

TOWN OF HOMER

CONSTRUCTION DOCUMENTS

FOR

RESURFACING OF

ATHENS ST AND LYNN DR

SECTION 00100
Instructions to Bidders

1.01 CONTRACT DOCUMENTS

- A. The Contract Documents include the Contract Agreement, Advertisement for Bids, Instructions to Bidders, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the Owner prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings, and addenda, together with written amendments, change orders, field orders and the Engineer's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.
- B. Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils reports, and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site, are not Contract Documents.
- C. The Contract Documents shall define and describe the complete work to which they relate.

1.02 DEFINITIONS

- A. Where the following words or the pronouns used in their stead occur herein, they shall have the following meaning:
 - 1. "Owner" shall mean the Town of Homer, Georgia, party of the first part to the Contract Agreement, or its authorized and legal representatives.
 - 2. "Engineer" shall mean the Town Engineer or his representative.
 - 3. "Contractor" shall mean the party of the second part to the Contract Agreement or the authorized and legal representative of such party.
 - 4. "Work" and "Project" shall mean the entire completed construction required to be furnished under the Contract Documents.
 - 5. "Contract Time" shall mean 180 consecutive calendar days as provided in the Contract Agreement for completion of the Project, to be computed from the date of the Notice to Proceed.

6. "Liquidated Damages" shall mean the sum of \$500.00 which the Bidder agrees to pay for each consecutive calendar day beyond the completion date for the Project as defined in these Specifications. Liquidated Damages will end upon written notification from the Owner of final acceptance of the Project.
7. "Products" shall mean materials or equipment permanently incorporated into the Project.
8. "Provide" shall mean to furnish and install.
9. "Balanced Bid" shall mean a Bid in which each of the unit prices and total amount bid for each of the listed items reasonably reflects the value of that item with regard to the entire job considering the prevailing cost of labor, material and equipment in the relevant market. A Bid is unbalanced when, in the opinion of the Owner, any unit prices or total amounts bid on any of the listed items do not reasonably reflect such values.

1.03 PREPARATION AND EXECUTION OF BID

- A. Each Bid must be prepared to represent that it is based solely upon the materials and equipment specified in the Contract Documents.
- B. Each Bid must be submitted on the Bid forms which are attached to the Contract Documents. All blank spaces for Bid prices, both words and figures, must be filled in, in ink. In case of discrepancy, the amount shown in words will govern. All required enclosed certifications must be fully completed and executed when submitted.
- C. Each Bid must be submitted in a sealed envelope, addressed to the Owner. Each sealed envelope containing a Bid must be plainly marked on the outside as, **"TOWN OF HOMER- 2026 BID FOR RESURFACING OF ATHENS ST AND LYNN DR."**
- D. The Bidder shall provide The Bidder's Name and Address on the outside of the sealed envelope.
- E. Any Bid submitted which does not contain the above information on the outside of the sealed envelope will not be opened and will be returned to the Bidder.

If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the Owner at **Town of Homer**, ATTN: Cliff Hill, Mayor, 943 Historic Homer Hwy, Homer, Ga 30547.

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- G. Any and all Bids not meeting the aforementioned criteria for Bid submittal may be declared non-responsive and subsequently returned to the Bidder.
- H. The Contractor, in signing a Bid on the whole or any portion of the Project, shall conform to the following requirements:
1. Bids which are not signed by the individuals making them shall have attached thereto a power of attorney evidencing authority to sign the Bid in the name of the person for whom it is signed.
 2. Bids which are signed for a partnership shall be signed by all of the partners or by an attorney-in-fact. If a Bid is signed by an attorney-in-fact, there should be attached to the Bid a power of attorney executed by the partners evidencing authority to sign the Bid.
 3. Bids which are signed for a corporation shall have the correct corporate name thereof and the signature of the president or other authorized officer of the corporation manually written below the corporate name following the wording "By _____". Corporation seal shall also be affixed to the Bid.
 4. The Bidder shall complete, execute, and submit all documents which are attached to these Contract Documents.

1.04 METHOD OF BIDDING

The unit or lump sum price for each of the several items in the Bid of each Bidder shall include its pro rata share of overhead and profit so that the sum of the products, obtained by multiplying the quantity shown for each item by the unit price, represents the total Bid. Any Bid not conforming to this requirement may be rejected. Additionally, Unbalanced Bids will be subject to rejection. Conditional Bids will not be accepted. The special attention of all Bidders is called to this provision, for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed.

1.05 BID MODIFICATIONS

Bid modification by telegraphic communication will not be allowed.

1.06 RECEIPT AND OPENING OF BIDS

The Owner may consider a minor irregularity in any Bid not prepared and submitted in accordance with the provisions hereof and may waive any minor irregularities or reject any and all Bids. Any Bid may be withdrawn prior to the above scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be opened.

1.07 SUBCONTRACTS

The Bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be disclosed to and must be acceptable to the Owner.

1.08 CONDITIONS OF THE PROJECT

- A. Each Bidder must be informed fully of the conditions relating to the construction of the Project and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the Contract. Insofar as possible, the Contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.
- B. The Bidder is advised to examine the location of the Project and to be informed fully as to its conditions; the conformation of the ground; the character, quality and quantity of the products needed preliminary to and during the prosecution of the work; the general and local conditions and all other matters which can in any way affect the work to be done under the Contract. Failure to examine the site will not relieve the successful Bidder of an obligation to furnish all products and labor necessary to carry out the provisions of the Contract.
- C. The Bidder shall notify the Owner of the date and time Bidder proposes to examine the location of the Project. The Bidder shall confine examination to the specific areas designated for the proposed construction, including easements and public right-of-ways. If, due to some unforeseen reason, the Owner's proceedings for obtaining the proposed construction site (including easements), have not been completed, the Bidder may enter the site only with the express consent of the property owner. The Bidder is solely responsible for any damages caused by examination of the site.

1.09 NOTICE OF SPECIAL CONDITIONS

If any special federal, state, county, or Town laws, municipal ordinances, and the rules and regulations of any authorities having jurisdiction over construction of the Project, enclosed, herein referred to, or applicable by law to the Project, conflict with requirements of the Contract Documents, then the most stringent requirement prevails. All work shall be in accordance with Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges, latest edition.

The contract shall be completed in a total construction time of one hundred eighty (180) consecutive calendar days.

1.10 OBLIGATION OF BIDDER

By submission of a Bid, each Bidder warrants that Bidder has inspected the site and has read and is thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any Bidder to examine any form, instrument or document shall in no way relieve any Bidder from any obligation in respect to the Bid.

1.11 METHOD OF AWARD

- A. The Contract will be awarded to the responsive, responsible Bidder submitting the Bid which is in the best interest of the Owner as determined solely by the Owner. Award will be made in part on the basis of the prices given in the Base Bid, not including alternates. Alternates may be awarded at the discretion of the Owner within 10 days after the Notice to Proceed.
- B. The Bidder to whom the award is made will be notified. The Owner reserves the right to reject any and all Bids and to waive any minor irregularities in Bids received whenever such rejection or waiver is in the Owner's interest.
- C. A responsive Bidder shall be one who submits a Bid in the proper form without qualification or intent other than as called for in the Contract Documents, and who properly completes all forms required to be completed and submitted at the time of the Bidding. The Bidder shall furnish all data required by these Contract Documents. Failure to do so may result in the Bid being declared non-responsive.

D. A responsible Bidder shall be one who can fulfill the following requirements:

1. The Bidder shall maintain a permanent place of business. This requirement applies to the Bidder where the Bidder is a division of a corporation, or where the Bidder is 50 percent or more owned by a person, corporation or firm.
2. The Bidder shall demonstrate adequate construction experience and sufficient equipment resources to properly perform the work under and in conformance with the Contract Documents. This evaluation will be based upon a list of completed or active projects and a list of construction equipment available to the Bidder to perform the work. The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may reasonably request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Project contemplated therein.
3. The Bidder shall demonstrate financial resources of sufficient strength to meet the obligations incident to the performance of the work covered by these Contract Documents. The ability to obtain the required Performance and Payment Bonds will not alone demonstrate adequate financial capability.

1.12- INSURANCE

Insurance

The Contractor shall be responsible for his work and every part thereof, and for all materials, tools, equipment, appliances, and properties of any and all description used in connection with this project.

The Contractor assumes all risks of direct and indirect damage or injury to the property of persons used or employed on or in connection with the work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract, or in connection in any way whatsoever with the contracted work.

The Contractor shall, during the continuance of all work under the Contract, provide the following:

Maintain statutory Worker's Compensation and Employer's Liability insurance in an amount of not less than \$1,000,000.00 to protect the Contractor from any liability or damages for any injuries (including death and disability) to any of its employees, volunteers, or sub-contractors, including any and all liability or damage which may arise by virtue of any statute or law in force within the State of Georgia, or which may be herein after enacted.

The Contractor agrees to maintain Comprehensive General Liability insurance in an amount of not less than \$1,000,000.00 per occurrence to protect the Contractor, its sub-contractors, and the interest of the Town, against any and all injuries to third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the Contract or in connection with the contracted work. The General Liability insurance shall also include the Broad Form Property Damage Liability endorsement, in addition to coverage for explosion, collapse, and underground hazards, where required.

The Contractor agrees to maintain Automobile Liability Insurance in an amount of not less than \$500,000 per occurrence. Such insurance shall include coverage for owned, hired, and non-owned automobiles.

The Contractor further agrees to protect, defend, indemnify, and hold harmless the Town, its commissioners, officers, agents, and employees from and against any and all liability incurred whatsoever as a result of the work performed pursuant to the terms of this Bid.

The Contractor shall notify the Town, in writing, sixty (60) days prior to any change in insurance coverage, including cancellation, non-renewal, etc. The Contractor shall furnish a new certificate prior to any change or cancellation date. The failure of the Contractor to deliver a new and valid certificate shall result in suspension of all payments until the new certificate is furnished. Additionally, contract work may be suspended until the new certificate is furnished to the Town.

Insurance coverage required in these specifications shall be in force throughout the Contract term. Should the Contractor fail to provide acceptable evidence of current insurance within five (5) days of written notice at any time during the Contract term, the Owner shall have the absolute right to terminate the Contract without any further obligation to the Contractor. Further, the Contractor shall be responsible for the cost of procuring the uncompleted portion of the Contract at the time of termination.

Contractual and other Liability insurance provided under this Contract shall not contain a supervision, inspection, or engineering services exclusion that would preclude the Town from supervising and/or inspecting the project as to the end result. The Contractor shall assume all on-the-job responsibilities as to the control of persons under its direct employment and of the sub Contractors and any persons employed by the sub Contractor.

The Contractor and all sub Contractors shall comply with the Occupational Safety and Health Act of 1970, and amendments, as it may apply to this Contract.

If the Contractor does not meet the insurance requirements of the specifications, alternate insurance coverage satisfactory to the Town may be considered. The Contractor shall be responsible for the costs of any and all alternate insurance coverage so obtained.

A "Certificate of Insurance" showing the **Town of Homer** as the Certificate Holder must be provided prior and incorporated as part of the award contract.

1.13 Project Coordination

The Contractor shall employ and assign only qualified and competent personnel to perform any service or task involved in this project. The Contractor shall designate one such person as a Project Manager, and the Project manager shall be deemed to be the Contractor's authorized representative, who shall be authorized to receive and accept any and all communications from the Town. The Town shall name a Project Manager who shall be authorized to generate, receive and accept communication as an authorized representative of the Town.

The Contractor hereby agrees to replace any personnel or sub-contractor, at no cost or penalty to the Town, if the Town reasonably determines that the performance of any sub-contractor or personnel is unsatisfactory.

1.14 Accuracy of Work

The Contractor shall be responsible for the accuracy of the work performed and shall promptly correct its errors and omissions without additional compensation. Acceptance of the work by the Town will not relieve the Contractor of the responsibility for subsequent correction of errors, the clarification of any ambiguities, or the costs associated with any additional work caused by negligent acts, errors, or omissions by the Contractor or latent defects in the products sold by the Contractor.

At any time during the execution of this project or during any phase of work performed by others based on data secured by the Contractor under this Agreement, the Contractor shall confer with the Town for the purpose of interpreting the information supplied by the Contractor and to correct any errors or omissions. The above consultations, clarifications, and/or corrections shall be made without added compensation to the Contractor. The Contractor shall give immediate attention to these changes so there will be minimum delay to others. The Contractor shall be responsible for errors and omissions and save harmless the Town and its agents as provided in this Agreement.

1.15 Ownership

Reports, plans, data, statistics, specifications, and other supporting records compiled or prepared in the performance of the Services required by this Contract, shall be the absolute property of the Town and shall not be used by the Contractor for purposes unrelated to this Contract without the prior written approval of the Town. Such original documents shall be turned over to the Town upon completion of the contract except that Contractor shall have the right to retain copies of the same.

1.16 Severability/Cancellation

It is understood and agreed by the parties hereto that if any part, term, or provision of this Contract is held illegal or in conflict with any law of the State, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular part, term, or provisions held to be invalid.

The Town and the Contractor agree to resolve through negotiation or mediation prior to filing any cause of action. The venue for any litigation arising from this contract shall be Town of Homer, Georgia.

1.17 Drug Free Workplace

By submission of a Bid, the Contractor certifies that the provisions of Code Sections 5024-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the "Drug-free Workplace Act", have been complied with in full. The Contractor further certifies that:

1. A drug-free workplace will be provided for the Contractor's employees during performance of the contract; and
2. Each Contractor who hires a sub Contractor to work in a drug-free work place shall secure from that sub Contractor the following written certification:
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3. As part of the subcontracting agreement with (Contractor's name), (Sub Contractor's name) certifies to the Contractor that a drug-free workplace will be provided for the sub Contractor's employees during the performance of this Contract pursuant to Paragraph (7) of Sub-section (b) of Code Section 50-24-3".
4. The Contractor further certifies that he will not engage in the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the Contract.

1.18 Assignment of Contractual Rights

It is agreed that the Contractor will not assign, transfer, convey, or otherwise dispose of a contract that may result from this bid or his right, title, or interest in or to the same, or any part thereof, without written consent of the Town.

1.19 Indemnity

To the fullest extent permitted by law, the Contractor will indemnify, defend, and hold Town of Homer harmless from and against any and all claims, damages, losses, and expenses, including, but not limited to, fees and charges of attorneys and court and arbitration costs, arising out of or resulting from the negligent acts, negligent omissions, willful misconduct, or reckless misconduct of the Contractor or anyone for whom the Contractor is responsible.

1.20 Non-Collusive Bidding

By submitting a response to this Invitation to Bid, the Bidder represents and warrants that such bid is genuine and not a sham or collusive or made in the interest or on behalf of any person not therein named and that the Bidder has not directly or indirectly induced or solicited any other vendor to put in a sham bid, or any other person or company to refrain from submitting and that the Bidder has not in any manner sought by collusion to secure to that vendor any advantage over any other vendor.

1.21 Georgia Security and Immigration Compliance

To comply with the State of Georgia's Security and Immigration Compliance Act, all contractors must comply with regulations by completing the provided affidavits relative to the Compliance Act. All applicable affidavits have been included with this Invitation to Bid and must be signed and provided with the Bid submission.

1.22 Appropriation of Funds

The initial contract and any continuation contract(s) shall terminate immediately and absolutely at any such time as there are no appropriated and otherwise unencumbered funds available to satisfy the Town's obligations under said contract(s)

1.23 EMPLOYMENT OF LOCAL LABOR

Preference in employment on the Project shall, insofar as practical, be given to qualified local labor.

END OF SECTION

SECTION 00020
Invitation to Bid

TOWN OF HOMER, GEORGIA
RESURFACING OF ATHENS ST AND LYNN DR

Sealed Bids, for furnishing all materials, labor, tools, equipment and appurtenances necessary for approximately 1.44 miles of recycled asphaltic concrete resurfacing on **ATHENS ST AND LYNN DR** will be received by the Owner at the Town of Homer Office located at 943 Historic Homer Hwy, Homer, Georgia 30547, until 9:00 a.m., local time, on May 4, 2026, and then at said office publicly opened and read aloud.

The Project consists of the following major elements:

Approximately 1.44 miles of patching/widening, recycled asphaltic concrete resurfacing, striping and shoulder filling on ATHENS ST AND LYNN DR .

All work shall be completed in accordance with Plans, Special Provisions, and the latest edition of the Georgia Department of Transportation Standard Specifications, applicable Supplemental Specifications, and the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

The work will be awarded in one Contract.

The Instructions to Bidders, Bid, Contract Agreement, Drawings, Specifications and forms of Bid Bond, Performance Bond, Payment Bond and other Contract Documents may be examined and obtained online at townofhomer.ga.com or at the following:

Town of Homer
943 Historic Homer Hwy
Homer, Ga 30547
706-677-3510
cayers@townofhomer.ga.com

This Invitation to Bid shall be governed by the following schedule:

DATE	ACTIVITY
April 9, 2026	Release of Invitation to Bid
April 15, 2026 3:00 PM	Deadline for questions to be emailed to Town Clerk
April 21, 2026 5:00 PM	Answers to questions will be emailed to all bidders.
May 4, 2026 9:00 AM	Bids Due by 9:00am. No bids will be accepted after the due date and time. Bid opening at 10am.

Questions & Addenda

All questions concerning this bid must be submitted by email to the Mayor no later than 3:00 pm on April 15, 2026, local time.

The Inquiries must be directed to:

Cliff Hill, Mayor
cayers@townofhomerga.com

No response to inquiries other than those emailed will be binding upon the Town. The Town reserves the right to issue written addenda to any inquiries that alter the scope of the Invitation to Bid. Addenda shall be mailed to all bidders no later than April 21, 2026, at 5:00 PM. A signed copy of any addenda shall accompany submitted bids.

General Information

Payments, Applications for Payment, Certificates for Payment, and retainage shall be in accordance with the provisions of the Contract Documents.

The successful Bidder for this Contract will be required to furnish a satisfactory Performance Bond and Payment Bond each in the amount of 100 percent of the Bid.

Each Bid must be accompanied by a Proposal Guaranty consisting of a bond, certified check, or negotiable instrument submitted with the bid as assurance that the Bidder, upon acceptance of his/her Bid, will execute such contractual documents as may be required within a specified time, in the amount of Five percent of the total Bid.

The Owner reserves the right to reject any or all Bids, to waive informalities and to readvertise.

By: Cliff Hill, Mayor

END OF SECTION

SECTION 00300

RESURFACING OF ATHENS ST AND LYNN DR

THIS BID SUBMITTED TO:

Town of Homer

ATTN: Cliff Hill, Mayor
943 Historic Homer Hwy
Homer, Ga 30547
706-677-3510

(Hereinafter called "OWNER")

THIS BID SUBMITTED BY:

(Name) _____

(Address) _____

(Telephone) _____

(Hereinafter called "BIDDER")

The undersigned Bidder, in compliance with your Invitation to Bid for the construction of this Project having examined the Contract Documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby propose to construct the Project in accordance with the Contract Documents.

The Bidder proposes and agrees, if this Bid is accepted, to contract with the Town of Homer in the form of Contract Agreement specified, to furnish all necessary products, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the Work in full and complete accordance with the reasonably intended requirements of the Contract Documents to the full and entire satisfaction of the Town of Homer with a definite understanding that no money will be allowed for extra work except as set forth in the Contract Documents, for the following prices:

EXHIBIT A
ESTIMATE ONLY
Town of Homer
(ATHENS ST AND LYNN DR)

PAY ITEM	DESCRIPTION	UOM	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
150-1000	TRAFFIC CONTROL	LS	1		
210-0100	GRADING COMPLETE	LS	1		
231-1250	MISCELLANEOUS CONSTRUCTION, UNPAVED ROADS, STREETS AND DRIVEWAYS	EA	22		
310-1101	GR AGGR BASE CRS, INCL MATL	TN	80		
402-1802	RECYLED ASPH CONC PATCHING, INCLUDING BITUM MATL & H LIME	TN	180		
402-3102	RECYCLED ASPH CONC. 9.5MM SUPERPAVE, TYPE II, BLEND 1 INCL BITUM & MATL & H LIME, 135LBS/SY	TN	1,290		
413-1000	TACK COAT	GAL	1,894		
415-5000	ASPH CONC OPEN GRADED CRACK RELIEF INTERLAYER, GP 2 ONLY, INCL BITUM MATL & H LIME, 110LBS/SY	TN	915		
653-3501	THERMO SOLID TRAFFIC STRIPE, 5 IN, WHITE	LM	1.70		
653-3502	THERMO SOLID TRAFFIC STRIPE, 5 IN, YELLOW	LM	1.70		
653-1704	THERMO SOLID TRAFFIC STRIPE 24", WHITE	LF	40		
			TOTAL BID PRICE		

ROAD LIST (Estimate Only)

PRIORITY	ROAD NAME	CR #	MILEAGE	LENGTH (FT)	WIDTH	SQ Yds	TONS OF PATCHING	OGI TONS	TONS OF TOPPING
1	ATHENS ST		.85	4,885	19.5	9,475	75	563	766
2	LYNN DR		.59	3,115	17.5	5,711	105	352	524
			1.44				180	915	1290

STRIPING/MARKINGS

PRIORITY	ROAD NAME	CR #	MILEAGE	LENGTH (FT)	WIDTH	653-3501 THERMO SOLID TRAFFIC STRIPE, 5 IN, WHITE LM	653-3502 THERMO SOLID TRAFFIC STRIPE, 5 IN, YELLOW LM	653-1704 THERMO SOLID TRAFFIC STRIPE, 24 IN, WHITE LF
1	ATHENS ST		.85	4,885	19.5	1.70	1.70	20
2	LYNN DR		.59	3,115	17.5			20
			1.44					

Town of Homer

BID TOTAL

_____)
DOLLARS (\$ _____)

The Bidder agrees hereby to commence Work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order from the OWNER, and to fully complete WORK under this Contract within 180 consecutive calendar days from and including said date. Bidder further agrees to pay as liquidated damages the sum of \$500.00 for each consecutive calendar day thereafter required to complete all work as provided in the Instructions to Bidders.

The Bidder declares an understanding that the quantities shown for unit price items are subject to either increase or decrease, and that should the quantities of any of the items of Work be increased, The Bidder proposes to do the additional Work at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for additional costs or anticipated profits for any decrease in quantities; and that actual quantities will be determined upon completion of Work, at which time adjustment will be made to the Contract amount by direct increase or decrease.

In case of discrepancies between the figures shown in the unit prices and the totals, the unit prices shall apply and the totals shall be corrected to agree with the unit prices. In case of discrepancies between written amounts and figures, written amounts shall take precedence over figures and the sum of all. Bid extensions (of unit prices) plus lump sum items shall take precedence over BID TOTAL.

All work shall be completed in accordance with Georgia Department of Transportation Construction Specifications Standards, Georgia Erosion and Sedimentation Control Act of 1975, as amended, Section 402 of the Federal Clean Water Act, NPDES GAR 100002, and applicable codes, ordinances, rules, regulations and laws of local authorities having jurisdiction.

The Bidder furthermore agrees that, in the case of a failure to execute the Contract Agreement and Bonds with ten days after receipt of conformed Contract Documents for execution, the attached Bid Bond accompanying this Bid and the monies payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure.

BIDDER acknowledges receipt of the following addenda:

Addenda No.	Date Received

BIDDER: _____

By: _____
(Name Signed)

(Name Printed or Typed)

Title: _____

Address: _____

Phone: _____

ATTEST: _____

(Name Signed)

(Name Printed or Typed)

Title: _____

(SEAL)

NOTE: Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a Notary.

NOTE: If the Bidder is a corporation, the Bid shall be signed by an officer of the corporation; if a partnership, it shall be signed by a partner. If signed by others, authority for signature shall be attached.

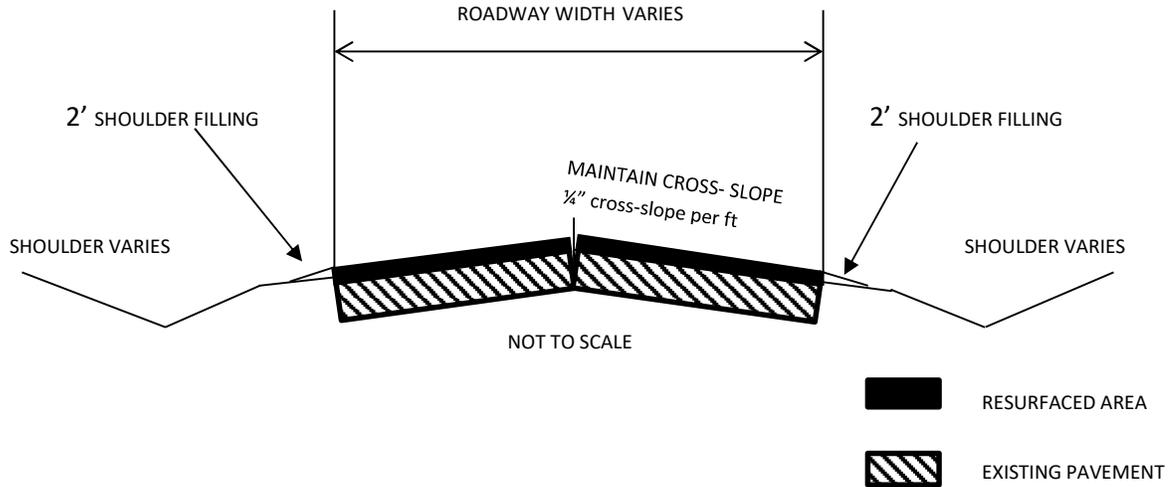
The full names and addresses of persons or parties interested in the foregoing Bid, as principals, are as follows:

Name

Address

END OF SECTION

ROADWAY TYPICAL



ATHENS ST & LYNN DR

RETAIN EXISTING PAVEMENT AND MAINTAIN PROPER CROSS SLOPE. PATCHING AND 110 LBS PER SQUARE YARD OF OGI OR AS DIRECTED BY ENGINEER. RESURFACE FULL WIDTH WITH 135 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 9.5MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME.

******ALL PATCHING WILL BE 4" IN DEPTH OR AS DIRECTED BY ENGINEER.**

******SHOULDER FILLING AND GRASSING WILL BE PERFORMED BY CONTRACTOR.**

CONTRACT SPECIFIC SPECIAL PROVISIONS

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL TESTING AND MIX DESIGNS AND PROVIDING APPROVED JOB MIX FORMULAS FOR ALL ASPHALT. ALL TESTING FREQUENCIES AND METHODS MUST MEET THE MINIMUM REQUIREMENTS SET FORTH IN THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND SAMPLING TESTING AND INSPECTION GUIDELINES.
2. **GRADING COMPLETE-** ALL **SHOULDER FILLING** ACTIVITIES WILL BE INCLUDED AND PAYED FOR AS PART OF GRADING COMPLETE. THIS WILL INCLUDE CONTRACTOR **PROVIDING MATERIAL**, MATERIAL PLACEMENT AND ALL BMP'S(DAILY STABILIZATION, FIBER BONDED MATRIX, PERMANENT GRASSING, ETC.). **SHOULDER FILLING SHALL BE COMPLETED WITHIN 30 DAYS AFTER COMPLETION OF RESURFACING ROADWAY.**
3. **310-1101 GR AGGR BASE CRS-** PLACE MATERIAL AT MAILBOXES BEFORE SHOULDER FILLING. APPROXIMATE AREA WILL BE 2'WIDTHX15'LENGTH AND 4"DEPTH OR AS DIRECTED BY ENGINEER
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT PROJECT ENSURING ALL BMP'S ARE IN PLACE.
5. PERFORM ALL PATCHING/WIDENING AS DIRECTED BY ENGINEER, PRIOR TO LEVELING AND RESURFACING OPERATIONS.
6. ALL DRAINAGE STRUCTURES WITHIN THE LIMITS OF THE PROJECT WILL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING ALL BMP'S AT DRAINAGE STRUCTURES AND BE INCLUDED IN OVERALL PRICE.

7. CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING AND INSTALLING “**LOW/SOFT SHOULDER**” AND “**ROAD WORK AHEAD**” SIGNS PER MUTCD AND SECTION 150, **BEFORE ANY WORK BEGINS**. PORTABLE SIGN CAN BE USED FOR DAILY OPERATION.
8. THERMOPLASTIC WILL BE USED TO STRIPE **ROADWAY** AND THERMOPLASTIC WILL BE USED FOR HAND MARKINGS.
9. IN PREPARATION OF THE ROADWAY PRIOR TO RESURFACING, BLADE THE EXISTING SHOULDERS NO LOWER IN ELEVATION THAN THE EXISTING PAVEMENT OR SHOULDER. SHOULDER MATERIAL DISPLACED BY THE CLEANING OPERATION PRIOR TO RESURFACING AND/OR DURING MILLING OPERATION SHALL BE REMOVED DAILY AND DISPOSED OF AT AN APPROVED DISPOSAL SITE OFF TOWN/COUNTY RIGHT-OF-WAY OR AS DIRECTED BY ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE OVERALL BID PRICE.
10. CONTRACTORS ARE EXPECTED TO HAVE APPROPRIATELY SIZED EQUIPMENT FOR THE CONTRACT AND SUFFICIENT NUMBER OF HAULING TRUCKS AND MANPOWER TO KEEP ASPHALT SPREADING AT A STEADY RATE. THE ASPHALT SPREADER MUST BE EQUIPPED WITH SKIS TO ENSURE A LEVEL DRIVE SURFACE. A ROLL PATTERN MUST BE SET UP AND PROPER TYPES AND SIZES OF ROLLERS MUST BE USED IN ACCORDANCE WITH GDOT SPECS. **TOWN OF HOMER** RESERVES THE RIGHT TO SHUT DOWN WORK IMMEDIATELY IF EQUIPMENT IS INAPPROPRIATELY SIZED OR INSUFFICIENT FOR THE JOB, OR ANY ASPECT OF THE JOB IS PROVING TO BE DETRIMENTAL TO THE QUALITY OF THE FINISHED PRODUCT.
11. SEE **231** SPECIAL PROVISIONS BELOW FOR **STREETS/DRIVEWAY TIE-ENDS**.

Section 231—Miscellaneous Construction, Unpaved Roads, Streets, and Driveways

231.1 General Description

This work consists of grading, excavating, removing and disposing of excavated material and compaction of subgrade. The work also includes all incidental work required to prepare an area so that the unpaved roads, streets and driveways can be surfaced to tie into the mainline of the resurfacing and/or widening projects, according to Project Details.

Perform items of work and furnish all items of material, equipment, and labor, including incidentals, required to complete this work to the satisfaction of the Engineer.

231.1.01 Definitions

General Provisions 101 through 150.

231.1.02 Related References

A. Standard Specifications

[Section 108—Prosecution and Progress](#)

[Section 205—Roadway Excavation](#)

[Section 400—Hot Mix Asphaltic Concrete Construction](#)

B. Referenced Documents

General Provisions 101 through 150.

231.1.03 Submittals

General Provisions 101 through 150.

231.2 Materials

Ensure that materials required in preparing the unpaved roads, streets, and driveways meet the applicable requirements of [Sections 205](#) of the Specifications. Bituminous prime is not required for this work.

231.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

231.3 Construction Requirements

Perform all work described herein and according to Plan Details. Assume responsibility for furnishing and setting all required construction stakes and establishing lines, slopes and profile grades as directed by the Engineer.

231.3.01 Personnel

General Provisions 101 through 150.

231.3.02 Equipment

General Provisions 101 through 150.

231.3.03 Preparation

General Provisions 101 through 150.

231.3.04 Fabrication

General Provisions 101 through 150.

231.3.05 Construction

Ensure that construction methods and equipment required to complete the work is approved by the Engineer and conforms to applicable portions of [Section 108](#) and [Section 205](#).

231.3.06 Quality Acceptance

General Provisions 101 through 150.

231.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

231.4 Measurement

This work is measured by each unpaved area to be surfaced as specified in the Project Details and Plans.

231.4.01 Limits

General Provisions 101 through 150.

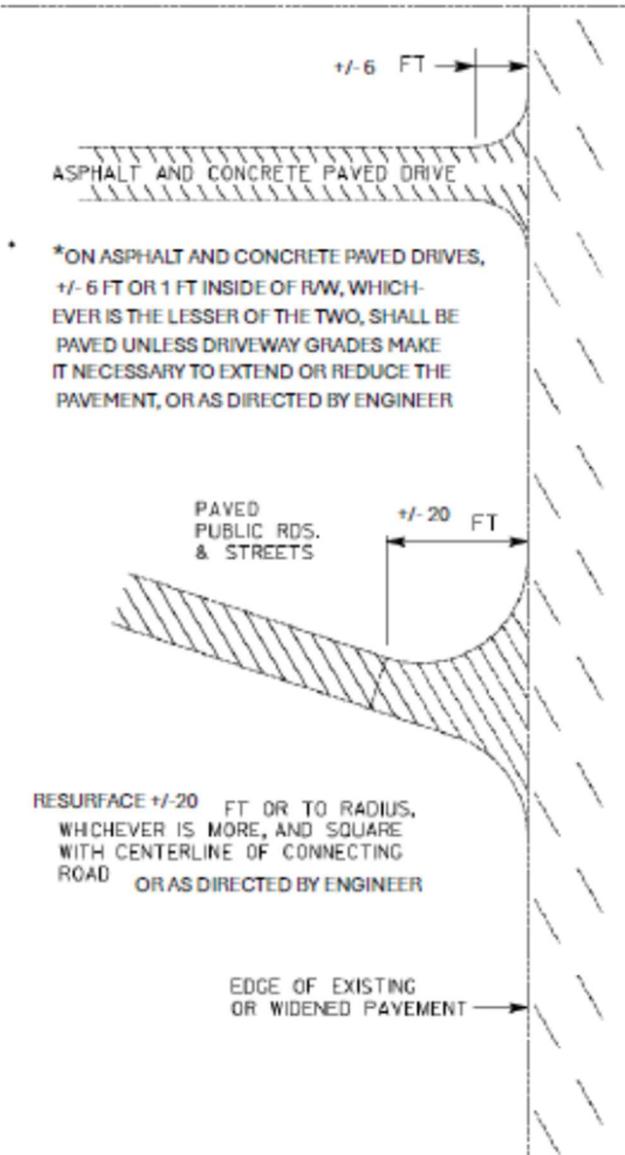
231.5 Payment

Payment for this Item, complete and accepted, will be made at the Contract Unit Price Per Each. Payment will be full compensation for furnishing all materials, all labor, tools, equipment and incidentals necessary to complete the Item satisfactorily. Asphaltic concrete will be paid for under the asphalt item provided in the Contract.

Payment will be made under:

Item No. 231	Miscellaneous Construction, Unpaved Roads, Streets, and Driveways	Per each
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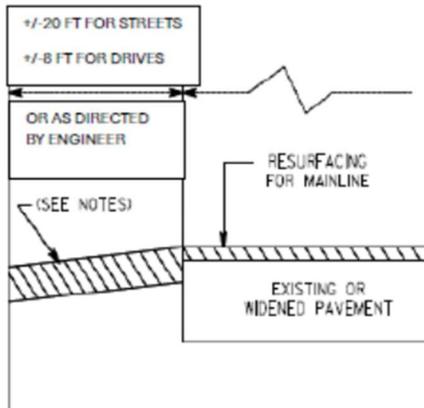
DETAIL FOR PAVING TURNOUTS FOR SIDE ROADS, STREETS, AND DRIVES



NOTES:

1. THE ENGINEER MAY MODIFY THESE DESIGNS AND THE DEPTH OF LEVELING AND SURFACING MAY VARY AS NECESSARY TO PROVIDE A SMOOTH, SAFE AND WELL DRAINED TRANSITION TO AND FROM PUBLIC ROADS AND DRIVEWAYS.
2. ALL PAVING TURNOUT REQUIREMENTS ARE TO BE MEASURED FROM FINAL EDGE OF PAVEMENT ON MAINLINE.
3. THE CONTRACTOR, AT THE DIRECTION OF THE ENGINEER, SHALL TIE-IN PAVED DRIVES, PUBLIC ROADS AND STREETS WITH 9.5 mm SUPERPAVE MIX NECESSARY TO EFFECT AN ACCEPTABLE TIE-IN. THE WORK SHALL BE PAID FOR UNDER 9.5 mm SUPERPAVE MIX DESIGNATED IN THE DETAILED ESTIMATE.
4. IN THE EVENT ASPHALT AND CONCRETE PAVED DRIVES REQUIRE EXTENSION BEYOND THE DESCRIBED LIMITS TO EFFECT AN ACCEPTABLE TIE-IN, REFERENCE SPECIAL PROVISION SECTION 231.

DETAIL FOR UNPAVED ROADS, STREETS AND DRIVES
FOR SURFACING AND WIDENING



REFERENCE PROJECT SPECIAL PROVISION SECTION 23I

REMOVE AND DISPOSE OF EXCAVATED MATERIAL TO A DEPTH OF 4 INCHES
THEN SURFACE WITH 9.5 MM SUPERPAVE AT 440 LBS PER SQUARE YARD.
OR AS DIRECTED BY ENGINEER

THE ASPHALT SHALL BE PAID FOR BY THE TON

Section 104—Scope of Work

104.01 Intent of Contract

The intent of the Contract is to provide for the construction and completion in every detail of The Work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete The Work in accordance with the Plans, Specifications, and terms of the Contract.

104.02 Special Work

Should any construction or conditions not thoroughly or satisfactorily stipulated and set forth by the Standard Specifications and Supplements thereto be anticipated on any proposed work, Special Provisions for such work will be included in the Proposal and the Contract as a part thereof. Should any such Special Provisions contain requirements in conflict with the *Standard Specifications* and Supplements thereto, the Special Provisions will govern.

104.03 Alteration of Plans or Character of Work

A. Authority to Make Changes

The Department reserves the right to make, at any time during the progress of The Work, such increases or decreases in quantities and such alterations in the details of construction, including alterations in the grade or alignment of the road or structure or both, as may be found necessary or desirable. Such increases or decreases and alterations shall not invalidate the contract nor release the Surety, and the Contractor agrees to perform The Work as altered, the same as if it had been a part of the original Contract.

Whenever an alteration in character of Work involves a substantial change in the nature of the design or in the type of construction or materially increases or decreases the cost of performance, a Supplemental Agreement acceptable to both parties shall be executed before work is started on such alteration, except that in the absence of a Supplemental Agreement acceptable to both parties, the Engineer may direct that the Work be done by Force Account. Any Force Account Agreement shall be in writing, specifying the terms of payment, signed by the State Construction Engineer and agreed to in writing by the Contractor.

All work shall be performed as directed and in accordance with the Specifications.

B. No Waiver of Contract

Changes made by the Engineer will not be considered to waive any of the provisions of the Contract, nor may the Contractor make any claim for loss of anticipated profits because of the changes, or by reason of any variation between the approximate quantities and the quantities of work as done.

C. Certain Items Not Limited

The quantities of all types of excavation, embankment when a Pay Item, perforated underdrain pipe, ditch paving, subgrade treatment materials, stabilizers, extra depth of concrete including its reinforcement, piling, guard rail, asphaltic concrete leveling, erosion control items, traffic control items, slope paving, bridge rip-rap, filter fabric, or any other items that cannot conveniently be determined accurately until after the Work is in progress, and any increase or decrease in these quantities, whatever the amount, will be considered normal overruns or underruns. The Engineer has unlimited authority to increase or decrease these quantities.

D. Changes in Other Quantities

The Engineer may increase or decrease the quantities of any and all other Pay Items, without changing the Unit Prices Bid, provided that the sum total of such changes, exclusive of changes in those items covered in [Subsection 104.03.C](#), does not increase or decrease the original Contract amount by more than 20 percent.

E. Changes to Original Length or Cost of Project

The Engineer has the authority to extend or reduce the total length or total cost of the Project by as much as 20 percent. The provisions of [Subsection 104.03.C](#), covering overruns or underruns of certain Pay Items apply also to overruns or

underruns in quantities resulting from an extension or reduction in the length of the Project. If the Project is extended in length, an Extension Agreement will be executed. If the Extension Agreement calls for Pay Items already in the Contract, the Unit Prices for such Items will not be changed except as provided in [Subsections 104.03.A, 104.03.B and 104.03.D](#). New work for which no Unit Prices have been Bid will be paid for as Extra Work as defined in [Subsection 104.04](#).

F. Railroad Grade Separation Structures

Changes in design or construction features of railroad grade separation structures must be submitted to the Engineer of the railroad for approval. The Department will diligently expedite all correspondence with the railroad officials, but will not be responsible to the Contractor for any delay to the Contractor's work resulting from delay in securing the necessary approval. The Engineer will give due consideration to such delays in determining the time for completion of the Contract.

104.04 Extra Work

The Contractor shall perform unforeseen work, for which there is no price included in the Contract, whenever it is necessary or desirable in order to complete fully the work as contemplated. Such work shall be performed in accordance with the Specifications and as directed, and will be paid for as provided in [Subsection 109.05](#).

104.05 Maintenance During Construction

A. Contractor Maintenance

The Contractor shall maintain the project from the beginning of construction operations until maintenance acceptance or final acceptance of the project, except as otherwise provided in [Subsection 104.05.B](#). This maintenance shall constitute continuous and effective work prosecuted day by day with adequate equipment and forces to the end that the roadway or structures are kept in satisfactory condition at all times. This includes signing, pavement markings, and traffic control devices as outlined in the Manual on Uniform Traffic Control Devices, [Section 150](#), Project Plans and Special Provisions for Traffic Control. All existing guard rail, signs, pavement, pavement markings, bridge handrail, and other safety appurtenances shall also be maintained in a safe and satisfactory condition.

The Contractor shall not allow vegetative growth at any time to obstruct signs, delineation, traffic movements, or sight distance. The Contractor shall, at intervals not to exceed 6 months, clean up and remove litter and debris; remove all weeds from around guard rail, barrier, poles, standards, utility facilities, and other structures; and cut or trim trees, bushes, or tall grass. These requirements shall apply to all areas within the project termini and lateral limits.

For projects or segments of projects with staging which requires that traffic be maintained through the project limits during the prosecution of the Work, the Contractor shall assume all responsibility for damage to the work until either maintenance acceptance or final acceptance of the section or project.

On projects constructed with traffic relocated to an alternate roadway or projects constructed on new location, the Contractor shall be responsible for all damage to the work until the Department directs that the project be opened to traffic. At that time the Contractor will no longer be responsible for traffic related damage to the work other than that attributable to the Contractor's actions or inadequate construction. The Department may direct, however, that traffic-related damage be repaired at existing unit prices or as extra work as provided for in [Subsection 104.04](#).

All costs for maintenance of traffic shall be as provided in [Section 150](#). All other maintenance costs during construction and before the project is accepted will be included in the Contract Unit Prices and the Contractor will not be paid an additional amount.

B. Maintenance of Traffic During Suspension of Work

During any suspension of work ordered by the Engineer, the Contractor shall make passable and shall open to traffic such portions of the Project and temporary roadways, special detours, or portions thereof as may be agreed upon between the Contractor and the Engineer for the temporary accommodation of necessary traffic during the anticipated period of suspension. Thereafter, and until issuance of an order for the resumption of construction operations, the maintenance of the temporary route or line of travel agreed upon will be by and at the expense of the Department. When work is

resumed, the Contractor shall replace or renew any work or materials lost or damaged because of such temporary use of the Project; shall remove to the extent directed by the Engineer any work or materials used in the temporary maintenance thereof by the Department; and shall complete the Project in every respect as though its prosecution had been continuous and without interferences. All additional work caused by such suspensions, for reasons beyond the control of the Contractor, will be paid for by the Department at Contract prices or by Force Account.

C. Maintenance Directed By The Engineer

If the Engineer directs special maintenance for the benefit of the traveling public, the Contractor will be paid on the basis of Unit Prices or under [Subsection 104.04](#). The Engineer will be the sole judge of work to be classed as special maintenance.

D. Detours Outside Right-of-Way

The Department will be responsible for the construction and maintenance of detours outside the right-of-way except where otherwise provided for in the Contract.

E. Special Detours

When the Proposal contains Bid Items which provide for construction, maintenance, and removal of detour bridges or roads, the payment for such items shall cover all cost of constructing and maintaining such detour or detours, including the construction of any and all temporary bridges and accessory features and the removal of the same, and obliteration of the detour road, except as otherwise provided in [Subsection 104.05.B](#). Right-of-Way for temporary highways or bridges called for under this Subsection will be furnished by the Department.

F. Delays to Traffic

Two-way traffic shall be maintained at all times, unless otherwise approved. The Contractor shall not stop traffic without permission of the Engineer.

When one-way traffic is approved, the Contractor shall provide the necessary flagmen to direct such traffic. When specified in the Proposal, the Contractor shall furnish pilot vehicles.

G. Overhead Sign Lighting

Maintenance of overhead sign lighting within major construction or reconstruction Projects may be performed by the Contractor at no additional cost to the Department. All required repairs shall be made within 48 hours.

In the event such repairs are not made within the specified time, State Forces shall perform them and the cost thereof deducted from any monies due or which may become due the Contractor.

104.06 Right in and Use of Materials Found on the Project

Materials that have salvage value, as determined by the Engineer, shall remain the property of the Department and shall be utilized as directed by the Engineer. The Contractor, with the approval of the Engineer, may use on the Project such materials as may be found on the Project, and will be paid at the bid price for removal of the material. If the materials, after processing, are suitable for other items of work, the Contractor will also be paid for those items in which the material is incorporated except as otherwise provided for in these specifications. He shall replace at his own expense with other acceptable material all of that portion of the materials so removed and used which was needed for use in the embankments, backfills, approaches, or otherwise, including proper allowance for swell when applicable. When existing materials found on the Project, such as crushed stone base, are to be reused directly in the work, the Contractor will not be paid the full Contract Price for the Item, but will be paid at the Contract Price minus the equivalent cost of new materials. The Contractor shall not excavate or remove any material without written authorization from the Engineer. The Contractor shall not make any claim upon the State for damages or loss of anticipated profits because of the expected use of any materials indicated on the Plans as existing and later found to be nonexistent or unfit for use. The Department does not warrant or guarantee the existence, quality, or quantity of materials indicated as existing on the Plans. If any sales tax is involved in materials found on the right-of-way and sold by the Contractor, the Contractor will be responsible for paying same.

