout.

3. The lead bureau or division is responsible for providing all updated cost estimates. Construction estimates are to include construction engineering costs. Unless there is a separate planned project for utilities, this cost should also be included in the construction estimates.

4. The lead bureau or division is responsible for securing updated right of way cost estimates from the Right of Way Bureau and reporting these to the State Planning Engineer.

Recommended for Approval: George Ray
Bureau Chief/Division Engineer

Approval: Newal S. Cauthen
Chief Engineer

Approval: M. Roberts
Highway Director

8/4/934
Date

2-2
Rev. 10/93
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: SUPPLEMENTING AUTHORIZED PRELIMINARY ENGINEERING AND RIGHT-OF-WAY PROJECTS

Budgets should be closely monitored and when 75 percent of the expenditures are made, an evaluation of work to be completed needs to be made and a determination at that time as to whether or not there are enough funds to accomplish the work. In the event there are not enough funds, then a request for supplemental funding should be made.

Requests for supplemental funding are to be initiated by the lead bureau or division and transmitted to the Chief Engineer for review and approval.

The lead bureau should make every possible effort to accurately estimate funding requirements in order to provide sufficient funds to cover anticipated expenditures for all divisions and/or bureaus involved.

After receiving the Chief Engineer’s approval, the budget will be adjusted. The divisions and/or bureaus will be informed of this by the PMS Exception Report.

RECOMMENDED FOR APPROVAL: ________________________________
George Ray
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ________________________________
Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: ________________________________ 5/20/88
Royce G. King
HIGHWAY DIRECTOR DATE

2-3
SUBJECT: ADDING AND DELETING MILEPOST ON THE STATE HIGHWAY SYSTEM

I. INTRODUCTION

The purpose of this document is to provide guidance and document procedures to assure that the location reference system provides for identifying the location of emergency incidents, traffic accidents, highway maintenance activities and physical features such as utilities, bridges and traffic control devices. In addition, the reference system is to assist the driver in estimating his progress of travel through a distance measuring technique. These goals are established in order that the existing data base may be preserved and modifications to the State Highway System may be integrated into this data base.

In response to the provisions of the Highway Department Safety Program Standards, a mileposting method of location references was implemented on the State Highway System. These mileposts provided the required accuracy in identification of accident locations and the continuing surveillance of the roadway network for potentially high accident locations.

Since the project stage of implementation in 1969, both the U. S. Numbered Highway System and the State Highway System have had many additions, extensions and revisions. The Department has documented each of these changes.

In 1999, the kilometer posting method was discontinued and a milepost marking system established.

II. PROCEDURES

Determination of the appropriate revision to the mileposting location reference system must consider the main factors affecting the addition, extension or revisions to the State Highway System. Implementation of any addition or deletion to the State Highway System must be coordinated within the range of the data base which will be formed as soon as the road is opened to traffic. In the cases of previously constructed routes, these procedures are to be followed prior to the change in classification being put into effect.

The procedures for assigning milepost on paper are described below and shown on the attached exhibits as noted.

A. Route Extensions.

The addition of miles before the point of beginning or end is affected by the location of the extension forming the two cases shown on Exhibit A.
Case 1. Extensions northerly or easterly. The milepost continuity as numbering is continued from the previous point of ending in sequential order. The travel distance requirement of the MUTCD is maintained in this simplest form of additional miles. Mileposts are assigned according to the previous procedures.

Case 2. Extensions southerly or westerly. When the zero point is not at the south or west state line, the Rule of 500 is applied. For uniformity of application, the zero milepost is equated to milepost 500. The new point of beginning may be found by subtracting the total length of the extension from 500. The D10-1 sign with zero displayed rather than D10-3 with 500 displayed is to be used at the point of equation. The sign is to be installed only if the installation meets the standards of the MUTCD for longitudinal accuracy of plus or minus 30 feet. Subsequent extensions of a route once the Rule 500 is applied will not need equations as continuity is possible for the first equation. The choice of 500 as the benchmark is based on avoiding duplication on even the longest feasible routes in the State.

B. Route Alignments.

The realignment of a route is affected by both the status of the former route and the length of the change.

1. When the maintenance responsibility on the former route is not taken over by the local agency, new State Route Numbers shall be assigned for the realigned section as shown in Exhibit B and G. This additional numbering will present the motorist with an apparent duplication, but is necessary to avoid the actual duplication which has taken place when the State Route Numbers have been reassigned.

2. When the maintenance responsibility on the former route is taken over by the local agency and the travel distance is shortened by realignment, the existing mileposts are to be removed and the new route mileposted before being opened to traffic. Any equation needed is to be accomplished in the last milepost of the realigned segment as shown for Route 2 in Exhibit C, D, E, F, and H. No proportioning is to be done. The last milepost in the realigned segment should not be placed if it is closer than 0.3 miles from the next previously existing milepost to reduce confusion to the motoring public and the data collection personnel. These equations are to be shown on all county milepost maps.

3. When the maintenance responsibility on the former route is taken over by the local agency and the travel distance is lengthened by realignment, the existing mileposts are to be removed and the new route mileposted before being opened to traffic. The increase in distance is compensated by invoking the Rule of 500 as shown in Exhibit C for Route 1. The 500 has been added to the station in mileposts along the realigned section. No overlapping is present due to the addition.
C. Circle Routes.

Circle Routes will be mileposted beginning at the southerly terminus and marked in a clockwise direction to end at the southerly terminus, the point of beginning as shown in Exhibit I.

These procedures are to be applied upon agreement of the Divisions and Bureaus affected whenever numbering changes for either State Route Number or milepost are involved.

III. REVISIONS

The Transportation Planning Engineer shall be responsible for making revisions to this document when deemed appropriate.

IV. IMPLEMENTATION

The organization responsible for design roadway plans shall prepare a sketch showing the proposed mileposting scheme and submit same to the Transportation Planning Engineer for approval before including same in the PS & E assembly. This procedure shall also be followed by personnel requesting a revision to the existing milepost systems.

RECOMMENDED FOR APPROVAL: ____________________________
BUREAU CHIEF DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________
TRANSPORTATION DIRECTOR

April 9, 2007 DATE
EXHIBIT "A"

EXAMPLES OF ROUTE EXTENSIONS
2-4,5
EXAMPLES OF ROUTE REALIGNMENT WITH NO LOCAL TAKEOVER OF FORMER ROUTE

2-4.6
EXHIBIT "C"

EXAMPLES OF ROUTE REALIGNMENT WITH LOCAL TAKEOVER OF FORMER ROUTE

2-4.7
EXAMPLES OF EQUATION PLACEMENT FOR ROUTE REALIGNMENT WITH LOCAL TAKEOVER OF FORMER ROUTE

2-4.8
EXAMPLE OF EQUATION PLACEMENT FOR ROUTE REALIGNMENT WITH LOCAL TAKEOVER OF FORMER ROUTE

2-4.9
EXAMPLE OF EQUATION PLACEMENT FOR ROUTE REALIGNMENT WITH LOCAL TAKEOVER OF FORMER ROUTE

2-4.10
EXAMPLE OF EQUATION PLACEMENT FOR ROUTE REALIGNMENT
WITH LOCAL TAKEOVER OF FORMER ROUTE
2-4.12
EXAMPLE OF CIRCULAR ROUTES

2-4.13
SUBJECT:  PROJECT ESTIMATES

Project Construction Cost Estimates will be prepared according to the following breakdowns:

1. By Federal-aid system, when more than one system is involved.
2. By rural and urban distinction, based on approved urban boundaries.
3. By county, when a project includes more than one county.
4. By major work types, such as distinction between roadway and structure.

RECOMMENDED FOR APPROVAL: __________________________ D. W. Vaughn
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________ Tom Espy, Jr. ___________
CHIEF ENGINEER

APPROVAL: ___________Royce G. King ___________ 5/20/88
HIGHWAY DIRECTOR DATE
SUBJECT: PROHIBITION AGAINST DISCLOSURE AND ADMISSION AS EVIDENCE OF STATE REPORTS AND SURVEYS FOR SAFETY PROJECTS


“409. Discovery and admission as evidence of certain reports and surveys

“Notwithstanding any other provision of law, reports, surveys, schedules, lists or data compiled for the purpose of identifying, evaluating or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings pursuant to sections 130, 144, and 152 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-Aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State Court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists or data.”

Any inquiries regarding this subject should be directed to the Chief Legal Counsel’s office for response.

RECOMMENDED FOR APPROVAL: Newal Cauthen
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Perry A. Hand
HIGHWAY DIRECTOR

8/19/92
DATE
SUBJECT: RAIL-HIGHWAY DIAGNOSTIC REVIEWS

Please reference FHPM Vol. 8, Chapter 2, Section 3, dated March 5, 1979.

The purpose of this document is to re-emphasize the importance of Par. 6.a.(4), (e), commonly known as the ‘people factor’ warrant. The paragraph reads as follows:

The planning component of the highway safety improvement program shall incorporate: a process for establishing priorities for implementing highway safety improvement projects, considering: the potential danger to large numbers of people at public grade crossings used on a regular basis by passenger trains, school buses, transit buses, pedestrians, bicyclists, or by trains and/or motor vehicles carrying hazardous materials.

Each time a diagnostic review is conducted at a rail-highway grade crossing it should be determined if the crossing has ‘people factor’ characteristics. If the crossing does, consideration should be given to including recommendations on HALIForm Supplement Form.

RECOMMENDED FOR APPROVAL: _____________ D.W. Vaughn ___________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________ Tom Espy, Jr. ___________
CHIEF ENGINEER

APPROVAL: ___________ Royce G. King ___________
HIGHWAY DIRECTOR 5/20/88 DATE
SUBJECT: GUIDELINES FOR THE UPGRADING WITH FEDERAL-AID SAFETY FUNDS OF RAIL-HIGHWAY CROSSINGS LOCATED ON INDUSTRIAL TRACKS AND SPURS OWNED AND/OR MAINTAINED BY PRIVATE (NON-RAILROAD) COMPANIES OR GOVERNMENTAL AGENCIES

INVESTIGATION AND RECOMMENDATIONS

The diagnostic team investigating such crossings should include a representative from each of the following: the Company or Agency owning said tracks, the State Traffic Engineer, and the Division Engineer.

PROJECT FINANCIAL RESPONSIBILITY

For such rail-highway crossings that have been approved for upgrading with Federal-aid safety funds, then the State will be responsible for the necessary planwork. The State will review all plans for conformance with design criteria and will coordinate construction with the Railroad.

PLAN PREPARATION RESPONSIBILITY

If the project is a rail-highway signalization project funded with Federal-aid safety funds, then the State will be responsible for the necessary planwork. The State will review all plans for conformance with design criteria and will coordinate construction with the Railroad.

MAINTENANCE RESPONSIBILITY

The Company or Agency owning the tracks at the crossing will be responsible for the maintenance of the crossings and improvements. In the event the Company or Agency discontinues use of the track, all railroad type material will be removed within State right-of-way. Also, within the area of the crossing, all material will be removed to the bottom elevation of the crossties and then the excavation filled to within 50 mm of the top surface with compacted in kind base material. A minimum 50-mm thick asphalt plant mix wearing layer shall be placed to provide a smooth riding surface. Asphalt plant mix base (black base) may be substituted for any other kind of base material. All material shall be compacted to the satisfaction of the State Division Engineer. Cost of traffic control, removal of the track structure, and replacing pavement will be borne entirely by the Company or Agency that owns the track.
RECOMMENDED FOR APPROVAL: Ray W. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: M. Roberts
HIGHWAY DIRECTOR

7/30/93
DATE

2-8.1
Rev. 10/93
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: AGREED UNIT PRICES FOR RAILROAD SAFETY PROJECTS WITH CITIES OR COUNTIES

A. Justification for requested agreed unit prices will be required on each project by one of the following methods:

1. The preparation of an agreed unit price analysis worksheet which will be an official part of the project file. Worksheet computations shall utilize unit prices from three (3) projects in the general area of the proposed work which have been let to contract recently for the type work proposed. These unit prices shall be averaged and reduced by 15 percent.

2. The preparation of an agreed unit price listing supported by actual cost records of the proposed work items of the city or county involved.

B. All construction engineering for the city or county involved shall be included in the agreed unit price. The unit prices noted in Item A above may be increased by 15 percent to cover such costs.

C. The item of mobilization will not be an eligible cost under the program.

D. State construction engineering cost shall be eligible and chargeable to the project costs.

All requested agreed unit prices shall be submitted to FHWA for their review and concurrence before formal execution of the Project Agreement by the State. Documentation of the requested agreed unit prices shall be submitted at the appropriate time so as to be approved prior to finalization of the agreements.

The cities and counties are encouraged to keep and maintain accurate records and documents on each project which will be used for evaluation purposes but not audit purposes.

NOTE: Exhibit “A” contains all elements for an analysis worksheet and is to be used when Method A-1 is elected for agreed unit prices. Appropriate labor, equipment and material worksheets are to be used when Method A-2 is elected for agreed unit prices.
EXHIBIT "A"
AGREED UNIT PRICE ANALYSIS WORKSHEET

<table>
<thead>
<tr>
<th>PROJECT NO.</th>
<th>REF. NO.</th>
<th>COUNTY</th>
<th>CITY</th>
<th>LOW BIDS RECEIVED ON PROJECTS</th>
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<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>UNIT PRICE</th>
<th>UNIT PRICE</th>
<th>AVERAGE LOW BID</th>
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<th>ADD 15% FOR LOCAL GOVS</th>
<th>REQUESTED AGREED UNIT PRICE</th>
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SUBJECT: GENERAL CRITERIA FOR IMPROVED RAIL-HIGHWAY CROSSING SURFACE MATERIAL

The following general criteria should be considered by diagnostic team members in their consideration of improved rail-highway grade crossing surface material construction:

Consideration for grade crossing surface material construction falls into one of four generalized conditions based on the Annual Average Daily Traffic (AADT) of the highway.

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>AADT</th>
<th>BITUMINOUS WITH TIMBER HEADERS</th>
<th>SOLID TIMBER</th>
<th>PREFAB RUBBER OR CONCRETE</th>
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<td>0-5000 with speeds 65 km/h or more and/or 250 or more trucks</td>
<td>Recommended</td>
<td>Allowable</td>
<td>Allowable</td>
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<tr>
<td>1C</td>
<td>5000 to 10000 with speeds less than 65 km/h and less than 250 trucks</td>
<td>Recommended</td>
<td>Allowable</td>
<td>Allowable</td>
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<tr>
<td>1D</td>
<td>5000 to 10000 with speeds 65 km/h or more and/or more than 250 trucks</td>
<td>Recommended</td>
<td>Allowable</td>
<td>Allowable</td>
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For the allowable condition to be selected for a rail-highway crossing surface material, there has to be sufficient justification warranting the surface material. Some factors justifying the allowable conditions are:
a. The functional classification of the highway and the normal speed of vehicles using it.

b. The type of highway surface on the approaches to the crossing, its roughness and both horizontal and vertical alignment, considering superelevation.

c. The volume of highway traffic, with particular attention to the volume of heavy truck movements, hazardous material carriers, school buses, recreational vehicles, and ‘people factor’ type of carriers.

d. The general classification of the railroad -- main line, branch line, industrial, multiple or yard track frequency of track maintenance and the maximum speed of operation over the crossing.

e. The volume and class of railroad.

f. Accident record.

RECOMMENDED FOR APPROVAL: _________________ Don T. Arkle _________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Ray D. Bass __________
PRE-CONSTRUCTION ENGINEER

APPROVAL: __________ M. Roberts __________ 9/21/93
TRANSPORTATION DIRECTOR DATE

2-10 Rev. 10/93
GUIDELINES FOR OPERATION

SUBJECT: GUIDELINES FOR REWORKING RAIL-HIGHWAY GRADE CROSSINGS WHEN THE RAIL LINE HAS BEEN ABANDONED AND TRACKS ARE REMOVED

Any time that a Railroad has approval for the abandonment of a rail line within the State of Alabama and the Railroad Company removes the rail on the main line, the Railroad shall also remove all rail and crossties within the highway right-of-way and throughout the highway crossing.

Within the highway roadbed, all material will be removed to the bottom elevation of the crossties, and then the area of excavation will be filled to within 50 mm of the top surface of the highway with compacted in kind base material. A minimum of 50 mm of asphalt plant mix wearing layer shall be placed to provide a smooth riding surface. Asphalt plant mix base (black base) may be substituted for any other kind of base material. All material shall be compacted to the satisfaction of the State Division Engineer. Cost of traffic control, removal of the track structure, and replacing pavement will be borne entirely by the Railroad.

RECOMMENDED FOR APPROVAL: ________________ Don T. Arkle
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: __________ M. Roberts
TRANSPORTATION DIRECTOR

DATE
9/30/93

2-11
Rev. 10/93
SUBJECT: ENGINEER’S ESTIMATE

Project cost estimates are prepared by the Engineering Services Unit and provided to the Office Engineer for inclusion into the project PS&E Assembly, which is submitted to the Federal Highway Administration for project authorization. Between project authorization and the project bid opening date, project cost estimate possible for evaluating contractor bid prices. This practice is necessary and desirable.

Once bids are opened for any particular project, revisions to the project cost estimate shall not be made without the approval of the Office Engineer. Written justification for project estimate revisions subsequent to bid opening may be required.

RECOMMENDED FOR APPROVAL: _______________ D.W. Vaughn _______________  
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________ Tom Espy Jr. ___________  
CHIEF ENGINEER

APPROVAL: ___________ Royce G. King ___________ 5/30/88  
HIGHWAY DIRECTOR  DATE

2-12  Rev. 7/88
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: GUIDELINES FOR THE USE OF STATE FUNDS FOR SAFETY IMPROVEMENTS FOR THE REHABILITATION OF RAILROAD GRADE CROSSING SURFACES ON THE STATE HIGHWAY SYSTEM

Investigation and Recommendations

The following significant factors should be considered before recommending rehabilitation of the crossing surface with asphalt and timber headers:

a. The functional classification of the highway and the normal speed of vehicles using it.

b. The type of highway surface on the approaches to the crossing, its roughness and both horizontal and vertical alignment, considering superelevation.

c. The volume of highway traffic, with particular attention to the volume of heavy truck movements, hazardous material carriers, school buses, recreational vehicles, and ‘people factor’ type of carriers.

d. The general classification of the railroad -- main line, branch line, industrial, multiple or yard track, frequency of track maintenance and the maximum speed of operation over the crossing.

e. The volume and class of railroad.

f. Accident record.

g. Railroad recommendations.

h. Input from the public.

i. The importance of good riding quality for highway traffic as an aid to expediting traffic flow and avoiding the adverse safety and economic consequences of reducing vehicle speeds and of possible damage to vehicles.

j. Participation by local government
Any requests for crossings that are recommended for rehabilitation shall be submitted on the attached for (Exhibit “A”) for review and recommendation by the Design Engineer and the Maintenance Engineer prior to being submitted to the Chief Engineer for his approval for funding.

RECOMMENDED FOR APPROVAL: ____________________ Don T Arkle ____________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ______________ Ray D. Bass ______________
PRE-CONSTRUCTION ENGINEER

APPROVAL: ______________ M. Roberts ________________ 9/30/93
TRANSPORTATION DIRECTOR DATE

2-13.1 Rev. 10/93
EXHIBIT “A”

Request for Rehabilitation of Crossing Surface Form

Information required to process request to rehabilitate asphalt with timber headers

crossing surface where highway ___________________________ crosses __________
(Name and Number) (Number)

track(s) of ___________________________ Railroad, AAR D.O.T. #_____________
at or near ___________________________. ___________________________.
(City) (County)

LOCATION INFORMATION

1. Attach 1 copy of a letter size general vicinity map from city or county map showing
location of crossing circled in red.

2. Attach 1 copy of a scale drawing (letter size preferable) showing crossing with solid lines
to show new and dash line to show old. Drawing to include width of travel way, width of
shoulders, automatic warning devices where present, sidewalks where present, known
underground utilities, angle between centerline road and track, length of desired crossing
surface(s).

3. _____ Urban         _____ Rural     _____ Commercial           _____ Residential

ROADWAY INFORMATION

1. Present crossing surface is  _____ asphalt/timber  _____ asphalt
   _____ rubber          _____ concrete
   _____ timber

2. Present surface condition is  _____ good  _____ poor  _____ unsatisfactory

3. Present shoulder is  _____ paved  _____ stone  _____ grassed
   _____ other ___________________________

4. Will present roadway be widened?  _____ yes  _____ no

5. Will present roadway be resurfaced?  _____ yes  _____ no

6. Present AADT ____________ Speed Limit ____________ km/h
   TRAFFIC: ____________ Percent Trucks ____________ No. School Buses
            ____________ Hazardous Material

7. Present roadway lanes are  __ 2  __ 4  __ 6  ____ Other
   ____ Divided     ____ Undivided
8. Will road conditions require track to be raised? ___ yes ___ no ___ mm

9. Will approach paving be required? ___ yes ___ no
   Remarks: ___________________________________________________________
   _____________________________________________________________

10. Who will provide Traffic Control? _______________________________________

11. Will temporary detour route be required? ___ yes ___ no
    Remarks: ___________________________________________________________
    _____________________________________________________________

12. Are Railroad signals in place? ___ yes ___ no

13. Is crossing ___ Mainline  ___ Spur line  ___ Industrial  ___ Other

14. What is train speed? __________________________________ km/h
    Volume of train movements? __________________________________

15. Accident Record at crossing (please attach).

16. Input from public (please attach).

17. Will local government participate in rehabilitation of crossing? What percent or in what way? (please attach)

18. Estimated project cost ________________________________________________

   Form prepared by: ________________________________________________
   Title

   Submitted by: ________________________________________________
   Division Engineer

   Recommended: ________________________________________________
   Design Engineer

   Recommended: ________________________________________________
   Maintenance Engineer

   Approved: ________________________________________________
   Chief Engineer

   Approved: ________________________________________________
   Transportation Director
SUBJECT: REPORTS TO THE JOINT HIGHWAY COMMITTEE

Act 89-524, which pertains to the powers and duties of the Joint Highway Committee of the Legislature, requires that several reports be submitted by the Highway Department each fiscal year.

In order to be responsive to the Joint Highway Committee, the following duties, responsibilities and time frames in which these are to be accomplished are herewith designated.

1. Submit the annual five year plan to the Joint Highway Committee prior to July 1 of any given year. It shall be the responsibility of the State Planning Engineer to prepare this document to be presented by the Highway Director.

2. Present a budget for highway construction, maintenance, operation, and administration of the Highway Department not later than the fifteenth legislative day of each annual session of the Legislature. It shall be the responsibility of the Chief Accountant to prepare this document to be presented by the Highway Director.

3. Prepare a report for the Joint Highway Committee to be issued to the Governor, Lieutenant Governor, House of Representatives, Senate, and public within the first ten legislative days of each annual regular legislative session comparing actual performance of the Highway Department in terms of highway construction, maintenance, and costs of the same to the original plan for the immediate preceding fiscal year. It shall be the responsibility of the State Planning Engineer to prepare this document to be presented by the Highway Director.

4. Submit a quarterly report to the Joint Highway Committee on the performance of the Highway Department for the preceding fiscal quarter and its proposed projects and plans for the current fiscal year. It shall be the responsibility of the State Planning Engineer to prepare this document to be presented by the Highway Director.

5. Consider the following factors in determining plans for highway construction:

   A. Commuter benefits
   B. Industrial and agricultural growth
   C. Highway safety
   D. Ecological impacts
   E. Recreation and tourism
   F. Traffic density
The annual five year plan submitted to the Joint Highway Committee shall contain a rating of the above factors for each project. The appropriate departmental offices shall supply the State Planning Engineer with the rating data upon his request of this information.

RECOMMENDED FOR APPROVAL: ________________J.F. Carraway_______________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________Tom Espy Jr.____________
PRE-CONSTRUCTION ENGINEER

APPROVAL: ___________Royce G. King______________ 2/5/90
HIGHWAY DIRECTOR DATE

2-14 Rev. 6/90
SUBJECT: BRIDGE REPLACEMENT PROJECTS - FUNDING ELIGIBILITY DETERMINATION

(Applicable to all bridge replacement projects in which either the Design Bureau or Division offices are the lead agency.)

I. BRIDGE REPLACEMENT PROJECTS NOT REQUIRING SUBMITTAL TO FHWA

NHS bridge projects estimated to cost 1 million dollars or less and non-NHS bridge projects estimated to cost 5 million dollars or less.

A. Prior to beginning plan development, preliminary layouts of the alternates and detours to be considered should be developed utilizing enlarged quad maps, existing roadway plans, enlarged aerial photography, or field survey mapping. Preliminary profile grades should also be developed for all alternates giving appropriate consideration to highwater and FEMA flood studies. The proposed typical section should also be developed giving consideration to design year traffic and functional classification of the present roadway.

B. For projects which include on-site detours, the Guidelines for Operation entitled “Bridge Replacement Projects - Detours” should be referred to for the appropriate detour justification studies, documentation, and approval.

C. Detail cost estimates for the alternatives under consideration should be developed. The estimates should include such items as removal of the existing structure, detour construction and removal, costs to upgrade off-site detour roadways, signing, right-of-way, utilities, etc.

D. A bridge replacement funding eligibility determination request letter, including a statement as to whether the bridge is on the approved HBRRP eligibility list, should be prepared and forwarded along with the layouts, profiles, typical sections, and cost estimates to the Chief, Design Bureau. A recommendation on the preferred alternate should be included in the request letter with a brief narrative summarizing the justification for the recommendation. Other pertinent information such as structure number and sufficiency rating should also be included.
E. An on-site inspection should be scheduled as deemed appropriate by either Division personnel and/or Location Section personnel to review the proposed scope of work and detours. Results of the on-site inspection are to be documented by the lead agency.

F. The Design Bureau, Location Section, is to prepare a bridge replacement funding eligibility determination letter to the Division Engineer with a notice to proceed with plan development.

II. BRIDGE REPLACEMENT PROJECTS REQUIRING SUBMITTAL TO FHWA

NHS bridge projects estimated to cost over 1 million dollars and non-NHS bridge projects estimated to cost over 5 million dollars.

A. Prior to beginning plan development, preliminary layouts of the alternates and detours to be considered should be developed utilizing enlarged quad maps, existing roadway plans, enlarged aerial photography, or field survey mapping. Preliminary profile grades should also be developed for all alternates giving appropriate consideration to highwater and FEMA flood studies. The proposed typical section should also be developed giving consideration to design year traffic and functional classification of the present roadway.

B. For projects which include on-site detours, the Guidelines for Operation entitled “Bridge Replacement Projects - Detours” should be referred to for the appropriate detour justification studies, documentation, and approval.

C. Detail cost estimates for the alternatives under consideration should be developed. The estimates should include such items as removal of the existing structure, detour construction and removal, costs to upgrade off-site detour roadways, signing, right-of-way, utilities, etc.

D. A bridge replacement funding eligibility determination request letter, including a statement as to whether the bridge is on the approved HBRRP eligibility list, should be prepared and forwarded along with the layouts, profiles, typical sections, and cost estimates to the Chief, Design Bureau. A recommendation on the preferred alternate should be included in the request letter with a brief narrative summarizing the justification for the recommendation. Other pertinent information such as structure number and sufficiency rating should also be included.

E. An on-site inspection should be scheduled by the lead agency for the Division Office and Location Section personnel to review the proposed scope of work for each alternative and detours. The Federal Highway Administration should be invited to attend as well as other section or bureaus such as the Environmental Technical Section and Hydraulic Section as deemed appropriate for the particular site. The lead agency is to document the findings and recommendations resulting from the on-site inspection.
F. The Design Bureau, Location Section, will prepare a bridge replacement funding eligibility determination letter to the Federal Highway Administration. Preliminary layouts, profiles, typical sections, and cost estimates will be forwarded to the FHWA, a notice to proceed with plan development will be forwarded to the Division Engineer with a copy of the BR funding eligibility determination.

RECOMMENDED FOR APPROVAL: Ray D. Bass
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Newal S. Cauthen
CHIEF ENGINEER

APPROVAL: M. Roberts 5/3/93
HIGHWAY DIRECTOR DATE

2-15 Rev. 10/93
SUBJECT: FUNDING OF RAIL-HIGHWAY SAFETY PROJECTS

The purpose of this guideline is to establish the funding ratio for rail-highway safety projects as allowed for by 23 U.S.C. 120(c).

PROJECT FINANCIAL RESPONSIBILITY

For rail-highway signalization improvement funded through Section 130 of ISTEA (rail-highway federal aid safety funds), the projects will be constructed with 100 percent federal funds. This guideline pertains to rail-highway safety projects located on both on-system and off-system highways, roads and streets.

BASIS FOR ESTABLISHMENT OF GUIDELINE

Please reference 23 U.S.C. 120(c) of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The paragraph reads as follows:

INCREASED FEDERAL SHARE FOR CERTAIN SAFETY PROJECTS.
-- The Federal share payable on account of any project for traffic control signalization, pavement marking, commuter carpooling and vanpooling, or installation of traffic signs, traffic lights, guardrails, impact attenuators, concrete barrier end treatments, breakaway utility poles, or priority control systems for emergency vehicles at signalized intersection may amount to 100 percent of the cost of construction of such projects; except that not more than 10 percent of all sums apportioned for all the Federal-aid systems for any fiscal year in accordance with Section 104 of this title shall be used under this subsection.

As stated, projects eligible for 100 percent Federal funding include those for traffic control signalization. It has been determined by the Federal Highway Administration that traffic control signalization includes the installation of signal systems, including crossing gates and required circuitry, at rail-highway intersections.

RECOMMENDED FOR APPROVAL: Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: M. Roberts 7/30/93
HIGHWAY DIRECTOR DATE
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: EXIT NUMBERS

The procedure for identifying exits on State and Interstate Routes is determined by the milepost number preceding the exit.

One exit within a mile is identified by the milepost number preceding the exit.

