INVITATION TO BID
INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD

PROJECT NO.
T-7229

BID NUMBER
15-048

PRE-BID CONFERENCE
February 10, 2015; 10:00 a.m.
City of Sandy Springs
Flying Pig Conference Room
7840 Roswell Road Suite 500
Sandy Springs, Georgia 30350

BID DUE DATE
February 24, 2015; 2:00 p.m.

Questions must be directed in writing to:
City of Sandy Springs, Purchasing Agent, Lynn Taylor,
via e-mail to:
***etaylor@sandyspringsga.gov*.**

Deadline for questions from prospective contractors
is 5:00 p.m., February 13, 2015.
Questions received after this date and time may not be answered.

DEFINITIONS

SSPWD: Sandy Springs Public Works Department

GDOT: Georgia Department of Transportation

ENGINEER: The Sandy Springs Director of Public Works or a duly authorized representative.

ADA: Americans with Disabilities Act

EA: Each

GAL: Gallon

LF: Lineal Feet

LS: Lump Sum

SY: Square Yard

TN: Ton

MUTCD: *Manual on Uniform Traffic Control Devices*

OSHA: Occupational Safety and Health Administration

FHWA: Federal Highway Administration

AASHTO: American Association of State Highway and Transportation Officials

CONTRACT DOCUMENTS: Contract Agreement, General Conditions, Special Provisions, Technical Specifications, Drawings and Plans, Bidding Documents

CITY OF SANDY SPRINGS

INVITATION TO BID #15-048
PROJECT NO. T-7229

The City of Sandy Springs is accepting sealed bids from qualified firms, **meaning a Prequalified Contractor listed by the Georgia Department of Transportation, Office of Contract Administration,** for the **ITB #15-048 Intersection Improvement and Traffic Signal Installation Powers Ferry Road at Heards Road** for **the Public Works Department**. The contractor must self-perform tasks constituting a minimum of fifty-one percent (51%) of the value of the contract. Work will be done in accordance with Georgia Department of Transportation's (GDOT) Standard Drawings, Standard Specifications, and Pay Items Index as standards and specifications for the construction and completion of the work required, except as noted in Exhibit L. Plans for this project are available at LDI, *http://www.ldireproprinting.com/locations.htm*, LDI Norcross, 3030 A Business Park Dr., Norcross, GA 30071, 770-263-1010 (P), 770-417-1147 (F).

All bidders must comply with all general and special requirements of the bid information and instructions enclosed herein. A Pre-Bid Conference will be held on **February 10, 2015; 10:00 a.m.** at the City of Sandy Springs City Hall Training Room. **Deadline for questions from prospective contractors is 5:00 p.m., February 13, 2015.** Questions received after this date and time may not be answered.

Sealed bids will be received no later than **February 24, 2015; 2:00 p.m.** in the City of Sandy Springs Purchasing Office, 7840 Roswell Road, Bldg. 500, Sandy Springs, Georgia 30350 at which time bids will be opened and publicly read aloud. Bids received after the above time or in any other location other than the Purchasing Office **will not** be accepted.

Bids shall be presented in a sealed opaque envelope with the bid number and name **ITB #15-048 Intersection Improvement and Traffic Signal Installation Powers Ferry Road at Heard Drive** clearly marked on the outside of the envelope. The name of the company or firm submitting a bid should also be clearly marked on the outside of the envelope. One (1) original and three (3) copies should be submitted. Bidders should also include either a thumb-drive or CD containing scanned copy of bid in PDF format. Bids will not be accepted verbally or by fax or email. Bid packages are available on the City of Sandy Springs website, purchasing page *http://www.sandyspringsga.org/business/doing-business-with-the-city/bidding-opportunities* and also may be downloaded from the DOAS website (*www.doas.georgia.gov*). All questions should be forwarded in writing to Lynn Taylor at *etaylor@sandyspringsga.gov*. Please refer to **ITB #15-048 Intersection Improvement and Traffic Signal Installation Powers Ferry Road at Heard Drive** when requesting information.

The City of Sandy Springs reserves the right to reject all bids and to waive technicalities and informalities, and to make award in the best interest of the City of Sandy Springs.

The selected contractor must be able to start work within ten (10) calendar days after the "Notice to Proceed" is issued. The time of completion for the project is one hundred eighty (180) calendar days from the date of the "Notice to Proceed." Section 108.08 of the State of Georgia Department of Transportation *Standard Specifications Construction of Transportation Systems* (current edition) shall be applied.

BID FORM
(Bidder to sign and return)

TO: PURCHASING MANAGER
CITY OF SANDY SPRINGS
SANDY SPRINGS, GEORGIA 30350

Ladies and Gentlemen:

In compliance with your Invitation To Bid, the undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with the City of Sandy Springs, Georgia, to provide the necessary machinery, tools, apparatus, other means of construction, and all materials and labor specified in the Contract Documents or as necessary to complete the Work in the manner therein specified within the time specified, as therein set forth, for:

ITB #15-048
INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD

The Bidder has carefully examined and fully understands the Contract, Specifications, and other documents hereto attached, has made a personal examination of the Site of the proposed Work, has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his bid is accepted, he will contract with the City of Sandy Springs in full conformance with the Contract Documents.

Unless otherwise directed, all work performed shall be in accordance with the Georgia Department of Transportation *Standard Specifications, Construction of Transportation Systems* (current edition). All materials used in the process of completion of the work included in the Contract will be furnished from Georgia Department of Transportation certified suppliers only.

It is the intent of this Bid to include all items of construction and all Work called for in the Specifications, or otherwise a part of the Contract Documents.

In accordance with the foregoing, the undersigned proposes to furnish and construct the items listed in the attached Bid schedule for the unit prices stated.

The Bidder agrees that the cost of any work performed, materials furnished, services provided or expenses incurred, which are not specifically delineated in the Contract Documents but which are incidental to the scope, intent, and completion of the Contract, shall be deemed to have been included in the prices bid for the various items scheduled.

The Bidder further proposes and agrees hereby to promptly commence the Work with adequate forces and equipment within ten (10) calendar days from receipt of Notice to Proceed and to complete all Work within one hundred fifty (150) calendar days from the initial Notice to Proceed.

The Bidder will be required to sign a "Notice of Intent" (NOI) as the "operator" prior to beginning construction. The Bidder shall be responsible for installing and maintaining the "Best Management Practices" (BMP's) throughout the term of the project. Upon completion and prior to final payment the Bidder will be required to sign a "Notice of Termination (NOT) upon final approval by COSS.

Attached hereto is an executed Bid Bond (bond only: certified checks or other forms are not acceptable)) _____ _____ in the amount of _____ Dollars ($ Five Percent of Amount Bid).

If this bid shall be accepted by the City of Sandy Springs and the undersigned shall fail to execute a satisfactory contract in

the form of said proposed Contract, and give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of carriage of the insurance required within ten days from the date of Notice of Award of the Contract, then the City of Sandy Springs may, at its option, determine that the undersigned abandoned the Contract and there upon this bid shall be null and void, and the sum stipulated in the attached Bid Bond or certified check shall be forfeited to the City of Sandy Springs as liquidated damages.
Bidder acknowledges receipt of the following addenda:

Addendum No.	Date Received
_____	_____
_____	_____
_____	_____
_____	_____

Bidder further declares that the full name and resident address of Bidder's Principal is as follows:
Signed, sealed, and dated this _____ day of _____

Bidder _____
Company Name

Seal

_____ Bidder Mailing Address: _____

_____

_____

:_____

_____

_____

By: _____

Title: _____

By: _____

Title: _____

BIDDING INSTRUCTIONS

The following items should be returned with the bid documents.

- City Bid Schedule and City Bid Form
- Bid Bond*
- Applicable Compliance Specifications Sheets
- Applicable Addenda Acknowledgement
- Affidavit Verifying Status for City Public Benefit Application*
- Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)*
- Qualifications Signature and Certification
- Corporate Certificate*
- List of Subcontractors*
- CD containing scanned copy of bid in PDF format

***These pages can be found in the Appendices' section of the Sample Contract.**

INSURANCE REQUIREMENTS

Within 10 days of Notice of Award, and at all times that this Contract is in force, the Contractor shall obtain, maintain and furnish the City Certificates of Insurance from licensed companies doing business in the State of Georgia with an A.M. Best Rating A-10 or higher and acceptable to the City covering:

1. Workers' Compensation & Employer's Liability Insurance. Workers' Compensation Insurance in compliance with the applicable Workers' Compensation Act(s) of the state(s) wherein the work is to be performed or where jurisdiction could apply in amounts required by statutes. Employer's Liability Insurance, with limits of liability of not less than $1,000,000 per accident for bodily injury or disease.
2. Commercial General Liability Insurance, including contractual liability insurance, product and completed operations, personal and advertising injury, and any other type of liability for which this Contract applies with limits of liability of not less than $1,000,000 each occurrence / $2,000,000 policy aggregate for personal injury, bodily injury, and property damage. Commercial General Liability Insurance shall be written on an "occurrence" form.
3. Automobile Liability Insurance with limits of liability of not less than $1,000,000 per accident for bodily injury and property damage if automobiles are to be used in the delivery of or in the completion of services and work or driven onto the City's property. Insurance shall include all owned, non-owned and hired vehicle liability.
4. Umbrella Insurance with limits of liability excess of Employer's Liability Insurance, Commercial General Liability Insurance and Automobile Liability Insurance in the amount of not less than $3,000,000.
5. Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits not less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.
6. Professional (Errors and Omissions) Insurance- For Professional Services and for all Design/Build Projects with limits of liability of not less than $3,000,000 per occurrence or claim / $3,000,000 policy aggregate. Such policy shall also include coverage for losses arising from the breach of information security or cyber liability (including Errors & Omissions, Security and Privacy Liability and Media Liability), whether combined with the Professional Liability policy or placed as a separate policy, but carrying the same limits of liability. Such coverage shall insure damage, injury and loss caused by error, omission or negligent acts, including all prior acts without limitation, related to the professional services to be provided under this Contract. The policy shall be amended to include independent contractors providing professional services on behalf of or at the direction of the Contractor. The definition of Contractual Liability shall be amended to state that liability under a contract of professional services is covered. Further, coverage shall be afforded for fraudulent acts, misappropriation of trade secrets, internet professional services, computer attacks, personal injury, regulatory actions, wrongful acts, contractual liability, privacy policy, and insured versus insured. The Contractor shall ensure that coverage under this policy continues for a period of thirty-six (36) months after completion of services.
7. Fidelity Bond (Employee Dishonesty) in the sum of not less than $50,000.

All such insurance shall remain in effect until final payment is made and the Project is accepted by the City. If the Contractor receives notice of non-renewal or material adverse change of any of the required coverages, the Contractor shall promptly advise the City in writing. Failure of the Contractor to promptly notify the City on non-renewal or material adverse change of any of the required coverages terminates the Agreement as of the date that the Contractor should have given notification to the City. The insurance policies shall contain or be endorsed to contain, the following provisions:

(a) A provision that coverage afforded under such policies shall not expire, be canceled or altered without at least thirty (30) days prior written notice to the City.
(b) Workers' Compensation and Employer's Liability and Property insurance policies shall contain a waiver of subrogation in favor of the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers.
(c) Commercial General Liability, Automobile Liability Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) insurance policies shall include an endorsement making the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers Additional Insureds under such policies.

A copy of these endorsements shall be provided to the City.

Certificates of Insurance showing that such coverage is in force shall be filed under this Contract by the Contractor to the City.

The obligations for the Contractor to procure and maintain insurance shall not be construed to waive or restrict other obligations and it is understood that insurance in no way limits liability of the Contractor whether or not same is covered by insurance.

BONDING REQUIREMENTS

Each bid must be accompanied with a BID BOND (bond only: certified checks or other forms are not acceptable) in an amount equal to five percent (5%) of the base bid, payable to the City of Sandy Springs. Said bid bond guarantees the bidder will enter into a contract to construct the project strictly within the terms and conditions stated in this bid and in the bidding and contract documents, should the construction contract be awarded.

The Successful Bidder shall be required to furnish a bond for the faithful performance on the contract and a bond to secure payment of all claims for materials furnished and/or labor performed in performance of the project, both in amounts equal to one hundred percent (100%) of the contract price.

The Successful Bidder shall also be required to furnish a Maintenance Bond, in the amount of one-third (1/3) of the contract price, guaranteeing the repair or replacement caused by defective workmanship or materials for a period of one (1) year from the completion of construction.

Bonds shall be issued by a corporate surety appearing on the Treasury Department's most current list (Circular 570 as amended) and be authorized to do business in the State of Georgia.

Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners shall execute Bond.

QUALIFICATIONS SIGNATURE AND CERTIFICATION
(Bidder to sign and return)

I certify that this offer is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a proposal for the same materials, supplies, equipment, or services and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of State and Federal Law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of the proposal and certify that I am authorized to sign this proposal for the proposer. I further certify that the provisions of the Official Code of Georgia Annotated, Sections 45-10-20 et. seq., have not been violated and will not be violated in any respect.

Authorized Signature_____Date_____

Print/Type Name_____

Print/Type Company Name Here_____

SAMPLE
CONTRACT AGREEMENT

For

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

("Project")

Between

CITY OF SANDY SPRINGS, GEORGIA
("City")

and

_____
("Contractor")

TABLE OF CONTENTS

ARTICLE I

THE CONTRACT AND THE CONTRACT DOCUMENTS

1.1 The Contract
1.2 The Contract Documents
1.3 Entire Agreement
1.4 Subletting, Assignment, or Transfer
1.5 No Privity with Others
1.6 Intent and Interpretation
1.7 Ownership of Contract Documents
1.8 Hierarchy of Contract Documents

ARTICLE II

THE WORK

2.1 Contractor Responsibility
2.2 "Work" Defined
2.3 Review of Work
2.4 Workday and Restrictions, Suspension and Interruption

ARTICLE III

CONTRACT TIME

3.1 Time and Liquidated Damages
3.2 Substantial Completion
3.3 Time is of the Essence

ARTICLE IV

CONTRACT PRICE

4.1 The Contract Price

ARTICLE V

PAYMENT OF THE CONTRACT PRICES

5.1 Bid Schedule
5.2 Payment Procedure
5.3 Withheld Payment
5.4 Substantial Completion
5.5 Completion and Final Payment

ARTICLE VI

THE CITY

6.1 City Responsibility
6.2 Right to Stop Work
6.3 City's Right to Carry Out Work

ARTICLE VII

THE CONTRACTOR

7.1 Duties with Respect to Documents
7.2 Manner of Performance
7.3 Supervision
7.4 Compliance
7.5 Warranty
7.6 Permits, Inspections, Fees and Licenses
7.7 Supervision
7.8 Schedules
7.9 Contract to be Maintained at Project Site
7.10 Shop Drawings, Product Data and Samples
7.11 Cleaning the Project Site and the Project
7.12 Access to Work
7.13 Indemnity
7.14 Means, Methods, Techniques, Sequences, Procedures and Safety
7.15 Separate Contracts
7.16 Maintenance of Contract Cost Records

ARTICLE VIII

CONTRACT ADMINISTRATION

8.1 Claims by the Contractor

ARTICLE IX

SUBCONTRACTORS

9.1 Definition
9.2 Award of Subcontracts

ARTICLE X

CHANGES IN THE WORK

10.1 Changes Permitted
10.2 Change Order Defined

10.3 Changes in the Contract Price
10.4 Effect of Executed Change Order
10.5 Notice to Surety; Consent

ARTICLE XI

UNCOVERING AND CORRECTING WORK

11.1 Uncovering Work
11.2 Correcting Work
11.3 City May Accept Defective or Nonconforming Work

ARTICLE XII

CONTRACT TERMINATION

12.1 Termination by the Contractor
12.2 Termination by the City

ARTICLE XIII

INSURANCE

13.1 Insurance Requirements

ARTICLE XIV

DISPUTES

14.1 Mediation

ARTICLE XV

INDEPENDENT CONTRACTOR

15.1 Relationship between Contractor and City

ARTICLE XVI

COVENANT AGAINST CONTINGENT FEES

16.1 Warranty by Contractor

ARTICLE XVII

MISCELLANEOUS

17.1 Governing Law
17.2 Successors and Assigns
17.3 Surety Bonds
17.4 Notices

EXHIBITS

EXHIBIT A SCOPE OF SERVICES

EXHIBIT B BID SCHEDULE

EXHIBIT C REQUIRED CONTRACT PROVISIONS - FEDERAL AID CONSTRUCTION CONTRACT

EXHIBIT D NOTICE TO CONTRACTORS - COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT

EXHIBIT E STANDARD FEDERAL EQUAL OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246) (43 CFR 14895)

EXHIBIT F CERTIFICATION OF SPONSOR DRUG-FREE WORKPLACE

EXHIBIT G DBE REQUIREMENTS

EXHIBIT H CONTRACTOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS AND INSTRUCTIONS

EXHIBIT I LOWER TIER CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS AND INSTRUCTIONS

EXHIBIT J CERTIFICATION OF CONTRACTOR GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT

EXHIBIT K INSURANCE REQUIREMENTS

EXHIBIT L SPECIAL PROVISIONS

EXHIBIT M NOTICE TO CONTRACTORS
COMPLIANCE WITH ELECTRICAL SAFETY PROVISIONS

APPENDICES

CONTRACT AGREEMENT

This Agreement is made by and between the City of Sandy Springs, a political subdivision of the State of Georgia (hereinafter referred to as the City) and *contractor name*, (hereinafter referred to as the Contractor) under seal for construction of the **Intersection Improvement and Traffic Signal Installation Powers Ferry Road at Heards Road** (hereinafter referred to as the Project);

WHEREAS, the Contractor desires to enter into this Agreement for construction of the Project and has represented to the City that it is qualified **(meaning a Prequalified Prime Contractor listed by the Georgia Department of Transportation, Office of Contract Administration)** and experienced to provide such services necessary for construction of the Project (the City requires that the Contractor and to comply with all federal, state and local legal requirements imposed on the Project as the result of federal funding and the City has relied on such representation);

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, it is agreed by and between the Contractor and the City as follows:

ARTICLE I

THE CONTRACT AND THE CONTRACT DOCUMENTS

1.1 The Contract

1.1.1 The Contract between the City and the Contractor, of which this Agreement is a part, consists of the Contract Documents. It shall be effective on the date this Agreement is executed by the last party to execute it**.**

1.2 The Contract Documents

1.2.1 The Contract Documents consist of this Agreement, General Conditions, Special Provisions, the Technical Specifications, the Drawings and Plans, Bidding Documents, all Change Orders and Field Orders issued hereafter, the base bid made by the Contractor in response to the City's Invitation to Bid No. 15-048 (the "Bid"), and any other amendments hereto executed by the parties hereafter, together with the following (if any):

_____

_____

Documents not enumerated in this Paragraph 1.2 are not Contract Documents and do not form a part of this Contract**.**

1.3 Entire Agreement

1.3.1 The Contract Documents constitute the entire and exclusive agreement between the City and the Contractor with reference to the Project.

1.4 Subletting, Assignment, or Transfer

1.4.1 It is understood by the parties to this Agreement that the Work of the Contractor is considered personal by the City. The Contractor agrees not to assign, sublet, or transfer any or all of its interest in this Agreement without prior written approval of the City.

1.4.2 The City reserves the right to review all subcontracts prepared in connection with the Agreement, and the Contractor agrees that it shall submit to the City proposed subcontract documents together with Subcontractor cost estimates for the City's review and written concurrence in advance of their execution.

1.4.3 All subcontracts in the amount of $10,000.00 or more shall include the provisions set forth in this Agreement.

1.5 No Privity with Others

1.5.1 Nothing contained in this Contract shall create, or be interpreted to create, privity or any other contractual agreement between the City and any person or entity other than the Contractor.

1.6 Intent and Interpretation

1.6.1 The intent of this Contract is to require complete, correct and timely execution of the Work. Any Work that may be required, implied or inferred by the Contract Documents, or any one or more of them, as necessary to produce the intended result shall be provided by the Contractor for the Contract Price, as hereinafter defined.

1.6.2 This Contract is intended to be an integral whole and shall be interpreted as internally consistent. What is required by any one Contract Document shall be considered as required by the Contract.

1.6.3 When a word, term or phrase is used in this Contract, it shall be interpreted or construed, first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage.

1.6.4 The words include, includes, or including, as used in this Contract, shall be deemed to be followed by the phrase, without limitation.

1.6.5 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this Contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this Contract.

1.6.6 Words or terms used as nouns in this Contract shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

1.6.7 The Contractor shall have a continuing duty to read, carefully study and compare each of the Contract Documents, the shop drawings and the product data and shall give written notice to the City of any inconsistency, ambiguity, error or omission which the Contractor may discover with respect to these documents before proceeding with the affected Work. The issuance or the express or implied approval by the City of the Contract Documents, shop drawings or product data shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. HOWEVER, THE CITY MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING THE DOCUMENTS FOR THE PROJECT, INCLUDING THE DRAWINGS AND SPECIFICATIONS FOR THE PROJECT. By the execution hereof, the Contractor acknowledges and represents that it has received, reviewed and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not rely upon any representation or warranties by the City concerning such documents as no such representation or warranties have been or are hereby made.

1.6.8 Neither the organization of any of the Contract Documents into divisions, sections, paragraphs, articles, (or other categories), nor the organization or arrangement of the design, shall control the Contractor in dividing the Work or in establishing the extent or scope of the Work to be performed by Subcontractors.

1.7 Ownership of Contract Documents

1.7.1 The Contract Documents, and each of them, shall remain the property of the City. The Contractor shall have the right to keep one record set of the Contract Documents upon completion of the Project; provided, however, that in no event shall Contractor use, or permit to be used, any or all of such Contract Documents on other projects without the City's prior written authorization.