Unless otherwise provided, the material from any existing old structure may be used temporarily by the Contractor in the erection of the new structure. Such material shall not be cut or otherwise damaged except with the approval of the Engineer.

Any material used by the Contractor and damaged during use shall be replaced at the Contractor's expense.

104.07 Final Cleaning Up

Before final acceptance, the highway borrow pits and all ground occupied by the Contractor in connection with the Work shall be cleaned of all rubbish, excess materials, temporary structures, and equipment. All weeds and high grass shall be cut and disposed of. The right-of-way shall be mown when directed by the Engineer in accordance with [Subsection 700.3.07](#). All parts of the Work shall be left in an acceptable condition.

The disposal adjacent to the right-of-way of materials cleaned from the right-of-way will not be permitted, even with the permission of the property owner. Temporary buildings or other structures built for the Contractor's use and located within view of the right-of-way, constituting a hazard or making an unsightly appearance, shall be removed and disposed of as directed.

On specialty-type Contracts where the entire Work consists of such specialty items as resurfacing, fencing, stripe painting, signing, highway lighting, and the like, the Contractor will not be required to clean up the right-of-way beyond the limits of construction, unless such clean up work is included in the Contract as a Pay Item. However, he shall remove all of his own property and leave the remaining right-of-way in a condition at least as good as it was before The Work was begun.

As to compliance or non-compliance with these provisions, as well as the obligations of the Contractor in relation thereto, the decision of the Chief Engineer shall be final and conclusive.

104.08 Value Engineering Proposals

A. Applicability

This Section applies to those cost reduction proposals initiated and developed by the Contractor for changing the Plans, Specifications, or other requirements of the Contract. These provisions do not apply unless the proposal submitted by the Contractor is specifically identified as being presented as a Value Engineering Proposal (VEP) and the Contract amount is in excess of \$50,000.

The cost-reduction Proposals contemplated are those which would require a Supplemental Agreement modifying the Contract and would produce a savings to the Department by providing less costly items or methods than those specified in the Contract without impairing essential functions and characteristics including, but not limited to: service life, reliability, economy of operations, ease of maintenance, and safety, both during and after construction.

These provisions are applicable to the prime Contract and include all subcontracts.

B. Documentation

Value Engineering Proposals (VEP) will be processed in the same manner as prescribed for any other alterations of the Contract requiring a Supplemental Agreement.

As a minimum, the following information shall be submitted by the Contractor with each Value Engineering Proposal:

1. A description of the difference between the existing Contract requirement and the proposed change and the comparative advantages and disadvantages of each.
2. An itemization of the requirements of the Contract which must be changed and a recommendation of how to make such change (e.g., a suggested revision).
3. A detailed estimate of the cost of performing the work under the Contract and under the proposed change.
4. A prediction of any effects the proposed changes would have on other costs to the Department, including cost of related items and costs of maintenance and operation.
5. A statement of the time by which an agreement for adoption of the proposed changes must be executed in order to obtain the maximum cost reduction during the remainder of the Contract, noting any effect on the Contract completion time or delivery schedule.
6. The dates of any previous or concurrent submissions of the Proposal, the Contract number(s) under which submitted, and any previous actions by the Department, if known.

NOTE: If a VEP is similar to a change in the Plans or Specifications for the Project that is under consideration by the Department at the time said VEP is submitted, or if such VEP is based upon or similar to Standard Specifications, Special Provisions, or Standard Plans adopted by the Department after the advertisement of the Contract, the Engineer will not accept such proposal and the Department reserves the right to make such changes without compensation to the Contractor under the provisions of this Section.

Proposed changes in the basic design of a bridge (i.e., concrete to steel or vice versa), or of a pavement type (i.e., rigid to flexible or vice versa), or in drainage structures (i.e., concrete to steel or vice versa), will not be considered as an acceptable Value Engineering Proposal.

C. Submission

Value Engineering Proposals submitted by the Contractor will be processed as expeditiously as possible; however, the Department will not be liable for any delay in acting upon proposals submitted. The Contractor may withdraw, wholly or in part, any VEP not accepted by the Department within the time specified in [Subsection 104.08.B.5](#).

D. Acceptance

The decision of the Engineer as to the acceptance or rejection of a VEP shall be final and shall not be subject to the provisions of [Subsection 105.13](#), "Claims for Adjustments and Disputes."

The Engineer may accept, in whole or in part, before work has been completed, any VEP submitted pursuant to this Subsection and not withdrawn by the Contractor by giving the Contractor written notice thereof reciting acceptance under this Subsection.

E. Notification

The Contractor will be notified in writing of the Department's decision or rejection of each VEP submitted under these provisions. If a proposal is accepted, the necessary Contract modifications will be effected by execution of a Supplemental Agreement. Unless and until a VEP is effected by such Supplemental Agreement, the Contractor shall remain obligated to perform The Work in accordance with the terms of the existing Contract.

Supplemental Agreements made as a result of this Subsection will state that they are made pursuant to it.

F. Sharing

In the event a VEP submitted by the Contractor under this Subsection is accepted, the Supplemental Agreement effecting the necessary modifications will establish the net savings agreed upon and will provide for an adjustment in Contract Prices that will divide the net savings between the Contractor and the Department in accordance with the following provisions:

1. Division of net savings in Contract Price Adjustment:
 - 50 percent of the net savings to the Contractor.
 - 50 percent of the net savings to the Department.
2. The Department reserves the right to include in the agreement any conditions it deems appropriate for consideration, approval, and implementation of the VEP. The Contractor's 50 percent of the net savings shall constitute the full compensation for effecting all changes pursuant to the agreement.

Development costs incurred by the Contractor and review costs incurred by the Department shall not be considered in computing the net savings of the VEP.
3. Restrictions and Disclosures: Upon acceptance and implementation of any VEP, any restrictions imposed by the Contractor on its use or disclosure of the information submitted shall be void.

The Department shall thereafter have the right to use, duplicate, and disclose, in whole or in any part, all data necessary in the utilization of the proposal.

Section 105—Control of Work

105.01 Authority of the Engineer

The Engineer will decide all questions that may arise as to the quality and acceptability of materials furnished, work performed, and the rate of progress of The Work; the interpretation of the Plans and Specifications, and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor. The Engineer will determine the quantities of the several kinds of work performed and materials furnished which are to be paid for under the Contract and his determination shall be final.

The Engineer will have the authority to suspend The Work wholly or in part due to the failure of the Contractor to correct conditions unsafe for the workmen or general public; for failure to carry out provisions of the Contract, or for failure to carry out orders; for such periods as he may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of The Work; or for any other condition or reason deemed to be in the public interest.

The Contractor may request and will receive written instructions from the Engineer upon any important items.

After the Contract has been executed, and before work begins, the Engineer may designate a time and place to hold a Preconstruction Conference with the Contractor. At such time, the Contractor shall furnish the Engineer with a Progress Schedule as provided in [Subsection 108.03](#) unless this schedule has been specifically exempted by Special Provision. The Contractor will also be given a decision on any alternate Traffic Control Plan that he may have previously submitted.

Any matters pertaining to order of work, interpretation of Plans and Specifications, traffic control, utility adjustments, or others, may be discussed at the Preconstruction Conference.

105.02 Plans and Working Drawings

Plans will show details of all structures, lines, grades, typical cross sections of the roadway, location and design of all structures, and a summary of Items appearing in the Proposal.

The Plans will be supplemented by such working drawings as are necessary to adequately control the Work. Working drawings for structures shall be furnished by the Contractor and shall consist of such detailed Plans as may be required to adequately control The Work and which are not included in the Plans furnished by the Department. They shall include stress sheets, shop drawings, erection plans, falsework plans, cofferdam plans, bending diagrams for reinforcing steel or any other supplementary plans, or similar data required of the Contractor. All working drawings must be approved by the Engineer and such approval shall not operate to relieve the Contractor of any responsibility under the contract for the successful completion of The Work. The Contract Bid Prices shall include the cost of furnishing all working drawings.

105.03 Conformity with Plans and Specifications

All Work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the Plans or indicated in the Specifications.

Plan dimensions and contract Specification values are to be considered as the target values to be strived for and complied with as the design values from which any deviations are allowed. It is the intent of the Specifications that the materials and workmanship shall be uniform in character and shall conform as nearly as realistically possible to the prescribed target value or to the middle portion of the tolerance range. The purpose of the tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When either a maximum and minimum value or both are specified, the production and processing of the material and the performance of the work shall be so controlled that material or work will not be preponderantly of borderline quality or dimension.

In the event the Engineer finds the materials or the finished product in which the materials are used not within reasonably close conformity with the Plans and Specifications, but that reasonably acceptable work has been produced, the Engineer shall then make a determination if the work shall be accepted and remain in place. In this event, except in cases where the appropriate price adjustments are provided for in the Specifications covering the materials and/or the finished product, a Supplemental Agreement will be executed documenting the basis of acceptance that will provide for an appropriate price

Section 105—Control of Work

adjustment in the Contract Price for such work or materials as the Engineer deems necessary to conform to his determination based on engineering judgement.

In the event the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the Plans and Specifications, and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

105.04 Coordination of Plans, Specifications, Supplemental Specifications, and Special Provisions

These *Standard Specifications*, the Supplemental Specifications, the Plans, Special Provisions, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

In cases of discrepancy, the governing descending order will be as follows:

1. Special Provisions
2. Project Plans including Special Plan Details
3. Supplemental Specifications
4. Standard Plans including Standard Construction Details
5. Standard Specifications

Calculated dimensions will govern over scaled dimensions.

The Contractor shall take no advantage of any apparent error or omission in the Plans or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Plans and Specifications.

A. Specifications of Other Organizations

When work is specified to be done or when materials are to be furnished according to the published specifications of organizations other than the Department, the latest specifications published by those organizations at the time bids are received shall apply unless otherwise specified.

AASHTO Interim Specifications and ASTM Tentative Specifications will be considered effective on date of issue.

B. Item Numbers

The first three digits of any Item Number in the itemized Proposal designates the Specification section under which the Item shall be constructed.

105.05 Cooperation by Contractor

The Contractor will be supplied with a minimum of two sets of approved Plans and Contract assemblies including Special Provisions, one set of which the Contractor shall keep available on The Work at all times.

The Contractor shall give the Work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer, Inspectors, and other Contractors in every way possible.

The Contractor shall have on The Work at all times, as his agent, a competent Superintendent, capable of reading and thoroughly understanding the Plans and Specifications, and thoroughly experienced in the type of work being performed, who shall receive instructions from the Engineer or his authorized representatives. The Superintendent shall have full authority to execute orders or directions of the Engineer without delay and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required. Such superintendence shall be furnished irrespective of the amount of work sublet.

Section 105—Control of Work

The Superintendent shall notify the Engineer prior to starting any Pay Item Work. The Prime Contractor shall coordinate and be responsible to the Engineer for all activities of subcontractors.

105.06 Cooperation with Utilities

The Department will notify all utility companies, all pipeline owners, all railroad companies, or other parties affected of Award of the Contract, giving the name and address of the Contractor, and will assist the Contractor in arranging for all necessary adjustments of the public or private utility fixtures, pipe lines, and other appurtenances within or adjacent to the limits of construction.

Water lines, gas lines, wire lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cableways, signals, railroad facilities, and all other utility appurtenances within the limits of the proposed construction which are to be relocated or adjusted are to be moved by the owners at their expense, except as otherwise provided for in the Special Provisions or as noted on the Plans.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances in their present location or relocated positions, both as shown on the Plans, and that no additional compensation will be allowed for any delays, inconvenience, or damage sustained by him due to any interference from said utility appurtenances or the operation of moving them. Delays and interruptions to the controlling Item or Items of The Work are covered in [Subsection 107.21.G](#).

It shall be each utility owner's responsibility to plan with the Contractor a schedule of operations which will clearly set forth at which stage of the Contractor's operations the utility owner will be required to perform his removal and relocation work.

105.07 Cooperation Between Contractors

The Department reserves the right at any time to Contract for and perform other or additional work on or near The Work covered by the Contract.

When separate Contracts are let within the limits of any one Project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of The Work being performed by other Contractors. Contractors working on the same Project shall cooperate with each other.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his Contract and shall protect and save harmless the Department from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same Project.

The Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same Project. He shall join his work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others. At the request of the Structure Contractor, the Engineer will designate an area within the right-of-way, adjacent to each structure, to be reserved for use by the Structure Contractor for Storage of Equipment and Materials necessary to construct the particular structure. So long as he occupies this area, the Structure Contractor shall be responsible for its maintenance. The Structure Contractor must relinquish this area, however, as it becomes practical to utilize completed portions of the structure.

105.08 Construction Stakes, Lines and Grades

(Subsection 105.08 Omitted)

105.09 Authority and Duties of the Resident Engineer

The Resident Engineer, regardless of his administrative title, is the Engineer designated by the Department to be the direct representative of the Chief Engineer. The Resident Engineer has immediate charge of the engineering details of each construction Project, and is responsible for the administration and construction of the Project. Such administration includes

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the designation of subordinates to represent him and make routine decisions. The Resident Engineer has the authority to reject defective material and to suspend any work that is being improperly performed.

105.10 Duties of the Inspector

Inspectors employed by the Department are authorized to inspect all work done and materials furnished. Such inspection may extend to all or any part of The Work and to the preparation, fabrication, or manufacture of the materials to be used. The Inspector will not be authorized to alter or waive the provisions of the Contract. The Inspector will not be authorized to issue instructions contrary to the Plans and Specifications or to act as foreman for the Contractor.

105.11 Inspection of the Work

All materials and each part of the detail of The Work shall be subject to inspection by the Engineer.

The Engineer shall be allowed access to all parts of The Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed Inspection.

Upon the Engineer's request, the Contractor, at any time before acceptance of The Work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of The Work to the standard required by the Specifications. Should The Work thus exposed or examined prove acceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed will be paid for as Extra Work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized Department representative may be ordered removed and replaced at the Contractor's expense, unless the Department representative failed to inspect after having been given reasonable notice in writing that The Work was to be performed.

When any unit of government or political subdivision or any railroad corporation is to pay a portion of the cost of The Work covered by the Contract, its respective representatives shall have the right to inspect The Work. Such inspection shall in no sense make any unit of government or political subdivision or any railroad corporation a party to the Contract and shall in no way interfere with the rights of either party hereunder.

105.12 Removal of Unacceptable and Unauthorized Work

All work that does not conform to the requirements of the Contract will be considered unacceptable unless otherwise determined acceptable under the provisions in [Subsection 105.03](#).

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the Final Acceptance of The Work, shall be removed immediately and replaced in an acceptable manner.

Except as elsewhere noted, no work shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the Plans or as given, except as herein specified, or any Extra Work done without authority will be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this section, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and to cause unauthorized work to be removed, and to deduct the costs from any monies due or to become due the Contractor.

105.13 Claims for Adjustments and Disputes

Whenever the Contractor believes that it is or will be entitled to additional compensation, whether due to delay, extra work, breach of contract, or other causes, the Contractor shall follow the procedures set forth in this Sub-Section.

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A. Claims For Acceleration

The Department shall have no liability for any constructive acceleration. If the Department gives express written direction for the Contractor to accelerate its effort, then both parties shall execute a Supplemental Agreement as provided in [Subsection 104.03](#).

B. Claims For Delay and All Other Claims Except Acceleration

1. The Department shall have no liability for damages beyond those items which are specifically payable under this Sub-Section.
2. The Department will be liable only for those delay damages caused by or arising from acts or omissions on the part of the Department which violate legal or contractual duties owed to the Contractor by the Department. The Contractor assumes the risk of damages from all other causes of delay.
3. The parties recognize that delays caused by or arising from right of way problems, defects in plans or design, redesign, changes in the Work by the Department, the actions of suppliers or other Contractors, the shop-drawing approval process, injunctions, court orders and other such events, forces or factors are commonly experienced in highway construction work. Such delays shall not constitute breaches of the Contract. However, such delays may constitute a basis for a claim for delay damages, if found to be in accordance with [Subsection 105.13.B.2](#) above and other provisions of the Contract, and/or a request for a time extension.
4. The term "delay" shall be deemed to mean any event, action, force or factor which extends the Contractor's time of performance. This Subsection is intended to cover all such events, actions, forces or factors, whether they be styled "delay," "disruption," "interference," "impedance," "hindrance", "impact" or otherwise.
5. Compliance with the provisions of this Subsection will be an essential condition precedent to any recovery of damages by the Contractor.
6. The following items, and only the following items, may be recoverable by the Contractor as "damages":
 - a. Additional direct hourly rates paid to employees for job site labor, including payroll taxes, welfare, insurance, benefits and all other labor burdens.
 - b. Documented additional costs for materials.
 - c. Additional equipment costs, as determined in accordance with this Sub-Section.
 - d. Documented costs of extended job-site overhead. (Not applicable for claims other than delay claims.)
 - e. An additional 15 percent of the total of [Subsections 105.13.B.6](#), a, b, c and d, which sum includes home office overhead and profit.
 - f. Bond costs.
 - g. Subcontractor costs, as determined by, and limited to, those items identified as payable under [Subsection 105.13.B.6](#), a, b, c, d, e, and f.
7. For purposes of computing additional equipment costs, rates used shall be based on the Contractor's actual experienced cost for each piece of equipment. These rates shall be supported by equipment cost records furnished by the Contractor. In no case will equipment rates be allowed in excess of those determined utilizing the "Rental Rate Blue Book," with the appropriate adjustments noted in [Subsection 109.05](#).
8. The parties agree that, in any claim for damages, the Department will have no liability for the following items of damages or expense:

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- a. Profit, in excess of that provided herein.
 - b. Loss of profit.
 - c. Labor inefficiencies, except as allowed under [Subsection 105.13.B.6.a.](#)
 - d. Home office overhead in excess of that provided herein.
 - e. Consequential damages, including but not limited to loss of bonding capacity, loss of bidding opportunities and insolvency.
 - f. Indirect costs or expenses of any nature.
 - g. Attorneys fees, claims preparation expenses, or costs of litigation.
 - h. Interest of any nature.
9. NOTICE OF POTENTIAL CLAIM: In any case in which the Contractor believes that it will be entitled to additional compensation, the Contractor shall notify the Engineer in writing of its intent to claim such additional compensation. Such notice shall be given in order that the Department can assess the situation, make an initial determination as to who is responsible, and institute appropriate changes or procedures to resolve the matter.
- a. Claims for Delay - The Department shall have no liability for any delay which occurred more than one week prior to the filing of such written notice. Failure of the Contractor to give such written notice in a timely fashion will be grounds for denial of the claim.
 - b. All Other Claims Except Acceleration and Delay - If the Contractor does not file such written notice before beginning the work out of which such claim arises, then the Contractor hereby agrees that it shall have waived any additional compensation for that work and the Contractor shall have no claim thereto.
10. RECORDS: After filing a "Notice of Potential Claim", the Contractor shall keep daily records of all labor, material, and equipment costs incurred for operations affected. These daily records shall identify each operation affected and the specific locations where work is affected. The Department will also keep records of all labor, material, and equipment used on operations affected. At the time and place, as designated by the Engineer, on Monday, or the first work day, of each week following the date of filing a "Notice of Potential Claim", the Contractor shall meet with the Department's representative and present the daily records for the preceding week. If the Contractor's records indicate costs greater than those kept by the Department, the Department will present its records to the Contractor. The Contractor shall notify the Engineer in writing within three (3) work days of any inaccuracies noted in, or disagreements with, the Department's records. Refusal or repeated failure by the Contractor to attend these weekly meetings and present its records will constitute a waiver by the Contractor of any objections as to the accuracy of the Department's records. When the Contractor makes an objection as to the accuracy of the Department's records, the Engineer shall review the matter, and correct any inaccuracies he finds in the Department's records. For purposes of computing damages, the Department's records will control.
- In the event the Contractor wishes to contest the accuracy of the Department's records, it may file a petition pursuant to Rule 672-1-.05 of the Official Rules and Regulations of the Department of Transportation. The decision of the Engineer, or, if contested, the decision of the Agency, will be final and binding upon the parties as to any objections to the accuracy of the Department's records, subject to the Contractor's right to judicial review under O.C.G.A. Section 50-13-19.
11. On a weekly basis after filing a "Notice of Potential Claim" for delay damages, the Contractor shall prepare and submit to the Engineer written reports providing the following information:

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- a. Potential effect to the schedule caused by the delay.
- b. Identification of all operations that have been delayed, or are to be delayed.
- c. Explanation of how the Department's act or omission delayed each operation, and estimation of how much time is required to complete the project.
- d. Itemization of all extra costs being incurred, including:
 - 1) An explanation as to how those extra costs relate to the delay and how they are being calculated and measured.
 - 2) Identification of all project employees for whom costs are being compiled.
 - 3) Identification of all manufacturer's numbers of all items of equipment for which costs are being compiled.

C. Required Contents of Claims

All claims shall be submitted in writing, and shall be sufficient in detail to enable the Engineer to ascertain the basis and the amount of each claim. The claim submission shall include six (6) copies. All information submitted to the Department under this Subsection will be used exclusively for analyzing the claim, resolving the claim or any litigation which might arise from the claim. At a minimum, the following information shall be provided:

1. A description of the operations that were delayed, the reasons for the delay, how they were delayed, including the report of all scheduling experts or other consultants, if any. (Not applicable for claims other than delay claims)
2. An as-built chart, CPM scheme or other diagram depicting in graphic form how the operations were adversely affected. (Not applicable for claims other than delay claims except where an extension of time is sought)
3. A detailed factual statement of the claim providing all necessary dates, locations and items of work affected by the claim.
4. The date on which actions resulting in the claim occurred or conditions resulting in the claim became evident.
5. A copy of the "Notice of Potential Claim" filed for the specific claim by the Contractor.
6. The name, function, and activity of each Department official, or employee, involved in, or knowledgeable about facts that gave rise to such claim.
7. The name, function, and activity of each Contractor or Subcontractor official, or employee, involved in, or knowledgeable about facts that gave rise to such claim.
8. The identification of any pertinent documents, and the substance of any material oral communication relating to such claim.
9. A statement as to whether the additional compensation or extension of time sought is based on the provisions of the Contract or an alleged breach of Contract.
10. The specific provisions of the Contract which support the claim, and a statement of the reasons why such provisions support the claim.
11. The amount of additional compensation sought and a break-down of that amount into the categories specified as payable under [Subsection 105.13.B.6](#), above.
12. If an extension of time is also sought, the specific days for which it is sought and the basis for such request.

D. Required Certification of Claims

When submitting the claim, the Contractor shall certify in writing, under oath in accordance with the formalities required by Georgia law, as to the following:

1. That the claim is made in good faith.
2. That supportive data are accurate and complete to the Contractor's best knowledge and belief that the amount of the claim accurately reflects what the Contractor in good faith believes to be the Department's liability.

The Contractor shall use the CERTIFICATE OF CLAIM form, which can be obtained from the Department, in complying with these requirements.

E. Auditing of Claims

All claims filed against the Department shall be subject to audit at any time following the filing of such claim, whether or not such claim is part of a suit pending in the courts of this State. The audit may be performed by employees of the Department or by an independent auditor on behalf of the Department. The audit may begin on ten days notice to the Contractor, Subcontractor, or Supplier. The Contractor, Subcontractor, or Supplier shall make a good faith effort to cooperate with the auditors. Failure to cooperate with the auditor shall constitute a waiver by the Contractor of the claim in its entirety. Failure of the Contractor, Subcontractor, or Supplier to maintain and retain sufficient records to allow the Department's auditor to verify the claim shall constitute a waiver of that portion of such claim that cannot be verified and shall bar recovery thereunder. If the claim is part of a suit pending in a court of this state or if the claim becomes a part of a suit in a court of this state, the questions of whether the Contractor has cooperated with the auditor or failed to maintain and retain sufficient records to allow the auditor to verify the claim shall be questions for determination by the judge without the assistance of a jury.

Without limiting the generality of the foregoing, and as a minimum, the auditors shall have available to them the following documents:

1. Daily time sheets and foreman's daily reports.
2. Project payroll register.
3. Profit and loss statements for the Project.
4. Payroll tax returns.
5. Material invoices, purchase orders, and all material and supply acquisition contracts for the Project.
6. Material cost distribution worksheet for the Project.
7. Equipment records (list of company equipment, rates, etc.)
8. Vendor rental agreements, and subcontractor invoices.
9. Subcontractor payment certificates.
10. Canceled checks (payroll and vendors) for the Project.
11. Job cost report for the Project.
12. Job payroll ledger for the Project.
13. General ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals.

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14. Cash Disbursements journal for the Project.
15. Certified financial statements for all years reflecting the operations on this project.
16. Depreciation records on all company equipment whether such records are maintained by the company involved, its accountant, or others.
17. If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
18. All documents which relate to each and every claim together with all documents which support the amount of damages as to each claim.
19. Worksheets used to prepare the claim establishing the cost components for items of the claim including, but not limited to, labor, benefits and insurance, materials, equipment, subcontractors, and all documents which establish the time periods, individuals involved, the hours and the rates for the individuals.

F. Mediation

After compliance by the Contractor with parts B., C., D. and E. of [Subsection 105.13](#) and if the Contractor's claim has been disallowed in whole or in part, then the Contractor may, within 30 calendar days from receipt of the ruling of the Engineer, make a written request to the Engineer that the claim or claims be referred to mediation.

If requested in accordance with this specification, mediation shall be granted by the Department. In which case, within 30 days of receipt by the Department of the Contractor's request for mediation, the Contractor and the Department will meet to select a mediator. The mediator will then schedule the mediation at a place, time, and earliest date agreeable to the Contractor and the Department.

The Contractor and the Department mutually agree that mediation shall be a condition precedent to the filing of any lawsuit concerning claims or alleged breaches of the Contract. The costs and expenses of the mediator, selected by mutual agreement of the parties, will be divided equally between the Department and the Contractor. Each party to the mediation shall bear its own costs of preparing for and participating in the mediation.

G. Remedies Exclusive

In the event any legal action is instituted against the Department by the Contractor on account of any claim for additional compensation, whether on account of delay, acceleration, breach of contract, claimed extra work, or otherwise, the Contractor agrees that the Department's liability will be limited to those items which are specifically identified as payable in this Sub-Section.

105.14 Maintenance During Construction

The Contractor shall maintain the project during construction and until the Project is accepted. This maintenance shall constitute the continuous and effective work prosecuted day by day, with adequate equipment and forces to the end that all areas of the project are kept in satisfactory condition at all times.

The Contractor's area of responsibility for maintenance is confined to the physical construction limits plus any areas affected by the Contractor's activities. Once maintenance acceptance or final acceptance has been made, the Contractor is no longer responsible for damage to The Work other than that attributable to the Contractor's actions or inadequate construction.

In case of separate contracts, each Contractor shall be responsible for any damage to the completed work of others caused by his actions or negligence. Where the work of one Contractor has been accepted by the Department, the Contractor performing subsequent work in the area shall be responsible for the maintenance and protection of all work previously completed.

If separate bridge contracts are let within the limits of a Roadway Project and the Bridge Contractor completes his Contract before the Roadway Contractor, the Bridge Contract may be accepted and the Roadway Contractor will be responsible for maintenance of the new bridge until it is opened to traffic. If the Roadway Contractor hauls materials across the bridge the

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Roadway Contractor shall protect the endposts, deck surface, deck edges, joints, and all other vulnerable features of the bridge by use of adequate timber or earth cushions as directed by the Engineer. The Roadway Contractor shall repair all damage caused by such use, including resealing of joints and rerubbing of finish at his own expense.

All cost of maintenance work during construction and before the Project is accepted shall be included in the Unit Prices Bid on the various Pay Items and the Contractor will not be paid an additional amount for such work except as provided in [Subsection 104.05.B](#).

The Contractor shall not allow vegetative growth at any time to obstruct signs, delineation, traffic movements, or sight distance. The Contractor shall at intervals not to exceed six months, clean up and remove litter and debris; remove weeds from around guardrail, barrier, poles, standards, utility facilities, and other structures; and cut or trim trees, bushes or tall grass. These requirements shall apply to all areas within the project termini and lateral limits.

105.15 Failure to Maintain Roadway or Structures

If at any time, the Contractor fails to comply with the provisions of [Subsection 105.14](#), the Engineer will immediately notify the Contractor of such noncompliance. If the Contractor fails to remedy the unsatisfactory maintenance within 48 hours after receipt of such notice, the Engineer may immediately proceed to maintain The Work, and the entire cost of this maintenance will be deducted from monies due or to become due the Contractor under the Contract. As an alternative to the Engineer's maintaining the Work, all the Items and quantities of work done, but not properly maintained, may be deducted from the current progress estimate, even if such Items have been paid for in a previous estimate.

105.16 Final Inspection and Acceptance

Upon due written notice from the Contractor of substantial completion of the entire Project, the Engineer will determine if the Project is ready for a Final Inspection. The Engineer will have the final decision on when the Project is substantially complete and thereby ready for a Final Inspection. If the Engineer finds the Project substantially complete the Engineer will schedule the Final Inspection. If all construction provided for and contemplated by the Contract is found completed to the Engineer's satisfaction and all documents required in connection with the Project have been submitted by the Contractor, the Engineer will make the Final Acceptance and notify the Contractor in writing of this acceptance.

If, however, the Final Inspection discloses any work, in whole or part, as being unsatisfactory, the Engineer will provide the Contractor with a written punch-list that includes the necessary instructions for correction of same. The punch-list will also include any remaining work to be completed and any final reports and other documentation required to be submitted by the Contractor. The Contractor shall immediately comply with and execute such instructions. When all construction provided for and contemplated by the Contract is found completed to the Engineer's satisfaction, including submission of any required documentation, the Engineer will make the Final Acceptance and notify the Contractor in writing of this acceptance.

When the Contractor has finished a major portion of the Contract, the Contractor may request that a semi-final inspection be made. At the discretion of the Engineer, who shall be sole judge as to making the inspection, if the work is satisfactory, as described in the first paragraph of this Section, that portion of the Contract may be accepted, opened to traffic, if not already carrying traffic, and the Contractor relieved of the maintenance obligations as described elsewhere in these Specifications.

Such partial acceptance shall in no way relieve the Contractor of responsibility for satisfactory completion of the Contract, or for failure of any portion of the accepted work prior to Final Acceptance of the Project.

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107.01 Laws to Be Observed

The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, codes, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on The Work, or which in any way affect the conduct of The Work. The Contractor shall at all times observe and comply with all such laws, ordinances, codes, regulations, orders and decrees; and shall protect and indemnify the Department and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, code, regulation, order, or decree, whether by himself, his employees, subcontractors, or agents.

107.02 Permits and Licenses

The Contractor shall procure all permits and licenses, pay all charges, taxes, and fees, and give all notices necessary and incidental to the due and lawful prosecution of The Work.

107.03 Patented Devices

If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the Surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright, and shall indemnify the Department for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of The Work.

107.04 Restoration of Surfaces Opened By Permit

The right to construct or reconstruct any utility service in the highway or street and to grant permits for the same at any time, is expressly reserved by the Department for the proper authorities of the municipality or county in which The Work is done and the Contractor shall not be entitled to any damages either for the digging up of the street or highway, or for any delay occasioned thereby.

Any individual, firm, or corporation wishing to make an opening in the street or highway must secure a permit from the Department. The Contractor shall allow parties bearing such permits, and only those parties, to make openings in the street or highway. When ordered by the Engineer, the Contractor shall make in an acceptable manner all necessary repairs due to such openings and such necessary work will be paid for as Extra Work, or as provided in the Specifications, and will be subject to the same conditions as original work performed.

107.05 Federal-Aid Provisions

When the United States Government pays all or any part of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and The Work shall be subject to the inspection of the appropriate Federal agency. Such inspection shall in no sense make the Federal Government a party to this Contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State Department of Health and other authorities having jurisdiction, and shall permit no public nuisance.

107.07 Public Convenience and Safety

The Contractor shall at all times so conduct The Work as to assure the least possible obstruction of traffic. The safety and convenience of the general public and the residents along the highway and the protection of persons and property shall be provided for by the Contractor as specified under [Subsection 104.05](#), [Subsection 107.09](#), [Section 150](#), the Project Plans, and Special Provisions.

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Traffic whose origin and destination is within the limits of the Project shall be provided ingress and egress at all times unless otherwise specified in the Plans or Special Provisions. The ingress and egress includes entrance and exit via driveways at the various properties, and access to the intersecting roads and streets. The Contractor shall maintain sufficient personnel and equipment on the project at all times, particularly during inclement weather, to ensure that ingress and egress are provided when and where needed.

Two-way traffic shall be maintained at all times unless otherwise specified or approved. The Contractor shall not stop traffic without permission granted by the Engineer.

All equipment used on The Work shall come equipped with factory-installed mufflers, or manufacturer's recommended equivalent, in good condition. These mufflers shall be maintained in good condition throughout the construction period.

107.08 Railroad-Highway Provisions

All work to be performed by the Contractor on a railroad company's right-of-way or property shall be done in a manner satisfactory to the chief engineer of the railroad company, or his authorized representative, and shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the track of the railroad company. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, or unnecessary delay or interference with the railroad company's trains or other property, or property of tenants of railroad company.

The Contractor shall notify the railroad company and obtain its approval before commencing work on the railroad company's right-of-way or property.

The Contractor shall determine what measures are required by the railroad company to protect its operations and right-of-way or property during construction. Such protection may include the use of a flagger or flaggers provided by the railroad company. The Contractor shall be responsible for ensuring that the required protection is provided and shall pay the railroad company directly for any and all such services which may be required to accomplish the construction unless otherwise specified.

Any temporary grade crossings or other means needed during construction by the Contractor for transporting materials of any nature and/or equipment across the railroad tracks will be the responsibility of the Contractor to handle directly with the railroad company and bear all costs incidental to such crossings including flagging services provided by the railroad company.

Special Provisions for the protection of the interests of the railroad company may be included in the proposal to stipulate insurance and other requirements.

107.09 Barricades and Danger, Warning, and Detour Signs

The Contractor shall furnish, install, and maintain all necessary and required barricades, signs, and other traffic control devices in accordance with these Specifications, Project Plans, Special Provisions, and the MUTCD, and take all necessary precautions for the protection of the work and safety of the public.

Unless otherwise specified, all traffic control devices furnished by the Contractor shall remain the property of the Contractor.

107.10 Forest Protection

In carrying out work within or adjacent to State or National Forests, or any other forests, parks, or other public or private lands, the Contractor shall obtain necessary permits and comply with all of the regulations of the appropriate authorities having jurisdiction over such forest, park, or lands. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the appropriate authority.

The Contractor shall take all reasonable precautions to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent

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and suppress and to assist in preventing and suppressing forest fires; to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them; and to extinguish or aid in extinguishing nearby fires.

107.11 Bridges Over Navigable Waters

A. Navigation to Be Protected

Since navigable waterways are under the jurisdiction of the United States Coast Guard, all work done in such waters shall comply with their requirements. Free navigation shall not be impeded, and navigable depths shall be maintained.

B. Obstructions to be Removed

When the construction has progressed enough to permit removal, all falsework, piling and other obstructions shall be removed to the satisfaction of the Commander of the Coast Guard District having jurisdiction. In all cases such clearing must be done thoroughly before The Work will be accepted by the Department.

107.12 Use of Explosives

When the use of explosives is necessary for the prosecution of The Work, the Contractor shall exercise the utmost care not to endanger life or property, and shall obey all State, Federal and other Governmental regulations applying to transportation, storage, use, and control of such explosives. The Contractor shall be completely responsible for any and all damage resulting from the transportation, storage, use, and control of explosives in the prosecution of The Work by the Contractor, the Contractor's agents, or employees; and shall hold the Department harmless from all claims of damages resulting in any manner therefrom.

The Contractor shall notify each public utility owner having structures or other installations, above or below ground, near the site of The Work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the utility owners to take such steps as they may deem necessary to protect their property from injury. Such notice shall not relieve the Contractor of responsibility for all damages resulting from his blasting operations.

All explosives shall be stored securely in compliance with all laws and ordinances, and all such storage places shall be clearly marked DANGEROUS EXPLOSIVES. Explosives and detonators shall be stored in separate storage facilities in separate areas. Where no laws or ordinances apply, locked storage shall be provided satisfactory to the Engineer, never closer than 1,000 ft (300 m) from any travel-road, building, or camping area.

In all cases where the transport, storage, or use of explosives is undertaken, such activities shall be controlled and directed by fully qualified representatives of the Contractor.

Whenever electric detonators are used, all radio transmitters shall be turned off within a radius of 500 ft (150 m). No blasting supplies shall be transported in vehicles with two-way radio unless the transmitter is turned off, or extra shielding precautions are taken. Appropriate signs shall be placed so as to give ample warning to anyone driving a vehicle equipped with two-way radio. Electrical detonators will not be used within 500 ft (150 m) of a railroad.

107.13 Protection and Restoration of Property and Landscape

A. General Provisions

The Contractor shall be responsible for the preservation of all public and private property, crops, fish ponds, trees, monuments, highway signs and markers, fences, grassed and sodded areas, etc. along and adjacent to the highway, and shall use every precaution necessary to prevent damage or injury thereto, unless the removal, alteration, or destruction of such property is provided for under the Contract. The Contractor shall use suitable precaution to prevent damage to all underground structures, whether shown on the Plans or not, and shall protect carefully from disturbance or damage, all land monuments and property marks until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. The Contractor shall not willfully or maliciously injure or destroy trees or shrubs, and he shall not remove or cut them without proper authority.

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The Contractor shall be responsible for all sheet piling, shoring, underpinning, etc., as may be required for the protection of abutting property, nearby buildings, streets, and the like.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of The Work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing The Work, or at any time due to defective work or materials, and said responsibility will not be released until the Project shall have been completed and accepted.

When the Contractor's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archeological significance, the operations shall be temporarily discontinued. The Engineer will contact archeological authorities and the Office of Environment and Location to determine the disposition thereof. When directed by the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper authorities. Such excavation will be considered and paid for as Extra Work.

When the Contractor's normal operations are delayed by such stoppage or extra work, an appropriate time extension will be granted.

The Contractor shall plan, coordinate, and prosecute the work so that disruption to personal property and business is held to a practical minimum.

No resident or business shall be denied vehicular access to their property for any length of time other than as determined by the Engineer is absolutely necessary. Where two or more existing driveways are present for a business, only one existing driveway shall be closed at any time. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing, and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris are removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described above shall be in addition to that required by [Subsection 104.07, "Final Cleaning Up"](#) and [Subsection 105.16, "Final Inspection and Acceptance"](#).

B. Erosion and Siltation Control

The Contractor shall take all necessary measures throughout the life of the Project to control erosion and silting of rivers, streams, and impoundments (lakes, reservoirs, etc.). Construction of drainage facilities as well as performance of other Contract work which will contribute to the control of erosion and siltation shall be carried out in conjunction with clearing and grubbing, and earthwork operations as stipulated in [Section 161](#).

C. Pollution

The Contractor shall exercise every reasonable precaution throughout the life of the Contract to prevent pollution of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful waste shall not be discharged into or alongside rivers, streams, and impoundments, or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations of other State and Federal departments and to all governmental statues relating to the prevention and abatement of pollution.

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D. Insect Control Regulations

The Plant Pest Control Division of the U.S. Department of Agriculture and the Georgia State Department of Agriculture restrict the movement of certain items from areas infested with Japanese Beetles or Imported Fire Ants so as to prevent the spread of these pests to non-infested areas. Where insect infested areas are shown on the Plans, Contractors will control their operations in such a manner as to comply fully with the requirements of [Section 155](#).

E. Reclamation of Material Pits and Waste Disposal Areas

Whenever or wherever the Contractor obtains material from a source or wastes material on an area other than within the Right-of-Way, regardless of the fashion, manner or circumstances for which the source or area is obtained, it shall be reclaimed in accordance with the requirements of [Section 160](#).

F. Mailboxes

The property owner shall have the responsibility for removing and relocating the mailbox to an area outside construction limits.

The Engineer will mark a point for the relocation of the box. The stake should be set so that the location of the box will be convenient to both the mail carrier and the patron, yet not interfering with the proposed work. It may be necessary for the Engineer to confer with the Post Office serving the area.

The Contractor shall notify each affected owner, in writing, that their mailbox is in conflict with the proposed construction, that they have ten days to relocate the box and that, after the expiration of the 10 days notice, if the owner has not relocated the box, it shall be removed by the Contractor and laid upon the owner's property, clear of the Right-of-Way.

Any cost to the Contractor for removing the mailboxes as stated above shall be included in the price bid for other items.

G. Failure to Comply

Failure of the Contractor to comply with any of the above provisions or to install erosion prevention items included in the Contract at the time specified, will be evidence of omission and neglect, and the Contractor will be liable for damages as outlined in [Subsection 107.13.H](#) below. Furthermore, the Engineer shall withhold payment on all Contract Items until such time as the Contractor complies in full with all of the aforesaid provisions.

H. Payment for Damages

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the nonexecution thereof by the Contractor, the Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or shall make good such damage or injury in an acceptable manner.

I. Compensation

All costs pertaining to any requirement contained herein shall be included in the overall Bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.14 Load Restrictions

It is hereby agreed between the Department and the Contractor that in the performance of The Work under the Contract, the following load restrictions and stipulations shall be in full force and effect during the life of the Contract:

A. Parties Affected

The load restrictions and stipulations contained herein shall be applicable to the equipment of the Contractor; each agent or subcontractor employed by the Contractor; and each person or persons, firm, partnership, corporation or any combination thereof, hauling materials, supplies or equipment to or on the Project, by or for the Contractor.

B. Within Project Limits

No hauling equipment which is loaded beyond those limits provided by State Law shall be permitted on any portion of the new or existing pavement structure except that such loads will be permitted on nonstabilized bases and subbases prior to placing roadway paving subject to the provisions of [Subsection 107.17](#).

Axle loads and gross weight limits will be evaluated in accordance with current Georgia Law.

All damage caused by any equipment to any permanent installation or portion of The Work shall be promptly repaired by the Contractor at his expense. When it becomes necessary to cross existing pavement with excessive loads, the Contractor shall provide and remove, at his own expense, proper cushioning by means of earth blanket or otherwise as directed.

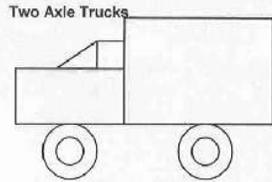
C. Outside Project Limits

All equipment users included in [Subsection 107.14.A](#), above, operating equipment on roads outside the Project limits shall be governed by the following regulations:

1. No vehicle shall carry any load in excess of that specified by Georgia Law.
2. On County System roads the maximum total gross weight shall not exceed 56,000 lbs (25,400 kg) unless a vehicle is making a pickup or delivery on such roads.
3. For a specific individual trip the above weight limitations may be exceeded provided a special permit is obtained from the Department for each such movement. A special permit will not relieve the Contractor of liability for damage that may result from such a movement.
4. Authorized personnel of the Office of Permits and Enforcement of the Department shall be permitted to weigh each truck hauling material to the Project whenever the Department so desires. The owner of each truck shall instruct his operators to cooperate with and assist the truck weighers in every way possible.
5. A Certified Public Weigher operating under the provisions of Standard Operating Procedure 15 shall not dispatch any vehicle loaded with material to be incorporated into the Project when the gross vehicle weight exceeds the limit established by law.
6. Ready Mix Concrete trucks shall comply with load restrictions as specified in Laboratory Standard Operating Procedure 10, "Quality Assurance for Ready-Mixed Concrete Plants in Georgia."
7. The guidelines illustrated in Figure 1 for gross weights on vehicles will be utilized to limit the maximum weights accepted on this project by the Engineer for materials hauled on public roads, unless the Contractor can satisfactorily demonstrate that a particular vehicle falls within the lawful axle limits. This will not apply where the law is more restrictive on the maximum weight limits, in which case the lesser gross weights will be the limit accepted. The bidder should be aware that this Provision does not grant permission for hauling with weights in excess of that allowed by the law on any of our road systems, excluding the Interstate Highway System. For hauling on the Interstate Highway System the Federal weight laws will apply, including the Federal Bridge Formula.

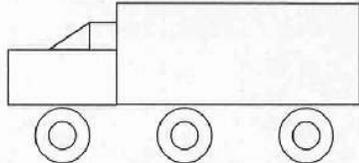
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**Figure 1
Guidelines for Gross Weights on Vehicles
Based on 20,340 Pounds (9226 kilograms) Legal Weight On Any Axle**



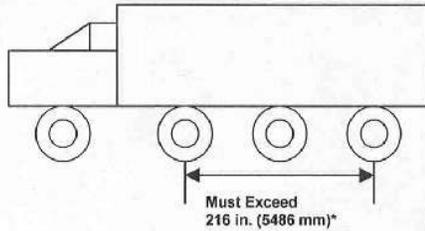
Note: Maximum acceptable Gross Weight = 40,680 lbs (18 452 kg)

Tandem Axle Trucks (3 or more axles)



Note: Maximum acceptable gross weight is 61,020 lbs. (24 947 kg). No lift axle may be used in computing the maximum total gross weight.

Four Axle Trucks

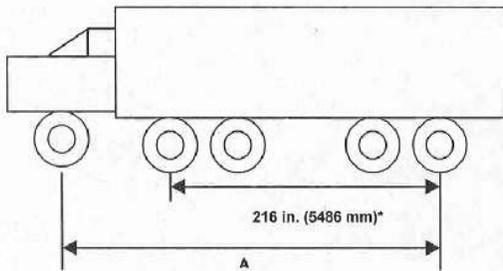


Legal Gross Weight = 70, 000 lbs. (31 751 kg)

Note: 70, 000 lbs. (31 751 kg) is estimated by Law as the maximum legal gross weight for 4-axle trucks.

*Note: If this is less than 216 in. (5486 mm), the truck will be considered a tandem axle truck.

Five or More Axles



* Note: The centers of any axles within a 216 in. (5486 mm) distance (except the steering axle) will be considered a tandem axle.