Two or more exits within the same mile are identified by the milepost number preceding the exits used with letters in an alphanumeric manner for identification. Each exit will use the milepost number plus a letter, beginning with A and proceeding in alphabetical order. Numbers are assigned in order of appearance on milepost logs, @ south to north direction for odd numbered routes; west to east direction for even numbered routes.

The point used to determine the location of the exit is the centerlines of the routes involved (grade separation) or terminus of a route.

The identification for exit numbers was changed from kilometer to milepost in the year 1999.

RECOMMENDED FOR APPROVAL: Robert J. Peter
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: 
CHIEF ENGINEER

APPROVAL: 
TRANSPORTATION DIRECTOR 
3/26/87 DATE
Alabama Department of Transportation
Context Sensitive Solutions Policy Statement

ALDOT will develop transportation projects that improve or maintain safety and mobility in a way that seeks to preserve and enhance the quality of life for the users of the facility and the surrounding community whenever possible. The process will be a collaborative, interdisciplinary approach that involves working with citizens, local governments and regulatory agencies to develop a transportation facility that best fits its physical setting while addressing the transportation need.

Approved: ___________________________ Date: January 18, 2008
Donald W. Vaughn
Deputy Director/Chief Engineer
## CONTENTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Criteria</td>
<td>3-1</td>
</tr>
<tr>
<td>CADD Standards to be followed in the Preparation of</td>
<td>3-2</td>
</tr>
<tr>
<td>Contract plan Assemblies</td>
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</tr>
<tr>
<td>Plan Preparation and Absorbed Items</td>
<td>3-3</td>
</tr>
<tr>
<td>Project Notes Placement</td>
<td>3-4</td>
</tr>
<tr>
<td>Plan Revisions</td>
<td>3-5</td>
</tr>
<tr>
<td>Design Speed vs. Regulatory Speed</td>
<td>3-6</td>
</tr>
<tr>
<td>Three R Projects, A Guide for Proposed</td>
<td>3-7</td>
</tr>
<tr>
<td>3-R Improvements</td>
<td></td>
</tr>
<tr>
<td>Safety Improvements on Interstate Routes</td>
<td>3-8</td>
</tr>
<tr>
<td>Interstate 4R Safety Improvements</td>
<td>3-9</td>
</tr>
<tr>
<td>Use of Anchor Lugs at Bridge/Roadway Joining Location on Jointed</td>
<td>3-10</td>
</tr>
<tr>
<td>Concrete Pavements</td>
<td></td>
</tr>
<tr>
<td>Preliminary Design of Earthwork</td>
<td>3-11</td>
</tr>
<tr>
<td>Removal of Old Fill Material on Relocated Roadways</td>
<td>3-12</td>
</tr>
<tr>
<td>Contingency Pay Items in Limesink Prone Areas</td>
<td>3-13</td>
</tr>
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<tr>
<td>Quantities for Tack Coat</td>
<td>3-15</td>
</tr>
<tr>
<td>Shoulder Treatment</td>
<td>3-16</td>
</tr>
<tr>
<td>Hydraulic Data For Pavement Rehabilitation and Widening Projects</td>
<td>3-17</td>
</tr>
<tr>
<td>Longitudinal Edge Drains</td>
<td>3-18</td>
</tr>
</tbody>
</table>

3-0
<table>
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</tr>
</thead>
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<td>Outlet Drains at Bridge Ends</td>
<td>3-19</td>
</tr>
<tr>
<td>Drainage Write-Up Location for Plan Preparation</td>
<td>3-20</td>
</tr>
<tr>
<td>Precast and Cast-In-Place Box Culvert Alternates</td>
<td>3-21</td>
</tr>
<tr>
<td>Selection of Type of Roadway Pipe</td>
<td>3-22</td>
</tr>
<tr>
<td>Title Sheet Signature Blocks</td>
<td>3-23</td>
</tr>
<tr>
<td>Special Drawings to Be Used for End Treatment on Cross Drain and Side Drain Pipe</td>
<td>3-24</td>
</tr>
<tr>
<td>Bridges Vertical Clearance</td>
<td>3-25</td>
</tr>
<tr>
<td>Bridges to Remain in Place on the Interstate System</td>
<td>3-26</td>
</tr>
<tr>
<td>Slope Protection at Bridge Ends</td>
<td>3-27</td>
</tr>
<tr>
<td>Steel Test Piles and Loading Tests</td>
<td>3-28</td>
</tr>
<tr>
<td>Use of Bridge Joint Seals</td>
<td>3-29</td>
</tr>
<tr>
<td>Hazard Markers at Bridge Ends</td>
<td>3-30</td>
</tr>
<tr>
<td>Bridge End Slabs</td>
<td>3-31</td>
</tr>
<tr>
<td>Marking of Median Crossovers and Speed Change Lanes</td>
<td>3-32</td>
</tr>
<tr>
<td>Materials for Traffic Stripe, Markings and Legends</td>
<td>3-33</td>
</tr>
<tr>
<td>Salvage materials from Construction Projects</td>
<td>3-34</td>
</tr>
<tr>
<td>Contingency Add-Ons to Estimated Plan Quantities</td>
<td>3-35</td>
</tr>
<tr>
<td>Reuse of Traffic Signal Equipment</td>
<td>3-36</td>
</tr>
<tr>
<td>Background Materials for Ground Mounted and Overhead Guide Signs</td>
<td>3-37</td>
</tr>
<tr>
<td>Design of Traffic Control Plans Where There is a Difference in Elevation at Centerline Due to Resurfacing</td>
<td>3-38</td>
</tr>
</tbody>
</table>
Blank (Deleted (7/11/94)………………………………………………………. 3-39
Airport Fencing………………………………………………………………… 3-40
Erosion control Methods for Ditches………………………………………… 3-41
Mailbox Relocations…………………………………………………………… 3-42
Detours for Bridge Replacement Projects…………………………………… 3-43
Transportation Landscape and Environmental Design Including Related Permits………………………………………………………………………………… 3-44
Guidelines for Selecting Method of Estimating Peak runoff for Unregulated Watersheds…………………………………………………………………… 3-45
Storm Design Frequencies to be Used for Inlet Design…………………….. 3-46
Criteria for Inlet Spacing in Sag vertical Curves…………………………… 3-47
Clogging Reduction Factors for Inlet Design………………………………. 3-48
Regulatory Speed Limits in Construction Work Zones…………………….. 3-49
Paving for Turnouts……………………………………………………………. 3-50
Borrow Pit Locations………………………………………………………….. 3-51
Extension of Cast-In-Place Box Culverts……………………………………… 3-52
Limiting Storm Drainage Costs on Projects…………………………………. 3-53
Electronic Data collection……………………………………………………... 3-54
Abbreviated Plan Preparation for Rail-Highway Safety Signalization Projects………………………………………………………………………………… 3-55
Blank (Deleted (11/13/2007)………………………………………………….. 3-56
White Longitudinal Markings…………………………………………………. 3-57
TCP for Interstate Lane Addition Projects…………………………………… 3-58
Proposal for ITS Oversight Committee, ITS Advisory Committee for the Implementation of Intelligent Transportation Systems In the State of Alabama………………………………………………………………………………… 3-59
3-0.2

Compliance with Floodplain Regulations ........................................... 3-60

Work Zone Safety and Mobility ....................................................... 3-61

Utility Relocation Reimbursements ............................................... 3-62

Permanent and Temporary Ground Mounted Impact Attenuators ....... 3-63
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: DESIGN CRITERIA

All plans, specifications, and estimates (PS&E’s) must conform to the 2001 edition of AASHTO’s "A Policy on Geometric Design of Highways and Streets (Green Book). Deviations from controlling criteria in this policy will require the processing of design exceptions.

Design exceptions for each project shall be reviewed by the division engineer and submitted to the Design Bureau Chief for his review and further processing as deemed appropriate.

RECOMMENDED FOR APPROVAL: ____________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________ 12-23-02
TRANSPORTATION DIRECTOR  DATE

3-1 Rev. 12/02
SUBJECT: COMPUTER AIDED DRAFTING AND DESIGN (CADD) STANDARDS TO BE FOLLOWED IN THE PREPARATION OF CONTRACT PLAN ASSEMBLIES

The Alabama Department of Transportation Data Management Board has approved that all new projects begun after the date of this Guideline have contract plan assemblies created that adhere to the Alabama Department of Transportation CADD standards. These standards automate the creation, organization and appearance of Alabama Department of Transportation Contract Plan documents in both electronic format and the format as plotted to paper. Current CADD standards are available in the form of a web-based workspace called “NetSPEX Designer” that works in conjunction with InRoads and InXpress, the ALDOT civil engineering design system, and MicroStation, the ALDOT computer aided drafting system. The standards control seed files, reference files, cell libraries, font libraries, design element attributes such as color, weight, level and linestyle, file naming conventions, standard sheet formats, access to automated procedures and more.

Access to the Alabama Department of Transportation CADD standards is available through the Design Bureau Engineering Support Section’s Internet web page at http://www.dot.state.al.us/Docs/Bureaus/Design/Roadway/Engineer+Support/EngSupp.htm or Intranet web page at http://csiis/CS/Engineering%20Support%20Section/default.aspx. These web pages will contain the latest production version of the CADD standards, documentation concerning download and installation, a history of any updates and/or changes and a listing of contact personnel for any support issues. It shall be the responsibility of the designer to ensure contract plan compliance with the standards.

RECOMMENDED FOR APPROVAL: [Signature]
DESIGN BUREAU CHIEF

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature]
TRANSPORTATION DIRECTOR

DATE: 1/11/06

3-2
SUBJECT: PLAN PREPARATION AND ABSORBED ITEMS

The following guidelines should be followed in the preparation of all plans let by the Alabama Highway Department in all lettings after February 1987:

- Eliminate the use of the term “absorbed in other items” on project plans for payment designation purposes.

- Whenever practical, quantities for all items of work should be determined and assigned pay item number and placed on Summary Sheet.

- When it is unimportant to the contractor to know the exact quantity involved in an item of work, or it is impractical to quantify numerous small work items, it is permissible to include these items with another specific item. A note should clearly designate that such an item is a subsidiary obligation of a related work item, leaving no doubt with the contractor that pay for a specific item includes pay for the subsidiary item.

RECOMMENDED FOR APPROVAL: ____________ J.F. Carraway __________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _______ Tom Espy, Jr. __________
CHIEF ENGINEER

APPROVAL: ___________ Royce G. King ___________ 5/20/88
HIGHWAY DIRECTOR DATE
SUBJECT: PROJECT NOTES PLACEMENT

In our continuing efforts of clarifying the construction plans, there has been considerable discussion regarding the use and placement of special or general plan notes on the plans. The following is a suggested method of note placement in the plan assembly:

Number all notes according to the following schedule:

- 100-199 GN-2 Notes
- 200-299 Typical Section Notes
- 300-399 Summary of Quantity Sheet Notes
- 400-499 Plan Sheet Notes (Plan Profile, Paving Layout)
- 500-599 Signal Sheets
- 600-699 Electrical Sheets
- 700-799 Traffic Control Sheets
- 800-899 Utility Sheet Notes
- 900-999 Any notes that apply to other specific sheets.

All numbered notes are to be placed under the appropriate category on a special “Project Note Sheet”.

The project note sheet or sheets are to be placed after the typical section sheet(s) in the plan assembly.

RECOMMENDED FOR APPROVAL: __________________________ Ray D. Bass
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________________________ Newal S. Cauthen
CHIEF ENGINEER

APPROVAL: __________________________ M. Roberts 5/3/93
HIGHWAY DIRECTOR DATE

3-4 Rev. 10/93
SUBJECT: PLAN REVISIONS

1. There will be no flagging or prints required for plan changes made before the plans are transmitted to the Office Engineer, ten weeks prior to the scheduled letting date.

2. After all comments from the Bureau of Construction and FHWA have been handled, the plans will be transmitted to the Office Engineer, six weeks in advance of the scheduled letting date.

There will be no flagging required for revisions made prior to authorization (four weeks prior to the scheduled letting date). Three half-scale prints of each sheet revised during this period of time shall be furnished to the Office Engineer with the revisions circled in red.

3. After authorization (four weeks prior to the scheduled letting date), each revision made shall be flagged on the original tracings and a short description of the change made, along with the date of revision, shown in the lower right hand corner of the sheet.

One half-scale print of each sheet revised shall be furnished to the Office Engineer along with a letter explaining the revisions and requesting the Office Engineer to furnish the prospective bidders with the revisions made.

4. After the project is let to contract, there will be no changes made on the original tracings. Revisions shall be made on a reproducible print of the sheets requiring revisions. The revisions shall be flagged with a short description of the change made and the date of change shown in the lower right hand corner of the sheet. The revised sheet shall be added to the plan assembly.

Ten half-scale and seven full size prints of the revised sheets shall be furnished to the Construction Engineer with a letter requesting him to handle the construction change.
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: DESIGN SPEED vs REGULATORY SPEED

On rehabilitation (3R & 4R) projects where safe stopping sight distance criteria, as defined by the 1990 American Association of State Highway and Transportation Officials "A Policy on Geometric Design of Highways and Streets", does not meet the posted or regulatory speed, the following procedure will apply.

During the scoping process particular emphasis will be given to these areas on a case by case basis. The accident data will be carefully examined to determine if the design deficiency is causing accidents to occur. If such a determination is made an analysis of the traffic history will be made to determine what, if any, other factors contribute to accidents. When mitigating measures are required it will be accomplished either through reconstruction or signing with the appropriate motorist advisory sign. Design exceptions will be processed when reconstruction is not considered necessary.

RECOMMENDED FOR APPROVAL: Ray D. Bass
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: J. Scott Cantor
CHIEF ENGINEER

APPROVAL: [Signature]
HIGHWAY DIRECTOR

DATE 5-3-93
SUBJECT: THREE R PROJECTS, A GUIDE FOR PROPOSED 3-R IMPROVEMENTS

I. Roadway Widths

1. The combined shoulder and pavement width shall conform to the 1994 Edition of AASHTO's "A Policy on Geometric Design of Highways and Streets".

2. A minimum of 7.2 m pavement width shall be constructed on all projects.

3. A portion of the shoulder width may be utilized to provide for 7.2 m pavement where AASHTO design recommends a 6.6 m pavement for low volume highways. Shoulder widths may be waived at locations with restricted right-of-way or other unusual limiting conditions.

4. Bridges will not be widened or replaced with 3-R Funds. A minimum bridge width of 6.6 m will be acceptable where the pavement is widened to 7.2 m. (Narrow bridge signs will be required for bridges with a deck width less than 7.2 m wide). Bridge improvements will be accomplished with BRF Funding in a later contract. Guardrail will be upgraded at existing bridge ends and across the bridges where beam guardrail can be utilized.

5. Intersection improvements will be considered where there is a problem. Turn lanes may be constructed where the existing right-of-way will permit.

6. Channelization should be considered at business establishments where there is a heavy concentration of accidents. Curb may be used to provide channelizing islands to prevent vehicles from parking near the edge of pavement and restrict the entrance and exit conditions. Curb will not be used to curb off the entire right-of-way.
II. Alignment

1. A waiver to the requirements for the adjustment of the vertical and horizontal alignment that do not conform to the AASHTO criteria for the design speed of the highway will be requested, unless the accident data indicates a high concentration of accidents attributed to the alignment. Approval for this waiver will be requested from the FHWA on NHS projects or from the Chief Engineer on non-NHS projects. Consideration will also be given to providing signing for a reduced speed where the accident data reflects a problem and there is not sufficient right-of-way to correct the alignment.

III. Area Beyond Roadway Width

1. Steep front slopes will be allowed to provide the roadway width as recommended in the AASHTO Manual.
2. Crossdrain pipe and culverts will only be extended as required to provide for the roadway width. Headwalls will be retained on existing crossdrain structures that will not require adjustment to obtain the roadway width.
3. Sidedrain pipe will be relocated as required to obtain the roadway width, and slope paved headwalls provided. Headwalls will not be replaced on existing sidedrain pipe that will remain in place. Consideration will be given to replacing large vertical headwalls that are close to the roadway and are a potential hazard.
4. Since the purpose of the 3-R projects is to provide a standard pavement and shoulder width for as many miles of roadway as possible, consideration will not be given to removing all obstacles within the clear zone.

REQUIREMENTS FOR 3-R SCOPE OF WORK REVIEWS

I. The Divisions will set up the Preliminary Engineering Funds for the project to be reviewed.

II. The Divisions will furnish the Design Bureau with a summary of the existing conditions and proposed improvements for the section to be reviewed.
The following items will be required:

**Existing Conditions**

1. An area map of the section of highway to be reviewed.
2. The design speed of the section to be reviewed.
3. Number and location of the existing horizontal and vertical curves that will not accommodate the design speed. The design speed of the existing sub-standard curves should also be included.
4. The accident data and collision diagram for the section of highway to be reviewed.
5. The width and type of existing pavement. The general condition of the existing pavement should also be included.
6. The width and type of existing shoulders.
7. A brief resume of the problem areas to be reviewed.
8. The width and condition of the existing bridges. The bridges should be identified by milepost, railroad or stream crossings.
9. The present traffic figures for the section of highways to be reviewed. The percentage of trucks should be included as a part of the traffic information.
10. A general statement concerning the length of the existing culverts and crossdrain pipe on the section to be reviewed. The location of the existing sidedrain pipe and sidedrain pipe headwalls in relation to the edge of pavement should be included.

**Proposed Improvements**

1. The proposed resurfacing and widening of the existing pavement. The resurfacing and widening layers should be as recommended by the Bureau of Materials and Tests. The justification for the proposed pavement should be included.
2. The proposed width and surfacing for the proposed shoulders.
3. The treatment proposed for the existing crossdrain pipe and culverts. The proposed relocation of sidedrain pipe and the replacement of sidedrain pipe headwalls should be included.
4. The proposed improvements for sub-standard vertical and horizontal curves or request a waiver. Justification should be included when waivers are requested.
5. The proposed improvements for intersections.
6. The proposed treatment for guardrail on bridges or at bridge ends.
7. The proposed channelization of traffic at business establishments where the accident data indicates there is a hazard.
8. Include recommendations for eliminating any unusual condition which may be considered extremely hazardous. Any item of this nature must be supported by the available accident data.

III. The Scope of Work as prepared by the Divisions shall be furnished to the Design Bureau to allow ample time for the scheduling of the Scope of Work Review, approval by the FHWA, if applicable, plan preparation, P.S. & E. Inspection, and have the plans completed 12 weeks in advance of the scheduled letting date.

IV. Representatives from the FHWA, if applicable, Design Bureau, Division, and Bureau of Materials and Tests will be present for the Field Review.

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature]
TRANSPORTATION DIRECTOR

5/3/95 DATE

3-7.3
Rev. 6/95
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: SAFETY IMPROVEMENTS ON INTERSTATE ROUTES

The Scope of Work for Safety Improvements to be accomplished on the Interstate routes shall include the replacement of the Type 3 Approach Anchors with the Type 10 Breakaway Cable Terminal.

RECOMMENDED FOR APPROVAL: 

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: 

CHIEF ENGINEER

APPROVAL: 

HIGHWAY DIRECTOR

5/24/89

DATE
SUBJECT: INTERSTATE 4R SAFETY IMPROVEMENTS

The following safety work should be included with the 4R resurfacing work.

Delineators must be in place, in accordance with the MUTCD, within the project limits, before the project can be accepted. This includes all ramps within the project limits regardless of whether work is being done on the ramps or not. The delineators may be included in the 4R projects or they must be installed by maintenance forces.

Guardrail and guardrail approach end treatment should be upgraded. This upgrading work may be deferred pending a large project for general safety upgrading. If the 4R project contains guardrail within the area of shoulder work that would necessitate moving guardrail, too low guardrail or too narrow shoulders, the guardrail must meet the latest standards and be accomplished within the 4R project. If a large safety project is being considered, a written schedule will be required at the time of the 4R project authorization request stating when the guardrail and other deferred work will be upgraded.

All curb within the shoulder area must be removed in conjunction with the 4R project. All curb, except safety curb, outside of the shoulder area should also be removed as a part of the 4R work, or be included in a scheduled major safety upgrading project.

Other features, inlets, etc., needing upgrading may be included in the larger general safety project unless they are identified by State accident records as being a cause of accidents. If any feature is identified as an accident or operational problem, it must be included in the 4R project.

The standard acceleration lane is 390 m which includes a 300 m parallel lane 3.6 m wide and a 90 m taper. Conformance to this standard will be determined during the Scope of Work review. Acceleration lanes that do not meet this standard should be upgraded.
The establishment of the new acceleration lane will basically be a bituminous operation. Very little, if any, grading work will be required. The paved shoulder will be used as the acceleration lane, using a narrow trench to establish any extra width needed.

Bridges will be considered on a site by site basis, based on accident history and other safety considerations. Consideration of the need for widening of bridges in association with construction of new acceleration lanes should be looked at during the scoping review, but any necessary bridge work will be by separate project.

In advance of each scoping review, the accident records for the particular project should be available. Particular emphasis should be given to the accident records on those bridges on the project that come at the end of existing acceleration lanes.
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: USE OF ANCHOR LUGS AT BRIDGE/ROADWAY JOINING LOCATION ON JOINTED CONCRETE PAVEMENTS

All 4R rehabilitation projects involving jointed concrete pavement, new concrete pavement projects and bridge rehabilitation projects involving girder end repair where damage has been caused by expanding concrete pavement shall include anchor lug installation as a part of the project. The anchor lug design shall be considered as a part of the scoping reviews. Where structures are separated by 122 meters or less, consideration may be given to using only one unit between the two structures.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: W.E. Page
OPERATIONS ENGINEER

APPROVAL: M. Roberts 8/20/93
HIGHWAY DIRECTOR DATE

3-10 Rev. 10/93
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: PRELIMINARY DESIGN OF EARTHWORK

The following method should be utilized in determining preliminary earthwork quantities.

1. Each soil type in the cut section or borrow pit will be assigned a shrinkage/swell factor.
2. Shrinkage/swell factor will be based on unclassified excavation.
3. Earthwork computations utilizing these factors will be accomplished by shrinking or swelling the raw volume of material in the cut or borrow pit and distributing this adjusted volume to the embankment areas.
4. Attached to this guideline is the method to be used in compiling the factors and the schedule for submittals.

Method for Implementation

For the method of earthwork distribution to be adhered to see Exhibit A. This method of earthwork distribution is desirable; however, should a project be initiated which does not lend itself to the method described herein, then other methods of formatting these results shall be developed and approved by the Design Bureau.

The above described method will be implemented when preliminary plans are developed to include the following:

a. Title Sheet
b. Typical Section Sheets
c. Plan and Profile Sheets, including all topo
d. Grades established on main roadway and connecting roads
e. Paving Layout Sheets, if needed
f. Cross Sections
Following development of an initial profile, preliminary prints are then to be forwarded to Materials and Tests Engineer with a specific request for preliminary shrinkage or swell values based on knowledge and judgement of the area under consideration.

After earthwork has been preliminarily balanced based on above factors, transmit prints to Materials and Tests Engineer for soil report (borings), soils profile showing shrinkage/swell values and special studies, if any.

A more rigorous attempt at balancing earthwork will then be made after receipt of the soils information utilizing the shrinkage/swell values for the individual layers. If significant grade changes are made in this balancing effort such that "new" cut areas are required or if cut depths have changed to be below those bored for the soils profile, a set of plan, profile, and cross sections should again be transmitted to the Materials Bureau advising them of the changes.

The design plan assembly up through the P.S. & E. Inspection will include the soils profile information, cross sections depicting the assumed material layer elevations, and an earthwork summary that shows how each distinguished material layer was shrunk or swelled in order to obtain the earthwork quantities. After the P.S. & E. Inspection, this information will be removed from the plan assembly but will be retained in the file for further reference.

The as-let plan assembly will contain the soils boring log information, tabulated volumes of cut/fill and topsoil on cut and fill, and volume of unsuitable material. The soils profile will not be included. The cross sections will show the proposed finished grade template, subgrade and any unsuitable material layers. The cross sections will not show any other assumed elevations of material layers or rock layers.

The earthwork summary will show the quantity of unclassified excavation, borrow excavation, muck excavation, topsoil, and topsoil from stockpiles. The assumed shrinkage/swell values will not be included in the as-let plans. The Designer will need to retain the files regarding earthwork quantity calculation until after the construction is complete.

RECOMMENDED FOR APPROVAL:  
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  
CHIEF ENGINEER

APPROVAL:  
TRANSPORTATION DIRECTOR  
12/19/96  
DATE

3-11.1  
Rev. 12/96
EXHIBIT A
EARTHWORK SUMMARY SHEET IN THE PLANS

Unclassified Excavation: Topsoil beneath fill = \[ \text{Cut} \] m\(^3\) = \[ \text{ } \] m\(^3\)

Total Unclassified Excavation:

Borrow Excavation:

Muck Excavation: Muck on cut = \[ \text{ } \] m\(^3\)
Muck beneath fill = \[ \text{ } \] m\(^3\)

Total Muck Excavation:

Topsoil from Stockpiles: Topsoil on cut = \[ \text{ } \] m\(^3\)
Topsoil beneath fill = \[ \text{ } \] m\(^3\)

Total Topsoil from Stockpiles:
Given:

- Soil Shrinks 20%
- Weathered Shale Swells 5%
- Shale Swells 15%

Figure 1

Procedure

1. Prepare sufficient cross-sections as in figure 1 to represent entire cut.
2. Estimate volume in entire cut. Subtract topsoil on cut to obtain available cut.
3. Utilizing soil boring log, estimate volumes of soil, weathered shale, and shale.
4. Obtain representative shrinkage/swell values from soils profile and materials report.
5. Apply formula to find total material available for use in embankment.

Entire volume in cut = 100,000 m$^3$

Topsoil on Cut = 5,000 m$^3$*

*stockpile for later use

Soil Volume = 40,000 m$^3$
Weathered Shale Volume = 25,000 m$^3$
Shale = 30,000 m$^3$

Total Material Available for Embankment

= Soil Volume (1 - % shrink) +
Weathered Shale (1 + % swell) + Shale (1 + % swell)
= 40,000 (1 -.20) + 25,000 (1 + .05) + 30,000 (1 + .15)
= 32,000 + 26,250 + 34,500
= 92,750 m$^3$ available for embankment

3-11.4  Rev. 12/96
BORROW EXCAVATION

Note: Shrinkage/Swell factors as obtained from Bureau of Materials and Tests.

Note: Method for determining borrow excavation needed from borrow pits.

\[
X - AX = B \\
X = \frac{B}{1-A}
\]

\(X = \text{Amount needed from borrow pits}\)

\(*A = \text{Shrinkage/Swell factor (input swell as negative)}\)

\(B = \text{Absolute amount of fill needed}\)

*Shrinkage Condition
Given \(A = 25\%\)
\(B = 674\)
Find \(X\)

\(X - AX = B\)

\(1X - .25X = 674\)
\(.75X = 674\)
\(X = \frac{674}{.75} = 899 \text{ m}^3\)

*Swell Condition
Given \(A = 25\%\)
\(B = 100\)
Find \(X\)

\(X - AX = B\)

\(1X - (-.25X) = 100\)
\(1X + .25X = 100\)
\(1.25X = 100\)
\(X = \frac{100}{1.25} = 80 \text{ m}^3\)
Method of Determining Shrinkage/Swell Factors
For Use in Earthwork Quantity Calculations

Introduction

When soil is excavated, hauled, and compacted into an embankment, the final volume of the compacted soil is usually less than when it was in-situ or in its natural state. This difference in volume is usually defined as "shrinkage". In estimating earthwork quantities, it is necessary to make allowances for this factor. The amount of shrinkage varies with the soil type. Shrinkage factors of 15 to 20 percent are typical, but shrinkage may be as high as 40 or 50 percent for some soils.

Rock will swell when excavated and broken and will occupy more space than rock in solid form due to the increase in void spaces. Increases up to 25 percent of the original volume are common, but swell may be as high as 40 percent for some rocks.

In short, the shrinkage/swell factor is the value (expressed as a percentage) which compensates for variation in density of in-situ (in-place) material from cut (or borrow pit) to compacted embankment.

The shrinkage/swell values can be determined by measurements for each different type of material found on the project by laboratory tests such as the shrinkage ratio, shrinkage limit, and field moisture equivalent. These tests are used to calculate the natural field density of each type soil encountered in cut sections or borrow areas. This natural field density is then compared with the Proctor density to obtain the shrinkage/swell value for that particular soil type. However, this detailed method is seldom feasible and representative values or estimated values are used. The following is the recommended method for utilizing shrinkage/swell values in earthwork quantity calculations.

Procedure

1. Obtain soil profile - This soil profile should include sufficient borings to construct full soil cross-sections at maximum intervals of 150 m through cut sections. This will be done by boring at the approximate locations of the left ditch, centerline, and right ditch. Additional borings will be taken at 60 m intervals so that the soil/rock line may be approximated. In borrow areas, the boring grid should be such that soil cross-sections can be obtained.
2. Using the above soil cross-sections and borings the Division Materials Engineer will assign a shrinkage/swell value to each significant, identifiable material type on the project. These material types should be grouped with other materials that have similar shrinkage/swell values. The material types should be distinguished from each other when their individual shrinkage/swell value will have a significant impact on the earthwork quantity calculations.

The Division Materials Engineer will prepare a soils profile with the assumed shrinkage/swell values for the use of the Designer and also will prepare the soils boring log for inclusion into the plans.

Obviously a large number of grading projects, especially those in the Sixth, Seventh, Eighth, and Ninth Divisions, will contain no rock. It is felt that the shrinkage factors for soils in this case can best be estimated from experience and available historical data. Each Division Materials Engineer should have a record of the estimated shrinkage factor in the soils report for individual projects. This value should be compared to the actual quantities used on a project and any necessary corrections should be made. When comparing these quantities, care should be taken to determine if the slopes and other aspects of the earthwork shown in the plans were the same as those actually constructed. This will allow for a much better estimate of a shrinkage factor for nearby projects in the future.