1.8 Hierarchy of Contract Documents

1.8.1 In the event of any conflict, discrepancy, or inconsistency among any of the Contract Documents, the following hierarchy shall control: (a) as between figures given on drawings and the scaled measurements, the figures shall govern; (b) as between large scale drawings and small scale drawings, the large scale shall govern; (c) as between drawings and specifications, the requirements of the specifications shall govern; (d) as between the Contract Agreement and General and the specifications, the requirements of the Contract Agreement shall govern. As set forth hereinabove, any and all conflicts, discrepancies, or inconsistencies shall be immediately reported to the City in writing by the Contractor.

ARTICLE II

THE WORK

2.1 Contractor Responsibility

2.1.1 The Contractor shall perform all of the Work required, implied or reasonably inferable from, this Contract.

2.2 "Work" Defined

2.2.1 The term Work shall mean whatever is done by or required of the Contractor to perform and complete its duties under this Contract, including the following: construction of the whole or a designated part of the Project; furnishing of any required surety bonds and insurance; and the provision or furnishing of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, permits and licenses required of the Contractor, fuel, heat, light, cooling and all other utilities as required by this Contract. The Work to be performed by the Contractor is generally described in Exhibit A, SCOPE OF SERVICES, attached hereto and incorporated herein.

2.3 Review of Work

2.3.1 Authorized representatives of the City, GDOT, and affected federal agencies may at all reasonable times review and inspect the activities and data collected under the terms of the Contract and any amendments thereto, including but not limited to, all reports, drawings, studies, specifications, estimates, maps, and computations, prepared by or for the City.

2.4 Workday and Restrictions, Suspension and Interruption

2.4.1 Normal workday for the Work shall be from 8:00 A.M. to 5:00 P.M. and the normal work week shall be Monday through Friday. The City will consider extended workdays or work weeks upon written request on a case-by-case basis. The City may restrict work hours in certain locations or at certain times of the day. No work will be allowed on national holidays (i.e., Memorial Day, July 4th, Labor Day, etc.). The City may order the Contractor in writing to suspend, delay or interrupt all or any part of the Work for such period of time as it may determine appropriate for the convenience of the City. The time for completion of the Work shall be extended by the number of days the Work is suspended. The City shall not be responsible for any claims, damages or costs stemming from any delay of the Project. Single Lane Closures allowed from 9:00 A.M. to 4:00 P.M.

2.5 Work to be performed by the Prime Contract

2.5.1 Tasks constituting of at least fifty-one percent (51%) of the value of this contract must be performed directly by the prime contractor and shall not be sub-contracted to other firms.

2.5.2 The contractor shall identify which tasks shall be self-performed.

ARTICLE III

CONTRACT TIME

3.1 Time and Liquidated Damages

3.1.1 The Contractor shall not proceed to furnish such services and the City shall not become obligated to pay for same until a written authorization to proceed ("Notice to Proceed") has been sent to the Contractor from the City. The Contractor shall commence the Work no later than ten (10) days after the effective date of the Notice to Proceed and shall achieve Substantial Completion of the Work, as hereinafter defined, no later than one hundred eighty (180) calendar days in accordance with the Contract Documents. The number of calendar days from the date on which the Work is permitted to proceed, through the date set forth for Substantial Completion, shall constitute the Contract Time. The Work shall be carried on expeditiously, it being understood, however, that this Agreement may be extended or continued in force by the parties hereto in writing as provided herein.

3.1.2 The Contractor shall pay the City the sum of $500.00 per day for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth herein for Substantial Completion of the Work. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at or before the time of executing this Contract. When the City reasonably believes that Substantial Completion will be inexcusably delayed, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the City has withheld payment, the City shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.

3.2 Substantial Completion

3.2.1 Substantial Completion shall mean that stage in the progression of the Work when the Work is sufficiently complete in accordance with this Contract that the City can enjoy beneficial use and occupancy of the Work and can utilize the Work for its intended purpose. Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete, and such partial use or occupancy shall not be evidence of Substantial Completion**.**

3.3 Time is of the Essence

3.3.1 All limitations of time set forth in the Contract Documents are of the essence of this Contract.

ARTICLE IV

CONTRACT PRICE

4.1 The Contract Price

4.1.1 The total contract amount for the Project (the "Contract Price") shall be as set forth in the bid schedule ("Bid Schedule") attached hereto as EXHIBIT B, BID SCHEDULE and incorporated herein. Payment to the Contractor pursuant to the Bid Schedule is full payment for the complete scope of services. The Contract Price shall not be modified except by Change Order as provided in this Contract.

ARTICLE V

PAYMENT OF THE CONTRACT PRICE

5.1 Bid Schedule

5.1.1 The Contractor shall invoice and be paid pursuant to the Bid Schedule contained in the Contract Documents.

5.2 Payment Procedure

5.2.1 The City shall pay the Contract Price to the Contractor as provided below.

5.2.2 Based upon the Contractor's invoices for payment submitted to the City, the City shall make progress payments to the Contractor on account of the Contract Price.

5.2.3 On or before the **5th** day of each month after commencement of the Work, the Contractor shall submit an invoice for Work satisfactorily completed as evaluated by an inspector representing the City pursuant to the Bid Schedule. The invoice shall be in such form and manner, and with such supporting data and content, as the City may require. Therein, the Contractor may request payment for ninety percent (90%) of that portion of the Contract Price properly allocable to Contract requirements properly provided, labor, materials and equipment properly incorporated into the Work plus ninety percent (90%) of that portion of the Contract Price properly allocable to materials or equipment properly stored on-site (or elsewhere if approved in advance in writing by the City) for subsequent incorporation into the Work, less the total amount of previous payments received from the City. Payment for stored materials and equipment shall be conditioned upon the Contractor's proof satisfactory to the City, that the City has title to such materials and equipment and shall include proof of required insurance. Such invoice shall be signed by the Contractor and shall constitute the Contractor's representation that the Work has progressed to the level for which payment is requested in accordance with the Schedule of Work, that the Work has been properly installed or performed in full accordance with this Contract, and that the Contractor knows of no reason why payment should not be made as requested. Thereafter, the City will review the invoice and may also review the Work at the Project Site or elsewhere to determine whether the quantity and quality of the Work is as represented in the invoice and is as required by this Contract. The City shall make partial payments on account of the Contract Price to the Contractor within thirty (30) days following receipt of each invoice. The amount of each partial payment shall be the amount approved for payment less such amounts, if any, otherwise owing by the Contractor to the City or which the City shall have the right to withhold as authorized by this Contract. The City shall not be precluded from the exercise of any of its rights as set forth in Paragraph 5.3 herein below; PROVIDED, HOWEVER, that when fifty (50) percent of the Contract value, including Change Orders and other additions to the Contract value, provided for by the Contract Documents is due, and the manner of completion of the Contract Work and its progress are reasonably satisfactory to the City, the City shall withhold no more retainage. At the discretion of the City, and with the approval of the Contractor, the retainage of any Subcontractor may be released separately as the Subcontractor completes its Work. If, however, after discontinuing the retention, the City determines that the Work is unsatisfactory or has fallen behind schedule, retention may be resumed at the previous level. If retention is resumed by the City, the Contractor and Subcontractors shall be entitled to resume withholding retainage accordingly. The rights of the City set forth herein to retainage are in addition to all of the other rights and remedies of the City set forth in this Agreement.

5.2.4 The Contractor warrants that upon submittal of an invoice, all Work for which payments have been received from the City shall be free and clear of liens, claims, security interest or other encumbrances in favor of the Contractor or any other person or entity whatsoever.

5.2.5 The Contractor shall promptly pay each Subcontractor out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which such Subcontractor is entitled. In the event the City becomes informed that the Contractor has not paid a Subcontractor as herein provided, the City shall have the right, but not the duty, to issue future checks in payment to the Contractor of amounts otherwise due hereunder naming the Contractor and such Subcontractor as joint payees. Such joint check procedure, if employed by the City, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the City to repeat the procedure in the future.

5.2.6 No progress payment, nor any use or occupancy of the Project by the City, shall be interpreted to constitute an acceptance of any Work not in strict accordance with this Contract.

5.3 Withheld Payment

5.3.1 The City may decline to make payment, may withhold funds, and, if necessary, may demand the return of some or

all of the amounts previously paid to the Contractor, to protect the City from loss because of:

(a) defective Work not remedied by the Contractor or, in the opinion of the City, unlikely to be remedied by the Contractor;

(b) claims of third parties against the City or the City's property;

(c) failure by the Contractor to pay Subcontractors or others in a prompt and proper fashion;

(d) evidence that the balance of the Work cannot be completed in accordance with the Contract for the unpaid balance of the Contract Price;

(e) evidence that the Work will not be completed in the time required for substantial or final completion;

(f) persistent failure to carry out the Work in accordance with the Contract;

(g) damage to the City or a third party to whom the City is, or may be, liable.

In the event that the City makes written demand upon the Contractor for amounts previously paid by the City as contemplated in this Subparagraph 5.3.1, the Contractor shall promptly comply with such demand**.**

5.4 Punch List

5.4.1 When the Contractor believes that the Work is substantially complete, the Contractor shall so notify the City. If the City deems the work is substantially complete, the City shall make a preliminary final inspection of the Project and shall submit to the Contractor a list of items to be completed or corrected (the "Punch List"). The Contractor shall complete all items on the Punch List within twenty-one (21) calendar days from the date of issuance of the Punch List by the City. If the Contractor is already in liquidated damages, as herein provided, prior to beginning the Punch List, then liquidated damages will be postponed for the twenty-one (21) calendar days. Once the twenty-one (21) calendar days expire, then liquidated damages will continue to accrue. In any case, once the twenty-one (21) calendar days expire after the Punch List is submitted to the Contractor, then liquidated damages will be assessed.

5.5 Completion and Final Payment

5.5.1 When all of the Work is finally complete and the Contractor is ready for a final inspection, the Contractor shall notify the City thereof in writing. Thereupon, the City will make final inspection of the Work and, if the Work is complete in full accordance with this Contract and this Contract has been fully performed, the Contractor is entitled to the remainder of the unpaid Contract Price as hereinafter provided in Subparagraph 5.5.3. Guarantees required by the Contract shall commence on the date of final completion of the Work.

5.5.1.1 If the Contractor fails to achieve final completion within the time fixed therefor by the City, the Contractor shall pay the City the sum of $500.00 (as stipulated in GDOT Standard Specifications 108.08) per day for each and every calendar day of unexcused delay in achieving final completion beyond the date set forth herein for final completion of the Work. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at or before the time of executing this Contract. When the City reasonably believes that final completion will be delayed without excuse, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving final completion, or any part thereof, for which the City has withheld payment, the City shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.

5.5.2 The Contractor shall not be entitled to final payment unless and until it submits to the City all documents required

by the Contract, including, but not limited to, its affidavit that all payrolls, invoices for materials and equipment, and other liabilities connected with the Work for which the City, or the City's property might be responsible, have been fully paid or otherwise satisfied; releases and waivers of lien from all Subcontractors of the Contractor and of any and all other parties required by the City; consent of Surety, if any, to final payment. If any third party fails or refuses to provide a release of claim or waiver of lien as required by the City, the Contractor shall furnish a bond satisfactory to the City to discharge any such lien or indemnify the City from liability.

5.5.3 Upon a determination by an inspector representing the City that the Work is complete in full accordance with this Contract, the City shall pay the Contractor an amount sufficient to increase total payments to the Contractor to one hundred percent (100%) of the Contract Price less two hundred percent (200%) of the reasonable cost as determined by the City for completing all incomplete Work, correcting and bringing into conformance all defective and nonconforming Work, and handling all unsettled claims.

The City shall make final payment of all sums due the Contractor within thirty (30) days of final completion of the Project as determined by an inspector representing the City.

5.5.4 Acceptance of final payment shall constitute a waiver of all claims against the City by the Contractor except for those claims previously made in writing against the City by the Contractor, pending at the time of final payment, and identified in writing by the Contractor as unsettled at the time of its request for final payment.

ARTICLE VI

THE CITY

6.1 City Responsibility

6.1.1 Excluding permits and fees normally the responsibility of the Contractor, the City shall obtain all approvals, easements, and the like required for construction and shall pay for necessary assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

6.2 Right to Stop Work

6.2.1 If the Contractor persistently fails or refuses to perform the Work in accordance with this Contract, the City may order the Contractor to stop the Work, or any described portion thereof, until the cause for stoppage has been corrected no longer exists, or the City orders that Work be resumed. In such event, the Contractor shall immediately obey such order.

6.3 City's Right to Carry Out Work

6.3.1 If the City determines to order the Contractor to stop the Work under the provisions of Paragraph 6.2, the City shall provide notice to the Contractor and the Contractor's surety under the performance bond that they have seven (7) days to provide adequate assurance to the City that the cause of such stoppage will be eliminated or corrected and provide the City with a plan to remedy the cause of such Work stoppage. If the Contractor and the surety fail within seven (7) days of such Work stoppage to provide such assurance, then the City may, without prejudice to any other rights or remedies the City may have against the Contractor, proceed to carry out the remedies necessary to eliminate or correct the cause of such Work stoppage. Upon proceeding to perform or cause to be performed any corrective actions, the City shall provide notice to the Contractor and the surety of action being taken by the City. In such a situation, an appropriate Change Order shall be issued deducting from the Contract Price the cost of correcting the subject deficiencies. If the unpaid portion of the Contract Price is insufficient to cover the amount due the City, the Contractor and the surety shall be responsible for paying the difference to the City.

ARTICLE VII

THE CONTRACTOR

7.1 Duties with Respect to Documents

7.1.1 The Contractor is again reminded of its continuing duty set forth in Subparagraph 1.6.7. The Contractor shall perform no part of the Work at any time without adequate Contract Documents or, as appropriate, approved shop drawings, product data or samples for such portion of the Work. If the Contractor performs any of the Work knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the City, the Contractor shall bear responsibility for such performance and shall bear the cost of correction.

7.2 Manner of Performance

7.2.1 The Contractor shall perform the Work strictly in accordance with this Contract.

7.3 Supervision

7.3.1 The Contractor shall supervise and direct the Work using the Contractor's best skill, effort and attention. The Contractor shall be responsible to the City for any and all acts or omissions of the Contractor, its employees and others engaged in the Work on behalf of the Contractor.

7.4 Compliance

7.4.1 The Contractor's performance of the Work shall comply with all federal and state legal requirements imposed on GDOT including specifically, but not limited to, the provisions governing GDOT's authority to contract, Sections 32-2-60 through 32-2-77 of the Official Code of Georgia Annotated; GDOT's Rules and Regulations Governing the Prequalification of Prospective Bidders, Chapter 672-5; and GDOT's Standard Specifications, Construction of Transportation Systems (current edition), and Special Provisions modifying them, except as noted in the General Conditions to the Contract including in the Contract Documents. The Contractor shall require all subcontracts for construction of the Project to incorporate the requirements of this Subparagraph.

7.4.2 The Contractor shall comply with the provisions of Federal Form-1273, attached hereto as EXHIBIT C, REQUIRED CONTRACT PROVISIONS – FEDERAL AID CONSTRUCTION CONTRACTS, and incorporated herein. The Contractor further agrees to require compliance with and physical incorporation of the provisions of Federal Form-1273 into all subcontracts for construction of the Project.

7.4.3 The Contractor shall comply with and shall require its Subcontractors to comply with the regulations for compliance with Title VI of the Civil Rights Act of 1964, as amended, and 23 CFR 200, as stated in EXHIBIT D, NOTICE TO CONTRACTORS - COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, attached hereto and incorporated herein.

7.4.4 The Contractor shall comply with the provisions of Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) (43 CFR 14895) and shall physically include the provisions of Executive Order 11246 in each subcontract in excess of $10,000. A copy of Executive Order 11246 (43 CFR 14895) is attached to this Agreement as EXHIBIT E, STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246) (43 CFR 14895), and incorporated herein.

7.4.5 The Contractor shall certify that the provisions of Section 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated relating to the "Drug-Free Workplace Act" have been complied with in full, in the form attached hereto as EXHIBIT F, CERTIFICATION OF SPONSOR - DRUG-FREE WORKPLACE, and incorporated herein.

7.4.6 The Contractor shall subcontract a minimum of **_N/A__** percent (**_N/A_**%) of the total amount of Project funds

to Disadvantaged Business Enterprise ("DBE"), as defined and provided for under the Federal Rules and Regulations 49 CFR 23 and 26, and as outlined in EXHIBIT G, DBE REQUIREMENTS, attached hereto and incorporated herein.

7.4.7 The Contractor shall comply with and shall require its Subcontractors to comply with all applicable requirements of the American with Disabilities Act of 1990 ("ADA"), 42 U.S.C. 12101, et seq. and 49 U.S.C. 322; Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 791, and regulations and amendments thereto.

7.4.8 The Contractor shall provide to the City in the form attached hereto as EXHIBIT H, CONTRACTOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS, a certification regarding debarment, suspension, ineligibility and voluntary exclusion in compliance with Executive Order 12549 and 49 CFR 29, according to instructions attached to the certification form. As a part of the Exhibit H certification, the Contractor agrees to include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction," as provided by GDOT without modification, in all lower tier covered transactions and in all solicitations for lower tier transactions, and shall cause the lower tier participant or Subcontractor to submit the certification attached hereto as EXHIBIT I, LOWER TIER CONTRACTOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS, according to the instructions attached to the certification form.

7.4.9 The Contractor shall comply with and shall require its Subcontractors to comply with all applicable requirements of the Davis-Bacon Act of 1931, 40 U.S.C. 276(a), as prescribed by 23 U.S.C. 113 for federal aid highway projects, except roadways classified as local roads or rural minor collectors. **Note: Davis-Bacon Wage Rates not required for this contract.**

7.4.10 The Contractor shall comply with and shall require its Subcontractors to comply with Section 25-9-1, et seq. of the Georgia Code Annotated, "Georgia Utility Facility Protection Act", CALL BEFORE YOU DIG 1-800-282-7411.

7.4.11 The Contractor shall comply with and shall cause its Subcontractors to comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330), as supplemented by Department of Labor Regulations (29 CFR Part 5).

7.4.12 The Contractor shall comply with and shall cause its Subcontractors to comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874), as supplemented in Department of Labor Regulations (29 CFR, Part 3).

7.4.13 The Contractor shall execute a certification and shall cause all Subcontractors to execute a certification in the form of EXHIBIT J, CERTIFICATION OF CONTRACTOR – GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT, attached hereto and incorporated herein. Pursuant to the certification, Contractor agrees to comply with all applicable requirements of the Georgia Security and Immigration Compliance Act of 2006 as codified in O.C.G.A. Sections 13-10-90 and 13-10-91 and regulated in Chapter 300-10-1 of the Rules and Regulations of the State of Georgia, "Public Employers, Their Contractors and Subcontractors Required to Verify New Employee Work Eligibility Through a Federal Work Authorization Program," accessed at *http://www.dol.state.ga.us*.

7.4.14 The Contractor acknowledges and agrees that the failure to complete appropriate certifications or the submission of a false certification as required herein shall result in the termination of this Agreement as provided in Article XII herein.

7.5 Warranty

7.5.1 The Contractor warrants to the City that all labor furnished to progress the Work under this Contract will be competent to perform the tasks undertaken, that the product of such labor will yield only first-class results, that materials and equipment furnished will be of good quality and new unless otherwise permitted by this Contract, and that the Work will be of good quality, free from faults and defects and in strict conformance with this Contract. All Work not conforming to these requirements may be considered defective. Unless otherwise specified in this Contract, acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the City's rights under any warranty or guarantee. The Contractor shall remedy all defects in the Work and pay for damage to the Work and/or to other City property resulting from defective Work, which shall appear within a minimum period of one (1) year from the date of

acceptance of the Work under this Contract, unless a longer period is specified. The one (1) year warranty period shall begin after any repairs are performed, if needed.

7.6 Permits, Inspections, Fees and Licenses

Except as otherwise provided herein, the Contractor shall obtain and pay for all permits, inspections, fees and licenses necessary and ordinary for the Work. The Contractor shall comply with all lawful requirements applicable to the Work and shall give and maintain any and all notices required by applicable law, ordinance, or regulation pertaining to the Work.

7.7 Supervision

7.7.1 The Contractor shall employ and maintain at the Project Site only competent supervisory personnel. Absent written instruction from the Contractor to the contrary, the superintendent shall be deemed the Contractor's authorized representative at the Project Site and shall be authorized to receive and accept any and all communications from the City.

7.8 Schedules

7.8.1 The Contractor shall submit to the City on a weekly basis a Schedule of Work to be performed for the next two (2) weeks. The Schedule of Work must be delivered to the City each Thursday no later than 12:00 noon. The Contractor's Schedule of Work shall be prepared in such form, with such detail, and supported by such data as the City may require. The City reserves the right to prohibit Work on any section of the Project not included in the weekly Schedule of Work. The Schedule of Work must accurately represent the intended Work and cannot be vague or broad, such as listing all Work in the Contract. The violation of this provision by the Contractor shall constitute a material breach of this Contract. THE PARTIES SPECIFICALLY AGREE THAT ANY FLOAT CONTAINED IN THE SCHEDULES SHALL BELONG TO THE PROJECT AND IN NO EVENT SHALL THE CONTRACTOR MAKE CLAIM FOR ANY ALLEGED DELAY, ACCELERATION, OR EARLY COMPLETION SO LONG AS THE PROJECT IS COMPLETED WITHIN THE CONTRACT TIME. Strict compliance with the requirements of this Paragraph is a condition precedent for payment to the Contractor, and failure by the Contractor to strictly comply with said requirements shall constitute a material breach of this Contract.

7.9 Contract to be maintained at Project Site

The Contractor shall continuously maintain at the Project Site, for the benefit of the City, one record copy of this Contract marked to record on a current basis changes, selections and modifications made during construction. Additionally, the Contractor shall maintain at the Project Site for the City the approved shop drawings, product data, samples and other similar required submittals. Upon final completion of the Work, all of these record documents shall be delivered to the City.