Distance A—Ft. (m)	Maximum Gross Weights—Lbs. (kg)	
	5—Axles	6—Axles
33 (10.1)	73,280 (33 239)	74,000 (33 566)
34 (10.4)	73,280 (33 239)	74,500 (33 793)
35 (10.7)	73,280 (33 239)	75,000 (34 019)
36 (11.0)	73,280 (33 239)	75,500 (34 246)
37 (11.3)	73,280 (33 239)	76,000 (34 473)
38 (11.6)	73,280 (33 239)	77,000 (34 926)
39 (11.9)	73,280 (33 239)	77,500 (35 153)
40 (12.2)	73,280 (33 239)	78,000 (35 380)
41 (12.5)	73,500 (33 339)	78,500 (35 607)
42 (12.8)	74,000 (33 566)	79,000 (35 834)
43 (13.1)	75,000 (34 019)	80,000 (36 287)
44 (13.4)	75,500 (34 246)	80,000 (36 287)
45 (13.7)	76,000 (34 473)	80,000 (36 287)
46 (14.0)	76,500 (34,700)	80,000 (36 287)
47 (14.3)	77,500 (35,153)	80,000 (36 287)
48 (14.6)	78,000 (35 380)	80,000 (36 287)
49 (14.9)	78,500 (35 607)	80,000 (36 287)
50 (15.2)	79,000 (35 834)	80,000 (36 287)
51 (15.5)	80,000 (36 287)	80,000 (36 287)

D. Responsibilities

It will be the responsibility of the Contractor to advise his personnel, and all equipment users included in [Subsection 107.14.A](#), as to the load restrictions and stipulations contained herein.

E. Excess Loads and Violations

Any load that exceeds the legal limits specified herein may be accepted at the Engineer's discretion for use in The Work; however, weight exceeding the legal limits will be deducted from the total weight and the Contractor will not receive payment for the deducted portion of materials. (For items not measured for payment by weight, the excess weight will

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be correlated to the appropriate pay quantity and this amount will be deducted from the payment.) The loads of haulers who refuse to have their vehicles weighed will be rejected.

If multiple violations assignable to a given Certified Public Weigher are occurring, that Certified Public Weigher may be suspended from weighing materials dispatched to Department of Transportation projects.

107.15 Responsibility for Damage Claims

The Contractor shall indemnify and save harmless the Department, its officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safe-guarding The Work; or through use of unacceptable materials in constructing The Work; or because of any act of omission, neglect or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Workmen's Compensation Act, or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under and by virtue of his Contract as may be considered necessary by the Department for such purpose may be withheld for the use of the State; or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

107.16 Opening Sections of Project to Traffic

Whenever any bridge or section of roadway is in acceptable condition for travel, the Engineer may direct that it be opened to traffic, whether or not the opening was originally provided for, and such opening shall not be held to be in any way an acceptance of the bridge or roadway, or any part thereof, or as a waiver of any of the provisions of the Contract. Necessary repairs or renewals made on any section of the roadway or bridge thus opened to traffic under instructions from the Engineer, due to defective material or work, or to any cause other than ordinary wear and tear, pending completion and acceptance of the roadway, bridge, or other work, shall be done by the Contractor, without additional compensation. Also, the Contractor shall not receive additional compensation for completing the Work except as specified in [Subsection 104.03](#).

If the Contractor is dilatory in completing shoulders, drainage structures, or other features of work, the Engineer may so notify him in writing and establish therein a reasonable period of time in which the Work should be completed. If the Contractor is dilatory, or fails to make a reasonable effort toward completion in this period of time, the Engineer may then order all or a portion of the Project opened to traffic. On such sections which are so ordered to be opened, the Contractor shall conduct the remainder of his construction operations so as to cause the least obstruction to traffic and shall not receive any added compensation due to the added cost of the Work by reason of opening such section to traffic.

On any section opened to traffic under any of the above conditions, whether stated in the Special Provisions or opened by necessity of Contractor's operations, or unforeseen necessity, any damage to the highway not attributable to traffic which might occur on such section (except slides) shall be repaired by the Contractor at his expense. The removal of slides shall be done by the Contractor on a basis agreed to prior to the removal of such slides.

107.17 Contractor's Responsibility for the Work

From the first day the Contractor begins work, or from the date Contract Time commences, whichever occurs first, until written final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of The Work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of The Work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except that the Department may, in its discretion, reimburse the Contractor for the repair of damage to The Work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor,

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including but not restricted to acts of God, of the public enemy or of governmental authorities. The Contractor's responsibility for damages and injuries is defined in [Subsection 104.05.A](#).

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense.

107.18 Acquisition of Right-of-Way

Rights of Way for the project will be obtained by the Department, in coordination with local governments and others. However, the Contractor's access to the portions of the right-of-way may be restricted. Where such restrictions are known in advance to the Department they will be listed in the bid proposal. Delays to the progress of the Work may be encountered because of restricted access to portions of the right-of-way. When such delays occur, whether caused by restrictions listed in the bid proposal or restrictions that develop after the Contract is signed, the parties agree in executing the Contract that such delays do not constitute breach of the Contract. Delays in availability of right-of-way beyond those listed in the bid proposal, or that develop after the Contract has been signed, that impact the controlling Item or Items of the Work will not be charged against the Contract Time. Additional compensation for such delays shall not be paid, except as provided in [Subsection 105.13](#), "Claims for Adjustments and Disputes," or [Subsection 109.09](#), "Termination Clause." In the event the Department is unable to acquire right-of-way needed for the project, resulting in delay to or termination of the project, such situation will also be controlled by this Section, and will not constitute a breach of the Contract by the Department.

107.19 Personal Liability of Public Officials

In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Board, Commissioner, Chief Engineer, their agents and employees, by the Contract, there shall be no liability, either personally or as officials or representatives of the Department, it being understood that in all such matters they act solely as agents and representatives of the Department.

107.20 No Waiver of Legal Rights

Upon completion of The Work, the Department will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or estop the Department from correcting any measurement, estimate, or certificate made before or after completion of The Work, nor shall the Department be precluded or estopped from recovering from the Contractor or his Surety, or both, such over-payment as it may sustain, or by failure on the part of the Contractor to fulfill his obligations under the Contract. A waiver on the part of the Department of any breach of any part of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the Contract, shall be liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Department's rights under any warranty or guaranty.

107.21 Contractor's Responsibility for Utility Property and Services

A. Overhead or Underground Utility Facilities

At points where the Contractor's operations are adjacent to or conflict with overhead or underground utility facilities, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

B. Utility Facility Owners

The names of known utility owners and the location of known utility facilities will be shown on the Plans or in the Special Provisions, and the Contractor shall give 24-hour notice to such utility owners before commencing work adjacent to said utility facilities which may result in damage thereto. Contractor shall further notify utility owners of any changes in his work schedules affecting required action by the utility owners to protect or adjust their facilities. Notice to the utility companies by the Department of the Award of Contract, under [Subsection 105.06](#), shall not be deemed to satisfy the notice required by this paragraph.

C. Cooperation with Facility Owners

The Contractor shall cooperate with the owners of any underground or overhead utility facilities in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

D. Interruption of Services

In the event of interruption to water or other utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

E. Facilities Supported on Bridges

If the utility facilities are to be supported on bridges, the following provisions shall apply:

1. The Plans will show the location of the facility and the auxiliary items necessary to support the facility.
2. The Contractor who constructs the bridge shall install anchor bolts, thimbles, inserts, or other auxiliary items that are attached to the bridge as a part of the support for the utility facility. The Utility owner, at his or her expense, shall furnish these auxiliary items, unless the Contract indicates that these items are to be furnished by the Contractor as a part of the bridge.
3. The Agency constructing the utility facility shall install hanger rods, pipe rolls, and other attachments necessary for the support of the utility facility as indicated on the Plans. The Utility owner, at his expense, shall furnish these attachments unless otherwise specified. This work shall also include:
 - a. Caulking the openings around the utility where it passes through endwalls to prevent the passage of undesirable materials.
 - b. Painting the exposed portions of utility supports unless such supports are corrosion resistant. Painting shall be done in accordance with the applicable portions of [Section 535](#), unless otherwise specified.
4. The sequence of bridge construction work may be set forth in the Plans and/or the Special Provisions and will show at what stage of the Work a utility owner will be allowed to make the utility installation. Further, all or any portion of The Work under [Subsection 107.21.E.3](#) may be included in the bridge Contract by the Plans and/or the Special Provisions.
5. Any damage to the bridge structure caused by the utility installation shall be repaired to the satisfaction of the Engineer at the expense of the agency installing the utility facility.

F. Clearances

The Plans provide for at least minimum clearance of utilities as required by the National Electrical Safety Code, U.S. Department of Commerce, National Bureau of Standards. Any additional clearance the Contractor may desire or require in performing The Work shall be arranged by the Contractor with the utility owner. The Department will pay no extra compensation for such additional clearances.

G. Delays

Delays and interruptions to the controlling Item or Items of The Work caused by the adjustment or repair of water, gas, or other utility appurtenances and property will not be charged against the Contract Time unless such delays are due to the negligence of the Contractor.

H. Compensation

There will be no direct compensation for complying with the above. Any additional cost to the Contractor for the above services, interruptions, or special procedures, shall be included in the over-all Bid submitted.

107.22 Hazardous and/or Toxic Waste

When the Contractor's operations encounter or expose any abnormal condition which may indicate the presence of a hazardous and/or toxic waste, such operations shall be discontinued in the vicinity of the abnormal condition and the Engineer shall be notified immediately. The presence of barrels, discolored earth, metal, wood, or visible fumes, abnormal odors, excessively hot earth, smoke, or anything else which appears abnormal may be indicators of hazardous and/or toxic wastes and shall be treated with extraordinary caution as they are evidence of abnormal conditions.

The Contractor's operations shall not resume until so directed by the Engineer.

Disposition of the hazardous and/or toxic waste will be made in accordance with the requirements and regulations of the Department of Human Resources and the Department of Natural Resources. Where the Contractor performs work necessary to dispose of hazardous and/or toxic waste, payment will be made at the unit prices for pay items included in the contract which are applicable to such work or, where the contract does not include such pay items, payment will be as provided in [Subsection 109.05](#), "Extra Work."

107.23 Environmental Considerations

A. Roadway Construction

Erosion control measures shall be installed, to the greatest practical extent, prior to clearing and grubbing. Particular care shall be exercised along stream banks, wetlands and other environmentally sensitive areas to insure that these areas are not adversely affected.

Construction equipment shall not cross streams, rivers, or other waterways except at temporary stream crossing structures approved by the Engineer.

Construction activities within wetland areas are prohibited except for those within the construction limits as shown on the Plans.

All sediment control devices (except sediment basins) installed on a project shall, as a minimum, be cleaned of sediment when one half the capacity, by height, depth or volume, has been reached. Sediment basins shall be cleaned of sediment when one-third the capacity by volume has been reached.

B. Bridge Construction Over Waterways

Construction waste or debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers or lakes.

Excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Pumping from cofferdams to a settling basin or a containment unit will be required if deemed necessary by the Engineer.

Operations required within rivers or streams, i.e. jetting or spudding, shall be performed within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt off the project.

C. Borrow and Excess Material Pits

Specific written environmental clearance from the Engineer will be required for any sites not included in the Plans as excess material or borrow areas. No work other than testing shall be started at any potential excess material or borrow site not shown on the plans prior to receiving said environmental clearance from the Engineer.

The Engineer will require a written notice from the Contractor requesting environmental clearance studies and written permission from the property owner at least six weeks prior to intended use of the site. The Department will not begin studies on such sites before a Notice to Proceed is issued.

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The Engineer will inform the Contractor in writing as to the granting or denial of environmental clearance. If denied, the Contractor may, at no expense to the Department, seek to obtain permits or pursue other remedies that might otherwise render the site(s) acceptable.

Sites included in the Plans have environmental clearance and shall be used only for the purpose(s) specified in the Plans or other contract documents. Should the Contractor wish to expand or utilize said sites for any purpose other than that provided for in the Plans or other contract documents, specific written environmental clearance as noted above shall be obtained.

D. Control of Pollutants

Pollutants or potentially hazardous materials, such as fuels, lubricants, lead paint, chemicals or batteries, shall be transported, stored, and used in a manner to prevent leakage or spillage into the environment. The Contractor shall also be responsible for proper and legal disposal of all such materials.

Equipment, especially concrete or asphalt trucks, shall not be washed or cleaned-out on the Project except in areas where unused product contaminants can be prevented from entering waterways.

E. Temporary Work in Wetlands

Temporary work in wetlands in order to facilitate construction will be subject to the following requirements:

1. Temporary work in wetlands shall be accomplished by using temporary structures, timber, concrete, soil with geotextile fabric, or other suitable matting.
2. Soil matting shall be protected from erosion in accordance with the Specifications.
3. Whenever temporary work is required in Saltwater Marsh Wetlands, all temporary structures and/or matting shall be removed in their entirety prior to Final Acceptance of the Project. Matted and compressed soils shall be backfilled to their original ground elevation with material meeting the requirements of [Section 212 – Granular Embankment](#).
4. Whenever temporary work is required in Freshwater Wetlands, all temporary structures and/or matting (exclusive of soil matting to be retained in the final roadway section) shall be removed in their entirety prior to Final Acceptance of the Project.

Once the temporary materials have been removed, the area shall be covered by Excelsior or Straw blankets in accordance with [Section 713](#) of the Specifications. The grassing and ground preparation referenced in [Subsection 713.3.03, “Preparation”](#), will not be applicable to this Work.

5. The Contractor shall notify the Engineer so that a field inspection may be conducted to certify that the temporary materials were properly removed and that the area was properly restored. The Contractor shall be responsible for any corrective action required to complete this Work.
6. There will be no separate measurement or payment for this Work. The cost associated with this Work shall be included in the overall Bid submitted.

107.24 Closing of Roadways Without On-Site Detours

When existing roadways are to be closed to through traffic and on-site detours are not provided, the Contractor shall submit a written notice to the Engineer for approval 14 days prior to the closure of the existing roadways.

After receiving approval from the Engineer for the closure, the Contractor shall install signs at each closure site, in accordance with the MUTCD, to inform the traveling public of the proposed closure, including the date of closure. The sign shall be placed 5 days prior to the closure, at the direction of the Engineer.

Prior to the closure, the Area Engineer will inform local government officials and agencies, local news media, and the DOT Public Information Office of the proposed closure of the roadways.

107.25 Disruption to Residential and Commercial Property

The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris is removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described herein shall be in addition to that required by [Subsection 104.07 “Final Cleaning Up”](#) and [Subsection 105.16 “Final Inspection and Acceptance.”](#)

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108.01 Subletting of Contract

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or Contracts, or any portion thereof, or of his/her right, title, or interest therein, without written consent of the Engineer. For Subcontracts, consent of the Engineer will not be considered until after award of the Contract.

In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform, with his/her own organization, work amounting to not less than thirty percent (30%) of the total Contract cost, including materials, equipment, and labor.

As further exception, any items designated as Specialty Items may be performed by Subcontract and the cost of any such Specialty Items so performed by Subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his/her own organization.

Purchase of materials by the Prime Contractor for use by a Subcontractor will not be allowed when computing the 30% requirement.

No Subcontracts, or transfer of Contract, shall in any case release the Prime Contractor of his/her liability under the Contract and Bonds. No Subcontractor shall commence work in advance of the written approval of the Subcontract by the Department. Except for certain items exempted by the State Transportation Board, or for Subcontracts totaling \$250,000 or less, each Subcontractor shall be prequalified or registered with the Department. Each Subcontract for a Registered Subcontractor shall not exceed \$1,000,000 and Subcontracts for Prequalified Contractors shall not exceed their current capacity. Prequalified or Registered Subcontractors shall be qualified or registered with the Department in accordance with Chapter 672-5 of the Rules and Regulations Governing the Prequalification of Prospective Bidders adopted by the State Transportation Board.

In the event any portion of a Subcontract is further sublet, all of the provisions governing subletting, including registration and written approval by the Engineer, shall apply.

This Sub-Section shall not apply to Contracts between the Department and counties, municipalities, or other State agencies.

All subcontract agreements between the Prime Contractor and subcontractor shall be in writing and shall contain all of the Federal-Aid requirements and pertinent provisions of the Prime Contract. The Prime Contractor shall, upon request by the Engineer, furnish copies of any subcontract agreement to the Department within ten (10) days of such request. This provision applies to all subcontracts, including second or multi-tier subcontracts.

According to the provisions stated above, the following items are designated Specialty Items for general transportation system construction and building construction whenever they appear in the Contract:

General Transportation System Contracts

- Grassing items
- Fencing items
- Highway lighting items
- Sign items
- Guardrail items (except bridge handrail)
- Utility items
- Comfort and convenience items in rest areas
- Landscaping items
- Pressure grouting, slab removal and replacement
- Permanent traffic markings

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- Signal systems
- Railroad track work above sub-ballast
- Drilled caisson foundations
- Construction layout
- Asphaltic concrete leveling and asphalt concrete patching (when used on surface treatment and slurry seal resurfacing contracts)

Building Contracts

- Structural Steel
- Plumbing
- Heating, ventilation, and air conditioning (HVAC)
- Electrical
- Telephone service
- Masonry
- Glass work
- Drywall
- Ceiling installation
- Roofing
- Carpentry
- Floor covering
- Raised flooring
- Landscaping
- Security system
- Fire protection
- Gutters
- Painting
- Insulation
- Doors
- Elevators
- Construction layout

The Contractor's cost for Construction Layout shall be fully documented prior to deduction from the original Contract amount)

108.02 Notice to Proceed

The delivery to the Contractor of a notice, stating that construction is authorized, constitutes Notice to Proceed. The Contractor shall do no work under the Contract until receipt of the Notice to Proceed, and the Department will not be obligated to pay for work done prior to receipt of the Notice to Proceed.

Within 10 calendar days after the Notice to Proceed has been issued, the Contractor shall begin the Work. Contract Time charges for Available Day and Calendar Day projects will begin on the date the Contractor starts to work, or 10 days after the Notice to Proceed, whichever occurs first. For Completion Date projects Contract Time charges shall begin on the day after the Notice to Proceed.

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Where the Contractor's access to part of the right-of-way is restricted, either the Special Provisions in the Contract or the Conditional Notice to Proceed will indicate such restrictions. The Department may, at its option, issue a Conditional Notice to Proceed if, in the opinion of the Engineer, a sufficient portion of the right-of-way is available to the Contractor to allow construction to proceed.

108.03 Prosecution and Progress

The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the Project in accordance with the Plans and Specifications within the time set forth in the Proposal. Unless otherwise required by the Engineer, each operation shall begin as soon after the Contract is awarded as conditions will permit. Each class of work will be expected to continue from the date it is begun until it is completed.

The Contractor shall furnish the Engineer, for approval, a Progress Schedule immediately following the receipt of the Notice to Proceed. Unless otherwise specified, the schedule shall be prepared on forms furnished by the Department or an acceptable critical path schedule will be used as the basis for establishing the controlling items of work and as a check on the progress of The Work. This Schedule will not be required on resurfacing projects.

Approval of the Progress Schedule shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Contractor of providing sufficient materials, equipment, and labor to guarantee the completion of the Project in accordance with the Plans, Specifications, and Special Provisions within the time set forth in the Proposal. Contract Time as shown in the Proposal is the allowable time. The Contractor's proposed Progress Schedule may indicate a completion date in advance of the Contract Specified Completion Date; however, the Department will not be liable in any way for the Contractor's failure to complete the project prior to the Contract Specified Completion Date.

At least 48 hours before commencing The Work, the Contractor shall notify the Engineer of his intention to begin so that proper inspection may be provided. Should the prosecution of The Work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

If the Contractor's operations are materially affected by changes in the Plans or in the amount of work, or if he has failed to comply with the approved schedule, the Contractor shall submit a revised Progress Schedule, if requested by the Engineer, which schedule shall show how he proposes to prosecute the balance of The Work. The Contractor shall submit the revised Progress Schedule within 10 days after the date of the request. The Contractor shall incorporate into every Progress Schedule submitted, any contract requirements regarding the order of performance of portions of The Work.

No payments will be made to the Contractor while he is delinquent in the submission of a Progress Schedule or a revised Progress Schedule.

108.04 Limitation of Operations

The Contractor shall conduct The Work at all times in such a manner and in such sequence as will assure the least interference with traffic and shall provide for smooth and safe traffic flow. It shall be the decision of the Engineer as to what will assure the least interference with traffic and smooth, safe traffic flow. Also, the Engineer may require the Contractor to finish a section on which work is in progress before work is started on any additional sections if the opening of such section is essential to public convenience.

108.05 Character of Workers, Methods and Equipment

The Contractor shall at all times employ sufficient labor and equipment for prosecuting the several classes of work to full completion in the manner and time required by these Specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

Any person employed by the Contractor or by any Subcontractor who the Engineer determines does not perform work in a proper and skilled manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith

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by the Contractor or Subcontractor employing such person, and shall not be employed again in any portion of The Work without the approval of the Engineer.

Should the Contractor fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of The Work, the Engineer may suspend The Work by written notice until such orders are complied with.

All equipment that is proposed to be used on The Work shall be of sufficient size and in such mechanical condition as to meet the requirements of The Work and to produce a satisfactory quality of work. Equipment used on any portion of the Project shall be such that no injury to the roadway, adjacent property, or other highways will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the Contract, the Contractor is free to use any methods or equipment that he demonstrates to the satisfaction of the Engineer will accomplish The Work in conformity with the requirements of the Contract.

When the Contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than those specified in the Contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with Contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the construction items involved nor in Contract Time as a result of authorizing a change in methods or equipment under these provisions.

108.06 Temporary Suspension of Work

The Engineer has the authority to suspend The Work wholly or in part, for as long as he may deem necessary, because of unsuitable weather, or other conditions considered unfavorable for continuing The Work, or for as long as he may deem necessary by reason of failure of the Contractor to carry out orders given, or to comply with any provisions of the Contract. No additional compensation will be paid the Contractor because of suspension. If it becomes necessary to stop The Work for an indefinite period, the Contractor shall store all materials in such a way that they will not impede the traveling public unnecessarily or become damaged in any way, and he shall take every precaution to prevent damage or deterioration of The Work done; provide suitable drainage of the roadway, and erect temporary structures where necessary. The Work shall be resumed when conditions are favorable or when corrective measures satisfactory to the Engineer have been applied; when, and as ordered by the Engineer in writing. The Contractor shall not stop The Work without authority.

If The Work is stopped by any temporary or permanent injunction, court restraining order, process or judgment of any kind, directed to either of the parties hereto, then such period or delay will not be charged against the Contract Time nor shall the Department be liable to the Contractor on account of such delay or termination of work.

108.07 Determination of Contract Time

The definition of Contract Time and when Contract Time officially begins is stated in [Subsection 101.19](#). After the Contract has been signed by all parties, Contract Time becomes the specified period of time, agreed upon by the Contractor, the Surety, and the Department, during which all Items and quantities of work set forth in the Proposal and included in the original Contract will be completed.

A. Available Day Contracts

An available day is defined in [Subsection 101.04](#). The Engineer will furnish the Contractor a written monthly statement showing the total number of available days charged through the preceding month. The Contractor will be allowed one

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week in which to file a written protest setting forth in what respect said statement is incorrect, otherwise the statement shall be deemed to have been accepted by the Contractor as correct.

B. Calendar Day Contracts

When the Contract Time is on a calendar day basis it shall consist of the number of calendar days stated in the Contract counting from the date Contract Time starts as defined in [Subsection 108.02](#), including all Sundays, holidays, and non-work days.

C. Completion Day Contracts

When the Contract completion time is a fixed date, it shall be the date on which all work on the Project shall be completed.

D. Settlement Periods

Settlement Periods shall be computed in calendar days unless otherwise stated in the contract documents.

E. Extension of Contract Time

If satisfactory fulfillment of the Contract requires performance of work in greater quantities than those set forth in the Proposal, the Contract Time allowed for performance shall be extended on a basis commensurate with the amount and difficulty of the added work as determined by the Engineer, whose decision shall be final and conclusive.

If the estimated time for the consolidation of embankments at bridge ends is extended, the Contract Time will be extended as provided in [Subsection 208.3.05.B.3](#).

If the normal progress of The Work is delayed for reasons beyond his control, the Contractor shall, within 15 days after the start of such delay, file a written request to the Engineer for an extension of time setting forth therein the reasons and providing complete documentation for the delay which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that The Work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify.

Any authorized extension of the Contract Time will be in full force and effect the same as though it was the original Contract Time.

F. Suspension of Time Charges

If the Engineer suspends the Work by reason of failure of the Contractor to carry out written orders given, or to comply with any provision of the Contract, Time Charges will continue through the period of such suspension.

If the Contractor is declared in default, Time Charges will continue.

Except on Completion Date Contracts, Time Charges will not be made against the Contract when the only remaining controlling items of work are shut down by the Engineer because of seasonal limitations or temperature controls.

G. When Time Charges Cease

Time charges will cease when all work on Contract Items have been completed to the satisfaction of the Engineer. The only exception to this requirement is that a satisfactory growth of vegetative cover and application(s) of nitrogen will not be required when Time Charges are stopped, provided all filling of washes and repairs to planted areas have been accomplished. Maintenance of planted areas in order to produce a satisfactory growth after Time Charges have stopped will be performed without assessment of liquidated damages provided this work is diligently prosecuted. If, during this waiting period, maintenance of any part of the Project is inadequate, the Engineer may resume Time Charges 10 days after written notification to the Contractor and will continue Time Charges until the unsatisfactory conditions are corrected.

108.08 Failure or Delay in Completing Work on Time

Time is an essential element of the Contract, and any delay in the prosecution of The Work may inconvenience the public, obstruct traffic, or interfere with business. In addition to the aforementioned inconveniences, any delay in completion of The Work will always increase the cost of engineering. For this reason, it is important that The Work be pressed vigorously to completion. Should the Contractor or, in case of default, the Surety fail to complete The Work within the time stipulated in the Contract or within such extra time that may be allowed, charges shall be assessed against any money due or that may become due the Contractor in accordance with the following schedule:

Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Available Day	Calendar Day or Completion Date
\$0	\$50,000	\$105	\$ 75
\$50,000	\$100,000	\$150	\$110
\$100,000	\$500,000	\$210	\$150
\$500,000	\$1,000,000	\$350	\$225
\$1,000,000	\$2,000,000	\$420	\$300
\$2,000,000	\$5,000,000	\$630	\$450
\$5,000,000	\$10,000,000	\$840	\$600
\$10,000,000	\$20,000,000	\$1,050	\$800
\$20,000,000	\$40,000,000	\$1,900	\$1,000
\$40,000,000	—	\$4,000	\$2,100

When the Contract Time is on either the calendar day or completion date basis, the schedule for calendar days shall be used. When the Contract Time is based on an available day basis, the schedule for available days shall be used.

For each Calendar Day or Available Day, as specified, that any work shall remain uncompleted after the contract time specified for the completion of the Work required by the Contract, the sum specified in the Contract will be deducted from any money due the Contractor, not as a penalty, but as liquidated damages; provided however, that due account shall be taken of any adjustment of the contract time for completion of the work granted under the provisions of [Subsection 108.07.E](#).

The Department may waive such portions of the liquidated damages as may accrue after the work is in condition for safe and convenient use by the traveling public.

A. Liquidated Damages

The amount of such charges is hereby agreed upon as fixed liquidated damages due the Department after the expiration of the time for completion specified in the Contract. The Contractor and his Surety shall be liable for liquidated damages in excess of the amount due the Contractor on the final payment.

These fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the Department and the Contractor due the uncertainty and impossibility of making a determination as to the actual and consequential damages which are incurred by the Department, the State, and the general public as a result of the failure on the part of the Contractor to complete The Work on time.

- 1. Deduction From Partial Payments:** Liquidated damages, as they accrue, will be deducted from periodic partial payments.

2. **Deduction From Final Payment:** The full amount of liquidated damages will be deducted from final payment to the Contractor and/or his Surety.
3. **No Liquidated Damages Charged for Delay by the Department:** In case of default of the Contract and the subsequent completion of The Work by the Department as hereinafter provided, the Contractor and his Surety shall be liable for the liquidated damages under the Contract, but no liquidated damages shall be chargeable for any delay in the final completion of The Work by the Department due to any unreasonable action, negligence, omission, or delay of the Department. In any suit for the collection of or involving the assessment of liquidated damages, the reasonableness of the amount shall be presumed. The liquidated damages referred to herein are intended to be and are cumulative and shall be in addition to every other remedy now or hereafter enforceable at law, in equity, by statute, or under the Contract.

B. No Waiver of Department's Rights

Permitting the Contractor to continue and finish The Work or any part of it after the expiration of the time allowed for completion or after any extension of time, shall not operate as a waiver of the rights of the Department under the Contract.

108.09 Default of Contract

If the Contractor fails to begin The Work within the time specified, or fails to perform The Work with sufficient workers, equipment, or materials to ensure its prompt completion, or performs The Work unsuitably, or neglects or refuses to remove materials or perform anew such work as shall be rejected as defective and unsuitable, or discontinues the prosecution of The Work, or from any other cause whatsoever does not carry on The Work in an acceptable manner, or becomes insolvent or is adjudicated a bankrupt, or commits any act of bankruptcy or insolvency, or allows any final judgement to stand against him unsatisfied for a period of 10 days, or makes an assignment for the benefit of creditors, or fails to comply with the contract requirements regarding wage payments or EEO requirements, or fails to sign the standard release form as stipulated in [Subsection 109.08](#) "Final Payment," the Engineer may give notice in writing by registered or certified mail to the Contractor and the Surety, stating the nature of the deficiencies and directing that The Work including its progress be remedied and made satisfactory.

If, within 10 days after such notice, the Contractor or his Surety does not proceed in satisfactory way to remedy the faults specified in said notice, the Engineer will notify the Contractor and his Surety by registered or certified mail that the Contractor is in default and, by the same message, direct the Surety to take over The Work including all of the obligations pertaining to the Contract. If the Surety takes over the work in a satisfactory way within 10 days after such notice of default, the Department will thenceforth pay to the Surety the amounts due and to become due under the Contract, less all deductions provided herein including liquidated damages. The Department shall not be liable for any sums not due under the Contract and shall not be made a party to any dispute between the Contractor and the Surety.

If the Contractor is declared in default and The Work and other Contract obligations are taken over by the Surety as required by its Bond, and when all parts of The Work have been completed and found to be satisfactory by the Engineer, as provided for in [Subsection 105.16](#) "Final Inspection and Acceptance," the said Surety is hereby constituted the attorney in fact of the Contractor for the purpose of executing such final releases as may be required by the Department or to do any other act or thing, including the execution of any documents, necessary to the completion of the Contract and a final settlement of same, including but not limited to those documents required by the provisions regarding final payment and release as set forth in [Subsection 109.08](#).

For all purposes, as herein set out and defined, including the execution of documents necessary to the final completion and settlement of the Contract, the Surety, under such circumstances, is hereby authorized and directed by the Contractor to perform such acts and execute such documents as fully and completely as though the same were performed or executed by such contractor, and to be lawfully binding upon such Contractor as though such acts had been performed or such documents executed by him in person.

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If the Surety does not take over The Work in a satisfactory way within 10 days after the notice of default, or does not proceed to finish The Work according to the Contract, the Department shall have full power and authority, without impairing the obligation of the Contract or the Contract Bond, to take over the completion of The Work; to appropriate or use any or all material and equipment on the ground that may be suitable, to enter into agreements with others for the completion of the Contract according to the terms and provisions thereof; or to use such other methods as may be required for the completion of the Contract. In so assuming the obligations of the Contractor, the Department does so as the agent of the Contractor. Assumption of these duties and obligations by the Department will not act as a release of the Contractor or his Surety from any of the provisions of this Contract. The Contractor and his Surety shall be liable for all costs incurred by the Department in completing The Work and also for all liquidated damages in conformity with the terms of the Contract. If the sum of such liquidated damages and the expense so incurred by the Department is less than the sum which would have been payable under this Contract if it had been completed by the Contractor or his Surety, the Contractor, or his Surety, shall be entitled to receive the difference; and if the sum of such expense and such liquidated damages exceeds the sum that would have been payable under the Contract, the Contractor and his Surety shall be liable and shall pay to the Department the amount of such excess. Notice to the Contractor shall be deemed to have been served when delivered to the person in charge of any office used by the Contractor, his representative at or near The Work or by registered or certified mail addressed to the Contractor at the last known place of business.

Time Charges shall continue through a period of a default in compliance with the provisions of [Subsection 108.07.F](#).

108.10 Termination of Contractor's Responsibility

Except as specified in the Contract Bond and in [Subsection 107.20](#), the Contractor's responsibility for The Work shall terminate upon final acceptance of The Work by the Department.

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109.01 Measurement and Quantities

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made along the surface, and no deductions will be made for individual fixtures having an area of 9 ft² (1 m²) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Plans or ordered in writing by the Engineer.

Where payment is to be made by the square yard (square meter) for a specified thickness, the length will be measured on the surface along the centerline and the pay width shall be that width specified on the plans for the Final surface of the completed section. Intermediate courses shall be placed at a width sufficient to support successive courses with no detriment to the stability of the successive courses. The width of material required beyond the pay width will not be eligible for payment and shall be considered incidental to the work.

Structures will be measured according to neat lines shown on the Plans or as altered to fit field conditions.

All items which are measured by the linear foot (linear meter), such as pipe culverts, guard rail, underdrains, etc., will be measured parallel to the base or foundation upon which such structures are placed, unless otherwise shown on the Plans.

In computing volumes of excavation, the average end area method or other acceptable methods will be used.

The term “gage,” when used in connection with the measurement of steel plates, will mean the U.S. Standard Gage.

When the term “gage” refers to the measurement of electrical wire it will mean the wire gage specified in the National Electrical Code.

The term “ton” will mean the short ton consisting of 2,000 pounds avoirdupois. The term “megagram” will mean one metric ton, equivalent to 1,000 kg. Any commodity paid for by weight shall be weighed on scales that have been approved as specified below and which are furnished at the expense of the Contractor or Supplier. Weighing and measuring systems including remote controls shall be subject to type-approval by the Department of Transportation. The manufacture, installation, performance, and operation of such devices located in Georgia shall conform to, and be governed by, the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act, the Georgia Weights and Measures Regulations, as amended and adopted, the current edition of the National Bureau of Standards Handbook 44, and these Specifications. Weighing and measuring systems located outside Georgia which are utilized for weighing materials to be used in Department work shall be manufactured, installed, approved, and operated in accordance with applicable laws and regulations for the state in which the scales are located.

All weighing, measuring, and metering devices used to measure quantities for payment shall be suitable for the purpose intended and will be considered to be “commercial devices.” Commodity scales located in Georgia shall be certified before use for accuracy, condition, etc., by the Weights and Measures Division of the Georgia Department of Agriculture, its authorized representative, or the Georgia Department of Transportation Office of Materials and Research. Scales located outside Georgia shall be certified in accordance with applicable laws and regulations for the state in which the scales are located. The Georgia Department of Transportation Office of Materials and Research may certify the scales. This certification shall have been made within a period of not more than one year prior to date of use for weighing commodity.

All equipment and all mechanisms and devices attached thereto or used in connection therewith shall be constructed, assembled, and installed for use so that they do not facilitate the perpetration of fraud. Any scale component or mechanism, which if manipulated would alter true scale values (including manual zero setting mechanisms) shall not be accessible to the scale operator. Such components and mechanisms that would otherwise be accessible to the scale operator shall be enclosed. Provisions shall be made for security seals where appropriate on equipment and accessories. A security seal shall be affixed to any adjustment mechanism designed to be sealed. Scale or accessory devices shall not be used if security seals have been broken or removed.

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Any certified scale or scale component which has been repaired, dismantled, or moved to another location shall again be tested and certified before it is eligible for weighing.

Whenever materials that are paid for based on weight are from a source within the State, the scales shall be operated by and the weights attested to by signature and seal of a duly authorized Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted. When such materials originate from another state that has a certified or licensed weigher program, the scales shall be operated by a weigher who is certified by that state in accordance with applicable laws, and weight ticket recordation shall be in accordance with Standard Operating Procedure 15.

When materials are paid for based on weight and originate from another state which has no program for certifying or licensing weighers, the materials shall be weighed on scales located in the State of Georgia by a Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted.

No scale shall be used to measure weights greater than the scale manufacturer's rated capacity. A digital recorder shall be installed as part of any commodity scale. The recorder shall produce a printed digital record on a ticket with the gross, tare, and net weights of the delivery trucks, along with the date and time printed for each ticket. Provisions shall be made so that the scales or recorders may not be manually manipulated during the printing process. The system shall be so interlocked as to allow printing only when the scale has come to rest. Either the gross or net weight shall be a direct scale reading. Printing and recording systems that are capable of accepting keyboard entries shall clearly and automatically differentiate a direct scale weight value from any other weight values printed on the load ticket.

All scales used to determine pay quantities shall be provided to attain a zero balance indication with no load on the load receiving element by the use of semi-automatic zero (push-button zero) or automatic zero maintenance.

Vehicle scales shall have a platform of sufficient size to accommodate the entire length of any vehicle weighed and shall have sufficient capacity to weigh the largest load. Adequate drainage shall be provided to prevent saturation of the ground under the scale foundation.

The Engineer, at his discretion, may require the platform scales to be checked for accuracy. For this purpose the Contractor shall load a truck with material of his choosing, weigh the loaded truck on his scales, and then weigh it on another set of certified vehicle scales. When the difference exceeds 0.4 percent of load, the scales shall be corrected and certified by a registered scale serviceman registered in the appropriate class as outlined in the Georgia Weights and Measures Regulations or in accordance with applicable requirements of the state in which the scales are located. A test report shall be submitted to the appropriate representative of the Department of Agriculture.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to their water level capacity as determined by the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined.

Cement and lime will be measured by the ton (megagram). Whenever cement or lime is delivered to the Project in tank trucks, a certified weight shall be made at the shipping point by an authorized Certified Public Weigher who is not an employee of the Department. Whenever cement and lime are from a source within the State, the scales shall be operated by the weights attested to by signature and seal of a duly authorized Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted. When such materials originate from another state that has a certified or licensed weigher program, the scales shall be operated by a weigher who is certified by that state in accordance with applicable laws, and the weight ticket recordation shall be in accordance with Standard Operating Procedure 15. When cement and lime originate from another state that has no program for certifying or licensing weighers, the materials shall be weighed on scales located

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in the State of Georgia by a Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted.

The shipping invoice shall contain the certified weights and the signature and seal of the Certified Public Weigher. A security seal shall also be affixed to the discharge pipe cap on the tank truck before leaving the shipping point. The number on the security seal shall also be recorded on the shipping invoice. The shipping invoice for quicklime shall also contain a certified lime purity percentage. Unsealed tank trucks will require reweighing by a Certified Public Weigher.

Timber will be measured by the thousand feet board measure (MFBM) (cubic meter) actually incorporated in the structure. Measurements will be based on nominal widths and thickness and the actual length in place. No additional measurement will be made for splices except as noted for overlaps as shown on the Plans.

The term “Lump Sum” when used as an item of payment will mean complete payment for the Work described in the Contract.

When a complete structure or structural unit (in effect, “Lump Sum” work) is specified as the unit of the measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured as defined in [Subsection 109.05.B.4](#).

When standard manufactured items are specified as fence, wire, plates, rolled shapes, pipe conduits, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerance in cited Specifications, manufacturing tolerances established by the industries involved will be accepted.

109.02 Measurement of Bituminous Materials

A. By Weighing the Material

The Department prefers this method whenever it is practicable. This method will be considered acceptable under the following conditions:

- 1. Weighed On Project:** If the weights of the bituminous materials delivered by tank trucks are to be determined on the Project, weights shall be determined on scales that have been previously checked by the Department with standard weights for accuracy. The scale platform shall be large enough to accommodate the entire vehicle at one time. Under no conditions will truck scales be used to measure weights greater than their rated capacity. All weights not determined in the presence of an authorized representative of the Department shall be made by a Certified Public Weigher who is not an employee of the Department of Transportation and who is in good standing with the Georgia Department of Agriculture. The weight tickets shall carry both the signature and seal of the Certified Public Weigher.
- 2. Weighed At Shipping Point:** A certified weight made at the shipping point by an authorized Certified Public Weigher who is not an employee of the Department of Transportation and who is registered with the Georgia Department of Agriculture, will be acceptable provided all openings in the tank have been sealed by the producer and when, upon inspection on the Project, there is no evidence of any leakage. The shipping ticket in this case must carry the signature and seal of the Certified Public Weigher. If the tank is not completely emptied the amount of material remaining in the tank truck will be measured by either weight or volume and the amount so determined, as verified by the Engineer, will be deducted from the certified weight.
- 3. By Extraction Analysis:** The weight of bituminous material used will be determined by extraction tests made by the field laboratory. The average asphalt content for each Lot will be used to compute the weight of the Asphalt Cement to be paid for in accordance with the following formula:

English:

$$P = \% AC \times T$$

Where:

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P	=Pay Tons of Asphalt Cement
% AC	=Lot average of % Asphalt Cement by weight of total mix as determined by extraction
T	=Actual accepted tons of mixture as weighed

Metric:

$$P = \% AC \times T$$

Where:

P	=Pay megagrams of Asphalt Cement
% AC	=Lot average of % Asphalt Cement by weight of total mix as determined by extraction
T	=Actual accepted megagrams of mixture as weighed

4. **By Digital Recording Device:** The amount of bituminous material as shown on the printed tickets will be the Pay Quantity.

B. By Volume

The volume will be measured and corrected for the difference between actual temperature and 60 °F (15 °C). Containers shall be level when measured, and one of the following methods shall be used, whichever is best suited to the circumstances:

1. **Tank Car Measurement:** If the material is shipped to the Project in railroad tank cars, the Contractor shall furnish the Engineer a certified chart showing the dimensions and volume for each inch (25 mm) of depth for each tank. The Engineer will make outage and temperature measurements before unloading is begun and after it is finished. The measurements will be taken when the bituminous material is at a uniform temperature and free from air bubbles. The Contractor shall not remove any bituminous material from any tank until necessary measurements have been made nor shall he release the car until final outage has been measured. The total number of gallons (liters) allowed for any tank car shall not be more than the U.S. Interstate Commerce Commission rating for that car, converted to gallons at 60 °F (15 °C).
2. **Truck Measurement:** If bituminous materials are delivered to the Project in tank trucks, distributor tanks, or drums, the Contractor shall not remove any bituminous material from the transporting vehicle or container until necessary measurements have been made, nor shall the transporting vehicle or container be released until final outage has been measured. If weighing is not convenient, the Contractor shall furnish the Engineer with a certified chart showing the dimensions and volume of each container together with a gauge or calibrated measuring rod which will permit the volume of the material to be determined by vertical measurement.
3. **Metering:** The volume may be determined by metering, in which case the metering device used and the method of using it shall be subject to the approval of the Engineer.
4. **Time of Deliveries:** The arrival and departure of vehicles delivering bituminous materials to the Project site shall be so scheduled that the Engineer is afforded proper time for the measurements of delivered volume and final outage. The Engineer will make the necessary measurements only during the Contractor's normal daily working hours.

C. Production for Multiple Projects

When a Contractor is producing Asphaltic Concrete from one plant, which is being placed on two or more jobs, public or private, the amount of bituminous material used may be determined by extraction tests in accordance with [Subsection 109.02.A.3](#) or digital recording device in accordance with [Subsection 109.02.A.4](#).

D. Tack Coat

When the same storage facility is utilized for Bituminous Materials to be used in Hot Mix Asphaltic Concrete, Bituminous Tack Coat, and/or Surface Treatment, the quantity used for Tack Coat shall be converted to tons (megagrams) and deducted from the quantities for the Bituminous Material used in the Hot Mix Asphaltic Concrete and Surface Treatment.

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E. Corrections

When the volume and temperature have been determined as defined above, the volume will be corrected by the use of the following formula:

$$V_{\text{English}} = \frac{V1}{K(t-60) + 1} \qquad V_{\text{metric}} = \frac{V1}{K(t-15) + 1}$$

Where:

V = Volume of bituminous material at 60 °F (15 °C)

V1= Volume of hot bituminous material

t = Temperature of hot bituminous material in degrees Fahrenheit (Celsius)

K= Coefficient of Expansion of bituminous material (correction factor)

The correction factors K for various materials are given below:

- 0.00035 (0.00063) per °F (°C) for petroleum oils having a specific gravity of 60 °F/60 °F (15 °C/15 °C) above 0.966
- 0.00040 (0.00072) per °F (°C) for petroleum oils having a specific gravity of 60 °F/60 °F (15 °C/15 °C) between 0.850-0.966
- 0.00030 (0.00054) per °F (°C) for Tar
- 0.00025 (0.00045) per °F (°C) for Emulsified Asphalt
- 0.00040 (0.00072) per °F (°C) for Creosote Oil

109.03 Scope of Payment

The Contractor shall receive and accept the compensation provided for in the Contract as full payment for furnishing all materials, labor, tools, equipment, superintendence and incidentals, and for performing all work contemplated and embraced under the Contract in a complete and acceptable manner, for any infringement of patent, trademark or copyright, for all loss or damage arising from the nature of The Work, or from the action of the elements, for all expenses incurred by or in consequence of the suspension or discontinuance of The Work, or from any unforeseen difficulties which may be encountered during the prosecution of The Work and for all risks of every description connected with the prosecution of The Work until its Final Acceptance by the Engineer, except as provided in [Subsection 107.16](#).

The payment of any partial estimate prior to Final Acceptance of the Project as provided in [Subsection 105.16](#) shall in no way affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damages due to such defects.

109.04 Payment and Compensation for Altered Quantities

When alteration in Plans or quantities of work not requiring Supplemental Agreements as herein before provided for are ordered and performed, the Contractor shall accept payment in full at the Contract Unit Bid Prices for the actual quantities of work done, and no allowance will be made for increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor, resulting either directly from such alterations, or indirectly from unbalanced allocation among the Contract Items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursement therefore, or from any other cause.

Compensation for alterations in Plans or quantities of work requiring Supplemental Agreements shall be as stipulated in such agreement, except that when the Contractor proceeds with the Work without change of price being agreed upon, he shall be paid for such increased or decreased quantities at the Contract Unit Prices Bid in the Proposal for the Items of the Work.

109.05 Extra Work

Extra work, as defined in [Subsection 101.27](#), when ordered in accordance with [Subsection 104.04](#), will be authorized in writing by the Engineer. The authorization will be in the form of a Supplemental Agreement or a Force Account.