Extreme caution should be exercised when re-evaluating the shrinkage factors of the various soil types present in an area based on previous construction projects. In the past, discrepancies have arisen between estimated quantities of earthwork for distribution and actual quantities distributed due to use of erroneous shrinkage/swell factors.

The shrinkage/swell factor that the Division Materials Engineer reports in the soils write-up is based on unclassified excavation.
References for Calculation of Shrinkage and Swell Factors of Earthwork


Appendix A

Range of Shrinkage/Swell Factors for Various Soil/Rock Types

<table>
<thead>
<tr>
<th></th>
<th>% Shrinkage</th>
<th>% Swell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massive, Hard, durable sandstone, limestone and metamorphic, and igneous rocks</td>
<td>25-35%</td>
<td></td>
</tr>
<tr>
<td>Unweathered shale</td>
<td>15-20%</td>
<td></td>
</tr>
<tr>
<td>Weathered shale, metamorphic and igneous rocks (rippable)</td>
<td>5-15%</td>
<td></td>
</tr>
<tr>
<td>Friable sandstone (breaks up under construction equipment)</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Chert and cherty clay (depends greatly on chert content)</td>
<td>0-10%</td>
<td>0-10%</td>
</tr>
<tr>
<td>Soil*</td>
<td>10-25%</td>
<td></td>
</tr>
</tbody>
</table>

* It is felt that the best method to determine soil shrinkage methods is to consult already available data. The shrinkage factor recommended for a project can be checked by comparing estimated plan earthwork quantities with the as-constructed quantities. This comparison should be made for various areas in a Division and the originally recommended factor can be adjusted (if necessary) for future projects in that area. Actually, this comparative procedure should also be used for projects where rock is encountered.

3-11.8 Rev. 12/96
SUBJECT: REMOVAL OF OLD FILL MATERIAL ON RELOCATED ROADWAYS

The practice of requiring the contractor to initially construct steep fill slopes on relocated roadways and later flatten them using the material from the old fill after traffic has been removed, may be costing the State unnecessary dollars. It may be more economical, at least in some cases, to construct the new fill, where it does not interfere with traffic, to completion at the outset, and to waste the material from the old roadbed.

On projects of this type, it is requested that the disposition or use of the old fill material to be left to the discretion of the contractor so long as all other construction requirements are met.

RECOMMENDED FOR APPROVAL: J. F. Carraway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR 5/20/88
DATE
SUBJECT: CONTINGENCY PAY ITEMS IN LIMESINK PRONE AREAS

The U.S. Geological Survey has completed a research project with the Alabama Highway Department in which the known sinkholes (limesinks) and sinkhole prone areas in Alabama were delineated. This project resulted in the publication of 40 county maps showing this information. The counties for which sinkhole maps have been prepared are shown on the attached index map. These counties can be divided into two groups, a northern group and a southern group. The bedrock underlying the sinkholes in the northern group will probably occur relatively close to the surface, while in the southern group this will not often be the case due to the differences in the geologic setting between the two areas.

With the individual county sinkhole maps it is possible to determine at an early stage in the planning of any given project that what the likelihood is of encountering sinkholes. While these maps obviously do not show every sinkhole in the state they can be used as a guide to areas where such features will likely occur.

It is therefore recommended that whenever a proposed project is within the northern area where sinkholes may occur, individual county sinkhole maps should be consulted to determine a need for contingency pay items to be included in the contract for that project for correction of sinkholes; as per Section 224, Standard Specifications for Highways and Bridges, and the Special Limesink Treatment drawing prepared by this Bureau. In this way if sinkholes are encountered during the construction of a project the pay items will already have been established and construction will not be stopped or slowed down more than necessary.

This will in no way bypass or replace the existing policy of reconnaissance of sinkholes encountered during surveying or construction of a project by personnel of the Geotechnical Section, but is merely to aid in contract formulation.

RECOMMENDED FOR APPROVAL: Larry Lockett
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE
Index to Sinkhole Maps

Legend
- Counties for which sinkhole maps have been prepared
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT:  UTILITY RELOCATION

The Department often participates in the construction of highways, roads and streets that are not part of the state highway system. If utilities are present on these projects and are located under the roadway prism, the Department may choose to allow those utilities to remain in their existing locations, if the construction of the highway project would not damage the utilities and the relocation costs are not deemed to be a cost effective use of highway funds.

The Division Engineer will determine whether existing utilities require relocation and recommend to the State Utilities Engineer for approval the retention of utilities if warranted.

If it is determined by the Department that the utilities should remain in place, the local highway agency may choose to relocate the utilities with their funds or their attributable federal funds.

RECOMMENDED FOR APPROVAL

BUREAU CHIEF / DIVISION ENGINEER

APPROVAL:

CHIEF ENGINEER

APPROVAL:

TRANSPORTATION DIRECTOR

DATE:  1/10/08
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: QUANTITIES FOR TACK COAT

The quantities for Pay Item 405A, tack coat, should be calculated at the rate of 136 milliliters per square meter.

RECOMMENDED FOR APPROVAL: ___________________________ Don T. Arkle
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________________________ Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: ___________________________ M. Roberts 8/18/93
HIGHWAY DIRECTOR DATE 3-15
SUBJECT: SHOULDER TREATMENT

The purpose of this is to set forth guidelines on shoulder treatment on the State Highway System of Alabama other than Interstate.

There shall be three (3) acceptable methods of treating highway shoulders. They are:

1. Pave 2.4 meters and stabilize the remaining shoulder width.
2. Pave 1.2 meters and stabilize the remaining shoulder width.
3. Stabilize full width of shoulder.

CONSIDERATION MAY BE GIVEN TO METHOD ONE ON:

a. Highway projects which are a part of a general route improvement where segments of that route have been constructed with paved shoulders on both sides of that project, but not necessarily adjacent to that project.

b. Specially funded projects which are not in financial competition with other projects in Alabama.

c. On any two-lane project with a current ADT greater than 2500 except for bridge replacement projects, 3-R projects, or other spot improvements on highways which currently do not have paved shoulders.

d. On any four-lane project with a current ADT greater than 5500 except for bridge replacement projects or other spot improvements on highways which currently do not have paved shoulders.

e. Highway projects traversing topographic conditions that will encourage high use of shoulders, regardless of current ADT.

f. Non-Interstate highway projects involving full access control.

Consideration shall be given on all projects which contain shoulders paved to widths greater than 1.2 meters in areas of the state with potential bicycle usage to providing on the outside shoulder a surface textured treatment only to the inner portion of the paved shoulder. On shoulders where a “G” treatment is used, its width should be 1.2 meters. Where scoring is used to provide a textured surface, a single pass of the machine on the inner edge of the shoulders will be sufficient.
CONSIDERATION MAY BE GIVEN TO METHOD TWO ON:

a. Any two-lane project with a current ADT greater than 1800 except for bridge replacement projects, 3-R projects, or other spot improvements on highways which currently do not have paved shoulders.

b. Any four-lane project with current ADT greater than 4000 except for bridge replacement projects or other spot improvements on highways which currently do not have paved shoulders.

c. Any two-lane or four-lane project which does not meet the ADT requirements above but which has 18% or greater trucks.

METHOD THREE SHALL BE USED ON ALL OTHER PROJECTS NOT USING ONE OR TWO:

With the above methods, the following is understood:

1. Turf shoulders established on compacted granular soil are considered stabilized shoulders.

2. On four-lane highways were paved shoulders are warranted, the inside shoulders may be paved a width of 1.2 meters.

3. On highways which have more than four traffic lanes, other than auxiliary lanes, consideration may be given to paved shoulders.

RECOMMENDED FOR APPROVAL: ______________ Don T. Arkle
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________Ray D. Bass_____________
PRE-CONSTRUCTION ENGINEER

APPROVAL: ____________M. Roberts_____________
HIGHWAY DIRECTOR 8/18/93

DATE 8/18/93

3-16.1 Rev. 10/93
SUBJECT: HYDRAULIC DATA FOR PAVEMENT REHABILITATION AND WIDENING PROJECTS

It will not be necessary to show the hydraulic data or analyze the existing drainage structures that are to be extended on resurfacing projects. Unless there is a history of flooding or some indication that the existing structure is undersized. Consideration should be given to replacing structures that have a history of flooding the roadway or the adjacent properties. The standard hydraulic data should be shown on the plans for structures to be replaced.

Widening projects, other than incidental widening such as a turn lane or shoulders, should be checked for hydraulic adequacy. If the original analysis is available, the check would be limited to determining if the factors used are still valid.

The Divisions should furnish a letter for widening and resurfacing projects, advising the Design Bureau that the drainage for a project has been reviewed. The location and proposed improvements for inadequate drainage structures should be specified in the letter. If there are no existing drainage problems or history of flooding, it should be indicated in the letter.

RECOMMENDED FOR APPROVAL: ________________ Don T. Arkle ____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Ray D. Bass ____________
PRE-CONSTRUCTION ENGINEER

APPROVAL: __________ M. Roberts ____________ 3/30/94
TRANSPORTATION DIRECTOR DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT:  LONGITUDINAL EDGE DRAINS

Longitudinal aggregate filled underdrains should be used only where conditions warrant, not as a general rule on all projects.

RECOMMENDED FOR APPROVAL:  Larry Lockett
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL:  Royce G. King
HIGHWAY DIRECTOR

5/20/88
DATE

3-18
SUBJECT: OUTLET DRAINS AT BRIDGE ENDS

CCS-PI pipe should be used for shoulder drain outlets at bridge ends instead of concrete flumes where sealed bridge end joints are used.

RECOMMENDED FOR APPROVAL: J.F. Carraway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR 5/20/88
DATE

3-19
SUBJECT: DRAINAGE WRITE-UP LOCATION FOR PLAN PREPARATION

The following guideline is to be used in placing drainage information on plans in urban areas or areas where placing topo and drainage requirements together tend to clutter and make the sheets difficult to read.

“Drainage structure write-ups are not to be shown on Plan, Profile, Paving Layout, Special Detail and Utility Sheets. The drainage structure write-ups should be shown on the Drainage Section sheets. Symbols for the drainage structure should continue to be shown on all appropriate sheets, showing size and direction of flow and using index numbers for each end, with index numbers assigned by direction of flow.

EXAMPLE

The top number (Example 8 or 9) is the Drainage Structure Index Number and the bottom number (Example 88) is the Drainage Section Sheet Number. The numbers on the Drainage Section Sheets should reflect the Drainage Structure index number in the upper-half of the circle and the Plan-Profile Sheet number in the lower-half of the circle.”

“Side Drain Pipe should not be written up on Plan, Profile, Paving Layout, Special Detail or Utility Sheets. They should be indexed on these sheets and all information concerning their disposition should be shown in a box sheet.

SIDE DRAIN EXAMPLE

The top letters (Example SD) are for the Side Drain and the bottom number (Example 4) is the Drainage Structure Index Number.”
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: PRECAST AND CAST-IN-PLACE BOX CULVERT ALTERNATES

Alternate designs for precast box culverts will be offered for all sites with the following requirements:

1. Bridge size culverts – Alternates for precast culverts will be permitted. Precast culverts may be excluded if after the site inspection by the Bridge Bureau it is determined using precast will be undesirable. A letter of justification for exclusion of the precise alternate will be required for approval by the Chief Engineer’s Office.

2. For culverts less than bridge size – A precast alternate will be permitted. The designer may exclude the precast alternate if, at the plan in hand inspection, the precast alternate is deemed to be undesirable. A letter to exclude the alternate must be prepared and approved by the Chief Engineer’s Office.

3. The exclusion of the precast alternate approval letter must document and show it undesirable based on the following considerations:
   a. Soil erodability
   b. Stream bed slope
   c. Water velocity
   d. Culvert skew
   e. Fill height
   f. Size opening required
   g. Availability

4. Precast culverts may be designated when traffic handling situations might govern.

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF / DIVISION ENGINEER

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature]
TRANSPORTATION DIRECTOR

3-21 Revised 3/31/06

3/31/06 DATE
SUBJECT: SELECTION OF TYPE OF ROADWAY PIPE

It shall be the intent of the Alabama Department of Transportation to use only concrete pipe for roadway pipe installations, including pipe extensions on all roads which comprise the State Highway System. Where "stack pipe" is required to connect inlets to junction boxes, 14 gauge, CCS, roadway pipe will be used. Where "wrap-around" pipe is required to handle median drainage down the fill slopes, 14 gauge, CCS paved invert roadway pipe will be used.

For round storm sewer system pipes, Exhibit A provides the Alabama Department of Transportation determination of the hydraulic equivalency of alternate pipe materials. The design shown in the plans will be based on concrete pipe. If an alternate pipe type is allowed by specification, the size of the alternate pipe type supplied shall be determined based on the hydraulic equivalency in the Exhibit.

For projects on which alternate pipe types are allowed, sampling will be conducted at each location where cross-drain pipes are proposed. This sampling shall be carried out by division personnel as early in the planning stages as is practical. The sample shall consist of 1 liter of water (if water is available at the site), and approximately 4 liters of soil (taken from the edge of the stream, or the lowest elevation if area is dry). These items must be transported to the central lab the day they are taken.

The samples will be analyzed for conductivity, resistivity, pH, chlorides and sulfates. This information will then be included in the materials write-up for the project along with pipe type as determined by the limits set forth herein.

An investigation will be conducted by division personnel of existing drainage structures in similar geological areas to determine their age and condition. This should include evaluations of potential abrasion, pollution and other physical factors which might affect the drainage structure. Written information of this investigation should be included in the materials write-up for the project.

Analyses of the soil and water shall be conducted by the following:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>Soil</th>
<th>Test Method</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity</td>
<td>California DOT 643</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>pH</td>
<td>Alabama DOT 291</td>
<td>EPA Test Method 150.1</td>
<td>None</td>
</tr>
<tr>
<td>Chloride</td>
<td>California DOT 422</td>
<td>EPA Test Method 325.3</td>
<td>None</td>
</tr>
<tr>
<td>Sulfate</td>
<td>California DOT 417</td>
<td>EPA Test Method 375.4</td>
<td>None</td>
</tr>
<tr>
<td>Conductivity</td>
<td>None</td>
<td>EPA Test Method 120.1</td>
<td>None</td>
</tr>
</tbody>
</table>
Criteria for roadway pipe:

<table>
<thead>
<tr>
<th>Pipe Type</th>
<th>pH</th>
<th>Resistivity</th>
<th>Chloride</th>
<th>Sulfate</th>
<th>Abrasion Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized Steel or Aluminum</td>
<td>&gt;10</td>
<td>&gt;3000 Ω•cm</td>
<td>&lt;50 mg/L</td>
<td>&lt;100 mg/L</td>
<td>Mild</td>
</tr>
<tr>
<td>Bituminous Coated Galvanized Steel or Aluminum</td>
<td>5-10</td>
<td>&gt;3000 Ω•cm</td>
<td>&lt;50 mg/L</td>
<td>&lt;100 mg/L</td>
<td>Moderate</td>
</tr>
<tr>
<td>Bituminous Coated Galvanized Steel with Paved Invert</td>
<td>5-10</td>
<td>&gt;3000 Ω•cm</td>
<td>&lt;50 mg/L</td>
<td>&lt;100 mg/L</td>
<td>Moderate to Good</td>
</tr>
<tr>
<td>Aluminized Steel</td>
<td>5-9</td>
<td>&gt;1500 Ω•cm</td>
<td>&lt;50 mg/L</td>
<td>&lt;100 mg/L</td>
<td>Moderate</td>
</tr>
<tr>
<td>Plain Concrete or Reinforced Concrete</td>
<td></td>
<td>May be used in all situations. If pH is below 4, a special coating is required.</td>
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</tbody>
</table>

In areas with apparent abrasion or erosion of the structure due to water laden with sand, gravel or stone, protection should be provided such as a paved invert or other method. Also, reduction of the bedload upstream of the structure should be considered.

On low volume (250 ADT or less) secondary roads, uncoated structural pipe may be allowed for use in the limits for coated pipe.

Note: On-site historical information and other data may also be used in this determination.

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF

APPROVAL: [Signature]
CHIEF ENGINEER’S OFFICE

APPROVAL: [Signature] 12-28-2004
TRANSPORTATION DIRECTOR  DATE
<table>
<thead>
<tr>
<th>Corrugations in.</th>
<th>Fill Hts&lt;= 10'</th>
<th>Fill Hts &gt; 10'</th>
<th>Corrugated Metal (CMP)</th>
<th>Structural Plate</th>
<th>PVC Pipe</th>
<th>Concrete Pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design N Value</td>
<td>0.012</td>
<td>0.014</td>
<td>0.015</td>
<td>0.025</td>
<td>0.025</td>
<td>0.028</td>
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<tr>
<td>Pipe Sizes in.</td>
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</tbody>
</table>

For cross drain pipes do an analysis with the N Factor given

Concrete pipe with the socket end left on (not cut off) will have a much lower entrance head loss than thin walled pipe.
Flowlines cannot be changed to obtain cover if an equivalent sized pipe is selected.
Some pipe sizes are not shown because a smaller pipe size is equivalent to the concrete pipe.
Flowline changes will require a redesign of the system.

Pipe sizes on a horizontal row will carry at least as much flow as the concrete pipe size, but not as much flow as any pipes on the next lower horizontal row.
SUBJECT: TITLE SHEET SIGNATURE BLOCKS

Effective with the September 30, 1988 Highway letting, the title sheet for all plans shall include a signature block indicating “Submission for Approval” by the Chief of the lead agency. This signature block is in addition to the current required signature blocks for the Chief Engineer and Highway Director.

RECOMMENDED FOR APPROVAL: J.F. Carraway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 7/29/88
HIGHWAY DIRECTOR DATE

3-23 Rev. 7/88
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: SPECIAL DRAWINGS TO BE USED FOR END TREATMENT ON CROSS DRAIN AND SIDE DRAIN PIPE

GUIDELINE ON CROSSDRAIN PIPE FOR CONSTRUCTION AND MAINTENANCE

For pipe ends within the clear zone, use slope paved headwalls with beveled end cut. When slope paved headwalls are used, a grate will be required for pipe greater than 30” (750 mm) in diameter. Slope paved headwall or flared end sections, without grates may be used in the clear zone when they are shielded from traffic by physical barriers.

For pipe ends outside the clear zone, alternate end treatments of slope paved headwall or flared end sections will be allowed. Grates will not be required regardless of size of pipe. Conventional headwall end treatment may be used in special cases.

GUIDELINE ON SIDEDRAIN PIPE FOR CONSTRUCTION AND MAINTENANCE

For pipe locations within the clear zone, use slope paved headwalls with beveled end cut. Grates will be required for pipe within the clear zone that are greater than 24”(600 mm) in diameter. For pipe locations outside the clear zone, alternate end treatments of slope paved headwall or flared end sections will be allowed. No grates will be required for pipe located outside of the clear zone.

On two lane roadways the same end treatment will be given to both ends of pipe.

On four lane roadways place grates on traffic approach end only.

A maximum 6:1 slope will be used on pipe cuts within the clear zone. For the purpose of maintenance permits, the slope may be steepened to 3:1 on routes constructed to earlier design standards where constructing a slope of 6:1 would be impractical due to existing slope or ditch and elevation conditions at and around the proximity of a driveway.
The chart below indicates the complete range of usage of all of the drawings available for pipe end treatment on cross drain and side drain pipe.

### CONDITION

<table>
<thead>
<tr>
<th>Special Drawing No.</th>
<th>Side Drain Inside Clear Zone</th>
<th>Side Drain Outside Clear Zone</th>
<th>Cross Drain Inside Clear Zone</th>
<th>Cross Drain Outside Clear Zone</th>
<th>MEDIAN Crossover (4 LANE+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE-619</td>
<td>(6) X</td>
<td>(2) X</td>
<td>(6) X</td>
<td>(2) X</td>
<td></td>
</tr>
<tr>
<td>HW-614-B</td>
<td></td>
<td>(3) X</td>
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<td>(2) X</td>
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</tr>
<tr>
<td>HW-614-SP</td>
<td>(5) X</td>
<td>(2) X</td>
<td>(1) X</td>
<td></td>
<td>(7) X</td>
</tr>
</tbody>
</table>

1. May be used on roadway pipe under intersecting side roads using sidedrain requirements.
2. No grates required.
3. Grates required for pipe greater than 30” (750 mm) in diameter.
4. For use in special cases.
5. Grates required for pipe greater than 24” (600 mm) in diameter.
6. May be used inside clear zone when shielded from traffic by physical barriers. No grates will be required, regardless of pipe size.
7. Grates required for pipe larger than 24” (600 mm) in diameter, pipe end treatment slopes shall be 1:10 regardless of pipe size.
8. May be used inside clear zone for maintenance permits where 3:1 slope is allowed as previously stipulated. Grates required for pipe larger than 24” (600 mm) in diameter.

RECOMMENDED FOR APPROVAL: __________________________
CHIEF, DESIGN BUREAU

RECOMMENDED FOR APPROVAL: __________________________
MAINTENANCE ENGINEER

APPROVAL: __________________________
CHIEF ENGINEER

APPROVAL: __________________________
TRANSPORTATION DIRECTOR

7/27/2004
DATE
SUBJECT: BRIDGES VERTICAL CLEARANCE

Bridges in General: The desirable vertical clearance for new bridges shall be 5.2 m to allow for future pavement overlays.

Sign Bridges and Pedestrian Overpasses: 5.5 m desirable for new structures.

Exceptions: Some city streets and other locations with limited truck traffic do not require 5.2 m clearance.

RECOMMENDED FOR APPROVAL: William F. Conway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: M. Roberts
HIGHWAY DIRECTOR

8/5/93  DATE

3-25  Rev. 10/93
STATE OF ALABAMA

HIGHWAY DEPARTMENT

GUIDELINES FOR OPERATION

SUBJECT: BRIDGES TO REMAIN IN PLACE ON THE INTERSTATE SYSTEM

Bridges less than 60 m will carry full roadway section across bridge, i.e. 3.6 m travel lanes and 3 m shoulder on right and 1.8 m shoulder on left (minimum).

Bridges of any length with aluminum rail and 280 mm curb will be replaced by bridges carrying full roadway section and having concrete safety barrier rails.

RECOMMENDED FOR APPROVAL: ____________________ William F. Conway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________ Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: ____________________ M. Roberts 8/5/93
HIGHWAY DIRECTOR DATE

3-26

Rev. 10/93
SUBJECT: SLOPE PROTECTION AT BRIDGE ENDS

River/Stream Crossings & Relief Bridge Structures

Riprap will be used as slope protection under bridges at these locations.

Railroad Overpasses

Concrete slope paving will generally be used as slope protection under all railroad bridges. Any proposed alternates to concrete slope paving must receive prior approval of the railroad company.

Other Grade Separation Bridge Structures

Generally the method of slope protection will be either slope paving, riprap or crusher-run aggregate at these locations.

Representatives of the Design Bureau, Division, and Bridge Bureau will determine the type of slope protection to be used under each bridge during the Plan-In-Hand and/or PS & E project review.

The determination is to be based on soil type on the slopes, drainage conditions at the bridge structure, and site location.

Concrete slope paving should be used for slope protection at these locations in urban areas or areas with the potential to become urbanized during the life of the structure.
SUBJECT: STEEL TEST PILES AND LOADING TESTS

Steel test piles and loading tests should be eliminated from bridge projects where the core borings indicate that piling can be driven to refusal on rock within reasonable depth. The bridge foundation report will have guidelines and shall be consulted.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

3-28
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: USE OF BRIDGE JOINT SEALS

Bridge joint seals should not be used as a general rule. They may be used in special cases where deemed necessary by the designer.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

3-29
SUBJECT: HAZARD MARKERS AT BRIDGE ENDS

Hazard markers will not be required at full width bridges.

RECOMMENDED FOR APPROVAL: J.F. Carraway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

DATE: 5/20/88

3-30
SUBJECT: BRIDGE END SLABS

All projects on the State Highway System having asphalt pavement shall include bridge end slabs for all newly constructed bridges.

In order to eliminate the problem of maintaining the bridge end slabs after they have settled, the slabs shall be constructed approximately 75 mm below the bridge deck finished grade and overlayed with asphalt. Any future settlement may be corrected by applying additional asphalt leveling.

An exception to this guideline may be considered upon submission of a written request to the Chief Design Engineer.
STATE OF ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: MARKING OF MEDIAN CROSSTERS AND SPEED CHANGE LANES

In accordance with provisions contained in Special Drawings 623-N Spec and LTL-623, the proper marking method is as follows:

1. At turnouts and driveways, the spacing of edgeline marking is to be continuous and is not to be broken.

2. At median crossovers, the placing of yellow edgeline marking is to be extended across the median opening using normal width Dotted Line Yellow Traffic Stripe pattern of 2ft./4ft. segment to gap ratio.

3. The extension of edgeline to channelizing line on speed change lanes is to be installed using normal width Dotted Line White Traffic Stripe pattern of 2ft./4ft. segment to gap ratio for both right and left turn lanes for either 2-lane or multi-lane facilities.

4. At crossroad intersections, the placing of corner radius control line from the nose of the median to the centerline of the crossroad is to be installed using normal width Dotted Line Yellow Traffic Stripe pattern of 2ft./4ft. segment to gap ratio.

RECOMMENDED FOR APPROVAL

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  
CHIEF ENGINEER

APPROVAL:  
TRANSPORTATION DIRECTOR

DATE: 8/1/07

3-32

Rev. 07/07
SUBJECT: MATERIALS FOR TRAFFIC STRIPE, MARKINGS AND LEGENDS

PERMANENT TRAFFIC STRIPE, MARKINGS AND LEGENDS

All traffic stripe used for centerlines and edgelines shall be five inches (5") wide.

Pavement marking materials such as Class 2 Standard Thermoplastic meeting the requirements of Section 856 of the Department Specifications, or Type 3 Tape as approved on List V-4, Permanent Traffic Marking Materials, of the Alabama Department of Transportation's Materials, Sources, and Devices with Special Acceptance Requirements should be used for all traffic stripe, markings and legends on two-lane roadways with an AADT volume of 2,500 or greater and on all roadways of four lanes or more. Only roadways that are not anticipated to be resurfaced within five years from the time of application should be considered. On other roadways (where striping cycles are frequent) these type marking materials may be considered for centerlines on an individual project basis. On two-lane roadways with an AADT volume of less than 2,500, Class 2T Thin Film Spray Applied Thermoplastic meeting the requirements of Section 856 of the Specifications should be used for both centerlines and edgelines. Class 1 Paint may be used on extremely low volume roadways and for maintenance of traffic striping, markings and legends. Class 1H High Build Paint is intended for use solely by State forces and should not be included in contracts.

Class W Warranted Traffic Marking Material as approved on List V-4, Permanent Traffic Marking Materials, of the Alabama Department of Transportation's Materials, Sources, and Devices with Special Acceptance Requirements should be used for all traffic stripe, markings and legends on all concrete pavement and concrete bridge decks.

Pavement markings and legends at rail/highway grade crossings shall be Class 2 Standard Thermoplastic, Type 3 Tape, or Class W Warranted Traffic Marking Material unless the Engineer determines the condition of the pavement is unsatisfactory for the use of these materials, in which case Class 2T Thin Film Spray Applied Thermoplastic should be applied.

TEMPORARY MARKINGS

In situations where temporary traffic stripe is to be placed on the final wearing layer and the permanent traffic stripe will not be placed in the exact location of the temporary traffic stripe, removable marking tape shall be used for the temporary traffic stripe. Class 1 Paint shall be used for temporary striping when the striping will be overlaid with pavement layers or when the permanent traffic striping will be placed in the exact location of the temporary traffic stripe. Class 1 Paint shall not be applied to concrete surfaces.

RECOMMENDED FOR APPROVAL: 
BUREAU CHIEF/DIVISION ENGINEER

APPROVED: 
CHIEF ENGINEER

APPROVED: 
TRANSPORTATION DIRECTOR

DATE: 6/1/07

3-33

Rev. 07/07
SUBJECT: SALVAGE MATERIALS FROM CONSTRUCTION PROJECTS

During the project PS & E Inspection, decisions should be made concerning retainage of salvage materials. The following documentation must be on record with the Office Engineer before submission of plans for final processing.

1. If the proposed salvage material was placed with Federal-Aid funds, FHWA must make a field survey of the items and make an evaluation of the salvage value of the material.

2. If the salvage value of the item is in excess of $5,000.00:
   a. FHWA will be given credit for the salvage value and the State controls the disposition of the salvaged material, or
   b. The salvaged material will be placed in an inventory account and charged out and used. Salvage material can be reused on other projects eligible under the provisions of Title 23 U.S.C. The storage area and inventory method must be agreed to in writing by FHWA personnel. The reuse of this material must be documented on the project on which it is to be used.

3. If the salvage value of the item is $5,000.00 or less, no further actions are required. A written confirmation of the estimate must be obtained from FHWA.

4. If the proposed salvage material was placed using only State funds and such is validated, the State can dispose of or reuse the material at its discretion.

If the appropriate documentation is not on record with the Office Engineer, all reference to salvaged materials will be removed in order to obtain authorization for letting.

RECOMMENDED FOR APPROVAL: D.W. Vaughn
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
11/11/88
HIGHWAY DIRECTOR
DATE

3-34 Rev. 10/88
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: CONTINGENCY ADD-ONS TO ESTIMATED PLAN QUANTITIES

Effective with the December 9, 1988 Highway letting, percentage add-ons to estimated plan quantities shall be eliminated.

This directive applies to pay items such as, but not limited to, reinforcing steel, structural steel, concrete, earthwork items, base and paving items, etc., on which it is customary to increase the estimated (computed) quantities by two to ten percent.

It will be permissible to include certain items on the plans as “contingency item” when there is a good possibility that such items will be needed on construction. When such items are included, sufficient quantities shall be provided so that reasonable unit bid prices will be obtained.