7.10 Shop Drawings, Product Data and Samples

7.10.1 Shop drawings, product data, samples and other submittals from the Contractor do not constitute Contract Documents. Their purpose is merely to demonstrate the manner in which the Contractor intends to implement the Work in conformance with information received from the Contract Documents.

7.10.2 The Contractor shall not perform any portion of the Work requiring submittal and review of shop drawings, product data or samples unless and until such submittal shall have been approved by the City. Approval by the City, however, shall not be evidence that Work installed pursuant thereto conforms with the requirements of this Contract.

7.11 Cleaning the Project Site and the Project

7.11.1 The Contractor shall keep the Project Site reasonably clean during performance of the Work. Upon final completion of the Work, the Contractor shall clean the Project Site and the Project and remove all waste, together with all of the Contractor's property from the Project Site.

7.12 Access to Work

7.12.1 Access to the Work shall be given to the City, GDOT and any affected federal agency requiring access to the Work at all times from commencement of the Work through final completion. The Contractor shall take whatever steps necessary to provide access when requested.

7.13 Indemnity

7.13.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the City and GDOT, their officers, employees, representatives, and agents from and against liability, claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting from performance of the Work, provided that such liability, claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such liability, claim, damage, loss or expense is caused in part by a party indemnified hereunder.

7.13.2 In claims against any person or entity indemnified under this Paragraph 7.13 by an employee of the Contractor, a Subcontractor, any one directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 7.13 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

7.13.3 The Contractor shall ensure that the provisions of this Paragraph 7.13 are included in all contracts and subcontracts for the performance of Work under this Agreement.

7.14 Means, Methods, Techniques, Sequences, Procedures and Safety

7.14.1 The Contractor is fully responsible for, and shall have control over, all construction means, methods, techniques, sequences, procedures and safety, and shall coordinate all portions of the Work required by the Contract Documents.

7.15 Separate Contracts

7.15.1 The City reserves the right to perform work on the premises with its own forces or by the use of other contractors. In such event, the Contractor shall fully cooperate with the City and such other contractors and shall coordinate, schedule and manage its work so as not to hinder, delay or otherwise interfere with the separate work of the City or other contractors.

7.16 Maintenance of Contract Cost Records

7.16.1 The Contractor shall maintain all books, documents, papers, accounting records, and other evidence pertaining to costs incurred on the Project and used in support of its Bid and shall make such material available at all reasonable times during the period of the Contract, and for three (3) years from the date of final payment under the Contract, for inspection by GDOT and any reviewing agencies, and copies thereof shall be furnished upon request. The Contractor agrees that the provisions of this Subparagraph shall be included in any agreement it may make with any Subcontractor, assignee, or transferee.

ARTICLE VIII

CONTRACT ADMINISTRATION

8.1 Claims by the Contractor

8.1.1 All Contractor claims shall be initiated by written notice and claim to the City. Such written notice and claim

must be furnished within seven (7) days after occurrence of the event, or the first appearance of the condition, giving rise to the claim.

8.1.2 Pending final resolution of any claim of the Contractor, the Contractor shall diligently proceed with performance of this Contract and the City shall continue to make payments to the Contractor in accordance with this Contract. The resolution of any claim under this Paragraph 8.1 shall be reflected by a Change Order executed by the City and the Contractor.

8.1.3 **Claims for Concealed and Unknown Conditions** -- Should concealed and unknown conditions encountered in the performance of the Work (a) below the surface of the ground or (b) in an existing structure be at variance with the conditions indicated by this Contract, or should unknown conditions of an unusual nature differing materially from those ordinarily encountered in the area and generally recognized as inherent in Work of the character provided for in this Contract, be encountered, the Contract Price shall be equitably adjusted by Change Order upon the written notice and claim by either party made within seven (7) days after the first observance of the condition. As a condition precedent to the City having any liability to the Contractor for concealed or unknown conditions, the Contractor must give the City written notice of, and an opportunity to observe, the condition prior to disturbing it. The failure by the Contractor to make the written notice and claim as provided in this Subparagraph shall constitute a waiver by the Contractor of any claim arising out of or relating to such concealed or unknown condition.

8.1.4 **Claims for Additional Costs** -- If the Contractor wishes to make a claim for an increase in the Contract Price, as a condition precedent to any liability of the City therefor, the Contractor shall give the City written notice of such claim within seven (7) days after the occurrence of the event, or the first appearance of the condition, giving rise to such claim. Such notice shall be given by the Contractor before proceeding to execute any additional or changed Work. The failure by the Contractor to give such notice prior to executing the Work shall constitute a waiver of any claim for additional compensation.

8.1.4.1 In connection with any claim by the Contractor against the City for completion in excess of the Contract Price, any liability of the City shall be strictly limited to direct costs incurred by the Contractor and shall in no event include indirect costs or consequential damages of the Contractor. The City shall not be liable to the Contractor for claims of third parties, including Subcontractors, unless and until liability of the Contractor has been established therefor in a court of competent jurisdiction.

8.1.5 **Claims for Additional Time** -- If the Contractor is delayed in progressing any task which at the time of the delay is then critical or which during the delay becomes critical, as the sole result of any act or neglect to act by the City or someone acting in the City's behalf, or by changes ordered in the Work, unusual delay in transportation, unusually adverse weather conditions not reasonably anticipatable, fire or any causes beyond the Contractor's control, then the date for achieving Substantial Completion of the Work shall be extended upon the written notice and claim of the Contractor to the City, for such reasonable time as the City may determine. Any notice and claim for an extension of time by the Contractor shall be made not more than seven (7) days after the occurrence of the event or the first appearance of the condition giving rise to the claim and shall set forth in detail the Contractor's basis for requiring additional time in which to complete the Project. In the event the delay to the Contractor is a continuing one, only one notice and claim for additional time shall be necessary. If the Contractor fails to make such claim as required in this Subparagraph, any claim for an extension of time shall be waived.

8.1.6 Extension of Contract Time for Unusually Adverse Weather Conditions not Reasonably Anticipated

8.1.6.1 Pursuant to the provisions of Subparagraph 8.1.5 of the Contract Agreement, the Contract Time may be extended upon written notice and claim of the Contractor to the City as set forth in such Subparagraph and as further set forth herein. It is, however, expressly agreed that the time for completion as stated in the Contract Documents includes due allowance for calendar days on which work cannot be performed out-of-doors.

Furthermore, in addition to the notice requirements set forth in the aforesaid Subparagraph 8.1.5, the Contractor agrees that it shall provide written notice to the City on the day of any adverse weather not anticipated and for which a request for a

time extension has been, or will be, made. Said notice shall state with particularity a description of the adverse weather as well as a description of the nature and extent of any delay caused by such weather. Receipt of this notice by the City is a condition precedent to the submission of any claim for an extension of time as provided by Subparagraph 8.1.5. Furthermore, as required by Subparagraph 8.1.5, the Contractor shall submit a written claim for extension of time within seven (7) days after the occurrence of the adverse weather and such claim shall be supported by such documentation including, but not limited to, official weather reports, as the City may require. To the extent that any of the terms and conditions set forth in this paragraph are in conflict with any of the terms and conditions of Subparagraph 8.1.5 as identified herein, the terms and conditions of this paragraph shall govern and control.

ARTICLE IX

SUBCONTRACTORS

9.1 Definition

9.1.1 A Subcontractor is an entity which has a direct contract with the Contractor to perform a portion of the Work.

9.2 Award of Subcontracts

9.2.1 Upon execution of the Contract, the Contractor shall furnish the City, in writing, the names of persons or entities proposed by the Contractor to act as a Subcontractor on the Project. The City shall promptly reply to the Contractor, in writing, stating any objections the City may have to such proposed Subcontractor. The Contractor shall not enter into a Subcontract with a proposed Subcontractor with reference to whom the City has made timely objection. The Contractor shall not be required to subcontract with any party to whom the Contractor has objection.

9.2.2 All subcontracts shall afford the Contractor rights against the Subcontractor which correspond to those rights afforded to the City against the Contractor herein, including those rights afforded to the City by Subparagraph 12.2.1 below.

9.2.3 All subcontracts shall comply with the requirements of Paragraph 7.4 above.

ARTICLE X

CHANGES IN THE WORK

10.1 Changes Permitted

10.1.1 Changes in the Work within the general scope of this Contract, consisting of additions, deletions, revisions, or any combination thereof, may be ordered without invalidating this Contract, by Change Order or by Field Order.

10.1.2 Changes in the Work shall be performed under applicable provisions of this Contract and the Contractor shall proceed promptly with such changes.

10.2 Change Order Defined

10.2.1 Change Order shall mean a written order to the Contractor executed by the City, issued after execution of this Contract, authorizing and directing a change in the Work or an adjustment in the Contract Price or the Contract Time, or any combination thereof. The Contract Price and the Contract Time may be changed only by Change Order.

10.3 Changes in the Contract Price

10.3.1 Any change in the Contract Price resulting from a Change Order shall be determined as follows by mutual agreement between the City and the Contractor as evidenced by (1) the change in the Contract Price being set forth in the

Change Order, (2) such change in the Contract Price, together with any conditions or requirements related thereto, being initialed by both parties and (3) the Contractor's execution of the Change Order.

10.3.2 If unit prices are provided in the Contract, and if the quantities contemplated are so changed in a proposed Change Order that application of such unit prices to the quantities of Work proposed will cause substantial inequity to the City or to the Contractor, the applicable unit prices shall be equitably adjusted.

10.4 Effect of Executed Change Order

10.4.1 The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the Work, this Contract as thus amended, the Contract Price and the Contract Time. The Contractor, by executing the Change Order, waives and forever releases any claim against the City for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order.

10.5 Notice to Surety; Consent

10.5.1 The Contractor shall notify and obtain the consent and approval of the Contractor's surety with reference to all Change Orders if such notice, consent or approval are required by the Contractor's surety or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the City that the surety has been notified of and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

ARTICLE XI

UNCOVERING AND CORRECTING WORK

11.1 Uncovering Work

11.1.1 If any of the Work is covered contrary to the City's request or to any provisions of this Contract, it shall, if required by the City, be uncovered for the City's inspection and shall be properly replaced at the Contractor's expense without change in the Contract Time.

11.1.2 If any of the Work is covered in a manner not inconsistent with Subparagraph 11.1.1 above, it shall, if required by the City, be uncovered for the City's inspection. If such Work strictly conforms with the provisions of this Contract, costs of uncovering and proper replacement shall by Change Order be charged to the City. If such Work does not strictly conform with the provisions of this Contract, the Contractor shall pay the costs of uncovering and proper replacement.

11.2 Correcting Work

11.2.1 The Contractor shall immediately proceed to correct Work rejected by the City as defective or failing to conform to this Contract. The Contractor shall pay all costs and expenses associated with correcting such rejected Work, including any additional testing and inspections, and reimbursement to the City for services and expenses made necessary thereby, if any.

11.2.2 If within one (1) year after Substantial Completion of the Work any of the Work is found to be defective or not in accordance with this Contract, the Contractor shall correct it promptly upon receipt of written notice from the City. This obligation shall survive final payment by the City and termination of this Contract. With respect to Work first performed and completed after Substantial Completion, this one (1) year obligation to specifically correct defective and nonconforming Work shall be extended by the period of time which elapses between Substantial Completion and final completion of the subject Work.

11.2.3 Nothing contained in this Paragraph 11.2 shall establish any period of limitation with respect to other obligations which the Contractor has under this Contract. Establishment of the one (1) year time period in Subparagraph 11.2.2 relates only to the duty of the Contractor to specifically correct the Work.

11.3 City May Accept Defective or Nonconforming Work

11.3.1 If the City chooses to accept defective or nonconforming Work, the City may do so. In such event, the Contract Price shall be reduced by the greater of (a) the reasonable cost of removing and correcting the defective or nonconforming Work, and (b) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming Work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the City for its acceptance of defective or nonconforming Work, the Contractor shall, upon written demand from the City, pay the City such remaining compensation for accepting defective or nonconforming Work.

ARTICLE XII

CONTRACT TERMINATION

12.1 Termination by the Contractor

12.1.1 If the Work is stopped for a period of ninety (90) days by an order of any court or other public authority, or as a result of an act of the government, through no fault of the Contractor or any person or entity working directly or indirectly for the Contractor, the Contractor may, upon ten (10) days' written notice to the City, terminate performance under this Contract and recover from the City payment for the actual reasonable expenditures of the Contractor (as limited in Subparagraph 10.3.2 above) for all Work executed and for materials, equipment, tools, construction equipment and machinery actually purchased or rented solely for the Work, less any salvage value of any such items.

12.1.2 If the City shall persistently or repeatedly fail to perform any material obligation to the Contractor for a period of fifteen (15) days after receiving written notice from the Contractor of its intent to terminate hereunder, the Contractor may terminate performance under this Contract by written notice to the City. In such event, the Contractor shall be entitled to recover from the City as though the City had terminated the Contractor's performance under this Contract for convenience pursuant to Subparagraph 12.2.1 hereunder**.**

12.2 Termination by the City

12.2.1 For Convenience

12.2.1.1 The City may for any reason whatsoever terminate performance under this Contract by the Contractor for convenience. The City shall give written notice of such termination to the Contractor specifying when termination becomes effective.

12.2.1.2 The Contractor shall incur no further obligations in connection with the Work and the Contractor shall stop Work when such termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Contractor to assign the Contractor's right, title and interest under terminated orders or subcontracts to the City or its designee.

12.2.1.3 The Contractor shall transfer title and deliver to the City such completed or partially completed Work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has.

12.2.1.4

(a) The Contractor shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Contractor an amount derived in accordance with sub-paragraph (c) below.

(b) The City and the Contractor may agree to the compensation, if any, due to the Contractor hereunder.

(c) Absent agreement to the amount due to the Contractor, the City shall pay the Contractor the following amounts:

(i) Contract prices for labor, materials, equipment and other services accepted under this Contract;

(ii) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it appears that the Contractor would have not profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

(iii) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Subparagraph 12.2.1.2 of this Paragraph. These costs shall not include amounts paid in accordance with other provisions hereof.

The total sum to be paid the Contractor under this Subparagraph 12.2.1 shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

12.2.2 **For Cause**

12.2.2.1 If the Contractor persistently or repeatedly refuses or fails to prosecute the Work in a timely manner, supply enough properly skilled workers, supervisory personnel or proper equipment or materials, or if it fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a material provision of this Contract, then the City may by written notice to the Contractor and the surety, without prejudice to any other right or remedy, terminate the employment of the Contractor and take possession of the Project Site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may proceed to carry out the remedies necessary to finish the Work by whatever methods it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

12.2.2.2 If the unpaid balance of the Contract Price exceeds the cost of finishing the Work, including compensation for additional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City. This obligation for payment shall survive the termination of the Contract.

12.2.2.3 In the event the employment of the Contractor is terminated by the City for cause pursuant to Subparagraph 12.2.2 and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a termination for convenience under Subparagraph 12.2.1 and the provisions of Subparagraph 12.2.1 shall apply.

ARTICLE XIII

INSURANCE

13.1 Insurance Requirements

13.1.1 Prior to beginning Work on the Project, the Contractor shall procure and maintain for the duration of this Contract, and for one (1) years thereafter, at its sole cost and expense such insurance as will fully protect it and the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers from incidents, accidents and claims for personal injury, bodily injury, and property damage which may arise from or in connection with the performance of the work and for the Contractor's professional liability (errors and omissions) under this Contract, whether such services and work are performed by the Contractor, its agents, representatives, employees, or by any subcontractor or any tier directly employed or retained by either. The following is the minimum insurance and limits that the Contractor must maintain. If the Contractor maintains higher limits than the minimums shown below, the City requires and shall be entitled to coverage for the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

All of the insurance herein specified shall be written on a form acceptable to the City and shall be A.M. Best Company rated A X or greater. See EXHIBIT K, INSURANCE REQUIREMENTS attached hereto and incorporated herein.

13.1.2 All such insurance shall remain in effect until final payment is made and the Project is accepted by the City. If the Contractor receives notice of non-renewal or material adverse change of any of the required coverages, the Contractor shall promptly advise the City in writing. Failure of the Contractor to promptly notify the City on non-renewal or material adverse change of any of the required coverages terminates the Agreement as of the date that the Contractor should have given notification to the City. The insurance policies shall contain or be endorsed to contain, the following provisions:

(a) A provision that coverage afforded under such policies shall not expire, be canceled or altered without at least thirty (30) days prior written notice to the City.

(b) Workers' Compensation and Employer's Liability and Property insurance policies shall contain a waiver of subrogation in favor of the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers.

(c) Commercial General Liability, Automobile Liability Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) insurance policies shall include an endorsement making the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers Additional Insureds under such policies.

A copy of these endorsements shall be provided to the City.

Certificates of Insurance showing that such coverage is in force shall be filed under this Contract by the Contractor to the City.

The obligations for the Contractor to procure and maintain insurance shall not be construed to waive or restrict other obligations and it is understood that insurance in no way limits liability of the Contractor whether or not same is covered by insurance.

13.1.3 If the City has any objections to the coverage afforded by or provisions of the insurance required to be purchased and maintained by the Contractor, the City will notify the Contractor thereof within twenty (20) days of the date of delivery of such certificates to the City.

13.1.4 The Contractor shall provide to the City such additional information in respect of insurance provided by it as the City may reasonably request. The right of the City to review and comment on certificates of insurance is not intended to relieve the Contractor of his responsibility to provide insurance coverage as specified nor to relieve the Contractor of his liability for any claims which might arise.

13.1.5 The Contractor agrees to require its Subcontractors to obtain insurance complying with the requirements the requirements of the Contract Documents.

ARTICLE XIV

DISPUTES

No civil action with respect to any dispute, claim or controversy arising out of or relating to this Contract may be commenced without first giving fourteen (14) calendar days written notice to Sandy Springs of the claim and the intent to initiate a civil action.

ARTICLE XV

INDEPENDENT CONTRACTOR

15.1 Relationship between Contractor and City

15.1.1 The Contractor shall perform the services under this Agreement as an independent contractor and nothing contained herein shall be construed to be inconsistent with such relationship or status. Nothing in this Agreement shall be interpreted or construed to constitute the Contractor or any of its agents or employees to be the agent, employee or representative of the City. Inasmuch as the City and the Contractor are contractors independent of one another, neither has the authority to bind the other to any third person or otherwise to act in any way as the representative of the other, unless otherwise expressly agreed to in writing signed by both parties hereto. The Contractor agrees not to represent itself as the City's agent for any purpose to any party or to allow any employee or agent of the Contractor to do so, without specific prior written authorization from the City, and then only for the limited purpose stated in such authorization.

15.1.2 The Contractor shall assume full liability for any contracts or agreements that the Contractor enters into on behalf of the City without the express knowledge and prior written authorization of the City.

ARTICLE XVI

COVENANT AGAINST CONTINGENT FEES

16.1 Warranty by Contractor

16.1.1 Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for any fee, commission, percentage, brokerage or contingent fee, gift or other consideration, excepting bona fide employees maintained by Contractor for the purpose of securing business and that Contractor has not received any non-City fee related to this Agreement without the prior written consent of the City.

16.1.2 For breach or violation of this warranty, the City shall have the right to annul this Agreement without liability or at its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of any such fee, commission, percentage, brokerage or contingent fee, gift or other consideration.

ARTICLE XVII

MISCELLANEOUS

17.1 Governing Law

17.1.1 The Contract shall be administered and interpreted under the laws of the State of Georgia. Jurisdiction of litigation arising from this Agreement shall be in Georgia. If any part of this Agreement is found to e in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of this Agreement shall be in full force and effect.

Whenever reference is made in the Agreement to standards or codes in accordance with which work is to be performed, the edition or revision of the standards or codes current on the effective date of this Agreement shall apply, unless otherwise expressly stated.

17.2 Successors and Assigns

17.2.1 The City and Contractor bind themselves, their successors, assigns and legal representatives to the other party hereto and to successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in this Contract. The Contractor shall not assign this Contract without written consent of the City.

17.3 Surety Bonds

17.3.1 The Contractor shall furnish separate performance and payment bonds to the City. Each bond shall set forth a penal sum in an amount not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in form suitable to the City and shall be executed by a surety, or sureties, reasonably suitable to the City. Bonds shall be issued by a corporate surety appearing on the Treasury Department's most current list (Circular 570, as amended) and be authorized to do business in the State of Georgia. The date of the bond must not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the bond.

It is mutually agreed by the parties hereto that if at any time after execution of this Agreement and the surety bonds for its faithful performance, the City shall deem the surety or sureties upon such bonds to be unsatisfactory, or if for any reason such bonds cease to be adequate to cover the performance of the Work, the Contractor shall, at its expense, within five (5) days after receipt of notice from the City to do so, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the City. In such event, no further payment to the Contractor shall be deemed due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in manner and form satisfactory to the City.

17.4 Notices

If to the City:	**With copies to:**
John McDonough, City Manager 7840 Roswell Road, Building 500 Sandy Springs, Georgia 30350	Wendell Willard, City Attorney 7840 Roswell Rd. Suite 330 Sandy Springs, Georgia 30350
If to Contractor:	**With copies to:**
Contractor Contact, Title Address City, State Zip	_____ _____ _____ _____

IN WITNESS WHEREOF, the parties hereto, acting through their duly authorized agents, have signed and sealed this Agreement.

CITY OF SANDY SPRINGS, GEORGIA

By: _____
John McDonough, City Manager

_____
Date of Execution

ATTEST:

By: _____
City Clerk

(SEAL)

Approved as to Form:

By: _____
Assistant City Attorney

CONTRACTOR

_____
Date of Execution

By: _____
Name:

_____
(Typed or printed name)

_____
Title

ATTEST:

By: _____
Secretary for Corporation

(SEAL)

_____
Witness

Executed in originals of four (4).