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A. Supplemental Agreement

In the case of a Supplemental Agreement, the work to be done will be stipulated and agreed upon by both parties prior to any extra work being performed.

Payment based on Supplemental Agreements shall constitute full payment and settlement of all additional costs and expenses including delay and impact damages caused by, arising from or associated with The Work performed.

B. Force Account

When no agreement is reached for Extra Work to be done at Lump Sum or Unit Prices, such work may be authorized by the Department to be done on a Force Account basis. A Force Account estimate that identifies all anticipated costs shall be prepared by the Contractor on forms provided by the Engineer. Work shall not begin until the Force Account is approved. Payment for Force Account work will be in accordance with the following:

1. **Labor:** For all labor, equipment operators and supervisors, excluding superintendents, in direct charge of the specific operations, the Contractor shall receive the rate of wage agreed upon in writing before beginning work for each and every hour that said labor, equipment operators and supervisors are actually engaged in such work.

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on The Work.

An amount equal to 15% of the sum of the above items will also be paid the Contractor.

2. **Bond, Insurance, and Tax:** For property damage, liability, and worker's compensation insurance premiums, unemployment insurance contributions, and Social Security taxes on the Force Account work, the Contractor shall receive the actual cost, to which cost no percentage will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance, and tax.
3. **Materials:** For materials accepted by the Engineer and used, the Contractor shall receive the actual cost of such material incorporated into The Work, including Contractor paid transportation charges (exclusive of machinery rentals as hereinafter set forth), to which cost 10% will be added.
4. **Equipment:** For any machinery or special equipment (other than small tools) including fuel and lubricant, plus transportation costs, the use of which has been authorized by the Engineer, the Contractor shall receive the rental rates indicated below for the actual time that such equipment is in operation on The Work or the time, as indicated below, the equipment is directed to stand by.

Equipment rates shall be based on the latest edition of the *Rental Rate Blue Book for Construction Equipment* or *Rental Rate Blue Book for Older Construction Equipment*, whichever applies, as published by EquipmentWatch using all instructions and adjustments contained therein and as modified below.

Allowable Equipment Rates shall be established as defined below:

- Allowable Hourly Equipment Rate = Monthly Rate/176 x Adjustment Factors x 70%.
- Allowable Hourly Operating Cost = Hourly Operating Cost x 70%.
- Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost.
- Standby Rate = Allowable Hourly Equipment Rate x 35%

NOTE: The monthly rate is the basic machine plus any attachments.

Standby rates shall apply when equipment is not in operation and is directed by the Engineer to standby for later use. In general, Standby rates shall apply when equipment is not in use, but will be needed again to complete The Work and the cost of moving the equipment will exceed the accumulated standby cost. Payment for standby time will not be made on any day the equipment operates for 8 or more hours. For equipment accumulating less than 8 hours operating time on any normal workday, standby payment will be limited to only that number of hours which, when

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added to the operating time for that day equals 8 hours. Standby payment will not be made on days that are not normally considered workdays.

The Department will not approve any rates in excess of the rates as outlined above unless such excess rates are supported by an acceptable breakdown of cost.

Payable time periods will not include:

- Time elapsed while equipment is broken down
- Time spent in repairing equipment, or
- Time elapsed after the Engineer has advised the Contractor the equipment is no longer needed

If a piece of equipment is needed which is not included in the above *Blue Book* rental rates, reasonable rates shall be agreed upon in writing before the equipment is used. All equipment charges by persons or firms other than the Contractor shall be supported by invoices.

Transportation charges for each piece of equipment to and from the site of the Work will be paid provided:

- The equipment is obtained from the nearest approved source
- The return charges do not exceed the delivery charges
- Haul rates do not exceed the established rates of licensed haulers, and
- Such charges are restricted to those units of equipment not already available and not on or near the Project

No additional compensation will be made for equipment repair.

5. **Miscellaneous:** No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
6. **Compensation:** The Contractor's representative and The Engineer shall compare records and agree on the cost of work done as ordered on a Force Account basis at the end of each day on forms provided by the Department.
7. **Subcontract Force Account Work:** For work performed by an approved Subcontractor or Second-tier Subcontractor, all provisions of this Section (109.05) that apply to the Prime Contractor in respect to labor, materials and equipment shall govern. The prime Contractor shall coordinate the work of his Subcontractor. The prime Contractor will be allowed an amount to cover administrative cost equal to 5% of the Subcontractor's amount earned but not to exceed \$5,000.00 per Subcontractor. Markup for Second-tier Subcontract work will not be allowed.
Should it become necessary for the Contractor or Subcontractor to hire a firm to perform a specialized type of work or service which the prime Contractor or Subcontractor is not qualified to perform, payment will be made at reasonable invoice cost. To each invoice cost a markup to cover administrative cost equal to 5% of the total invoice but not to exceed \$5,000.00 will be allowed the Contractor or Subcontractor but not both.
8. **Statements:** No payment will be made for work performed on a Force Account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such Force Account work detailed as follows:
 - a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer, equipment operator, and supervisor, excluding superintendents.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices, and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability, and worker's compensation insurance premiums, unemployment insurance contributions, and Social Security tax.

Statements shall be accompanied and supported by invoices for all materials used and transportation charges.

However, if materials used on the Force Account work are not purchased specifically for such work but are taken from the Contractor's stock, then, in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such

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materials were taken from his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Payment based on Force Account records shall constitute full payment and settlement of all additional costs and expenses including delay and impact damages caused by, arising from or associated with The Work performed.

109.06 Eliminated Items

Should any Items contained in the Proposal be found unnecessary for the proper completion of The Work, the Engineer may, upon written order to the Contractor, eliminate such Items from the Contract, and such action shall in no way invalidate the Contract. When a Contractor is notified of the elimination of Items, he will be reimbursed for actual work done and all costs incurred, including mobilization of materials prior to said notifications.

109.07 Partial Payments

A. General

At the end of each calendar month, the total value of Items complete in place will be estimated by the Engineer and certified for payment. Such estimate is approximate only and may not necessarily be based on detailed measurements. Value will be computed on the basis of Contract Item Unit Prices or on percentage of completion of Lump Sum Items.

When so requested by the Contractor and approved by the Engineer, Gross Earnings of \$150,000 or more for work completed within the first 15 days of any month will be certified for payment on a semi-monthly basis subject to the conditions and provisions of [Subsection 109.07.A](#), [Subsection 109.07.B.6](#), [Subsection 109.07.C](#), [Subsection 109.07.D](#), [Subsection 109.07.E](#), and [Subsection 109.07.F](#).

B. Materials Allowance

Payments will be made on delivered costs, or percentage of bid price if otherwise noted, with copies of paid invoices provided to the Department for the materials listed below which are to be incorporated into the Project provided the materials:

- Conform to all Specification requirements.
- Are stored on the Project Right-of-Way or, upon written request by the Contractor and written approval of the Engineer, they may be stored off the Right-of-Way, but local to the Project, provided such storage is necessary due to lack of storage area on the Right-of-Way, need for security, or need for protection from weather.

As a further exception to on-Project storage, upon written request by the Contractor, the Engineer may approve off-the-Project storage items uniquely fabricated or precast for a specific Project, such as structural steel and precast concrete, which will be properly marked with the Project number and stored at the fabrication or precast facility.

The Engineer may approve out-of-state storage for structural steel and prestressed concrete beams uniquely fabricated for a specific Project stored at the fabrication facility.

1. Paid invoices should accompany the materials allowance request, but in no case be submitted to the Project Engineer later than 30 calendar days following the date of the progress payment report on which the materials allowance was paid.

In case such paid invoices are not furnished within the established time, the materials allowance payment will be removed from the next progress statement and no further materials allowance will be made for that item on that Project.

2. Materials allowances will be paid for those items which are not readily available, and which can be easily identified and secured for a specific project and for which lengthy stockpiling periods would not be detrimental. Some exclusions are as follows:
 - a. No payments will be made on living or perishable plant materials until planted.
 - b. No payments will be made on Portland Cement, Liquid Asphalt, or Grassing Materials.

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- c. No payment will be made for aggregate stockpiled in a quarry. Payment for stockpiled aggregate will be made only if the aggregate is stockpiled on or in the immediate vicinity of the project and is held for the exclusive use on that project. The aggregate must be properly secured. If the aggregate stockpiled is to be paid for per-ton (megagram) it must be reweighed on approved scales at the time it is incorporated into the Project.
 - d. No payments will be made on minor material items, hardware, etc.
3. No materials allowance will be made for materials when it is anticipated that those materials will be incorporated into the Work within 30 calendar days.
 4. No materials allowance will be made for a material when the requested allowance for such material is less than \$10,000.
 5. Where a storage area is used for more than one project, material for each project shall be segregated from material for other projects, identified, and secured. Adequate access for auditing shall be provided. All units shall be stored in a manner so that they are clearly visible for counting and/or inspection of the individual units.
 6. The Commissioner may, at his discretion, grant waiver to the requirements of this Section when, in his opinion, such waiver would be in the public interest.

Subsequently, in the event the material is not on-hand and in the quantities for which the materials allowance was granted, the materials allowance payment will be removed from the next progress statement and no further materials allowance will be made for those items on that Project. If sufficient earnings are not available on the next progress statement, the Contractor agrees to allow the Department to recover the monies from any other Contract he may have with the Department, or to otherwise reimburse the Department.

Payments for materials on hand shall not exceed the invoice price or 75 percent of the bid prices for the pay items into which the materials are to be incorporated, whichever is less.

C. Minimum Payment

No partial payment will be made unless the amount of payment is at least \$1000.00.

D. Liquidated Damages

Accrued liquidated damages will be deducted in accordance with [Subsection 108.08](#).

E. Other Deductions

In addition to the deductions provided for above, the Department has the right to withhold any payments due the Contractor for items unpaid by the Contractor for which the Department is directly responsible, including, but not limited to, royalties (see [Section 106](#)).

F. Amount of Payment

The balance remaining after all deductions provided for herein have been made will be paid to the Contractor. Partial estimates are approximate and are subject to correction on subsequent progress statements. If sufficient earnings are not available on the subsequent progress statement, the Contractor agrees to allow the Department to recover the monies from any other Contract he may have with the Department, or to otherwise reimburse the Department. The Engineer is responsible for computing the amounts of all deductions herein specified, for determining the progress of the Work and for the items and amounts due to the Contractor during the progress of the Work and for the final statement when all Work has been completed.

G. Interest

Under no circumstances will any interest accrue or be payable on any sums withheld or deducted by the Department as authorized by [Subsection 109.07.A](#), [Subsection 109.07.B.6](#), [Subsection 109.07.C](#), [Subsection 109.07.D](#), [Subsection 109.07.E](#), and [Subsection 109.07.F](#).

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H. Insert the Following in Each Subcontract

The Contractor shall insert the following in each Subcontract entered into for work under this Contract:

“The Contractor shall not withhold any retainage on Subcontractors. The Contractor shall pay the Subcontractor 100% percent of the gross value of the Completed Work by the Subcontractor as indicated by the current estimate certified by the Engineer for payment.”

Neither the inclusion of this Specification in the Contract between the Department and the Prime Contractor nor the inclusion of the provisions of this Specification in any Contract between the Prime Contractor and any of his Subcontractors nor any other Specification or Provision in the Contract between the Department and the Prime Contractor shall create, or be deemed to create, any relationship, contractual or otherwise, between the Department and any Subcontractor.

109.08 Final Payment

When Final Inspection and Final Acceptance have been made by the Engineer as provided in [Subsection 105.16](#), the Engineer will prepare the Final Statement of the quantities of the various classes of work performed. All prior partial estimates and payments shall be subject to correction in the Final Statement. The District Engineer will transmit a copy of the Statement to the Contractor by Registered or Certified Mail. The Contractor will be afforded 20 days in which to review the Final Statement in the District Office before it is certified for payment by the Engineer. Any adjustments will be resolved by the District Engineer or in case of a dispute referred to the Chief Engineer whose decision shall be final and conclusive. After approval of the Final Statement by the Contractor, or after the expiration of the 20 days, or after a final ruling on disputed items by the Chief Engineer, the Final Statement shall be certified to the Treasurer by the Chief Engineer stating the Project has been accepted and that the quantities and amounts of money shown thereon are correct, due and payable.

The Treasurer, upon receipt of the Engineer’s certification, shall in turn furnish the Contractor with the Department’s Standard Release Form to be executed in duplicate. The aforesaid Release Form, showing the total amount of money due the Contractor, shall be sent to the Contractor by Registered or Certified Mail, to be delivered to such Contractor upon the signing of a return receipt card, to be returned to the Department in accordance with the provision of Federal law in respect to such matters and such return receipt card shall be conclusive evidence of a tender of said sum of money to the Contractor. Upon receipt of the properly executed Standard Release Form, the Treasurer shall make final payment jointly to the Contractor and his Surety. The aforesaid certification, executed release form, and final payment shall be evidence that the Commissioner, the Engineer, and the Department have fulfilled the terms of the Contract, and that the Contractor has fulfilled the terms of the Contract except as set forth in his Contract Bond.

The Standard Release Form is to be executed by the Contractor within 120 days after delivery thereof, as evidenced by the Registered or Certified Mail Return Receipt. Should the Contractor fail to execute the Standard Release Form because he disputes the Final Payment as offered, or because he believes he has a claim for damages or additional compensation under the Contract, the Contractor shall, within 120 days after delivery to the Contractor of the Standard Release Form, as evidenced by the Registered or Certified Mail Return Receipt, enter suit in the proper court for adjudication of his claim. Should the Contractor fail to enter suit within the aforesaid 120 days, then by agreement hereby stipulated, he is forever barred and stopped from any recovery or claim whatsoever under the terms of this Contract.

Should the Contractor fail to execute the Standard Release Form or file suit within 120 days after delivery thereof, then the Surety on the Contractor’s Bond is hereby constituted the attorney-in-fact of the Contractor for the purpose of executing such final releases as may be required by the Department, including but not limited to the Standard Release Form, and for the purpose of receiving the Final Payment under this Contract.

The Department reserves the right as defined in [Subsection 107.20](#), should an error be discovered in any estimates, to claim and recover from the Contractor or his Surety, or both, such sums as may be sufficient to correct any error of overpayment. Such overpayment may be recovered from payments due on current active Projects or from any future State work done by the Contractor.

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The foregoing provisions of this Section shall be applicable both to the Contractor and the Surety on his Bond; and, in this respect, the Surety shall be bound by the provisions of [Subsection 108.09](#) of these Specifications in the same way and manner as the Contractor.

A. Interest

In the event the Contractor fails to execute the *Standard Release Form* as prepared by the Treasurer because he disputes the amount of the final payment as stated therein, the amount due the Contractor shall be deemed by the Contractor and the Department to be an unliquidated sum and no interest shall accrue or be payable on the sum finally determined to be due to the Contractor for any period prior to final determination of such sum, whether such determination be by agreement of the Contractor and the Department or by final judgement of the proper court in the event of litigation between the Department and the Contractor. The Contractor specifically waives and renounces any and all rights it may have under Section 13-6-13 of the Official Code of Georgia and agrees that in the event suit is brought by the Contractor against the Department for any sum claimed by the Contractor under the Contract, for delay damages resulting from a breach of contract, for any breach of contract or for any extra or additional work, no interest shall be awarded on any sum found to be due from the Department to the Contractor in the final judgement entered in such suit. All final judgements shall draw interest at the legal rate, as specified by law. Also, the Contractor agrees that notwithstanding any provision or provisions of Chapter 11 of Title 13 of the Official Code of Georgia that the provisions of this contract control as to when and how the Contractor shall be paid for The Work. Further, the Contractor waives and renounces any and all rights it may have under Chapter 11 of Title 13 of the Official Code of Georgia.

B. Termination of Department's Liability

Final payment will be in the amount determined by the statement as due and unpaid. The acceptance of the final payment or execution of the Standard Release Form or failure of the Contractor to act within 120 days as provided herein after tender of payment, or final payment to the Contractor's Surety in accordance with the provisions stipulated herein, shall operate as and be a release to the Department, the Commissioner, and the Engineer from all claims of liability under this contract and for any act or neglect of the Department, the Commissioner, or the Engineer.

109.09 Termination Clause

A. General

The Department may, by written notice, terminate the Contract or a portion thereof for the Department's convenience when the Department determines that the termination is in the State's best interest, or when the Contractor is prevented from proceeding with the Contract as a direct result of one of the following conditions:

1. An Executive Order of the President of the United States with respect to the prosecution of war or in the interest of national defense.
2. The Engineer and Contractor each make a determination, that, due to a shortage of critical materials required to complete the Work which is caused by allocation of these materials to work of a higher priority by the Federal Government or any agency thereof, it will be impossible to obtain these materials within a practical time limit and that it would be in the public interest to discontinue construction.
3. An injunction is imposed by a court of competent jurisdiction which stops the Contractor from proceeding with the Work and causes a delay of such duration that it is in the public interest to terminate the Contract and the Contractor was not at fault in creating the condition which led to the court's injunction.

The decision of the Engineer as to what is in the public interest and as to the Contractor's fault, for the purpose of Termination, shall be final.

4. Orders from duly constituted authority relating to energy conservation.

B. Implementation

When, under any of the conditions set out in Subsection A of this Section, the Contract, or any portion thereof, is terminated before completion of all Items of Work in the Contract, the Contractor shall be eligible to receive some or all of the following items of payment:

1. For the actual number of units of Items of Work completed, payment will be made at the Contract Unit Price.
2. Reimbursement for organization of the Work and moving equipment to and from the job will be considered where the volume of work completed is too small to compensate the Contractor for these expenses under the Contract Unit Prices. However, the Engineer's decision as whether or not to reimburse for organization of the Work and moving equipment to and from the job, and in what amount, shall be final.
3. Acceptable materials, obtained by the Contractor for the Work, that have been inspected, tested, and accepted by the Engineer, and that are not incorporated in the Work will, at the request of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer. This will include any materials that have been delivered to the project site or that have been specifically fabricated for the project and are not readily usable on other projects. It will not include materials that may have been ordered, but not delivered to the project site and that are readily usable on other projects (e.g., guard rail, stone, lumber, etc.).
4. For Items of Work partially completed, payment adjustments including payments to afford the Contractor a reasonable profit on work performed, may be made as determined by the Engineer based upon a consideration of costs actually incurred by the Contractor in attempting to perform the Contract.
5. No payment will be made, and the Department will have no liability, for lost profits on Work not performed. In particular, the Department will not be liable to the Contractor for all profits the Contractor expected to realize had the Project been completed, nor for any loss of business opportunities, nor for any other consequential damages.
6. In order that the Department may make a determination of what sums are payable hereunder, the Contractor agrees that, upon termination of the Contract, it will make all of its books and records available for inspection and auditing by the Department.

To be eligible for payment, costs must have been actually incurred, and must have been recorded and accounted for according to generally accepted accounting principles, and must be items properly payable under Department policies. Where actual equipment costs cannot be established by the auditors, payment for unreimbursed equipment costs will be made in the same manner as is provided in [Subsection 109.05](#) for Force Account Work. Idle time for equipment shall be reimbursed at standby rates. In no case will the Contractor be reimbursed for idle equipment after the Engineer has advised the Contractor the equipment is no longer needed on the job. Refusal of the Contractor to allow the Department to inspect and audit all of the Contractor's books and records shall conclusively establish that the Department has no liability to the Contractor for any payment under this provision, and shall constitute a waiver by the Contractor of any claim for damages allegedly caused by breach or termination of the Contract. The amount payable under this provision, if any, is to be determined by the Engineer, whose determination will be final and binding.

7. The sums payable under this Subsection shall be the Contractor's sole and exclusive remedy for termination of the Contract.

C. Termination of a Contract

Termination of a Contract or a portion thereof shall not relieve the Contractor of his responsibilities for any completed portion of the Work, nor shall it relieve his Surety of its obligation for and concerning any just claims arising out of the Work performed.

109.10 Interest

In the event any lawsuit is filed against the Department alleging the Contractor is due additional money because of claims or for any breach of contract, the Contractor hereby waives and renounces any right it may have under O.C.G.A. Section 13-6-

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13 to prejudgment interest. Also, the Contractor agrees that notwithstanding any provision or provisions of Chapter 11 of Title 13 of the Official Code of Georgia that the provisions of this contract control as to when and how the Contractor shall be paid for The Work. Further, the Contractor waives and renounces any and all rights it may have under Chapter 11 of Title 13 of the Official Code of Georgia.

Section 150—Traffic Control

150.1 General Description

This section describes:

- Installation and maintenance of traffic control devices during construction Projects let to Contract by the [Georgia Department of Transportation](#).
- Guidelines and procedures for reducing the speed limit in areas where workers are present, or where roadway or roadside conditions create a potential hazard from construction or maintenance activities.

Temporary speed limit reductions in Work zones must comply with Georgia Law (Code Section 40-6-188).

150.2 Definitions

The traffic control plan is defined in Special Provision Section 150, and is supplemented by the Plans, the Specifications, the current edition of the [Manual on Uniform Traffic Control Devices \(MUTCD\)](#), and any applicable Supplemental Specifications.

Traffic control devices referred to in this section are devices specified in the Contract and the [MUTCD](#) and are used by a Contractor to regulate, warn, or guide traffic through a Project under construction.

150.3 Related References

A. Standard Specifications

Section 104—Scope of Work

Section 107—Legal Regulations and Responsibility to the Public

Section 108—Prosecution and Progress

Section 150—Traffic Control

Section 632—Portable Changeable Message Signs

B. Referenced Documents

[Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

Official Code of Georgia Annotated (OCGA): 40-6-188

Georgia Utilities Coordinating Committee (GUCC) Manual (also known as Manual on Traffic Control Procedures for Utilities)

150.4 Submittals

A. Contractor Responsibilities

Prior to construction, the Contractor shall submit a detailed staging and traffic control plans for performing specific areas of the Work including but not limited to all traffic shifts, detours, bridge widening, paces, lane closures or other activities that disrupt traffic flow. A Plan of operation and sequence of Work, along with

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any appropriate Provisions for traffic control, shall be submitted to the Project Engineer for prior approval before beginning any Work.

NOTE: The Contractor's primary responsibility is for safe passage of pedestrian and vehicular traffic through the Work zone with minimal confusion and traffic flow disruption.

At a minimum of 14 days before a major traffic shift on the Project, the Contractor shall submit additional traffic control details, as outlined in the Special Provisions, to the Project Engineer.

B. Project Engineer Responsibilities

1. Before construction, inspect the initial installation of the traffic control devices.
2. Periodic inspections of the conditions of the devices and their effectiveness in the work zone.
 - a. If problems are encountered, the District Traffic Operations Office can assist with solutions to improve traffic control.
 - b. Document inspection in Contract Diary.
3. Daytime and Nighttime inspections should be made as conditions warrant.
4. Observe traffic movements while operating under the traffic control devices.
5. Report lane closures and openings as follows:
 - a. Report Projects that routinely require a lane closure only once, unless the operation changes, such as stopping Work for a long period of time or switching lanes.
 - b. Report intermittent lane closures each time they are closed to keep the Office of Construction aware of the actual Project conditions.
 - c. Follow the procedures outlined in [Section C](#), Traffic Interruption Report.
6. Notify the Area Engineer when unusual situations arise that requires a lane closure. The Area Engineer should then notify the District Construction Office and the State Construction Engineer. Send a fax to the District Office and to the State Construction Office.
7. The Contractor shall not begin a major traffic shift until the Project Engineer has approved the following:
 - a. A set of traffic control details
 - b. Any proposed lane shifts, closures, or traffic pacing
 - c. The removal, storage, and protection of any existing street lights, signs, or sign supports
8. The Project Engineer will periodically prepare the Form T.C. 1, Traffic Control Inspection and submit it to the Contractor. The Project Engineer will review the form to ensure the Contractor has corrected all deficiencies in a timely manner. The Project Engineer will file all completed traffic control forms at the Project Office.

For further information, refer to Subsection 107.07, "Public Convenience and Safety" in the Specifications.

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C. Traffic Interruption Reports

Report all detours, road or lane closures, openings to traffic and other traffic interruptions using the Traffic Interruption Report.

The Office of Construction and the Communications Office use this form to stay informed of construction activities affecting traffic.

Note: The form is an electronic form. The fill in version of the form is located on sv35, click on Forms97, click on Fill-ins and look for the Traffic Interruption form.

Once the form is completely filled out, send the form by e-mail (or fax) to the following distribution lists:

All traffic interruptions in Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, and Rockdale Counties shall be reported to:

- Assistant State Construction Engineer
- Construction Liaison Engineer
- District Construction Engineer
- District Maintenance Engineer
- Area Engineer
- District Media Coordinator
- TMC via e-mail (TMC-TrafficInterruptionReports)
- [Office of Communications via e-mail \(Communications Office-TIR\)](#)

When the interruption (i.e., lane closure, detour, etc.) is actually in place notify TMC by Southern Linc (TMC SL # 28291) or 1-888-424-4929, or 404-624-2653 or fax 404-635-8004. When the interruption is complete and all lanes are open to traffic, notify TMC by Southern Linc or phone.

All traffic interruptions on the Interstate System – Statewide shall be reported as follows:

- Assistant State Construction Engineer
- Construction Liaison Engineer
- District Construction Engineer
- District Maintenance Engineer
- Area Engineer
- District Media Coordinator
- TMC via e-mail (TMC-TrafficInterruptionReports)
- [Office of Communications via e-mail \(Communications Office-TIR\)](#)

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When the interruption (i.e., lane closure, detour, etc.) is actually in place notify TMC by Southern Linc (TMC SL # 28291) or 1-888-424-4929, or 404-624-2653 or fax 404-635-8004. When the interruption is complete and all lanes are open to traffic, notify TMC by Southern Linc or phone.

All other traffic interruptions shall be reported to:

- District Construction Engineer
- District Maintenance Engineer
- Area Engineer
- District Media Coordinator

These traffic interruptions DO NOT require the notification of the Assistant State Construction Engineer, TMC, or [Communications](#); unless it is determined the interruption would significantly disrupt traffic.

When filling out the form:

1. **TIME** section:
 - Put the hour and AM or PM, such as 7AM or 8PM. Do not add minutes to the **TIME** section.
2. **LOCATION** section:
 - Note the direction i.e. WB, NB, etc. Give specific names of the roads, mileposts or exit numbers. **Do not give station numbers. Be Specific.** Give as much specific information as needed to describe the location, and the number of lanes closed.
3. **HOW WILL TRAFFIC BE AFFECTED** section:
 - List the closure as single, double, pacing traffic, opening new lane, temporary ramp closure, shifting lanes, etc.
4. **PURPOSE** section:
 - Describe the work taking place, i.e. milling and resurfacing, striping, setting beams, utility work, etc.
5. **CONTACT** section:
 - The name of the Contractors representative who will be **ON SITE** during the traffic interruption. Also, the name of DOT representative who will be **ON SITE** during the traffic interruption.

All information on the bottom of the form must be filled in. If you have a Southern Linc add your number under "ADDITIONAL INFORMATION"

If the report submitted is for several days, note "**DAILY**" on the form.

NOTE: If conditions during construction or traffic interruption reduce the horizontal clearance to less than 16 feet and/or reduce the vertical clearance to less than 15 feet, the reduced clearances shall be clearly noted under "Additional Information". If an oversize load detour is initiated, provide this information on the form. Send a copy of the form to Permits via e-mail, (OS/OW-

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Traffic Interruption Reports), or fax to 404-635-8164(OW) and 404-635-8501 (OS). This applies to all interruptions regardless of county or route.

The form should contain only one activity per report, unless multiple activities will occur simultaneously in the same general location and during the same time frame.

The following schedule should be followed:

1. Notice of openings should be given two (2) weeks in advance of implementing the change.
2. Notice of detours should be given one (1) week prior to implementing.
3. Lane closures and other traffic interruptions should be reported a week in advance and at no time less than three (3) days prior to implementing.

Earlier notification is desirable.

NOTE: If a computer is non accessible a hard copy of the Traffic Interruption Report, can be filled in by hand and faxed per current procedures.

150.5 Materials

A. Delivery, Storage, and Handling

Store and protect removed streetlights, signs, or sign supports as required by the Contract provisions or as directed by the Engineer.

150.6 Construction Requirements

A. Personnel

The Contractor shall designate a qualified Worksite Traffic Control Supervisor (WTCS) who shall be responsible for administering the traffic control Plan according to the Contract.

1. Worksite Traffic Control Supervisor (WTCS):
 - Be responsible for selecting, installing and maintaining all traffic control devices in accordance with the Plans, Specifications, Special Provisions and the [MUTCD](#).
 - Have appropriate training in safe traffic control practices in accordance with Part VI of the [MUTCD](#).
 - Ensure that all traffic control devices are effective and comply with the Traffic Control Plan.
 - Exercise full authority to act on behalf of the Contractor in administering the Traffic Control Plan.
 - Be available on a 24-hour basis and be able to respond effectively to an emergency within 45 minutes of notification.
 - Supervise the installation of the traffic control devices before construction.
 - Review any modifications to the Traffic Control Plan before submitting them to the Project Engineer.

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- Inspect the traffic control devices on a regular basis to ensure that they meet the requirements of the Traffic Control Plan.
- Monitor the Work to ensure that all potential hazards are kept clear of the traffic and that dust, mud, and debris do not interfere with normal traffic operations or adjacent property.
- Ensure that the WTCS is certified when working on limited access highways.

NOTE: No Work shall begin on any phase of the Project unless the appropriate traffic control devices have been placed according to the Contract requirements.

2. Flagger

- Flaggers shall be provided as required to handle traffic, as specified in the Plans or Special Provisions, and as required by the Engineer.
- All flaggers shall meet the requirements of the [MUTCD](#) and shall have received training and a certificate upon completion of the training from a Department approved training program.
- Failure to provide a certified flagger as required will be reason for the Project Engineer to suspend work involving the flagger(s) until the Contractor provides certified flagger(s).
- Flaggers must have proof of certification and a valid identification available when performing flagger duties.
- Flaggers shall wear high-visibility clothing in compliance with [MUTCD](#).
- Flaggers shall use a Stop/Slow paddle meeting the requirements of the [MUTCD](#) for controlling traffic.
- Flags used shall meet the minimum requirement of the [MUTCD](#).

B. Equipment

1. Traffic Control Devices

All traffic control devices used during the construction of a project shall meet the Standards utilized in the [MUTCD](#), and shall comply with the requirements of these Specifications, Project Plans, and Special Provisions. All traffic control devices used on any project shall be NCHRP 350 compliant.

2. Reflectorization Requirements

a. Interstate Highways:

- All construction warning signs (Black on Orange) shall meet the reflectorization requirements of Section 913, Type V diamond grade sheeting on all signs regardless of the mounting height.
- All other signs shall meet the requirements of Type I engineering grade unless otherwise specified.

NOTE: Channelization devices shall meet the requirements of Section 913, Type III or IV high intensity sheeting.

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b. All other Highways:

- All reflectorization for permanent mounting height construction signs (Black on Orange), object markers, and channelization devices shall meet the reflectorization requirements of [Section 913](#), Type III or IV unless otherwise specified.
- Portable signs which have rigid or flexible sign blanks shall have Type V diamond grade sheeting.
- Warning signs (W3-1a) for stop conditions that have rumble strips located in the travelway shall be reflectorized with Type V fluorescent yellow diamond grade sheeting.
- All other signs shall meet the requirements of Type I unless otherwise specified.

3. Loaning Traffic Signal Equipment

The Department may loan traffic signal equipment to a Contractor to expedite a project.

- a. The Project Engineer will determine if any equipment has been loaned to the Prime Contractor or any Subcontractor. If equipment has been loaned:
- The Project Engineer will determine the approximate value of the equipment. Traffic Operations can help the Project Engineer determine the signal equipment's value.
 - The value of the equipment shall be withheld from the estimate until the loaned equipment has been returned to the Department in good condition.
- b. Loaned equipment may not be used to accomplish the operational test period required by the Contract.
- c. Include on the final punch list any loaned equipment that has not been returned.

NOTE: A Project should never receive final acceptance until all loaned equipment has been returned to the Department.

- d. The Department will provide the Contractor with a complete list of all equipment loaned to the Contractor. The Contractor confirms receipt of the equipment by signing for the delivery.
- e. When the Contractor returns the equipment to the Department, he or she must furnish a complete list of all equipment returned.
- f. The Project Engineer will inventory the equipment to ensure it is returned and is in good condition.
- g. The Project Engineer will sign a release for the Contractor to acknowledge receipt of the equipment.

“Loaned equipment” discussed in this section does not include equipment supplied to the Contractor under Section 647 of the Specifications.

150.7 Construction

A. Inspection

During the day and night, the Project Engineer will periodically inspect the traffic control devices and determine their effectiveness in the Work zone. The frequency of these inspections will depend on the type and volume of Work.

During an inspection, observe traffic movement while the devices are operating. If appropriate, include the District Traffic Operations Office in this inspection. If the inspection uncovers concerns, the District Traffic Operations Office may assist the Project Engineer with solutions for improved traffic control. When an inspection is complete, the Project Engineer will document the results in the Contract diary.

B. Enforcement

If deficiencies in traffic control are not satisfactorily corrected within a reasonable time period, or a maximum of 24 hours after notification, take the following steps:

1. The Project Engineer will set a deadline for making corrections noted on Form T.C. 1, Traffic Control Inspection Report. He or she will notify the Contractor's WTCS and the Project Superintendent in writing that the Department will take further action if the corrections are not made in a satisfactory and timely manner.
2. If the Contractor fails to meet the deadline, the Project Engineer will again notify the Project Superintendent in writing that the WTCS has failed to properly perform the duties of the job and will request that the Contractor cease all Work on the Project except for traffic and erosion control Items.
3. The notification will state that if all required corrections are not made immediately, then all payments to the Contractor will be withheld and the WTCS will be placed on probation for failure to perform the duties of the job. If the WTCS has been extremely delinquent, the Project Engineer may direct that the WTCS be dismissed from the duties of administering traffic control and find an immediate replacement.
4. If the Contractor again fails to meet the deadline after the Work has stopped and payments withheld, the Project Engineer will notify the Contractor in writing that nonrefundable deductions for nonperformance will begin until the Project Engineer is satisfied that all corrections have been made. All work, except traffic control and erosion control, shall remain shut down until all required corrections have been made.
5. If the Contractor is delinquent or deficient in installing and maintaining traffic control, and the Project Engineer has carried out and properly documented the progressive steps listed above, the Project Engineer will require that the Contractor meet with the Department. The following people shall attend the meeting:
 - Area Engineer
 - District Construction Engineer (if available)
 - WTCS
 - Project Superintendent

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- Project Superintendent's immediate supervisor

6. At the meeting, the Area Engineer will outline the traffic control deficiencies to the Contractor. The Contractor shall provide a Plan to ensure that the Project will be brought into compliance with the traffic control Plan by a specific date. Work shall not resume until an acceptable Plan is approved by the Area Engineer.

C. Restrictions

The Project Engineer may restrict construction operations if the Work would seriously disrupt traffic flow when unusual traffic conditions exist, such as during holidays and bad weather.

D. Determining Reduced Speed Limits

GaDOT is responsible for determining the appropriate speed limit reduction for all roadways under its supervision. The Contractor may request a reduction of the existing speed limit; however, GaDOT will make the final determination.

The Project Engineer gives written approval for reduction of the established speed limit before the contractor will be allowed to reduce the speed limit.

The Project Engineer responsible for the activity will determine the following:

- Appropriate speed limit reduction
- Duration of the speed limit reduction
- Length of the Work zone

The Project Engineer must get the Area Engineers concurrence before final approval is given to the contractor. The District Traffic Operations may be consulted for assistance as part of the review process.

The Area Engineer shall notify the District Construction Engineer and the District Traffic Engineer in writing a minimum of 48 hours prior to placing the new speed zone in operation; an E-mail or fax is acceptable with a hard copy to follow.

A temporary speed reduction zone will be established for a section of roadway according to an identified need such as:

- When workers are near a travel lane.
- When Work is being performed near a travel lane.
- When Temporary concrete barrier is located less than 2 feet (m) from the travelway.
- When the Contractor's request is justified.

A speed reduction will not be put in place for the entire length of the Project unless conditions require.

E. Work Zone Speed Limits

The minimum reduction of the posted speed limit will be no less than 10 mph (16 kph) and a maximum reduction of no greater than 20 mph (32 kph).

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Do not use regulatory speed limit signs (black on white) to reduce speeds to less than 10 mph (16 kph) below the original speed limit unless one or more of the following conditions exist in the Work zone:

- Sharp cresting vertical curves
- Horizontal shifts
- Work is performed near a travel lane

F. Signing Requirements for reduced speed limits

To temporarily reduce the speed limit in a Work zone, use the following guidelines. For additional information, refer to the Special Provision for Section 150 for reduced speed signage requirements.

1. Erect a standard R2-5a (Reduced Speed Ahead) sign a minimum of 600 ft (183 m) in advance of the reduced speed zone.
2. Erect a standard R2-1 (Speed Limit XX) sign a minimum of 600 ft (183 m) in advance of the beginning of the reduced speed zone, if the speed limit will be reduced a total of 20 mph (32 kph). This sign reduces the speed in 10 mph (16 kph) increments.
3. Erect a black on white regulatory R2-Special (Work Zone/Speed Limit XX/Minimum Fine \$100) sign 600 ft (183 m) past the previous sign erected in Step 1 or 2.
4. Erect intermediate R2-1 (Speed Limit XX) signs at intervals not exceeding one mile within the reduced speed zone.
5. Erect a standard R2-1 (Speed Limit XX) sign 600 ft (183 m) past the Work zone. This sign shall post the normal speed limit for the roadway.
6. Cover or remove all existing speed limit signs while the temporary reduction in the speed limit is in effect.

All signs will be erected in compliance with the minimum requirements of the MUTCD.

G. Documentation

The Project Engineer shall record the following:

- The date and time that each temporary speed reduction zone is installed and removed
- The limits of the zone
- The traffic direction, if applicable

H. Portable Changeable Message Signs

When using a Portable Variable Message Sign (PCMS) on a Project, place the PCMS ahead of the construction activity or road condition to prepare the motorist. Do not place the PCMS in permanent location miles in advance of the Work zone.

The PCMS message should be concise and meaningful. Display messages no more than two flashes as described below: (One flash is desirable, motorists may not see nor comprehend longer messages.)

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- The first flash should direct the motorist to take a specific action, such as MERGE/RIGHT, KEEP/RIGHT, or REDUCE/SPEED.
- The second flash, if necessary, should inform the motorist of road conditions, such as LEFT/LANE/CLOSED, LANE/NARROWS/AHEAD, SHOULDER/DROP/OFF, WATER/IN/ROAD or TRUCKS/IN AND OUT.

Do not use confusing or frightening messages such as USE CAUTION, HAZARD AHEAD, or DANGER. Also, avoid messages such as BUCKLE/UP or DRIVE/SAFELY that diminish the impact of important messages.

When the PCMS is not needed, turn off the sign and remove it from the roadside.

I. Traffic Control for Utility Work

When GaDOT's Contractor or Subcontractor performs utility Work, Traffic Control shall be in accordance with the Contract Specifications (typically Special Provision 150). When a utility or a Contractor hired by the utility performs utility Work, whether by permit or agreement, shall control traffic according to the current policy of the Utilities Office, even if the Department is reimbursing the utility through a Force Account or the Work lies within a construction Work area. The current policy can be viewed in the Utility Accommodation Policy and Standards Manual, current edition, including any addendums, or at the State Utilities Office web site.

The Utility is responsible for planning with the Department's Contractor a schedule of operations which will clearly set forth at which stage of the Contractor's operations the utility will be required to perform its relocation and adjustment work.

The Utility traffic control shall be in accordance with the [Manual on uniform Traffic Control Devices \(MUTCD\)](#), current edition. The Utility will plan and determine the scope of a temporary traffic control plan (TCP). The Utility shall indicate on each individual permit application whether the TCP is based on the typical application drawings contained in Part 6 of the [MUTCD](#) or a detailed TCP designed solely for a particular work site or a combination of both. If the Utility determines that a detailed TCP designed solely for a particular work site is needed, a copy of the detailed TCP shall be submitted with the permit application. The Department reserves the right to request a detailed TCP upon review of the permit applications.

Prior to commencing work associated with highway construction, whether by permit or agreement, the Utility shall notify the Department's Area Engineer or Project Engineer and present their work schedule and temporary traffic control plan in order to review for any changes from the preconstruction phase submittal and for understanding by all parties prior to occupying the work site.

All flaggers shall be certified from a Department approved training program. Flaggers shall have their certification with them at all times, when flagging, and may be subject to inspection. Failure to provide certified flaggers shall be reason for suspending work requiring the flagger(s) until a certified flagger can be provided.

The Engineer reserves the right to require additional flaggers, signs, warning lights, channelization devices and other safety devices as may be necessary to properly protect, warn and safeguard the traveling public. Continued failure of the Utility to comply with the requirement of this or any other related section will

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result in the Engineer issuing a written order to stop work (i.e. Stop Work Order). Upon issuance of a stop work order, all utility work on the right of way will be suspended, except erosion control and traffic control, until corrective actions or deficiencies are addressed, and the Engineer issues a written resume work order.

Contact the State Utilities Office or your respective District Utilities Office for future guidance.

To obtain photocopies of the GUCC Manual and copies of individual traffic control plans, contact the District Utility Office.

150.8 Measurement

When listed in the Contract, payment for Traffic Control will be made at the Lump Sum price bid, which will include all traffic control not paid for separately, and will be paid as follows:

When the first Construction Report is submitted, a payment of 25 (twenty-five) percent of the Lump Sum price will be made. For each progress payment thereafter, the total Project percent complete shown on the top of page one of the current construction report plus 25 (twenty-five) percent minus the previous payments will be paid, not to exceed 100 (one-hundred) percent.

150.9 Payment

NOTE: Under normal circumstances the Project Engineer shall not withhold any percentage of payment due to be paid to the Contractor.

Section 161—Control of Soil Erosion and Sedimentation

161.1 General Description

Specifications for this work will be included elsewhere in the Contract.

Section 162—Erosion Control Check Dams

162.1 General Description

This work includes furnishing, constructing, and maintaining erosion control check dams.

162.1.01 Definitions

General Provisions 101 through 150.

162.1.02 Related References

A. Standard Specifications

Section 810—Roadway Materials

B. Referenced Documents

General Provisions 101 through 150.

162.1.03 Submittals

General Provisions 101 through 150.

162.2 Materials

A. Erosion Control Materials

Use these materials as needed to control erosion on check dams:

1. Where required, use any commercial type of woven wire minimum 14 ½ gauge.
2. Obtain other materials such as logs, brush, stakes, etc., from the Right-of-Way where available.
3. Place Number 57 stone, where required, at the location and depth indicated on the Plans.
4. Ensure that material in the earth dams meets the requirements of Subsection 810.2.01.A.1, “Classes” for Class II soils.

162.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

162.3 Construction Requirements

162.3.01 Personnel

General Provisions 101 through 150.

162.3.02 Equipment

General Provisions 101 through 150.

162.3.03 Preparation

General Provisions 101 through 150.

162.3.04 Fabrication

General Provisions 101 through 150.

162.3.05 Construction

A. Check Dam Construction

Construct check dams as follows:

1. Construct check dams before roadway clearing, grubbing, or grading is done in the affected drainage area. Construct according to the Plans.
2. Remove the trees, logs, brush, etc., within the Right-of-Way and the affected area that may be used to construct the check dams. Do not disturb other natural ground cover.

NOTE: Use only rubber-tired equipment to work in the affected drainage area until after the check dam is in place and completed.

3. Obtain the embankment material for the earth dams from outside the area draining into the protected pond or stream.
4. Immediately after completing the earthwork on the earth dams, place a layer of Number 57 stone on the downstream side of the dam. Immediately grass the remaining portions (top and upstream slopes) of the earth dams.
5. Immediately after grading, grass or stabilize with straw mulch roadway cut and fill slopes that drain toward the check dam drainage area.
6. Leave check dams in place after construction is complete unless otherwise directed by the Engineer.

162.3.06 Quality Acceptance

General Provisions 101 through 150.

162.3.07 Contractor Warranty and Maintenance

Repair the check dams as needed during the life of the Contract.

The estimated number of check dams required is shown on the Plans. Additional check dams may be necessary and shall be constructed when directed by the Engineer.

162.4 Measurement

The number of erosion control check dams measured for the payment is the actual number completed and accepted.

162.4.01 Limits

General Provisions 101 through 150.

162.5 Payment

Erosion control check dams, as measured in Subsection 162.4, "Measurement," are paid for at the Contract Unit Price. Payment is full compensation for:

- Earth dam construction and compaction
- Required grassing, mulching, and Number 57 stone
- Log dams and dissipaters
- Removal if ordered by the Engineer

Payment for this Item is made as follows:

- 75 percent of the Contract Price is paid when each erosion control check dam is complete in place.
- 25 percent is paid when the Engineer instructs the Contractor that the check dam is no longer required but will remain in place or be removed, whichever applies.

NOTE: Temporary devices will be left in place at the Engineer’s discretion without a change in cost.

Payment will be made under:

Item No. 162	Erosion control check dam—type__	Per each
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162.5.01 Adjustments

General Provisions 101 through 150.

Section 163—Miscellaneous Erosion Control Items

163.1 General Description

This work includes constructing and removing:

- Silt control gates
- Temporary erosion control slope drains shown on the Plans or as directed
- Sediment basins
- Baled straw sediment barrier and check dams
- Rock filter dams
- Stone filter berms
- Stone filter rings
- Other temporary erosion control structures shown on the Plans or directed by the Engineer

This work also includes applying mulch (straw or hay, erosion control compost), and temporary grass.

163.1.01 Related References

A. Standard Specifications

- Section 109—Measurement and Payment
- Section 161—Control of Soil Erosion and Sedimentation
- Section 171—Temporary Silt Fence
- Section 500—Concrete Structures
- Section 603—Rip Rap
- Section 700—Grassing
- Section 715—Bituminous Treated Roving
- Section 720 – Triangular Silt Barrier
- Section 800—Coarse Aggregate
- Section 801—Fabrics
- Section 822—Emulsified Asphalt
- Section 860—Lumber and Timber
- Section 863—Preservative Treatment of Timber Products
- Section 890—Seed and Sod
- Section 893—Miscellaneous Planting Materials

B. Referenced Documents

- AASHTO M252
- AASHTO M294

163.1.02 Submittals

Provide written documentation to the Engineer as to the average weight of the bales of mulch.