RECOMMENDED FOR APPROVAL: _____________ J.F. Carraway ______________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________ Tom Espy, Jr. ___________
CHIEF ENGINEER

APPROVAL: ___________ Royce G. King ___________
HIGHWAY DIRECTOR 7/29/88 DATE

3-35 Rev. 7/88
SUBJECT: REUSE OF TRAFFIC SIGNAL EQUIPMENT

On traffic signal projects, designers should consider the reuse of existing signal heads, poles, controllers, etc., instead of requiring all new material.
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: BACKGROUND MATERIALS FOR GROUND MOUNTED AND OVERHEAD GUIDE SIGNS

The following Guideline for Operation, relative to the background materials to be used on Ground Mounted and Overhead Roadways Signs, shall be implemented and followed as appropriate until rescinded.

GROUND SIGN INSTALLATIONS

All Ground Mounted and Overhead Freeway, Expressway and major At-Grade Intersection guide sign panels shall be designed and fabricated to Class 2 Specification Requirements (Article 710.01) using Type “B” reflective sheeting material for the sign background and Type “B” reflective sheeting material for the sign copy (Article 880.02). The “EXIT ONLY” panel used in conjunction with Overhead Guide Signs shall be fabricated to Class 2 A Specification requirements (Article 710.01) using Type “B” reflective sheeting material for the sign background. The sign copy shall be Cut-Out Applied Copy [Item 880.03(a)5]).

The use of lighting on overhead guide sign structures shall not be required.

RECOMMENDED FOR APPROVAL: _______________ Ray D. Bass _______________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _______________Tom Espy, Jr. _______________
CHIEF ENGINEER

APPROVAL: _______________ Perry A. Hand _______________ 4/22/92
HIGHWAY DIRECTOR DATE

3-37 Rev. 6/92
SUBJECT: DESIGN OF T.C.P.’s WHERE THERE IS A DIFFERENCE IN ELEVATION AT CENTERLINE DUE TO RESURFACING

On resurfacing projects a difference in elevation of approximately 50 mm at the centerline may be allowed without additional traffic control as long as the edge is tapered or rounded to eliminate a vertical dropoff. Special conditions may exist where protection should be provided where the difference is less than 50 mm.

A difference of more than 50 mm will require additional traffic control devices.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick  
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass  
CHIEF ENGINEER

APPROVAL: Jimmy Butts  
TRANSPORTATION DIRECTOR  11/20/95  DATE

3-38  Rev. 3/96
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: AIRPORT FENCING

Metal access right-of-way fencing sometimes interferes with airport traffic control radar.

In order to avoid this potentially dangerous situation, highway fencing in the vicinity of some airports should be nonmetallic. The Federal Aviation Administration should be contacted whenever a highway is adjacent to an airport in order to ascertain if metallic fencing will be a problem.

RECOMMENDED FOR APPROVAL: J.F. Carraway
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

3-40
SUBJECT: EROSION CONTROL METHODS FOR DITCHES

Designers should give consideration to various methods of controlling erosion in ditches. Less expensive methods such as jute mesh, soil cement flumes, glass fiber flumes and solid sod should be considered as substitutes for expensive slope paving.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

5/20/88
DATE
SUBJECT: MAILBOX RELOCATIONS

The only plan requirement relative to mailboxes is GN Note No. 139-A. This note covers only mailboxes which are in conflict with the actual construction. It does not give the authority to require the Contractor to correct a hazardous mailbox support or to move a mailbox further from the roadway.

Consideration should be given to this matter during plan development. If it is the intent to require the Contractor to correct hazards or relocate mailboxes, a listing of the locations and details of the work should be included on the plans.
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: DETOURS FOR BRIDGE REPLACEMENT PROJECTS

During the scope of work review for bridge replacement projects, the first item to be considered will be a determination of detour provisions for traffic during replacement of the bridge. This determination is to be compiled, submitted to the Design Engineer, and approved by the Design Engineer prior to proceeding with plan development. If stage construction of the replacement bridge or a detour bridge is recommended, the recommendation should be forwarded to the Bridge Engineer for concurrence. For each bridge project where an on-site detour is considered the preferred alternative, the Design Engineer will submit such recommendation, along with supporting justification, to the office of the Chief Engineer for review and final approval by the Transportation Director. This can be handled with the document prepared for submission to the Federal Highway Administration for BR funding limits.

Detour alternatives to consider:

1. The most economical detour is closure of the road to traffic with no provision for detours. Another alternative is to close the road and provide detours on other routes. This may include the State System only, the County System only, or a combination of the two systems. If a county route is utilized as a detour as a matter of practicality, arrangements are to be made with the county relative to utilization of the county road since there will be complaints from the county in the event the county road is damaged. In this situation, arrangements relative to either resurfacing of the county road prior to utilization as a detour or following utilization as a detour, or patching of the county road following utilization as a detour, should be arranged with the county and put in writing in the form of an agreement between this Department and the respective county.

2. A paved detour shall be provided at locations where on-site detour roads are justified.
3. Detours parallel to the existing facility should be constructed just above ordinary high water and in many cases pipe can be used for drainage in circumstances where drainage is minimal except during heavy rains. The detour may require closing to traffic during periods of heavy rain.

4. Speeds through detour areas can be reduced, thus reducing the length of detours. Traffic can be brought to a "stop condition" if necessary. Sight distance requirements should be in accordance with the reduced speeds.

5. Maximum use should be made of culverts. The use of culverts can provide one-way detours or one lane of traffic either side of the roadway and construction of the culvert in the middle of the roadway once the two ends are constructed. These are situations which will have to be evaluated and initiative shown in design of each project depending upon local circumstances.

6. In the event a road is closed to traffic and off-site detours are used or in the event a road is closed to traffic and no off-site detour is provided, consideration should be given for the use of incentive/disincentive provisions in accordance with the Department's Guidelines for Operation number 4-7.

7. Another alternate is to construct the bridge in stages and utilize part of the old bridge for detour traffic while constructing the first stage of the new bridge. Traffic can be carried on the first stage construction while removing the existing bridge and completing the subsequent construction.

8. When an on-site detour is necessary, consideration should be given to a minimum base build-up of approximately 50 percent of that required for the main line. The paved surface of this detour should include a wearing type surface to help waterproof the underlying material.
The order of preference for providing detours on Bridge Replacement projects shall be:

1. Close the road to traffic with no detour provision.
2. Close the road and provide off site detour. (Dependent on availability of a suitable detour route.)
3. Provide on site detour on existing R.O.W. using multiple lines of pipe.
4. Provide on site detour on existing R.O.W. using stage construction on the new bridge or culverts.
5. Provide on site detour using a temporary detour bridge.

RECOMMENDED FOR APPROVAL: W. Fred Conway  
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray J. Bann  
CHIEF ENGINEER

APPROVAL:  
TRANSPORTATION DIRECTOR  5/17/95
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: TRANSPORTATION LANDSCAPE AND ENVIRONMENTAL DESIGN INCLUDING RELATED PERMITS

The Planning, Design, Plan Development, Public Project Development, and Maintenance of Landscape and Environmental factors for transportation facilities shall be in accordance with the current guidelines and recommendations of the AASHTO Operating Committee on Roadside Development, the current edition of “A Guide for Transportation Landscape and Environmental Design”, as published or issued by AASHTO, and attached exhibit “A”. All work and submittals pertaining to these guidelines must be reviewed by the State Landscaping Architect. In all cases, safety shall be the overriding criteria for development.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: J.D. Brown
CHIEF ENGINEER

APPROVAL: M. Roberts
TRANSPORTATION DIRECTOR
DATE 9/26/94

3-44
Rev. 12/94
ALABAMA DEPARTMENT OF TRANSPORTATION
SITE-LANDSCAPE DEVELOPMENT PLAN CHECK LIST

PERMIT/PROJECT NUMBER _________________________________________
PERMIT/PROJECT NAME/LOCATION _________________________________________
PROJECT ENGINEER _________________________________________
CHECKED BY _________________________________________
DATE _________________________________________

I. GENERAL REQUIREMENTS

| Y | N | N/A | A. Sheet size, borders, and trim lines standardized |
|   |   |     | B. Title Block |
|   |   |     | 1. Sheet title |
|   |   |     | 2. Scale |
|   |   |     | 3. Date |
|   |   |     | 4. Sheet number |
|   |   |     | 5. Job number |
|   |   |     | 6. Drawn by |
|   |   |     | 7. Checked by |
|   |   |     | 8. Stamps (Engineers, Landscape Architect, Architects) |
|   |   |     | 9. Signatures |
|   |   |     | C. Agency or ALDOT logo and address |
|   |   |     | D. North Point for accuracy |
|   |   |     | E. Written and graphic scale |
|   |   |     | F. Legend, notes, and labels identified |
|   |   |     | G. Concurrence with specifications - both general conditions and construction specifications |
|   |   |     | H. Verify that all interim plan changes are made on all sheets |
|   |   |     | I. Check related sheets for consistent match lines, contours, buildings, roads, etc. |
|   |   |     | J. Correct spelling |
|   |   |     | K. Graphic clarity (line weights, readability) |

II. LAYOUT PLAN

| Y | N | N/A | A. Reliability of reference points |
|   |   |     | B. Independent reference points provided for independent work items |
|   |   |     | C. Floaters provided (No over dimensioning) |
|   |   |     | D. Details referenced |
III. GRADING PLAN

<table>
<thead>
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<th>Y</th>
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A. Property lines, match lines, and construction limit lines shown

B. Existing contours shown clearly marked with contour interval noted

C. Bench mark located and described

D. Proposed grading including:

1. High points, low points, ridges, swales, and flow lines
2. Spot elevations at all changes of gradient, walk ends and inlets
3. Spot elevations at top and bottom of all walls, steps, and ramps
4. Floor elevations for every access level of each structure
5. Existing buildings, structures, and trees to remain
6. Spot elevations at each building corner labeled
7. Protection of trees that will be affected by grading
8. Drainage in nonpaved areas greater than 1%
9. Swales at 1% or greater
10. Storm drainage catch basin rim elevations shown
11. Storm line inverts at proper grade and indicated on drawings
12. Slopes no greater than 3:1
13. Two (2) spots on curb straight run
### IV. UTILITY SHEETS

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
<th>N/A</th>
<th>A. Sanitary sewer</th>
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<tr>
<td></td>
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<td>1. Size indicated on all lines</td>
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<td>2. Laterals shown</td>
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<td>3. Cleanout locations shown (check for proper spacing)</td>
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<td>4. All manhole tops and numbers indicated</td>
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<td>5. All manhole inverts in existing ground or create false bottoms (profile only)</td>
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<td>6. Station and elevations on profiles</td>
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<td>7. Check flow line calculations</td>
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<td>8. Verify minimum and maximum grades for pipe</td>
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<th>B. Lift Stations/Grinder Pumps</th>
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<td>1. Calculation review</td>
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<td>2. Sizing</td>
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<td>3. Spec data</td>
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<th>C. Storm sewer</th>
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<tr>
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<td>1. Inverts of headwalls and endwalls indicated</td>
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<td>2. Throat elevations of yard inlets indicated</td>
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<td>3. All manhole and curb/yard inlet tops and numbers indicated</td>
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<td>4. Tabulation for all storm sewer structures. Indicate stations, tops, throats, (including number of) and inverts</td>
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<td>5. Check to insure that overland relief has been provided at all inlets</td>
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<td>6. Limits of pool elevation show at all headwalls</td>
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<td>7. Pipe material conforms to jurisdictional requirements and is the most economical permitted</td>
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<td>8. End conditions are the most economical permitted</td>
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<td>9. Overall relief, overland relief available</td>
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<th>D. Storm water retention/detention</th>
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<tr>
<td></td>
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<td>1. Verify retention pond and calculations</td>
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<th>E. Waterlines</th>
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<tr>
<td></td>
<td></td>
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<td>1. Pipes labeled with size</td>
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<td>2. Fittings, valves, blowoffs, and hydrants labeled</td>
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<td>3. Easements on all pipes outside the right-of-way</td>
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<td>4. Waterlines orientation from centerline</td>
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<td>5. Waterlines at standard distance from centerline and other utilities (as required by jurisdiction)</td>
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<td>6. Is there adequate horizontal distance between waterline and other utilities</td>
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<td>7. Distance of separation noted where less than standard</td>
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<td>8. Is there adequate fire hydrant coverage</td>
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<td>9. Hydrant distance to structure</td>
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<td>10. Are sprinklers required</td>
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<td>11. Is there adequate fire flow and pressure</td>
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<td>12. Is a pressure reducing valve required</td>
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Y   N   N/A
___ ___ ___ 13. Check both existing and future pressures
___ ___ ___ 14. Type of pipe meets jurisdictional criteria and is cost effective
___ ___ ___ 15. Do curves cause excessive joint deflections

V. LANDSCAPE SHEETS
___ ___ ___ A. Plan data layout
___ ___ ___ 1. Plant locations
___ ___ ___ 2. Readability
___ ___ ___ 3. Plant list data sufficient
___ ___ ___ 4. Check plant totals
___ ___ ___ 5. Spelling
___ ___ ___ 6. Verify details
___ ___ ___ B. Seeding
___ ___ ___ 1. Seed specification
___ ___ ___ 2. Coverage application
___ ___ ___ 3. Sod use
___ ___ ___ 4. Mulch application
___ ___ ___ C. Irrigation
___ ___ ___ 1. Layout
___ ___ ___ 2. Head selection
___ ___ ___ 3. Pressure calculations
___ ___ ___ 4. Zone definition
___ ___ ___ 5. Materials specification
___ ___ ___ 6. Details

VI. DETAIL SHEETS
___ ___ ___ A. Block plans - enlarged areas showing:
___ ___ ___ 1. Location of feature
___ ___ ___ 2. Grading of surface
___ ___ ___ 3. Plantings (see Landscape Sheet)
___ ___ ___ 4. Relation to supplemental plan
___ ___ ___ 5. Complete labels and dimensions
___ ___ ___ B. Road alignment
___ ___ ___ 1. Existing topography plotted
___ ___ ___ 2. Begin/end station points identified
___ ___ ___ 3. Horizontal curves labeled and include: L, R, T, D, ARC, and correct
___ ___ ___ 4. Horizontal P.C. and P.T. station points shown and correct
___ ___ ___ 5. Intersection station points shown
___ ___ ___ 6. Vertical grade labeled
___ ___ ___ 7. Vertical P.C., P.I., P.T., station points shown and correct
___ ___ ___ 8. Vertical curve length shown
___ ___ ___ 9. Elevation at 50’ stations (25’ stations for curve) shown and correct
Y   N   N/A

10. Proposed gradient shown
11. Elevation and stations referenced

C. Construction Details
1. Title and scale
2. Organization, line weight, graphic symbols correct
3. Correctly dimensioned
4. Material finishes shown or noted
5. Material quality shown or noted
6. Material type shown or noted
7. Fastener connections shown or noted
8. Cross references correct

VII. EROSION CONTROL

A. Storm Water Permit
B. General Information
1. Complete Title
2. Notes as required by jurisdiction
3. Legend of standard symbols
4. All items shown with standard symbols
5. Siltation and erosion control narrative
6. Detail sheets
7. Are all siltation control devices detailed
8. Are siltation control devices shown acceptable to the client and jurisdiction
9. Silt traps designed for largest contributory area (may be an existing or proposed condition)
10. Mechanical measures, i.e. silt traps, straw bales, etc.
11. Evaluate temporary dams/berm for off-site ponding effects

VIII. SPECIFICATIONS

A. General Information
1. Invitation to bid
2. Instructions to bidders
3. Supplementary instructions to bidders
4. Bid and bid alternates
5. Bid bond
6. Agreement
7. Performance and payment bond
8. Noncollusion affidavit of prime bidder
9. Statement of bidder’s qualifications
10. Contractor’s affidavit release and waiver of claim
11. Certificate of insurance
12. Insurance requirements and indemnity agreement
13. Certificate of nondiscrimination in employment
14. Minority and women business enterprise provision and forms
15. General conditions
16. Supplementary general conditions
17. Certificate of substantial completion
18. Application and certificate for payment
19. Consent of surety
20. Wage decision
21. Special Conditions

B. Technical Specifications

1. Cross reference specification with plans
2. Spelling, proof reading for clarity
3. Subsurface and core boring information

IX. OTHER NOTES

The following notes are pertinent to this specific project.
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: ACCEPTABLE METHODS FOR ESTIMATING PEAK RUNOFF FOR AN UNREGULATED WATERSHED

URBAN AREAS:

a) The Rational Method for drainage basins up to 81 hectares (metric) or 200 acres (U.S. Customary),


RURAL AREAS:

a) The Rational Method for drainage basins up to 81 hectares (200 acres),


For accuracy and limitations of the urban and rural USGS regression equations, please refer to the specific reports.

RECOMMENDED FOR APPROVAL: ____________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________ 7/31/08
TRANSPORTATION DIRECTOR  DATE

3-45  Rev.
SUBJECT: STORM DESIGN FREQUENCIES TO BE USED FOR INLET DESIGN

In order to confine the spread of water to a tolerable limit on the pavement of interstate and other major highways having curbed sections, the design spacing of inlets should be based on a 10-year storm frequency except for depressed sections and underpasses where storm water cannot escape by overtopping the curb and can only be removed through storm drains. In the latter situations, a 50-year storm frequency should be used for design.

RECOMMENDED FOR APPROVAL: J.F.Carraway
ASSISTANT CHIEF ENGINEER - ENGINEERING

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Perry A. Hand
HIGHWAY DIRECTOR

3-46

8/11/92
8/11/92
Rev. 2/93

STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: CRITERIA FOR INLET SPACING IN SAG VERTICAL CURVES

Where significant ponding of storm water can occur at locations such as underpasses and sag vertical curves in depressed sections, it is desirable to place a flanking inlet on each side of the inlet required at the low point of the sag. The flanking inlets should be placed at locations to be determined for optimal performance based on how effectively they limit the spread of water in the sag and act in relief of the inlet at the low point. FHWA Hydraulic Engineering Circular No. 12 should be consulted for proper design procedures. It should be understood that flanking inlets are to be used only in the unusual circumstance where water cannot escape by overtopping the curb or an unusually long sag vertical curve where it might be difficult to determine the low point.

RECOMMENDED FOR APPROVAL: J.F. Carraway
ASSISTANT CHIEF ENGINEER - ENGINEERING

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Perry A. Hand 8/11/92
HIGHWAY DIRECTOR DATE

3-47 Rev. 2/93
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: CLOGGING REDUCTION FACTORS FOR INLET DESIGN

During the design process, a clogging factor should not be used to reduce the effective perimeter or clear opening of inlets placed on grade. For inlets in sag verticals or on flat grades, some reduction for clogging may be justified where there are indications of a need. If a clogging factor is used in a particular project for inlets in sag verticals or on flat grades, this factor should be determined in consultation with maintenance personnel. In the absence of this maintenance information, a reasonable factor for use should be around 10%.

RECOMMENDED FOR APPROVAL: J.F. Carraway
ASSISTANT CHIEF ENGINEER - ENGINEERING

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Perry A. Hand 8/11/92
HIGHWAY DIRECTOR DATE

3-48 Rev. 2/93
SUBJECT: REGULATORY SPEED LIMITS IN CONSTRUCTION WORK ZONES

The following procedure shall be followed in establishing regulatory speed limits in construction work zones. Title 32-5A-176.1 Code of Alabama - 1975 (as amended) authorizes the Alabama Department of Transportation to establish speed limits in construction work zones along state and interstate highways. The act requires the construction zone speed limits to be posted on the Department’s standard size speed limit signs (black and white) at least 30 meters in advance of the entrance to the construction work zone.

On construction projects where it is deemed advisable to lower the regulatory speed limit, the Project Traffic Control Plan must include a regulatory speed which is proposed for use in the particular work zone. All such speed limit signs must comply with the Manual on Uniform Traffic control Devices. Such speed limit signs must be placed when work commences on the project at least 30 meters before entering the particular work zone, and must be removed on the completion of the work. If the speed limit proposed is in excess of 16 km/h less than the posted speed for the roadway in question, the reduced speed will be posted in maximum of 16 km/h increments of 150 meters in length. A work zone is designated as any work area where work is actually being performed. All other conflicting regulatory and/or advisory speed signs must be removed during the construction. The reduced speed regulatory signs shall be covered or removed when the construction activity and/or location of actual work being performed do not present a clear and present danger to the construction workers or traveling public.

The title block on the Title Sheet for a project provides for the Transportation Director’s signature. The signature of the Transportation Director on the Title Sheet constitutes acceptance of the plans and the setting and adoption of the speed limits indicated by the signs noted on the plans for each work zone shown thereon. No additional written documentation will be required to accomplish the foregoing.

Requests for installation of the foregoing regulatory speed signs on ongoing construction projects should be submitted through normal Construction Bureau channels for review and approval by the State Traffic Engineer.
RECOMMENDED FOR APPROVAL:  Don T. Arkle
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  Ray D. Bass
CHIEF ENGINEER

APPROVAL:  M. Roberts  9/30/93
TRANSPORTATION DIRECTOR  DATE

3-49  Rev. 6/94
SUBJECT: PAVING FOR TURNOUTS

As a general rule, paving for turnouts shall not exceed more than 1.0 m beyond the normal edge of pavement. In special cases, where conditions warrant, longer paved turnouts may be provided.

RECOMMENDED FOR APPROVAL: Don T. Arkle
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass
PRE-CONSTRUCTION ENGINEER

APPROVAL: M. Roberts 8/18/93
HIGHWAY DIRECTOR DATE

3-50 Rev. 10/93
 SUBJECT: BORROW PIT LOCATIONS

Sheets which show the location of suggested borrow pits for a project should include a point of reference on the site with respect to the project. A distance should be given from a defined point on the project, such as a station number, to a defined point in the borrow area, such as a particular corner of the tract.

RECOMMENDED FOR APPROVAL: Ray D. Bass
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

3-51

Rev. 6/83
SUBJECT: EXTENSION OF CAST-IN-PLACE BOX CULVERTS

Cast-in-place box culverts shall not be extended with precast box culverts. This may be waived in the event there is supported documentation showing that it is beneficial to the Highway Department to extend cast-in-place box culverts with precast box culverts. If precast is used, the contractor shall be responsible for meeting the requirements of Special Provision 573(2).

RECOMMENDED FOR APPROVAL: _______________W.F. Conway__________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _______________Tom Espy, Jr._________________
CHIEF ENGINEER

APPROVAL: _______________Royce G. King_________________ 8/16/90
HIGHWAY DIRECTOR DATE

3-52 Rev. 6/90
SUBJECT: LIMITING STORM DRAINAGE COSTS ON PROJECTS

One element of project costs that tends to increase in the design phase at a higher rate than other project elements is the highway drainage cost. In order to keep down the tendency for expanding these costs, the following guides should be followed.

- Drainage facilities upgrading in the project vicinity, but not vital to the project, shall be the responsibility of the controlling agency for that area. Such areas may include cities, counties, railroads, schools, private concerns, etc. The state may notify the appropriate agency of a deficiency found during the design process.

- Where the state highway right of way contains a deficient facility and its correction is not vital to the project under design, the situation will be duly noted and evaluated with regard to safety. Dependent upon the risk involved, a future project may be scheduled where appropriate.

RECOMMENDED FOR APPROVAL: J.F. Carraway
ASSISTANT CHIEF ENGINEER - ENGINEERING

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Perry A. Hand 8/11/92
HIGHWAY DIRECTOR  DATE

STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

3-53 Rev. 2/93
SUBJECT: ELECTRONIC DATA COLLECTION

Field information necessary for the development of construction contract plans may be collected electronically by total station equipment or by the combination of total station and aerial digital mapping. It is the intent of this guideline to provide procedures in which the Alabama Department of Transportation’s electronic field data will be interpreted and easily utilized by all division offices and the central office. It is essential that uniform formats be utilized so that exchange of information can be done easily with little or no translation. This guideline covers basic field data collection, data editing, data transfer and storage on the Department’s Intergraph system. It is the intent of these guidelines that all field survey data be processed with TERRAMODEL software and data output be in TERRA MODEL file format prior to transfer to the Department’s Intergraph system.

A. Electronic Survey Field Data Collection by Total Station

1. All horizontal closures of the survey base lines must meet Third Order, Class I (1/10,000 or better). Vertical accuracy must be Third Order (12 Millimeters x square root of the distance in kilometers).

2. All planimetrics must be collected in 3-D format (X, Y, Z format) in such a manner that TERRAMODEL will automatically connect all lines. The planimetrics information should also be collected in such a manner that TERRAMODEL will automatically label points as well.

3. In general, right angle cross sections at intervals not to exceed 20 meters are to be taken on most projects. For projects with digital aerial mapping having a 500-millimeter contour vertical accuracy, cross sections may be eliminated in unobscured areas. Right angle cross sections must be taken in obscured areas or where the project profile does not match the digital terrain model (DTM) profile. Supplemental shots in between cross sections should be collected to define highs, lows, and breaklines in order to develop a reasonably accurate digital terrain model.

4. Any and all breaklines for the purpose of creating a more accurate DTM must be collected as 3-D (this is in addition to the usual planimetrics that are also breaklines) and must be collected in a manner that will cause them to connect automatically when loaded to TERRAMODEL.

5. Any utility information is to be collected as 3-D and in a manner that will cause the necessary points to label properly and automatically in TERRAMODEL.
6. Property ties and section/quarter corners are to be collected in a manner that will cause them to be labeled automatically in TERRAMODEL.

7. All points collected in the field must be assigned the proper point code for identification purposes and in order for uploading to operate properly and in a uniform manner. Design Bureau point codes are to be used.

8. The type of total station and data collection equipment is optional as long as the methods used for collection (to produce an ASCII XYZ) follow the requirements for automatic line connect and labeling within TERRAMODEL.

B. Uploading and Editing of Survey Field Information in the Office

1. The standard prototype which has been developed by the Location Section must be utilized in TERRAMODEL which sets the majority of defaults and layer names for survey data.

2. All information collected in the field must be calculated and translated into a ASCII XYZ format which includes Pno, N, E, Z, Pcode. The actual format sequence is optional since TERRAMODEL can be told what the incoming format is to be.

3. TERRAMODEL must be configured with specific layer names and colors on which information is to be stored as designed by the Location Section.

4. Linetyping is to be accomplished by using “MAPPTS” that automates this procedure.

5. All points requiring a “label” must do so utilizing the standard “map” file that has been created for this automated procedure.

6. All “hand” created lines and points must be on the proper layers and be linetypes and labeled properly.

7. All standard drafting principles must be adhered to when constructing a map of any kind in TERRAMODEL. This is to include but not be limited to text placement and editing, station ticks and notations, property owner information and property boundaries, section and quarter lines, equation and angle notations, ROW’s, easements, proper linetyping and symbols, north arrows, bearings along centerline, planimetrics description, closing sketches and relative information and a title block.

8. Separate files must be made for each type of map being created, i.e. field map, utility map, TERRAMODEL contour map, profile map and InRoads type map.

(a) Field Map File - A file that would consist of the usual features of planimetrics, property designations, etc.
(b) Utility Map File - A file that would consist of all overhead and underground utility information along with edge of pavements of roadways and ROW/easement lines.

(c) TERRAMODEL Contour Map File - A file that would consist of all “breaklines” and radial points (on same layer) necessary to create an accurate DTM surface with contour lines for field checking.

(d) Profile Map File - A map that would contain all profile graphics and notations and proposed grade lines for all alignments.

(e) InRoads Type Map File - A file that would contain all usable breaklines and radial points necessary for transfer to the InRoads software for the creation of a “final: DTM. This file would be the final and error free “surface” that was created from the “TERRAMODEL Contour Map File” which has been “field checked” and corrections applied. The InRoads DTM is to be the one and only surface to be utilized by any division or bureau for earthwork calculations, etc. This file, unlike the TERRAMODEL Contour Map File, will have the usable breaklines on one layer (BRKLINE) and the radial points on another layer (DTMPOINT) since this is a requirement of InRoads.

C. Transfer of TERRAMODEL Data Files to Intergraph System

All TERRAMODEL files are to be translated into DESIGN (.dgn) files with the exception of the Profile Map File (to be a .DXF file).

1. Field Map - Assuming that all layer names and colors are correct and that different data are stored on the proper layers and linetyped and labeled properly, the following is to be done prior to creating the .DGN file.

(a) For a 1:500 scale, the macro called TOTAL50.mac must be run which explodes linetypes, changes sizes of certain text and generally fixes translation problems to ensure proper transfer to the Interpro and InRoads.

(b) For a 1:1000 scale, the macro called TOTAL100.mac must be run.

(c) To write the Design (DGN) file, prompts for this phase will appear within the macros named above.

(d) Naming the design file

Examples: 335f100.dgn    335f50.dgn    335u100.dgn    335u50.dgn

(1) “335” represent the Project CADD Number. This is assigned by the Design Bureau.
(2) “F” indicates that it is a Field Map. If it is to be a Utility Map, this letter would be “U”.

(3) The “100” indicates that it is a 1:1000 scale map. If it is to be a 1:500 scale, then “50” would be used.

2. Utility Map - The same procedure as outlined under Field Map is to be followed. This is again assuming everything has been followed as far as layering, linetyping etc., and write to a DGN file.

3. TERRAMODEL Contour Map
   (a) Having contoured the map at the desired interval, include all alignments with the file and if planimetrics are desired and they have a linetype other than solid or continuous, then explode the linetypes by hand following procedures to ensure that the “exploded” lines remain on their respective layers.
   
   (b) Write the file to a DGN file and follow the naming procedures explained under Field Map. Example: If the contour map is to be on a 1:500 scale, then name the design file “335tm50.dgn”.

4. InRoads Digital Terrain Model and Contour Map
   Assuming that this is a file that is properly layered and is a fully edited file “free” of field error, the following must be done:
   
   (a) Have “breaklines” on the BRKLINE layer.
   
   (b) Have “radial points” on the DTMPOINT layer.
   
   (c) Ensure there are no labels, text, polylines or alignments in this file.
   
   (d) Write the design file. When writing the design file, select objects to be “written out”. Select only the BRKLINE layer and the DTMPOINT layer.
   
   (e) Use the proper naming scheme as described earlier. Example: The file name is to be (in this case) 335IR.DGN.

5. Profile Map
   (a) Having properly placed all profiles with their “attachments” on the proper layers and having placed an “origin” point for control, write the file to a DXF.
   