EXHIBIT A
TO CONTRACT AGREEMENT

SCOPE OF SERVICES

Scope of Work

The Contractor shall provide the necessary machinery, tools, apparatus, other means of construction, and all materials and labor specified in the Contract Documents or as necessary to complete the City of Sandy Springs Project T-7229, Intersection Improvement and Traffic Signal Installation Powers Ferry at Heards Road, as per the design plans. The signal contractor's crew leader must be IMSA Traffic Signal Level 2, preferably Level 3, certified and must produce proof of certification with bid submittal. The contractor shall arrange and provide traffic control as required by the City. At a minimum, forty-eight (48) hours of advanced notice shall be required for lane closures, and hours of construction shall be detailed in the contract document. Waste materials shall be removed from the site daily and disposed of by the contractor at the contractor's expense.

Location of Work

The location of the work is within the City of Sandy Springs, the OWNER of the project. All materials shall be delivered to a location chosen by the City within the City limits and the materials shall be appropriately packaged to protect contents from harm during shipping at no additional charge to the City.

The contractor shall furnish and install all incidental materials such as wires, cables, pole footings, and all items required to complete the work shown on the construction plans as specified. Material certification, shop drawings, proofs, and other documentation specified by the OWNER is required prior to beginning any work. Unless otherwise directed, all work performed shall be in accordance with the Georgia Department of Transportation *Standard Specifications, Construction of Transportation Systems* (current edition). All materials used in the process of completion of the work included in the Contract will be furnished from Georgia Department of Transportation certified suppliers only.

Delivery of Materials

The owner will not be responsible for delays in delivery of materials. No extra compensation will be allowed because of resulting expense. There is no City furnished equipment to be installed by the Contractor.

EXHIBIT B
TO CONTRACT AGREEMENT
BID SCHEDULE

Section ROADWAY					
Item Number	***Item Description***	***Units***	***Unit Price***	***Qty***	***Cost***
009-3500	**MISCELLANEOUS LANDSCAPE ITEMS**	**LS**		**1**	
150-1000	**TRAFFIC CONTROL**	**LS**		**1**	
210-0100	**GRADING COMPLETE**	**LS**		**1**	
310-1101	**GR AGGR BASE CRS, INCL MATL**	**TN**		**1,625**	
318-3000	**AGGR SURF CRS**	**TN**		**100**	
402-1812	**RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME**	**TN**		**100**	
402-3130	**RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME**	**TN**		**300**	
402-3121	**RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME**	**TN**		**450**	
402-3190	**RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME**	**TN**		**225**	
413-1000	**BITUM TACK COAT**	**GL**		**250**	
432-5010	**MILL ASPH CONC PVMT, VARIABLE DEPTH**	**SY**		**250**	
441-0014	**DRIVEWAY CONCRETE, 4 IN TK**	**SY**		**116**	
441-0104	**CONC SIDEWALK, 4 IN**	**SY**		**375**	
441-0748	**CONCRETE MEDIAN, 6 IN**	**SY**		**75**	
441-4020	**CONC VALLEY GUTTER, 6 IN**	**SY**		**17**	
441-6012	**CONC CURB & GUTTER, 6 IN X 24 IN, TP 2**	**LF**		**1,200**	

446-1100	**PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH**	**LF**		**600**	
500-9999	**CLASS B CONC, BASE OR PVMT WIDENING**	**CY**		**25**	
550-1180	**STORM DRAIN PIPE, 18 IN, H 1-10**	**LF**		**82**	
550-4218	**FLARED END SECTION 18 IN, STORM DRAIN**	**EA**		**2**	
603-2181	**STN DUMPED RIP RAP, TP 3, 18 IN**	**SY**		**16**	
603-7000	**PLASTIC FILTER FABRIC**	**SY**		**16**	
610-5715	**REM CATCH BASIN, DROP INLET OR JCT BOX**	**EA**		**1**	
610-6512	**REM HEADWALL**	**EA**		**2**	
611-3000	**RECONST CATCH BASIN, GROUP 1**	**EA**		**1**	
611-8000	**ADJUST CATCH BASIN TO GRADE**	**EA**		**1**	
634-1200	**RIGHT OF WAY MARKERS**	**EA**		**5**	
668-1100	**CATCH BASIN, GP 1**	**EA**		**2**	
668-1110	**CATCH BASIN, GP 1, ADDL DEPTH**	**LF**		**4**	
668-2100	**DROP INLET, GP 1**	**EA**		**1**	
	Section Sub Total:				
Section PERMANENT EROSION CONTROL					
Item Number	***Item Description***	***Units***	***Unit Price***	***Qty***	***Cost***
700-7000	**AGRICULTURAL LIME**	**TN**		**3**	
700-8000	**FERTILIZER MIXED GRADE**	**TN**		**1**	
700-8100	**FERTILIZER NITROGEN CONTENT**	**LB**		**50**	
700-9300	**SOD**	**SY**		**2,400**	
716-2000	**EROSION CONTROL MATS, SLOPES**	**SY**		**850**	
	Section Sub Total:				

Section TEMPORARY EROSION CONTROL					
Item Number	***Item Description***	***Units***	***Unit Price***	***Qty***	***Cost***
163-0232	**TEMPORARY GRASSING**	**AC**		**1**	
163-0240	**MULCH**	**TN**		**25**	
163-0300	**CONSTRUCTION EXIT**	**EA**		**2**	
163-0520	**CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN**	**LF**		**100**	
163-0550	**CONSTRUCT AND REMOVE INLET SEDIMENT TRAP**	**EA**		**7**	
165-0030	**MAINTENANCE OF TEMPORARY SILT FENCE, TP C**	**LF**		**2,100**	
165-0101	**MAINTENANCE OF CONSTRUCTION EXIT**	**EA**		**2**	
165-0105	**MAINTENANCE OF INLET SEDIMENT TRAP**	**EA**		**7**	
167-1000	**WATER QUALITY MONITORING AND SAMPLING**	**EA**		**2**	
167-1500	**WATER QUALITY INSPECTIONS**	**MO**		**12**	
171-0030	**TEMPORARY SILT FENCE, TYPE C**	**LF**		**2,100**	
573-2006	**UNDDR PIPE INCL DRAINAGE AGGR, 6 IN**	**LF**		**100**	
999-9999	**EROSION CONTROL MISCELLANOUS ALLOWANCE**	**LS**		**1**	
	Section Sub Total:				
Section SIGNING & MARKING					
Item Number	***Item Description***	***Units***	***Unit Price***	***Qty***	***Cost***
636-1033	**HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9**	**SF**		**69**	
636-2070	**GALV STEEL POSTS, TP 7**	**LF**		**116**	
653-0120	**THERMOPLASTIC PVMT MARKING, ARROW, TP 2**	**EA**		**7**	

653-0210	**THERMOPLASTIC PVMT MARKING, WORD, TP 1**	**EA**		**4**	
653-1501	**THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE**	**LF**		**2,040**	
653-1502	**THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW**	**LF**		**1,730**	
653-1704	**THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE**	**LF**		**36**	
653-1804	**THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE**	**LF**		**366**	
653-3501	**THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE**	**GLF**		**285**	
653-6004	**THERMOPLASTIC TRAF STRIPING, WHITE**	**SY**		**109**	
	YIELD BAR "SHARK TOOTH"	**EA**		**2**	
654-1001	**RAISED PVMT MARKERS TP 1**	**EA**		**24**	
654-1003	**RAISED PVMT MARKERS TP 3**	**EA**		**15**	
	Section Sub Total:				
Section SIGNAL					
Item Number	***Item Description***	***Units***	***Unit Price***	***Qty***	***Cost***
647-1000	**TRAFFIC SIGNAL INSTALLATION NO. 1**	**LS**		**1**	
647-2140	**PULL BOX, PB-4**	**EA**		**1**	
682-6233	**CONCUIT, NONMETAL, TP 3, 2 IN**	**LF**		**800**	
682-9950	**DIRECTIONAL BORE, 3 IN**	**LF**		**300**	
682-9950	**DIRECTIONAL BORE, 5 IN**	**LF**		**125**	
682-9950	**DIRECTIONAL BORE, 7 IN**	**LF**		**50**	
	Section Sub Total:				
	Total Roadway Estimated Cost:				
	10% Contingency for Roadway				

	Total Roadway Construction Cost				

TOTAL BID PRICE

_____

TOTAL BID PRICE IN WORDS

_____

THIS PAGE MUST BE COMPLETED AND SUBMITTED AS A PART OF YOUR BID

BID PRICE CERTIFICATION

In compliance with the attached Specification, the undersigned offers and agrees that if this Bid is accepted, by the City Council within one hundred fifty (150) calendar days of the date of Bid opening, that he will furnish any or all of the Items upon which Prices are quoted, at the Price set opposite each Item, delivered to the designated point(s) within the time specified in the Bid Schedule.

COMPANY_____

ADDRESS_____

AUTHORIZED SIGNATURE_____

EMAIL ADDRESS _____

PRINT / TYPE NAME _____

EXHIBIT C
TO CONTRACT AGREEMENT

REQUIRED CONTRACT PROVISIONS
FEDERAL AID CONSTRUCTION CONTRACTS
Not Applicable for this Contract.

EXHIBIT D
TO CONTRACT AGREEMENT

NOTICE TO CONTRACTORS
COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

1. Compliance with Regulations: The Contractor will comply with the Regulations of the Department of Transportation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (Title 49, Code of Federal Regulations, Part 21, hereinafter referred to as the "Regulations"), which are herein incorporated by reference and made a part of the Contract.

2. Nondiscrimination: The Contractor, with regard to the work performed by it afterward and prior to completion of the contract work, will not discriminate on the ground of race, color, sex, or national origin in the selection and retention of subcontracts including procurements of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when contract covers a program set forth in Appendix B of the Regulations. In addition, the Contractor will not participate either directly or indirectly in discrimination prohibited by 23 CFR 710.405 (b).

3. Solicitations for subcontracts, including procurements of materials and equipment: In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the ground of race, color, national origin or sex.

4. Information and Reports: The Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Department of Transportation shall impose such Contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

(a) withholding of payments to the Contractors under the Contract until the Contractor complies, and/or

(b) Cancellation, termination or suspension of the Contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraph (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, orders or instruction issued pursuant thereto. The Contractor will take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as result of such direction, the Contractor may request the State to enter into such litigation to protect the interests of the State, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

EXHIBIT E
TO CONTRACT AGREEMENT

STANDARD FEDERAL EQUAL OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS
(EXECUTIVE ORDER 11246) (43 CFR 14895)
Not Applicable for this Contract.

EXHIBIT F
TO CONTRACT AGREEMENT

CERTIFICATION OF SPONSOR
DRUG-FREE WORKPLACE
(Bidder to sign and return)

I hereby certify that I am a principal and duly authorized representative of _____, ("Contractor"), whose address is _____, _____, _____ _____, and I further certify that:

(1) The provisions of Section 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the "Drug-Free Workplace Act" have been complied with in full; and

(2) A drug-free workplace will be provided for Contractor's employees during the performance of the Agreement; and

(3) Each Subcontractor hired by Contractor shall be required to ensure that the subcontractor's employees are provided a drug-free workplace. Contractor shall secure from that subcontractor the following written certification: "As part of the subcontracting agreement with Contractor, _____ certifies to Contractor that a drug-free workplace will be provided for the Subcontractor's employees during the performance of this Agreement pursuant to paragraph (7) of subsection (b) of the Official Code of Georgia Annotated, Section 50-24-3"; and

(4) The undersigned will not engage in unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the Agreement.

CONTRACTOR:

Date: _____ Signature: _____
Title: _____

EXHIBIT G
TO CONTRACT AGREEMENT

DBE REQUIREMENTS
Not Applicable to this project.

EXHIBIT H
TO CONTRACT AGREEMENT

CONTRACTOR
CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
AND OTHER RESPONSIBILITY MATTERS
AND INSTRUCTIONS
Not Applicable for this Contract

EXHIBIT I
TO CONTRACT AGREEMENT

LOWER TIER
CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
AND OTHER RESPONSIBILITY MATTERS
AND INSTRUCTIONS
Not Applicable for this Contract.

EXHIBIT J
TO CONTRACT AGREEMENT

CERTIFICATION OF CONTRACTOR
GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT

I hereby certify that I am a principal and duly authorized representative of _____, ("Contractor"), whose address is _____, _____, _____ _____.

Contractor hereby agrees to comply with all applicable provisions and requirements of the Georgia Security and Immigration Compliance Act of 2006 (the "Act"), as codified in O.C.G.A. Sections 13-10-90 and 13-10-91 and regulated in Chapter 300-10-1 of the Rules and Regulations of the State of Georgia, "Public Employers, Their Contractors and Subcontractors Required to Verify New Employee Work Eligibility Through a Federal Work Authorization Program," accessed at *http://www.dol.state.ga.us*, as further set forth below.

Contractor agrees to verify the work eligibility of all of newly hired employees through the U.S. Department of Homeland Security's *Employment Eligibility Verification (EEV) / Basic Pilot Program*, accessed through the Internet at *https://www.vis-dhs.com/EmployerRegistration*, in accordance with the provisions and timeline found in O.C.G.A. 13-10-91 and Rule 300-10-1-.02 of the Rules and Regulations of the State of Georgia. As of July 1, 2007, the verification requirement applies to contractors and subcontractors with five-hundred (500) or more employees.

Contractor understands that the contractor and subcontractor requirements of the Act apply to contracts for, or in connection with, the physical performance of services within the State of Georgia.

Contractor understands that the following contract compliance dates set forth in the Act apply to the Contract Agreement, pursuant to O.C.G.A. 13-10-91:

On or after July 1, 2007, to public employers, contractors, or subcontractors of 500 or more employees;

On or after July 1, 2008, to public employers, contractors, or subcontractors of 100 or more employees; and

On or after July 1, 2009, to all other public employers, their contractors, and subcontractors.

To document the date on which the Act is applicable to Contractor, and to document Contractor's compliance with the Act, the undersigned agrees to initial one of the three (3) lines below indicating the employee number category applicable to Contractor, and to submit the indicated affidavit with the Contract Agreement if the Contractor has 500 or more employees.

Contractor has:

____ 500 or more employees [Contractor must register with the *Employment/Eligibility Verification/Basic Pilot Program* and begin work eligibility verification on July 1, 2007];

____ 100-499 employees [Contractor must register with the *Employment Eligibility Verification/Basic Pilot Program* and begin work eligibility verification by July 1, 2008]; or

____ 99 or fewer employees [Contractor must begin work eligibility verification by July 1, 2009].

Contractor further agrees to require O.C.G.A. Sections 13-10-90 and 13-10-91 compliance in all written agreements with any subcontractor employed by Contractor to provide services connected with the Contract Agreement, as required pursuant to O.C.G.A. 13-10-91.

Contractor agrees to obtain from any subcontractor that is employed by Contractor to provide services connected with the Contract Agreement, the subcontractor's indication of the employee number category applicable to the subcontractor.

Contractor agrees to secure from any subcontractor engaged to perform services under this Contract an executed "Subcontractor Affidavit," as required pursuant to O.C.G.A. 13-10-91 and Rule 300-10-1-.08 of the Rules and Regulations of the State of Georgia, which rule can be accessed at *http://www.dol.state.ga.us*.

Contractor agrees to maintain all records of the subcontractor's compliance with O.C.G.A. Sections 13-10-90 and 13-10-91 and Chapter 300-10-1 of the Rules and Regulations of the State of Georgia.

CONTRACTOR:

Date: _____ Signature: _____

Title: _____

EXHIBIT K

TO CONTRACT AGREEMENT

INSURANCE REQUIREMENTS

Within 10 days of Notice of Award, and at all times that this Contract is in force, the Contractor shall obtain, maintain and furnish the City Certificates of Insurance from licensed companies doing business in the State of Georgia with an A.M. Best Rating A-10 or higher and acceptable to the City covering:

1. Workers' Compensation & Employer's Liability Insurance. Workers' Compensation Insurance in compliance with the applicable Workers' Compensation Act(s) of the state(s) wherein the work is to be performed or where jurisdiction could apply in amounts required by statutes. Employer's Liability Insurance, with limits of liability of not less than $1,000,000 per accident for bodily injury or disease.
2. Commercial General Liability Insurance, including contractual liability insurance, product and completed operations, personal and advertising injury, and any other type of liability for which this Contract applies with limits of liability of not less than $1,000,000 each occurrence / $2,000,000 policy aggregate for personal injury, bodily injury, and property damage. Commercial General Liability Insurance shall be written on an "occurrence" form.
3. Automobile Liability Insurance with limits of liability of not less than $1,000,000 per accident for bodily injury and property damage if automobiles are to be used in the delivery of or in the completion of services and work or driven onto the City's property. Insurance shall include all owned, non-owned and hired vehicle liability.
4. Umbrella Insurance with limits of liability excess of Employer's Liability Insurance, Commercial General Liability Insurance and Automobile Liability Insurance in the amount of not less than $3,000,000.
5. Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits not less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.
6. Professional (Errors and Omissions) Insurance- For Professional Services and for all Design/Build Projects with limits of liability of not less than $3,000,000 per occurrence or claim / $3,000,000 policy aggregate. Such policy shall also include coverage for losses arising from the breach of information security or cyber liability (including Errors & Omissions, Security and Privacy Liability and Media Liability), whether combined with the Professional Liability policy or placed as a separate policy, but carrying the same limits of liability. Such coverage shall insure damage, injury and loss caused by error, omission or negligent acts, including all prior acts without limitation, related to the professional services to be provided under this Contract. The policy shall be amended to include independent contractors providing professional services on behalf of or at the direction of the Contractor. The definition of Contractual Liability shall be amended to state that liability under a contract of professional services is covered. Further, coverage shall be afforded for fraudulent acts, misappropriation of trade secrets, internet professional services, computer attacks, personal injury, regulatory actions, wrongful acts, contractual liability, privacy policy, and insured versus insured. The Contractor shall ensure that coverage under this policy continues for a period of thirty-six (36) months after completion of services.
7. Fidelity Bond (Employee Dishonesty) in the sum of not less than $50,000.

All such insurance shall remain in effect until final payment is made and the Project is accepted by the City. If the Contractor receives notice of non-renewal or material adverse change of any of the required coverages, the Contractor shall promptly advise the City in writing. Failure of the Contractor to promptly notify the City on non-renewal or material adverse change of any of the required coverages terminates the Agreement as of the date that the Contractor should have given notification to the City. The insurance policies shall contain or be endorsed to contain, the following provisions:

(d) A provision that coverage afforded under such policies shall not expire, be canceled or altered without at least thirty (30) days prior written notice to the City.
(e) Workers' Compensation and Employer's Liability and Property insurance policies shall contain a waiver of subrogation in favor of the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers.
(f) Commercial General Liability, Automobile Liability Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) insurance policies shall include an endorsement making the City and the City's boards, officials, directors, officers, employees, representatives, agents, and volunteers Additional Insureds under such policies.

A copy of these endorsements shall be provided to the City.

Certificates of Insurance showing that such coverage is in force shall be filed under this Contract by the Contractor to the City.

The obligations for the Contractor to procure and maintain insurance shall not be construed to waive or restrict other obligations and it is understood that insurance in no way limits liability of the Contractor whether or not same is covered by insurance.

EXHIBIT L
SPECIAL PROVISIONS

First Use Date: January 1, 2007

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Utility Conflicts

Utility companies having known facilities that conflict with the construction of this project will be directed by the Department to adjust or relocate their facilities and will be notified of the contract award. Conform to all the requirements of the Specifications as they relate to cooperation with utility owners and the protection of utility installations that exist on the project. Refer to the requirements of Section 107, Legal Regulations and Responsibility to the Public, with particular attention to Subsection 107.21.Coordinate The Work with any work to be performed by others in any right of way clearance and arrange a schedule of operations that will allow for completion of the Project within the specified contract time. Where stage construction is required, notify the utility owner when each stage of work is completed and the site is available for utility work to proceed. Information concerning utility facilities known to exist within the project limits, including the list of owners, is shown on the plans.

Under Georgia Code Section 32-6-171, utilities are required to remove or relocate their facilities. The Department is required to give the utility at least 60 days written notice directing the removal and relocation, and the utility is required to begin removal within a reasonable time thereafter. Utility Owners that are under agreement with the Department, as listed on the Office of Utilities website at http://www.dot.state.ga.us/dot/operations/utilities/index.shtml, are liable to the Contractor for his cost for delays to construction that are due to the utilities' failure to clear conflicts within the time submitted by the Utility Owner in the Utility Adjustment Schedule as approved by the Department. Any modifications to the approved Utility Adjustment Schedule shall require review and approval by the Department, the Utility Owner, and the Contractor. Utility facilities originally permitted within State Rights of Way are similarly liable to the Department and Contractor for extraordinary costs or damages.

The Contractor may bill the utility company directly for any costs or delays as described in the agreement between the Department and the utility company. Such bill shall be sufficiently detailed to allow the utility company to verify that the charges are accurate and properly attributable to delays in relocation of their facilities. Upon request, copies of all agreements with utility companies having facilities on this project will be made available for examination by the Contractor at the First Use Date: January 1, 2007 Department's District Office.

Utility Adjustment Schedules, when submitted to the Department by the utilities, will be made available to the Contractor upon request at the Department's District Office unless furnished by Contracts Administration at the Plans Sales window or may be included with the Utility Special Provision in the Contract Proposal on select projects. In accordance with Subsection 105.06 of the Specifications, the Department is not liable for payment of any claims due to utility delays, inconvenience or damage sustained by the Contractor due to interference of any utilities or appurtenances, or the operation of moving them. In accordance with Subsection 107.21.G delays by utilities will continue to be considered by the Department in charging Contract Time. For purposes of applying provisions of this paragraph, railroads and the Metropolitan Atlanta Rapid Transit Authority (MARTA) are considered utilities.