163.2 Materials

Provide materials shown on the Plans, such as pipe, spillways, wood baffles, and other accessories including an anti-seep collar, when necessary. The materials shall remain the Contractor’s property after removal, unless otherwise shown on the Plans.

Materials may be new or used; however, the Engineer shall approve previously used materials before use.

Materials shall meet the requirements of the following Specifications:

Material	Section
Mulch	<u>893.2.02</u>
Temporary Silt Fence	<u>171</u>
Concrete Aprons and Footings shall be Class A	<u>500</u>
Rip Rap	<u>603</u>
Temporary Grass	<u>700</u>
Bituminous Treated Roving	<u>715</u>
Triangular Silt Barrier	<u>720</u>
Lumber and Timber	<u>860.2.01</u>
Preservative Treatment of Timber Products	<u>863.1</u>
Corrugated Polyethylene Temporary Slope Drain Pipe	AASHTO M252 or M294

163.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

163.3 Construction Requirements

163.3.01 Personnel

General Provisions 101 through 150.

163.3.02 Equipment

General Provisions 101 through 150.

163.3.03 Preparation

General Provisions 101 through 150.

163.3.04 Fabrication

General Provisions 101 through 150.

163.3.05 Construction

A. Silt Control Gates

If silt control gates are required or are directed by the Engineer, follow these guidelines to construct them:

1. Clear and grade only that portion of the roadway within the affected drainage area where the drainage structure will be constructed.
2. Construct or install the drainage structure and backfill as required for stability.
3. Install the silt control gate at the inlet of the structure. Use the type indicated on the Plans.
4. Vary the height of the gate as required or as shown on the Plans.
5. Finish grading the roadway in the affected drainage area. Grass and mulch slopes and ditches that will not be paved. Construct the ditch paving required in the affected area.
6. Keep the gate in place until the work in the affected drainage area is complete and the erodible area is stabilized.
7. Remove the Type 1 silt gate assembly by sawing off the wood posts flush with the concrete apron. Leave the concrete apron between the gate and the structure inlet in place. The gate shall remain the property of the Contractor.

B. Temporary Slope Drains

If temporary slope drains are required, conduct the roadway grading operation according to [Section 161](#) and follow these guidelines:

1. Place temporary pipe slope drains with inlets and velocity dissipaters (straw bales, silt fence, or aprons) according to the Plans.
2. Securely anchor the inlet into the slope to provide a watertight connection to the earth berm. Ensure that all connections in the pipe are leak proof.
3. Place temporary slope drains at a spacing of 350 ft (105 m) maximum on a 0% to 2% grade and at a spacing of 200 ft (60m) maximum on steeper grades, or more frequently as directed by the Engineer. Keep the slope drains in place until the permanent grass has grown enough to control erosion.
4. Remove the slope drains and grass the disturbed area with permanent grass. However, the temporary slope drains may remain in place to help establish permanent grass if approved by the Engineer.

C. Sediment Basins

Construct sediment basins according to the Plans at the required location, or as modified by the Engineer.

1. Construct the unit complete as shown, including:
 - Grading
 - Drainage
 - Rip rap
 - Spillways
 - Anti-seep collar
 - Temporary mulching and grassing on internal and external slopes
 - Accessories to complete the basin
2. When the sediment basin is no longer needed, remove and dispose of the remaining sediment.
3. Remove the sediment basin. Grade to drain and restore the area to blend with the adjacent landscape.
4. Mulch and permanently grass the disturbed areas according to [Section 700](#).

D. Sediment Barrier (baled straw)

Construct sediment barrier (baled straw) according to the Plan details. Use rectangular, standard size baled straw in mechanically produced bales.

The following items may be substituted for sediment barrier (baled straw)

1. Type B Silt Fence.
2. Triangular Silt Barrier.

3. Synthetic Fiber: Use synthetic fiber bales of circular cross section at least 18 in (450 mm) in diameter. Use synthetic bales of 3 ft or 6 ft (0.9 m or 1.8 m) in length that are capable of being linked together to form a continuous roll of the desired total length. Use bales that are enclosed in a geotextile fabric and that contain a pre-made stake hole for anchoring.
4. Coir: Use coir fiber bales of circular cross section at least 16" (400mm) in diameter. Use coir bales of 10 ft, 15 ft, or 20 ft (3 m, 4.5 m, or 6 m) in length. Use coir baled with coir twine netting with 2 in X 2 in (50 mm X 50 mm) openings. Use coir bales with a dry density of at least 7 lb/ft³ (112 kg/m³). Anchor in place with 2 in X 4 in (50 mm X 100 mm) wooden wedges with a 6 in (150 mm) nail at the top. Place wedges no more than 36 in (900 mm) apart.
5. Excelsior: Use curled aspen excelsior fiber with barbed edges in circular bales of at least 18 in (450 mm) in diameter and nominally 10 ft (3 m) in length. Use excelsior baled with polyester netting with 1 in X 1 in (25 mm by 25 mm) triangular openings. Use excelsior bales with a dry density of at least 1.4 lb/ft³ (22 kg/m³). Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm).
6. Compost Filter Sock: Use general use compost (see Subsection 893.2.02.A.5.b) in circular bales at least 18 in diameter. Use compost baled with photo-degradable plastic mesh 3 mils thick with a maximum 0.25 in X 0.25 in (6 mm X 6 mm) openings. Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm). The sock shall be dispersed on site when no longer required, as determined by the Engineer. Do not use Compost Filter Socks in areas where the use of fertilizer is restricted.
7. Compost Filter Berm: Use erosion control compost (see [Subsection 893.2.02](#)) to construct an uncompacted 1.5 ft to 2 ft (450 mm to 600 mm) high trapezoidal berm which is approximately 2 ft to 3 ft (600 mm to 1 m) wide at the top and minimum 4 ft (1.2 m) wide at the base. Do not use Compost Filter Berms in areas where the use of fertilizer is restricted.

The construction of the compost filter berm includes the following:

- a. Keeping the berm in a functional condition.
- b. Installing additional berm material when necessary.
- c. Removing the berm when no longer required, as determined by the Engineer. At the Engineer's discretion, berm material may be left to decompose naturally, or distributed over the adjacent area.

E. Other Temporary Structures

When special conditions occur during the design stage, the Plans may show other temporary structures for erosion control with required materials and construction methods.

F. Temporary Grass

Use a quick growing species of temporary grass such as rye grass, millet, or a cereal grass suitable to the area and season.

Use temporary grass in the following situations:

- When required by the Specifications or directed by the Engineer to control erosion where permanent grassing cannot be planted.
- To protect an area for longer than mulch is expected to last (60 calendar days).

Plant temporary grass as follows:

1. Use seeds that conform to Subsection 890.2.01, "Seed." Perform seeding according to [Section 700](#); except use the minimum ground preparation necessary to provide a seed bed if further grading is required.
2. Prepare areas that require no further grading according to Subsection 700.3.05.A, "Ground Preparation." Omit the lime unless the area will be planted with permanent grass without further grading. In this case, apply the lime according to [Section 700](#).
3. Apply mixed grade fertilizer at 400 lbs/acre (450 kg/ha). Omit the nitrogen. Mulch (with straw or hay) temporary grass according to [Section 700](#). (Erosion control compost Mulch will not be allowed with grassing.)
4. Before planting permanent grass, thoroughly plow and prepare areas where temporary grass has been planted according to Subsection 700.3.05.A, "Ground Preparation".
5. Apply Polyacrylamide (PAM) to all areas that receive temporary grassing.

6. Apply Pam (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
7. Apply PAM according to manufacturer specifications.
8. Use only anionic PAM.

For projects that consist of shoulder reconstruction and/or shoulder widening, refer to Section 161.3.05H for Wood Fiber Blanket requirements.

G. Mulch

When stage construction or other conditions prevent completing a roadway section continuously, apply mulch (straw or hay or erosion control compost) to control erosion. Mulch may be used without temporary grassing for 60 calendar days or less. Areas stabilized with only mulch (straw/hay) shall be planted with temporary grass after 60 calendar days.

Apply mulch as follows:

1. Mulch (Hay or Straw) - Without Grass Seed
 - a. Uniformly spread the mulch over the designated areas from 2 in to 4 in (50 mm to 100 mm) thick.
 - b. After spreading the mulch, walk in the mulch by using a tracked vehicle (preferred method), empty sheep foot roller, light disking, or other means that preserves the finished cross section of the prepared areas. The Engineer will approve of the method.
 - c. Place temporary mulch on slopes as steep as 2:1 by using a tracked vehicle to imbed the mulch into the slope.
 - d. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
2. Erosion control compost - Without Grass Seed
 - a. Uniformly spread the mulch (erosion control compost) over the designated areas 2 in (50 mm) thick.
 - b. When rolling is necessary, or directed by the Engineer, use a light corrugated drum roller.
 - c. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
 - d. Plant temporary grass on area stabilized with mulch (erosion control compost) after 60 calendar days.
 - e. Do not use Erosion Control Compost in areas where the use of fertilizer is restricted.

H. Miscellaneous Erosion Control Not Shown on the Plans

When conditions develop during construction that were unforeseen in the design stage, the Engineer may direct the Contractor to construct temporary devices such as but not limited to:

- Bulkheads
- Sump holes
- Half round pipe for use as ditch liners
- U-V resistant plastic sheets to cover critical cut slopes

The Engineer and the Contractor will determine the placement to ensure erosion control in the affected area.

I. Diversion Channels

When constructing a culvert or other drainage structure in a live stream that requires diverting a stream, construct a diversion channel.

J. Temporary Check Dams

Temporary check dams are constructed of the following materials;

- Stone plain rip rap according to [Section 603](#) or of sand bags as in [Section 603](#) without Portland cement. (Place plastic filter fabric on ditch section before placing rip rap.)
- Fabric (Type C silt fence)

- Hay Bales

Temporary check dams shall be constructed according to plan details and shall remain in place until the permanent ditch protection is in place or being installed and the removal is approved by the Engineer.

K. Construction Exits

Locate construction exits at any point where vehicles will be leaving the project onto a public roadway. Install construction exits at the locations shown in the plans and in accordance with plan details.

L. Retrofit

Add the retrofit device to the permanent outlet structure as shown on the Plan details.

When all land disturbing activities that would contribute sediment-laden runoff to the basin are complete, clean the basin of sediment and stabilize the basin area with vegetation.

When the basin is stabilized, remove the retrofit device from the permanent outlet structure of the detention pond.

M. Inlet Sediment Trap

Inlet sediment traps consist of a temporary device placed around a storm drain inlet to trap sediment. An excavated area adjacent to the sediment trap will provide additional sediment storage.

Inlet sediment traps may be constructed of Type C silt fence, plastic frame and filter, hay bales, baffle box, or other filtering materials approved by the Engineer.

Construct inlet sediment traps according to the appropriate specification for the material selected for the trap.

Place inlet sediment traps as shown on the Plans or as directed by the Engineer.

N. Rock Filter Dams

Construct rock filter dams of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification [Section 603](#).

Rock filter dams shall remain in place until the permanent ditch protection is in place or is being installed and their removal is approved by the Engineer.

O. Stone Filter Berms

Construct stone filter berms of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification [Section 603](#).

Stone filter berms shall remain in place until the permanent slope protection is in place or is being installed and their removal is approved by the Engineer.

P. Stone Filter Rings

Construct stone filter rings of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification [Section 603](#).

A stone filter ring shall remain in place until final stabilization of the area which drains toward it is achieved and its removal is approved by the Engineer.

163.3.06 Quality Acceptance

General Provisions 101 through 150.

163.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

163.4 Measurement

A. Silt Control Gates

Silt control gates are measured for payment by the entire structure constructed at each location complete in place and accepted. Silt control gates constructed at the inlet of multiple lines of drainage structures are measured for payment as a single unit.

B. Temporary Slope Drains

Temporary slope drains are measured for payment by the linear foot (meter) of pipe placed. When required, the inlet spillway and outlet apron and/or other dissipation devices are incidental and not measured separately.

C. Sediment Basins

Sediment basins are measured for payment by the entire structure complete, including construction, maintenance, and removal. Measurement also includes:

- Earthwork
- Drainage
- Spillways
- Baffles
- Rip rap
- Final cleaning to remove the basin

Permanent and temporary grassing for sediment basins is measured separately for payment.

D. Diversion Channels

Diversion channels are not measured for payment. Costs for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other Contract items.

E. Temporary Grass

Temporary grass is measured for payment by the acre (hectare). Lime, when required, is measured by the ton (megagram). Mulch and fertilizer are measured separately for payment.

F. Mulch

Mulch (straw or hay, or erosion control compost) is measured for payment by the ton (megagram).

G. Baled Straw Sediment Barrier, Baled Straw Check Dam and Fabric Check Dams

Baled straw sediment barrier, baled straw check dams, and fabric check dams are measured by the linear foot (meter). When the Contractor substitutes a product allowed in [Subsection 163.3.05.D](#) for baled straw sediment barrier or when the Engineer directs this substitution, the product will be measured by the linear foot (meter).

H. Rip Rap Check Dams

Rip Rap Check Dams are measured per each which will include all work necessary to construct the check dam including plastic filter fabric placed beneath the rip rap or sand bags.

I. Construction Exits

Construction exits are measured per each which will include all work necessary to construct the exit including the required geotextile fabric placed beneath the aggregate.

J. Retrofit

Retrofit will be measured for payment per each. The construction of the detention pond and permanent outlet structure will be measured separately under the appropriate items.

K. Inlet Sediment Trap

Inlet sediment traps, regardless of the material selected, are measured per each which includes all work necessary to construct the trap including any incidentals and providing the excavated area for sediment storage.

L. Rock Filter Dams

Rock filter dams are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

M. Stone Filter Berms

Stone filter berms are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

N. Stone Filter Rings

Stone filter rings are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

163.4.01 Limits

General Provisions 101 through 150.

163.5 Payment

A. Silt Control Gates

The specified silt control gates are paid for at the Contract Unit Price per each. Payment is full compensation for:

- Furnishing the material and labor
- Constructing the concrete apron as shown on the Plans
- Excavating and backfilling to place the apron
- Removing the gate

B. Temporary Slope Drains

Temporary slope drains are paid for by the linear foot (meter). Payment is full compensation for materials, construction, removal (if required), inlet spillways, velocity dissipaters, and outlet aprons.

When temporary drain inlets and pipe slope drains are removed, they remain the Contractor's property and may be reused or removed from the Project as the Contractor desires. Reused pipe or inlets are paid for the same as new pipe or inlets.

C. Sediment Basin

Sediment basins, measured according to [Subsection 163.4.C “Measurement.”](#) are paid for by the unit, per each, for the type specified on the Plans. Price and payment are full compensation for work and supervision to construct, and remove the sediment basin, including final clean-up.

D. Diversion Channel

Diversion channels are not paid for separately; they are included in the price bid for the drainage structure or for other Contract Items.

E. Temporary Grass

Temporary grass is paid for by the acre (hectare). Payment is full compensation for all equipment, labor, ground preparation, materials, wood fiber mulch, polyacrylamide, and other incidentals. Lime (when required) is paid for by the ton (megagram). Mulch and fertilizer are paid for separately.

F. Mulch

Mulch is paid for by the ton. Payment is full compensation for all materials, labor, maintenance, equipment and other incidentals.

The weight for payment of straw or hay mulch will be the product of the number of bales used and the average weight per bale as determined on certified scales provided by the contractor or state certified scales. Provide written documentation to the Engineer stating the average weight of the bales.

The weight of erosion control compost mulch will be determined by weighing each loaded vehicle on the required motor truck scale as the material is hauled to the roadway, or by using recorded weights if a digital recording device is used. The contractor may propose other methods of providing the weight of the mulch to Engineer for approval.

G. Baled Straw Sediment barrier, Baled Straw Check Dams and Fabric Check Dams (Type C Silt Fence)

Baled straw sediment barrier, baled straw check dams and fabric check dams (type C silt fence), complete in place and accepted are paid for at the Contract Unit Price bid per linear foot (meter). Payment is full compensation for constructing, and removing (when directed) the baled straw sediment barrier or either check dam.

When the Contractor substitutes any product allowed in [Subsection 163.3.05.D](#) for baled straw sediment barrier or when the Engineer directs this substitution, payment is made at the bid price per linear foot (meter) for baled straw sediment barrier.

H. Rip Rap Check Dams

Rip Rap Check Dams are paid for per each. Payment is full compensation for all materials, construction, and removal. Reused stone plain rip rap or sandbags are paid for on the same basis as new items. Filter fabric required under rip rap check dams is included in the price bid for each check dam.

I. Construction Exits

Construction exits are paid for per each. Payment is full compensation for all materials including the required geotextile, construction, and removal.

J. Retrofit

This item is paid for at the Contract Unit Price per each. Payment is full compensation for all work, supervision, materials (including the stone filter), labor and equipment necessary to construct and remove the retrofit device from an existing or proposed detention pond outlet structure.

K. Inlet Sediment Trap

Inlet sediment traps are paid for per each. Payment is full compensation for all materials, construction, and removal

L. Rock Filter Dams

Rock filter dams are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter dams and is included in the price bid for each.

M. Stone Filter Berms

Stone filter berms are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter berms and is included in the price bid for each.

N. Stone Filter Rings

Stone filter rings are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under stone filter rings and is included in the price bid for each.

The Items in this Section (except temporary grass and mulch) are made as partial payments as follows:

- When the item is installed and put into operation the Contractor will be paid 75 percent of the Contract price.
- When the Engineer instructs the Contractor that the Item is no longer required and is to remain in place or is removed, whichever applies, the remaining 25 percent will be paid.

Temporary devices may be left in place at the Engineer’s discretion at no change in cost. Payment for temporary grass will be made based on the number of acres (hectares) grassed. Mulch will be based on the number of tons (megagrams) used.

Payment is made under:

Item No. 163	Construct and remove silt control gate, type__	Per each
Item No. 163	Construct and remove temporary pipe slope drains	Per linear foot (meter)
Item No. 163	Construct and remove temporary sediment barrier or baled straw check dam	Per linear foot (meter)
Item No. 163	Construct and remove sediment basin type__, Sta. No.____	Per each
Item No. 163	Construct and remove Fabric Check Dam - type C silt fence	Per linear foot (meter)
Item No. 163	Construct and remove Rip Rap Check Dams ,Stone Plain Rip Rap/Sand Bags	Per Each
Item No. 163	Construction exit	Per each
Item No. 163	Construct and remove retrofit, Sta. No.____	Per each
Item No. 163	Construct and remove rock filter dam	Per each
Item No. 163	Construct and remove stone filter berm	Per linear foot (meter)
Item No. 163	Construct and remove stone filter ring	Per each
Item No. 163	Construct and remove inlet sediment trap	Per each
Item No. 163	Temporary grass	Per acre (hectare)
Item No. 163	Mulch	Per ton (megagram)

163.5.01 Adjustments

General Provisions 101 through 150.

Section 165—Maintenance of Temporary Erosion and Sedimentation Control Devices

165.1 General Description

This work consists of providing maintenance on temporary erosion and sediment control devices, including but not limited to the following:

- Silt fence
- Sediment basins
- Silt control gates
- Check dams
- Silt retention barriers
- Rock filter dams
- Stone filter berms
- Stone filter rings

It also consists of removing sediment that has accumulated at the temporary erosion and sediment control devices.

165.1.01 Definitions

General Provisions 101 through 150.

165.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

General Provisions 101 through 150.

165.1.03 Submittals

General Provisions 101 through 150

165.2 Materials

General Provisions 101 through 150.

165.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

165.3 Construction Requirements

165.3.01 Personnel

General Provisions 101 through 150.

165.3.02 Equipment

General Provisions 101 through 150.

165.3.03 Preparation

General Provisions 101 through 150.

165.3.04 Fabrication

General Provisions 101 through 150.

165.3.05 Construction

A. General

As a minimum, clean the sediment from all temporary erosion control devices (except sediment basins) installed on the project when one half the capacity, by height, depth or volume has been reached. Clean the sediment from all temporary sediment basins installed on a project when one third the capacity of the storage volume has been filled.

Handle sediment excavated from any erosion or sediment control device in one of the following ways:

- Remove sediment from the immediate area and immediately stabilize it to prevent the material from refilling any erosion or sediment control device.
- Place and mix it in the roadway embankment, or waste it in an area approved by the Engineer.
- Repair or replace at no cost to the Department, any erosion or sediment control devices that are not functioning properly or are damaged due to negligence or abuse.

B. Temporary Silt Fence

Maintenance of Temporary Silt Fence consists of furnishing all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0 % filled). Also included is the removal of sediment accumulations (“filtercake”) on the fabric by tapping the fabric on the downstream side.

C. Silt Control Gates

Maintenance of Temporary Silt Control Gates consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). When applicable, this item will include the removal of sediment accumulations on the fabric by tapping the fabric on the downstream side.

D. Check Dams (all types)

Maintenance of Temporary Erosion Control Check Dams shall consist of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes. When applicable, this item will include the removal of sediment accumulations on the fabric by tapping the fabric on the downstream side, or from the baled straw by similar means.

E. Silt Retention Barrier

Maintenance of Temporary Silt Retention Barrier consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled).

F. Temporary Sediment Basins

Maintenance of Temporary Sediment Basins consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original bottom of the basin. This also includes removing accumulated sediment from the rock filter and restoring the rock filter to its original specified condition and any work necessary to restore all other components to the pre-maintenance conditions.

G. Sediment Barrier (baled straw)

Maintenance of sediment barrier (baled straw) consists of furnishing all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0 % filled). Also included is the removal of sediment accumulations on the bales by tapping.

Section 165-Maintenance of Temporary Erosion and Sedimentation Control Devices

H. Triangular Silt Barrier

Maintenance of Triangular Silt Barrier consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled).

I. Retrofit:

Maintenance of the retrofit device consists of all labor, tools, materials, equipment and necessary incidentals to remove and properly dispose of accumulated sediment in the permanent detention pond being utilized as a temporary sediment basin. This item also includes any maintenance that is required to ensure the retrofit device is maintained per Plan details and any maintenance of the stone filter to maintain its filtering ability, including cleaning and replacement.

J. Construction Exit:

Maintenance of the construction exit consists of all labor, tools, materials, equipment and incidentals, including additional stone and geotextile fabric as required to prevent the tracking or flow of soil onto public roadways. This includes, scarifying existing stone, cleaning existing stone, or placement of additional stone.

Cleaning of the construction exit by scraping and/or brooming only will not be measured for payment.

K. Inlet Sediment Trap

Maintenance of inlet sediment traps consists of all labor, tools, materials, equipment and necessary incidentals to remove and properly dispose of accumulated sediment in the trap and/or the excavated area adjacent to the trap. It also includes any maintenance that is required to remove sediment accumulations ("filtercake") from the material selected to construct the inlet sediment trap.

L. Rock Filter Dams

Maintenance of rock filter dams consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

M. Stone Filter Berms

Maintenance of stone filter berms consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

N. Stone Filter Rings

Maintenance of stone filter rings consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

165.3.06 Quality Acceptance

General Provisions 101 through 150.

165.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

165.4 Measurement

A. Temporary Silt Fence:

Maintenance of temporary silt fence, Type A, B, or C, is the actual linear feet (meter) of silt fence, measured in place, where sediment is removed.

B. Silt Control Gates:

Maintenance of temporary silt control gates, type I, II, III or IV, as specified on the Plans, is measured as a single unit.

C. Check Dams (All Types):

Maintenance of temporary erosion control check dams as specified on the Plans is the actual linear feet (meter) of baled straw, type c silt fence or rip rap, measured in place, where sediment is removed.

D. Silt Retention Barrier:

Maintenance of temporary silt retention barrier as specified on the Plans, is measured by the linear foot (meter) where sediment is removed.

E. Temporary Sediment Basins:

Maintenance of temporary sediment basins as specified on the Plans, is measured as a single unit.

F. Sediment Barrier (baled straw)

Maintenance of sediment barrier (baled straw), is the actual linear feet (meter) of baled straw measured in place, where sediment is removed.

G. Triangular Silt Barrier:

Maintenance of triangular silt barrier as specified on the plans, is measured by the linear foot (meter) where sediment is removed.

H. Retrofit:

Maintenance of retrofit device at the location specified on the Plans is measured per each.

I. Construction Exit:

Maintenance of construction exit at the location specified on the Plans, or as directed by the Engineer is measured per each.

J. Inlet Sediment Trap

Maintenance of inlet sediment trap at the location specified on the Plans, or as added by the Engineer is measured per each.

K. Rock Filter Dams

Maintenance of rock filter dams as specified on the plans is measured as a single unit.

L. Stone Filter Berms

Maintenance of stone filter berms as specified on the plans is measured as a single unit.

M. Stone Filter Rings

Maintenance of stone filter rings as specified on the plans is measured as a single unit.

Section 165-Maintenance of Temporary Erosion and Sedimentation Control Devices

165.4.01 Limits

General Provisions 101 through 150.

165.5 Payment

A. Temporary Silt Fence:

Maintenance of temporary silt fence, Type A, B, or C, is paid for at the contract unit price bid per linear foot (meter).

B. Silt Control Gates:

Maintenance of temporary silt control gates, Type I, II, III, or IV as specified on the Plans is paid for at the contract unit price bid per each.

C. Check Dams (All Types):

Maintenance of Check Dams as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

D. Silt Retention Barrier:

Maintenance of temporary silt retention barrier as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

E. Temporary Sediment Basins:

Maintenance of temporary sediment basins as specified on the Plans is paid for at the contract unit price bid per each.

F. Sediment Barrier (baled straw):

Maintenance of sediment barrier (baled straw) as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

G. Triangular Silt Barrier:

Maintenance of triangular silt barrier as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

H. Retrofit:

Maintenance of the retrofit device at the location specified on the Plans is paid for at the contract unit price bid per each.

I. Construction Exit:

Maintenance of the construction exit at the location specified on the Plans or as added by the Engineer is paid for at the contract unit price per each.

J. Inlet Sediment Trap

Maintenance of the inlet sediment trap at the location specified on the Plans or at the location specified by the Engineer is paid for at the contract unit price per each.

K. Rock Filter Dams

Maintenance of rock filter dams as specified on the plans is paid for at the contract unit price bid per each.

L. Stone Filter Berms

Maintenance of stone filter berms as specified on the plans is paid for at the contract unit price bid per each.

M. Stone Filter Rings

Section 165-Maintenance of Temporary Erosion and Sedimentation Control Devices

Maintenance of stone filter rings as specified on the plans is paid for at the contract unit price bid per each.

Payment will be made under:

Item No. 165	Maintenance of temporary silt fence Type_____	per linear foot (meter)
Item No. 165	Maintenance of silt control gate Type _____	per each
Item No. 165	Maintenance of check dams (all types)	per linear foot (meter)
Item No. 165	Maintenance of silt retention barrier	per foot (meter)
Item No. 165	Maintenance of temporary sediment basin, Sta. No. _____	per each
Item No. 165	Maintenance of sediment barrier (baled straw)	per linear foot (meter)
Item No. 165	Maintenance of triangular silt barrier	per linear foot (meter)
Item No. 165	Maintenance of retrofit, Sta. No. _____	per each
Item No. 165	Maintenance of construction exit	per each
Item No. 165	Maintenance of inlet sediment trap	per each
Item No. 165	Maintenance of rock filter dam	per each
Item No. 165	Maintenance of stone filter berm	per linear foot (meter)
Item No. 165	Maintenance of rock filter dam	per each

165.5.01 Adjustments

General Provisions 101 through 150.

Section 400—Hot Mix Asphaltic Concrete Construction

400.1 General Description

This work includes constructing one or more courses of bituminous plant mixture on the prepared foundation or existing roadway surface. The mixture shall conform with lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer.

This section includes the requirements for all bituminous plant mixtures regardless of the gradation of the aggregates, type and amount of bituminous material, or pavement use.

Work will be accepted on a lot-to-lot basis according to the requirements of this Section and [Section 106](#).

400.1.01 Definitions

Segregated Mixture: Mixture which lacks homogeneity in HMA constituents of such a magnitude that there is a reasonable expectation of accelerated pavement distress or performance problems. May be quantified by measurable changes in temperature, gradation, asphalt content, air voids, or surface texture.

New Construction: A roadway section more than 0.5 mile (800 m) long that is not longitudinally adjacent to the existing roadway. If more than one lane is added, and any of the lanes are longitudinally adjacent to the existing lane, each lane shall be tested under the criteria for a resurfacing project.

Trench Widening: Widening no more than 4 ft. (1.2 m) in width.

Comparison sample: Opposite quarter of material sampled by the Contractor.

Quality assurance sample: Independent sample taken by the Department.

Referee sample: A sample of the material remaining after quartering which is used for evaluation if a comparison of Contractor and Departmental test results is outside allowable tolerances.

400.1.02 Related References

A. Standard Specifications

[Section 106—Control of Materials](#)

[Section 109—Measurement and Payment](#)

[Section 152—Field Laboratory Building](#)

[Section 413—Bituminous Tack Coat](#)

[Section 424—Bituminous Surface Treatment](#)

[Section 802—Coarse Aggregate for Asphaltic Concrete](#)

[Section 828—Hot Mix Asphaltic Concrete Mixtures](#)

B. Referenced Documents

AASHTO T 209

AASHTO T 202

AASHTO T 49

Section 400—Hot Mix Asphaltic Concrete Construction

Laboratory Standard Operating Procedure (SOP) 27, “Quality Assurance for Hot Mix Asphaltic Concrete Plants in Georgia”

Department of Transportation Standard Operating Procedure (SOP) 15

[GDT 38](#)

[GDT 73](#)

[GDT 78](#)

[GDT 83](#)

[GDT 93](#)

[GDT 119](#)

[GDT 125](#)

[GSP 15](#)

[GSP 21](#)

[QPL 1](#)

[QPL 2](#)

[QPL 7](#)

[QPL 26](#)

[QPL 30](#)

[QPL 39](#)

[QPL 41](#)

[QPL 45](#)

[QPL 65](#)

[QPL 67](#)

[QPL 70](#)

[QPL 77](#)

400.1.03 Submittals

A. Invoices

When the Department requests, furnish formal written invoices from a supplier for all materials used in production of HMA. Show the following on the Bill of Lading:

- Date shipped
- Quantity in tons (megagrams)
- Included with or without additives (for asphalt cement)

Purchase asphaltic cement from a supplier who will provide copies of Bill of Lading upon the Department’s request.

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B. Paving Plan

Before starting asphaltic concrete construction, submit a written paving plan to the Engineer for approval. Include the following on the paving plan:

- Proposed starting date
- Location of plant(s)
- Rate of production
- Average haul distance(s)
- Number of haul trucks
- Paver speed feet (meter)/minute for each placement operation
- Mat width for each placement operation
- Number and type of rollers for each placement operation
- Sketch of the typical section showing the paving sequence for each placement operation
- Electronic controls used for each placement operation
- Temporary pavement marking plan

If staged construction is designated in the Plans or contract, provide a paving plan for each construction stage.

If segregation is detected, submit a written plan of measures and actions to prevent segregation. Work will not continue until the plan is submitted to and approved by the Department.

C. Job Mix Formula

After the Contract has been awarded, submit to the Engineer a written job mix formula proposed for each mixture type to be used based on an approved mix design. Furnish the following information for each mix:

- Specific project for which the mixture will be used
- Source and description of the materials to be used
- Mixture I.D. Number
- Proportions of the raw materials to be combined in the paving mixture
- Single percentage of the combined mineral aggregates passing each specified sieve
- Single percentage of asphalt by weight of the total mix to be incorporated in the completed mixture
- Single temperature at which to discharge the mixture from the plant
- Theoretical specific gravity of the mixture at the designated asphalt content
- Name of the person or agency responsible for quality control of the mixture during production

Do the following to have the formulas approved and to ensure their quality:

1. Submit proposed job mix formulas for review at least two weeks before beginning the mixing operations.

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2. Do not start hot mix asphaltic concrete work until the Engineer has approved a job mix formula for the mixture to be used. No mixture will be accepted until the Engineer has given approval.
3. Provide mix designs for all Superpave and 4.75 mm mixes to be used. The Department will provide mix design results for other mixes to be used.
4. After a job mix formula has been approved, assume responsibility for the quality control of the mixtures supplied to the Department according to [Subsection 106.01, “Source of Supply and Quantity of Materials.”](#)

D. Quality Control Program

Submit a Quality Control Plan to the Office of Materials and Research for approval. The Quality Control Program will be included as part of the certification in the semiannual plant inspection report.

400.2 Materials

Ensure that materials comply with the specifications listed in Table 1.

Table 1—Materials Specifications

Material	Subsection
Asphalt Cement, Grade Specified	820.2
Coarse Aggregates for Asphaltic Concrete	802.2.02
Fine Aggregates for Asphaltic Concrete	802.2.01
Mineral Filler	883.1
Heat Stable Anti-Stripping Additive	831.2.04
Hydrated Lime	882.2.03
Silicone Fluid	831.2.05
Bituminous Tack Coat: PG 58-22, PG 64-22, PG 67-22	820.2
Hot Mix Asphaltic Concrete Mixtures	828
Fiber Stabilizing Additives	819

When required, provide Uintaite material, hereafter referred to by the common trade name Gilsonite, as a reinforcing agent for bituminous mixtures. Supply a manufacturer’s certification that the Gilsonite is a granular solid which meets the following requirements:

Softening Point (AASHTO: T-53)	300-350 °F (150-175 °C)
Specific Gravity, 77 °F (25 °C) (AASHTO: T-228)	1.04 ± 0.02
Flash Point, COC (AASHTO: T-48)	550 °F (290 °C) Min.
Ash Content (AASHTO: T-111)	1.0% Max.
Penetration, 77 °F (25 °C), 100 gm., 5 sec. (AASHTO: T-49)	0

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400.2.01 Delivery, Storage, and Handling

Storage of material is allowed in a properly sealed and insulated system for up to 24 hours except that Stone Matrix Asphalt (SMA), Open-Graded Friction Course (OGFC), or Porous European Mix (PEM) mixtures shall not be stored more than 12 hours. Mixtures other than SMA, OGFC, or PEM may be stored up to 72 hours in a sealed and insulated system, equipped with an auxiliary inert gas system, with the Engineer's approval. Segregation, lumpiness, or stiffness of stored mixture is cause for rejection of the mixture. The Engineer will not approve using a storage or surge bin if the mixture segregates, loses excessive heat, or oxidizes during storage. The Engineer may obtain mixture samples or recover asphalt cement according to [GDT 119](#). AASHTO T 202 and T 49 will be used to perform viscosity and penetration tests to determine how much asphalt hardening has occurred.

A. Vehicles for Transporting and Delivering Mixtures

Ensure that trucks used for hauling bituminous mixtures have tight, clean, smooth beds.

Follow these guidelines when preparing vehicles to transport bituminous mixtures:

1. Use an approved releasing agent from [QPL 39](#) in the transporting vehicle beds, if necessary, to prevent the mixture from sticking to the bed. Ensure that the releasing agent is not detrimental to the mixture. When applying the agent, drain the excess agent from the bed before loading.
2. Protect the mixture with a waterproof cover large enough to extend over the sides and ends of the bed. Securely fasten the waterproof cover before the vehicle begins moving.
3. Insulate the front end and sides of each bed with an insulating material with the following specifications:
 - Consists of builders insulating board or equivalent
 - Has a minimum "R" value of 4.0
 - Can withstand approximately 400 °F (200 °C) temperatures

Install the insulating material so it is protected from loss and contamination.

4. Mark each transporting vehicle with a clearly visible identification number.
5. Create a hole in each side of the bed so that the temperature of the loaded mixture can be checked.

Ensure that the mixture is delivered to the roadway at a temperature within ± 20 °F (± 11 °C) of the temperature on the job mix formula.

If the Engineer determines that a truck may be hazardous to the Project or adversely affect the quality of the work, remove the truck from the project.

B. Containers for Transporting, Conveying, and Storing Bituminous Material

To transport, convey, and store bituminous material, use containers free of foreign material and equipped with sample valves. Bituminous material will not be accepted from conveying vehicles if material has leaked or spilled from the containers.

400.3 Construction Requirements

400.3.01 Personnel

General Provisions 101 through 150.

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400.3.02 Equipment

Hot mix asphaltic concrete plants that produce mix for Department use are governed by Quality Assurance for Hot Mix Asphaltic Concrete Plants in Georgia, Laboratory Standard Operating Procedure No. 27.

The Engineer will approve the equipment used to transport and construct hot mix asphaltic concrete. Ensure that the equipment is in satisfactory mechanical condition and can function properly during production and placement operations. Place the following equipment at the plant or project site:

A. Field Laboratory

Provide a field laboratory according to [Section 152](#).

B. Plant Equipment

1. Scales

Provide scales as follows:

- a. Furnish (at the Contractor's expense) scales to weigh bituminous plant mixtures, regardless of the measurement method for payment.
- b. Ensure that the weight measuring devices that provide documentation comply with [Subsection 109.01, "Measurement and Quantities."](#)
- c. When not using platform scales, provide weight devices that record the mixture net weights delivered to the truck. A net weight system will include, but is not limited to:
 - Hopper or batcher-type weight systems that deliver asphaltic mixture directly to the truck
 - Fully automatic batching equipment with a digital recording device
- d. Use a net weight printing system only with automatic batching and mixing systems approved by the Engineer.
- e. Ensure that the net weight scale mechanism or device manufacturer, installation, performance, and operation meets the requirements in [Subsection 109.01, "Measurement and Quantities"](#)
- f. Provide information on the Project tickets according to Department of Transportation SOP-15.

2. Time-Locking Devices

Furnish batch type asphalt plants with automatic time-locking devices that control the mixing time automatically. Construct these devices so that the operator cannot shorten or eliminate any portion of the mixing cycle.

3. Surge- and Storage-Systems

Provide surge and storage bins as follows:

- a. Ensure that bins for mixture storage are insulated and have a working seal, top and bottom, to prevent outside air infiltration and to maintain an inert atmosphere during storage.

Bins not intended as storage bins may be used as surge bins to hold hot mixtures for part of the working day. However, empty these surge bins completely at the end of the working day.
- b. Ensure that surge and storage bins can retain a predetermined minimum level of mixture in the bin when the trucks are loaded.

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c. Ensure that surge and storage systems do not contribute to mix segregation, lumpiness, or stiffness.

4. Controls for Dust Collector Fines

Control dust collection as follows:

- a. When collecting airborne aggregate particles and returning them to the mixture, have the return system meter all or part of the collected dust uniformly into the aggregate mixture and waste the excess. The collected dust percentage returned to the mixture is subject to the Engineer's approval.
- b. When the collected dust is returned directly to the hot aggregate flow, interlock the dust feeder with the hot aggregate flow and meter the flow to maintain a flow that is constant, proportioned, and uniform.

5. Mineral Filler Supply System

When mineral filler is required as a mixture ingredient:

- a. Use a separate bin and feed system to store and proportion the required quantity into the mixture with uniform distribution.
- b. Control the feeder system with a proportioning device that meets these specifications:
 - Is accurate to within ± 10 percent of the filler required
 - Has a convenient and accurate means of calibration
 - Interlocks with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes
- c. Provide flow indicators or sensing devices for the mineral filler system and interlock them with the plant controls to interrupt the mixture production if mineral filler introduction fails.
- d. Add mineral filler to the mixture as follows, according to the plant type:
 - Batch Type Asphalt Plant. Add mineral filler to the mixture in the weigh hopper.
 - Continuous Plant Using Pugmill Mixers. Feed the mineral filler into the hot aggregate before it is introduced into the mixer so that dry mixing is accomplished before the bituminous material is added.
 - Continuous Plants Using the Drier-Drum Mixers. Add the mineral filler so that dry mixing is accomplished before the bituminous material is added and ensure that the filler does not become entrained into the air stream of the drier.

6. Hydrated Lime Treatment System

When hydrated lime is required as a mixture ingredient:

- a. Use a separate bin and feed system to store and proportion the required quantity into the mixture.
- b. Ensure that the aggregate is uniformly coated with hydrated lime aggregate before adding the bituminous material to the mixture. Add the hydrated lime so that it will not become entrained in the exhaust system of the drier or plant.
- c. Control the feeder system with a proportioning device that meets these specifications:
 - Is accurate to within ± 10 percent of the amount required
 - Has a convenient and accurate means of calibration

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- Interlocks with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes and to ensure that mixture produced is properly treated with lime
 - d. Provide flow indicators or sensing devices for the hydrated lime system and interlock them with the plant controls to interrupt mixture production if hydrated lime introduction fails.
7. Net Weight Weighing Mechanisms

Certify the accuracy of the net weight weighing mechanisms by an approved registered scale serviceperson at least once every 6 months. Check the accuracy of net weight weighing mechanisms at the beginning of Project production and thereafter as directed by the Engineer. Check mechanism accuracy as follows:

- a. Weigh a load on a set of certified commercial truck scales. Ensure that the difference between the printed total net weight and that obtained from the commercial scales is no greater than 4 lbs/1,000 lbs (4 kg/Mg) of load.

Check the accuracy of the bitumen scales as follows:

- Use standard test weights.
 - If the checks indicate that printed weights are out of tolerance, have a registered scale serviceperson check the batch scales and certify the accuracy of the printer.
 - While the printer system is out of tolerance and before its adjustment, continue production only if using a set of certified truck scales to determine the truck weights.
- b. Have plants that use batch scales maintain ten 50 lb (25 kg) standard test weights at the plant site to check batching scale accuracy.

Ensure that plant scales that are used only to proportion mixture ingredients, not to determine pay quantities, are within two percent throughout the range.

8. Fiber Supply System

When stabilizing fiber is required as a mixture ingredient:

- a. Use a separate feed system to store and proportion by weight the required quantity into the mixture with uniform distribution.
- b. Control the feeder system with a proportioning device that meets these Specifications:
- Is accurate to within ± 10 percent of the amount required. Automatically adjusts the feed rate to maintain the material within this tolerance at all times
 - Has a convenient and accurate means of calibration
 - Provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds (kg) per minute, to verify feed rate
 - Interlocks with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes
- c. Provide flow indicators or sensing devices for the fiber system and interlock them with the plant controls to interrupt the mixture production if fiber introduction fails or if the output rate is not within the tolerances given above.

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- d. Introduce the fiber as follows:
 - When a batch type plant is used, add the fiber to the aggregate in the weigh hopper. Increase the batch dry mixing time by 8 to 12 seconds from the time the aggregate is completely emptied into the mixer to ensure the fibers are uniformly distributed prior to the injection of asphalt cement into the mixer.
 - When a continuous or drier-drum type plant is used, add the fiber to the aggregate and uniformly disperse prior to the injection of asphalt cement. Ensure the fibers will not become entrained in the exhaust system of the drier or plant.

C. Equipment at Project Site

1. Cleaning Equipment

Provide sufficient hand tools and power equipment to clean the roadway surface before placing the bituminous tack coat. Use power equipment that complies with [Subsection 424.3.02.F, “Power Broom and Power Blower.”](#)

2. Pressure Distributor

To apply the bituminous tack coat, use a pressure distributor that complies with [Subsection 424.3.02.B, “Pressure Distributor.”](#)

3. Bituminous Pavers

To place hot mix asphaltic concrete, use bituminous pavers that can spread and finish courses that are:

- As wide and deep as indicated on the Plans
 - True to line, grade, and cross section
 - Smooth
 - Uniform in density and texture
- a. Continuous Line and Grade Reference Control. Furnish, place, and maintain the supports, wires, devices, and materials required to provide continuous line and grade reference control to the automatic paver control system.
 - b. Automatic Screed Control System. Equip the bituminous pavers with an automatic screed control system actuated from sensor-directed mechanisms or devices that will maintain the paver screed at a pre-determined transverse slope and elevation to obtain the required surface.
 - c. Transverse Slope Controller. Use a transverse slope controller capable of maintaining the screed at the desired slope within ± 0.1 percent. Do not use continuous paving set-ups that result in unbalanced screed widths or off-center breaks in the main screed cross section unless approved by the Engineer.
 - d. Screed Control. Equip the paver to permit the following four modes of screed control. The method used shall be approved by the Engineer.
 - Automatic grade sensing and slope control
 - Automatic dual grade sensing
 - Combination automatic and manual control

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- Total manual control

Ensure that the controls are referenced with a taut string or wire set to grade, or with a ski-type device or mobile reference at least 30 ft (9 m) long when using a conventional ski. A non-contacting laser or sonar-type ski with at least four referencing mobile stations may be used with a reference at least 24 ft. (7.3 m) long. Under limited conditions, a short ski or shoe may be substituted for a long ski on the second paver operating in tandem, or when the reference plane is a newly placed adjacent lane.

Automatic screed control is required on all Projects; however, when the Engineer determines that Project conditions prohibit the use of such controls, the Engineer may waive the grade control, or slope control requirements, or both.

- e. Paver Screed Extension. When the laydown width requires a paver screed extension, use bolt-on screed extensions to extend the screeds, or use an approved mechanical screed extension device. When the screed is extended, add auger extensions according to the paver manufacturer's recommendations.

Note: Do not use extendible strike-off devices instead of approved screed extensions. Only use a strike-off device in areas that would normally be luted in by hand labor.