   (b) Use the proper naming scheme. (Since you are using the 1:10 ratio, scale is of no importance after that.) Example: The file name would be (in this case) 335PROF.DXF.
D. Files for Submittal Other Than CADD Files

1. Control Files (ASCII XYZ) - This file would contain all “edited” closure points, PI’s, PC’s, PT’s, POT’s, POST’s on the centerline of survey and any subsequent “radial” points of importance in re-establishing the survey.

2. Alignment Files - These are the files that represent the field staked alignments.
   (a) ASCII XYZ Files
   (b) SE Files (Station Elevation)
   (c) TERRAMODEL “LST” Files - a program ASCII listing of alignment.

3. Raw Data Files - are any “raw” and/or unedited data file created after it has first been downloaded from the instrument to the PC. This file serves as the original and legal “field book”. This does not include any other “fragmented” files created for the purpose of constructing total cross sections, etc.

E. It is necessary that certain other books and indexes be created and submitted as part of the survey information.

1. Field Books - should have:
   (a) Normal title on front of book.
   (b) Normal indexing and titling inside.
   (c) All stations and horizontal curve data recorded on all alignments.
   (d) All station equations at traverse intersections and angle ties.
   (e) The PNO (point number) placed beside each station as well as beside each POT, PI, PC, PT, POC and equation points.
   (f) Closure sketch and its ties to GPS (if any).

2. Check Level Books - should have:
   (a) Normal title on front of book.
   (b) Normal indexing and titling inside.
   (c) All check level loops with BM’s accurately described. If there is a station plus and distance, then show it.
   (d) PNO’s (if any) assigned to a BM.
3. Index Sheets

These sheets should be copies of the “daily” logs kept by the crew to show the history of a file and its ultimate destination to some format and some file.

The goal of turning in the information as listed is to better enable all persons receiving the survey information to located and interpret the information. Specifically, the Check Level Book will be used by the design to transfer BM information to the plan sheets. Also, the BM’s can be located easier by another surveyor. The Field Book is intended to allow another surveyor to locate points on the ground and match them with points in the “archival” files to establish coordinates of a particular point. The index sheets are intended to be used to locate a certain file that was not archived but is a file that only the original Party Chief has recorded. Further, if during the transfer of information and the process of design, a file cannot be located in the “archive”, then the index sheet may indicate whether the information was ever collected.

F. The following are general standard procedures to be adhered to in surveys that are Metric:

1. Station intervals will be 100 meters. A station will be noted as 1+00.
2. Field staking will be at 20 meter intervals for cross sectioning and profiling purposes.
3. Linear accuracy for “important” measurements should be to the nearest millimeter. The accuracy of other “topographic” type measurements should be within 10 millimeters.
4. Vertical accuracy on level loops should be 12 millimeters x the square root of the distance in kilometers. Vertical accuracy on all other data should be based on how critical that specific item is to plan development. For example: pipes, culverts, bridge surfaces, pavement edges, crows, etc. should be recorded at 1-millimeter accuracy. Other things such as ground shots, banks, toes, shoulders, etc. should be recorded at 10-millimeter accuracy.
5. Angular measurements and recording of same will not change (degrees, minutes and seconds) and will retain their normal notations (decimals will not be used). A full circle will continue to be 360 degrees.
6. Horizontal curves will no longer have a “degree” specified but will be expressed with a radius value.
7. Mapping scales (horizontal) will be 1:500 (replaces 1” = 50’) and 1:1000 (replaces 1” = 100’).
8. Mapping scale for vertical (profiles) will be 1:1000 horizontal and 1:100 vertical.

Location survey crews will normally use the following scales:

10 mm  =  10 m horizontally
10 mm = 1 m vertically

9. Units for linear measurements will be meters or millimeters. A rule of thumb is measurements greater than a meter will be shown in meters. The exception to this is pipe diameters. Pipe lengths will be shown in meters but the diameter will be shown in millimeters. *(This applies to culverts as well.)*

   (a) Pipe/culvert “lengths” must be noted on maps and forms to the closest 10 millimeters.

   (b) Rounded dimensions should be used on pipe/culvert openings based on 1” = 25 mm.

   EXAMPLES: A 24” pipe would be a 600 mm pipe, a 3’ x 4’ culvert would be a 900 mm x 1200 mm culvert.

10. Notations should be “m” for meters and “mm” for millimeters.

11. Land areas will be shown in hectares rather than acres.

12. Hydraulic information shall be shown in cubit meters per second.

RECOMMENDED FOR APPROVAL: ____________ Don T Arkle ____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________ Ray D. Bass __________
PRE-CONSTRUCTION ENGINEER

APPROVAL: __________ M. Roberts __________ 10/4/93
TRANSPORTATION DIRECTOR DATE

3-54.7 Rev. 10/93
The following is a guideline for abbreviated plan preparation for rail-highway safety signalization projects funded with federal aid safety funds.

A. The plan document for grade crossing safety work shall consist of:

1. Site location sheet (Title Sheet).

2. Drawing of the project site (not to scale) which contains a description of improvement recommendations and instructions to the railroad company.

3. Quantity and cost estimate sheet for work to be performed by State forces.

B. Principal items and changes from the current plan document and procedures are:

1. Simplification of the plan contents.

2. No work will be required by the cities or counties.

3. Alabama Department of Transportation will install signs, striping and markings for all grade crossing signal projects, including off-system crossings. As in the past, the affected railroad company will be responsible for the installation of the railroad signal equipment on the railroad right of way.

4. The responsible agency, be it a county or a city, will be required to sign an agreement for maintenance of off-system signs and markings.

5. Traffic control and locating all utilities for the railroad signal installation will be the responsibility of the railroad.
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATIONS

SUBJECT: WHITE LONGITUDINAL MARKINGS

Differentiation is made herewith between different types of longitudinal markings:

Lane Line Markings shall have a normal width of 5 inches and shall be used to delineate the separation of traffic lanes that have the same direction of travel. Such lane markings include solid and broken markings. The solid line marking shall be used where crossing the lane line marking is discouraged. The broken lane line marking shall be used where crossing the lane line marking is permitted with care. Solid lane line markings shall be used to separate through traffic from auxiliary lanes, preferential lanes, and left and right turn lanes.

Channelization Line Markings shall be twice the normal width or 10 inches and are used to define the neutral area, promote the safe convergence or divergence of ramp traffic from through lane traffic, and guide traffic away from objects near the travelway. These markings are used for greater emphasis in comparison to a normal lane line marking. Channelization line markings shall be used at entrance and exit ramps. They may also be used around islands, neutral areas, and near travelway obstructions.

Lane Drop Markings are a special type of lane line marking which distinguishes a lane drop from a normal exit ramp or auxiliary lane. If used, the lane drop marking shall be the same width of the line which defines the neutral area or theoretical gore in the case of an exit or the same width of the line which separates the through traffic from the auxiliary lane in the case of a turn. The lane drop marking shall be line segments of 3 feet separated by 9 feet gaps.

Other white longitudinal line markings are identified in the MUTCD such as double solid lane lines, edge line markings, and transverse markings.

RECOMMENDED FOR APPROVAL:

BUREAU CHIEF

APPROVAL:

CHIEF ENGINEER

APPROVAL:

TRANSPORTATION DIRECTOR

DATE 8/31/07

3-57

Rev. 2 08/2007
SUBJECT: TCP FOR INTERSTATE LANE ADDITION PROJECTS

Two methods have been used successfully to construct lane addition projects on the interstate when adding lanes in the median. Typically, existing laneage is kept open in each direction during the widening.

The first method is to reduce lane widths to 11' and shift the traffic to the outside so that the temporary outside edge of travel is 6' onto the shoulder. An 8' offset is then available from the temporary inside edge of travel lane to the drop-off for the widening. Vertical panels are used to delineate the work area. This method is dependent on full width outside shoulders on I-Over bridges. The division should evaluate bridge widening and raising needs in advance of the lane addition projects to determine if separate bridge projects should be programmed. This TCP method will require reduced contract time with incentive/disincentive to minimize traffic exposure time.

The second method utilizes a positive barrier. This method should be considered as an alternate solution when traffic exposure adjacent to a necessary construction activity requires a drop-off for an extraordinary length of time.

Each project has different site conditions, and on each project the division should determine the appropriate method based on traffic, site conditions and time length of exposure.

APPROVAL: Ralph D. Bass
CHIEF ENGINEER

APPROVAL: D.M. [Signature]
TRANSPORTATION DIRECTOR  4-29-03
DATE
Proposal For
ITS Oversight Committee.
ITS Advisory Committee For
The Implementation of
Intelligent Transportation Systems
In the State of Alabama

Section I – Purpose
The purpose of this guideline is to establish a method for the Alabama Department of Transportation (ALDOT) to effectively and efficiently plan, design, construct, implement and operate Intelligent Transportation Systems (ITS) in a timely, uniform and cost efficient manner. ALDOT has begun building an Advanced Traffic Management System (ATMS) in several metropolitan areas as a part of our ITS initiative, and planning efforts indicate the expansion of these systems and the creation of new systems in the immediate future. Currently, no standards exist for the development and implementation of ITS projects. Included as standard ITS components are video cameras, fiber optic cable and associated electronic communications devices, large video monitors, Highway Advisory Radio devices, overhead dynamic message signs and emergency generators with power conditioning equipment. These integrated electronic systems are controlled and managed by networked computer workstations, servers, printers, backup devices and other related peripheral devices. Integration of these devices with multiple stakeholders and across jurisdictional boundaries requires institutional issues be addressed by statewide policy. It is the intent of this proposal to establish a statewide ITS Oversight Committee and an ITS Advisory Committee to establish a framework by which policy decisions can be made by a committee of top-level decision makers.

Section II – Definition of ATMS
For the purposes of this document, Advanced Traffic Management Systems (ATMS) are defined as completely integrated electronic surveillance, vehicle detection, motorist information, incident management and high speed telecommunications systems used for the purpose of improving congestion in metropolitan areas by deploying rapid incident response, motorist information and emergency management strategies.
Section III- Management of System

The ITS Oversight Committee shall consist of the following top-level management:

<table>
<thead>
<tr>
<th>Chief Engineer</th>
<th>Chief Design Engineer</th>
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</thead>
<tbody>
<tr>
<td>Assistant Chief Engineer,</td>
<td>Construction Engineer</td>
</tr>
<tr>
<td>Pre-Construction</td>
<td></td>
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<tr>
<td>Assistant Chief Engineer,</td>
<td>Division Engineer,</td>
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<tr>
<td>Operations</td>
<td>Third</td>
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<tr>
<td>Assistant Chief Engineer,</td>
<td>Division Engineer,</td>
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<tr>
<td>Administration and Planning</td>
<td>Sixth</td>
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<tr>
<td>Multimodal Transportation Engineer</td>
<td>Division Engineer,</td>
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<td>Ninth</td>
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<tr>
<td>Maintenance Engineer</td>
<td>Information Systems</td>
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<tr>
<td></td>
<td>Manager</td>
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<td>FHWA Division Administrator</td>
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</table>

This committee shall appoint an ITS Advisory Committee which shall be responsible for the actual implementation of policy and standards regarding all aspects of planning, design, construction, and operations of ITS projects.

The Advisory Committee shall have a Chairperson who shall be responsible for presentations to the ITS Oversight Committee when necessary. The Advisory Committee shall consist of representatives from such varied areas as Design Bureau Electrical Section and Systems Operations, Computer Services Network and Telecommunications Sections, Maintenance Bureau, Construction Bureau, Multimodal Transportation Bureau and Division. These personnel shall serve at the discretion of and be responsive to the aforesaid ITS Oversight committee.

Submitted for Approval:  

[Signature]

Multimodal Transportation Engineer

Recommended:  

[Signature]

D. W. Vaughn, Assistant Chief Engineer

Approval:  

[Signature]

Ray D. Bass, Chief Engineer

Approval:  

[Signature]

G. M. Roberts, Transportation Director

10/20/2000
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: COMPLIANCE WITH FLOODPLAIN REGULATIONS

In accordance with Title 23, Part 650, it is the intent of the Department to comply with the requirements of the Federal Emergency Management Agency (FEMA) in flood zones with respect to the National Flood Insurance Program (NFIP).

The four cases where coordination with FEMA (through the local community) is required are:

1. A proposed crossing encroaches on a regulatory floodway requiring an amendment to the floodway map.

2. A proposed crossing encroaches on a floodplain where a detailed study has been performed but no floodway designated and the maximum 1 foot increase in the base (100 year) flood elevation would be exceeded.

3. A local community is expected to enter into the regular program within a reasonable period and detailed floodplain studies are underway.

4. A local community is participating in the emergency program and the base flood elevation in the vicinity of insurable buildings is increased by more than 1 foot. (Where insurable buildings are not affected, it is sufficient to notify FEMA of changes to base flood elevations as a result of highway construction).

During the corridor study phase, the draft EIS/EA should indicate the NFIP status of affected communities, the encroachments anticipated and the need for floodway or floodplain ordinance amendments. If coordination with FEMA is required, and a determination by them would influence the selection of an alternative, a commitment from FEMA indicating acceptance of the revision should be obtained prior to the FEIS or FONSI. Otherwise, this coordination may be postponed until the design phase.

Where a regulatory floodway is delineated it is the goal of the Department to design and construct a roadway to avoid encroachment on the floodway unless it is demonstrably inappropriate. Bridge piers are normally not considered an encroachment if conditions can be improved so that the computer printout shows no rise of water surface elevation – see Attachment 2 to NS 23 CFR 650A. Where it is not cost-effective to design a highway crossing to avoid encroachment on an established floodway, a second alternative would be modification of the floodway itself through widening the floodplain, increasing
conveyance or some other method. Only when the above options are determined to be inappropriate, should a design which raises the base floodplain elevation over 1 foot be considered.

For encroachment on a floodplain where no floodway is delineated by a detailed study but a floodplain is indicated on a Flood Hazard Boundary Map (FHBM), base floodplain elevations should be furnished to the community by the Department. If the base flood elevation is increased over 1 foot in the vicinity of insurable buildings coordination with FEMA is required. Where no designated floodplain is shown, a hydrological and hydraulic analysis is to be performed and a risk assessment form completed.

The local floodplain administrator of a participating community should be consulted in all cases to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected watershed(s).

The Department will design in accordance with the minimum FEMA standards. If a community adopts a more stringent flood plain ordinance than the minimum requirements of the NFIP, the Department may construct in accordance with the local ordinance provided the community agrees to pay for the additional design and additional construction cost of the project plus any additional incidental cost that may be associated with this ordinance.

RECOMMENDED FOR APPROVAL: [Signature]
William F. Adams, PE, BUREAU CHIEF

APPROVAL: [Signature]
D. W. Vaughn, PE, CHIEF ENGINEER

APPROVAL: [Signature]
D.J. McInnes, TRANSPORTATION DIRECTOR DATE 10/10/06

3-60
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINE FOR OPERATION

SUBJECT: WORK ZONE SAFETY AND MOBILITY

As required by 23 CFR Part 630, FHWA Rule on Work Zone Safety and Mobility, ALDOT will follow the steps outlined below in providing a Transportation Management Plan, TMP, for projects in order to safely and efficiently accommodate the traffic through work zones.

A. Definitions
1. Transportation Management Plan, TMP – The TMP consists of strategies to manage the work zone impacts of a project. A TMP will generally contain three components, a temporary Traffic Control Plan (TCP), a Transportation Operations (TO) component and a Public Information (PI) component. Many projects will have less than significant impacts and the TMP may consist of only a TCP.

2. Traffic Control Plan, TCP – The TCP is a designed plan consistent with Part 6 of the MUTCD that depicts how traffic is managed through the work zone. The level of detail will vary greatly depending on the complexity of a project.

3. Transportation Operations, TO, component – The TO component identifies strategies to mitigate impacts to traffic through the work zone. This component will vary in scope based on the project complexity. Many projects will merely require a lane closure analysis to determine acceptable hours of closure to perform the work. Some projects may require widening to maintain an acceptable capacity through the work zone. Other projects may require construction of the total route with a road closure and diversion to an alternate route. In this case improvements on the alternate route may be needed such as intersection improvements, signal re-timing, capacity and/or other alternate route improvements to enhance mobility of the major project construction. Incident Management, ITS, Ramp Metering and other strategies may also be considered on an as needed basis to maximize TO through the work zone.

4. Public Information, PI, component – The PI component includes strategies to inform the public of the work zone impacts and receive input from stakeholders such as emergency officials, regional medical staff, affected industry, and others. These strategies can include media announcements for lane closures and traffic shifts, web page updates of closures, message boards with real time lane closure and alternate route information, etc... with the goal of providing the public with information needed to minimize the work zone impacts to the extent practical. The level of PI effort will vary in scope based on complexity and anticipated impact.
5. Significant Project – A project on the interstate in a designated Transportation Management Area (currently Birmingham, Huntsville and Mobile) that occupies a location for more than 3 days with either intermittent or continuous lane closures. Other projects on arterials and interstates outside of a designated Transportation Management Area may have local or regional impacts and may be a significant project since the impacts will be greater than are typically considered tolerable. The TMP for a Significant Project will include a TCP, a TO component and a PI component.

B. Process for Significant Projects

1. Determine if a project is significant as early as possible in the project development process. If it is determined to be significant, the Division Engineer will assemble a multi-disciplinary team including Preconstruction; Materials, Construction, the Design Bureau and FHWA, to evaluate the potential work zone impacts of the programmed project. Based on the anticipated impacts, the lead agency will begin the planning of project TMP requirements.

2. Collect data to further evaluate TO strategies for the project. This may include hourly traffic counts, existing pavement removal/rehabilitation strategies, existing shoulder buildup, bridge construction methods, required utility relocation, crash data/analysis, etc.

3. Define a project scope that details the required work, the agreed upon traffic operations level, and the TO and PI components that are needed. TO strategies that require expenditure of substantial funds and that will have important impacts to current traffic operations and adjacent businesses must be approved by the Chief Engineer’s Office.

4. Program secondary projects, if necessary, to have off-site detours, utility relocations, etc. in place prior to the major project.

5. Meet with local officials and with local businesses, as appropriate to provide information and receive input regarding work zone impacts such as ramp closures, detour routes, traffic delays, etc. that will affect local traffic operations.

6. Further refine the total TMP during plan development and modify as needed.

7. Prior to the PS&E, in consultation with the Construction Engineer, decide on the contractual methods, if any, to expedite construction such as incentives/disincentives, bonuses, reduced construction completion times, etc.

8. Based on the complexity of the project, in consultation with the Chief Engineer’s Office, develop the framework for the PI component. Incorporate any contractor responsibilities in the contract such as advance notification to the Engineer of traffic shifts and lane closures, variable message sign content and location, etc.
C. Process for Other Projects

1. Develop the TCP as appropriate for the project complexity and location.
2. If lane closures are required, evaluate the impact by conducting a lane closure analysis to determine queue length. As appropriate, restrict lane closures to times that minimize queue formation.
3. Employ TO and PI strategies as noted above as deemed necessary.

RECOMMENDED FOR APPROVAL: 
State Design Engineer

APPROVED: 
Chief Engineer

APPROVED: 
Transportation Director Date 10/22/07
SUBJECT: UTILITY RELOCATION REIMBURSEMENTS

As per § 23-1-5 of the Code of Alabama, the Director of Transportation shall determine and order that the relocation of any utility facility is necessitated by the construction of any highway.

The eligibility for reimbursement of the cost to relocate utilities in conflict with the highway construction projects shall be determined based on total corporate gross income of the company as a whole, not on franchise or subsidiary revenues.

A utility may be asked to provide financial information as a condition of utility agreement approval.

A utility that erroneously reports that its earnings make it eligible for reimbursement when it is not eligible, will be required to repay the funds to the Department.
ALABAMA
DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: PERMANENT AND TEMPORARY GROUND MOUNTED IMPACT ATTENUATORS

On all projects containing the Items of VEHICULAR IMPACT ATTENUATOR ASSEMBLY (720A-XXX) and PORTABLE IMPACT ATTENUATOR ASSEMBLY (726D-XXX), the "Ground Mounted Impact Attenuator Selection Chart" located on the Design Bureau website must be used to select an approved impact attenuator for use on all ALDOT projects.

RECOMMENDED FOR APPROVAL: William Adams
State Design Engineer

APPROVED:

Chief Engineer

APPROVED:

Transportation Director 4/10/10

3-63
SECTION 4
CONSTRUCTION

CONTENTS

Administration of Contract Construction Projects................................. 4-1
Contract Time for Construction Projects.............................................. 4-2
Extra work and Overruns on Construction Projects............................... 4-3
Reclaimed Asphalt Pavement ("RAP") Material..................................... 4-4
Sequence of Application of Leveling and Surface Treatments on all Federal-Aid Interstate and National Highway System Projects.................... 4-5
Final Inspections of Rail Highway Projects........................................... 4-6
Incentive/Disincentive Provisions for Early Completion of Construction Projects......................................................... 4-7
Construction Sequences and Traffic Handling on Interstate 4R Projects................................................................. 4-8
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: ADMINISTRATION OF CONTRACT CONSTRUCTION PROJECTS

All contract construction projects will be administered through the Bureau of Construction, regardless of the agency responsible for the daily administration of the contract (State, County, City, etc.). Thusly, at the Division level, the administration should be through the Division Construction Engineer.

In the past, particular problems have been experienced with projects being administered by the County or City. Many times they are not familiar with our specifications and methods of operation. It will be each Division’s responsibility to counsel with County and City engineering personnel prior to actual construction to see if they have copies of the Standard Specifications; Testing Manual; Construction Manual; Qualified Products List; Diaries, etc., and understanding the use of same. They should also be furnished the necessary Departmental forms that are normally used by the State for documentation and administration. The Division should make periodic checks during the life of the project to insure proper compliance with all aspects of contract administration.

The Construction Bureau will not be involved in Pre-Construction activities of projects, except for normal plan reviews prior to lettings which includes some P. S. & E. inspections.

All construction change requests and supplemental agreements (on contract work) should be submitted to the Construction Bureau by the Division. On County and City projects, a copy of these documents will be furnished to the Bureau of Secondary Roads or Bureau of Urban Planning, whichever appropriate, by the Office Engineer after they are approved by all concerned. These documents will be used by these bureaus to adjust the Project Agreement with the respective governmental agency involved.

The Construction Bureau will not be involved with any project constructed with State, County or City Forces. These projects (negotiated contracts) will be administered through other bureaus within the Department.
SUBJECT: CONTRACT TIME FOR CONSTRUCTION PROJECTS

Projects shall be set up on a working day basis. Calendar days or calendar dates will be used only under special conditions.

During construction, each Division Construction Engineer shall make routine reviews of progress reports on each project to ensure that time is being charged in accordance with the specifications.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 7/5/89
HIGHWAY DIRECTOR DATE

4-2 Rev. 12/89
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINE FOR OPERATION


The purpose of this document is to define the levels of approval for extra work (supplemental agreements and force accounts) and overruns of contract pay items on construction projects. The monetary amounts listed below are intended to apply to a particular occasion of additional, unrelated items of work, not numerous items of unrelated work, nor the cumulative total of all additional work.

It is realized that additional construction costs are going to occur due to the very nature of the work in which the Department is engaged. However, a diligent effort is to be made by all concerned to closely monitor and minimize these additional costs.

1. EXTRA WORK (Supplemental Agreements and Force Accounts)

The Division Engineer will have the authority to approve the cost of a new pay item(s) to be added by supplemental agreement when the total cost of the work involved is $75,000 or less. This approval should be based on a comparison with current bid history, when applicable, for the particular pay item(s). Consideration should be given to factors such as quantity, project region, and other site-specific conditions. If work estimated at $75,000 or less is required, but unit prices cannot be agreed upon, the Division Engineer will have the authority to direct the work to be performed on a force account basis. When submitting the supplemental agreement or force account documentation for further handling by the Central Office, the Division Engineer should include the reasoning used as the basis of the approval.

When the total cost of extra work exceeds $75,000, the Division Engineer shall secure the written approval of the State Construction Engineer before allowing the contractor to perform the work.

When the total cost of extra work exceeds $150,000, the State Construction Engineer shall secure the written approval of the Chief Engineer and the Transportation Director prior to authorizing the work to proceed.

2. OVERRUNS OF EXISTING CONTRACT PAY ITEMS

When the total cost of an overrun of an existing pay item(s) is anticipated to exceed $150,000, the Division Engineer shall secure the written approval of the State Construction Engineer before allowing the contractor to perform the work. The State Construction Engineer shall, in turn, secure the written approval of the Chief Engineer and the Transportation Director prior to authorizing the work to proceed. Approval of overruns in this manner is meant to apply only to those overruns outside the original scope of work. Overruns within the original scope of work need not be reported.

3. COST REPORTING

Projected contract overruns will be reported to the Bureau of Finance and Audits automatically through the monthly estimate process by utilizing the figures reported in the "percent complete" and "quantity to date" fields for each contract item. The Division Engineer will be responsible for ensuring that the "percent complete" per contract item is reported as accurately as possible on all projects and is based on the projected final quantity.

The Bureau of Finance and Audits will monitor this process and report to the Chief Engineer’s Office any Divisions not in compliance. A monthly report will also be furnished to the Chief Engineer’s Office listing all extra work and overruns authorized by the Division and the Construction Bureau.

RECOMMENDED FOR APPROVAL: [Signature]
Bureau Chief

APPROVED: [Signature]
Chief Engineer

DATE: 10-7-05
Transportation Director

4-3
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: RECLAIMED ASPHALT PAVEMENT ("RAP") MATERIAL

In General, RAP material shall become the property of the contractor in accordance with the specifications. The salvage value of this material retained by the contractor should be reflected in the bid price. The state may retain a portion of the material removed for its use. The quantity of the material retained by the state shall be limited to the amount of material needed for state use from one paving season to the next. The total number of cubic meters of material to be retained by the state should be noted on the plans along with the exact location of where this material is to be stock piled. Consideration as to the retaining of any RAP material on construction projects should be given careful review by looking at the proposed timely use and the economic considerations. Any exception to this guideline must be cleared by the Chief Engineer’s Office prior to placing the notes on the plans. Any requirements for state retained RAP material must be designated ahead of time by a note on the plans relative to this matter.

RECOMMENDED FOR APPROVAL: __________________ Mitchell Kilpatrick __________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ______ Ray D. Bass ________________
CHIEF ENGINEER

APPROVAL: ______ Jimmy Butts ________________ 1/8/96
TRANSPORTATION DIRECTOR DATE
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: SEQUENCE OF APPLICATION OF LEVELING AND SURFACE TREATMENTS ON ALL FEDERAL-AID INTERSTATE AND NATIONAL HIGHWAY SYSTEM PROJECTS

On all Federal-Aid Interstate and National Highway System Projects containing both the Items of Leveling and Surface Treatment, the Surface Treatment must be applied prior to the placement of Leveling. In general, this will require a minimum of 50 kg/m$^2$ of leveling on these type projects.

RECOMMENDED FOR APPROVAL: _____________G.M. Harper_____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ________Newal S. Cauthen_________
CHIEF ENGINEER

APPROVAL: __________M. Roberts___________  9/29/93
TRANSPORTATION DIRECTOR  DATE

4-5  Rev. 12/94
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: FINAL INSPECTIONS OF RAIL HIGHWAY PROJECTS

Upon completion of a rail highway project, the Division will immediately schedule the date for a final inspection. FHWA, Railroad, Design Bureau and/or local government, if involved, will be notified by letter a minimum of 10 days before the date of the final inspection.

If FHWA is unable to attend the final inspection and no exceptions are noted by the Division on the inspection, the Division will submit a letter of recommendation to the Office Engineer for FHWA’s final acceptance approval and for FHWA’s preparation of the final acceptance report for the project.

RECOMMENDED FOR APPROVAL: ______________N.S. Cauthen_________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ______________Tom Espy, Jr.______________
CHIEF ENGINEER

APPROVAL: ______________Royce G. King______________ 6/23/89
HIGHWAY DIRECTOR DATE

4-6 Rev. 12/89
SUBJECT: INCENTIVE/DISINCENTIVE PROVISIONS FOR EARLY COMPLETION OF CONSTRUCTION PROJECTS

During the project P. S. & E. inspection, decisions should be made concerning whether or not a project should be a candidate for Incentive/Disincentive provisions. Candidate projects for I/D provisions should, generally, be limited to those projects whose construction would severely disrupt highway traffic or highway services, significantly increase road users’ costs, have a significant impact on adjacent neighborhoods or businesses, or close a gap thereby providing a major improvement in the highway system. The contract time on all I/D projects will be set in calendar days.

If a project is a candidate for I/D provisions, the following chain of events should take place:

1. The Design Bureau will perform a road users’ cost analysis of the project construction. The Lead Agency will be responsible for obtaining current hourly traffic counts from the Bureau of State Planning or the Division. The Lead Agency will provide the Design Bureau Traffic Engineering Section with the hourly traffic volumes and information on which of the following situations may exist:

   a. One, or more, lanes will be closed to traffic.
   b. One, or more, lanes will be narrowed.
   c. The road will be closed and traffic detoured.

2. The information gathered from the road users’ cost analysis will be sent to the Lead Agency for its reviews and consideration of design options and the sequence of construction. When the plans are sent to the Construction Bureau for review, the Design Bureau will send a letter stating that the project is a candidate for I/D provisions along with the road users’ cost per day for the option used to design the project.

3. The Construction Bureau, during its plan review, will make the final decision whether or not I/D provisions are to be included in the contract. If I/D provisions are to be included in the contract, the Construction Bureau will prepare a special provision specifying the number of calendar days of contract time and the amount of incentive or disincentive per calendar day.