Rev. July 1, 2003
April 15, 2004
October 11, 2005
October 25, 2005
February 10, 2006
April 20, 2006
May 8, 2007

Revised September 18, 2007

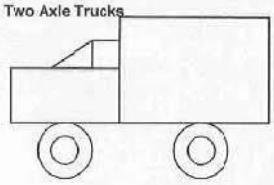
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 107—Legal Regulations and Responsibility to the Public

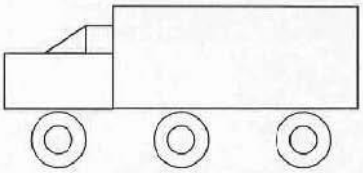
Figure 1
Guidelines for Gross Weights on Vehicles
Based on 20,340 Pounds (9226 kilograms) Legal Weight On Any Axle

Two Axle Trucks



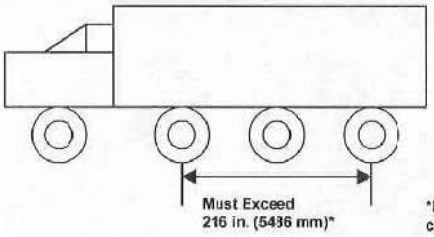
Note: Maximum acceptable Gross Weight = 40,680 lbs (18 452 kg)

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

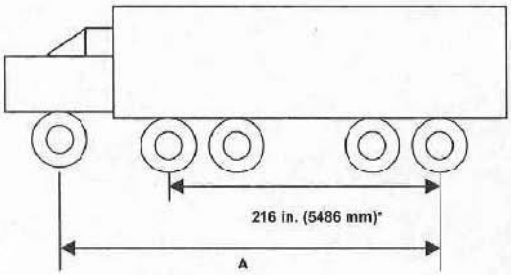


Legal Gross Weight = 70, 000 lbs. (31 751 kg)

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)

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. 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 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.

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.

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.

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 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, 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. 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."

SPECIAL PROVISION
Sec. 108 – Prosecution and Progress

In addition to the standard provisions Award and Execution of Contract shall include the following provisions and their cost:

Section 108—Prosecution and Progress

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 City and counties, other municipalities, or State agencies.

All subcontract agreements between the Prime Contractor and subcontractor shall be in writing and shall contain all 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
- 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). The Contractor shall provide a plan & cost breakout of the contract work to be performed with its own organization at the pre-construction meeting. In addition, the Contractor shall provide copies of subcontract agreements to the pre-construction meeting. The percentage of the contract work performed with its own organization shall be included on any pay application.

Add the following to Subsection 108.08:

In order to minimize the disruption of normal traffic flow, separate completion times are specified for those portions of the work that require closing of lanes as specified in Subsection 150.11.

Failure to reopen the lanes as specified in Subsection 150.11 will result in the assessment of liquidated damages at the rate of $___N/A_____per Calendar Day.

Failure to reopen the lanes as specified in Subsection 150.11 will result in the assessment of liquidated damages at the rate of $___200_____ per hour.

When provided notice from the City, failure to maintain or establish traffic control devices and layout as specified in Subsection 150.11 will result in the assessment of liquidated damages at the rate of $___1000_____ per Calendar Day.

These rates are cumulative and in addition to the Liquidated Damages which may be assessed in accordance with the contract for failure to complete the overall project on time.

SPECIAL PROVISION

Sec. 109 – Measurement and Payment

In addition to the standard provisions Measurement and Payment of Contract shall include the following provisions and their cost:

- Any quantities of any of the pay items in the bid schedule of the contract that exceed the plan quantities will be installed on an as needed basis, as directed by the engineer.

Section 150—Traffic Control

150.01 GENERAL

This section as supplemented by the Plans, Specifications, and Manual on Uniform Traffic Control Devices (MUTCD) shall be considered the Temporary Traffic Control (TTC) Plan. Activities shall consist of furnishing, installing, maintaining, and removing necessary traffic signs, barricades, lights, signals, cones, pavement markings and other traffic control devices and shall include flagging and other means for guidance and protection of vehicular and pedestrian traffic through the Work Zone. This Work shall include both maintaining existing devices and installing additional devices as necessary in construction work zones. When any provisions of this Specification or the Plans do not meet the minimum requirements of the MUTCD, the MUTCD shall control. The 2003 Edition of the MUTCD shall be in effect for the duration of the project. The Worksite Traffic Control Supervisor (WTCS) shall have a copy of Part VI of the MUTCD on the job site. Copies of the current MUTCD may be obtained from the FHWA web page at http://mutcd.fhwa.dot.gov.

A. WORKER SAFETY APPAREL

All workers exposed to the risks of moving roadway traffic or construction equipment shall wear high-visibility safety apparel meeting the requirements of International Safety Equipment Association (ISEA) American National Standard for High-Visibility Safety Apparel, or equivalent revisions, and labeled as ANSI-2004 Class 2 or 3 risk exposure.

B. WORKSITE TRAFFIC CONTROL SUPERVISOR

ALL HIGHWAYS (ADDITIONAL REQUIREMENTS BELOW FOR INTERSTATES): The Contractor shall designate a qualified individual as the Worksite Traffic Control Supervisor (WTCS) who shall be responsible for selecting, installing and maintaining all traffic control devices in accordance with the Plans, Specifications, Special Provisions and the MUTCD. A written resume documenting the experience and credentials of the WTCS shall be submitted and accepted by the Engineer prior to beginning any work that involves traffic control. The WTCS shall be available on a twenty-four (24) hour basis to perform his duties. If the work requires traffic control activities to be performed during the daylight and nighttime hours it may be necessary for the Contractor to designate an alternate WTCS. An alternate WTCS must meet the same requirements and qualifications as the primary WTCS and be accepted by the Engineer prior to beginning any traffic control duties. The Worksite Traffic Control Supervisor's traffic control responsibilities shall have priority over all other assigned duties.

As the representative of the Contractor, the WTCS shall have full authority to act on behalf of the Contractor in administering the TTC Plan. The WTCS shall have appropriate training in safe traffic control practices in accordance with Part VI of the MUTCD. In addition to the WTCS all other individuals making decisions regarding traffic control shall meet the training requirements of the Part VI of the MUTCD. The WTCS shall supervise the initial installation of traffic control devices. The Engineer prior to the beginning of construction will

review the initial installation. Modifications to traffic control devices as required by sequence of operations or staged construction shall be reviewed by the WTCS. The WTCS shall be available on a full-time basis to maintain traffic control devices with access to all personnel, materials, and equipment necessary to respond effectively to an emergency situation within forty-five (45) minutes of notification of the emergency. The WTCS shall regularly perform inspections to ensure that traffic control is maintained. Unless modified by the special conditions or by the Engineer, routine deficiencies shall be corrected within a twenty-four (24) hour period. Failure to comply with these provisions shall be grounds for dismissal from the duties of WTCS and/or removal of the WTCS from the project. Failure of the WTCS to execute his duties shall be considered as nonperformance under Subsection 150.08.

The Engineer will periodically review the work for compliance with the requirements of the TTC plan. On projects where traffic control duties will not require full time supervision, the Engineer may allow the Contractor's Project Superintendent to serve as the WTCS as long as satisfactory results are obtained.

CERTIFIED WORKSITE TRAFFIC CONTROL SUPERVISOR
ADDITIONAL REQUIREMENTS FOR INTERSTATE AND LIMITED ACCESS HIGHWAYS: In addition to the requirements above, the WTCS shall have a minimum of one year experience directly related to work site traffic control in a supervisory or responsible capacity. The WTCS shall be currently certified by the American Traffic Safety Services Association (ATSSA) Work Site Traffic Supervisor Certification program or the National Safety Council Certification program. Any work performed on the interstate or limited access highway right-of-way that requires traffic control shall be supervised by the Certified Worksite Traffic Control Supervisor. No work requiring traffic control shall be performed unless the certified WTCS is on the worksite. Failure to maintain a Certified Worksite Traffic Control Supervisor on the work will be considered as non-performance under Subsection 150.08.

The WTCS shall perform, as a minimum, weekly traffic control inspections on all interstate and limited access highways. The inspection shall be reported to the Engineer on a TC-1 report. The Engineer will furnish a blank copy of the TC-1 report to the Contractor prior to the beginning of any work on the interstate or limited access right-of-way.

C. 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 devices shall be tested at NCHRP Test Level III. Reference is made to Subsections 104.05, 107.07, and 107.09.

D. REFLECTORIZATION REQUIREMENTS
All rigid fluorescent orange construction warning signs (black on fluorescent orange) shall meet the reflectorization and color requirements of ASTM Type VII, VIII, IX or X regardless of the mounting height. Portable signs, which have flexible sign blanks, shall meet the reflectorization and color requirements of ASTM Type VI. Warning signs (W3-1a) for stop conditions that have rumble strips located in the travelway shall be reflectorized with ASTM Type IX fluorescent yellow sheeting. All other signs shall meet the requirements of ASTM Type III or IV, except for "Pass With Care" and "Do Not Pass" signs, which may be ASTM Type I unless otherwise specified. CHANNELIZATION DEVICES: Channelization devices shall meet the requirements of ASTM Type III or IV high intensity sheeting.

E. IMPLEMENTATION REQUIREMENTS
No work shall be started on any project phase until the appropriate traffic control devices have been placed in accordance with the Project requirements. Changes to traffic flow shall not commence unless all labor, materials, and equipment necessary to make the changes are available on the Project.
When any shift or change is made to the location of traffic or to the flow patterns of traffic, the permanent safety features shall be installed and fully operational before making the change. If staging or site conditions prevent the installation of permanent features then the equivalent interim devices shall be utilized. Any section of the work

that is on new location shall have all permanent safety features installed and fully operational before the work is opened to traffic. Safety features shall include but are not limited to the following items:

1. Guardrail including anchors and delineation
2. Impact attenuators
3. Traffic signals
4. Warning devices
5. Pavement markings including words, symbols, stop bars, and crosswalks
6. Roadway signs including regulatory, warning, and guide

Outdoor lighting shall be considered as a safety feature for welcome centers, rest areas, and weigh station projects. For typical roadway type projects new street lighting is not considered a safety feature unless specifically noted in the plans or in the special conditions.

F. MAINTENANCE OF TRAFFIC CONTROL DEVICES

Traffic control devices shall be in acceptable condition when first erected on the project and shall be maintained in accordance with Subsection 104.05 throughout the construction period. All unacceptable traffic control devices shall be replaced within 24 hours. When not in use, all traffic control devices shall be removed, placed or covered so as not to be visible to traffic. All construction warning signs shall be removed within seven calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

G. TRAFFIC INTERRUPTION RESTRICTIONS

The Department reserves the right to restrict construction operations when, in the opinion of the Engineer, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive or unnecessarily inconvenience the traveling public. The Contractor shall suspend and/or reschedule any work when the Engineer deems that conditions are unfavorable for continuing the Work. Advanced notification requirements to the Contractor to suspend work will be according to the events and the time restrictions outlined below: Incident management No advanced notice required Threatening/Inclement weather 24 hours Holidays. sporting events, Three (3) calendar days unfavorable conditions If the work is suspended, the Contractor may submit a request for additional contract time as allowed under Section 108. The Department will review the request and may grant additional contract time as justified by the impact to the Contractor's schedule. Compensation for loss of productivity, rescheduling of crews, rental of equipment or delays to the Contractor's schedule will not be considered for payment. Additional contract time will be the only consideration granted to the Contractor.

H. SEQUENCE OF OPERATIONS

Any Sequence of Operations provided in this Contract in conjunction with any staging details which may be shown in the plans, is a suggested sequence for performing the Work. It is intended as a general staging plan for the orderly execution of the work while minimizing the impact on the mainline, cross-streets and side streets. The Contractor shall develop detailed staging and temporary traffic control plans for performing specific areas of the Work including but not limited to all traffic shifts, detours, bridge widenings, paces, or other activities that disrupt traffic flow. The Engineer may require detailed staging and TTC plans for lane closures. These plans shall be submitted for approval at least two weeks prior to the scheduled date of the activity. Activities that have not been approved at least seven (7) days prior to the scheduled date shall be rescheduled.

Where traffic is permitted through the work area under stage construction, the Contractor may choose to construct, at no additional expense to the Department, temporary on-site bypasses or detours in order to expedite the work. Plans for such temporary bypasses or detours shall be submitted to the Engineer for review and approval 30 calendar days prior to the proposed construction. Such bypasses or detours shall be removed promptly when, in the opinion of the Engineer, they are no longer necessary for the satisfactory progress of the Work. Bypasses and detours shall meet the minimum requirements of Section 150.02.B.4.

As an option to the Sequence of Operations in the Contract, the Contractor may submit an alternative Sequence of

Operations for review and approval. The Department may consider the Contractor's alternate Sequence of Operations as a Value Engineering Proposal as defined by Section 104.08. A twenty calendar day lead time for the Department's review shall be given to this submission so that a decision on its acceptability can be made and presented at the Preconstruction Conference. Insufficient lead time or no submission by the Contractor shall be construed as acceptance of the Sequence of Operations outlined in the Contract and the willingness of the Contractor to execute this as-bid plan. The Department will not pay, or in any way reimburse the Contractor for claims arising from the Contractor's inability to perform the Work in accordance with the Sequence of Operations provided in the Contract or from an approved Contractor alternate.
The Contractor shall secure the Engineer's approval of the Contractor's proposed plan of operation, sequence of work and methods of providing for the safe passage of vehicular and pedestrian traffic before it is placed in operation. The proposed plan of operation shall supplement the approved traffic control plan. Any major changes to the approved TTC plan, proposed by the Contractor, shall be submitted to the Department for approval.
Some additional traffic control details will be required prior to any major shifts or changes in traffic. The traffic control details shall include, but not be limited to, the following:

1. A detailed drawing showing traffic locations and laneage for each step of the change.
2. The location, size, and message of all signs required by the MUTCD, Plan, Special Provisions, and other signs as required to fit conditions. Any portable changeable message signs used shall be included in the details.
3. The method to be used in, and the limits of, the obliteration of conflicting lines and markings.
4. Type, location, and extent of new lines and markings.
5. Horizontal and vertical alignment and super elevation rates for detours, including cross-section and profile grades along each edge of existing pavement.
6. 6. Drainage details for temporary and permanent alignments.
7. Location, length, and/or spacing of channelization and protective devices (temporary barrier, guardrail, barricades, etc.)
8. Starting time, duration and date of planned change.
9. For each traffic shift, a paving plan, erection plan, or work site plan, as appropriate, detailing workforce, materials, and equipment necessary to accomplish the proposed work. This will be the minimum resource allocation required in order to start the work. A minimum of three copies of the above details shall be submitted to the Engineer for approval at least 14 days prior to the anticipated traffic shift. The Contractor shall have traffic control details for a traffic shift, which has been approved by the Engineer prior to commencement of the physical shift. All preparatory work relative to the traffic shift, which does not interfere with traffic, shall be accomplished prior to the designated starting time. The Engineer and the Contractor's representative will verify that all conditions have been met prior to the Contractor obtaining materials for the actual traffic shift.

I. COMPLIANCE DATES FOR PROVISIONS OF THE MUTCD:
Federal law requires that traffic control devices (temporary or permanent) installed on new highway or bikeway construction or reconstruction shall be compliant with the latest version of the MUTCD before the road is opened to the public for unrestricted travel. The latest version of the MUTCD is the 2003 Edition, which the Georgia Department of Transportation has adopted. However, the FHWA, in the introduction to the MUTCD has established alternate compliance dates for some of the new provisions of the 2003 MUTCD. Below is a list of those compliance dates. The Department may decide to require contractors to implement some or all of these provisions at an earlier date than the compliance dates noted below. However, notice will be given in advance of the letting date if these provisions are to be implemented prior to the compliance dates. The contractor may also decide to implement the new provisions in the 2003 MUTCD earlier than required by the compliance dates below. The target dates established by the FHWA shall be as follows:

1. Section 6D.01 Pedestrian Considerations – all new provisions for pedestrian accessibility – 5 years from the effective date of the Final Rule for the 2003 MUTCD.
2. Section 6D.02 Accessibility Considerations – 5 years from the effective date of the Final Rule for the 2003 MUTCD.
3. Section 6D.03 Worker Safety Considerations – high-visibility apparel requirements – 3 years from the effective date of the Final Rule for the 2003 MUTCD.

4. Section 6E.02 High-Visibility Safety Apparel – high-visibility apparel requirements for flaggers – 3 years from the effective date of the Final Rule for the 2003 MUTCD. The effective date of the Final Rule for the 2003 MUTCD is December 22, 2003.

150.02 TEMPORARY TRAFFIC CONTROL (TTC) ZONES:

A. DEVICES AND MATERIALS:
In addition to the other provisions contained herein, work zone traffic control shall be accomplished using the following means and materials:

1. Portable Advance Warning Signs
Portable advance warning signs shall be utilized as per the requirements of the temporary traffic control plans. All signs shall meet the requirements of the MUTCD and shall be NCHRP 350 crashworthy compliant.

2. Arrow Panels
Portable sequential or flashing arrow panels as shown in the Plans or Specifications for use on Interstate or multi-lane highway lane closure only, shall be a minimum size of 48" high by 96" wide with not less than 15 lamps used for the arrow. The arrow shall occupy virtually the entire size of the arrow panel and shall have a minimum legibility distance of one mile. The minimum legibility distance is that distance at which the arrow panel can be comprehended by an observer on a sunny day, or clear night. Arrow panels shall be equipped with automatic dimming features for use during hours of darkness. The arrow panels shall also meet the requirements for a Type C panel as shown in the MUTCD.

The sequential or flashing arrow panels shall not be used for lane closure on two-lane, two-way highways when traffic is restricted to one-lane operations in which case, appropriate signing, flaggers and when required, pilot vehicles will be deemed sufficient. The sequential or flashing arrow panels shall be placed on the shoulder at or near the point where the lane closing transition begins. The panels shall be mounted on a vehicle, trailer, or other suitable support. Vehicle mounted panels shall be provided with remote controls. Minimum mounting height shall be seven feet above the roadway to the bottom of the panel, except on vehicle mounted panels which should be as high as practical.

For emergency situations, arrow display panels that meet the MUTCD requirements for Type A or Type B panels may be used until Type C panels can be located and placed at the site. The use of Type A and Type B panels shall be held to the minimum length of time possible before having the Type C panel(s) in operation. The Engineer shall determine when conditions and circumstances are considered emergencies. The Contractor shall notify the Engineer, in writing, when any non-specification arrow display panel(s) is being used in the work.

3. Portable Changeable Message Signs
Portable changeable message signs meeting the requirements of Section 632 and the MUTCD. Any PCMS in use that is not protected by positive barrier protection shall be delineated by a minimum of three drums that meet the requirement of Section 150.05.A.1. The drum spacing shall not exceed a maximum of ten (10') feet as shown in Detail 150-PCMS. When the PCMS is within twenty (20') feet of the opposing traffic flow, the trailing end of the PCMS shall be delineated with a minimum of three drums spaced in the same manner as the approach side of the PCMS. When not in use the PCMS shall be removed from the roadway unless protected by positive barrier protection. If the PCMS is protected by positive barrier protection the sign panel shall be turned away from traffic when not in use.

4. Channelization Devices
Channelization devices shall meet the standards of the MUTCD and Subsection 150.05.

5. Temporary Barrier
Temporary barrier shall meet the requirements of Sections 620.

6. Temporary Traffic Signals
Temporary traffic signals shall meet the requirements of Section 647 and the MUTCD.

7. Pavement Marking
Pavement marking incorporated into the work shall comply with Subsections 150.04.A and 150.04.B.

8. Portable Temporary Traffic Control Signals
The use off Portable Temporary Traffic Control Signals shall meet the following minimum requirements:

- Only two-lane two-way roadways will be allowed to utilize Portable Temporary Traffic Control Signals.
- All portable traffic control signals shall meet the physical display and operational requirements of conventional traffic signals described in the MUTCD.
- Each signal face shall have at least three lenses. The lenses shall be red, yellow, or green in color and shall give a circular type of indication. All lenses shall be twelve (12") inches nominal in diameter. A minimum of two signal faces shall face each direction of traffic.
- A minimum of one signal head shall be suspended over the roadway travel lane in a manner that will allow the bottom of the signal head housing to be not less than seventeen (17') feet above and not more than nineteen (19') feet above the pavement grade at the center of the travel lane. The second signal head may be located over the travel lane with the same height requirements or the second signal head may be located on the shoulder. When the signal head is located on the shoulder the bottom of the signal head housing shall be at least eight (8') feet but not more than (15') feet above the pavement grade at the center of highway.
- Advance warning signage and appropriate pavement markings shall be installed as part of the temporary signal operation.
- The signals shall be operated in a manner consistent with traffic requirements. The signals may be operated in timed-mode or in a vehicle-actuated mode. The signals shall be interconnected in a manner to ensure that conflicting movements can not occur. To assure that the appropriate operating pattern including timing is displayed to the traveling public, regular inspections including the use of accurate timing devices shall be made by the Worksite Traffic Control Supervisor. If at any time any part of the system fails to operate within these requirements then the use of the signal shall be suspended and the appropriate flagging operation shall begin immediately.
- The Worksite Traffic Control Supervisor (WTCS) shall continuously monitor the portable traffic control signal to insure compliance with the requirements for maintenance under the MUTCD. The signal shall be maintained in a manner consistent with the intention of the MUTCD, with emphasis on cleaning of the optical system. Timing changes shall be made only by the WTCS. The WTCS shall keep a written record of all timing changes.
- The portable temporary signal shall have two power sources and shall be capable of running for seven calendar days continuously.
- The Contractor shall have an alternate temporary traffic control plan in the event of failure of the signal.