4. Compaction Equipment

Ensure that the compaction equipment is in good mechanical condition and can compact the mixture to the required density. The compaction equipment number, type, size, operation, and condition is subject to the Engineer's approval

5. Materials Transfer Vehicle (MTV)

- a. Use a Materials Transfer Vehicle (MTV) when placing asphaltic concrete mixtures on Projects on the state route system with the following conditions:
 - 1) When to use:
 - The ADT is equal to or greater than 6000,
 - The project length is equal to or greater than 3000 linear feet (915 linear meters),
 - The total tonnage (megagrams) of all asphaltic concrete mixtures is greater than 2000 tons (1815 Mg).
 - 2) Where to use:
 - Mainline of the traveled way
 - Collector/distributor (C/D) lanes on Interstates and limited access roadways
 - Leveling courses at the Engineer's discretion
- b. Ensure the MTV and conventional paving equipment meet the following requirements:
 - 1) MTV

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- Has a truck unloading system which receives mixture from the hauling equipment and independently deliver mixtures from the hauling equipment to the paving equipment.
 - Has mixture remixing capability by either a storage bin in the MTV with a minimum capacity of 14 tons (13 megagrams) of mixture and a remixing system in the bottom of MTV storage bin, or a dual pugmill system located in the paver hopper insert with two full length transversely mounted paddle mixers to continuously blend the mixture as it discharges to a conveyor system.
 - Provides to the paver a homogeneous, non-segregated mixture of uniform temperature with no more than 20 °F(18 °C) difference between the highest and lowest temperatures when measured transversely across the width of the mat in a straight line at a distance of one foot to three feet from the screed while the paver is operating.
- 2) Conventional Paving Equipment
- Has a paver hopper insert with a minimum capacity of 14 tons (13 Mg) installed in the hopper of conventional paving equipment when an MTV is used.
- c. If the MTV malfunctions during spreading operations, discontinue placement of hot mix asphaltic concrete after there is sufficient hot mix placed to maintain traffic in a safe manner. However, placement of hot mix asphaltic concrete in a lift not exceeding 2 in. (50 mm) may continue until any additional hot mix in transit at the time of the malfunction has been placed. Cease spreading operations thereafter until the MTV is operational.
- d. Ensure the MTV is empty when crossing a bridge and is moved across without any other Contractor vehicles or equipment on the bridge. Move the MTV across a bridge in a travel lane and not on the shoulder. Ensure the speed of the MTV is no greater than 5 mph (8 kph) without any acceleration or deceleration while crossing a bridge.

400.3.03 Preparation

A. Prepare Existing Surface

Prepare the existing surface as follows:

1. Clean the Existing Surface. Before applying hot mix asphaltic concrete pavement, clean the existing surface to the Engineer's satisfaction.

2. Patch and Repair Minor Defects

Before placing leveling course:

- a. Correct potholes and broken areas that require patching in the existing surface and base as directed by the Engineer.
 - b. Cut out, trim to vertical sides, and remove loose material from the areas to be patched.
 - c. Prime or tack coat the area after it has been cleaned. Compact patches to the Engineer's satisfaction. Material for patches does not require a job mix formula, but shall meet the gradation range shown in [Section 828](#). The Engineer must approve the asphalt content to be used.
3. Apply Bituminous Tack Coat

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Apply the tack coat according to [Section 413](#). The Engineer will determine the application rate, which must be within the limitations Table 2.

Table 2—Application Rates for Bituminous Tack, gal/yd² (L/m²)

	Minimum	Maximum
Under OGFC and PEM Mixes	0.06 (0.270)	0.08 (0.360)
All Other Mixes	0.04 (0.180)	0.06(0.270)
*On thin leveling courses and freshly placed asphaltic concrete mixes, reduce the application rate to 0.02 to 0.04 gal/yd ² (0.09 to 0.18 L/m ²).		

B. Place Patching and Leveling Course

- When the existing surface is irregular, bring it to the proper cross section and grade with a leveling course of hot mix asphaltic concrete materials.
- Use leveling at the same Superpave Mix Design Level specified for the surface course except when leveling is no greater than 0.75 inch (19 mm).
- Place leveling at the locations and in the amounts directed by the Engineer.
- Use leveling course mixtures that meet the requirements of the job mix formulas defined in:
 - [Subsection 400.3.05.A, “Observe Composition of Mixtures”](#)
 - [Section 828](#)
 - Leveling acceptance schedules in [Subsection 400.3.06.A, “Acceptance Plans for Gradation and Asphalt Cement Content”](#)
- If the leveling and patching mix type is undesignated, determine the mix type by the thickness or spread rate according to Table 3, but do not use 4.75 mm mix on interstate projects.

Table 3—Leveling and Patching Mix Types

Thickness	Rate of Spread	Type of Mix
Up to 0.75 in (19 mm)	Up to 85 lbs/yd ² (45 kg/m ²)	4.75 mm Mix or 9.5 mm Superpave (Level A)
0.75 to 1.5 in (19 to 38 mm)	85 to 165 lbs/yd ² (45 to 90 kg/m ²)	9.5 mm Superpave (Level B)
1.5 to 2 in (38 to 50 mm)	165 to 220 lbs/yd ² (90 to 120 kg/m ²)	12.5 mm Superpave *
2 to 3 in (50 to 75 mm)	220 to 330 lbs/yd ² (120 to 180 kg/m ²)	19 mm Superpave *
Over 3 in (75 mm)	Over 330 lbs/yd ² (180 kg/m ²)	25 mm Superpave

* These mixtures may be used for isolated patches no more than 6 in. (150 mm) deep and no more than 4 ft. (1.2 m) in diameter or length.

400.3.04 Fabrication

General Provisions 101 through 150.

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400.3.05 Construction

Provide the Engineer at least one day's notice prior to beginning construction, or prior to resuming production if operations have been temporarily suspended.

A. Observe Composition of Mixtures

1. Calibration of plant equipment

If the material changes, or if a component affecting the ingredient proportions has been repaired, replaced, or adjusted, check and recalibrate the proportions.

Calibrate as follows:

- a. Before producing mixture for the Project, calibrate by scale weight the electronic sensors or settings for proportioning mixture ingredients.
- b. Calibrate ingredient proportioning for all rates of production.

2. Mixture control

Compose hot mix asphaltic concrete from a uniform mixture of aggregates, bituminous material, and if required, hydrated lime, mineral filler, or other approved additive.

Make the constituents proportional to produce mixtures that meet the requirements in [Section 828](#). The general composition limits prescribed are extreme ranges within which the job mix formula must be established. Base mixtures on a design analysis that meets the requirements of [Section 828](#).

If control test results show that the characteristic tested does not conform to the job mix formula control tolerances given in [Section 828](#), take immediate action to ensure that the quality control methods are effective.

Control the materials to ensure that extreme variations do not occur. Maintain the gradation within the composition limits in [Section 828](#).

B. Prepare Bituminous Material

Uniformly heat the bituminous material to the temperature specified in the job mix formula with a tolerance of ± 20 °F (± 10 °C).

C. Prepare the Aggregate

Prepare the aggregate as follows:

1. Heat the aggregate for the mixture, and ensure a mix temperature within the limits of the job mix formula.
2. Do not contaminate the aggregate with fuel during heating.
3. Reduce the absorbed moisture in the aggregate until the asphalt does not separate from the aggregate in the prepared mixture. If this problem occurs, the Engineer will establish a maximum limit for moisture content in the aggregates. When this limit is established, maintain the moisture content below this limit.

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D. Prepare the Mixture

Proportion the mixture ingredients as necessary to meet the required job mix formula. Mix until a homogenous mixture is produced.

1. Add Mineral Filler

When mineral filler is used, introduce it in the proper proportions and as specified in [Subsection 400.3.02.B.5, “Mineral Filler Supply System.”](#)

2. Add Hydrated Lime

When hydrated lime is included in the mixture, add it at a rate specified in [Section 828](#) and the job mix formula. Use methods and equipment for adding hydrated lime according to [Subsection 400.3.02.B.6, “Hydrated Lime Treatment System.”](#)

Add hydrated lime to the aggregate by using Method A or B as follows:

Method A—Dry Form—Add hydrated lime in its dry form to the mixture as follows, according to the type of plant:

- a. Batch Type Asphalt Plant: Add hydrated lime to the mixture in the weigh hopper or as approved and directed by the Engineer.
- b. Continuous Plant Using Pugmill Mixer: Feed hydrated lime into the hot aggregate before it is introduced into the mixer so that dry mixing is complete before the bituminous material is added.
- c. Continuous Plant Using Drier-Drum Mixer: Add hydrated lime so that the lime will not become entrained into the air stream of the drier and so that thorough dry mixing will be complete before the bituminous material is added.

Method B—Lime/Water Slurry—Add the required quantity of hydrated lime (based on dry weight) in lime/water slurry form to the aggregate. This solution consists of lime and water in concentrations as directed by the Engineer.

Equip the plant to blend and maintain the hydrated lime in suspension and to mix it with the aggregates uniformly in the proportions specified.

3. Add Stabilizing Fiber

When stabilizing fiber is included in the mixture, add it at a rate specified in [Section 819](#) and the Job Mix Formula. Introduce it as specified in [Subsection 400.3.02.B.8, “Fiber Supply System.”](#)

4. Add Gilsonite Modifier

When required, add the Gilsonite modifier to the mixture at a rate such that eight percent by weight of the asphalt cement is replaced by Gilsonite. Use either PG 64-22 or PG 67-22 asphalt cement as specified in [Subsection 820.2.01](#). Provide suitable means to calibrate and check the rate of Gilsonite being added. Introduce Gilsonite modifier by either of the following methods.

- a. For batch type plants, incorporate Gilsonite into the pugmill at the beginning of the dry mixing cycle. Increase the dry mix cycle by a minimum of 10 seconds after the Gilsonite is added and prior to introduction of the asphalt cement. For this method, supply Gilsonite in plastic bags to protect the material during shipment and handling and store the modifier in a waterproof environment. The bags shall be capable of being completely melted and uniformly blended into the combined mixture.

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Gilsonite may also be added through a mineral filler supply system as described in [Subsection 400.3.02.B.5, “Mineral Filler Supply System.”](#) The system shall be capable of injecting the modifier into the weigh hopper near the center of the aggregate batching cycle so the material can be accurately weighed.

- b. For drum drier plants, add Gilsonite through the recycle ring or through an acceptable means which will introduce the Gilsonite prior to the asphalt cement injection point. The modifier shall be proportionately fed into the drum mixer at the required rate by a proportioning device which shall be accurate within ± 10 percent of the amount required. The entry point shall be away from flames and ensure the Gilsonite will not be caught up in the air stream and exhaust system.

5. Avoid Materials from Different Sources

Do not use mixtures prepared from aggregates from different sources intermittently. This will cause the color of the finished pavement to vary.

E. Observe Weather Limitations

Do not mix and place asphaltic concrete if the existing surface is wet or frozen. Do not lay asphaltic concrete OGFC mix or PEM at air temperatures below 55 °F (13 °C). For other courses, follow the temperature guidelines in the following table:

Table 4—Lift Thickness Table

Lift Thickness	Minimum Temperature
1 in (25 mm) or less	55 °F (13 °C)
1.1 to 2 in (26 mm to 50 mm)	45 °F (8 °C)
2.1 to 3 in (51 mm to 75 mm)	35 °F (2 °C)
3.1 to 4 in (76 mm to 100 mm)	30 °F (0 °C)
4.1 to 8 in (101 mm to 200 mm)	Contractor’s discretion

F. Perform Spreading and Finishing

Spread and finish the course as follows:

1. Determine the course’s maximum compacted layer thickness by the type mix being used according to Table 5.

Table 5—Maximum Layer Thickness

Mix Type	Minimum Layer Thickness	Maximum Layer Thickness	Maximum Total Thickness
25 mm Superpave	3 in (75 mm)	5 in (125 mm) *	—
19 mm Superpave	1 3/4 in (44 mm)	3 in (75 mm) *	—
12.5 mm Superpave	1 3/8 in (35 mm)	2 1/2 in (62 mm)*	8 in (200 mm)
9.5 mm Superpave Levels	1 1/8 in.(28 mm)	2 in (50 mm)	4 in (100 mm)

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Mix Type	Minimum Layer Thickness	Maximum Layer Thickness	Maximum Total Thickness
B, C, or D)			
9.5 mm Superpave Level A)	3/4 in (19 mm)	1 3/8 in (35 mm)	4 in (100 mm)
4.75 mm Mix	7/8 in (22) mm)	1 1/8 in (30 mm)	2 in (50 mm)
9.5 mm OGFC	55 lbs/yd ² (30 kg/m ²)	65 lbs/yd ² (36 kg/m ²)	—
12.5 mm OGFC	85 lbs/yd ² (47 kg/m ²)	95 lbs/yd ² (53 kg/m ²)	—
12.5 mm PEM	110 lbs/yd ² (80 kg/m ²)	165 lbs/yd ² (90 kg/m ²)	—
9.5 mm SMA	1 1/8 in (28 mm)	1 1/2 in (40 mm)	4 in (100 mm)
12.5 mm SMA	1 1/4 in (32 mm)	3 in (75 mm)	6 in (150 mm)
19 mm SMA	1 3/4 in (44 mm)	3 in (75 mm)	—
* Allow up to 6 in (150 mm) per lift on trench widening. Place 9.5 mm Superpave and 12.5 mm Superpave up to 4 in (100 mm) thick for driveway and side road transition.			

2. Unload the mixture into the paver hopper or into a device designed to receive the mixture from delivery vehicles.
3. Except for leveling courses, spread the mixture to the loose depth for the compacted thickness or the spread rate. Use a mechanical spreader true to the line, grade, and cross section specified.
4. For leveling courses, use a motor grader equipped with a spreader box and smooth tires to spread the material or use a mechanical spreader meeting the requirements in [Subsection 400.3.02.C, "Equipment at Project Site."](#)
5. Obtain the Engineer's approval for the sequence of paving operations, including paving the adjoining lanes. Minimize tracking tack onto surrounding surfaces.
6. Ensure that the outside edges of the pavement being laid are aligned and parallel to the roadway center line.
7. For Contracts that contain multiple lifts or courses, arrange the width of the individual lifts so that the longitudinal joints of each successive lift are offset from the previous lift at least 1 ft (300 mm). This requirement does not apply to the lift immediately over thin lift leveling courses.
Ensure that the longitudinal joint(s) in the surface course and the mix immediately underneath asphaltic concrete OGFC are at the lane line(s).

NOTE: Perform night work with artificial light provided by the Contractor and approved by the Engineer.

8. Where mechanical equipment cannot be used, spread and rake the mixture by hand. Obtain the Engineer's approval of the operation sequence, including compactive methods, in these areas.
9. Keep small hand raking tools clean and free from asphalt build up. Do not use fuel oil or other harmful solvents to clean tools during the work.
10. Do not use mixture with any of these characteristics:

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- Segregated
 - Nonconforming temperature
 - Deficient or excessive asphalt cement content
 - Otherwise unsuitable to place on the roadway in the work
11. Remove and replace mixture placed on the roadway that the Engineer determines has unacceptable blemish levels from segregation, streaking, pulling and tearing, or other characteristics. Replace with acceptable mixture at the Contractor's expense. Do not continually place mixtures with deficiencies. Do not place subsequent course lifts over another lift or courses placed on the same day while the temperature of the previously placed mix is 140 °F (60 °C) or greater.
 12. Obtain the Engineer's approval of the material compaction equipment. Perform the rolling as follows:
 - a. Begin the rolling as close behind the spreader as possible without causing excessive distortion of the asphaltic concrete surface.
 - b. Continue rolling until roller marks are no longer visible.
 - c. Use pneumatic-tired rollers with breakdown rollers on all surface and subsurface courses except asphaltic concrete OGFC, PEM and SMA or other mixes designated by the Engineer.
 13. If applicable, taper or "feather" asphaltic concrete from full depth to a depth no greater than 0.5 in (13 mm) along curbs, gutters, raised pavement edges, and areas where drainage characteristics of the road must be retained. The Engineer will determine the location and extent of tapering.

G. Maintain Continuity of Operations

Coordinate plant production, transportation, and paving operations to maintain a continuous operation. If the spreading operations are interrupted, construct a transverse joint if the mixture immediately behind the paver screed cools to less than 250 °F (120 °C).

H. Construct the Joints

1. Construct Transverse Joints
 - a. Construct transverse joints to facilitate full depth exposure of the course before resuming placement of the affected course.
 - b. Properly clean and tack the vertical face of the transverse joint before placing additional material.

NOTE: Never burn or heat the joint by applying fuel oil or other volatile materials.

- c. Straightedge transverse joints immediately after forming the joint.
 - d. Immediately correct any irregularity that exceeds 3/16 in. in 10 ft (5 mm in 3 m).
 2. Construct Longitudinal Joints

Clean and tack the vertical face of the longitudinal joint before placing adjoining material. Construct longitudinal joints so that the joint is smooth, well sealed, and bonded.
 3. Construction Joint Detail for OGFC and PEM Mixtures

In addition to meeting joint requirements described above, construct joints and transition areas for 12.5 mm OGFC and 12.5 mm PEM mixtures as follows:

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- a. For projects which do not have milling included as a pay item:
 - 1) Place OGFC mixture meeting gradation requirements of 9.5 mm OGFC as specified in [Section 828](#) on entrance and exit ramp gore areas and end of project construction joints.
 - Taper mixture from 3/8 in (10 mm) at end of project to full plan depth within maximum distance of spread for one load of mixture
 - Taper mixture placed on gore areas from thickness of the edge of the mainline to 3/8 in (10 mm) at the point of the ramp transverse joint.
 - 2) Construct the ramp transverse joint at the point specified in the plans or as directed by the Engineer.
 - 3) Mixture placed in the transition and gore areas will be paid for at the contract unit price for 12.5 mm OGFC or 12.5 mm PEM as applicable.
- b. For projects which have milling included as a pay item:
 - 1) Taper milling for a distance of no less than 50 ft (15 m) to a depth of 2 1/4 in (59 mm) at the point of the transverse joint
 - 2) Taper thickness, if needed, of the dense-graded surface mix within the 50 ft (15 m) distance to 1 1/2 in (40 mm) at the point of the transverse joint
 - 3) Taper thickness of the 12.5 mm OGFC or 12.5 mm PEM to 3/4 in (19 mm) so that it ties in at grade level with the existing surface at the point of the transverse joint

I. Protect the Pavement

Protect sections of the newly finished pavement from traffic until the traffic will not mar the surface or alter the surface texture. If directed by the Engineer, use artificial methods to cool the newly finished pavement to open the pavement to traffic more quickly.

J. Modify the Job Mix Formula

If the Engineer determines that undesirable mixture or mat characteristics are being obtained, the job mix formula may require immediate adjustment.

400.3.06 Quality Acceptance

A. Acceptance Plans for Gradation and Asphalt Cement Content

The Contractor will randomly sample and test mixtures for acceptance on a lot basis. The Department will monitor the Contractor testing program and perform comparison and quality assurance testing.

1. Determine Lot Amount

A lot consists of the tons (megagrams) of asphaltic concrete produced and placed each production day. If this production is less than 500 tons (500 Mg), or its square yard (meter) equivalent, production may be incorporated into the next working day. The Engineer may terminate a lot when a pay adjustment is imminent if a plant or materials adjustment resulting in a probable correction has been made. Terminate all open lots at the end of the month, except for materials produced and placed during the adjustment period. The lot will be terminated as described in [Subsection 400.5.01, "Adjustments"](#).

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If the final day's production does not constitute a lot, the production may be included in the lot for the previous day's run; or, the Engineer may treat the production as a separate lot with a corresponding lower number of tests.

1. Determine Lot Acceptance

Determine lot acceptance as found in [Subsection 400.5.01, "Adjustments."](#)

The Department will perform the following task:

Determine the pay factor by using the mean of the deviations from the job mix formula of the tests in each lot and apply it to Table 9—Mixture Acceptance Schedule for Surface Mixes or Table 10—Mixture Acceptance Schedule for Subsurface Mixes, whichever is appropriate. This mean will be determined by averaging the actual numeric value of the individual deviations from the job mix formula, disregarding whether the deviations are positive or negative amounts. Do not calculate lot acceptance using test results for materials not used in the Work. Determine the pay factor for each lot by multiplying the contract unit price by the appropriate pay factor from the Mixture Acceptance Schedule - Table 9 or Table 10. When two or more pay factors for a specific lot are less than 1.0, determine the adjusted payment by multiplying the contract unit price by the lowest pay factor.

If the mean of the deviations from the job mix formula of the lot acceptance tests for a control sieve or for asphalt cement content exceeds the tolerances established in the appropriate Mixture Acceptance Schedule, and if the Engineer determines that the material need not be removed and replaced, the lot may be accepted at an adjusted unit price as determined by the Engineer. If the Engineer determines that the material is not acceptable to leave in place, the materials shall be removed and replaced at the Contractor's expense.

3. Provide Quality Control Program

Provide a Quality Control Program as established in SOP 27 which includes:

- Assignment of quality control responsibilities to specifically named individuals who have been certified by the Office of Materials and Research
- Provisions for prompt implementation of control and corrective measures
- Provisions for communication with Project Manager, Bituminous Technical Services Engineer, and Testing Management Operations Supervisor at all times
- Provisions for reporting all test results daily through the Office of Materials and Research computer Bulletin Board Service; other checks, calibrations and records will be reported on a form developed by the Contractor and will be included as part of the project records
- Notification in writing of any change in quality control personnel

a. Certification Requirements:

- Use laboratory and testing equipment certified by the Department. (Laboratories which participate in and maintain AASHTO accreditation for testing asphaltic concrete mixtures will be acceptable in lieu of Departmental certification.)
- Provide certified quality control personnel to perform the sampling and testing. A Quality Control Technician (QCT) may be certified at three levels:

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- 1) Temporary Certification – must be a technician trainee who shall be given direct oversight by a certified Level 1 or Level 2 QCT while performing acceptance testing duties during the first 5 days of training. The trainee must complete qualification requirements within 30 production days after being granted temporary certification. A trainee who does not become qualified within 30 production days will not be re-eligible for temporary certification. A certified Level 1 or Level 2 QCT shall be at the plant at all times during production and shipment of mixture to monitor work of the temporarily certified technician.
 - 2) Level 1 – must demonstrate they are competent in performing the process control and acceptance tests and procedures related to hot mix asphalt production and successfully pass a written exam.
 - 3) Level 2 – must meet Level 1 requirements and must be capable of and responsible for making process control adjustments, and successfully pass a written exam.
 - Technician certification is valid for 3 years from the date on the technician’s certificate unless revoked or suspended. Eligible technicians may become certified through special training and testing approved by the Office of Materials and Research. Technicians who lose their certification due to falsification of test data will not be eligible for recertification in the future unless approved by the State Materials and Research Engineer.
- b. Quality Control Management
- 1) Designate at least one Level 2 QCT as manager of the quality control operation. The Quality Control Manager shall meet the following requirements:
 - Be accountable for actions of other QCT personnel
 - Ensure that all applicable sampling requirements and frequencies, test procedures, and Standard Operating Procedures are adhered to
 - Ensure that all reports, charts, and other documentation is completed as required
 - 2) Provide QCT personnel at the plant as follows:
 - If daily production for all mix types is to be greater than 250 tons (megagrams), have a QCT person at the plant at all times during production and shipment of mixture until all required acceptance tests have been completed
 - If daily production for all mix types will not be greater than 250 tons (megagrams) a QCT may be responsible for conducting tests at up to two plants, subject to random number sample selection
 - Have available at the plant or within immediate contact by phone or radio a Level 2 QCT responsible for making prompt process control adjustments as necessary to correct the mix
 - 3) Sampling, Testing, and Inspection Requirements.

Provide all sample containers, extractants, forms, diaries, and other supplies subject to approval of the Engineer.

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Perform daily sampling, testing, and inspection of mixture production that meets the following requirements:

- (a) Randomly sample mixtures according to [GSP 15](#), and [GDT 73 \(Method C\)](#) and test on a lot basis. In the event less than the specified number of samples are taken, obtain representative 6 in (150 mm) cores from the roadway at a location where the load not sampled was placed. Take enough cores to ensure minimum sample size requirements are met for each sample needed.
- (b) Maintain a printed copy of the computer generated random sampling data as a part of the project records.
- (c) Perform sampling, testing, and inspection duties of [GSP 21](#).
- (d) Perform extraction or ignition test ([GDT 83](#) or [GDT 125](#)) and extraction analysis ([GDT 38](#)). If the ignition oven is used, a printout of sample data including weights shall become a part of the project records. For asphalt cement content only, digital printouts of liquid asphalt cement weights may be substituted in lieu of an extraction test for plants with digital recorders. Calculate the asphalt content from the ticket representing the mixture tested for gradation.
- (e) Save extracted aggregate, opposite quarters, and remaining material (for possible referee testing) of each sample as follows:
 - Store in properly labeled, suitable containers
 - Secure in a protected environment
 - Store for three working days. If not obtained by the Department, within three days they may be discarded.
- (f) Maintain a process control flow chart daily for each sieve specified on the job mix formula and including the percent asphalt cement. The flow chart shall include:
 - Allowable ranges based on the Mixture Control Tolerance in [Section 828](#)
 - A graph plot of the deviations from the job mix formula for each test per mix type
- (g) Add the following information on load tickets from which a sample or temperature check is taken:
 - Mixture temperature
 - Signature of the QCT person performing the testing

<p>Note: Determine mixture temperature at least once per hour of production for OGFC and PEM mixes.</p>
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- (h) Calibrate the lime system when hydrated lime is included in the mixture:
 - Perform a minimum of twice weekly during production
 - Post results at the plant for review

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- Provide records of materials invoices upon request (including asphalt cement, aggregate, hydrated lime, etc.)
 - (i) Take action if acceptance test results are outside Mixture Control Tolerances of [Section 828](#).
 - One sample out of tolerance
 - (1) Contact Level 2 - QCT to determine if a plant adjustment is needed
 - (2) Immediately run a process control sample. Make immediate plant adjustments if this sample is also out of tolerance
 - (3) Test additional process control samples as needed to ensure corrective action taken appropriately controls the mixture
 - Two consecutive acceptance samples of the same mix type out of tolerance regardless of Lot or mix design level, or three consecutive acceptance samples out of tolerance regardless of mix type
 - (1) Stop plant production immediately
 - (2) Reject any mixture already in storage that:
 - Deviates more than 10 percent in gradation from the job mix formula based on the acceptance sample
 - Deviates more than 0.7 percent in asphalt content from the job mix formula based on the acceptance sample
 - (3) Make a plant correction to any mix type out of tolerance prior to resuming production
 - Do not send any mixture to the project before test results of a process control sample meets Mixture Control Tolerances
 - Reject any mixture produced at initial restarting that does not meet Mixture Control Tolerances
- 4) Comparison Testing and Quality Assurance Program

Periodic comparison testing by the Department will be required of each QCT to monitor consistency of equipment and test procedures. The Department will take independent samples to monitor the Contractor's quality control program.

a) Comparison Sampling and Testing

Retain samples for comparison testing and referee testing if needed as described in [Subsection 400.3.06.A.3.b.3](#). Discard these samples only if the Contractor's acceptance test results meet a 1.00 pay factor and the Department does not procure the samples within three working days.

The Department will test comparison samples on a random basis. Results will be compared to the respective contractor acceptance tests and the maximum difference shall be as follows:

Table 6—Allowable Percent Difference Between Department and Contractor Acceptance Tests

<u>SIEVE SIZE</u>	<u>SURFACE</u>	<u>SUB-SURFACE</u>
1/2 in. (12.5 mm)		4.0%
3/8 in. (9.5 mm)	3.5%	4.0%
No. 4 (4.75 mm)	3.5%	3.5%
No. 8 (2.36 mm)	2.5%	3.0%
No. 200 (75 μm)	2.0%	2.0%
A.C.	0.4%	0.5%

NOTE: Pavement courses to be overlaid with OGFC or PEM mixes are considered surface mixes.

- (1) If test comparisons are within these tolerances:
 - Continue production
 - Use the Contractor's tests for acceptance of the lot
- (2) If test comparisons are not within these tolerances:
 - Another Departmental technician will test the corresponding referee sample
 - Results of the referee sample will be compared to the respective contractor and Departmental tests using the tolerance for comparison samples given above.
 - (a) If referee test results are within the above tolerances when compared to the Contractor acceptance test, use the Contractor's test for acceptance of the effected lot.
 - (b) If referee test results are not within the above tolerances when compared to the Contractor acceptance test, the Department will review the Contractor's quality control methods and determine if a thorough investigation is needed.
- b) Quality Assurance Sampling and Testing
 - (1) Randomly take a minimum of two quality assurance samples from the lesser of five days or five lots of production regardless of mix type or number of projects.
 - (2) Compare test deviation from job mix formula to Mixture Control Tolerances in [Section 828](#). If results are outside these tolerances, another sample from the respective mix may be taken.

NOTE: For leveling courses less than 110 lb/yd² (60 kg/m²) that have quality assurance test results outside the Mixture Control Tolerances of [Section 828](#), use the Department's test results only and applicable pay factors will apply.

If test results of the additional sample are not within Mixture Control Tolerances, the Department will take the following action:

- Take random samples from throughout the lot as in [Subsection 400.3.06.A.3.b.3](#) and use these test results for acceptance and in calculations for the monthly plant rating. Applicable pay factors will apply and the contractor QCT test results will not be included in pay factor calculations nor in the monthly plant rating.
- Determine if the Contractor's quality control program is satisfactory and require prompt corrective action by the Contractor if specification requirements are not being met.
- Determine if the QCT has not followed Departmental procedures or has provided erroneous information.
- Take samples of any in-place mixture represented by unacceptable QCT tests and use the additional sample results for acceptance and in calculations for the monthly plant rating and apply applicable pay factors. The Contractor QCT tests will not be included in the pay factor calculations nor in the monthly plant rating.

B. Compaction

Determine the mixture compaction using either [GDT 39](#) or [GDT 59](#). The compaction is accepted in lots defined in [Subsection 400.3.06. A “Acceptance Plans for Gradation and Asphalt Cement Content”](#) and is within the same lot boundaries as the mixture acceptance.

1. Calculate Pavement Mean Air Voids

The Department will calculate the pavement air voids placed within each lot as follows:

- a. Average the results of 5 tests run on randomly selected sites in that lot.
- b. Select the random sites using [GDT 73](#).

Density tests are not required for asphaltic concrete placed at 90 lbs/yd² (50 kg/m²) or less, 4.75 mm mix, and asphaltic concrete OGFC and PEM. Compact these courses to the Engineer's satisfaction.

The maximum Pavement Mean Air Voids for all Superpave and Stone Matrix Asphalt mixtures shall be 7.8 percent. The adjustment period for density shall be three lots or three production days, whichever is less, in order for the contractor to ensure maximum compactive effort has been achieved which will yield no more than 7.8 percent Mean Air Voids. If the contractor needs to adjust the mixture to improve density results, a change in the job mix formula may be requested for approval during the adjustment period so long as the following values are not exceeded:

- Coarse pay sieve ± 4%
- No. 8 (2.36 mm) sieve ± 2%
- No. 200 (75 µm) sieve ± 1%
- Asphalt Content ± 0.2%

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- All value changes must still be within specification limits

If the Office of Materials and Research is satisfied that the contractor has exerted the maximum compactive effort and is not able to maintain Pavement Mean Air Voids at no more than 7.8%, the Engineer may establish a maximum target for Pavement Mean Air Voids.

Mixture placed during the adjustment period for density shall meet the requirements for a 0.90 pay factor in Table 12 of [Subsection 400.5.01.C, “Calculate Mean Pavement Air Voids.”](#) Mixture which does not meet these density requirements shall be paid for using the applicable pay factor.

If the mean air voids of the pavement placed within a lot exceeds 7.8% (or 100% of the maximum target air voids, if established) and the Engineer determines that the material need not be removed and replaced, the lot may be accepted at an adjusted unit price as determined by the Engineer.

2. Obtain Uniform Compaction

For a lot to receive a pay factor of 1.00 for compaction acceptance, the air void range cannot exceed 4 percent for new construction or 5 percent for resurfacing projects. The range is the difference between the highest and lowest acceptance test results within the affected lot. If the air void range exceeds these tolerances, apply a Pay Factor of 95%.

The 5% reduced pay factor for the compaction range does not apply in these instances:

- The mixture is placed during the adjustment period as defined in [Subsection 400.5.01.A, “Materials Produced and Placed During the Adjustment Period.”](#)
- All air void results within a given lot are less than 7.8%.

C. Surface Tolerance

In this Specification, pavement courses to be overlaid with a friction course are considered surface courses. Other asphalt paving is subject to straightedge and visual inspection and irregularity correction as shown below:

1. Visual and Straightedge Inspection

Paving is subject to visual and straightedge inspection during and after construction operations until Final Acceptance. Locate surface irregularities as follows:

- a. Keep a 10 ft (3 m) straightedge near the paving operation to measure surface irregularities on courses. Provide the straightedge and the labor for its use.
- b. Inspect the base, intermediate, and surface course surfaces with the straightedge to detect irregularities.
- c. Correct irregularities that exceed 3/16 in. in 10 ft (5 mm in 3 m) for base and intermediate courses, and 1/8 in. in 10 ft (3 mm in 3 m) for surface courses.

Mixture or operating techniques will be stopped if irregularities such as rippling, tearing, or pulling occur and the Engineer suspects a continuing equipment problem. Stop the paving operation and correct the problem. Correct surface course evaluations on individual Laser Road Profiler test sections, normally 1 mile (1 km) long.

2. Target Surface Smoothness

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The Department will use the Laser Road Profiler method to conduct acceptance testing for surface course tolerance according to [GDT 126](#). This testing will be performed only on:

- Surface courses
- Mainline traveled way
- Ramps more than 0.5 mile (800 m) long

Achieve the smoothest possible ride during construction. Do not exceed the target Laser Road Profiler smoothness index as shown below:

Table 7—Pavement Smoothness Requirements—New Construction

Construction Description	Smoothness Index
Asphaltic concrete OGFC and PEM on interstates and asphaltic concrete OGFC and PEM on new construction	750
Other resurfacing on interstates, asphaltic concrete OGFC and PEM resurfacing on state routes, and new construction	825
All other resurfacing on state routes (excluding LARP, PR, airports, etc.)	900

If the target values are not achieved, immediately adjust the operations to meet the target values.

Corrective work is required if the surface smoothness exceeds the Laser Road Profiler smoothness index shown below:

Table 8—Pavement Smoothness Requirements—Corrective Work

Construction Description	Smoothness Index
Asphaltic concrete OGFC and PEM on interstates and asphaltic concrete OGFC and PEM on new construction	825
Other resurfacing on interstates, asphaltic concrete OGFC and PEM resurfacing on state routes, and new construction	900
All other resurfacing on state routes (excluding LARP, PR, airports, etc.)	1025

If surface tolerance deficiencies need correction, obtain the Engineer's approval of the methods and type mix used.

3. Bridge Approach Ride Quality

The following are subject to a ride quality test by the Department for 100 ft. (30 m) of roadway approaching each end of a bridge using the Rainhart Profilograph:

- A state road with 4 lanes or more
- A 2-lane state road with a current traffic count of 2,000 vpd or more
- Locations designated on the Plans

All other bridge approaches shall meet the 1/8 in. in 10 ft (3 mm in 3 m) straightedge requirement. Test ride quality as follows:

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- a. The Department will determine a profile index value according to test method [GDT 78](#).
- b. The Department will average the profile index value from the right and left wheelpath for each 100 ft (30 m) section for each lane. Keep the profile index value under 30.
- c. Meet the profile index value for the 100 ft (30 m) section of roadway up to the joint with the approach slab.
- d. Schedule the profilograph testing 5 days before needed. Clean and clear obstructions from the test area.
- e. Correct the sections that do not meet the ride quality criteria of this Specification. After correction, these sections are subject to retesting with the Rainhart Profilograph. The Engineer shall direct the type of correction method, which may include:
 - Milling
 - Grinding
 - Removing and replacing the roadway

No additional compensation will be made.

The Department will perform Profilograph testing up to two times on the bridge approaches at no cost to the Contractor. Additional profilograph testing will cost the Contractor \$500 per test.

D. Reevaluation of Lots

When lots are reevaluated as shown in [Subsection 106.03, “Samples, Tests, Cited Specifications.”](#) sampling and testing is according to [GDT 73](#). Request shall be made for reevaluation immediately upon notification of the lot results. The following procedures apply:

1. Mixture Acceptance

The Department will take the same number of new tests on cores taken at a location where the load sampled was placed and will use only those core results for acceptance.

The Department will use the mean of the deviations from the job mix formula for these tests to determine acceptance based on the appropriate column in the Asphalt Cement Content and Aggregate Gradation of Asphalt Concrete [Mixture Acceptance Schedule—Table 9 or 10](#).

2. Compaction Acceptance

The Department will reevaluate the lot through additional testing by cutting 5 cores and averaging these results with the results of the original 5 compaction tests. The Department will use the average to determine acceptance according to the Compaction Acceptance Schedule in [Subsection 400.5.01.C, “Calculate Pavement Mean Air Voids”](#).

Table 9—Mixture Acceptance Schedule—Surface Mixes

Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
Asphalt Cement Content (Extraction, Ignition)	1.00	0.00 - 0.70	0.00 - 0.54	0.00 - 0.46	0.00 - 0.41	0.00 - 0.38	0.00 - 0.35	0.00 - 0.32	0.00 - 0.30
	0.95	0.71 - 0.80	0.55 - 0.61	0.47 - 0.52	0.42 - 0.46	0.39 - 0.43	0.36 - 0.39	0.33 - 0.36	0.31 - 0.34
	0.90	0.81 - 0.90	0.62 - 0.68	0.53 - 0.58	0.47 - 0.51	0.44 - 0.47	0.40 - 0.45	0.37 - 0.40	0.35 - 0.37
	0.80	0.91 - 1.00	0.69 - 0.75	0.59 - 0.64	0.52 - 0.56	0.48 - 0.52	0.44 - 0.47	0.41 - 0.44	0.38 - 0.41
	0.70	1.01 - 1.19	0.76 - 0.82	0.65 - 0.69	0.57 - 0.61	0.53 - 0.56	0.48 - 0.51	0.45 - 0.47	0.42 - 0.44
	0.50	1.20 - 1.40	0.83 - 0.85	0.70 - 0.72	0.62 - 0.64	0.57 - 0.59	0.52 - 0.55	0.48 - 0.51	0.45 - 0.48
3/8 in. (9.5 mm) Sieve (12.5 mm OGFC, 12.5 mm PEM, 12.5 mm Superpave)	1.00	0.00 - 0.9	0.00 - 6.6	0.00 - 5.6	0.00 - 5.0	0.00 - 4.6	0.00 - 4.2	0.00 - 3.9	0.00 - 3.6
	0.98	9.1 - 10.0	6.7 - 7.5	5.7 - 6.3	5.1 - 5.6	4.7 - 5.2	4.3 - 4.7	4.0 - 4.4	3.7 - 4.1
	0.95	10.1 - 11.9	7.6 - 8.4	6.4 - 7.0	5.7 - 6.3	5.3 - 5.8	4.8 - 5.3	4.5 - 5.0	4.2 - 4.6
	0.90	12.0 - 13.0	8.5 - 9.3	7.1 - 7.7	6.4 - 6.9	5.9 - 6.3	5.4 - 5.8	5.1 - 5.4	4.7 - 5.0
	0.85	13.1 - 14.0	9.4 - 10.2	7.8 - 8.6	7.0 - 7.6	6.4 - 6.9	5.9 - 6.3	5.5 - 5.9	5.1 - 5.5
	0.80	14.1 - 14.5	10.3 - 10.5	8.7 - 8.9	7.7 - 8.0	7.0 - 7.5	6.4 - 6.8	6.0 - 6.4	5.6 - 6.0
3/8 in. (9.5 mm) Sieve (12.5 mm SMA)	1.00	0.0 - 6.8	0.00 - 5.0	0.00 - 4.2	0.00 - 3.8	0.00 - 3.4	0.00 - 3.2	0.00 - 2.9	0.00 - 2.7
	0.98	6.9 - 7.5	5.1 - 5.6	4.6 - 4.7	3.9 - 4.2	3.5 - 3.9	3.3 - 3.5	3.0 - 3.3	2.8 - 3.1
	0.95	7.6 - 8.9	5.7 - 6.3	4.8 - 5.2	4.3 - 4.7	4.0 - 4.4	3.6 - 4.0	3.4 - 3.8	3.2 - 3.4
	0.90	9.0 - 9.8	6.4 - 7.0	5.3 - 5.8	4.8 - 5.2	4.5 - 4.8	4.1 - 4.4	3.9 - 4.1	3.5 - 3.8
	0.85	9.9 - 10.5	7.1 - 7.6	5.9 - 6.4	5.3 - 5.7	4.9 - 5.2	4.5 - 4.7	4.2 - 4.4	3.9 - 4.1
	0.80	10.6 - 10.9	7.7 - 7.9	6.5 - 6.7	5.8 - 6.0	5.3 - 5.6	4.8 - 5.1	4.5 - 4.8	4.2 - 4.5
No. 4 (4.75 mm) Sieve (9.5 mm OGFC, 9.5 mm Superpave)	1.00	0.00 - 9.0	0.00 - 6.7	0.00 - 5.7	0.00 - 5.2	0.00 - 4.8	0.00 - 4.4	0.00 - 4.1	0.00 - 3.8
	0.98	9.1 - 10.0	6.8 - 7.6	5.8 - 6.3	5.3 - 5.8	4.9 - 5.4	4.5 - 4.9	4.2 - 4.6	3.9 - 4.3
	0.95	10.1 - 11.9	7.7 - 8.5	6.4 - 6.9	5.9 - 6.4	5.5 - 5.9	5.0 - 5.4	4.7 - 5.0	4.4 - 4.7

Section 400—Hot Mix Asphaltic Concrete Construction

Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
	0.90	12.0 - 13.0	8.6 - 9.4	7.0 - 7.5	6.5 - 7.0	6.0 - 6.5	5.5 - 5.9	5.1 - 5.5	4.8 - 5.1
	0.85	13.1 - 14.0	9.5 - 10.2	7.6 - 8.0	7.1 - 7.6	6.6 - 7.0	6.0 - 6.4	5.6 - 5.9	5.2 - 5.5
	0.80	14.1 - 14.5	10.3 - 10.5	8.1 - 8.3	7.7 - 8.0	7.1 - 7.5	6.5 - 6.9	6.0 - 6.4	5.6 - 5.9
No. 4 (4.75 mm) Sieve (9.5 mm SMA)	1.00	0.00 - 6.8	0.00 - 5.0	0.00 - 4.3	0.00 - 3.9	0.00 - 3.6	0.00 - 3.3	0.00 - 3.1	0.00 - 2.8
	0.98	6.9 - 7.5	5.1 - 5.7	4.4 - 4.7	4.0 - 4.4	3.7 - 4.0	3.4 - 3.7	3.2 - 3.4	2.9 - 3.2
	0.95	7.6 - 8.9	5.8 - 6.4	4.8 - 5.2	4.5 - 4.8	4.1 - 4.4	3.8 - 4.0	3.5 - 3.8	3.3 - 3.5
	0.90	9.0 - 9.8	6.5 - 7.0	5.3 - 5.6	4.9 - 5.2	4.5 - 4.9	4.1 - 4.4	3.9 - 4.1	3.6 - 3.8
	0.85	9.9 - 10.5	7.1 - 7.7	5.7 - 6.0	5.3 - 5.7	5.0 - 5.2	4.3 - 4.8	4.2 - 4.4	3.9 - 4.1
	0.80	10.6 - 10.9	7.8 - 7.9	6.1 - 6.2	5.8 - 6.0	5.3 - 5.6	4.9 - 5.2	4.5 - 4.8	4.2 - 4.4
No. 8 (2.36 mm) Sieve (Superpave and 4.75 mm mixes)	1.00	0.00 - 7.0	0.00 - 5.6	0.00 - 4.8	0.00 - 4.3	0.00 - 4.0	0.00 - 3.6	0.00 - 3.4	0.00 - 3.2
	0.98	7.1 - 8.0	5.7 - 6.3	4.9 - 5.4	4.4 - 4.8	4.1 - 4.5	3.7 - 4.1	3.5 - 3.8	3.3 - 3.6
	0.95	8.1 - 9.0	6.4 - 7.0	5.5 - 6.0	4.9 - 5.3	4.6 - 4.9	4.2 - 4.5	3.9 - 4.2	3.7 - 3.9
	0.90	9.1 - 10.9	7.1 - 7.7	6.1 - 6.6	5.4 - 5.8	5.0 - 5.4	4.6 - 4.9	4.3 - 4.6	4.0 - 4.3
	0.85	11.0 - 12.0	7.8 - 8.5	6.7 - 7.2	5.9 - 6.4	5.5 - 5.8	5.0 - 5.3	4.7 - 5.0	4.4 - 4.6
	0.75	12.1 - 12.5	8.6 - 8.8	7.3 - 7.5	6.5 - 6.8	5.9 - 6.3	5.4 - 5.7	5.1 - 5.3	4.7 - 4.9
No. 8 (2.36 mm) Sieve (12.5 mm SMA, 9.5 mm SMA)	1.00	0.00 - 5.3	0.00 - 4.2	0.00 - 3.6	0.00 - 3.2	0.00 - 3.0	0.00 - 2.7	0.00 - 2.6	0.00 - 2.4
	0.98	5.4 - 6.0	4.3 - 4.7	3.7 - 4.0	3.3 - 3.6	3.1 - 3.4	2.8 - 3.1	2.7 - 2.9	2.5 - 2.7
	0.95	6.1 - 6.8	4.8 - 5.3	4.1 - 4.5	3.7 - 4.0	3.5 - 3.7	3.2 - 3.4	3.0 - 3.2	2.8 - 2.9
	0.90	6.9 - 8.2	5.4 - 5.8	5.6 - 5.0	4.1 - 4.5	3.8 - 4.0	3.5 - 3.7	3.3 - 3.5	3.0 - 3.2
	0.85	8.3 - 9.0	5.9 - 6.4	5.1 - 5.4	4.6 - 4.8	4.1 - 4.4	3.8 - 4.0	3.6 - 3.8	3.3 - 3.4

Section 400—Hot Mix Asphaltic Concrete Construction

Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
	0.75	9.1 - 9.4	6.5 - 6.6	5.5 - 5.0	4.9 - 5.1	4.5 - 4.7	4.1 - 4.3	3.9 - 4.0	3.5 - 3.7
No. 8 (2.36 mm) Sieve for OGFC and PEM mixes: When the mean of the deviations from the Job Mix Formula for a particular lot exceeds the tolerance for a 1.00 pay factor in the appropriate column, the lot will be paid for at 0.50 of the Contract Price.									