If I/D provisions are included in the contract, the contract time will be set at approximately 80 percent of the time which would have been specified if an I/D provision was not included. The amount of I/D per day would be set at the rate computed for the road users’ cost (rounded to the next lowest $500) or the rate as computed by the following formula:
I/D/Day = \frac{(25\%)}{(Engineer's Cost Estimate)} \times \text{Contract Time}

(rounded to the nearest $500), whichever is less. If the above rate of I/D is below $1,000, I/D provisions will not be included in the contract.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

4-7 Rev. 12/89
SUBJECT: CONSTRUCTION SEQUENCES AND TRAFFIC HANDLING ON INTERSTATE 4R PROJECTS

The following guidelines shall be used for the establishment of construction sequences and traffic handling scheme for interstate 4R projects. These guidelines should be used in conjunction with Section G of the Alabama Manual on Uniform Traffic Control Devices in developing project plans.

1. Normally, project lane closures should be limited to one lane closure per roadway at one time. More than one closure may be permitted if a clear roadway can be maintained between closures for a minimum distance of 5 km. The length of any closure should not exceed 5 km to 8 km.

2. Traffic should not be placed on planed (milled) areas or bituminous surface treatments on mainline travel lanes unless considered necessary by the Engineer at transitions, etc.

3. Lane closures should remain in place where pavement elevation differentials exceed approximately 50 mm at the edges of travel lanes. Overnight lane closures will not be necessary where the differences in elevation at lane edges are less than approximately 50 mm. In these situations, the edge should be tapered on an approximately 1:1 slope. Moving lane closures will be permitted where the elevation differentials are approximately 50 mm or less at the lane edges.

4. Where it is necessary to close a roadway and place two-way traffic on an adjacent roadway, the length of closure should not exceed 7 km. When such closures are made, either temporary or portable barrier or temporary asphalt island should be used to separate the two-way traffic.

RECOMMENDED FOR APPROVAL: ____________________ G.M. Harper _____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________ Newal S. Cauthen ____________
CHIEF ENGINEER

APPROVAL: ____________ M. Roberts ____________ 9/29/93
TRANSPORTATION DIRECTOR DATE

4-8 Rev. 10/93
SECTION 5

MAINTENANCE

CONTENTS

Field Dating of Highway Signs................................. 5-1

Handicapped Parking Symbol................................ 5-2

Special Purpose Warning Sign Construction
Warning Sign(W21-4A) "Utility Work Ahead" ............... 5-3

Speed Zoning.................................................. 5-4

Change Request/ Supplemental Agreements for
Federal-Aid Safety Projects Constructed by State Forces .......................... 5-5

Paving the Approaches at Locations of
At-Grade Railroad Highway Grade Crossings.............. 5-6

Maintenance Agreements with Local Governments........ 5-7

Traffic Signal Malfunctions.................................. 5-8

Funding Requirements for Electrically Operated
Traffic Control Devices...................................... 5-9

Location of Utility Facilities Within Interstate
Highway and Other Controlled Access Highway Right-of-Way...... 5-10

Permits for Locating Utility Facilities on
State Highway Right-of-Way................................ 5-11

Vegetation Control By Utilities on
Highway Rights-of-Way..................................... 5-12

Proper Signing Practices for
Highway Maintenance Activities............................. 5-13

Funding Requirements for Specific
Motorist Information signs.................................... 5-14

Maintenance requirements for Electrically
Operated Traffic Control Devices............................. 5-15
Landscape Engineer’s Responsibilities ................................................................. 5-16
Vegetation Management-Use of Herbicides ...................................................... 5-17
Interim Inspections on Bridges ........................................................................... 5-18
Deck, Superstructure or Substructure Condition Rating Code 2 ...................... 5-19
Deck, Superstructure or Substructure Condition Rating Code 3 ...................... 5-20
Deck, Superstructure or Substructure Condition Rating Code 4 ...................... 5-21
Authority to close Bridges .................................................................................. 5-22
Resurfacing, Access Entrance Treatment ......................................................... 5-23
Requirements for Installing and/or Maintaining I-15 City Limit, and D1-1 Directional Signs .................................................. 5-24
Funding and Maintenance of Scenic Byways ..................................................... 5-25
Preventive Maintenance Procedures ................................................................. 5-26
Changeable Message Signs CMS for Amber Alert Messages ......................... 5-27
ALDOT Policy for the Use of Changeable Message Signs ................................. 5-28
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: FIELD DATING OF HIGHWAY SIGNS

For all signs on the State Highway Systems, the date field installation is made to be duly noted on the sign dating decal affixed to the rear of the sign. For sign assemblies, a separate decal should be used for each sign in the assembly.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

5-1
SUBJECT: HANDICAPPED PARKING SYMBOL

Sign symbols R7-8, R7-8A, D9-6 and W11-9, all relate to handicapped parking. Due to the variation of use of these signs, the following information is provided.

PARKING SERIES

1. R7-8A, Reserved Parking, rectangle shape, green on white with blue symbol. This sign is for the use to reserve an individual parking space and should be used in areas where other restricted parking signs are installed.

2. R7-8, Reserved Parking with arrow, rectangle shape, green on white with blue symbol. This sign is for use to reserve more than one (several) spaces in the same area and should be used in areas where other restricted parking signs are installed.

GENERAL SERVICE SIGNS

1. D9-6, Handicapped Symbol, blue on white, square shape. This sign is for use in areas to indicate motorist service where services are infrequent and are to be found on intersecting highways, crossroads, rest areas, parks, etc. Generally, this sign will have greater use in rural areas and should not be used to reserve a particular parking space or spaces.

ADVANCE CROSSING SIGNS

1. W1-9, Handicapped Symbol, diamond-shaped, black on yellow. This sign is for use as a standard warning sign to alert vehicle operators to unexpected entries into the roadway by handicapped persons. These crossings are generally relatively confined or may occur randomly at select locations.

RECOMMENDED FOR APPROVAL:  P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  Tom Espy, Jr
CHIEF ENGINEER

APPROVAL:  Royce G. King
HIGHWAY DIRECTOR  5/20/88

5-2
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: SPECIAL PURPOSE WARNING SIGN CONSTRUCTION WARNING SIGN (W21-4A) “UTILITY WORK AHEAD”

Authority to establish a special warning sign by the State of Alabama Highway Department is provided under Section 2C-41 “Other Warning Signs”, MUTCD 1978.

Section 6B-23, MUTCD 1978 describes the Worker Sign (W-21-1A) and defines the intended use as being for minor maintenance and public utility operations for the protection of works in or near the roadway. On low-speed urban areas the worker sign is intended for use at limited obstruction sites which are adequately marked and clearly visible, such as an open manhole with a fence around it. This sign should continue to be used on low-speed urban areas as defined.

Section 6B-26 Road Work Sign, (W21-4) or Utility Work Ahead, (W21-4A), 1 meter x 1 meter is intended for use in advance of maintenance or minor reconstruction operations in the roadway. The use of this sign should be limited to operations that are generally of longer duration and may include the closing and channelizing of traffic from one or more lanes. In addition, to warning the motorists of impending construction along the roadway, the sign (W21-4A) also informs the motorists as to the type of construction underway, that is, utility vs. State or other governmental agencies.

In summary, utility or utility contractors have a specific need for both the working sign and Utility Work Ahead. The selection of the sign to be used for a particular operation should be determined by the Engineer consistent with the type of public utility operations, minor low-speed urban at limited obstruction sites or in advance of minor utility reconstruction operations in the roadway.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: W.E. Page
CHIEF ENGINEER

APPROVAL: M. Roberts 8/20/93
HIGHWAY DIRECTOR DATE

5-3 Rev. 10/93
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT:  SPEED ZONING

Any action resulting in an altered speed on the State Highway System is to be reported in writing to the Maintenance Bureau, including the date or dates speed zone signs are installed on the State Highway System, in accordance with approved speed zone ordinances or rules.

This applies to the actual date of field installation of the signs after the ordinance or rule has been approved by all parties concerned.

RECOMMENDED FOR APPROVAL:  __________________P.L. Cain_____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  _________Tom Espy, Jr._________
CHIEF ENGINEER

APPROVAL:  ________Royce G. King_________             _____8/20/93
HIGHWAY DIRECTOR             DATE

5-4
SUBJECT: CHANGE REQUEST/SUPPLEMENTAL AGREEMENTS FOR FEDERAL-AID SAFETY PROJECTS CONSTRUCTED BY STATE FORCES

Change Request/Supplemental Agreements for Federal-Aid Safety Projects constructed by State Forces shall be handled as follows:

1. The design, plans and project records are handled by the Design Bureau. The initial request for project modifications, from the Division, should be transmitted to the Design Bureau.

2. The Design Bureau will review and recommend approval/disapproval to the Maintenance Bureau.

3. The Maintenance Bureau will:
   a. Approve documents and forward to the Office Engineer Bureau, or
   b. Disapprove documents and return to Division with appropriate comments.

4. The Office Engineer Bureau will:
   a. Review documents and forward to FHWA for concurrence.
   b. Make distribution of FHWA action (Approval/Disapproval) to the Division with copies to the Design and Maintenance Bureaus.

RECOMMENDED FOR APPROVAL:  P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL:  Royce G. King  5/20/88
HIGHWAY DIRECTOR  DATE

5-5
ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: PAVING THE APPROACHES AT LOCATIONS OF AT-GRADE RAIL-HIGHWAY GRADE CROSSINGS

The following guideline shall govern the placement of asphalt pavement on the approaches to rail-highway grade crossings throughout the State of Alabama.

When the reworking of tracks at a rail-highway crossing causes the elevation of the tracks to be raised, the approach pavement (both length and width) shall be adjusted in accordance with the drawing on page 5-6.1 labeled “Asphalt Approach 1/2 Section” dated 01-10-96. The responsibility for the implementation of this requirement falls on the individual railroad companies.

The hot bituminous asphalt material shall be obtained from an asphalt plant approved by the Alabama Department of Transportation.

In addition, the paved approach width of all crossing shall conform to the width of the existing paved roadway including the shoulders.

It shall be the responsibility of the railroad company to notify the Alabama Department of Transportation, Division Engineer, in writing thirty (30) days in advance of their commencing work.

The Alabama Department of Transportation may provide traffic control for a route detour when railroad maintenance work causes the state route to be closed.

RECOMMENDED FOR APPROVAL: _________________________ J.S. Peters ____________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ______ Ray D. Bass ________
CHIEF ENGINEER

APPROVAL: ______ Jimmy Butts ________ 1/25/96
TRANSPORTATION DIRECTOR DATE

5-6 Rev. 3/96
TABLE "A"

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TABLE "B"

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NOTES:

DRAWING IS FOR A 101 mm GRADE DIFFERENTIAL. GRADE DIFFERENTIAL IS TO BE ESTABLISHED EVERY 3.6 m ACROSS ROADWAY BY USE OF STRINGLINE AND 1.8 m RULE. WHEN THE EXISTING APPROACH PAVEMENT EXCEEDS A 1% GRADIENT USE TABLE "B".

ALABAMA DEPARTMENT OF TRANSPORTATION

ASPHALT APPROACH 1/2 SECTION

RAIL HIGHWAY GRADE CROSSINGS

DATED 01-10-96
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: MAINTENANCE AGREEMENTS WITH LOCAL GOVERNMENTS

On construction or improvement projects funded in part or wholly by state or federal funds and involving any work on streets, roads or bridges maintained by local governments, a maintenance agreement shall be executed with the local government as to the future maintenance of the affected street, road or bridge.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR  DATE

5-7
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: TRAFFIC SIGNAL MALFUNCTIONS

Upon receiving a telephone call or other message that a traffic signal location on the State Highway System is malfunctioning, a BM-194, Incident Reporting Record, should be completed indicating the nature of the problem, the time of day and date, and the time of day and date corrections are made.

In the event the signal is maintained by others, the BM-194 should note to whom the complaint was referred.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

5-8
ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATIONS

SUBJECT: FUNDING, OPERATION, AND MAINTENANCE GUIDELINES FOR ELECTRICALLY OPERATED TRAFFIC CONTROL DEVICES

The following are guidelines regarding the funding, operation and maintenance of electronically operated traffic control devices to be located at intersections and other locations that are not under the sole jurisdiction of the STATE and/or only serve a private developer, and/or are on a state route that is within the jurisdiction of an incorporated town or city.

I. CATEGORIES OF REQUESTS

This guideline applies to the following categories of requests:

A. General request: Any incorporated town, city, county or developer who petitions the Alabama Department of Transportation for a traffic control device on a STATE maintained highway and whose petition is not attributable to any K – 12 school facility.

B. School authority request: Any local Board of Education or K – 12 facility with direct access to a STATE maintained highway whose superintendent, principal, administrator, or board official or any other entity acting on behalf of a school authority petitions the Alabama Department of Transportation for a traffic control device.

C. Local government school request: Any incorporated town or city, or county government, having authority for roadway maintenance, or any other entity whose petition for a traffic control device to the Alabama Department of Transportation can be attributed to any K – 12 school facility which facility has no direct access to a STATE maintained highway.

II. TRAFFIC CONTROL DEVICES CONSIDERED

The electronically operated traffic control device to be considered by the Alabama Department of Transportation for each type of request on a STATE route is as follows:

A. General request: (1) a traffic control signal (full or intersection flasher), (2) an advance warning flasher, or (3) roadway lighting (intersection lighting or general street lighting).
B. **School authority request:** (1) a traffic control signal (full or intersection flasher), (2) a school speed limit flashing beacon, (3) a school zone flashing beacon, or (4) a school crosswalk flashing beacon.

C. **Local government school request:** (1) a traffic control signal (full or intersection flasher) or (2) a school crosswalk flashing beacon.

III. **FUNDING**

A. **Justified Traffic Control Devices**

If justification of an electronically operated traffic control device and/or roadway lighting is warranted and installation is recommended by the Division, the following funding guidelines regarding the proportionate share of the expenses will apply:

1. **General Requests:** If state funds are used, funding shall be based on the number of approaches each entity controls. [EXAMPLE – for a three-way intersection with one approach local and two approaches STATE, the funding ratio shall be a 33/67 split for the purchase and installation of the signal.] The funding split described above for traffic control signals at an intersection shall also apply to intersection lighting. Advance flashers shall be funded at a flat 50/50 split. Street lighting shall be 100% funded by the requesting authority.

   **EXCEPTION:** For general requests for traffic control devices on a state route within the jurisdiction of an incorporated town or city where the STATE does not elect to participate in the costs or the proposed signal will only serve a private development, the requesting party (incorporated town or city, county, or other public entity) shall be responsible for 100% of the funding. These installations may be accomplished through a Special Work Authorization (SWA) by STATE forces or the STATE may issue a Permit to the local government unit or developer for the installation, which shall be constructed in accordance with STATE Design Standards and Specification requirements.

2. **School authority request:** If the school authority or other entity acting on behalf of a school authority accepts the recommendation by the Division, then the funding shall be at a flat 50/50 split for the purchase and installation of the equipment.

3. **Local government school request:** Funding shall be at a flat 50/50 split for the purchase and installation of the equipment.

B. **Unjustified Traffic Control Devices**

If a **school authority request** is for an unwarranted, full traffic control signal, the following guidelines apply:

1. Approval from the Transportation Director, in writing, will be obtained before submittal of funding requests and Agreements by the requesting authority.

5-9.2  Rev. 12/08
2. The Division shall submit the necessary paperwork and funding request for the traffic control signal to the requesting authority. The requesting authority shall be responsible for 100% of the cost for purchasing and installing the traffic control signal.

3. This Guideline for Operations shall be referenced in the remarks portion of the warrant analysis, with a specific reference to this Section III(B). The Division shall require and initiate an Exhibit “O”, a funding agreement to be included with the Permit/Agreement, with the requesting authority for either onsite (school authority) and/or offsite (STATE ROW) traffic flow improvements to enhance traffic safety and signal efficiency.

4. In the event the requesting authority does not agree to funding 100% of the cost for the purchase and installation of its request for a full traffic control signal, the requesting authority may elect to pursue the Division’s recommended installation of another traffic control device at the 50/50 split of the purchase and installation cost.

5. If no local funding support for the electrically operated traffic control device and/or roadway lighting is secured, ALDOT will not pursue the installation.

IV. OPERATION & MAINTENANCE

A. Generally, the requesting authority will bear the responsibility for the operation and maintenance of any electrically operated traffic control device. The responsible agency agrees to operate and maintain the device and all of its appurtenances in accordance with the Alabama Department of Transportation operational guidelines and the maintenance provisions noted in the Manual on Uniform Traffic Control Devices (MUTCD). The responsible agency agrees to consult the Traffic Control Devices Handbook, prepared by the Federal Highway Administration (FHWA), as a guideline on the maintenance and operation of traffic signal equipment. The Division will note within the Permit/Agreement whether the request is a school authority request for a warranted or unwarranted, full traffic control signal.

B. For electrically operated traffic control devices and/or roadway lighting installations on a state route, ALDOT shall execute with the requesting authority (incorporated town or city, county, or other public entity) an AGREEMENT FOR THE INSTALLATION AND/OR OPERATION & MAINTENANCE OF TRAFFIC CONTROL SIGNALS AND/OR STREET LIGHTING. This Agreement shall detail the type of electrically operated traffic control device installed or the limits and types of lighting installed; who will furnish and install, and if applicable, who will be responsible for system compatibility of the equipment and appurtenances; and who will be responsible for the installation cost. An Exhibit “O” shall be included, as part of the Agreement, to state the funding ratio between the responsible agency and the STATE. This Agreement shall identify and stipulate that the responsible agency will bear all costs associated with the operation, maintenance, and electrical energy required to keep
the equipment and appurtenances operating properly and on a continuing basis. The Agreement shall also provide that the responsible agency will determine how its operation and maintenance responsibilities will be accomplished. The Agreement shall be entered into by a Resolution or motion lawfully passed and adopted by the responsible agency at a regular (or special) meeting of the responsible agency and duly recorded. The Resolution or motion and the Agreement shall have the Official Seal of the responsible agency affixed on them and the documents shall be signed by the Approving Authority and witnessed.

V. GENERAL

Any deviation from these procedures must be approved by the Transportation Director, in writing, prior to the expenditure of STATE funds, either routine maintenance funds or special project funds.

RECOMMENDED FOR APPROVAL:

[Signature]

BUREAU CHIEF

APPROVAL:

[Signature]

CHIEF ENGINEER

APPROVAL:

[Signature]

TRANSPORTATION DIRECTOR

DATE: 12/29/08
STATE OF ALABAMA

HIGHWAY DEPARTMENT

GUIDELINES FOR OPERATION

SUBJECT: LOCATION OF UTILITY FACILITIES WITHIN THE INTERSTATE HIGHWAY AND OTHER CONTROLLED ACCESS HIGHWAY RIGHT-OF-WAY

Utilities and utility type facilities will be permitted to make perpendicular or nearly perpendicular crossings of Interstate Highway and other controlled access Highway right-of-way in accordance with State of Alabama Highway Department Standards for Accommodating Utilities on Highway Rights-of-Way.

Utilities and utility type facilities will not be permitted to make longitudinal installations within the control of access area of Interstate Highway and other controlled access Highway right-of-way.

RECOMMENDED FOR APPROVAL: __________________P.L. Cain_____________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _____________Tom Espy, Jr.__________
CHIEF ENGINEER

APPROVAL: ____________Royce G. King_____________ 5/19/88
HIGHWAY DIRECTOR DATE

5-10
SUBJECT: PERMITS FOR LOCATING UTILITY FACILITIES ON STATE HIGHWAY RIGHT-OF-WAY

Processing and approval of permit applications for locating utility facilities on State Highway right-of-way is as follows:

1. Permits issued under General Agreement and service connections not paralleling the highway (not including Interstate System Highways or other controlled access highways):

   Applications are submitted to District Office by the Utility. Permit applications receiving a favorable recommendation from the District Engineer are forwarded to Division Office for review and final consideration by the Division Engineer. A copy of permits approved under General Agreement is submitted to the Maintenance Bureau.

2. Permits other than those covered by Item No. 1 above:

   Applications are submitted to District Office by the Utility. Permit applications receiving a favorable recommendation from the District Engineer are forwarded to the Division Office for review. Permit applications receiving a favorable recommendation from the Division Engineer are forwarded to the Maintenance Bureau for review and final consideration by the Maintenance Engineer.

3. The exception to No. 1 and No. 2 above is permit applications proposing attachment to bridge structures. These applications are, in addition to the steps specified under No. 2 above, reviewed by the Attachment to Structures Committee and the Chief Engineer, with final consideration by the Highway Director.

4. Permit applications involving active construction projects are handled by and as directed by the Utilities Section of the Design Bureau.

RECOMMENDED FOR APPROVAL: P.L Cain

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.

CHIEF ENGINEER

APPROVAL: Royce G. King

HIGHWAY DIRECTOR

5/19/88

DATE
The use of herbicides by utilities to control vegetation within the rights-of-way for highways under State of Alabama Highway Department jurisdiction shall be in accordance with current procedures, guidelines, and administrative directives relevant to the State Highway Department’s Vegetation Management Program.

Chemical vegetation control by utilities will be limited to currently recommended products and methods approved by the State Highway Department, Bureau of Maintenance.

Utilities must apply in writing to the State Highway Department District Engineer for permission to use herbicides for vegetation control within highway rights-of-way. The utility must receive approval in writing from the State Highway Department Division Engineer prior to beginning such work.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

8/15/88
DATE

5-12
Rev. 7/88
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT:  PROPER SIGNING PRACTICES FOR HIGHWAY MAINTENANCE ACTIVITIES

For all Highway maintenance activities which require the placement of construction/maintenance signs, the signs shall be installed on approved manufactured portable sign stands which meet the M.U.T.C.D. sign placement requirement of 0.3 meter (minimum) height above the groundline and shall be of sufficient size to accommodate the size sign required for the roadway class designation of the roadway. To further enhance the signs target value, the sign stands shall be of the type to accommodate a minimum of two orange flags, and these flags shall be used for all construction/maintenance applications.

RECOMMENDED FOR APPROVAL: __________Mitchell Kilpatrick________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  ________W.E. Page___________________
OPERATIONS ENGINEER

APPROVAL:  _______M. Roberts___________________  ______8/20/93________
HIGHWAY DIRECTOR  DATE

5-13  Rev. 10/93
SUBJECT: FUNDING REQUIREMENTS FOR SPECIFIC MOTORIST INFORMATION SIGNS

The following guidelines shall govern the funding requirements for the placing of Specific Motorist Information Signs (LOGO’s) on the Interstate Highway System.

The annual fee for each business (logo) sign shall be as follows:

1. Mainline Signs - $300.00 Ea., Ramp Signs - $150.00 Ea., Trailblazer Signs - $75.00 Ea.

The annual renewal date shall be January 1. Business will be invoiced for the renewal thirty (30) days prior to the renewal date. The fee shall be remitted by check or money order payable to the State of Alabama Highway Department. Failure of a business to submit the renewal fee(s) by the annual renewal date shall be cause for removal and disposal of the business (logo) sign by the Department. The initial fee per business (logo) sign(s) shall be paid within thirty (30) days after the business submits a completed Agreement form. The initial fee shall cover the period beginning with the completion or acceptance by the Department of the project which erected the Motorist Information Signs or the opening of a new qualifying business for a one year period. Prorated adjustments as necessary by the Department to the annual renewal date (January 1) shall be made in the next years billing to the business.

2. When requested by a business, the Department may perform additional requested services in connection with changes of the business (logo) sign, upon payment of $75.00 service charge (per business (logo) sign). Any new or renovated business (logo) sign required for such purposed shall be provided by the applicant. If the Department removes or masks a business (logo) sign because of seasonal operation, there will be no additional charge to the business.

3. The Department shall not be responsible for damages to business (logo) signs caused by acts of vandalism, accidents, natural causes (including natural deterioration), etc. requiring repair or replacement of business (logo) sign(s). Applicants in such event shall provide a new or renovated business (logo) sign together with payment of a $75.00 service charge (per business (logo) sign) to the Department to replace such damaged business (logo) sign(s).

NOTE: THIS REVISED FEE SCHEDULE GOES INTO EFFECT JANUARY 1, 1989.
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: MAINTENANCE REQUIREMENTS FOR ELECTRICALLY OPERATED TRAFFIC CONTROL DEVICES

Prior to the installation of any traffic control signal, the responsibility for its maintenance shall be clearly established. The responsible agency should provide for the maintenance of the signal and all of its appurtenances in a responsible manner. To this end the agency should comply with the maintenance provisions noted in the Manual on Uniform Traffic Control Devices.

The Traffic Control Devices Handbook, prepared by The Federal Highway Administration, is an excellent reference on the maintenance of traffic signal equipment and should be utilized by the agency responsible for maintenance of the signal.

The following guidelines shall govern the maintenance requirements for electrically operated traffic control devices (traffic signals, flashers, school zone signals) at intersections and other locations on the state highway system.

1. For signal installations on a state route within the jurisdiction of an incorporate town or city, the Department will execute with the requesting party(ies) the Highway Departments Standard Maintenance Agreement. This Agreement shall detail the type signal installed; who will furnish and install the signal equipment and associated hardware; and who will be responsible for the installation cost. This Agreement will identify and stipulate that the local governmental unit will be responsible for all costs associated with the operation, maintenance and electrical energy as required to keep the signal operating properly and on a continuing basis as required. Details of how the maintenance will be accomplished will be the responsibility of the local governmental unit. The Maintenance Agreement shall be entered into by Resolution lawfully passed and adopted by the local governmental unit at a regular (or special) meeting of the governing body and duly recorded in the record book of the body. Both the Resolution and the Maintenance Agreement shall have the Official Seal affixed on them and the documents shall be signed by the Approving Authority and witnessed by the Clerk.

2. For signal installations on a state route outside the jurisdiction of an incorporate town or city, the Department will, at its option, execute a Standard Maintenance Agreement as noted in part #1 with the County governmental unit (or other public identity) or maintain the installation as a part of the Departments routine maintenance activities. If a Maintenance Agreement is executed, all provisions noted in number 1 shall be complied with. If the installation is maintained by the Department, no Maintenance Agreement will be required.

5-15
Rev. 7/88
3. From time to time special conditions could develop which might cause a deviation in the maintenance requirements noted herein. Any deviation from these maintenance procedures must be approved by the Director, in writing, prior to the expenditure of State funds, either routine maintenance funds or special project funds.

RECOMMENDED FOR APPROVAL:  

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  

CHIEF ENGINEER

APPROVAL:  

HIGHWAY DIRECTOR  

DATE: 8-16-88
SUBJECT: LANDSCAPE ENGINEER’S RESPONSIBILITIES

In order to clarify the scope of interests and responsibilities of the Landscape Engineer, note the following:

The Landscape Engineer will be responsible for landscape architectural design and consultation activities related to welcome centers, rest areas, scenic overlooks, landscape plantings, vegetation establishment, irrigation systems, and other landscape architectural related contracts and work. This work would also include acting as consultant to the various bureaus and divisions as would pertain to design, inspection, and implementation of roadside items (such as seeding, mulching, erosion control, etc.) in normal roadway construction contracts.

He will also be responsible for developing guidelines, procedures, training and policies relating to the right-of-way vegetation management program. This program includes such activities as erosion control, mowing, chemical control of weeds and brush, wildflower preservation and propagation, fertilization, forestry and arboriculture, and other related research, contracts and work.

It is required that the above referenced work and types of work be coordinated with the Landscape Engineer through proper channels.

RECOMMENDED FOR APPROVAL: ___________ P.L. Cain_______________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ________ Tom Esoy, Jr.________________________
CHIEF ENGINEER

APPROVAL: __________ Royce G. King___________________________ 2/13/89
HIGHWAY DIRECTOR DATE

5-16
Rev. 6/89
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: VEGETATION MANAGEMENT - USE OF HERBICIDES

The use of herbicides by the Alabama Highway Department to control vegetation within highway rights-of-way under its jurisdiction shall be in accordance with current procedures, guidelines, and administrative directives as are currently recommended and approved by the State Highway Department, Bureau of Maintenance. The publication entitled “A Manual For Roadside Vegetation Management” will be issued and/or revise periodically to establish all or a portion of pertinent guidelines to be followed by Highway Department Personnel using herbicides and related products. Any deviations from current established guidelines, procedures and policies must receive approval in writing from the Maintenance Bureau prior to beginning such work.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

2/13/89 DATE

5-17 Rev. 6/89
STATE OF ALABAMA
ALABAMA DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: INTERIM INSPECTIONS ON BRIDGES

An interim inspection is defined as an inspection at least every 12 months; or more often if deemed necessary by the owner’s bridge inspector, the Emergency Bridge Inspection team, or the appropriate Guideline for Operation. An interim inspection must be thorough enough to determine the condition of the bridge but may otherwise be limited to an inspection and review of the elements and/or components of the bridge which originally required the interim inspection.

In order for the Department to conform to the requirements set forth in the National Bridge Inspection Standards (NBIS) and FHWA guidelines, the Department’s Guidelines for Operation require that bridges which fall into any of the following categories must be reported immediately to the Maintenance Bureau and must have interim inspections.

a) bridges with condition grade of 4 or less for the deck, superstructure, substructure or culvert.

b) bridge with condition grade of 3 or less for channel condition or waterway adequacy.

c) bridges which are posted.

The above requirements are effective immediately for all bridges requiring interim inspections.

RECOMMEND FOR APPROVAL: ____________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________ 9-9-2008
TRANSPORTATION DIRECTOR

5-18.1 Rev. 9/08
STATE OF ALABAMA
ALABAMA DEPARTMENT OF TRANSPORATION
GUIDELINES FOR OPERATION

SUBJECT: DECK, SUPERSTRUCTURE, SUBSTRUCTURE, CULVERT OR
CHANNEL CONDITION GRADE OF 1 OR 2

Any bridge with a deck, superstructure, substructure, culvert or channel condition grade of 1 or 2 **shall** be closed. In the case of a deck, superstructure, substructure, culvert or channel with a condition grade of 1 or 2 the Division **must** notify the Maintenance Bureau, the County **must** notify County Transportation Bureau and the Municipality **must** notify the division bridge inspector. Before the bridge can be re-opened to traffic, the owner **must** have a professional review to determine if the bridge **must** remain closed or if the bridge **may** be re-opened to traffic with a three ton gross load limit and with interim inspections at least every 30 days. Upon request, the Emergency Bridge Inspection Team **may** be available to perform the review. The bridge owner **must** submit in writing to their respective contacts listed above, its recommendations for correcting the deficiencies.