9. RUMBLE STRIPS
Rumble strips incorporated into the work shall meet the requirements of Section 429 and the MUTCD. Existing rumble strips that are positioned in the traveled way to warn traffic of a stop condition shall be reinstalled based on the following requirements:

a. INTERMEDIATE SURFACES: Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have rumble strips reinstalled on the traveled way in the area of a stop condition. Non-refundable deductions in accordance with 150.08 will be assessed for any intermediate surface in place for greater than 45 days without rumble strips.
b. FINAL SURFACES: Rumble strips shall be installed on the final surface within fourteen (14) calendar days of the placement of the final surface in the area of the stop condition. Failure to install within fourteen (14) calendar days will result in assessment of non-refundable deductions in accordance with 150.08.

Prior to the removal of any rumble strips located in the travelway, stop ahead (W3-1a) warning signs shall be double indicated ahead of the stop condition. These warning signs shall be a minimum of 48 inches by 48 inches. The reflectorization of the warning signs shall be as required by Subsection 150.01.C. These warning signs shall remain in place until the rumble strips have been reinstalled on the traveled way. Any existing warning signs for the stop ahead condition shall be removed or covered while the 48" X 48" (W3-1a) signs are in place. When the rumble strips have been reinstalled these warning signs should be promptly removed and any existing signage placed back in service.

10. GUARDRAIL:
When the removal and installation of guardrail is required as a part of the work the following time restrictions shall apply unless modified by the special conditions:

- MULTI-LANE HIGHWAYS: From the time that the existing guardrail or temporary positive barrier protection is removed the Contractor has fourteen (14) calendar days to install the new guardrail and anchors. During the interim, the location without guardrail shall be protected with drums spaced at a maximum spacing of twenty (20') feet. The maximum length of rail that can be removed at any time without being replaced when positive barrier protection is a total of 2000 linear feet of existing rail or the total length of one run of existing rail, whichever is greater.
- ALL OTHER HIGHWAYS: From the time that the existing guardrail is removed or from the time that temporary positive barrier protection is removed the Contractor has thirty (30) calendar days to install the new guardrail and anchors. During the interim, the location without guardrail shall be protected with drums spaced at a maximum spacing of twenty (20') feet. The maximum length of rail that can be removed at any time without being replaced with positive barrier protection is a total of 1000 linear feet of existing rail or the total length of one run of existing rail, whichever is greater. Based on existing field conditions, the Engineer may review the work and require that the guardrail be installed earlier than the maximum time allowed above by giving written notification to the Contractor via the TC-1 traffic control report. Failure to comply with the above time and quantity restrictions shall be considered as non-compliance under Section 150.08.

11. STOP SIGN REGULATED INTERSECTIONS:
For intersections that utilize stop sign(s) to control the flow of traffic and to restrict the movement of vehicles, the stop sign(s) shall be maintained for the duration of the work or until such time that the stop condition is eliminated or until an interim or permanent traffic signal can be installed to provide proper traffic control. The traffic signal shall be installed and properly functioning before the removal of the existing stop sign(s) is permitted. If the existing intersection is enhanced traffic control features such as stop bars, double indicated stop signs, oversized signs, advanced warning stop ahead signs, rumble strips on the approaches or flashing beacons located overhead or on the shoulders then these features shall be maintained for the duration of the project or until the permanent traffic control plan has been implemented.

Whenever the staging of the work requires that the traveled-way be relocated or realigned the Contractor shall reinstall all enhanced traffic control features noted above on the newly constructed sections of the work. The cost of relocating the stop bars, stop signs, advanced warning signs, the rumble strips and the flashing beacons shall be included in the price bid for Lump-Sum-Traffic Control unless individual pay items are included in the contract for rumble strips and/or flashing beacons. When pay items are included in the contract for rumble strips or flashing beacons then these items will be paid per each.

When staging requires the relocation or realignment of an existing stop condition it may be necessary to consider the addition of enhanced traffic control features even though none existed at the original location. As a guide for enhanced traffic control features that may be considered, the Engineer or the WTCS may refer to the Department's guidelines for "Opening of New Roadways to Traffic" (Document #6635-2). Horizontal and vertical alignment changes at a new location may have decreased or restricted sight distance or the stop condition may occur sooner than in the previous alignment. If these conditions occur then the Engineer and/or the WTCS should consider additional measures to enhance the motorist's awareness of the changes even though the staging

plans may not address enhanced features. Stop signs should be a minimum of 36 inches for interim situations. The use of 48 inch stop signs may be warranted under project specific conditions. Flags may be used on interim/permanent stop signs that are mounted at seven (7') feet in height for a short duration in order to direct additional attention to a new or relocated stop sign(s). Flags should not be used for durations exceeding two weeks unless unusual or site specify conditions warrant a longer period of time. The use of Type "A" flashing red light(s) attached to the stop sign(s) may be appropriate during the same period that the flags are in use to increase attention. The use of rumble strips and/or portable changeable message signs may be considered. The use of new rumble strips, where none previously existed, shall have the prior approval of District Traffic Operations before being included as part of the temporary traffic control plan. The message(s) displayed on any PCMS shall have the prior approval of the Engineer and the message(s) shall be included as part of the TTC plan for the interim staging. The placement of any additional interim ground-mounted signs and posts or stop bars shall be considered as incidental to the price bid for Lump Sum-Traffic Control. The installation of rumble strips, flashing beacons or the use of Portable Changeable Message Signs (PCMS) shall be considered as Extra Work unless pay items are included in the contract.

B. WORK ZONE RESTRICTIONS:

1. Interstate

The Contractor shall not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way, unless such areas are separated by at least one-half mile of distance.

2. Non-Interstate Divided Highways

The Contractor shall not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way, unless such areas are separated by at least one-half mile distance in rural areas or at least 500 feet of distance in urban areas.

3. Non-Divided Highways

- The Contractor shall not simultaneously perform work on opposite sides of the roadway when the work is within 12 feet of the travel-way, unless such areas are separated by at least one-half mile of distance in rural areas or at least 500 feet of distance in urban areas.
- On two-lane projects where full width sections of the existing subgrade, base or surface is to be removed, and new base, subgrade, or surface is to be constructed, the Contractor shall maintain one-lane traffic through the construction area by removing and replacing the undesirable material for half the width of the existing roadway at a time. Replacement shall be made such that paving is completed to the level of the existing pavement in the adjacent lane by the end of the workday or before opening the entire roadway to traffic.

4. All Highways

- There shall be no reduction in the total number of available traffic lanes that existed prior to construction except as specifically allowed by the Contract and as approved by the Engineer.
- Travelway Clearances

All portions of the work shall maintain the following minimum requirements:

a. Horizontal: The combined dimensions of the paved shoulder and the roadway surface remaining outside the Work Zone shall be no less than sixteen (16) feet in width at any location.
b. Vertical: The overhead clearance shall not be reduced to less than fifteen (15) feet at any location. The restrictions above apply to all shifts, lane closures, on-site detours and off site detours whether shown in the contract or proposed by the Contractor. It shall be the responsibility of the Contractor to verify that these minimum requirements have been met before proceeding with any phase of the Work. Two-lane two-way roadways may have temporary horizontal restrictions of less than sixteen (16) feet provided a flagger operation for one-way traffic is utilized to restrict access to the work area by over-width loads. The minimum horizontal clearance shall be restored before the flagging operation is removed.

- Highway Work Zone: All sections or segments of the roadway under construction or

reconstruction shall be signed as a Highway Work Zone except non-state highway two-lane two-way resurfacing projects. Two conditions can be applied to a Highway Work Zone:

- Condition 1 is when no reduction in the existing speed limit is required.
- Condition 2 is when worksite conditions require a reduction of the speed limit through the designated Work Zone. Properly marking a Highway Work Zone shall include the following minimum requirements:

i. NO REDUCTION IN THE EXISTING POSTED SPEED LIMIT IN HIGHWAY WORK ZONE:

a. Signage (Detail 150-HWZ-2) shall be posted at the beginning point of the Highway Work Zone warning the traveling public that increased penalties for speeding violations are in effect. The HWZ-2 sign shall be placed a minimum of six hundred (600') feet in advance of the Highway Work Zone and shall not be placed more than one thousand (1000') feet in advance of the Work Zone. If no speed reduction is required, it is recommended that the HWZ-2 be placed at 750 feet from the work area between the ROAD WORK 500 FT. and the ROAD WORK 1000 FT. signs. HWZ-2 signs shall be placed at intervals not to exceed one mile for the length of the project. HWZ-2 signs should be placed on the mainline after all major intersections except State Routes. State Routes shall be signed as per the requirements for intersecting roadways below.

b. The existing speed limit shall be posted at the beginning of the Work Zone. Existing Speed Limit signs (R2-1) shall be maintained.

c. c) INTERSECTING ROADWAYS: Intersecting state routes shall be signed in advance of each intersection with the Work Zone with a HWZ-2 sign to warn motorists that increased fines are in effect. All other intersecting roadways that enter into a designated Highway Work Zone may be signed in advance of each intersection with the Work Zone. When construction equipment and personnel are present in the intersection on the mainline of a multi-lane roadway, the intersecting side roads shall be signed in advance with HWZ-2 signs. As soon as the work operation clears the intersection the signage may be removed.

d. Signage (Detail 150-HWZ-3) shall be posted at the end of the Highway Work Zone indicating the end of the zone and indicating that increased penalties for speeding violations are no longer in effect.

e. When a designated Highway Work Zone is no longer necessary all signs shall be removed immediately.

ii. REDUCING THE SPEED LIMIT IN A HIGHWAY WORK ZONE:

Highway Work Zone signs shall be posted as required in Condition 1 above. For limited access (interstate) highways and controlled access multi-lane divided highways the posted speed limit shall be reduced as required below. Speed Limit signage (R2-1) for the reduced speed limit shall be erected at the beginning of the work zone. Additional signs shall be placed to ensure that the maximum spacing of the reduced speed limit signs shall be no greater than one (1) mile apart. Existing speed limit signs shall be covered or removed. On multi-lane divided highways the speed limit signs shall be double indicated when the reduced speed is in use. When any one or more of the following conditions exist and the existing speed limit is 65 mph or 70 mph, the speed limit shall be reduced by 10 mph. If the existing speed limit is 60 mph, the speed limit should be reduced by 5 mph. If the existing speed limit is 55 mph or less, the Contractor can only reduce the speed limit with the prior approval of the Engineer. The reduction in the speed limit shall be no greater than 10 mph:

1. Lane closure(s) of any type and any duration.
2. The difference in elevation exceeds two inches adjacent to a travel lane as shown in Subsection 150.06, Detail 150-B, 150-C.
3. Any areas where equipment or workers are within ten feet of a travel lane.
4. Temporary portable concrete barriers located less than two (2') feet from the traveled way.

5. As directed by the Engineer for conditions distinctive to this project. When the above conditions are not present, the speed limit shall be immediately returned to the existing posted speed limit. A speed reduction shall not be put in place for the entire length of the project unless conditions warranting the speed reduction are present for the entire project length. All existing speed limit signs within the temporary speed reduction zone shall be covered or removed while the temporary reduction in the speed limit is in effect. All signs shall be erected to comply with the minimum requirements of the MUTCD.

As a minimum, the following records shall be kept by the WTCS:

a. Identify the need for the reduction.
b. Record the time of the installation and removal of the temporary reduction.
c. Fully describe the location and limits of the reduced speed zone.
d. Document any accident that occurs during the time of the reduction. A copy of the weekly records for reduced speed zones shall be submitted to the Engineer.

Reduced speed zones shall, as a minimum, be signed as per Detail 150-HWZ-1. Interim signs shall meet the requirements of 150.03 D. Additional signs may be necessary to adjust for actual field conditions. When a pilot vehicle is used on a two-lane two-way roadway the speed limit should not be reduced. For special conditions specific to the work, on two-lane two-way roadways or multi-lane highways, the contractor may reduce the posted speed limit with the prior approval of the Engineer.

5. Milled Surface Restrictions

Unless modified by the special conditions, a milled surface on any asphaltic concrete surface shall not be allowed to remain open to traffic for a period of time that exceeds thirty (30) calendar days.

6. Installation/Removal of Work Area Signage

No payment will be made for Traffic Control-Lump Sum until the Work has actually started on the project. The installation of traffic control signage does not qualify as the start of work. Advanced warning signs shall not be installed until the actual beginning of work activities. Any permanent mount height signs installed as the work is preparing to start shall be covered until all signs are installed unless all signs are installed within seven (7) calendar days after beginning installation. All temporary traffic control devices shall be removed as soon as practical when these devices are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.

All construction warning signs shall be removed within seven (7) calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten (10) calendar days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

PUNCHLIST WORK:

Portable signs shall be utilized to accomplish the completion of all punchlist items. The portable signs shall be removed daily. All permanent mount height signs shall be removed prior to the beginning of the punchlist work except “Low/Soft Shoulder” signs and any signs that have the prior written approval of the Engineer to remain in place while the punchlist work is in progress. Failure to promptly remove the construction warning signs within the seven (7) calendar days after the completion of the Work or failure to remove or cover signs when work is suspended for short periods of time shall be considered as nonperformance under Section 150.08.

C. LANE CLOSURES:

1. Approval/Restrictions

All lane closures of any type or duration shall have the prior approval of the Engineer.

a. The length of a lane closure shall not exceed two (2) miles in length excluding the length of the tapers unless the prior approval of the Engineer has been obtained. The Engineer may extend the length of a lane closure based upon field conditions. However, the length of a work zone should be held to the minimum length required to accomplish the Work. Lane closures shall not be spaced closer than one

mile. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

b. Lane closures that require same direction traffic to be split around the Work Area will not be approved for roadways with posted speeds of 35 mph or greater, excluding turn lanes.
c. For Interstate, Limited Access and Multi-lane Divided Highways, a Portable Changeable Message Sign (PCMS) shall be placed one (1) mile in advance of a lane closure with a message denoting the appropriate lane closure one mile ahead. The Portable Changeable Message Sign (PCMS) shall be placed on the outside shoulder in accordance with Detail 150-PCMS. This is in addition to the other traffic control devices required by Standard 9106.

2. Removal Of Lane Closures

To provide the greatest possible convenience to the public in accordance with Subsection 107.07, the Contractor shall remove all signs, lane closure markings, and devices immediately when lane closure work is completed or temporarily suspended for any length of time or as directed by the Engineer. All portable signs and portable sign mounting devices shall be removed from the roadway to an area which will not allow the sign to be visible and will not allow the sign or sign mounting device to be impacted by traffic.

3. Exit And Entrance Ramps

On multilane highways where traffic has been shifted to the inside lanes, the exit and entrance ramps shall have channelization devices placed on both sides of the ramp. The temporary ramp taper length shall be greater than, or equal to, the existing taper length. Interim EXIT gore signs shall be placed at the ramp divergence. The "EXIT OPEN" sign shown in Figure TA-42 of the MUTCD shall be utilized. Channelization device spacing shall be 10 feet for 200 feet in advance of the temporary gore, and 10 feet for the first 100 feet of the temporary gore.

4. Lane Drop/Lane Closure

The first seven (7) calendar days of any lane closure shall be signed and marked as per Standard 9106 or 9107. However, lane closures that exist for a duration longer than seven (7) calendar days may be signed and marked as per the details in Standard 9121, provided the prior approval of the Engineer is obtained. The approved lane drop shall utilize only the signs and markings shown for the termination end of the lane drop in Standard 9121. All warning signs in the lane drop sequence shall be used. Drums may be substituted for the Type I Crystal Delineators at the same spacing.

5. Termination Area

The transition to normal or full width highway at the end of a lane closure shall be a maximum of 150 feet.

D. TRAFFIC PACING METHOD:

1. Pacing Of Traffic

With prior approval from the Engineer, traffic may be paced allowing the Contractor up to ten (10) minutes maximum to work in or above all lanes of traffic for the following purposes:

a. Placing bridge members or other bridge work.
b. Placing overhead sign structures.
c. Other work items requiring interruption of traffic.

The Contractor shall provide a uniformed police officer with patrol vehicle and blue flashing light for each direction of pacing. The police officer, Engineer, and flaggers at ramps shall be provided with a radio which will provide continuous contact with the Contractor. When ready to start the work activity, the police vehicle will act as a pilot vehicle slowing the traffic thereby providing a gap in traffic allowing the Contractor to perform the Work. Any on-ramps between the pace and the work area shall be blocked during pacing of traffic, with a flagger properly dressed and equipped with a Stop/Slow paddle. Each ramp should be opened after the police vehicle has passed. Pilot vehicles shall travel at a safe pace speed, desirably not less than 20 mph interstate and 10 mph non-interstate. The Contractor shall provide a vehicle to proceed in front of the police vehicle and behind the other traffic in order to inform the Contractor's work force when all vehicles have cleared the area. Traffic will not be permitted to stop during pacing except in extreme cases as approved by the Engineer.

2. Methods of Signing For Traffic Pacing
At a point not less than 1,000 feet in advance of the beginning point of the pace, the Contractor shall erect and cover a W-special sign (72 inch x 72 inch) with a Type "B" flashing light, with the legend "TRAFFIC SLOWED AHEAD SHORT DELAY" (See Detail 150-A). A portable changeable message sign may be used in lieu of the W-special sign. On divided highways this sign shall be double indicated. A worker with a two-way radio shall be posted at the sign, and upon notice that the traffic is to be pacedshall turn on the flashing light and reveal the sign. When traffic is not being paced, the flashing light shall be turned off and the sign covered or removed. W-special signs are reflectorized black on orange, Series "C" letter and border of the size specified.

E. CONSTRUCTION VEHICLE TRAFFIC
The Contractor's vehicles shall travel in the direction of normal roadway traffic and shall not reverse direction except at intersections, interchanges, or approved temporary crossings. The Contractor may submit a plan requesting that construction traffic be allowed to travel in the opposite direction of normal traffic when it would be desirable to modify traffic patterns to accommodate specific construction activities. Prior approval of the Engineer shall be obtained before any construction traffic is allowed to travel in a reverse direction. If the Contractor's submittal is approved the construction traffic shall be separated from normal traffic by appropriate traffic control devices.

F. ENVIRONMENTAL IMPACTS TO THE TEMPORARY TRAFFIC CONTROL (TTC) PLAN
The Contractor shall ensure that dust, mud, and other debris from construction activities do not interfere with normal traffic operations or adjacent properties. All outfall ditches, special ditches, critical storm drain structures, erosion control structures, retention basins, etc. shall be constructed, where possible, prior to the beginning of grading operations so that the best possible drainage and erosion control will be in effect during the grading operations, thereby keeping the roadway areas as dry as possible. Areas within the limits of the project which are determined by the Engineer to be disturbed or damaged due either directly or indirectly from the progress or the lack of progress of the work shall be cleaned up, redressed, and regrassed. All surplus materials shall be removed and disposed of as required. Surplus materials shall be disposed of in accordance with Subsection 201.02.E.3 of the Specifications.

G. EXISTING STREET LIGHTS
Existing street lighting shall remain lighted as long as practical and until removal is approved by the Engineer.

H. NIGHTWORK
Adequate temporary lighting shall be provided at all nighttime work sites where workers will be immediately adjacent to traffic.

I. CONSTRUCTION VEHICLES IN THE WORKZONE
The parking of Contractor's and/or workers personal vehicles within the work area or adjacent to traffic is prohibited. It shall be the responsibility of the Worksite Traffic Control Supervisor to ensure that any vehicle present at the worksite is necessary for the completion of the work.

J. ENCROACHMENTS ON THE TRAVELED-WAY
The Worksite Traffic Control Supervisor (WTCS) shall monitor the work to ensure that all the rocks, boulders, construction debris, stockpiled materials, equipment, tools and other potential hazards are kept clear of the travelway. These items shall be stored in a location, in so far as practical, where they will not be subject to a vehicle running off the road and striking them.

K. PEDESTRIAN ACCESS TO THE WORK
All existing pedestrian walkways shall be maintained. Whenever changes to the worksite necessitate changes to existing walkways, temporary walkways shall be provided and maintained, with appropriate signs as necessary, to allow safe passage of pedestrian traffic.

L. TRAFFIC SIGNALS
If the sequence of operations, staging, or the temporary traffic control plan requires the relocation or shifting of

any components of an existing traffic signal system then any work on these traffic signals will be considered as part of Lump Sum- Traffic Control. The contractor becomes responsible for the maintenance of these traffic signals from the time that the system is modified until final acceptance. The maintenance of traffic signals that are not a part of the work and are not in conflict with any portion of the work shall not be the responsibility of the contractor. When construction operations necessitate an existing traffic signal to be out of service, the Contractor shall furnish off-duty police officers to regulate and maintain traffic control at the site.

M. REMOVAL/REINSTALLATION OF MISCELLANEOUS ITEMS
In the prosecution of the Work, if it becomes necessary to remove any existing signs, markers, guardrail, etc. not covered by specific pay item, they shall be removed, stored and reinstalled, when directed by the Engineer, to line and grade, and in the same condition as when removed.

150.03 SIGNS:

A. SIGNING REQUIREMENTS OF THE TEMPORARY TRAFFIC CONTROL (TTC) PLAN
When existing regulatory, warning or guide signs are required for proper traffic control the Contractor shall maintain these signs in accordance with the temporary traffic control (TTC) plan. The Contractor shall review the status of all existing signs, interim signs added to the work, and permanent sign installations that are part of the work to eliminate any conflicting or non-applicable signage in the TTC Plan. The Contractor's review of all signs in the TTC Plan shall establish compliance with the requirements of the MUTCD and Section 150. Any conflicts shall be reported to the Engineer immediately and the WTCS shall take the necessary measures to eliminate the conflict. The Contractor shall make every effort to eliminate the use of interim signs as soon as the Work allows for the installation of permanent signs. All existing illuminated signs shall remain lighted and be maintained by the Contractor. Existing street name signs shall be maintained at street intersections.