Table 10—Mixture Acceptance Schedule—Subsurface Mixes

Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
Asphalt Cement Content (Extraction, Ignition)	1.00	0.00 - 0.80	0.00 - 0.61	0.00 - 0.52	0.00 - 0.46	0.00 - 0.43	0.00 - 0.39	0.00 - 0.36	0.00 - 0.34
	0.95	0.81 - 0.90	0.62 - 0.68	0.53 - 0.58	0.47 - 0.51	0.44 - 0.47	0.40 - 0.43	0.37 - 0.40	0.35 - 0.37
	0.90	0.91 - 1.00	0.69 - 0.75	0.59 - 0.64	0.52 - 0.56	0.48 - 0.52	0.44 - 0.47	0.41 - 0.44	0.38 - 0.41
	0.80	1.01 - 1.19	0.76 - 0.82	0.65 - 0.69	0.57 - 0.61	0.53 - 0.56	0.48 - 0.51	0.45 - 0.47	0.42 - 0.44
	0.70	1.20 - 1.40	0.83 - 0.85	0.70 - 0.72	0.62 - 0.64	0.57 - 0.59	0.52 - 0.55	0.48 - 0.51	0.45 - 0.48
	0.50	1.41 - 1.60	0.86 - 0.88	0.73 - 0.75	0.65 - 0.67	0.60 - 0.63	0.56 - 0.60	0.52 - 0.56	0.49 - 0.52
1/2 in. (12.5 mm) Sieve (25 mm Superpave)	1.00	0.00 - 12.9	0.00 - 8.1	0.00 - 6.9	0.00 - 6.1	0.00 - 5.5	0.00 - 5.0	0.00 - 4.7	0.00 - 4.4
	0.98	13.0 - 14.0	8.2 - 9.1	7.0 - 7.7	6.2 - 6.8	5.6 - 6.1	5.1 - 5.6	4.8 - 5.2	4.5 - 4.9
	0.95	14.1 - 15.0	9.2 - 10.1	7.8 - 8.5	6.9 - 7.5	6.2 - 6.7	5.7 - 6.1	5.3 - 5.7	5.0 - 5.4
	0.90	15.1 - 16.0	10.2 - 11.1	8.6 - 9.3	7.6 - 8.2	6.8 - 7.4	6.2 - 6.7	5.8 - 6.3	5.5 - 5.9
	0.85	16.1 - 17.0	11.2 - 11.5	9.4 - 9.6	8.3 - 8.6	7.5 - 7.8	6.8 - 7.0	6.4 - 6.5	6.0 - 6.1
	0.80	17.1 - 18.0	11.6 - 11.9	9.7 - 9.9	8.7 - 9.0	7.9 - 8.1	7.1 - 7.3	6.6 - 6.8	6.2 - 6.4
1/2 in. (12.5 mm) Sieve (19 mm SMA)	1.00	0.00 - 9.7	0.00 - 6.0	0.00 - 5.2	0.00 - 4.6	0.00 - 4.1	0.00 - 3.8	0.00 - 3.5	0.00 - 3.3
	0.98	9.8 - 10.5	6.2 - 6.8	5.3 - 5.8	4.7 - 5.1	4.2 - 4.6	3.9 - 4.2	3.6 - 3.9	3.4 - 3.7
	0.95	10.6 - 11.2	6.9 - 7.8	5.9 - 6.4	5.2 - 5.6	4.7 - 5.0	4.3 - 4.6	4.0 - 4.3	3.8 - 4.0
	0.90	11.3 - 12.0	7.9 - 8.3	6.5 - 7.0	5.7 - 6.1	5.1 - 5.6	4.7 - 5.0	4.4 - 4.7	4.1 - 4.4
	0.85	12.1 - 12.8	8.4 - 8.6	7.1 - 7.2	6.2 - 6.5	5.7 - 5.9	5.1 - 5.3	4.8 - 4.9	4.5 - 5.6
	0.80	12.9 - 13.5	8.7 - 8.9	7.3 - 7.4	6.6 - 6.8	6.0 - 6.1	5.4 - 5.5	5.0 - 5.1	4.7 - 4.8
3/8 in. (9.5 mm)	1.00	0.00 - 10.0	0.00 - 7.5	0.00 - 6.3	0.00 - 5.6	0.00 - 5.2	0.00 - 4.7	0.00 - 4.4	0.00 - 4.1

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Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
Sieve (19 mm Superpave, 12.5 mm Superpave)	0.98	10.1 - 11.9	7.6 - 8.4	6.4 - 7.0	5.7 - 6.3	5.3 - 5.8	4.8 - 5.3	4.5 - 5.0	4.2 - 4.6
	0.95	12.0 - 13.0	8.5 - 9.3	7.1 - 7.7	6.4 - 6.9	5.9 - 6.3	5.4 - 5.8	5.1 - 5.4	4.7 - 5.0
	0.90	13.1 - 14.0	9.4 - 10.2	7.8 - 8.6	7.0 - 7.6	6.4 - 6.9	5.9 - 6.3	5.5 - 5.9	5.1 - 5.5
	0.85	14.1 - 14.5	10.3 - 10.5	8.7 - 8.9	7.7 - 8.0	7.0 - 7.5	6.4 - 6.8	6.0 - 6.4	5.6 - 6.0
	0.80	14.6 - 15.0	10.6 - 10.8	9.0 - 9.2	8.1 - 8.4	7.6 - 7.8	6.9 - 7.3	6.5 - 6.8	6.1 - 6.5
No. 4 (4.75 mm) Sieve (9.5 mm Superpave)	1.00	0.00 - 10.0	0.00 - 7.6	0.00 - 6.3	0.00 - 5.8	0.00 - 5.4	0.00 - 4.9	0.00 - 4.6	0.00 - 4.3
	0.98	10.1 - 11.9	7.7 - 8.5	6.4 - 6.9	5.9 - 6.4	5.5 - 5.9	5.0 - 5.4	4.7 - 5.0	4.4 - 4.7
	0.95	12.0 - 13.0	8.6 - 9.4	7.0 - 7.5	6.5 - 7.0	6.0 - 6.5	5.5 - 5.9	5.1 - 5.5	4.8 - 5.1
	0.90	13.1 - 14.0	9.5 - 10.2	7.6 - 8.0	7.1 - 7.6	6.6 - 7.0	6.0 - 6.4	5.6 - 5.9	5.2 - 5.5
	0.85	14.1 - 14.5	10.3 - 10.5	8.1 - 8.3	7.7 - 8.0	7.1 - 7.5	6.5 - 6.9	6.0 - 6.4	5.6 - 5.9
	0.80	14.6 - 15.0	10.6 - 10.8	8.4 - 8.6	8.1 - 8.4	7.6 - 8.0	7.0 - 7.4	6.5 - 6.8	6.0 - 6.3
No. 8 (2.36 mm) Sieve (All mixes except SMA)	1.00	0.00 - 8.0	0.00 - 6.3	0.00 - 5.4	0.00 - 4.8	0.00 - 4.5	0.00 - 4.1	0.00 - 3.8	0.00 - 3.6
	0.98	8.1 - 9.0	6.4 - 7.0	5.5 - 6.0	4.9 - 5.3	4.6 - 4.9	4.2 - 4.5	3.9 - 4.2	3.7 - 3.9
	0.95	9.1 - 10.0	7.1 - 7.7	6.1 - 6.6	5.4 - 5.8	5.0 - 5.4	4.6 - 4.9	4.3 - 4.6	4.0 - 4.3
	0.90	10.1 - 11.9	7.8 - 8.5	6.7 - 7.2	5.9 - 6.4	5.5 - 5.8	5.0 - 5.3	4.7 - 5.0	4.4 - 4.6
	0.85	12.0 - 13.0	8.6 - 8.8	7.3 - 7.5	6.5 - 6.8	5.9 - 6.3	5.4 - 5.7	5.1 - 5.3	4.7 - 4.9
	0.75	13.1 - 14.0	8.9 - 9.1	7.6 - 7.8	6.9 - 7.2	6.4 - 6.6	5.8 - 6.1	5.4 - 5.7	5.0 - 5.3
No. 8 (2.36 mm) Sieve (19 mm SMA)	1.00	0.00 - 6.0	0.00 - 4.7	0.00 - 4.1	0.00 - 3.6	0.00 - 3.4	0.00 - 3.1	0.00 - 2.9	0.00 - 2.4
	0.98	6.1 - 6.8	4.8 - 5.2	4.2 - 4.5	3.7 - 4.0	3.5 - 3.7	3.2 - 3.4	3.0 - 3.2	2.8 - 2.9
	0.95	6.9 - 7.5	5.3 - 5.8	4.6 - 5.0	4.1 - 4.4	3.8 - 4.0	3.5 - 3.7	3.3 - 3.5	3.0 - 3.2

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Mixture Characteristics	Pay Factor	Mean of the Deviations from the Job Mix Formula							
		1 Test	2 Tests	3 Tests	4 Tests	5 Tests	6 Tests	7 Tests	8 Tests
	0.90	7.6 - 8.9	5.9 - 6.4	5.1 - 5.4	4.5 - 4.8	4.1 - 4.4	3.8 - 4.0	3.6 - 3.8	3.3 - 3.5
	0.85	9.0 - 9.8	6.5 - 6.6	5.5 - 5.6	4.9 - 5.1	4.5 - 4.7	4.1 - 4.3	3.9 - 4.0	3.6 - 3.7
	0.75	9.9 - 10.5	6.7 - 6.8	5.7 - 5.9	5.2 - 5.4	4.8 - 5.0	4.4 - 4.6	4.1 - 4.3	3.8 - 4.0

E. Segregated Mixture

Prevent mixture placement that yields a segregated mat by following production, storage, loading, placing, and handling procedures. Also, make needed plant modifications and provide necessary auxiliary equipment. (See [Subsection 400.1.01, “Definitions.”](#))

If the mixture is segregated in the finished mat, the Department will take actions based on the degree of segregation. The actions are described below.

1. Unquestionably Unacceptable Segregation

When the Engineer determines that the segregation in the finished mat is unquestionably unacceptable, follow these measures:

- a. Suspend Work and require the Contractor to take positive corrective action. The Department will evaluate the segregated areas to determine the extent of the corrective work to the in-place mat as follows:
 - Perform extraction and gradation analysis by taking 6 in (150 mm) cores from typical, visually unacceptable segregated areas.
 - Determine the corrective work according to [Subsection 400.3.06.E.3.](#)
- b. Require the Contractor to submit a written plan of measures and actions to prevent further segregation. Work will not continue until the plan is submitted to and approved by the Department.
- c. When work resumes, place a test section not to exceed 500 tons (500 Mg) of the affected mixture for the Department to evaluate. If a few loads show that corrective actions were not adequate, follow the measures above beginning with step 1.a. above. If the problem is solved, Work may continue.

2. Unacceptable Segregation Suspected

When the Engineer observes segregation in the finished mat and suspects that it may be unacceptable, follow these measures:

- a. Allow work to continue at Contractor’s risk.
- b. Require Contractor to immediately and continually adjust operation until the visually apparent segregated areas are eliminated from the finished mat. The Department will immediately investigate to determine the severity of the apparent segregation as follows:
 - Take 6 in (150 mm) cores from typical areas of suspect segregation.

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- Test the cores for compliance with the mixture control tolerances in [Section 828](#).

When these tolerances are exceeded, suspend work for corrective action as outlined in [Subsection 400.3.06.E.3](#).

3. Corrective Work

- a. Remove and replace (at the Contractor's expense) any segregated area where the gradation on the control sieves is found to vary 10 percent or more from the approved job mix formula, the asphalt cement varies 1.0% or more from the approved job mix formula, or if in-place air voids exceed 13.5% based on [GDT 39](#). The control sieves for each mix type are shown in [Subsection 400.5.01.B "Determine Lot Acceptance."](#)
- b. Subsurface mixes. For subsurface mixes, limit removal and replacement to the full lane width and no less than 10 ft. (3 m) long and as approved by the Engineer.
- c. Surface Mixes. For surface mixes, ensure that removal and replacement is not less than the full width of the affected lane and no less than the length of the affected areas as determined by the engineer.

Surface tolerance requirements apply to the corrected areas for both subsurface and surface mixes.

400.3.07 Contractor Warranty and Maintenance

A. Contractor's Record

Maintain a dated, written record of the most recent plant calibration. Keep this record available for the Engineer's inspection at all times. Maintain records in the form of:

- Graphs
- Tables
- Charts
- Mechanically prepared data

400.4 Measurement

Thickness and spread rate tolerances for the various mixtures are specified in [Subsection 400.4.A.2.b, Table 11, Thickness and Spread Rate Tolerance at Any Given Location](#). These tolerances are applied as outlined below:

A. Hot Mix Asphaltic Concrete Paid for by Weight

1. Plans Designate a Spread Rate

- a. Thickness Determinations. Thickness determinations are not required when the Plans designate a spread rate per square yard (meter).

If the spread rate exceeds the upper limits outlined in the [Subsection 400.4.A.2.b, Table 11, "Thickness and Spread Rate Tolerance at Any Given Location"](#), the mix in excess will not be paid for.

If the rate of spread is less than the lower limit, correct the deficient course by overlaying the entire lot.

The mixture used for correcting deficient areas is paid for at the Contract Unit Price of the course being corrected and is subject to the [Mixture Acceptance Schedule—Table 9 or 10](#).

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- b. Recalculate the Total Spread Rate. After the deficient hot mix course has been corrected, the total spread rate for that lot is recalculated, and mix in excess of the upper tolerance limit as outlined in the [Subsection 400.4.A.2.b, Table 11, “Thickness and Spread Rate Tolerance at Any Given Location”](#) is not paid for.

The quantity of material placed on irregular areas such as driveways, turnouts, intersections, feather edge section, etc., is deducted from the final spread determination for each lot.

2. Plans Designate Thickness

If the average thickness exceeds the tolerances specified in the [Subsection 400.4.A.2.b, Table 11, “Thickness and Spread Rate Tolerance at Any Given Location”](#), the Engineer shall take cores to determine the area of excess thickness. Excess quantity will not be paid for.

If the average thickness is deficient by more than the tolerances specified in the Thickness and Spread Rate Tolerance at Any Given Location table below, the Engineer shall take additional cores to determine the area of deficient thickness. Correct areas with thickness deficiencies as follows:

- a. Overlay the deficient area with the same mixture type being corrected or with an approved surface mixture. The overlay shall extend for a minimum of 300 ft (90 m) for the full width of the course.
- b. Ensure that the corrected surface course complies with [Subsection 400.3.06.C.1, “Visual and Straightedge Inspection.”](#) The mixture required to correct a deficient area is paid for at the Contract Unit Price of the course being corrected.

The mixture is subject to the [Mixture Acceptance Schedule—Table 9 or 10](#). The quantity of the additional mixture shall not exceed the required calculated quantity used to increase the average thickness of the overlaid section to the maximum tolerance allowed under the following table.

Table 11—Thickness and Spread Rate Tolerance at Any Given Location

Course	Thickness Specified	Spread Rate Specified
Asphaltic concrete base course	± 0.5 in (±13 mm)	+40 lbs, -50 lbs (+20 kg, -30 kg)
Intermediate and/or wearing course	± 0.25 in (± 6 mm)	+20 lbs, -25 lbs (+10 kg, -15 kg)
Overall of any combination of 1 and 2	± 0.5 in (±13 mm)	+40 lbs, -50 lbs (+20 kg, -30 kg)

Note 1: For asphaltic concrete 9.5 mm OGFC and 12.5 mm OGFC, control the spread rate per lot within 5 lbs/yd² (3 kg/m²) of the designated spread rate. For asphaltic concrete 12.5 mm PEM, control the spread rate per lot within 10 lbs/yd² (6 kg/m²) of the designated spread rate.

Note 2: Thickness and spread rate tolerances are provided to allow normal variations within a given lot. Do not continuously operate at a thickness or spread rate not specified.

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When the Plans specify a thickness, the Engineer may take as many cores as necessary to determine the average thickness of the intermediate or surface course. The Engineer shall take a minimum of one core per 1,000 ft (300 m) per two lanes of roadway. Thickness will be determined by average measurements of each core according to [GDT 42](#).

If the average exceeds the tolerances specified in the [Subsection 400.4.A.2.b, Table 11, “Thickness and Spread Rate Tolerance at Any Given Location”](#), additional cores will be taken to determine the area of excess thickness and excess tonnage will not be paid for.

B. Hot Mix Asphaltic Concrete Paid for by Square Yard (Meter)

1. The thickness of the base course or the intermediate or surface course will be determined by the Department by cutting cores and the thickness will be determined by averaging the measurements of each core.
2. If any measurement is deficient in thickness more than the tolerances given in the table above, additional cores will be taken by the Department to determine the area of thickness deficiency. Correct thickness deficiency areas as follows:
 - a. Overlay the deficient area with the same type mixtures being corrected or with surface mixture. Extend the overlay at least 300 ft (90 m) for the full width of the course.
 - b. Ensure that the corrected surface course complies with [Subsection 400.3.06.C.1, Visual and Straightedge Inspection](#) .
 - c. The mixture is subject to the [Mixture Acceptance Schedule—Table 9 or 10](#).
3. No extra payment is made for mixtures used for correction.
4. No extra payment is made for thickness in excess of that specified.

<p>NOTE: Thickness tolerances are provided to allow normal variations within a given lot. Do not continuously operate at a thickness not specified.</p>
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C. Asphaltic Concrete

Hot mix asphaltic concrete, complete in place and accepted, is measured in tons (megagrams) or square yards (meters) as indicated in the Proposal. If payment is by the ton (megagram), the actual weight is determined by weighing each loaded vehicle on the required motor truck scale as the material is hauled to the roadway, or by using recorded weights if a digital recording device is used.

The weight measured includes all materials. No deductions are made for the weight of the individual ingredients. The actual weight is the pay weight except when the aggregates used have a combined bulk specific gravity greater than 2.75. In this case the pay weight is determined according to the following formula:

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$$T1 = T x \frac{\% AC + \frac{\% Aggregate \times 2.75}{\text{combined bulk Sp. Gr.}} + \% Y}{100}$$

Where:

T1	Pay weight, tonnage (Mg)
T=	Actual weight
% AC=	Percent asphalt cement by weight of total mixture
% Aggregate =	Percent aggregate by weight of total mixture
Combined Bulk Sp. Gr.=	Calculated combined bulk specific gravity of various mineral aggregates used in the mixture
% Y=	Percent hydrated lime by weight of mineral aggregate

D. Bituminous Material

Bituminous material is not measured for separate payment.

E. Hydrated Lime

When hydrated lime is used as an anti-stripping additive, it is not measured for separate payment.

F. Field Laboratory

The field laboratory required in this Specification is not measured for separate payment.

G. Asphaltic Concrete Leveling

Payment of hot mix asphaltic concrete leveling, regardless of the type mix, is full compensation for furnishing materials, bituminous materials, and hydrated lime (when required) for patching and repair of minor defects, surface preparation, cleaning, hauling, mixing, spreading, and rolling.

Mixture for leveling courses is subject to the acceptance schedule as stated in [Subsection 400.3.06.A](#) and [Subsection 400.3.06.B](#).

H. Asphaltic Concrete Patching

Hot mix asphaltic concrete patching, regardless of the type mix, is paid for at the Contract Unit Price per ton (Megagram), complete in place and accepted. Payment is full compensation for:

- Furnishing materials such as bituminous material and hydrated lime (when required)
- Preparing surface to be patched
- Cutting areas to be patched, trimmed, and cleaned
- Hauling, mixing, placing, and compacting the materials

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400.4.01 Limits

When the asphaltic concrete is paid for by the square yard (meter) and multiple lifts are used, the number and thickness of the lifts are subject to the Engineer’s approval and are used to prorate the pay factor for the affected roadway section.

400.5 Payment

When materials or construction are not within the tolerances in this Specification, the Contract Price will be adjusted according to [Subsection 106.03, “Samples, Tests, Cited Specifications”](#) and [Subsection 400.3.06, “Quality Acceptance.”](#)

Hot mix asphaltic concrete of the various types are paid for at the Contract Unit Price per ton (megagram) or per square yard (meter). Payment is full compensation for furnishing and placing materials including asphalt cement, hydrated lime when required, approved additives, and for cleaning and repairing, preparing surfaces, hauling, mixing, spreading, rolling, and performing other operations to complete the Contract Item.

Payment will be made under:

Item No. 400	Asphaltic concrete <u>type</u> Superpave, <u>group-blend</u> , Including bituminous materials, Gilsonite modifier, and hydrated lime	Per ton (megagram)
Item No. 400	_____ inches asphaltic concrete, <u>type</u> Superpave, <u>group-blend</u> including bituminous materials, Gilsonite modifier and hydrated lime	Per square yard (meter)
Item No. 400	Asphaltic concrete <u>type</u> Stone Matrix Asphalt, <u>group-blend</u> , including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete <u>type</u> OGFC, <u>group 2</u> only, including bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete <u>type</u> OGFC, <u>group 2</u> only, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete <u>type</u> Porous European Mix, <u>group 2</u> only, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)

400.5.01 Adjustments

A. Materials Produced and Placed During the Adjustment Period

An adjustment period is allowed at the start of mixing operations for each type of mix placed on the Contract except for Asphaltic Concrete OGFC or PEM. The adjustment period is provided to adjust or correct the mix and to establish the construction procedures and sequence of operations.

The adjustment period consists of the tons (megagrams) of the affected mix produced and placed on the first day of operation. If this quantity is less than 500 tons (500 Mg), the Engineer may combine the tons (megagrams) produced and placed on the first day of operation with the tons (megagrams) produced and placed on the next production day of the affected mix for the adjustment period.

The material produced and placed during the mixture adjustment period is one lot. If the mix is adjusted during this period, a new lot may be necessary, but a new adjustment period will not be permitted.

Section 400—Hot Mix Asphaltic Concrete Construction

This material shall be paid for at 100 percent of the Contract Unit Price provided it meets the minimum requirements for a 1.00 pay factor for asphalt cement content and a 0.90 pay factor for gradation in the [Mixture Acceptance Schedule—Table 9 or 10](#).

If the material placed during the adjustment period fails to meet the above requirements, it will be paid for using the applicable acceptance schedule. When the same type Superpave mixture is placed at different mix design levels and a different blend of materials is specified in the job mix formula, a new adjustment period shall be granted. However, when a Superpave mixture with the same blend of materials specified in the job mix formula is placed at different mix design levels or when a mixture used for leveling at a spread rate of 90 lbs/yd² (50 kg/m²) or less is also used for the surface mix at a spread rate greater than 90 lbs/yd² (50 kg/m²), an additional adjustment period will be allowed for compaction only. This material will be paid for at a 1.00 pay factor provided it:

- Meets the minimum requirements for a 1.00 pay factor in the Mixture Acceptance Schedule—Table 9 or 10 for both asphalt content and gradation.
- Meets the minimum requirements for a 0.90 pay factor in Table 12 of [Subsection 400.5.01C](#), “[Calculate Mean Pavement Air Voids](#).”

Mixture which does not meet these requirements shall be paid for using the applicable acceptance schedule.

B. Determine Lot Acceptance

Pay factor adjustments are based on control sieves and asphalt cement content. The control sieves used in the mixture acceptance schedule for the various types of mix are indicated below:

Control Sieves Used in the Mixture Acceptance Schedule	
Asphaltic concrete 25 mm Superpave	1/2 in., No. 8 (12.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 19 mm SMA	1/2 in., No. 8 (12.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 19 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm SMA	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm PEM	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm OGFC	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 9.5 mm Superpave	No. 4, No. 8 (4.75 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 9.5 mm SMA	No. 4, No. 8 (4.75 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 9.5 mm OGFC	No. 4, No. 8 (4.75 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 4.75 mm Mix	No. 8 (2.36 mm) sieve and asphalt cement

For projects which do not have milling quantities established as a Pay Item, the Department will pay for 12.5 mm OGFC and PEM placed on ramps and end of project transitions under the appropriate mixture pay item, but the mix shall be subject to the same gradation and control sieve requirements as asphaltic concrete 9.5 mm OGFC. Add polymer-modified bituminous material, hydrated lime, and stabilizing fiber to this mix.

Section 400—Hot Mix Asphaltic Concrete Construction

The Department will perform the following tasks:

1. Using the [Mixture Acceptance Schedule—Table 9 or 10](#), determine the mean of the deviations from the job mix formula per test results per lot.
2. Determine this mean by averaging the actual numeric value of the individual deviations from the job mix formula; disregard whether the deviations are positive or negative amounts.
3. Use the Asphalt Cement Content and Aggregate Gradation of Asphalt Concrete [Mixture Acceptance Schedule—Table 9](#) to determine acceptance of surface mixes and the [Mixture Acceptance Schedule—Table 10](#) to determine acceptance of subsurface mixes.

On Contracts involving 1,000 tons (1000 Mg) or less of asphaltic concrete, the mixture is accepted for 100 percent payment of the asphaltic concrete Unit Price provided it meets the following:

1. Minimum requirements for a 1.00 pay factor for asphalt cement content and a 0.90 pay factor for gradation in the applicable [Mixture Acceptance Schedule—Table 9 or 10](#).
2. Minimum requirements for a 0.90 pay factor in Table 12 of [Subsection 400.5.01C, “Calculate Pavement Mean Air Voids.”](#)

If the material placed on Contracts involving 1,000 tons (1000 Mg) or less of asphaltic concrete does not meet the above requirements, the material will be paid for using the applicable acceptance schedule.

C. Calculate Pavement Mean Air Voids

The Department will determine the percent of maximum air voids for each lot by dividing the pavement mean air voids by the maximum pavement mean air voids acceptable.

The Department will determine the payment for each lot by multiplying the Contract Unit Price by the adjusted pay factor shown in the following Air Voids Acceptance schedule:

Table 12 - Air Voids Acceptance Schedule

Pay Factor	Percent of Maximum Air Voids (Lot Average-5 Tests)	Percent of Maximum Air Voids (Lot Average-10 Tests) (for Reevaluations)
1.00	≤100	≤100
0.97	100.1 — 105	100.1 — 104
0.95	105.1 — 112	104.1 — 109
0.90	112.1 — 124	109.1 — 118
0.80	124.1 — 149	118.1 — 136
0.70	149.1 — 172	136.1 — 153
0.50	172.1 — 191	153.1 — 166

When the range tolerance is exceeded, the Department will apply a pay factor of 0.95 as described in [Subsection 400.3.06.B.2.](#)

Section 400—Hot Mix Asphaltic Concrete Construction

D. Asphaltic Concrete For Temporary Detours

Hot mix asphaltic concrete placed on temporary detours that will not remain in place as part of the permanent pavement does not require hydrated lime. Hot mix used for this purpose is paid for at an adjusted Contract Price.

Where the Contract Price of the asphaltic concrete for permanent pavement is let by the ton (megagram), the Contract Price for the asphaltic concrete placed on temporary detours is adjusted by subtracting \$0.75/ton (\$0.85/mg) of mix used.

Where the Contract price of the mix in the permanent pavement is based on the square yard (meter), obtain the adjusted price for the same mix used on the temporary detour by subtracting \$0.04/yd² (\$0.05/ m²) per 1-in (25-mm) plan depth.

Further price adjustments required in [Subsection 400.3.06, “Quality Acceptance.”](#) are based on the appropriate adjusted Contract Price for mix used in the temporary detour work.

E. Determine Lot Payment

Determine the lot payment as follows:

1. When one of the pay factors for a specific acceptance lot is less than 1.0, determine the payment for the lot by multiplying the Contract Unit Price by the adjusted pay factor.
2. When two or more pay factors for a specific acceptance lot are less than 1.0, determine the adjusted payment by multiplying the Contract Unit Price by the lowest pay factor.

If the mean of the deviations from the job mix formula of the tests for a sieve or asphalt cement content exceeds the tolerances established in the [Mixture Acceptance Schedule—Table 9 or 10](#) and if the Engineer determines that the material need not be removed and replaced, the lot may be accepted at an adjusted unit price as determined by the Engineer. If the pavement mean air voids exceed the tolerances established in the [Air Voids Acceptance Schedule – Table 12](#), remove and replace the materials at the Contractor’s expense.

If the Engineer determines that the material is not acceptable to leave in place, remove and replace the materials at the Contractor’s expense.

Section 415—Asphaltic Concrete Open Graded Crack Relief Interlayer

415.1 General Description

This work includes constructing a bituminous plant produced Asphaltic Concrete Open Graded Crack Relief Interlayer (OGI) over the existing roadway surface. The mixture shall serve as asphaltic concrete leveling over irregular surfaces and provide mitigation for reflective cracking prior to the placement of the final surface pavement. The mixture shall conform to the lines, grades, thicknesses, typical sections and cross sections shown on the plans or established by the Engineer.

This section includes the requirements for Asphaltic Concrete Open Graded Crack Relief Interlayer mixtures regardless of the gradation of the aggregates, type and amount of bituminous material, or pavement use. Follow the requirements in Section 400, Section 402 and Section 828 for production and placement, materials, equipment, and acceptance plans except as noted or modified in this specification.

Acceptance of work is on a lot-to-lot basis according to the requirements of this Section, Section 400, Section 402 and Section 106.

415.1.01 Definitions

Asphaltic Concrete Open Graded Crack Relief Interlayer: an open graded mixture placed at a lift thickness that yields stone on stone contact that provides in-place air void content of 18 to 23 percent to mitigate existing cracking within asphaltic concrete pavements.

415.1.02 Related References

A. Standard Specifications

- Section 106—Control of Materials
- Section 109—Measurement and Payment
- Section 152—Field Laboratory Building
- Section 400 – Hot Mix Asphaltic Concrete Construction
- Section 402 – Hot Mix Recycled Asphaltic Concrete
- Section 413—Bituminous Tack Coat
- Section 800 – Coarse Aggregate
- Section 802 - Aggregate for Asphaltic Concrete
- Section 820 – Asphalt Cement
- Section 828—Hot Mix Asphaltic Concrete Mixtures
- Section 831 – Admixtures
- Section 882 – Lime
- Section 883 – Mineral Filler

B. Referenced Documents

AASHTO T 209

AASHTO T 202

AASHTO T 49

AASHTO T 315

Department of Transportation Standard Operating Procedure (SOP) 27

Department of Transportation Standard Operating Procedure (SOP) 15

Department of Transportation Standard Operation Procedure (SOP) 40

GDT 38

GDT 73

GDT 83

GDT 114

GDT 119

GDT 125

GDT 126

GSP 15

GSP 21

QPL 1

QPL 2

QPL 7

QPL 26

QPL 39

QPL 41

QPL 45

415.1.03 Submittals

A. Invoices

Furnish formal written invoices from a supplier for all materials used in production of HMA when requested by Department. Show the following on the Bill of Lading:

- Date shipped
- Quantity in tons (megagrams)
- Included with or without additives (for asphalt cement)

Purchase asphaltic cement directly from a supplier listed on Qualified Products List 7 and provide copies of Bill of Lading at the Department's request.

Section 415 — Asphaltic Concrete Open Graded Crack Relief Interlayer

B. Paving Plan

Before starting asphaltic concrete construction, submit a written paving plan to the Engineer for approval. Include the following on the paving plan:

- Proposed starting date
- Location of plant(s)
- Rate of production
- Average haul distance(s)
- Number of haul trucks
- Paver speed feet (meter)/minute for each placement operation
- Mat width for each placement operation
- Number and type of rollers for each placement operation
- Sketch of the typical section showing the paving sequence for each placement operation
- Electronic controls used for each placement operation
- Temporary pavement marking plan

If staged construction is designated in the plans or contract, provide a paving plan for each construction stage.

If segregation is detected, submit a written plan of measures and actions to prevent segregation. Work will not continue until the plan is submitted to and approved by the Department.

C. Job Mix Formula

Submit to the Engineer a written job mix formula proposed for each mixture type to be used based on an approved mix design. Furnish the following information for each mix:

- Specific project for which the mixture will be used
- Source and description of the materials to be used
- Mixture I.D. Number
- Proportions of the raw materials to be combined in the paving mixture
- Single percentage of the combined mineral aggregates passing each specified sieve
- Single percentage of asphalt by weight of the total mix to be incorporated in the completed mixture
- Single temperature at which to discharge the mixture from the plant
- Theoretical specific gravity of the mixture at the designated asphalt content
- Name of the person or agency responsible for quality control of the mixture during production

Do the following to have the formulas approved in accordance with SOP 40 *Approval of Contractor Job Mix Formulas* and to ensure their quality:

1. Submit proposed job mix formulas for review at least two weeks before beginning the mixing operations.
2. Do not start hot mix asphaltic concrete work until the Engineer has approved a job mix formula for the mixture to be used. No mixture will be accepted until the Engineer has given approval.
3. Provide mix designs for all Asphaltic Concrete Open Graded Crack Relief Interlayer mixtures to be used.
4. After a job mix formula has been approved, assume responsibility for the quality control of the mixtures supplied to the Department according to Subsection 106.01, *Source of Supply and Quantity of Materials*.

D. Quality Control Program

Submit a Quality Control Plan to the Office of Materials and Testing for approval. The Quality Control Program will be included as part of the certification in the annual plant inspection report.

Section 415 — Asphaltic Concrete Open Graded Crack Relief Interlayer

415.2 Materials

The requirements established in Section 400 are to be followed for Asphaltic Concrete Open Crack Relief Interlayer production and placement, materials, equipment, and acceptance plans except as noted or modified in this specification.

Ensure that materials comply with the specifications listed in Table 1.

TABLE 1—MATERIALS SPECIFICATIONS

Material	Subsection
Asphalt Cement, Grade Specified	820.2
Coarse Aggregates for Asphaltic Concrete	802.2.02
Fine Aggregates for Asphaltic Concrete	802.2.01
Mineral Filler	883.1
Heat Stable Anti-Stripping Additive	831.2.04
Hydrated Lime	882.2.03
Silicone Fluid (When approved by the Office of Materials and Testing)	831.2.05
Bituminous Tack Coat: PG 58-22, PG 64-22, PG 67-22	820.2
Hot Mix Asphaltic Concrete Mixtures	828

Section 415 — Asphaltic Concrete Open Graded Crack Relief Interlayer

415.2.01 Mix Design Requirements

The Open Graded Crack Relief Interlayer Mixture shall be formulated to contain approximately 18 to 23 percent in-place air voids after compaction. Use approved mixtures that meet the following mixture control tolerances and design criteria:

TABLE 2 – ASPHALTIC CONCRETE OPEN GRADED CRACK RELIEF INTERLAYER MIXTURE DESIGN AND CONTROL

Sieve Size	Mixture Control Tolerance, %	Design Gradation Limits, % Passing
		Open Graded Crack Relief Interlayer
3/4 in. (19 mm) sieve	±0.0	100
1/2 in. (12.5 mm) sieve	±6.1	80 - 100
3/8 in. (9.5 mm) sieve	±5.6	40 - 65
No. 4 (4.75 mm) sieve	±5.7	10 - 25
No. 8 (2.36 mm) sieve	±4.6	2 - 10
No. 200 (75 µm) sieve	±2.0	2 - 5
Range for % AC	±0.4	4.50 – 5.25
Class of stone (Section 800)		“A” only
Drain-down (AASHTO T305), %		<0.3
Design optimum air voids (%)		20% ± 2%
Control Sieves used in Acceptance Schedule		3/8 in., No. 8 (9.5 mm, 2.36 mm) and Asphalt Cement

Notes:

1. Use only PG 64-22 or PG 67-22 asphalt cement (specified in Section 820).
2. Use no less than 1.0% hydrated lime regardless of aggregates group or source(s) used.
3. Ensure no more than 10 percent Recycled Asphalt Pavement (RAP) is used in Asphaltic Concrete Open Graded Interlayer mixtures.
4. Quality Acceptance Test Results for AC content deviating $> \pm 0.3$ % from the approved Job Mix Formula (JMF) consistently over three Lots may subject the mix to a revised AC content on the project JMF at the discretion of the State Materials Engineer based on statistical trend.
5. Range for % AC is Original Optimum AC (OOAC) at 25 blow Marshall prior to the Corrected Optimum AC (COAC) calculation detailed in SOP 2 (Appendix D).

415.3 Construction Requirements

The requirements established in Section 400 are to be followed for asphaltic concrete mixture production and placement, materials, equipment, and acceptance plans except as noted or modified in this specification.

415.3.01 Personnel

General Provisions 101 through 150.

415.3.02 Construction

Asphaltic concrete plants that produce mix for Department use are governed by Quality Assurance for Hot Mix Asphaltic Concrete Plants in Georgia, Laboratory Standard Operating Procedure No. 27.

Follow requirements established in Section 400 for production and placement, materials, equipment, acceptance plans and adjustments except as noted or modified in this specification.

- A. Apply a bituminous tack coat according to Section 413. The Engineer will determine the application rate, which must be within the limits of 0.06 gal/yd² to 0.10 gal/yd² (0.27 L/m² to 0.45 L/m²) (residual asphalt cement).
- B. The mix shall be produced and placed at a temperature of 250°F with a tolerance of ± 20°F.
- C. Place the mix to a compacted lift thickness of 1-inch (25 mm). For construction purposes, the target thickness will be converted to spread rate based on the bulk specific gravity of the asphaltic concrete mixture being used as shown in the following equation:

$$\text{Spread rate (lbs./yd}^2\text{)} = t * G_{mb} * 46.8 \quad (\text{Spread rate (kg/ m}^2\text{)} = t * G_{mb})$$

Where: t = Compacted lift thickness (inches, mm)

G_{mb} = bulk specific gravity of the mix from the approved mix design

The spread rate shall be controlled within 10 lbs./yd² (6 kg/m²).

- D. Do not place mix at air temperatures below 50 °F (10 °C).
- E. The mix shall be compacted in a manner to achieve 18 to 23 percent in-place air voids. Steel wheel rollers operating in static mode **only** will be used to seat the lift of Asphaltic Concrete Open Graded Crack Relief Interlayer mixture. Pneumatic tire rollers shall not be allowed on the Asphaltic Concrete Open Graded Crack Relief Interlayer mat.

415.4. Measurement

Asphaltic Concrete Open Graded Crack Relief Interlayer mixture, complete, in place and accepted, is measured in tons (megagrams). If the spread rate exceeds the upper limits outlined in Subsection 415.3.02.C by > 15 lbs./yd², the mix in excess will not be paid for. If the rate of the spread is ≤ 10 lbs./yd² than the lower limit, the deficient course is subject to correction by overlaying the entire lot. The mixture used for correcting deficient areas is paid for at the Contract Unit Price of the course being corrected and is subject to mixture control requirements established in Table 2 – Asphaltic Concrete Open Graded Crack Relief Interlayer Mixture Design and Control. After the deficient course has been corrected, the total spread rate for that lot is recalculated, and the mix in excess of the upper limits outlined in Subsection 415.3.02.C will not be paid for.

415.5 Payment

Asphaltic Concrete Open Graded Crack Relief-Interlayer mix is paid for at the Contract Unit Price per ton (megagram). Payment is full compensation for furnishing and placing materials including asphalt cement, hydrated lime, approved additives, and for cleaning and repairing, preparing surfaces, hauling, mixing, spreading, rolling, and performing other operations to complete the Contract Item.

Section 415 — Asphaltic Concrete Open Graded Crack Relief Interlayer

Payment will be made under:

Item No. 415	Asphaltic Concrete Open Graded Crack Relief Interlayer, group-blend, Including bituminous materials and hydrated lime	Per ton (megagram)
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415.5.01 Adjustments

A. Materials Produced and Placed During the Adjustment Period

Follow requirements established in Section 400 for production and placement, materials, equipment, acceptance plans and adjustments except as noted or modified in this specification.

Asphaltic Concrete Open Graded Crack Relief Interlayer shall be granted an adjustment period for the first Lot or day, whichever is less, produced for the Contract. A new adjustment period shall not be granted for a change of producer, mix design or asphalt plant location. The adjustment period is provided to adjust or correct the mix and to establish the construction procedures and sequence of operations. Test the mixture in accordance with Section 400.3.06. Maintain the asphalt cement content and gradation within the limits provided in Table 2 – Asphaltic Concrete Open Graded Interlayer Mixture Design and Control. The Engineer will not use these test results in the acceptance for payment decision, but production and placement operations shall cease for failure to meet mixture control tolerances established in Table 2 – Asphaltic Concrete Open Graded Interlayer Mixture Design and Control.

415.5.02 Determine Lot Acceptance

The Engineer will accept the mixture based on visual inspection. The mixture shall be inspected for texture, segregation, bleeding, fat spots, raveling, delamination, tearing, targeted in-place air void content and slippage areas. Remove and replace any areas determined to be unacceptable to the Engineer.

Section 653—Thermoplastic Traffic Stripe

653.1 General Description

This work includes furnishing and applying standard, wet weather, and audible profiled thermoplastic reflectorized pavement marking compound. Ensure markings conform to plan details and locations, these specifications, and the Manual on Uniform Traffic Control Devices.

Thermoplastic traffic stripe consists of solid or broken (skip) lines, words, and symbols according to plan color, type, and location.

653.1.01 Definitions

Thermoplastic Marking Compound: A heated compound extruded or mechanically sprayed on the pavement that cools to pavement temperature. When combined with glass spheres and/or reflective composite optics it produces a reflectorized pavement marking.

Short Lines: Crosswalks, stop bars, arrows, symbols, and crosshatching. Extrude short lines rather than spraying them on.

653.1.02 Related References

A. Specifications

Section 656—Removal of Pavement Markings

B. Referenced Documents

QPL 46
QPL 71
SOP 37
SOP 38
SOP 39
Federal Test Standard Number 595B
Federal Test Standard Number 695B
AASHTO M 247
AASHTO M 249
ASTM D 92
ASTM D 476
ASTM D 2240
ASTM D 4960
ASTM E 1710
ASTM E 2177
40 CFR 261.24
EPA Method 3050
EPA Method 3052
EPA Method 6010 EPA
Method 7000A

Section 653 — Thermoplastic Traffic Stripe

653.1.03 Submittals

Ensure the producers of the thermoplastic compound and the producers of both the intermix and drop-on glass spheres furnish to the Department copies of certified test reports showing results of all tests specified in this Section. Also ensure that producers certify that the materials meet the other requirements of this Section by submitting copies of certification at the time of sampling.

653.2 Materials

A. General Characteristics of Thermoplastic

Use thermoplastic material produced from an approved source listed on QPL 46. Use thermoplastic material that meets the requirements of AASHTO M 249 with the following exceptions:

1. Material Composition

Ensure the resin of the thermoplastic material is an alkyd binder. Ensure the alkyd binder consists of a mixture of synthetic resins and a high boiling point plasticizer. Ensure at least one synthetic resin is a solid at room temperature. Ensure at least 50 percent of the binder composition is 100 percent maleic-modified glycerol ester resin. Ensure at least 18 percent by weight of the entire material formulation consists of binder. Do not use alkyd binder that contains petroleum-based hydrocarbon resins. Ensure the finished thermoplastic material is not adversely affected by contact with pavement materials or by petroleum droppings from traffic. Use thermoplastic material that has been evaluated (2-year field evaluation) by the National Transportation Product Evaluation Panel (NTPEP) test facility or other approved test facility.

2. Suitability for Markings

Use thermoplastic material that is especially compounded for traffic markings and has the following characteristics:

- Prevents markings from smearing or spreading under normal traffic conditions at temperatures below 120 °F (49 °C)
- Gives a uniform cross section, with pigment evenly dispersed throughout the material
- Has a uniform material density and character throughout its thickness
- Allows the stripe to maintain its original dimensions and placement
- Ensures that the exposed surface is free from tack and is not slippery when wet
- Does not lift from the pavement in freezing weather
- Has cold ductility properties that permit normal movement with the road surface without chipping or cracking

Section 653 — Thermoplastic Traffic Stripe

3. Color

Confirm the color of thermoplastic by providing data from the manufacturer to the Area Manager as follows:

- a. White – Use titanium dioxide that meets the requirements of ASTM D 476, Type II, Rutile, as the pigment for white thermoplastic material. Do not use anatase titanium dioxide pigment. Ensure thermoplastic material is free from dirt or tint. Ensure white thermoplastic material heated for 240 ± 5 minutes at 425 ± 3 °F (218 ± 3 °C) and cooled to 77 ± 3 °F (25 ± 2 °C) matches Federal Test Standard Number 695B-Color 17925. Ensure that the Y tristimulus value is measured to be a minimum value of 45. Ensure the material, when compared to the magnesium oxide standard using a standard color spectrophotometer according to ASTM D 4960, meets the following:

Scale	Definition	Magnesium Oxide Standard	Sample
Rd	Reflectance	100	75 min.
a	Redness-Greenness	0	-5 to + 5
b	Yellowness-Blueness	0	-10 to + 10

- b. Yellow – Use only non-hazardous pigments as defined by the Resource Conservation and Recovery Act (RCRA) Subarticle C rules, table 1 of 40 CFR 261.24 “Toxicity Characteristic”. Do not use yellow thermoplastic containing more than 3.0 ppm lead by weight when tested in accordance with the most recent

EPA Methods 3050 and 6010 or 7000. Ensure yellow thermoplastic material heated for 240 ± 5 minutes at 425 ± 3 °F (218 ± 2 °C) and cooled to 77 ± 3 °F (25 ± 2 °C) matches AMS-STD-595. Ensure that the Y tristimulus value is measured to be a minimum value of 45. Ensure the material, when compared to PR#1 Chart using a standard color spectrophotometer according to ASTM D 4960, plots within the following chromaticity coordinates:

	1	2	3	4
X	0.455	0.510	0.472	0.530
Y	0.444	0.485	0.400	0.456

- c. Black – The black pigment must produce a completely opaque, black stripe when applied on the road and after 70 hr of weatherometer exposure in accordance with ASTM G 155 using Exposure Cycle 1 with a quartz inner filter glass and Type “S” Borosilicate outer filter glass. Ensure that Y tristimulus value is measured to be a maximum value of 5.
- d. Ensure the in-service daytime chromaticity for yellow, white, and black material plots within the following coordinates after a period of 30 days:

	1		2		3		4	
	x	y	x	y	x	y	x	y
White	0.290	0.315	0.310	0.295	0.350	0.340	0.330	0.360
Yellow	0.435	0.429	0.510	0.485	0.449	0.377	0.530	0.456
Black	0.355	0.355	0.305	0.305	0.285	0.325	0.335	0.375

Section 653 — Thermoplastic Traffic Stripe

4. Indentation Resistance

Measure the hardness by a Shore Durometer, Type A2, as described in ASTM D 2240. Maintain the temperature of the Durometer, 4.4 lb. (2 kg) load and the specimen for 2 hours at 115 °F (45 °C). Apply the Durometer and 4.4 lb. (2 kg) load to the specimen. The reading must fall between 50 to 75 units, after 15 seconds.