The above requirements are effective immediately for all bridges with a deck, superstructure, substructure, culvert or channel condition grade of 1 or 2.

RECOMMEND FOR APPROVAL: 

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: 

CHIEF ENGINEER

APPROVAL: 

TRANSPORTATION DIRECTOR

9.9.2008

DATE

5-19

Rev. 9/08
STATE OF ALABAMA
ALABAMA DEPARTMENT OF TRANSPORATION
GUIDELINES FOR OPERATION

SUBJECT: DECK, SUPERSTRUCTURE, SUBSTRUCTURE, CULVERT OR
CHANNEL CONDITION GRADE OF 3

Any bridge with a deck, superstructure, substructure, culvert or channel condition grade
of 3 shall be posted for a three ton gross load limit. In the case of a deck, superstructure,
substructure, culvert or channel with a condition grade of 3 the Division must notify the Maintenance Bureau, the County must notify County Transportation
Bureau and the Municipality must notify the division bridge inspector. If the bridge is
load posted, then it must have an interim inspection at least every 90 days, or more
often if deemed necessary by the owner’s bridge inspector. Any exception to the 3 Ton
load posting must have a professional review to determine the load-carrying capacity
and the appropriate interim inspection frequency, not to exceed 90 days. Upon request,
the Emergency Bridge Inspection team may be available to perform the professional
review. The bridge owner must submit in writing to their respective contacts listed
above, its recommendations for correcting the deficiencies.

The above requirements are effective immediately for all bridges with a deck,
superstructure, substructure, culvert or channel condition grade of 3.

RECOMMEND FOR APPROVAL: ____________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ____________________________
CHIEF ENGINEER

APPROVAL: ____________________________
TRANSPORTATION DIRECTOR

DATE 9.9.2008

5-20 Rev. 9/08
STATE OF ALABAMA
ALABAMA DEPARTMENT OF TRANSPORATION
GUIDELINES FOR OPERATION

SUBJECT: DECK, SUPERSTRUCTURE, SUBSTRUCTURE OR CULVERT CONDITION GRADE OF 4

Any bridge with a deck, superstructure, substructure or culvert condition grade of 4 shall be load rated to determine the load carrying capacity. In the case of a deck, superstructure, substructure or culvert with a condition grade of 4 the Division must notify the Maintenance Bureau, the County must notify County Transportation Bureau and the Municipality must notify the division bridge inspector. The deck, superstructure, substructure or culvert must be load rated within 6 months of the date of inspection which revealed the condition grade of 4, and it must be placed on a maximum of 12 month interim inspection. If the structure has not been load rated or had a professional review within six months, then the bridge must be gross load posted for one-half of its design operating rating and must have an interim inspection at least every 12 months, or more often if deemed necessary by the owner's bridge inspector. A professional review may determine the priority for load rating the structure and for the appropriate level of gross load posting. Upon request, the Emergency Bridge Inspection team may be available to perform this review. The bridge owner must submit in writing to their respective contacts listed above, its recommendations for correcting the deficiencies.

Where the deck, superstructure, substructure or culvert is load rated, the bridge shall be load posted for the least rating.

RECOMMEND FOR APPROVAL: __________________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________________________
CHIEF ENGINEER

APPROVAL: __________________________
TRANSPORTATION DIRECTOR

9-9-2008
DATE

5-21
Rev. 9/08
STATE OF ALABAMA
ALABAMA DEPARTMENT OF TRANSPORATION
GUIDELINES FOR OPERATION

SUBJECT: AUTHORITY TO CLOSE BRIDGE

Bridge inspectors qualified under the National Bridge Inspection Standards (NBIS) for certification shall have the authority to close any bridge, which in the opinion of the inspector, presents a clear and immediate danger to the safety of the traveling public.

The bridge closing may be immediate in that all traffic is stopped, re-routed, or detoured with little or no notice. If safety and circumstances permit, the closing may be planned so that signing and other provisions are completed before the bridge is closed.

As soon as possible after the decision has been made to close the bridge, the bridge inspector shall notify both the appropriate local authorities (division, county, city, etc.) and the Maintenance Bureau. The Maintenance Bureau shall also be notified as to the time, date, and reason for closing the bridge.

Upon request, the Emergency Bridge Inspection Team shall review the circumstances concerning the bridge closing in order to determine if the bridge should remain closed and to consider any other relative information.

The above requirements are effective immediately.

RECOMMEND FOR APPROVAL: [Signature]
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature]
TRANSPORTATION DIRECTOR

9.9.2008
DATE

5-22
Rev. 9/08
SUBJECT: RESURFACING: ACCESS ENTRANCE TREATMENT

When private access entrances are encountered during highway resurfacing, the resurfacing treatment will include the access entrance road for a distance of 1 meter beyond the edge of pavement of the highway being resurfaced.

When commercial access entrances are encountered during highway resurfacing, the resurfacing treatment will include the access entrance road for a distance of 3 meters beyond the edge of pavement of the highway being resurfaced.

Exceptions to this policy will only be considered when it is deemed to be in the best interest of the Highway Department for the protection of the highway and the traveling public. Exceptions must be approved by the Maintenance Engineer prior to work being done.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: W.E. Page
OPERATIONS ENGINEER

APPROVAL: M. Roberts  8/20/93
HIGHWAY DIRECTOR  DATE

5-23  Rev. 10/93
SUBJECT: REQUIREMENTS FOR INSTALLING AND/OR MAINTAINING 1-15, CITY LIMIT, AND D1-1 DIRECTIONAL SIGNS

In an effort to clarify some of the confusion that exist, the following guidelines shall govern the requirements for the placing and/or maintenance of 1-15, CITY LIMIT, signs and D1-1 DIRECTIONAL signs on the State maintained system.

The I-15, CITY LIMIT, sign should be used on conventional highways to identify the city limits of incorporated cities. The sign has the name of the city and the word message CITY LIMIT.

The boundaries for unincorporated towns may be marked with a smaller sign with only the town name displayed on the sign. This sign, when used, should be erected on the right side of the highway facing drivers entering the city or town.

The D1-1 DIRECTIONAL sign shall carry a single name of a city, town or other destination along with a directional arrow indicating the direction. The destination shown should be that of the next place on the route having a post office, railroad station, state route number, or other significant geographical identity. DIRECTIONAL signs shall not be installed for unincorporated towns or communities. Directional signs in place for unincorporated communities can be retained but no further maintenance or replacement is to be performed on them.

When used, these signs shall be installed in accordance with placement criteria contained in the Manual on Uniform Traffic Control Devices (MUTCD).

Any deviation from these guidelines must be approved by the Director, in writing, prior to the expenditure of State funds, either routine maintenance funds or special project funds.

RECOMMENDED FOR APPROVAL: Mitchell Kilpatrick
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray D. Bass
CHIEF ENGINEER

APPROVAL: Jimmy Butts
TRANSPORTATION DIRECTOR 3/6/96
Subject: Funding and Maintenance of Scenic Byways.

The following shall guide the participation of the Alabama Department of Transportation in routes designated as scenic byways.

- ALDOT will continue to fund and perform traditional roadway and roadside maintenance on state routes that are designated as scenic byways.
- Funding for eligible scenic byway activities that are not highway related, whether on or off the state system, will be from Federal Scenic Byway funds or other non-ALDOT sources.
- ALDOT will only use state highway funds to match federal scenic byway funds that are to be used for highway related improvements on the state system.
- ALDOT will accept applications for scenic byway funds from local sponsors only when the local sponsor is a governmental entity. The local sponsor shall certify that matching funds are available.
- In-kind services will not be allowed as a source of matching funds from the local sponsor. The local sponsor must provide a 20% cash match or be reimbursed for only 80% of its costs. Exception may be made when the local sponsor can clearly display its ability to provide resources of sufficient value to constitute a 20% match and receives prior approval by ALDOT.
- ALDOT will consult with the Alabama Scenic Byway Advisory Committee in establishing priorities for Federal Scenic Byway Grant applications for byways on the Alabama Byway System. ALDOT will continue to carry out its responsibility in establishing priorities for grant applications on the National Scenic Byway System.
- ALDOT will not consider any grant application for scenic byway funds, or other funds, for improvements within any highway rights of way without the written consent of the authority that has jurisdiction over said facility.

APPROVAL: [Signature]
DEPUTY DIRECTOR, OPERATIONS

APPROVAL: [Signature] [Signature]
TRANSPORTATION DIRECTOR DATE: 11/4/03

5-25
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: PREVENTIVE MAINTENANCE PROCEDURES

Preventive maintenance resurfacing projects are necessary to preserve Alabama's existing roadways. This work is intended to extend roadway life. Preventive maintenance is defined as a work effort up to planing cracked, rusted or oxidized pavement, providing a binder layer, providing a wearing layer, and providing an open grade friction course where specified by traffic volume or roadway type. Preventive maintenance will be performed on national highway system (excluding interstate) and state roadways. This guide does not address reconstruction projects that are beyond the scope of preventive maintenance and that require grade control. This guide also does not address elements outside of the roadway surface. These elements will be addressed in accordance with existing ALDOT procedures for resurfacing projects.

Preventive maintenance resurfacing projects will be developed as follows:

1. A scope of work inspection should be conducted on each resurfacing project by the Division. The scope team should consist of appropriate personnel as determined by the Division Engineer. FHWA should be included where appropriate. The on-site review should be conducted by the team of the entire project limits.

2. The Division should obtain appropriate accident history information for review by the scope team. The scope team should evaluate this accident history and incorporate personal knowledge of the roadway to determine if there are locations with pavement elements that should be further evaluated. These elements may include profile, cross slope and/or super-elevation adjustments.

3. The scope team should prepare a written report which includes recommendations for all work to be included in the preventive maintenance project for approval by the Division Engineer.

4. If it is determined that applying roadway element improvements, as described in No. 2 above, are not feasible due to cost considerations, right-of-way impacts, etc., a letter should be written to the Chief Engineer for approval outlining the reasons roadway element improvements are not recommended for inclusion in the project and providing alternate mitigation recommendations (such as advance speed signs, partial cross slope improvement, etc.) if appropriate.

5. Plans should be developed with typical sections and quantities addressing the following areas:
   a. Where no cross slope or super-elevation adjustments are recommended, the typical section should show "match existing." These projects should be limited to buildings of no greater than a single binder layer and wearing surfaces.
   b. On all projects designed with multiple binder layers cross slope and super-elevation correction should be made. Where cross slope and/or super-elevation warrant adjustment, the typical section should show "5% approximate or e" (in is typically 2% but can be adjusted for specific needs). A table should be provided that shows the range of existing slope, PC, and PT millspout, the required slope and the estimated planning and/or leveling to provide the corrected slope. A variable rate binder layer may be utilized in engineering cross slope corrections. Such layers will be designed in accordance with current guidelines provided by the Bureau of Materials and Tests. Super-elevation drawings should be provided so that field personnel can determine begin and end transition locations based on the PC and PT milepost.

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature]
TRANSPORTATION DIRECTOR

DATE: 01/1/2005

5-26
ALDOT GUIDELINES
ON THE USE OF CHANGEABLE MESSAGE SIGNS (CMS)
FOR AMBER ALERT MESSAGES

Changeable Message Signs (CMS) are an integral element in the State’s Intelligent Transportation System program providing timely travel information to the motorists. The Federal Highway Administration has approved the use of CMS for displays related to Amber Alerts in addition to current road conditions or specific driver safety focused campaigns; such allowance is provided if a well-established local Amber Alert plan program is in place and agencies have developed a formal policy regarding the use of CMS in such a program.

These guidelines provide for the use of ALDOT CMS, only for official child abduction alerts issued or coordinated through the Alabama Department of Public Safety (DPS) or the Alabama Emergency Management Agency (EMA) in keeping with the State’s Amber Alert Program. Only credible, real-time information, which is crucial to the safety of the victim, will be displayed on these CMS. Law enforcement activates a child abduction alert when circumstances meet Amber Alert criteria as determined by the Alabama Department of Public Safety.

ALDOT will only respond to official alert requests from the DPS in Montgomery, Alabama or EMA in Clanton, Alabama. ALDOT personnel will display the most appropriate CMS sign messages as provided herein. DPS or EMA will inform ALDOT of any changes to the Amber Alert message and will provide cancellation notice of the alert. These guidelines apply to the use of permanently installed overhead, T-mounted or cantilever CMS signs. ALDOT will not be responsible for failure to display an Amber Alert message due to sign malfunction, required maintenance, communication system failure, availability of sign or display space.

ALDOT Division/District personnel should utilize the standard message scenarios as provided herein to the fullest extent possible, selecting the scenario that best fits the descriptive information provided by law enforcement. ALDOT Central Office may assist with the selection of the standard message set for any given alert. Vehicle, license plates, and abductedee descriptions may be a part of the standard message set. The display of a contact phone number is advisable and will be provided to appropriate ALDOT personnel. Flashing beacons, if equipped, should be activated in conjunction with an Amber Alert message.

ALDOT Division/District personnel will determine if highway incident related messages, road closure and detour information etc. are to be preempted by any specific Amber Alert issued. It may be necessary to temporarily suspend display of a child abduction alert message on a sign(s) if a message needs to be displayed that warns of an immediate hazard to the traveling public. Again, authorized ALDOT personnel will make such determination. ALDOT Division/District personnel should monitor traffic during such Amber Alerts in order to determine if unintended consequences (excessive braking, pullovers, etc.) of displayed messages occur on the highway.
ALDOT GUIDELINES
ON THE USE OF CHANGEABLE MESSAGE SIGNS (CMS)
FOR AMBER ALERT MESSAGES
Page 2 of 2

RECOMMENDED FOR APPROVAL: [Signature]
BUREAU CHIEF

APPROVAL: [Signature]
CHIEF ENGINEER

APPROVAL: [Signature] 07/18/03
TRANSPORTATION DIRECTOR  DATE
### Panel 1

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**Scenario 1:**

Amber wants to design a 2D scenario with 4 panels. Panel 1 must have all the necessary information. At least two of the panels must have colored text. Each panel must have a unique color. Please ensure that all text is legible and easily readable.
### Field 1

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### Field 2

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**Important Note**: The DMS scenario 2-panorama display should be adjusted as needed.
A scenario that includes "KINDAPPEd Child" is the last of each panel.

Panel 3

Kindapper Child

Panel 2

Color Type

Panel 1

Call

Anna Arut DSM Scenario 4- Kindapper Child & Many Men.
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<td>1 2 3 A B C</td>
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GUIDELINES FOR OPERATIONS

ALABAMA DEPARTMENT OF TRANSPORTATION

POLICY FOR THE USE OF CHANGEABLE MESSAGE SIGNS

I. POLICY STATEMENT

This policy provides specific guidelines for the use of stationary and portable changeable message signs (CMS) used on Interstate and State Highway Systems in the State of Alabama. Messages displayed shall convey pertinent information to motorists, which provide positive assistance to their driving habits and decisions. Messages shall be conveyed in a standard, nonconfusing manner that allows drivers to both perceive and react to the information given in a timely fashion. Messages shall conform to the MUTCD. Furthermore, no portion of this Policy is intended to conflict with the MUTCD. Where such conflict may exist, the MUTCD shall govern.

II. PURPOSE

CMS can be used to effectively reduce congestion caused by planned or unplanned incidents such as excessive daily traffic, accidents, detours, construction delays, special events, etc. Once drivers perceive the messages to be reliable to the extent the information is relevant in assisting the motorists or reducing one’s delay, CMS can successfully be used to convey information to alter traffic patterns or modes of transportation.

III. AUTHORIZATION

The Chief Engineer, State Maintenance Engineer, State Construction Engineer or Division Engineer will authorize the use of all CMS both State-owned and Contractor furnished. Each State-owned CMS shall have a person(s) designated by the Engineer-in-Charge to be responsible for the authorization of messages to be displayed and for the care, maintenance, and security of the CMS. This person may delegate certain responsibilities in regard to the CMS but should ensure that any personnel given access to the CMS understands and adheres to this policy. Access to the CMS shall only be given to responsible individuals. The Engineer-in-Charge will ensure that efforts are coordinated such that motorists are informed of the most critical information based on the priority of messages listed below.

IV. DISPLAY OF MESSAGES ON STATIONARY CMS

Messages shall be displayed on stationary CMS in accordance with the below listed priorities. When a stationary CMS is not being used to display one of the below listed message types, it shall remain blank.
Types of messages conveyed on stationary CMS have the following priority:

1. Emergencies such as evacuations or closures required by the ALDOT, the Department of Emergency Management, local law enforcement or the military.

2. Hazardous and/or uncommon road conditions, which require motorists to alter their driving, such as severe weather conditions, accidents, work zone activities, or hazardous spills.

3. Traveler information and suggested alternate routes for delays and/or congestion caused by planned or unplanned incidents, including but not limited to estimated travel times to major junctions or points of interest.

4. Advance notice for scheduled incidents such as lane closures, road closures, or special events.

5. Other public information which assists the Department in improving highway safety and reducing congestion may be displayed after careful consideration. However, the message should encourage motorists to alter their driving. The Chief Engineer, State Maintenance Engineer, or Division Engineer must approve said messages prior to their display.

6. Amber Alert messages initiated by the Department of Public Safety and/or Emergency Management Agency.

CMS shall not display messages that in any way advertise commercial events or entities. CMS shall only display messages, which pertain to highway safety or congestion reduction. CMS shall not be used to convey the same message for an extended period of time. CMS shall not repeat guide sign or warning sign messages found on permanent sign installation unless an engineering investigation and study has determined such need. In this case, the repetition shall be of a temporary nature until existing signing schemes or other traffic control devices can be upgraded or modified. Exceptions to adherence of this Policy for the following types and uses of CMS in the MUTCD are as follows: 2B.11 Speed Limit Signs, 2B.17 Turn Prohibition Signs, 2B.48 Preferential Lane Signs, 4B.06 through 4B.07 Steady Signal Indications, 7B.11 School Speed Limit Assembly Sign, and 8B.05 and 100.06 Turn Restriction During Preemption.

V. DISPLAY OF MESSAGES ON PORTABLE CMS

Messages shall be displayed on portable CMS in accordance with the below listed priorities. When the Portable CMS is not being used to display one of the below listed message types, it shall remain blank with the exception of default "power off" displays.
Types of messages conveyed on portable CMS have the following priority:

1. Emergencies such as evacuations or closures required by the ALDOT, the Emergency Management Agency, local law enforcement, or the military.

2. Hazardous and/or uncommon road conditions which require motorists to alter their driving such as severe weather conditions, accidents, work zone activities, or hazardous spills.

3. Short term detours (mandatory).

4. Traveler information and suggested alternate routes for delays and/or congestion caused by planned or unplanned incidents.

5. Advance notice for scheduled incidents such as lane closures, road closures, or special events.

6. Other public information, which assists the Department in improving highway safety and reducing congestion, may be displayed after careful consideration. However, the message must require motorists to alter their driving. Approval for the same shall be made by the Chief Engineer, State Maintenance Engineer, or Construction Engineer.

CMS shall not display messages that in any way advertise commercial events or entities. CMS shall only display messages, which pertain to highway safety or congestion reduction. CMS should not be used to convey a message for an extended period of time that could be conveyed with a conventional warning sign. Although, such a display may be employed on a temporary basis prior to a permanent installation or solution is effected.

RECOMMENDED FOR APPROVAL:  

BUREAU CHIEF

APPROVAL:

CHIEF ENGINEER

APPROVAL:  

TRANSPORTATION DIRECTOR  

DATE
# SECTION 6

## MATERIALS

### CONTENTS

- Base and Pavement Buildups on Ramps and Crossovers ........................................ 6-1
- Materials Pit Options ......................................................................................... 6-2
- Nuclear Gauges ................................................................................................. 6-3
- Use of Cold Laid Polymer Tape ......................................................................... 6-4
- Blank (Deleted 7/5/88) ..................................................................................... 6-5
- Use of Reclaimed Metal from Old Signs ............................................................ 6-6
- Blank (Deleted 7/5/88) ..................................................................................... 6-7
- Bituminous Surface Treatments ......................................................................... 6-8
- Blank (Deleted 7/5/88) ..................................................................................... 6-9
- Bituminous Plant Mixes ..................................................................................... 6-10
- Blank (Deleted 7/5/88)

Pavement Treatment and Design in Resurfacing
Rehabilitation of Asphalt Pavements ................................................................. 6-11

Rideability Specifications for
Asphalt Plant Mix Wearing Layers .................................................................. 6-12

Required Information for Recycled
Asphalt Pavement (RAP) Mix ............................................................................. 6-13

Use of Non-Skid Aggregates for Strip Patching .................................................. 6-14

Use of Filter Blanket Beneath Riprap ................................................................. 6-15

Performance of Roadbed Processing ................................................................. 6-16
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: BASE AND PAVEMENT BUILDUPS ON RAMPS AND CROSSOVERS

Consideration should be given to reducing base and pavement design for ramps and cross-overs. The design may be reduced where feasible.

RECOMMENDED FOR APPROVAL: Larry Lockett
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR

5/20/88
DATE
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: MATERIALS PIT OPTIONS

Due to problems in securing materials options from property owners, and the fact that they are very seldom used by the contractor, the State will discontinue the securing of these options.

The pits shall be indicated as a possible source and then it becomes the contractor’s responsibility to secure permission to remove the material.

RECOMMENDED FOR APPROVAL: Larry Lockett
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King  5/20/88
HIGHWAY DIRECTOR  DATE

6-2
SUBJECT: NUCLEAR GAUGES

It will be the responsibility of the Division Materials’ Engineer to utilize Pay Items 306-A and 306-D until the State has sufficient nuclear gauges, (moisture density/asphalt thin layer) for placement on projects and for use as replacements for gauges that malfunction while on projects. Item 410-D, (Asphalt Content Gauges) will be utilized on projects with significant tonnage until sufficient gauges are inventoried by that Division for placement at asphalt plants in their Division.

In analyzing the number of gauges in inventory for each Division, consideration should be given to repair, servicing, and recalibration time for the above gauges.

RECOMMENDED FOR APPROVAL: __________________ Larry Lockett __________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: __________________ Tom Espy, Jr. __________________
CHIEF ENGINEER

APPROVAL: __________________ Royce G. King __________________ 5/30/89
HIGHWAY DIRECTOR  DATE

6-3 Rev. 6/89
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: USE OF COLD LAID POLYMER TAPE

Cold Laid Polymer Tape may be used as an alternate to thermoplastic on long line applications (center-line, edge lines, etc.) assuming the material will perform equally or better than other materials. Polymer tape should be considered as an effective use of material on high volume urban roadways due to elimination of temporary striping requirements.

RECOMMENDED FOR APPROVAL: P.L. Cain
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE
SUBJECT: USE OF RECLAIMED METAL FROM OLD SIGNS

Reclaimed metal from old signs should be used for sign blanks on new construction to the extent practical. The use of reclaimed metal for sign blanks must be provided for on the plans and/or by special provision. Test reports will not be required on the reclaimed metal.

RECOMMENDED FOR APPROVAL: P.L. Cain  
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.  
CHIEF ENGINEER

APPROVAL: Royce G. King  5/20/88  
HIGHWAY DIRECTOR  DATE

6-6
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATION

SUBJECT: BITUMINOUS SURFACE TREATMENTS

UNDER THIN OVERLAYS

During the preliminary engineering phase of all paving projects (especially resurfacing projects) a determination will be made as to the advisability/desirability of placing a bituminous surface treatment directly beneath a thin overlay, or wearing surface only. On resurfacing projects, if it is determined that the in-place pavement structure will remain extensively cracked after the completion of milling operations, consideration should be given to placing a bituminous surface treatment to help seal off the remaining pavement structure and underlying layers from water infiltration.

In general, on those projects wherein the number of 18-kip ESALs is less than or equal to 3,000,000 (based upon a 20-year traffic projection), it will be acceptable to place a Bituminous Surface Treatment, Type “E”, directly beneath a wearing surface if the in-place pavement structure remains extensively cracked after the completion of milling operations; however, this practice is not recommended for intersections or other areas where there are numerous stopping/starting movements.

On interstate routes and other high traffic volume routes (number of 20-year 18-kip ESALs greater than 3,000,000), at least one binder layer and a wearing surface must be placed on top of the Bituminous Surface Treatment, Type “E”.

6-8

Rev. 10/09
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<td>NO</td>
<td>NOT RECOMMENDED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>ESALs ≥ 3.0 X 10⁷</td>
<td>YES</td>
<td>NOT RECOMMENDED</td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>ESALs ≥ 3.0 X 10⁷</td>
<td>NO</td>
<td></td>
<td>Type &quot;E&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESALs ≥ 3.0 X 10⁷</td>
<td>YES</td>
<td></td>
<td>NOT RECOMMENDED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESALs ≥ 3.0 X 10⁷</td>
<td>NO</td>
<td></td>
<td>Type &quot;E&quot;, at a minimum one binder layer and a wearing surface placed on top of the Bituminous Surface Treatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESALs ≥ 3.0 X 10⁷</td>
<td>YES</td>
<td></td>
<td>NOT RECOMMENDED</td>
<td></td>
</tr>
</tbody>
</table>

All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic.
WATERPROOFING LAYER ON BASE COURSES

The main purpose of a waterproofing layer utilized on base courses is to seal these bases which have to “sit out” over the winter before the overlying layer can be placed; therefore, a bituminous surface treatment may be placed on the upper layer base course on construction projects. A Bituminous Surface Treatment, Type “E”, should be placed on the upper layer base course when it is a bituminous plant mix base course layer, and a

Bituminous Surface Treatment, Type “AE”, should be placed on the upper layer base course when it is a crushed aggregate base or a soil binder type base course.

The bituminous surface treatment should be included in the original pavement design, but it will not carry a structural coefficient number. The bituminous surface treatment should also be included in the construction plan assembly and should be shown in the plan assembly as being required on the upper layer of base. If the upper layer of base will not be placed by the time winter rains become numerous (usually around November), the bituminous surface treatment should be placed on a lower layer of base to prevent saturation of the base and subgrade during the winter season.

If a bituminous surface treatment is included in the plan assembly for use as a waterproofing layer as outlined above, it must be utilized. It cannot be included in the plan assembly as a contingency item.

6-8.2

Rev. 10/09
### TABLE 2

**RECOMMENDED APPLICATIONS FOR WATERPROOFING LAYER ON BASE COURSES**

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>UPPER BASE COURSE TYPE</th>
<th>INCLUDE IN THE ORIGINAL PAVEMENT DESIGN</th>
<th>STRUCTURAL LAYER COEFFICIENT NUMBER</th>
<th>INCLUDE IN CONSTRUCTION PLAN ASSEMBLY (Note 1)</th>
<th>SHOWN IN THE PLAN ASSEMBLY AS BEING REQUIRED ON THE UPPER LAYER OF BASE</th>
<th>BITUMINOUS SURFACE TREATMENT (Note 2)</th>
<th>POLYMER MODIFIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATERPROOFING LAYER</td>
<td>BITUMINOUS PLANT MIX BASE COURSE</td>
<td>YES</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
<td>Type &quot;E&quot;</td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
<tr>
<td>WATERPROOFING LAYER</td>
<td>CRUSHED AGGREGATE BASE COURSE</td>
<td>YES</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
<td>Type &quot;AE&quot;</td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
<tr>
<td>WATERPROOFING LAYER</td>
<td>SOIL BINDER TYPE BASE COURSE</td>
<td>YES</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
<td>Type &quot;AE&quot;</td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
</tbody>
</table>

**Notes:**

*Note 1*: If a bituminous surface treatment is included in the assembly for use as a waterproofing layer as outlined above, it must be utilized. It cannot be included in the plan assembly as a contingency item.

*Note 2*: If the upper layer of base will not be placed by the time winter rains become numerous (usually around November), the bituminous surface treatment should be placed on a lower layer of base to prevent saturation of the base and subgrade during the winter season.

6-8.3

Rev. 10/09
PRIME TREATMENTS ON GRANULAR BASE COURSES

When no public traffic is expected to be placed on a granular base layer, a prime coat (Bituminous Surface Treatment, Type “A”) should be used on all granular base layers prior to the placement of a bituminous plant mix layer on top of the granular base. If any public traffic or a significant amount of contractor traffic will be placed on the granular base layer, a Bituminous Surface Treatment, Type “AE”, will be placed on the granular base layer prior to the placement of a bituminous plant mix layer. It will be acceptable to place a Bituminous Surface Treatment, Type “E”, in lieu of “AE”, if it is placed before the granular base starts to dry out and the moisture level becomes too low.

If a permeable asphalt treated base (PATB) layer is to be placed on a granular base layer, a geotextile separator layer will be used between the Bituminous Surface Treatment, Type “A”, and the PATB, or a Bituminous Surface Treatment, Type “E”, will be used between the Bituminous Surface Treatment, Type “A” and the PATB. Before a PATB layer can be placed on a bituminous surface treatment, the bituminous surface treatment must be inspected to check for any discontinuities (cracks, tears, or breaks) in the bituminous surface treatment application. If any discontinuities in the bituminous surface treatment are found to exist, they must be repaired prior to the placement of the PATB layer.