B. CONFLICTING OR NON-APPLICABLE SIGNS
Any sign(s) or portions of a sign(s) that are not applicable to the TTC plan shall be covered so as not to be visible to traffic or shall be removed from the roadway when not in use. The WTCS shall review all traffic shifts and changes in the traffic patterns to ensure that all conflicting signs have been removed. The review shall confirm that the highest priority signs have been installed and that signs of lesser significance are not interfering with the visibility of the high priority signs. High priority signs include signs for road closures, shifts, detours, lane closures and curves. Any signs, such as speed zones and speed limits, passing zones, littering fines and litter pick up, that reference activities that are not applicable due to the presence of the Work shall be removed, stored and reinstalled when the Work is completed. Failure to promptly eliminate conflicting or non-applicable signs shall be considered as nonperformance under Section 150.08.

C. REMOVAL OF EXISTING SIGNS AND SUPPORTS
The Contractor shall not remove any existing signs and supports without prior approval from the Engineer. All existing signs and supports that are to be removed shall be stored and protected if this material will be required later in the work as part of the TTC plan. If the signs are not to be utilized in the work then the signs will become the property of the Contractor unless otherwise specified in the contract documents.

D. INTERIM GUIDE, WARNING AND REGULATORY SIGNS
Interim guide, warning, or regulatory signs required to direct traffic shall be furnished, installed, reused, and maintained by the Contractor in accordance with the MUTCD, the Plans, Special Provisions, Special Conditions, or as directed by the Engineer. These signs shall remain the property of the Contractor. The bottom of all interim signs shall be mounted at least seven (7') feet above the level of the pavement edge when the signs are used for long-term stationary operations as defined by Section 6G.02 of the MUTCD. Special Conditions under Subsection 150.11 may modify this requirement.

Portable signs may be used when the duration of the work is less than three (3) days or as allowed by the special conditions in Subsection 150.11. Portable signs shall be used for all punchlist work. All portable signs and sign mounting devices utilized in work shall be NCHRP 350 compliant. Portable interim signs shall be mounted a

minimum of one (1') foot above the level of the pavement edge for directional traffic of two (2) lanes or less and a minimum of seven (7') feet for directional traffic of three (3) or more lanes. Signs shall be mounted at the height recommended by the manufacturer's crashworthy testing requirements. Portable interim signs that are mounted at less than seven (7') feet in height may have two 18 inch x 18 inch fluorescent red-orange or orange-red warning flags mounted on each sign.
All regulatory sign blanks shall be rigid whether the sign is mounted as a portable sign, on a Type III barricade or as a permanent mount height sign. Any permanent mount height interim sign that is designed to fold in half to cover a nonapplicable message on the sign shall have reflectorized material on the folded over portion of the sign. The reflectorized material shall be orange in color with a minimum of ASTM Type I engineering grade sheeting with a minimum area of six inches by six inches (6" x 6") facing the direction of traffic at all times when the sign is folded. Interim signs may be either English or metric dimensions.

E. EXISTING SPECIAL GUIDE SIGNS
Existing special guide signs on the Project shall be maintained until conditions require a change in location or legend content. When change is required, existing signs shall be modified and continued in use if the required modification can be made within existing sign borders using design requirements (legend, letter size, spacing, border, etc.) equal to that of the existing signs, or of Sub-Section 150.03.E.2. Differing legend designs shall not be mixed in the same sign.

1. Special Guide Signs
Special guide signs are those expressway or freeway guide signs that are designed with a message content (legend) that applies to a particular roadway location. When an existing special guide sign is in conflict with work to be performed, the Contractor shall remove the conflicting sign and reset it in a new, non-conflicting location which has been approved by the Engineer.

2. Interim Special Guide Signs
When it is not possible to utilize existing signs, either in place or relocated, the Contractor shall furnish, erect, maintain, modify, relocate, and remove new interim special guide signs in accordance with the Plans or as directed by the Engineer. Interim special guide signs that may be required in addition to, or a replacement for, existing expressway and freeway (interstate) signs shall be designed and fabricated in compliance with the minimum requirements for guide signing contained in Part 2E "Guide Signs Expressway" and Part 2F "Guide Signs Freeways" of the MUTCD, except that the minimum size of all letters and numerals in the names and places, streets and highways on all signs shall be 16 inches Series "E" initial upper case and 12 inches lower-case. All interstate shields on these signs shall be 48 inches and 60 inches for two-numeral and three-numeral routes, respectively. The road name of the exit or route shield shall be placed on the exit gore sign.

3. Interim Overhead Guide Sign Structures
Interim overhead special guide sign structures are not required to be lighted unless specifically required by the Plans. If lighting is required, the sign shall be lighted as soon as erected and shall remain lighted, during the hours of darkness, until the interim sign is no longer required. The Contractor shall notify the Power Company at least thirty (30) days prior to desired connection to the power source.

4. Permanent Special Guide Signs
The installation of new permanent special guide signs and the permanent modification or resetting of existing special guide signs, when included in the contract, shall be accomplished as soon as practical to minimize the use of interim special guide signs. If lighting is required by the Plans, all new permanent overhead special guide signs shall be lighted as soon as erected.

F. MATERIALS- INTERIM SIGNS:

1. Posts
Permanent mounting height of seven (7') feet- Posts for all interim signs shall meet the requirements of Section 911 except that green or silver paint may be used in lieu of galvanization for steel posts or structural shape posts. Within the limits of a single project, all metal posts shall be the same color. Wood posts are not required to be

pressure treated. Interim posts may be either metric or English in dimensions. Posts for all interim signs shall be constructed to yield upon impact unless the posts are protected by guardrail, portable barrier, impact attenuator or other type of positive barrier protection. Unprotected posts shall meet the breakaway requirements of the "1994 AASHTO Standard Specifications for Structural Support for Highway Signs, Luminaries and Traffic Signals". Unprotected interim posts shall be spliced as shown in Detail 150-F unless full length unspliced posts are used. Unprotected post splices will not be permitted any higher than four inches above the ground line to lessen the possibility of affecting the undercarriage of a vehicle. Installation of posts may require establishment of openings in existing pavements, islands, shoulders etc.

2. Sign Blanks And Panels- Permanent mounting height of seven (7') feet-
All sign blanks and panels shall conform to Section 912 of the Specifications except that blanks and panels may be ferrous based or other metal alloys. Type 1 and Type 2 sign blanks shall have a minimum thickness of 0.08 inches regardless of the sign type used. Alternative sign blank materials (composites, polycarbonates, fiberglass reinforced plastics, recycled plastics, etc.) shall have a letter of approval from the Office of Materials and Research for use as interim construction signs before these materials are allowed to be incorporated into the work unless these rigid sign blanks are currently approved as a crashworthy sign blank material under QPL 34. The backside of sign panels shall be painted orange to prevent rust if other metals are used in lieu of aluminum. Plywood blanks or panels will not be permitted. The use of flexible signs will not be permitted for permanent mount height signs. Interim blanks and panels may be either metric or English in dimensions.

3. Portable Sign Mounting Devices, Portable Sign Blanks-
All portable sign mounting devices and sign blanks utilized in the work shall be NCHRP 350 Test Level III compliant. All portable sign mounting devices and sign blanks shall be from the Qualified Products List. Any sign or sign mounting device shall have an identifying decal, logo, or manufacturer's stamping that clearly identifies the device as NCHRP 350 compliant. The Contractor may be required to provide certification from the Manufacturer as proof of NCHRP 350 compliance. All portable signs shall be mounted according to height requirements of Subsection 150.03.D.

G. SIGN VISIBILITY AND OFFSETS
All existing, interim and new permanent signs shall be installed so as to be completely visible for an advance distance in compliance with the MUTCD. Any clearing required for maintaining the line of sight to existing, interim or permanent signs shall be done as part of the requirements of the TTC plan. The clearing shall include any advance warning signs, both interim and permanent, that are installed as a part of the work including advance warning signs that are installed outside the limits of the project. Any sign installed behind W-beam or T-beam guardrail with non-breakaway posts shall be installed with the leading edge of the sign a minimum of four feet and three inches (4'3") behind the face of the guardrail with five feet (5') of clearance being desirable. Limbs, brush, construction equipment and materials shall be kept clear of the driver's line of sight to all signs that are part of the TTC plan.

H. ADVANCE WARNING SIGNS:

1. All Type Of Highways
Advance warning signs shall be placed ahead of the work area in accordance with Part VI of the MUTCD and shall include a series of at least three advance road work (W20-1) signs placed at the termini of the project. The series shall have the legend ROAD WORK (1500 FEET, 1000 FEET, AND 500 FEET). At grade intersecting roadways and on-ramps shall be signed with a minimum of one ROAD WORK AHEAD sign. When work terminates at a "T" intersection, a minimum of one "ROAD WORK AHEAD" sign shall be placed in advance of the intersection and one "END ROAD WORK" sign shall be placed at the termination end of the intersection. Field conditions may require the use of additional warning signage.

Advanced Warning Signs on State Routes shall be a minimum dimension of 48 inches x 48 inches. When a State Route intersects a project which consists of adding travel lanes, reconstructing an existing roadway or new location work, the State Route approaches shall have a minimum of three (W20-1) advanced warning signs (1500 ft., 1000 ft., 500 ft.). The termination end of an intersecting State Route shall have END ROAD WORK signage.

The W20-1 signs shall be placed at the termini of the project or sufficiently in advance of the termini to allow for lane shifts, lane closures and other activities which may also require advanced warning signs. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc. The length of a work zone should be held to the minimum length required to accomplish the work. If a project has multiple individual worksites within the overall limits of the project, each site should be signed individually if the advance warning signs for each site can be installed without overlapping an adjacent worksite. As soon as the work is completed at any individual site, the warning signs shall be removed from that site. Clean-up work and punchlist work shall be performed with portable signage. Project mileage indicated on the G20-1 sign shall be the actual project mileage rounded up to the nearest whole mile. Projects less than two (2) miles in length or individual worksites that are part of a multiple worksite project may delete this sign. The G20-1 sign shall be 60" X 36" and the G20-2 sign shall be 48" X 24".

2. Interstate, Limited Access And Multilane Divided Highways

In addition to the W20-1 signs required at 500 ft., 1000 ft. and 1500 ft., multi-lane divided highways shall also have additional advanced warning signs installed with the legend "ROAD WORK (2 MILES, 1 MILE and 1/2 MILE). All construction warning signs on divided highways shall be double indicated (i.e., on the left and right sides of the roadway.) If the use of the ½ mile, 1 mile and 2 mile advanced warning signs cause overlaps with other work or do not benefit field conditions then the Engineer may review the use of these signs and eliminate their installation. When the posted speed limit is 50 MPH or less, the ½ mile, 1 mile and 2 mile signs should be eliminated especially in urban areas.

The W20-1 advance warning signs for ROAD WORK 500 FEET; 1000 FEET; and 1500 FEET shall be temporarily covered when work involving the advanced warning signs for lane shifts and lane closures overlap these signs. The ROAD WORK ½ MILE, ROAD WORK 1 MILE, and ROAD WORK 2 MILES shall be in place when the 500, 1000 and 1500 feet signs are temporarily covered. When the temporary traffic control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 should be eliminated. RAMP WORK ON LIMITED ACCESS HIGHWAYS: The work zone shall not be signed for the entire length of the mainline of a limited access highway when only short individual worksites, interchange or ramp work is being performed. When work is restricted to ramp reconstruction or widening activities, the advance warning signs on the mainline section of the limited access highway shall be limited to the use of portable advance warning signs. These portable advance-warning signs shall only be utilized when work activity is within the gore point of the ramp and the mainline traveled way or work is active in the accel/deccel lane adjacent to the mainline traveled way. Portable advance warning signs (W20-1; 1500ft./1000 ft./500ft.) shall be installed on the traveled way of the limited access highway when the above conditions are present. The advance warning signs shall be installed only in one direction where work is active. All portable signs shall be double indicated. When work is not active, the ramp work shall be advanced warned by the use of a single 48 inch X 48 inch "RAMP WORK AHEAD" sign along the right shoulder of the mainline traveled way prior to the beginning of the taper for the decel lane. The "RAMP WORK AHEAD" sign shall be mounted at seven (7') feet in height. Differences in elevation shall be in compliance with the requirements of Subsection 150.06 prior to the removal of the portable (W20-1) advanced warning signs from the mainline. The G20-1 sign shall be eliminated on limited access highways when the work involves only ramp work, bridge reconstruction, bridge painting, bridge joint repairs, guardrail and anchor replacement or other site-specific work which is confined to a short section of limited access highway.

I. PORTABLE CHANGEABLE MESSAGE SIGN

Unless specified as a paid item in the contract the use of a portable changeable message sign will not be required. When specified, a portable changeable message sign (PCMS) shall meet the minimum requirements of Section 632 and the MUTCD. The maximum amount of messages allowed to be flashed on one PCMS is two phases (flashes). The language and the timing of the messages shall comply with the MUTCD and Section 632. When used as an advanced device the PCMS should typically be placed ahead of the construction activities. If the PCMS is used as a substitute for another device then the requirements for the other device apply.

J. FLASHING BEACON

The flashing beacon assembly, when specified, shall be used in conjunction with construction warning signs, regulatory, or guide signs to inform traffic of special road conditions which require additional driver attention. The flashing beacon assembly shall be installed in accordance with the requirements of Section 647.

K. RUMBLE STRIP SIGNAGE
Signage for rumble strips located in the travelway shall be as required in Subsection 150.01.C and Subsection 150.02.A.9.

L. LOW/SOFT SHOULDER SIGNAGE
Low or soft shoulder signs shall be utilized in accordance with the following conditions:

CONSTRUCTION/RECONSTRUCTION PROJECTS:
"LOW/SOFT SHOULDER" signs shall be erected when a difference in elevation exceeds one (1") inch but does not exceed three (3") inches between the travelway and any type of shoulder unless the difference in elevation is four (4') feet or greater from the edge of the traveled way. The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The "Low/Soft" signs shall remain in place until the difference in elevation is eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be orange with black borders and meet the reflectorization requirements of Subsection 150.01.C. "SHOULDER DROP-OFF" (W8-9a) signs shall be used when a difference in elevation, less than four (4') feet from the traveled way, exceeds three (3") inches and is not protected by positive barrier protection. These warning signs shall be placed in advance of the drop-off. For a continuous drop-off condition, the W8-9a) signs shall, as a minimum, be spaced in accordance with the above requirements for "Low/soft shoulder" signs.

PROJECTS CONSISTING PRIMARILY OF ASPHALTIC CONCRETE RESURFACING ITEMS:
"LOW/SOFT SHOULDER" signs shall be erected when a difference in elevation exceeds one (1") inch but does not exceed three (3") inches between the travelway and any type of shoulder unless the difference in elevation is four (4') feet or greater from the edge of the traveled way. SHOULDER BUILDING INCLUDED IN THE CONTRACT: "Low/Soft Shoulder" signs shall be erected as per the requirement of Standards 9102, 9106, and 9107. "Shoulder Drop-off" signs (W8-9a) shall be erected as per the requirements of the MUTCD. These signs shall be maintained until the conditions requiring their installation have been eliminated. The Contractor shall remove all interim warning signs before final acceptance. SHOULDER BUILDING NOT INCLUDED IN THE CONTRACT: The Department will furnish the "Low/Soft Shoulder" signs, "Shoulder Drop-off" signs and the posts. The signs shall be erected to meet the minimum requirements of Subsection 150.03. The Contractor shall include the cost of furnishing installation hardware (bolts, nuts, and washers), erection and maintenance of the signs in the bid price for Traffic Control- Lump Sum. The Contractor shall maintain the signs until final acceptance. The Department will remove the signs. LAU/LAR PROJECTS SHOULDER BUILDING NOT INCLUDED IN THE CONTRACT: The Contractor will furnish, install and maintain LOW/SOFT SHOULDER signs (yellow with black borders, ASTM Type III or IV) at the appropriate spacing, until Final Acceptance of the project by the Department. After Final Acceptance by the Department the signs will become the property and responsibility of the local government.

M. BUMP SIGNAGE:
MULTI-LANE DIVIDED HIGHWAYS: A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation of three quarters (3/4") of an inch or greater in depth with no horizontal taper to ramp the traffic from one elevation to the other. This condition typically occurs at approach slabs during pavement milling operations and at transverse joints in asphaltic pavement lifts. TWO-LANE TWO-WAY HIGHWAYS: A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation that exceeds one and three quarters (1-3/4") inches in depth with no horizontal taper to ramp the traffic from one elevation to the other. This includes utility and storm drainage repairs that require concrete placement for patching and/or steel plating. The (W8-1) sign shall be placed sufficiently in

advance to warn the motorist of the condition.

150.04 PAVEMENT MARKINGS

A. GENERAL
Full pattern pavement markings in accordance with Section 652 and in conformance with Section 3A and 3B, except 3B.02, of the MUTCD are required on all courses before the roadway is opened to traffic. No passing zones shall be marked to conform to Subsection 150.04.E. During construction and maintenance activities on all highways open to traffic, both existing markings and markings applied under this Section shall be fully maintained until Final Acceptance. If the pavement markings are, or become, unsatisfactory in the judgment of the Engineer due to wear, weathering, or construction activities, they shall be restored immediately.

1. Resurfacing Projects
Pavement markings shall be provided on all surfaces that are placed over existing markings. Interim and final markings shall conform in type and location to the markings that existed prior to resurfacing unless changes or additions are noted in the Contract. The replacement of parking spaces will not be required unless a specific item or note has been included in the Contract. Any work to make additions to the markings that existed prior to resurfacing is to be considered as extra work.

2. Widening And Reconstruction Projects
If the lane configuration is altered from the preconstruction layout then pavement markings will be as required by the plans or the Engineer.

3. New Location Construction Projects
Pavement marking plans will be provided.

B. MATERIALS
All traffic striping applied under this Section shall be a minimum four inches in width or as shown in plans and shall conform to the requirements of Section 652, except as modified herein. Raised pavement markers (RPMs) shall meet the requirements of Section 654. Markings on the final surface course, which must be removed, shall be a removable type. The Contractor will be permitted to use paint, thermoplastic, or tape on pavement which is to be overlaid as part of the project, unless otherwise directed by the Engineer. Partial (skip) reflectorization (i.e. reflectorizing only a portion of a stripe) will not be allowed.

C. INSTALLATION AND REMOVAL OF PAVEMENT MARKINGS:

a. INSTALLATION: All pavement markings, both interim and permanent, shall be applied to a clean surface. The Contractor shall furnish the layout and preline the roadway surface for the placement of pavement markings applied as part of the temporary traffic control plan. All interim marking tape and RPM's on the final surface shall be removed prior to the placement of the final markings. The Contractor shall sequence the work in such a manner as to allow the installation of markings in the final lane configuration at the earliest possible stage of the work. REMOVAL: Markings no longer applicable shall be removed in accordance with Subsection 656.2. THE ELIMINATION OF CONFLICTING PAVEMENT MARKINGS BY OVERPAINTING WITH PAINT OR LIQUID ASPHALT IS NOT ACCEPTABLE.

b. INTERMEDIATE SURFACE: Interim markings shall be removed by methods that will cause minimal damage to the pavement surface while also ensuring that traveling public will not be confused or misdirected by any residual markings remaining on the intermediate surface. The use of approved blackout tape and blackout paint may be permitted on some interim surfaces, provided the results are satisfactory to the Engineer.

c. FINAL SURFACE: No interim paint or thermoplastic markings will be permitted on any final surface unless the interim markings are in alignment with the location of the permanent markings and the interim marking will not interfere or adversely affect placement of the permanent markings. The proposed method of removal for layout errors that require markings to be removed from the final surface shall have the prior approval of the Engineer. Any damage to the final pavement surface caused by the pavement marking removal process shall be repaired at the Contractor's expense by methods acceptable and approved by the Engineer. Subsection 400.3.06.C shall apply when corrective measures are required. The use of blackout tape or blackout paint will not be permitted to correct layout errors on any final surface. Traffic shifts that are done on the final surface shall be accomplished using interim traffic marking tape that can be removed without any blemishing of the final surface. Interim traffic marking tape shall be used on any of the following final surfaces; asphaltic concrete, Portland cement concrete, and bridge deck surfaces. Exceptions to the requirements for interim traffic marking tape shall have the written prior approval of the Engineer before the application of any other method is permitted.

d. PAY FACTOR REDUCTION FOR ASPHALTIC CONCRETE FINAL SURFACES: When the correction of an error in the layout of the final pavement markings requires the final surface to be grounded, blemished, scarred, or polished the pay factor shall be reduced to 0.95 for the entire surface area of the final topping that has a blemish, polished or a scarred surface. The reduced pay factor shall not be confined to only the width and length of the stripe or the dimensions of the blemished areas, the whole roadway surface shall have the reduced pay factor applied. The area of the reduced pay factor shall be determined by the total length and the total width of the roadway affected. If the affected area is not corrected, the reduction in pay shall be deducted from the final payment for the topping layer of asphaltic concrete. The Engineer shall make the final determination whether correction or a reduced pay factor is acceptable. The eradication of pavement markings on intermediate and final concrete surfaces shall be accomplished by a method that does not grind, polish, or blemish the surface of the concrete. The method used for the removal of the interim markings shall not spall chip the joints in the concrete and shall not damage the sealant in the joints. Any joint or sealant repairs shall be included in the bid price for Traffic Control-Lump Sum. The proposed method of removal shall have the prior approval of the Engineer. Failure to promptly remove conflicting or non-applicable pavement markings shall be considered as non-performance under Subsection 150.08.

e. PREPARATION AND PLANNING FOR TRAFFIC SHIFTS: When shifting of traffic necessitates removal of centerline, lane lines, or edge lines, all such lines shall be removed prior to, during, or immediately after any change so as to present the least interference with traffic. Interim traffic marking tape shall be used as a temporary substitute for the traffic markings being removed. Before any change in traffic lane(s) alignment, marking removal equipment shall be present on the project for immediate use. If marking removal equipment failures occur, the equipment shall be repaired or replaced (including leasing equipment if necessary), so that the removal can be accomplished without delay. Except for the final surface, markings on asphaltic concrete may be obliterated by an overlay course, when approved by the Engineer. When an asphaltic concrete overlay is placed for the sole purpose of eliminating conflicting markings and the in place asphaltic concrete section will allow, said overlay will be eligible for payment only if designated in the Plans. Overlays to obliterate lines will be paid for only once and further traffic shifts in the same area shall be accomplished with removable markings. Only the minimum asphaltic concrete thickness required to cover lines will be allowed. Excessive build-up will not be permitted. When an overlay for the sole purpose of eliminating conflicting markings is not allowed, the markings no longer applicable shall be removed in accordance with Subsection 656.2.