5. Reheating

Ensure that the compound does not break down, deteriorate, scorch, or discolor if held at application temperature of 425 °F (218 °C) for 6 hours and if reheated up to 4 times to the application temperature. Ensure that the color of white and yellow thermoplastic comply with Subsection 653.2.A.3.a and Subsection 653.2.A.3.b after prolonged heating or reheating.

6. Intermixed Glass Spheres and Reflective Composite Optics

Ensure glass spheres meet the requirements of AASHTO M 247.

Do not use glass spheres and /or reflective composite optics containing greater than 200 ppm total arsenic, 200 ppm total antimony, or 200 ppm total lead when tested according to US EPA Methods 3052 and 6010C, or other approved methods.

7. Flashpoint

Ensure the thermoplastic flashpoint is not less than 500 °F (260 °C) as determined by ASTM D 92.

B. Drop-On Glass Spheres and Reflective Composite Optics

Ensure glass spheres meet the requirements of AASHTO M 247. Use spheres produced from an approved source listed on QPL 71. Glass spheres conforming to an alternative gradation may be used provided all other requirements of AASHTO M 247 and this specification are met. Do not use glass spheres and /or reflective composite optics containing greater than 200 ppm total arsenic, 200 ppm total antimony, or 200 ppm total lead when tested according to US EPA Methods 3052 and 6010C, or other approved methods.

C. Sealing Primer

Place the particular type of binder-sealer at the application rate as recommended in writing by the thermoplastic material manufacturer.

653.2.01 Delivery, Storage, and Handling

Use material delivered in 50 lb (22.7 kg) unit cardboard containers or bags strong enough for normal handling during shipment and on-the-job transportation without loss of material.

Ensure that each unit container is clearly marked to indicate the following:

- Color of the material
- Process batch number or similar manufacturer's identification
- Manufacturer's name
- Address of the plant
- Date of manufacture

Section 653 — Thermoplastic Traffic Stripe

653.3 Construction Requirements

653.3.01 Personnel

General Provisions 101 through 150.

653.3.02 Equipment

Depending on the marking required, use hand equipment or truck-mounted application units on roadway installations.

A. Application Machine

Ensure that each application machine is equipped with the following features:

- Parts continuously mix and agitate the material.
- Truck-mounted units for lane, edge, and center lines operate at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of striping material and capable of following straight lines and making normal curves in a true arc.
- Conveying parts between the main material reservoir and the shaping die or gun prevent accumulation and clogging.
- Parts that contact the material are easily accessible and exposable for cleaning and maintenance.
- Mixing and conveying parts, including the shaping die or gun, maintain the material at the plastic temperature with heat transfer oil or electrical element-controlled heat. Do not use an external source of direct heat.
- Parts provide continuously uniform stripe dimensions.
- Applicator cleanly and squarely cuts off stripe ends and applies skip lines. Do not use pans, aprons, or similar appliances that the die overruns.
- Parts produce varying widths of traffic markings.
- Applicator is mobile and maneuverable enough to follow straight lines and make normal curves in a true arc.

B. Automatic Bead Dispenser

Apply glass spheres and/or reflective composite optics to the surface of the completed stripe using a dispenser attached to the striping machine to automatically dispense the beads/optics instantaneously upon the installed line. Synchronize the glass sphere/optics dispenser cutoff with the automatic cutoff of the thermoplastic material.

C. Special Kettles

Use special kettles for melting and heating the thermoplastic material. Use kettles equipped with automatic thermostatic control devices that provides positive temperature control and prevents overheating. Ensure that the applicator and kettles are equipped and arranged according to the requirements of the National Fire Underwriters.

D. Hand Equipment

Use hand equipment for projects with small quantities of lane lines, edge lines, and center lines, or for conditions requiring the equipment. Use hand equipment approved by the Engineer.

Ensure hand equipment can hold 150 lbs. (68 kg) of molten material and is maneuverable to install crosswalks, arrows, legends, lane, edge, and center lines.

E. Auxiliary Vehicles

Supply the necessary auxiliary vehicles for the operation.

653.3.03 Preparation

For asphaltic concrete pavement, do not begin placement of thermoplastic striping until 15 calendar days after completion of the final surface course.

653.3.04 Fabrication

General Provisions 101 through 150.

Section 653 — Thermoplastic Traffic Stripe

653.3.05 Construction

A. General Application

Notify the Engineer prior to the placement of the thermoplastic materials. Furnish the Engineer with the manufacturer's name and batch numbers of the thermoplastic materials and glass spheres to be used. Ensure that the approved batch numbers appear on the thermoplastic materials and glass spheres packages.

Thoroughly clean pavement areas to be striped. Use hand brooms, rotary brooms, air blasts, scrapers, or other approved methods that leave the pavement surface clean and undamaged. Take care to remove all vegetation and road film from the striping area. Ensure all new Portland cement concrete pavement surfaces are mechanically wire brushed or abrasive cleaned to remove all laitance and curing compound before being striped.

Lay stripe with continuous uniform dimensions.

Apply the type of stripe at each location according to the Plans, using one of the following methods:

- Spray techniques
- Extrusion methods wherein one side of the shaping die is the pavement and the other three sides are contained by or are part of the suitable equipment to heat and control the flow of material.
- Extrusion methods using a pressurized ribbon gun to control the application of material.

1. Temperature

Apply thermoplastic traffic stripe only when the pavement temperature in the shade is above 40 °F (4 °C).

To ensure optimum adhesion, install the thermoplastic material in a melted state at the manufacturer's recommended temperature but not at less than 375 °F (190 °C).

2. Moisture

Do not apply when the surface is moist. When directed by the Engineer, perform a moisture test on the Portland cement concrete pavement surface. Perform the test as follows:

- a. Place approximately 1 yd² (1m²) of roofing felt on the pavement surface.
- b. Pour approximately 1/2 gallon (2 L) of molten thermoplastic onto the roofing felt.
- c. After 2 minutes, lift the roofing felt and inspect to see if moisture is present on the pavement surface or underside of the roofing felt.
- d. If moisture is present, do not proceed with the striping operation until the surface has dried sufficiently to be moisture free.

3. Sealing Primer

To ensure optimum adhesion, apply a binder-sealer material before installing the thermoplastic in each of the following cases:

- Where directed by the Engineer for sprayed thermoplastic
- Old asphaltic concrete pavements with exposed aggregates
- Portland cement concrete pavements
- Bridge Deck Polymer Overlay

Ensure that the binder-sealer material forms a continuous film that mechanically adheres to the pavement and dries rapidly. Use a binder-sealer currently in use and recommended by the thermoplastic material manufacturer according to QPL 46.

Apply the binder-sealer immediately in advance of, but concurrent with, the application of the thermoplastic material. Apply in a continuous film over the pavement surface.

4. Bonding to Old Stripe

If the old stripe is to be renewed by overlaying with new material, ensure the new material bonds to the old line without splitting or cracking.

5. Offset from Construction Joints

Off-set longitudinal lines at least 2 in (50 mm) from construction joints of Portland cement concrete pavements.

Section 653 — Thermoplastic Traffic Stripe

6. Crosswalks, Stop Bars, and Symbols

Make crosswalks, stop bars, and symbols at least 3/32 in (2.4 mm) thick at the edges and no more than 3/16 in (4.8 mm) thick at the center.

7. Thickness

a. Maintain the following minimum average dry thicknesses above the surface on all types of pavements

- 0.090 in. (2.3 mm) * for lane lines
- 0.060 in. (1.5 mm) * for edge lines
- 0.120 in. (3.0 mm) * for gore area lines
- 0.120 in. (3.0 mm) * for polymer overlay edge lines and lane lines (See below for "*" reference.)

Compute the minimums by the amount of material used each day, as follows:

(For 6 in wide stripe)	
* Average Thickness (in) =	$[(\text{lbs. used}) \div (\text{total linear feet})] \times 0.236$
(For 150 mm wide stripe)	
*Average Thickness (mm) =	$[(\text{kg used}) \div (\text{total linear meters})] \times 4.0$
(For 10 in wide stripe)	
* Average Thickness (in) =	$[(\text{lbs. used}) \div (\text{total linear feet})] \times 0.118$
(For 250 mm wide stripe)	
* Average Thickness (mm) =	$[(\text{kg used}) \div (\text{total linear meters})] \times 2.0$

b. Audible Profiled Thermoplastic – Apply a flat edge line having a thickness of 0.100 inches – 0.150 inches (100 mils – 150 mils) above the surface on all types of pavements, exclusive of bumps.

8. Glass Spheres and Reflective Composite Optics

- a. Apply glass spheres and/or reflective composite optics to installed stripe surface above the minimum rate recommended by the thermoplastic material manufacturer to produce the required retro-reflectivity value in accordance with Subsection 653.3.06.
- b. Apply the glass sphere and/or reflective composite optics top-coating with a pressure-type gun specifically designed for applying glass spheres and/or reflective composite optics that will embed at least one-half of the sphere's and optic's diameter into the thermoplastic immediately after the material has been applied to the pavement.
- c. Audible Profiled Thermoplastic– Apply glass sphere and/or reflective composite optics to all markings at the rates determined by the manufacturer's recommendations as identified in the APL system.

9. Dimensions of Raised Bumps:

- a. Apply the raised bumps with a profile such that the leading and trailing edges are sloped at a sufficient angle to create an audible and vibratory warning.
- b. Bumps on the edge line and centerline marking shall be at least 0.45 in. (11 mm) at the highest point of the bump, above the pavement surface including the base line. The height measures after the application of the drop-on retroreflective elements or glass spheres.
- c. Bumps shall have a minimum baseline coverage dimension of 2.5 in. (65 mm) in both the transverse and longitudinal directions.
- d. The bumps may have a drainage channel. The width of each drainage channel will not exceed 0.25 in. (6 mm) at the bottom of the channel. The longitudinal distance between bumps shall be approximately 30 in. (762 mm).

Section 653 — Thermoplastic Traffic Stripe

B. Removing Existing Stripe

Remove existing stripe according to Section 656.

Remove 100 percent of existing traffic stripe from:

- Portland cement concrete pavement where the new stripe will be placed at the same location as the existing marking
- Pavement where the new stripe will be placed at a different location from the existing markings

C. Tolerance and Appearance

- a. No traffic stripe shall be less than the specified width and shall not exceed the specified width by more than 1/2 in. (13 mm). The length of the 15 ft. (4.5 m) segment for skip stripe and the 25 ft. (7.5 m) gap between segments may vary plus or minus 1 ft. (300 mm). The alignment of the stripe shall not deviate from the intended alignment by more than 1 in. (25 mm) on straight lines. On curves up to and including 1 degree (radius of 1745 m or greater), the alignment of the stripe shall not deviate from the intended alignment by more than 1 in. (25 mm). On curves exceeding 1 degree (radius less than 1745 m), the alignment of the stripe shall not deviate from the intended alignment by more than 2 in. (50 mm).
- b. Stop work when deviation exceeds the above dimensions and remove the nonconforming stripe.
- c. No more than 1percent of the bumps or more than three consecutive bumps are missing or broken (less than half a bump remaining) within the first 45 days under traffic, replace all failed bumps at no cost to the Department.
- d. If the bumps are replaced and more than 2 percent of the replaced bumps fail within the first 45 days under traffic, the replacement period will be extended an additional 45 days from the date all replacement bumps were installed.
- e. If at the end of the additional 45 days more than 2 percent of all bumps (initial and replacement) fail, replace all failed bumps at no expense to the Department.

D. Traffic Marking Protection (Audible Profile Thermoplastic)

Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.

653.3.06 Quality Acceptance

A. General

For a minimum of 30 days from the time of placement, ensure the thermoplastic pavement marking material and/or audible profiled thermoplastic shows no signs of failure due to blistering, excessive cracking, chipping, bleeding, staining, discoloration, oil content of the pavement materials, smearing or spreading under heat, deterioration due to contact with grease deposits, oil, diesel fuel, or gasoline drippings, spilling, poor adhesion to the pavement material, vehicular damage, and normal wear. In the event that failures mentioned above occur, ensure corrective work is completed at no additional cost to the Department.

Obtain pavement marking retroreflectivity values with a 30-meter geometry retro-reflectometer.

B. Initial Retroreflectivity

1. Longitudinal Lines

Within 30 days of installation, ensure the in-place markings meet the following minimum reflectance values:

a. Standard

	White	Yellow
Dry (ASTM E 1710)	400 mcd/lux/m ²	300mcd/lux/m ²

b. Wet Weather

	White	Yellow
Dry (ASTM E 1710)	400 mcd/lux/m ²	300 mcd/lux/m ²
Wet recovery (ASTM E 2177)	150 mcd/lux/m ²	125 mcd/lux/m ²

Section 653 — Thermoplastic Traffic Stripe

c. Audible Profile Thermoplastic

	White	Yellow
Dry (ASTM E 1710)	300 mcd/lux/m ²	250 mcd/lux/m ²

For each center line, edge line, and skip line, measure retroreflectivity 9 times for each mile; 3 times within the first 500 ft. (152 m), 3 times in the middle, and 3 times within the last 500 ft. (152 m). For projects less than one mile (1600 m) in length, measure retroreflectivity 9 times as above.

Record all retroreflectivity measurements on the form OMR CVP 66 in SOP 39.

2. Messages, Symbols, and Transverse Lines

At the time of installation, ensure the in-place markings when tested according to ASTM E 1710 meet the following minimum reflectance value of 275 mcd/lux/m².

Perform at a minimum, one retroreflectivity measurement at one message, one symbol and one transverse line per intersection. Take one measurement per mile (1600 m) for locations other than intersections (i.e. school messages, railroad messages, bike symbols etc.)

C. Six Month Retroreflectivity (Longitudinal Lines)

Maintain the following minimum reflectance values for 180 days after installation:

1. Standard

	White	Yellow
Dry (ASTM E 1710)	400 mcd/lux/m ²	300 mcd/lux/m ²

2. Wet Weather

	White	Yellow
Dry (ASTM E 1710)	400 mcd/lux/m ²	300 mcd/lux/m ²

Wet recovery (ASTM E 2177)	150 mcd/lux/m ²	125 mcd/lux/m ²
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3. Audible Profile Thermoplastic

	White	Yellow
Dry (ASTM E 1710)	300 mcd/lux/m ²	250 mcd/lux/m ²

Retest the in-place markings according to Subsection 653.3.06.B.1, 180 days after installation to ensure these minimum retro-reflectance values are maintained.

NOTE: The Contractor is responsible for retro-reflectivity testing. Furnish initial test results to the Engineer within 30 days of application. Furnish additional testing for a period that totals 180 days from initial application or the stoppage of contract time, whichever comes first.

D. Thickness

1. New Striping

Check the thicknesses on all skip lines, edge lines and center lines with an approved traffic marking thickness gage consisting of 3 dials as follows:

For each center line, edge line, and skip line, measure thickness above the pavement 3 times for each mile (1600 m); once within the first 500 ft. (150 m), once in the middle, and once within the last 500 ft. (150 m). For projects less than one mile (1600 m) in length, measure the thickness above the pavement 3 times.

Record all thickness measurements on the form OMR CVP 66 in SOP 39.

2. Recapping Refurbishment Thermoplastic

Place durable tape, film, or metal plate of known and uniform thickness on an area to be striped. After the striper has passed over, remove the sample and measure the thickness with calipers or a micrometer.

For each center line, edge line, and skip line, measure thickness above the pavement 3 times for each mile (1600 m); once within the first 500 ft. (150 m), once in the middle, and once within the last 500 ft. (150 m). For projects less than one mile (1600 m) in length, measure the thickness above the pavement 3 times.

Submit results to the Engineer.

Section 653 — Thermoplastic Traffic Stripe

3. Audible Profiled Thermoplastic

Ensure the thickness of white and yellow pavement marking conform to Subsection 653.3.05.A.7.b

Record all thickness measurements on the form OMR CVP 66 in SOP 39 and submit to the Engineer.

The Engineer will verify the thickness of the pavement marking in accordance with Subsection 653.3.05.A.7.b within 30 days of receipt of the Contractor's certification.

Thickness measurement may be performed using a strong adhesive tape to install a metal plate (approximately 6 inches (150 mm) wide by 8 inches (200 mm) long, the thickness of the plate can be 1/8 inch (3 mm) as long as the plate does not deform) to the roadway where the pavement marking will be placed.

After the material has dried remove the plate and check the thickness of the pavement marking material on the plate with a micrometer.

E. Corrective Work

For each mile (1600 m) section, if the thermoplastic traffic stripe fails to meet Plan details or specifications or deviates from stated dimensions, correct it at no additional cost to the Department. If removal of pavement markings is necessary, perform it according to Section 656 and place it according to this specification. No additional payment will be made for removal and replacement of unsatisfactory striping. Ensure corrective work is completed at no additional cost to the Department. Perform testing according to this specification. Any retest due to failures will be performed at no additional cost to the Department. Furnish all test reports to the Department.

Retro-reflectivity and Thickness Longitudinal Line Deficiency: A deficiency will ensue when two or more Location Average results as recorded on form OMR CVP 66 within a One-Mile (1600 m) Section do not meet the performance criteria herein. The entire line within this one-mile (1600 m) section will be determined to be deficient. If the evaluated section is less than 1.0 mile (1600 m), a single Location Average result not meeting the performance criteria herein will result in the entire line to be determined to be deficient.

Retro-reflectivity Transverse Markings and Symbol Deficiency: A single Location Average result on the marking or symbol not meeting the performance criteria herein will result in the marking or symbol to be determined to be deficient.

653.3.07 Verification

See SOP 39

653.4 Measurement

When stripe will be paid for by the square yard (meter), the actual number of square yards (meters) painted will be measured. The space between the stripes will be included in the overall measurement.

Linear measurements may be made by electronic measuring devices attached to a vehicle.

Thermoplastic traffic stripe, complete in place and accepted, is measured as follows:

A. Solid Traffic Stripe (Including Audible Stripe)

Stripe is measured by the linear foot (meter), linear mile (kilometer), or square yard (meter). Breaks or omissions in solid lines or stripes at street or road intersections are not measured for payment.

B. Skip Traffic Stripe

Skip stripe is measured by the gross linear mile (kilometer) as specified. The unpainted space between the painted stripes is included in the overall measurement if the plan ratio of one to three (15 ft. [4.5 m] segment and 25 ft. [7.5 m] gap or other patterns as designated on the plans) remains uninterrupted. Measurement begins and ends on a stripe.

C. Words and Symbols

Each word or symbol complete according to plan dimensions is measured by the Unit.

653.4.01 Limits

General Provisions 101 through 150.

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Section 653 — Thermoplastic Traffic Stripe

653.5 Payment

Payment is full compensation for the Work under this section, including:

- Cleaning and preparing surfaces
- Furnishing all materials
- Applying, curing, and protecting stripe
- Protecting traffic, including providing necessary warning signs
- Furnishing tools, machines, and other equipment necessary to complete the Item

Measurement and payment for removing pavement markings will be according to Section 656 when shown in the Proposal as a payment Item. Otherwise, removal will not be paid for separately, but will be included in the payment for other Work under this section.

Item No. 653	Thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear foot (meter)
Item No. 653	Thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear mile (kilometer)
Item No. 653	Thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear foot (meter)
Item No. 653	Thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear mile (kilometer)
Item No. 653	Audible profiled thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear foot (meter)
Item No. 653	Audible profiled thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear mile (kilometer)
Item No. 653	Audible profiled thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear foot (meter)
Item No. 653	Audible profiled thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear mile (kilometer)
Item No. 653	Thermoplastic pavement markings, words, and symbols (color), type	Per each
Item No. 653	Thermoplastic traffic stripe	Per square yard (meter)
Item No. 653	Wet Weather Thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear foot (meter)
Item No. 653	Wet Weather Thermoplastic solid traffic stripe, __ in. (mm), (color)	Per linear mile (kilometer)
Item No. 653	Wet Weather Thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear foot (meter)
Item No. 653	Wet Weather Thermoplastic skip traffic stripe, __ in. (mm), (color)	Per gross linear mile (kilometer)
Item No. 653	Wet Weather Thermoplastic pavement markings, words, and symbols (color), type	Per each
Item No. 653	Wet Weather Thermoplastic traffic stripe	Per square yard (meter)

Payment will be made under:

653.5.01 Adjustments

General Provisions 101 through 150.

SECTION 00500
Contract Agreement

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2026, by and between the **Town of Homer**, Georgia (hereinafter called OWNER), and _____ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR, inconsideration of the mutual covenants hereinafter set forth, agree as follows:

The Project consists of, but is not limited to the following major elements on RESURFACING OF ATHENS ST AND LYNN DR.

+/-1.44 miles of patching, OGI leveling, 9.5mm recycled asphaltic concrete resurfacing.

Placement of approximately 170 TN of recycled asphaltic concrete patching, , approximately 915 TN of OGI leveling, and approximately 1,290 TN of 9.5 mm recycled asphaltic concrete topping, roadway striping and shoulder filling.

It is understood that the quantities shown are approximates only and subject to either increase or decrease and any increases or decreases are to be paid for at the contract unit prices given, labeled EXHIBIT A, attached hereto and incorporated herein by reference.

ARTICLE 1 – WORK

CONTRACTOR shall complete all WORK as specified or indicated in the CONTRACT DOCUMENTS. The WORK described previously includes all material, labor, tools, equipment, and any other miscellaneous items necessary to complete the work as described in the Specifications and Construction Drawings. All work shall be completed in accordance with all applicable codes, ordinances, rules, regulations and laws of local authorities having jurisdiction.

ARTICLE 2 – CONTRACT TIME

CONTRACTOR agrees to commence WORK within ten (10) days of a date to be specified in a written “Notice to Proceed” from the OWNER and to fully complete the contract in a total construction time of one hundred eighty (180) consecutive calendar days.

Time for Completion: OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the WORK is not substantially complete within the time specified above, plus any extension thereof allowed by the OWNER. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the WORK is not substantially complete on time. Accordingly, OWNER and CONTRACTOR understand and recognize that it is impossible to conclusively assess damages to the OWNER for the failure of the CONTRACTOR to substantially complete the project in a timely manner. Therefore, the OWNER and CONTRACTOR have agreed that a reasonable amount of damages for each day that the project remains incomplete after the contract time (as stated above) has expired would be the amount of \$500.00.

ARTICLE 3 – CONTRACT PRICE

OWNER shall pay CONTRACTOR for performance of the WORK in accordance with the CONTRACT DOCUMENTS in current funds as follows: _____

ARTICLE 4 – PAYMENT PROCEDURES

CONTRACTOR shall submit Application for Payment in accordance with these Specifications.

Progress Payments: CONTRACTOR shall furnish to OWNER, no later than the 25th day of each month, a progress payment request for the amount of work accomplished, products furnished, and products stored at the site during the previous month. The progress payment request shall be signed by the CONTRACTOR and be supported by such data as OWNER may reasonably require. ENGINEER shall review and indicate in writing approval of the payment request to the OWNER within ten days after receipt of each progress payment request. The OWNER will, within thirty days after receipt of progress payment request, pay CONTRACTOR based on the approved progress payment request, less the retainage and deductions pursuant to the terms of these CONTRACT DOCUMENTS.

Prior to Substantial Completion, progress payments will be made in an amount equal to:

90% of the WORK completed.

No amount shall be retained on progress payment requests submitted after 50% of the WORK has been completed on schedule. This will not affect the retained amounts on the first 50% of the work which may continue to be held to ensure satisfactory completion of the project. If, after discontinuing retention, OWNER determines that the work is unsatisfactory or has fallen behind schedule, retention may be resumed at the previous level.

If the CONTRACTOR falls behind schedule to the point the time of completion, plus time extensions, has elapsed, then the amount specified for liquidated damages will be deducted from all CONTRACTOR pay requests submitted after the latest time of completion.

Final Payment: Upon acceptance of WORK in accordance with these specifications, OWNER shall pay balance due of Contract Price less payments previously made.

ARTICLE 5 – INDEMNIFICATION

The CONTRACTOR shall indemnify and hold harmless the OWNER and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the WORK, provided that any such claim, damage, loss, expense or attorney's fees is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom, and is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not the negligent act is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Clause. In any and all claims against the

OWNER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone whose acts any of them may be liable, the indemnification obligation set forth in this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmens' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 6 – CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

CONTRACTOR has familiarized himself with the nature and extent of the CONTRACT DOCUMENTS, WORK, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the WORK. CONTRACTOR is aware that he must be licensed to do business in the State of Georgia.

CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the WORK which were relied upon by design ENGINEER in preparation of the Drawings and Specifications.

CONTRACTOR has made or caused to be made examinations, investigations and tests, and studies of such reports and related data, as he deems necessary for the performance of the WORK at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the terms and conditions of the CONTRACT DOCUMENTS.

CONTRACTOR has given OWNER written notice of all conflicts, errors, or discrepancies that he has discovered in the CONTRACT DOCUMENTS and the written resolution thereof by OWNER is acceptable to CONTRACTOR.

ARTICLE 7 – CONTRACT DOCUMENTS

The CONTRACT DOCUMENTS which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consist of the following:

- 7.1 This Agreement
- 7.2 Exhibits to this Agreement including the following:
Advertisement for Bidders, Instructions to Bidders, Special Provisions, Bid Form and associated documents
- 7.3 Performance and Labor and Material Payment Bonds
- 7.4 Notice of Award
- 7.5 Notice to Proceed
- 7.6 Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges, latest Edition
- 7.7 Addenda , inclusive. (Issued dates) _____.
- 7.8 CONTRACTOR’S Bid
- 7.9 Documentation submitted by CONTRACTOR prior to Notice of Award
- 7.10 Any modifications, including Change Orders, duly delivered after execution of Agreement.
- 7.11 E-VERIFY FORM

There are no CONTRACT DOCUMENTS other than those listed above in the Article 7. The CONTRACT DOCUMENTS may only be altered, amended or repealed by expressed written consent of OWNER.

ARTICLE 8 – MISCELLANEOUS

Terms used in this Agreement which are defined in the General Conditions shall have the meanings indicated in the General Conditions.

No assignment by a party hereto of any rights under or interests in the CONTRACT DOCUMENTS will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due, may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under CONTRACT DOCUMENTS.

OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the CONTRACT DOCUMENTS.

The term Special Conditions as used in the General Conditions or elsewhere in the CONTRACT DOCUMENTS, refers to the “Supplementary General Provisions”.

The Supplementary General Provisions are intended to supplement, rather than replace, the General Conditions, except where the Supplementary General Provisions are in direct conflict with the General Conditions, the Supplementary General Provisions shall control.

ARTICLE 9 – PROVISIONS FOR TERMINATION OF CONTRACT

If through any cause, other than an “Excusable Delay”, CONTRACTOR shall fail to fulfill its obligations under this Contract in a timely and proper manner, or if CONTRACTOR shall violate any of the covenants, agreements, conditions or obligations of the CONTRACT DOCUMENTS; OWNER may terminate this Contract. In such event, OWNER may take over the WORK and prosecute the same to completion, by Contract or otherwise, and CONTRACTOR and his sureties shall be liable to OWNER for any additional cost incurred by OWNER in its completion of the WORK and they shall also be liable to OWNER for liquidated damages for any delay in the completion of the WORK as provided below.

Liquidated Damages for Delay: If the work is not completed within the time stipulated, therefore, including any extension of time for excusable delays as herein provided, CONTRACTOR shall pay to OWNER as fixed and agreed, liquidated damages for each working day of delay, until the work is completed, and CONTRACTOR and his sureties shall be liable to OWNER for this amount.

Excusable Delays: The right of CONTRACTOR to proceed shall not be terminated nor shall CONTRACTOR be charged with liquidated damages for any delays in the completion of the work due:

- 9.1 To any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency;
- 9.2 To causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of CONTRACTOR, including, but not restricted to, acts of a public enemy, acts of another CONTRACTOR in the performance of some other contract with OWNER, fires, floods, epidemics, quarantine, freight embargoes, and weather of unusual severity such as hurricanes, tornados, and cyclones;
- 9.3 To acts of OWNER which cause delays, and;

Provided, however, that CONTRACTOR promptly notified OWNER within ten days in writing of the cause of the delay. Upon receipt of such notification, OWNER shall ascertain the facts and the cause and extent of the delay. If upon the basis of the terms of this Contract, the delay is properly excusable, OWNER shall extend the time for completing the WORK for a period of time commensurate with the period of excusable delay.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement. All portions of the CONTRACT DOCUMENTS have been signed or identified by OWNER and CONTRACTOR.

OWNER

BY: _____

TITLE: Mayor

ATTEST: _____

Clerk

(Seal)

CONTRACTOR

BY: _____

TITLE: _____

ATTEST: _____

Corporate
Secretary/Partner/Notary

(Seal)

NOTE: Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a Notary.

ADDRESSES FOR GIVING NOTICE

OWNER:

CONTRACTOR:

Town of Homer

943 Historic Homer Hwy

Homer, GA 30547

Phone: 706-677-3510

Phone: _____

END OF SECTION

SECTION 00410

Bid Bond

STATE OF GEORGIA

Town Of Homer

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal, and _____, as Surety, are held and firmly bound unto Town of Homer in the sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the Owner a Bid for Asphalt Resurfacing on ATHENS ST AND LYNN DR.

NOW, THEREFORE, the conditions of this obligation are such, that if the Bid be accepted, the Principal shall, within ten days after receipt of conformed Contract Documents, execute a Contract in accordance with the Bid upon the terms, conditions and prices set forth therein, and in the form and manner required by the Contract Documents and execute sufficient and satisfactory separate Performance and Payment Bonds payable to the Owner, each in an amount of 100 percent of the total Contract Price, in form satisfactory to the Owner, then this obligation shall be void; otherwise, it shall be and remain in full force and effect in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid Owner, upon demand, the amount hereof in good and lawful money of the United States of America, not as penalty, but as liquidated damages.

This Bond is given pursuant to and in accordance with provisions of O.C.G.A. Section 36-91-1 *et.seq.* hereinafter, and all the provisions of law referring to this character of Bond as set forth in said Sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extents as if set out herein in full.

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and seal, and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this _____ day of _____, 2026.

CONTRACTOR – PRINCIPAL: _____

By: _____
(name signed)

(name printed or typed)

Address: _____

Phone: _____

Attest: _____
(name signed)

(name printed or typed)

Title: _____
(SEAL)

SURETY: _____

By: _____
(name signed)

(name printed or typed)

Address: _____

Phone: _____

Attest: _____
(name signed)

(name printed or typed)

Title: _____
(SEAL)

Resident agent in state in which Work is to be performed:

Name: _____

Address: _____

Phone: _____

Note: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

END OF SECTION

SECTION 00422
Corporate Certificate

I, _____, certify that I am the Secretary of the Corporation named as Contractor in the foregoing Bid; that _____, who signed said Bid on behalf of the Contractor was then _____ of said Corporation; that said Bid was duly signed for and on behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of _____.

This _____ day of _____, 20__.

Corporate
Secretary

(Name signed)

(Name printed or typed)

(SEAL)

END OF SECTION

E-VERIFY AFFIDAVIT

FORM B

Private Employer of Compliance Pursuant to O.C.G.A. § 36-60-6(d)

By executing this affidavit, the undersigned private employer verifies that it is exempt from compliance with O.C.G.A. § 36-60-6, stating affirmatively that the individual, firm or corporation employs **fewer than 100 employees** and therefore, is not required to register with/or utilize the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-90.

Signature of Exempt Private Employer

Printed Name of Exempt Private Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 202__ in _____ (city) _____ (state)

Signature of Authorized Officer or Agent

Printed name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 202_____.

NOTARY PUBLIC

My Commission Expires:

(SEAL)



Employment Eligibility Verification

Department of Homeland Security

U.S. Citizenship and Immigration Services

USCIS
Form I-9
OMB No.1615-0047
Expires 05/31/2027

START HERE: Employers must ensure the form instructions are available to employees when completing this form. Employers are liable for failing to comply with the requirements for completing this form. See below and the [Instructions](#).

ANTI-DISCRIMINATION NOTICE: All employees can choose which acceptable documentation to present for Form I-9. Employers cannot ask employees for documentation to verify information in **Section 1**, or specify which acceptable documentation employees must present for **Section 2** or Supplement B, Reverification and Rehire. Treating employees differently based on their citizenship, immigration status, or national origin may be illegal.

Section 1. Employee Information and Attestation: Employees must complete and sign Section 1 of Form I-9 no later than the **first day of employment**, but not before accepting a job offer.

Last Name (Family Name)		First Name (Given Name)		Middle Initial (if any)	Other Last Names Used (if any)	
Address (Street Number and Name)			Apt. Number (if any)	City or Town		State ZIP Code
Date of Birth (mm/dd/yyyy)	U.S. Social Security Number		Employee's Email Address		Employee's Telephone Number	
<p>I am aware that federal law provides for imprisonment and/or fines for false statements, or the use of false documents, in connection with the completion of this form. I attest, under penalty of perjury, that this information, including my selection of the box attesting to my citizenship or immigration status, is true and correct.</p>		Check one of the following boxes to attest to your citizenship or immigration status (See page 2 and 3 of the instructions.):				
		<input type="checkbox"/> 1. A citizen of the United States				
		<input type="checkbox"/> 2. A noncitizen national of the United States (See Instructions.)				
		<input type="checkbox"/> 3. A lawful permanent resident (Enter USCIS or A-Number.)				
<input type="checkbox"/> 4. An alien authorized to work until _____ (exp. date, if any)						
If you check Item Number 4. , enter one of these:						
USCIS A-Number		OR	Form I-94 Admission Number		OR	Foreign Passport Number and Country of Issuance
Signature of Employee				Today's Date (mm/dd/yyyy)		

If a preparer and/or translator assisted you in completing Section 1, that person MUST complete the [Preparer and/or Translator Certification](#) on Page 3.

Section 2. Employer Review and Verification: Employers or their authorized representative must complete and sign **Section 2** within three business days after the employee's first day of employment, and must physically examine, or examine consistent with an alternative procedure authorized by the Secretary of DHS, documentation from List A OR a combination of documentation from List B and List C. Enter any additional documentation in the Additional Information box; see Instructions.

	List A	OR	List B	AND	List C
Document Title 1					
Issuing Authority					
Document Number (if any)					
Expiration Date (if any)					
Document Title 2 (if any)	<p>Additional Information</p> <input type="checkbox"/> Check here if you used an alternative procedure authorized by DHS to examine documents.				
Issuing Authority					
Document Number (if any)					
Expiration Date (if any)					
Document Title 3 (if any)					
Issuing Authority					
Document Number (if any)					
Expiration Date (if any)					
<p>Certification: I attest, under penalty of perjury, that (1) I have examined the documentation presented by the above-named employee, (2) the above-listed documentation appears to be genuine and to relate to the employee named, and (3) to the best of my knowledge, the employee is authorized to work in the United States.</p>					First Day of Employment (mm/dd/yyyy):
Last Name, First Name and Title of Employer or Authorized Representative			Signature of Employer or Authorized Representative		Today's Date (mm/dd/yyyy)
Employer's Business or Organization Name			Employer's Business or Organization Address, City or Town, State, ZIP Code		

For reverification or rehire, complete [Supplement B, Reverification and Rehire](#) on Page 4.

LISTS OF ACCEPTABLE DOCUMENTS

All documents containing an expiration date must be unexpired.

* Documents extended by the issuing authority are considered unexpired.

Employees may present one selection from List A or a combination of one selection from List B and one selection from List C.

Examples of many of these documents appear in the Handbook for Employers (M-274).

LIST A Documents that Establish Both Identity and Employment Authorization	OR	LIST B Documents that Establish Identity	AND	LIST C Documents that Establish Employment Authorization
<ol style="list-style-type: none"> 1. U.S. Passport or U.S. Passport Card 2. Permanent Resident Card or Alien Registration Receipt Card (Form I-551) 3. Foreign passport that contains a temporary I-551 stamp or temporary I-551 printed notation on a machine-readable immigrant visa 4. Employment Authorization Document that contains a photograph (Form I-766) 5. For an individual temporarily authorized to work for a specific employer because of his or her status or parole: <ol style="list-style-type: none"> a. Foreign passport; and b. Form I-94 or Form I-94A that has the following: <ol style="list-style-type: none"> (1) The same name as the passport; and (2) An endorsement of the individual's status or parole as long as that period of endorsement has not yet expired and the proposed employment is not in conflict with any restrictions or limitations identified on the form. 6. Passport from the Federated States of Micronesia (FSM) or the Republic of the Marshall Islands (RMI) with Form I-94 or Form I-94A indicating nonimmigrant admission under the Compact of Free Association Between the United States and the FSM or RMI 	OR	<ol style="list-style-type: none"> 1. Driver's license or ID card issued by a State or outlying possession of the United States provided it contains a photograph or information such as name, date of birth, sex, height, eye color, and address 2. ID card issued by federal, state or local government agencies or entities, provided it contains a photograph or information such as name, date of birth, sex, height, eye color, and address 3. School ID card with a photograph 4. Voter's registration card 5. U.S. Military card or draft record 6. Military dependent's ID card 7. U.S. Coast Guard Merchant Mariner Card 8. Native American tribal document 9. Driver's license issued by a Canadian government authority <li style="text-align: center;">For persons under age 18 who are unable to present a document listed above: 10. School record or report card 11. Clinic, doctor, or hospital record 12. Day-care or nursery school record 	AND	<ol style="list-style-type: none"> 1. A Social Security Account Number card, unless the card includes one of the following restrictions: <ol style="list-style-type: none"> (1) NOT VALID FOR EMPLOYMENT (2) VALID FOR WORK ONLY WITH INS AUTHORIZATION (3) VALID FOR WORK ONLY WITH DHS AUTHORIZATION 2. Certification of report of birth issued by the Department of State (Forms DS-1350, FS-545, FS-240) 3. Original or certified copy of birth certificate issued by a State, county, municipal authority, or territory of the United States bearing an official seal 4. Native American tribal document 5. U.S. Citizen ID Card (Form I-197) 6. Identification Card for Use of Resident Citizen in the United States (Form I-179) 7. Employment authorization document issued by the Department of Homeland Security <p style="margin-left: 20px;">For examples, see Section 7 and Section 13 of the M-274 on uscis.gov/i-9-central.</p> <p style="margin-left: 20px;">The Form I-766, Employment Authorization Document, is a List A, Item Number 4, document, not a List C document.</p>
<p>Acceptable Receipts</p> <p>May be presented in lieu of a document listed above for a temporary period.</p> <p>For receipt validity dates, see the M-274.</p>				
<ul style="list-style-type: none"> • Receipt for a replacement of a lost, stolen, or damaged List A document. • Form I-94 issued to a lawful permanent resident that contains an I-551 stamp and a photograph of the individual. • Form I-94 with "RE" notation or refugee stamp issued to a refugee. 	OR	<p>Receipt for a replacement of a lost, stolen, or damaged List B document.</p>	AND	<p>Receipt for a replacement of a lost, stolen, or damaged List C document.</p>

*Refer to the Employment Authorization Extensions page on [I-9 Central](#) for more information.



Supplement A, Preparer and/or Translator Certification for Section 1

Department of Homeland Security
U.S. Citizenship and Immigration Services

USCIS
Form I-9
Supplement A
OMB No. 1615-0047
Expires 05/31/2027

Last Name (<i>Family Name</i>) from Section 1 .	First Name (<i>Given Name</i>) from Section 1 .	Middle initial (if any) from Section 1 .
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Instructions: This supplement must be completed by any preparer and/or translator who assists an employee in completing Section 1 of Form I-9. The preparer and/or translator must enter the employee's name in the spaces provided above. Each preparer or translator must complete, sign, and date a separate certification area. Employers must retain completed supplement sheets with the employee's completed Form I-9.

I attest, under penalty of perjury, that I have assisted in the completion of Section 1 of this form and that to the best of my knowledge the information is true and correct.

Signature of Preparer or Translator			Date (<i>mm/dd/yyyy</i>)	
Last Name (<i>Family Name</i>)		First Name (<i>Given Name</i>)		Middle Initial (<i>if any</i>)
Address (<i>Street Number and Name</i>)		City or Town	State	ZIP Code

I attest, under penalty of perjury, that I have assisted in the completion of Section 1 of this form and that to the best of my knowledge the information is true and correct.

Signature of Preparer or Translator			Date (<i>mm/dd/yyyy</i>)	
Last Name (<i>Family Name</i>)		First Name (<i>Given Name</i>)		Middle Initial (<i>if any</i>)
Address (<i>Street Number and Name</i>)		City or Town	State	ZIP Code

I attest, under penalty of perjury, that I have assisted in the completion of Section 1 of this form and that to the best of my knowledge the information is true and correct.

Signature of Preparer or Translator			Date (<i>mm/dd/yyyy</i>)	
Last Name (<i>Family Name</i>)		First Name (<i>Given Name</i>)		Middle Initial (<i>if any</i>)
Address (<i>Street Number and Name</i>)		City or Town	State	ZIP Code

I attest, under penalty of perjury, that I have assisted in the completion of Section 1 of this form and that to the best of my knowledge the information is true and correct.

Signature of Preparer or Translator			Date (<i>mm/dd/yyyy</i>)	
Last Name (<i>Family Name</i>)		First Name (<i>Given Name</i>)		Middle Initial (<i>if any</i>)
Address (<i>Street Number and Name</i>)		City or Town	State	ZIP Code



Supplement B, Reverification and Rehire (formerly Section 3)

Department of Homeland Security
U.S. Citizenship and Immigration Services

USCIS
Form I-9
Supplement B
OMB No. 1615-0047
Expires 05/31/2027

Last Name (<i>Family Name</i>) from Section 1 .	First Name (<i>Given Name</i>) from Section 1 .	Middle initial (if any) from Section 1 .
--	--	---

Instructions: This supplement replaces Section 3 on the previous version of Form I-9. Only use this page if your employee requires reverification, is rehired within three years of the date the original Form I-9 was completed, or provides proof of a legal name change. Enter the employee's name in the fields above. Use a new section for each reverification or rehire. Review the Form I-9 instructions before completing this page. Keep this page as part of the employee's Form I-9 record. Additional guidance can be found in the [Handbook for Employers: Guidance for Completing Form I-9 \(M-274\)](#)

Date of Rehire (<i>if applicable</i>)	New Name (<i>if applicable</i>)		
Date (<i>mm/dd/yyyy</i>)	Last Name (Family Name)	First Name (Given Name)	Middle Initial

Reverification: If the employee requires reverification, your employee can choose to present any acceptable List A or List C documentation to show continued employment authorization. Enter the document information in the spaces below.

Document Title	Document Number (if any)	Expiration Date (if any) (<i>mm/dd/yyyy</i>)
----------------	--------------------------	--

I attest, under penalty of perjury, that to the best of my knowledge, this employee is authorized to work in the United States, and if the employee presented documentation, the documentation I examined appears to be genuine and to relate to the individual who presented it.

Name of Employer or Authorized Representative	Signature of Employer or Authorized Representative	Today's Date (<i>mm/dd/yyyy</i>)
---	--	------------------------------------

Additional Information (Initial and date each notation.)

Check here if you used an alternative procedure authorized by DHS to examine documents.

Date of Rehire (<i>if applicable</i>)	New Name (<i>if applicable</i>)		
Date (<i>mm/dd/yyyy</i>)	Last Name (Family Name)	First Name (Given Name)	Middle Initial

Reverification: If the employee requires reverification, your employee can choose to present any acceptable List A or List C documentation to show continued employment authorization. Enter the document information in the spaces below.

Document Title	Document Number (if any)	Expiration Date (if any) (<i>mm/dd/yyyy</i>)
----------------	--------------------------	--

I attest, under penalty of perjury, that to the best of my knowledge, this employee is authorized to work in the United States, and if the employee presented documentation, the documentation I examined appears to be genuine and to relate to the individual who presented it.

Name of Employer or Authorized Representative	Signature of Employer or Authorized Representative	Today's Date (<i>mm/dd/yyyy</i>)
---	--	------------------------------------

Additional Information (Initial and date each notation.)

Check here if you used an alternative procedure authorized by DHS to examine documents.

Date of Rehire (<i>if applicable</i>)	New Name (<i>if applicable</i>)		
Date (<i>mm/dd/yyyy</i>)	Last Name (Family Name)	First Name (Given Name)	Middle Initial

Reverification: If the employee requires reverification, your employee can choose to present any acceptable List A or List C documentation to show continued employment authorization. Enter the document information in the spaces below.

Document Title	Document Number (if any)	Expiration Date (if any) (<i>mm/dd/yyyy</i>)
----------------	--------------------------	--

I attest, under penalty of perjury, that to the best of my knowledge, this employee is authorized to work in the United States, and if the employee presented documentation, the documentation I examined appears to be genuine and to relate to the individual who presented it.

Name of Employer or Authorized Representative	Signature of Employer or Authorized Representative	Today's Date (<i>mm/dd/yyyy</i>)
---	--	------------------------------------

Additional Information (Initial and date each notation.)

Check here if you used an alternative procedure authorized by DHS to examine documents.

SECTION 00421

Georgia Security and Immigration Compliance Act Affidavit

Name of Contracting Entity: _____

By executing this affidavit, the undersigned person or entity verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with Town of Homer has registered with, is authorized to participate in, and is participating in the federal work authorization program commonly known as E-Verify*, in accordance with the applicable provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned person or entity further agrees that it will continue to use the federal work authorization program throughout the contract period, and it will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the undersigned with the information required by O.C.G.A. 13-10-91(b).

The undersigned person or entity further agrees to maintain records of such compliance and provide a copy of each such verification to the Town of Homer at the time the subcontractor(s) is retained to perform such service.

EEV / E-Verify User Identification Number

Date of Authorization

BY: Authorized Officer or Agent
(Name of Person or Entity)

Date

Title of Authorized Officer or Agent

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____,
20__.

[NOTARY SEAL]

My Commission Expires: _____

* or any subsequent replacement operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603