The best way to ensure that our granular bases do not become saturated from infiltrated water is to place a prime treatment on all granular bases. The prime treatment will act as moisture barrier against infiltrated water entering the pavement substrata and will also serve as a separator layer to keep fines from contaminating a permeable base being placed on a granular layer.
### Table 3: Recommended Applications for Prime Treatments on Granular Base Courses

<table>
<thead>
<tr>
<th>Upper Base Course Type</th>
<th>Prime Treatment</th>
<th>Exposure to Traffic Note 1</th>
<th>Bituminous Surface Treatment Type (Separator Layer)</th>
<th>Required Separator Layer</th>
<th>Polymer Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granular</td>
<td>Bituminous Surface Treatment</td>
<td>No</td>
<td>Type &quot;A&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Granular</td>
<td>Bituminous Surface Treatment</td>
<td>Yes</td>
<td>Type &quot;AE&quot; Note 2</td>
<td></td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
<tr>
<td>Granular</td>
<td>Permeable Asphalt Treated Base (PATB)</td>
<td>No</td>
<td>Type &quot;AE&quot; Note 3</td>
<td>Bituminous Surface Treatment Type &quot;E&quot; between the Bituminous Surface Treatment and the PATB Note 3</td>
<td></td>
</tr>
<tr>
<td>Granular</td>
<td>Permeable Asphalt Treated Base (PATB)</td>
<td>No</td>
<td>Type &quot;A&quot; With Geotextile Separator Note 3</td>
<td>Geotextile Separator Layer between the Bituminous Surface Treatment and the PATB Note 3</td>
<td></td>
</tr>
<tr>
<td>Granular</td>
<td>Permeable Asphalt Treated Base (PATB)</td>
<td>Yes</td>
<td>Type &quot;AE&quot;</td>
<td>Bituminous Surface Treatment Type &quot;E&quot; between the Bituminous Surface Treatment and the PATB Note 3</td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
<tr>
<td>Granular</td>
<td>Permeable Asphalt Treated Base (PATB)</td>
<td>Yes</td>
<td>Type &quot;A&quot;</td>
<td>Geotextile Separator Layer between the Bituminous Surface Treatment and the PATB Note 3</td>
<td>All bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic</td>
</tr>
</tbody>
</table>

**Notes:**

1. Traffic is defined as any public traffic or a significant amount of contractor traffic.
2. It will be acceptable to place a Bituminous Surface Treatment, Type "E", in lieu of Type "AE", if it is placed before the granular base starts to dry out and the moisture level becomes too low.
3. Before a PATB layer can be placed on a bituminous surface treatment, the bituminous surface treatment must be inspected to check for any discontinuities (cracks, tears, or breaks) in the bituminous surface treatment application. If any discontinuities in the bituminous surface treatment are found to exist, they must be repaired prior to the placement of the PATB layer.

---

6-8.5 Rev. 10/09
POLYMER MODIFIERS

Polymer modifiers shall be used in the liquid asphalt for all bituminous surface treatment applications on the mainline roadway and shoulders where the surface treatment is to be subjected to traffic.

PLACEMENT

Unless otherwise directed by the Engineer, any bituminous surface treatments shown on typical section sketches in plan assemblies must be placed in the order shown on the typical section sketches.

Recommended for Approval:  
Larry Schoett  
Bureau Chief/Division Engineer

Approval:  
Chief Engineer

Approval:  
Transportation Director  10/28/09  Date
STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR OPERATIONS

SUBJECT: BITUMINOUS PLANT MIXES

1. The Design Agency will specify the design layers and pay items on the plans and these shall be followed during construction unless a change is specifically approved and documented.

2. DESIGNATION OF MIXES

   Bituminous Wearing Surface Layer
   The primary designation for the wearing surface shall be one of the following:
   420A- Polymer Modified Open Graded Friction Course (OGFC)
   423A- Stone Matrix Asphalt (SMA) Wearing Layer
   424A- Superpave Bituminous Concrete Wearing Surface Layer

   Bituminous Binder Layer
   The primary designation for the binder shall be one of the following:
   423B- Stone Matrix Asphalt Binder Layer
   424B- Superpave Bituminous Concrete Upper Binder Layer
   424B- Superpave Bituminous Concrete Lower Binder Layer

   Bituminous Base Layer
   The primary designation for the base shall be:
   424C- Superpave Bituminous Concrete Base Layer

   For the Section 424 items as noted above, the definitive pay item designation will include the appropriate unique number, the descriptive terminology upper, lower, patching, leveling, or widening, as appropriate, along with the maximum aggregate size mix, the appropriate ESAL Range designation, and the unit designation.

   For the Section 423 (SMA) items as noted above, the definitive pay item designation will include the appropriate unique number, the maximum aggregate size mix, and the unit designation.

   When Section 420 (OGFC) is specified, it will always be placed on top of a Section 424A, or 423A mix. Unless there is a surface texture requirement tied to any required milling operations, the placement of a Section 420 (OGFC) mix directly upon a milled surface is undesirable.
For the wearing surface, binder and base mixes the specified laydown rates should be as follows:

<table>
<thead>
<tr>
<th>Type of Mix</th>
<th>Maximum Aggregate Size</th>
<th>Laydown Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wearing Surface</td>
<td>--</td>
<td>90 Lb/SY</td>
</tr>
<tr>
<td>(420A-)</td>
<td>--</td>
<td>50 kg/m²</td>
</tr>
<tr>
<td>Wearing Surface</td>
<td>3/8 in. 9.5 mm</td>
<td>80 – 110 Lb/SY</td>
</tr>
<tr>
<td>(424A-, 423A-)</td>
<td></td>
<td>45 – 60 kg/m²</td>
</tr>
<tr>
<td>Wearing Surface</td>
<td>1/2 in. 12.5 mm</td>
<td>135 – 155 Lb/SY</td>
</tr>
<tr>
<td>(424A-, 423A-)</td>
<td></td>
<td>75 – 85 kg/m²</td>
</tr>
<tr>
<td>Wearing Surface</td>
<td>3/4 in. 19.0 mm</td>
<td>165 – 220 Lb/SY</td>
</tr>
<tr>
<td>(424A-)</td>
<td></td>
<td>90 – 120 kg/m²</td>
</tr>
<tr>
<td>Binder</td>
<td>3/4 in. 19.0 mm</td>
<td>165 – 220 Lb/SY</td>
</tr>
<tr>
<td>(424B-, 423B-)</td>
<td></td>
<td>90 – 120 kg/m²</td>
</tr>
<tr>
<td>Binder</td>
<td>1 in. 25.0 mm</td>
<td>250 – 350 Lb/SY</td>
</tr>
<tr>
<td>(424B-, 423B-)</td>
<td></td>
<td>135 – 190 kg/m²</td>
</tr>
<tr>
<td>Binder</td>
<td>1 1/2 in. 37.5 mm</td>
<td>330 – 350 Lb/SY</td>
</tr>
<tr>
<td>(424B-)</td>
<td></td>
<td>180 – 190 kg/m²</td>
</tr>
<tr>
<td>Base</td>
<td>1 in. 25.0 mm</td>
<td>250 – 350 Lb/SY</td>
</tr>
<tr>
<td>(424C-)</td>
<td></td>
<td>135 – 190 kg/m²</td>
</tr>
<tr>
<td>Base</td>
<td>1 1/2 in. 37.5 mm</td>
<td>330 – 350 Lb/SY</td>
</tr>
<tr>
<td>(424C-)</td>
<td></td>
<td>180 – 190 kg/m²</td>
</tr>
</tbody>
</table>

3. **DETERMINATION OF ESAL RANGE**

For the Section 424 mixes, the number of 18-kip (80kN) equivalent single axle loads (ESALs) in the design lane for a traffic analysis period of 20 years must be calculated in order to determine the applicable ESAL Range from the specifications. For the Section 423 (SMA) and Section 420 (OGFC) mixes, the designation of an ESAL Range is not applicable.

The number of ESALs in the design lane over the 20-year traffic analysis period is

6 - 10.1

Rev. 9/09
is calculated as follows:

$$ESALs = \frac{(C+P)(TADT)(0.99)(FDD)(FLD)(7300)}{2}$$

Where:

- **C** = Current or initial, average annual daily traffic (AADT) volume.
- **P** = Projected or future, AADT volume in 20 years.
- **TADT** = Percent commercial vehicles expressed in decimal format.
- **0.99** = Truck weight distribution factor or average number of 18-kip (80 kN) ESALs applied per truck.
- **FDD** = Directional distribution factor. Use 0.50 unless specified otherwise by Transportation Planning and Modal Programs Bureau.
- **FLD** = Lane distribution factor. Use values selected from the following:

<table>
<thead>
<tr>
<th>Number of Lanes in One Direction</th>
<th>FLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>2</td>
<td>0.95</td>
</tr>
<tr>
<td>&gt;2</td>
<td>0.70</td>
</tr>
</tbody>
</table>

- **7300** = Number of days in 20 years or (20 X 365).

Traffic data used in calculating the number of ESALs should be project specific and should be obtained from the Transportation Planning and Modal Programs Bureau. The current or initial AADT volume should correspond to the year in which the project will be let to contract, with the projected or future AADT volume being 20 years thereafter. The designer is admonished not to “factor up” old traffic that he/she may have on file in order to obtain current and projected traffic volumes for a project.

If the project specific traffic data provides varying traffic volumes along the project (e.g., numerous turning movements), varying number of lanes along the project (e.g., 2-lane section going to a 4-lane section, etc.) and/or if the project traverses both a rural area and an urbanized area, the ESAL Range specified shall be that which corresponds to the highest number of 20-year ESALs along the project.

If the traffic data provides one value of TADT for the current traffic volume and a different value of TADT for the projected traffic volume, then the current and projected traffic volumes should be multiplied by their respective TADT values.
and the resulting values should be used for “C” and “P” in the preceding equation. In this situation, the TADT term has been eliminated as a single multiplier on the right-hand side of the equation and has in fact been incorporated into the individual “C” and “P” terms.

For the ESAL Range shown in the specifications wherein the number of ESALs is greater than or equal to $1.0 \times 10^7$ but less than $3.0 \times 10^7$, a polymer modified liquid asphalt will be required in the mix for the wearing surface and the upper layer of binder material for Section 424 mixes. If only one binder layer is required for those projects falling in said ESAL Range, the binder layer will in fact be designated as the upper binder layer.

For those projects in the above described ESAL Range that require multiple lifts of binder material, the final lift of binder material will be designated as the upper binder layer and will be the only lift of binder material that requires the polymer modifier in the liquid asphalt used for the mix. The other lift(s) of binder material necessary to complete the total laydown that is required will carry the lower binder designation. In general, based upon Strategic Highway Research Program findings, the combined thickness of the bituminous wearing surface and the upper binder layer constructed with polymer modified liquid asphalt shall not exceed 4 inches (100 mm).

If it is determined that the number of 20-year ESALs for a project is equal to or greater than $3.0 \times 10^7$, Section 423 (SMA) mixes should be utilized on the project, with the total placement thickness not to exceed 4 inches (100 mm). Any additional mainline bituminous plant mix layers that are required beneath the SMA mixes to meet structural requirements should consist of Section 424 mixes having a designated ESAL Range wherein the number of ESALs is equal to or greater than $1.0 \times 10^7$ but less than $3.0 \times 10^7$. Also, if the project is a new construction project or lane addition project wherein pavement edge drains are being recommended, Section 327E, Permeable Asphalt Treated Base (PATB), should also be utilized as one of the layers underlying the SMA mixes. If PATB is used as part of the pavement structure, the desired placement thickness is 4 inches (100 mm).

**EXAMPLE ESAL CALCULATIONS:**

Example A:  
1. Four Lane Rural Project  
   (Two lanes in one direction)  
2. C = 5000 vehicles per day  
3. P = 8000 vehicles per day  
4. TADT = 17%  
5. Directional split is 50-50, or FDD = 0.50

Determine: The number of ESALs that should be used to select the

6 - 10.3

Rev. 9/09
ESAL Range.

Solution: From the table of lane distribution factors, FLD = 0.95 for four lane rural roadway.

\[
\text{ESALs} = \frac{(5000+8000)(0.17)(0.99)(0.50)(0.95)(7300)}{2}
\]

\[
\text{ESALs} = 3,793,272
\]

Example B:

1. Four Lane Urban Project  
   (Two lanes in one direction)
2. \( C = 18,500 \) vehicles per day  
   TADT = 20\%
3. \( P = 27,500 \) vehicles per day  
   TADT = 25\%
4. Directional split is 50-50, or FDD = 0.50

Determine: The number of ESALs that should be used to select the ESAL Range.

Solution: From the table of lane distribution factors, FLD = 0.85 for four lane urban roadway.

\( C = 18,500 \times 0.20 = 3700 \)
\( P = 27,500 \times 0.25 = 6875 \)

\[
\text{ESALs} = \frac{(3700+6875)(0.99)(0.50)(0.85)(7300)}{2}
\]

\[
\text{ESALs} = 16,240,424
\]

For those projects having varying traffic volumes, non-constant TADT values, and/or variable number of lanes, it may be desirable to coordinate the determination of the applicable ESAL Range with the Materials Section of the Bureau of Materials and Tests.

In calculating the number of ESALs, please do not round off intermediate numerical values for successive steps of the ESAL calculation. Wait until the final numerical value is obtained and then round off to the nearest whole number digit. The number of ESALs calculated and the resulting ESAL Range should be clearly stated in the materials write-up for the project. The actual ESAL calculation should also be included in the materials write-up as backup documentation.
4. Bituminous Plant Mix for Shoulders

Depending upon the project, bituminous plant mix layers placed on the shoulders may consist of Section 424 mixes, Section 423 (SMA) mixes, or a combination of Section 424 and Section 423 (SMA) mixes.

In general, for those projects utilizing Section 424 mixes, the bituminous plant mix layers placed on the shoulders will have the same ESAL Range designation as that required for the mainline travelway, except for those projects wherein the number of 20-year ESALs is equal to or greater than $1.0 \times 10^7$, but less than $3.0 \times 10^7$. On projects that fall in this category, the bituminous plant mix layers required for narrow width shoulders (usually inside shoulders) should have the same ESAL Range designation as that of the mainline travelway. For the outside shoulders (usually placed as a separate pass) on such projects, the bituminous plant mix layers that are required should be designated as the ESAL Range wherein the number of ESALs is equal to or greater that $1.0 \times 10^8$, but less than $1.0 \times 10^9$.

For those projects utilizing SMA mixes on the mainline travelway, the same SMA mix should be used on narrow width shoulders on the project. The bituminous plant mix layers for the outside shoulders (usually placed as a separate pass) on such projects should consist of Section 424 mixes and the designated ESAL Range for the Section 424 mixes should be such that the number of ESALs is equal to or greater than $1.0 \times 10^6$, but less than $1.0 \times 10^7$.

When it is determined to be advantageous to the department as a result of (1) cost savings, (2) traffic handling safety, or (3) construction practices or procedures, the ESAL Range for inside shoulders of divided highways and shoulders of ramps should be the same as the plant mix layers of the travelway lanes to which they are adjacent. Simultaneous placement of the inside lane and narrow width inside shoulder should be encouraged in order to reduce traffic control and traffic flow disruption.

For projects that require a small amount of shoulder paving, it will be acceptable for the shoulder plant mix to have the same ESAL Range and/or mix designation (424, 423) as that of the mainline travelway.

If a shoulder is to be used as a travel lane during construction operations, the shoulder plant mix should have the same ESAL Range designation as that of the mainline travelway with the exception of Section 423 (SMA). Section 423 (SMA) will not be used on the shoulder to facilitate traffic handling during construction operations. Also on widening/lane addition projects wherein traffic is shifted onto
the shoulders to facilitate construction, carbonate stone restrictions should apply to the bituminous plant mix wearing layer placed on the shoulders if it is anticipated that traffic will be utilizing the shoulders for a period of six months or longer. This requirement should be handled by a plan note.

5. Bituminous Plant Mix for Ramps

In general, the bituminous plant mix layers placed on the ramp travelway should have the same ESAL Range and/or mix designation (424, 423) as that of the mainline travelway and this should also apply to any bituminous plant mix applications that are required for the shoulders adjacent to the ramp travelway, except that Section 423 (SMA) mixes should not be used for patching, leveling, or widening (See item No. 7 below).

In general, if Section 420 (OGFC), is specified for the mainline travelway, it should also be used on the acceleration/deceleration lanes. Section 420 (OGFC) on the ramp should not extend more than 100 feet up the ramp from the gore. Since Section 420 (OGFC) does not taper down well, a 1" deep wedge should be removed from the underlying layer to allow tie-in of the Section 420 (OGFC) to the ramp travelway.

6. Bituminous Plant Mix for Crossovers

For those projects wherein the number of 20-year ESALs is less than $1.0 \times 10^7$, the bituminous plant mix layers placed on crossovers should have the same ESAL Range designation as that required for the mainline travelway.

In general, for those projects wherein the number of 20-year ESALs is equal to or greater than $1.0 \times 10^7$, the bituminous plant mix layers placed on crossovers should be designated as the ESAL Range closest to but less than $1.0 \times 10^7$ ESALs.

Section 423 (SMA) mixes are not recommended for and should not be utilized for crossovers.

7. Patching, Leveling and Widening

Section 424 mixes should be utilized for patching, leveling and widening operations on projects. Section 423 (SMA) mixes are not recommended for and should not be used for these types of operations (pay items).

8. Project Application of Mixes

A. Section 424, Superpave Bituminous Concrete Wearing Surface, Binder and Base Layers

6 - 10.6
These mixes are recommended for all projects except those projects wherein the number of 20-year ESALs is equal to or greater than $3.0 \times 10^7$.

B. Section 423, Stone Matrix Asphalt (SMA) (Fiber Stabilized Asphalt Concrete)

These mixes should be used on those projects wherein the number of 20-year ESALs is equal to or greater than $3.0 \times 10^7$. These mixes may also be used on those projects where rutting is a significant problem, such as occurs at intersections.

As previously noted, these mixes are not recommended for and should not be used for patching, leveling and widening operations (pay items) on projects.

C. Section 420, Polymer Modified Open Graded Friction Course (OGFC)

The service life of this mix typically ranges from 6 to 8 years, thus making the use of this mix a very costly investment with respect to life-cycle cost. Accordingly, the use of this mix should be restricted to flexible pavement projects or portions thereof that have had wet weather crashes. Also other countermeasures such as advisory signs (slippery when wet, advisory speed signs, etc.) could be used.

Wet weather crash data from the hazardous elimination system or other sources must be documented in the materials report for the use of OGFC to be considered. When evaluating the crash data, possible areas to be considered are steep grades, superelevated sections, horizontal curves, and/or other geometric configurations where there is an overriding tendency for water to flow longitudinally (downgrade) on the pavement and then transversely across the pavement in a superelevated section, causing a sheet flow condition.

Use of OGFC in this application is considered to be for the purpose of eliminating a hazardous condition. OGFC use is therefore a part of the hazard elimination system. Any use of crash data in this application shall be for the express purpose of hazard elimination and, thus, considered to be within the confidentiality provisions of 23 U.S.C. Section 409. Any OGFC use as outlined above shall be reported to the safety programs manager of the Transportation Planning and Modal Programs Bureau.

Any exceptions to this guideline must have approval from the Chief Engineer.
D. Section 327E, Permeable Asphalt Treated Base (PATB)

This mix should only be used in conjunction with pavement edge drains on a project by project basis as conditions warrant. As previously noted, the desired placement thickness for this mix, if used, is 4 inches (100mm).

Since there are no density requirements on Section 327E (PATB), and in consideration of the open-graded nature of the mix, it is important to have sufficient bituminous plant mix material above the PATB to support the anticipated traffic loadings.

In consideration of the above, the use of PATB on projects is to be limited to those projects wherein the required structural number (SN) is high enough to require a minimum of six inches of bituminous plant mix material above the PATB.

NOTES:

Note 1
In consideration of permeability issues, under no circumstances is a ¾” maximum aggregate size SMA wearing layer to be shown as being specified/required for any project.

Note 2
A special provision will be required if the specified placement rate for a ¾” maximum aggregate size wearing layer mix is in excess of 200 Lb/SY.

Note 3
The use of 1 1/2 “ maximum aggregate size mixes should be held to a minimum, except for use in narrow-width (3 ft. (1 m) or less) widening applications.

Note 4
In an effort to afford paving contractors the opportunity to achieve optimum ride quality on new construction projects, the upper lift of bituminous binder mix should be specified, when possible, at 250 Lb/SY to 300 Lb/SY. When determining which rate to specify within the range of 250 Lb/SY to 300 Lb/SY, consideration should be given to meeting the structural number (SN) requirements of the project, as well as to the types, application rate, and number of lifts of bituminous plant mix materials above and below the upper lift of bituminous binder mix. In other words, layers of material above and below the upper lift of bituminous binder mix can possibly be adjusted to help ensure that the upper lift of bituminous binder mix is placed at a rate that falls within the range of 250 Lb/SY to 300 Lb/SY while still meeting the SN requirements of the project.

To the extent practical, consideration should be given to using an application rate of 6 - 10.8
250 Lb/SY to 300 Lb/SY for the upper lift of binder mix if used on resurfacing projects. When specifying a placement rate for plant mix layers on a resurfacing project, consideration should be given to the depth of any required milling prior to resurfacing, the sequence of construction, and to the traffic handling scheme. A drop-off in excess of 2" is not allowed between travel lanes or between a travel lane and shoulder. Specifying a bituminous plant mix application rate in the range of 250Lb/SY to 300 Lb/SY could result in the requirement of a wedge of material to prevent having a drop-off in excess of 2".

Note 5
For those project falling in the ESAL Range wherein the number of ESALs is greater than or equal to $1.0 \times 10^6$ but less than $1.0 \times 10^7$, if the actual calculated number of ESALs is 6,000,000 or greater, and there are numerous stopping and starting movements within the project limits, it will be acceptable to specify mixes for the project corresponding to the ESAL Range wherein the number of ESALs is greater than or equal to $1.0 \times 10^7$ but less than $3.0 \times 10^7$.

Note 6
On individual projects wherein you can reasonably expect the fine aggregate for the hot mix asphalt to consist of material from a manufactured source, for those maximum size aggregate (½", ¾", 1", and 1 ½") mixes having an acceptable range given for the placement rate, consideration should be given to specifying a placement rate other than the minimum provided for the range in order to help ensure that density requirements are met.

Note 7
On new construction projects for State routes, the minimum hot mix asphalt (HMA) thickness to be placed for the travelways, in addition to the other pavement structural layers (e.g. soil aggregate base, crushed aggregate base, improved roadbed, etc.), is five (5) inches. If the required design structural number (SN) is such that the resulting total HMA thickness is less than five (5) inches, taking into account the other pavement structural layers necessary to achieve the required SN, the placement rate of the HMA layers shall be adjusted as required in order to achieve a total HMA thickness of five (5) inches. Any necessary adjustments in the HMA placement rates to achieve the total HMA thickness of five (5) inches shall adhere to the established placement rate range for the applicable maximum aggregate size. An example of an HMA layering scheme to obtain the five (5) inch thickness is as follows:

140 LB/SY Wearing Layer (1/2" maximum aggregate size)
165 LB/SY Upper Binder Layer (3/4" maximum aggregate size)
250 LB/SY Lower Binder Layer (1" maximum aggregate size)

The total HMA thickness of five (5) inches is based upon using a structural layer coefficient of 0.54 per inch of thickness for the HMA binder and wearing layers. The 0.54 layer coefficient is to be used in lieu of the 0.44 layer coefficient previously used for Section 423 and Section 424 wearing layers and binder layers, with the 0.54 value.
having been determined from flexible pavement structural experiments/studies conducted on these layers in 2003 and 2006 at the National Center for Asphalt Technology (NCAT) test track facility and documented in a subsequent NCAT research report entitled "RECALIBRATION OF THE ASPHALT LAYER COEFFICIENT".

The 0.54 layer coefficient WILL NOT apply to Section 420, Polymer Modified Open Graded Friction Course. This mix was not included in the aforementioned structural experiments/studies and accordingly, the layer coefficient for this mix will remain at the previously assigned 0.44 value when this mix is approved for use on a project.

RECOMMENDED FOR APPROVAL:  

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL:  

CHIEF ENGINEER

APPROVAL:  

TRANSPORTATION DIRECTOR  

DATE  

Oct 19, 2005
STATE OF ALABAMA

DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR OPERATION

SUBJECT: PAVEMENT TREATMENT AND DESIGN IN RESURFACING – REHABILITATION OF ASPHALT PAVEMENTS

BUILD-UP:

Roadways that are to be resurfaced or rehabilitated should be given careful evaluation and designed so that the most cost effective treatment is used. This evaluation must consider the existing condition of the roadway to include not only the surface but the subsurface layers. All roadways should be cored to determine the structural condition of the underlying asphalt layers. Milling the existing surface should be considered when there is sufficient existing plant mix to maintain structural stability, and when one or more of the following conditions exist: (1) rutting, (2) oxidized and hardened pavement, (3) extensive surface cracking, (4) template improvement is needed. Written justification for not milling must be included in the materials report for the resurfacing project.

When milling is not desirable, sufficient amounts of leveling must be utilized to ensure a stable base material and a proper template so that compaction can be obtained on the overlying layer. Bituminous surface treatments should be considered when cracking and oxidized pavements exist. Unless otherwise directed by the Engineer, any bituminous surface treatments shown on typical section sketches in plan assemblies must be placed in the order shown on the typical section sketches. Please see Guidelines for Operation 6-8, Bituminous Surface Treatments, for guidance on the use of surface treatments.

When determining the amount of additional structural overlay to be utilized, consideration should be given to the original design build-up, the results from the falling weight deflectometer (FWD) analysis (when used) and to any significant loss of structural capacity as evidenced by the cores. When it is not economically feasible to provide the total structural design that is apparently needed, consideration should be
given to providing sufficient build-up for current traffic, with plans for future overlays as traffic increases. Managing our pavements and using available funds to achieve optimum life in our pavements should always be considered in each pavement design.

**SHOULDERs:**

As soon as practical after resurfacing, any unpaved shoulder areas should be brought up to the grade of the newly placed overlay by flushing the shoulders with a suitable borrow material or other suitable material. The material that is utilized for this purpose should have suitable binder or cohesive properties to keep the material in place and to help prevent it from being washed away during rainfall events. Vehicles, such as 18-wheelers pulling off onto the material, can also cause the material to be lost if it does not have suitable binder or cohesive properties.

Simply specifying an A-4 or better material to be placed on the shoulders will not ensure that the material will not be washed away or otherwise lost. Specifying an A-4 or better material to be placed on the shoulders could result in a sandy material with no binder or cohesive properties being used to flush the shoulders, which is undesirable.

Preferably, some type of soil aggregate base course material, crushed aggregate base course material, crusher run material, or other materials with similar binder or cohesive properties should be used to flush the shoulders adjacent to an overlay, when required. Materials reports that are submitted for resurfacing projects should specify the material that is to be used to flush the shoulders when this operation is required.

Recommended for Approval: [Signature]
Bureau Chief/Division Engineer

Approval: [Signature]
Chief Engineer

Approval: [Signature]
Transportation Director

Date: 12/05/07

6-11.1

Rev. 10/07
SUBJECT: RIDEABILITY SPECIFICATIONS FOR ASPHALT PLANT MIX WEARING LAYERS.

Rideability specifications utilizing the California type profilograph shall be included in contracts meeting the following criteria:

1. On new construction projects.

2. On resurfacing projects, where a minimum plant mix build-up of a wearing layer and a binder layer of uniform thickness is specified.

Exceptions to the above may be made for roads exhibiting poor geometric characteristics (e.g., a preponderance of horizontal and/or vertical curves, large degrees of curvature, or numerous intersecting side streets) and for urban streets and roads having a posted speed limit less than 40 miles per hour.

RECOMMENDED FOR APPROVAL

BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Ray J. Bass
CHIEF ENGINEER

APPROVAL: Carl Sondheimer
TRANSPORTATION DIRECTOR

DATE: July 23, 2001

6-12 Rev. 05-01
STATE OF ALABAMA
HIGHWAY DEPARTMENT
GUIDELINES FOR OPERATION

SUBJECT: REQUIRED INFORMATION FOR RECYCLED ASPHALT PAVEMENT (RAP) MIX

To assist the Contractor, the type of aggregate and the Los Angeles Abrasion or the Duval Wear Value, whichever is appropriate, will be furnished for the coarse aggregate used in the layer of bituminous plant mix to be milled. In addition, data concerning the original job mix formula of the material to be milled, including gradation, crushed particle count of the aggregate, the percent of asphalt, etc., will be furnished. Job mix formula and aggregate information is available from the Bituminous and Aggregate Laboratories, respectively, of the Bureau of Materials and Tests.

All of the above information should be presented on the proper plan sheets or notes of the plan assembly for the project.

Any additional information that may be of assistance to the Department or the Contractor will be given consideration.

RECOMMENDED FOR APPROVAL: ___________ Larry Lockett ___________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: ___________ Tom Espy, Jr. ___________
CHIEF ENGINEER

APPROVAL: ___________ Royce G. King ___________ 7/7/88
HIGHWAY DIRECTOR DATE

6-13 Rev. 7/88
SUBJECT: USE OF NON-SKID AGGREGATES FOR STRIP PATCHING

The use of non-skid aggregates (slag, crushed quartz river gravel, granite, etc.) for patching and routine maintenance will be restricted to high traffic volume interstate and primary roadways.

RECOMMENDED FOR APPROVAL: __________Larry Lockett_________________
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _______Tom Espy, Jr.___________
CHIEF ENGINEER

APPROVAL: ___________Royce G. King____________ 5/20/88
HIGHWAY DIRECTOR DATE
SUBJECT: USE OF FILTER BLANKET BENEATH RIPRAP

A filter blanket either aggregate or fabric should be used under all riprap installations used for permanent erosion control. For example, on projects in which pay item 610A is established for permanent erosion control, an equal quantity of item 610D filter blanket should also be established. Likewise, when pay item 610C is used, a quantity of item 610D filter blanket sufficient to underlie all riprapped areas should be used.

Guidelines according to the type filter blanket should be those outlined in Section 610 of the Standard Specifications.

RECOMMENDED FOR APPROVAL: Larry Lockett
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King 5/20/88
HIGHWAY DIRECTOR DATE

6-15
SUBJECT: PERFORMANCE OF ROADBED PROCESSING

Roadbed Processing will be eliminated on Grade and Drain Projects. It will be included in the Base and Pave portion.

RECOMMENDED FOR APPROVAL: Wm. J. Hartzog
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: Tom Espy, Jr.
CHIEF ENGINEER

APPROVAL: Royce G. King
HIGHWAY DIRECTOR 5/20/88
DATE

6-16