D. RAISED PAVEMENT MARKERS

Raised pavement markers (RPMs) are required as listed below for all asphaltic concrete pavements before the roadway is open to traffic. On the final surface, RPM's shall be placed according to the timeframes specified in 150.04 E. for full pattern pavement markings except Interstate Highways where RPM's shall be placed and/or maintained when the roadway is open to traffic. When Portland Cement Concrete is an intermediate or final surface and is open to traffic, one calendar day is allowed for cleaning and drying before the installation of RPMs is required. Raised pavement markers are not allowed on the right edge lines under any situation.

1. Interstate Highways
Retro-reflective raised pavement markers (RPM's) shall be placed and/or maintained on intermediate pavements surfaces on all interstate highways that are open to traffic. This includes all resurfacing projects along with widening and reconstruction projects. The spacing and placement shall be as required for MULTI-LANE DIVIDED HIGHWAYS.

2. Multi-Lane Divided Highways
Retro-reflective raised pavement markers (RPMs) shall be placed and/or maintained on intermediate pavement surfaces on all multi-lane divided highways that are opened to traffic when these roadways are being widened or reconstructed. Two lane-two way roadways that are being widened to a multi-lane facility, whether divided or undivided, are included in this provision. Projects consisting primarily of asphalt resurfacing items or shoulder widening items are excluded from this requirement. The RPMs shall be placed as follows:

a. SUPPLEMENTING LANE LINES
   80 foot center on skip lines with curvature less than three degrees. (Includes tangents)
   40 foot centers on solid lines and all lines with curvature between three degrees and six degrees.
   20 foot centers on curves over six degrees.
   20 foot centers on lane transitions or shifts.
b. SUPPLEMENTING RAMP GORE LINES
   20-foot centers, two each, placed side by side.
c. OTHER LINES
d. As shown on the plans or directed by the Engineer.

3. Other Highways
On other highways under construction RPMs shall be used and/or maintained on intermediate pavement surfaces as follows:

a. SUPPLEMENTING LANE LINES AND SOLID LINES
   40 foot centers except on lane shifts. (When required in the Plans or Contract.)
   20 foot centers on lane shifts. (Required in all cases.)
b. SUPPLEMENTING DOUBLE SOLID LINES\
   40 foot centers (one each beside each line) except on lane shifts. (When required in the Plans or Contract.)
   20 foot centers on lane shifts. (Required in all cases.)

E. EXCEPTIONS FOR INTERIM MARKINGS
Some exceptions to the time of placement and pattern of markings are permitted as noted below, however, full pattern pavement markings are required for the completed project.

1. Two-Lane, Two-Way Roadways

a) SKIP LINES
   All interim skip (broken) stripes shall conform to Section 652 except that stripes shall be at least two feet long with a maximum gap of 38 feet. On curves greater than six degrees, a one-foot stripe with a maximum gap of 19 feet shall be used. In lane shift areas, solid lines will be required. Interim skip lines shall be replaced with markings in full compliance with Section 652 prior to expiration of the 14 calendar day period.

   Interim raised pavement markers may be substituted for the interim skip (broken) stripes. If raised pavement markers are substituted for the two-foot interim skip stripe, three markers spaced at equal intervals over a two feet distance will be required. No separate payment will be made if the interim raised pavement markers are substituted for interim skip lines. Interim raised pavement markers shall be retro-reflective, shall be the same color as the pavement markers for which they are substituted, and shall be visible during daytime.

   The type of interim marker and method of attachment to the pavement shall be approved by the Office of

Materials and Research but in no case will the markers be attached by the use of nails. Flexible reflective markers, Type 14 or Type 15, may be used for a maximum of fourteen (14) calendar days as an interim marker. Any flexible reflective markers in use shall be from the qualified products list (QPL). The interim raised pavement markers shall be maintained until the full pattern pavement markings are applied. At the time full pattern markings are applied the interim raised markers shall be removed in a manner that will not interfere with application of the full pattern pavement markings.

b) NO PASSING ZONES-TWO-LANE, TWO-WAY ROADWAYS
Passing zones shall be re-established in the locations existing prior to resurfacing. No changes to the location of passing zones shall be done without the written approval of the Engineer. For periods not to exceed three calendar days where interim skip centerlines are in place, no-passing zones shall be identified by using post or portable mounted DO NOT PASS regulatory signs (R4-1 24" x 30") at the beginning and at intervals not to exceed ½ mile within each no-passing zone. A post or portable mounted PASS WITH CARE regulatory sign (R4-1 24" x 30") shall be placed at the end of each no-passing zone. Post mounted signs shall be placed in accordance with the MUTCD. Portable signs shall conform to the requirements of the MUTCD and shall be NCHRP 350 compliant. Portable signs shall be secured in such a manner to prevent misalignment and minimize the possibility of being blown over by weather conditions or traffic. On new location projects and on projects where either horizontal or vertical alignments has been modified, the location of No-Passing Zones will be identified by the Engineer.

c) EDGELINES
   a. Bituminous Surface Treatment Paving
      Edgelines will not be required on intermediate surfaces (including asphaltic concrete leveling for bituminous surface treatment paving) that are in use for a period of less than 60 calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edgelines shall be placed within 30 calendar days of the time that the final surface was placed.
   b. All Other Types of Pavement
      Edgelines will not be required on intermediate surfaces that are in use for a period of less than 30 calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edgelines shall be placed within 14 calendar days of the time that the surface was placed.

2. Multi-Lane Highways – With No Paved Shoulder(S) Or Paved Shoulder(S) Four Feet Or Less

- UNDIVIDED HIGHWAYS (INCLUDES PAVED CENTER TURN LANE)
   a. Centerlines and No-Passing Barrier-Full Pattern centerlines and no-passing barriers shall be restored before opening to traffic.
   b. Lanelines- Interim skip (broken) stripe as described in Subsection 150.04E.1.a. may be used for periods not to exceed three calendar days. Skiplines are not permitted in lane shift areas. Solid lines shall be used.
   c. Edgelines- Edgelines shall be placed on intermediate and final surfaces within three calendar days of obliteration.

b. DIVIDED HIGHWAYS (GRASS OR RAISED MEDIAN)
   a. Lanelines- Full pattern skip stripe shall be restored before opening to traffic. Skip lines are not permitted in lane shift areas. Solid lines shall be required.
   b. Centerline/Edgeline- Solid lines shall be placed on intermediate and final surfaces within three calendar days of obliteration.

3. Limited Access Roadways And Roadways With Paved Shoulders Greater Than Four Feet

- Same as Subsection 150.04.E.2 except as noted in (b) below.
- EDGELINES-
   i. Asphaltic Concrete Pavement- Edgelines shall be placed on intermediate and final surfaces prior to opening to traffic.
   ii. Portland Cement Concrete Pavement- Edgelines shall be placed on any surface open to traffic no

later than one calendar day after work is completed on a section of roadway. All water and residue shall be removed prior to daily striping.

4. Ramps For Multi-Lane Divided Highways
A minimum of one solid line edge stripe shall be placed on any intermediate surface of a ramp prior to opening the ramp to traffic. The other edge stripe may be omitted for a maximum period of three (3) calendar days on an intermediate surface. Appropriate channelization devices shall be spaced at a maximum of twenty-five (25') feet intervals until the other stripe has been installed. The final surface shall have both stripes placed prior to opening the ramp to traffic.

5. MISCELLANEOUS PAVEMENT MARKINGS:
FINAL SURFACE: School zones, railroads, stop bars, symbols, words and other similar markings shall be placed on final surfaces conforming to Section 652 within fourteen (14) calendar days of completion of the final surface. Final markings shall conform to the type of pay item in the plans. When no pay item exists in the plans the final markings shall conform to Section 652 for painted markings. INTERMEDIATE SURFACE: Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have the miscellaneous pavement markings installed to conform to the requirement of Section 652. Under Subsection 150.11, Special Conditions, or as directed by the Engineer these markings may be eliminated.

F. MOBILE OPERATIONS
When pavement markings (centerlines, lane lines, and edgelines) are applied in a continuous operation by moving vehicles and equipment, the following minimum equipment and warning devices shall be required. These devices and equipment are in addition to the minimum requirements of the MUTCD.

1. All Roadways
All vehicles shall be equipped with the official slow moving vehicle symbol sign. All vehicles shall have a minimum of two flashing or rotating beacons visible in all directions. All protection vehicles shall have an arrow panel mounted on the rear. All vehicles requiring an arrow panel shall have, as a minimum, a Type B panel. All vehicle- mounted signs shall be mounted with the bottom of the sign a minimum height of forty-eight inches (48") above the pavement. All sign legends shall be covered or removed from view when work is not in progress.

2. Two-Lane Two-Way Roadways
- Lead Vehicles
  The lead vehicle may be a separate vehicle or the work vehicle applying the pavement markings may be used as the lead vehicle. The lead vehicle shall have an arrow panel mounted so that the panel is easily visible to oncoming (approaching) traffic. The arrow panel should typically operate in the caution mode.

- Work Vehicles
  The work vehicle(s) applying markings shall have an arrow panel mounted on the rear. The arrow panel should typically operate in the caution mode. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings.
- Protection Vehicles
  A protection vehicle may follow the cone work vehicle when the cones are being placed and may follow when the cones are being removed.

3. MULTI-LANE ROADWAYS
A lead vehicle may be used but is not required. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings. A protection vehicle that does not function as a work vehicle should follow the cone work vehicle when traffic cones are being placed. A protection vehicle should follow the cone work vehicle when the cones are being removed from the roadway. Protection vehicles shall display a sign on the rear of the vehicle with the legend PASS ON LEFT (RIGHT).INTERSTATES AND LIMITED ACCESS ROADWAYS: A protection vehicle shall follow the last work vehicle at all times and shall be equipped with a truck mounted attenuator that is certified for impacts not less than 62 mph in accordance with NCHRP350 Test

Level Three (3).

150.05 CHANNELIZATION

A. GENERAL

Channelization shall clearly delineate the travelway through the work zone and alert drivers and pedestrians to conditions created by work activities in or near the travelway. Channelization shall be done in accordance with the plans and specifications, the MUTCD, and the following requirements. All Channelization Devices utilized on any project shall be NCHRP 350 compliant. Any device used on the Work shall be from the Qualified Products List. All devices utilized on the work shall have a decal, logo, or manufacturer's stamping that clearly identifies the device as NCHRP 350 compliant. The Contractor may be required to furnish certification from the Manufacturer for any device to prove NCHRP 350 compliance.

1. Types of Devices Permitted for Channelization in Construction Work Zones:

a. DRUMS:

a. DESIGN: Drums shall meet the minimum requirement of the MUTCD and shall be reflectorized as required in Subsection 150.01.C. The upper edge of the top reflectorized stripe on the drum shall be located a minimum of 33 inches above the surface of the roadway. A minimum drum diameter of 18 inches shall be maintained for a minimum of 34 inches above the roadway.

b. APPLICATION: Drums shall be used as the required channelizing device to delineate the full length of a lane closure, shift, or encroachment, except as modified by this Subsection.

c. TRANSITION TAPERS FOR LANE CLOSURES: Drums shall be used on all transition tapers. The minimum length for a merging taper for a lane closure on the travelway shall be as shown in Table 150-1:

TABLE 150-1: Minimum Taper Length (L) in Feet

Posted Speed Limit, MPH	Lane Width, 9 Feet	Lane Width, 10 Feet	Lane Width, 11 Feet	Lane Width, 12 Feet	Maximum Drum Spacing in Tapers (ft)
20	60	70	75	80	20
25	95	105	115	125	25
30	135	150	165	180	30
35	185	205	225	245	35
40	240	270	295	320	40
45	405	450	495	540	45
50	450	500	550	600	50
55	495	550	605	660	55
60	540	600	660	720	60
65	585	650	715	780	65
70	630	700	770	840	70
75	675	750	825	900	75

If site conditions require a longer taper then the taper shall be lengthened to fit particular individual situations. The length of shifting tapers should be at least ½ L. The length of a closed lane or lanes, excluding the transition taper(s), shall be limited to a total of two (2) miles. Prior approval must be obtained from the Engineer before this length can be increased. Nighttime conditions: When a merge taper exists into the night all drums located in the taper shall have, for the length of the taper only, a six (6") inch fluorescent orange (ASTM Type VI, VII, VIII, IX or X) reflectorized top stripe on each drum. The top six-inch stripe may be temporarily attached to

the drum while in use in a taper. All drums that have the six-inch top stripe permanently attached shall not be used for any other conditions. Multiple Lane Closures:
(a) A maximum of one lane at a time shall be closed with each merge taper.
(b) A minimum tangent length of 2 L shall be installed between each individual lane closure taper.

d. LONGITUDINAL CHANNELIZATION: Drums shall be spaced as listed below for various roadside work conditions except as modified by Subsection 150.06. Spacing shall be used for situations meeting any of the conditions listed as follows:
   i. 40 FOOT SPACING MAXIMUM
      1. For difference in elevation exceeding two inches.
      2. For healed sections no steeper than 4:1 as shown in Subsection 150.06, Detail 150-E.
   ii. 80 FOOT SPACING MAXIMUM
      1. For difference in elevation of two inches or less.
      2. Flush areas where equipment or workers are within ten feet of the travel lane.
   iii. 200 FOOT SPACING MAXIMUM: Where equipment or workers are more than ten feet from travel lane. Lateral offset clearance to be four feet from the travel lane.
      1. For paved areas eight feet or greater in width that are paved flush with a standard width travel lane.
      2. For disturbed shoulder areas not completed to typical section that are flush to the travel lane and considered a usable shoulder.

b) REMOVAL OF DRUMS: Drums may be removed after shoulders are completed to typical section and grassed. Guardrail and other safety devices shall be installed in addition, appropriate signs advising of conditions such as soft or low shoulder shall be posted before the drums are removed.

c) VERTICAL PANELS
   a. DESIGN: All vertical panels shall meet the minimum requirements of the MUTCD. All vertical panels shall have a minimum of 270 square inches of retro-reflective area facing the traffic and shall be mounted with the top of the reflective panel a minimum of 36” above the roadway.
   b. APPLICATION: Lane encroachment by the drum on the travelway should permit a remaining lane width of ten feet. When encroachment reduces the travelway to less than ten feet, vertical panels shall be used to restore the travelway to ten feet or greater. No other application of vertical panels will be permitted.

d) CONES
   c. DESIGN: All cones shall be a minimum of 28 inches in height regardless of application and shall meet the requirement of the MUTCD. Reflectorization may be deleted from all cones.
   d. APPLICATION: For longitudinal channelizing only, cones will be permitted for daylight closures or minor shifts. (Drums are required for all tapers.) The use of cones for nighttime work will not be permitted. Cones shall not be stored or allowed to be visible on the worksite during nighttime hours.

e) BARRICADES
   e. DESIGN: Type III barricades shall meet the minimum requirements of the MUTCD and shall be reflectorized as required in Subsection 150.01.C. The Contractor has the option of choosing Type III barricades from the Qualified Products List or the Contractor may utilize generic barricades that are approved by the Federal Highway Administration (FHWA). When barricades have been specifically crash tested with signs attached, the contractor has the responsibility to attach the signs as per the manufacturer’s recommendations to ensure crashworthiness. If signs are attached to generic barricades or to barricades from the Qualified Products List (QPL) that have not been crash tested with signs attached then the responsibility for crashworthiness and the liability for mounting these signs to the barricades are assumed by the Contractor and the Contractor shall certify that the barricades are crashworthy under FHWA work zone guidelines for NCHRP 350 crashworthy compliance. Any generic barricades used in the work shall be stamped or stenciled to show compliance with NCHRP 350. The use of Type I and Type II barricades will not be permitted.

f. APPLICATION: Type III barricades shall be placed as required by the plans, the Standards, and as directed by the Engineer. All signs mounted on barricades shall be mounted to comply with the requirements of the MUTCD and NCHRP 350 Test Level III. NCHRP 350 crashworthy compliance may require that rigid signs are mounted separate from the Type III barricade. When a barricade is placed so that it is subject to side impact from a vehicle, a drum shall be placed at the side of the barricade to add target value to the barricade.

f) WARNING LIGHTS:

g. DESIGN: All warning lights shall meet the requirements of the MUTCD.

h. APPLICATION

i. Type A low-intensity flashing lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer. Flashing lights are not required for advance warning signs in Subsection 150.03.H.

ii. Type C Steady-Burn lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer. Steady-burn lights are not required on drums for merging tapers that exist into the night.

g) TEMPORARY BARRIERS

a. DESIGN: Temporary barriers shall meet the requirements of Sections 620.

b. APPLICATION: Temporary barriers shall be placed as required by the plans, standards, and as directed by the Engineer. When Temporary barrier is located 20 feet or less from a travel lane, yellow reflectors shall be fixed to the top of the barrier at intervals not greater than 40 feet in the longitudinal section and 20 feet in the taper section and shall be mounted approximately two inches above the barrier. If both lanes of a two-lane two-way roadway are within 20 feet or less of the barrier then the reflectors shall be installed for both directions of traffic. The reflectors shall be 100 square inches (ASTM Type VII or VIII) reflective sheeting mounted on flat-sheet blanks. The reflectors shall be mounted approximately two inches above the top of the barrier. The reflectors shall be attached to the barrier with adhesive or by a drilled-in anchor type device. The reflectors shall not be attached to a post or board that is placed between the gap in the barrier sections. Approach end of Temporary barrier shall be flared or protected by an impact attenuator (crash cushion) or other approved treatment in accordance with Construction Details/Standards and Standard Specifications. On interstate or other controlled access highways where lane shifts or crossovers cause opposing traffic to be separated by less than 40 ft., portable barrier shall be used as a separator.

B. PORTABLE IMPACT ATTENUATORS:

1. DESCRIPTION

This work consists of the furnishing (including spare parts), installation, maintenance, relocation, reuse as required, and removal of Portable Impact Attenuator Units/Arrays.

2. MATERIALS

Materials used in the Attenuator shall meet the requirements of Section 648 for Portable Impact Attenuators.

3. CONSTRUCTION

Portable Impact Attenuator Unit/Arrays installation shall conform to the requirements of Section 648, Manufacturer's recommendations and Georgia Standard 4960 and shall be installed at locations designated by the Engineer, and/or as shown on the plans.

C. TEMPORARY GUARDRAIL ANCHORAGE- Type 12:

1. DESCRIPTION

This work consists of the furnishing, installation, maintenance and removal or Temporary Guardrail Anchorage-Type 12 used for Portable Barrier or temporary guardrail end treatment.

2. MATERIALS

Materials used in the Temporary Guardrail Anchorage- Type 12 shall meet the requirements of Subsection 641.2 of the Specifications and current Georgia Standards and may be new or used. Materials salvaged from the Project which meet the requirements of Standards may be utilized if available. The use of any salvaged materials will require prior approval of the Engineer.

3. CONSTRUCTION
Installation of the Temporary Guardrail Anchorage- Type 12 shall conform to the requirements of the Plans, current Georgia Standards and Subsection 641.3 of the Specifications. Installation shall also include sufficient additional guardrail and appurtenances to effect the transition and connection to Temporary Concrete Barrier as required by the details in Georgia Standard 4960.

150.06 DIFFERENCES IN ELEVATION BETWEEN TRAVEL LANES AND SHOULDERS (SEE SUBSECTION 150.06.G FOR PROJECTS CONSISTING PRIMARILY OF ASPHALTIC CONCRETE RESURFACING ITEMS)

Any type of work such as paving, grinding, trenching, or excavation that creates a difference in elevation between travel lanes or between the travelway and the shoulder shall not begin until the Contractor is prepared and able to continuously place the required typical section to within two inches (2") of the existing pavement elevation. For any areas that the two inches minimum difference in elevation cannot be accomplished the section shall be healed as shown in Detail 150-E. If crushed stone materials are used to provide a healed section no separate payment will be made for the material used to heal any section. The Contractor may submit a plan to utilize existing pay items for crushed stone provided the plan clearly demonstrates that the materials used to heal an area will be incorporated into the work with minimal waste. Handling and hauling of any crushed stone used to heal shall be kept to a minimum. The Engineer shall determine if the crushed stone used to heal meets the specifications for gradation and quality when the material is placed in the final location.

A maximum of sixty (60) calendar days shall be allowed for conditions to exist that require any section or segment of the roadway or ramp to continue to require a healed section as described by Detail 150-E. Failure to meet this requirement shall be considered as nonperformance of Work under Subsection 150.08. When trenching or excavation for minor roadway or shoulder widening is required, all operations at one site shall be completed to the level of the existing pavement in the same work day. Any channelization devices utilized in the work shall conform to the requirements of Subsection 150.05 and to the placement and spacing requirements in Details 150-B, 150-C, 150-D, and 150-E shown in this section.

Any construction activity that reduces the width of a travel lane shall require the use of a W-20 sign with the legend "LEFT/RIGHT LANE NARROWS". Two 24" x 24" red or red/orange flags may be mounted above the W-20 sign. The W-20 sign shall be located on the side of the travelway that has been reduced in width just off the travelway edge of pavement. The W-20 sign shall be a minimum of 500 feet in advance of any channelization devices that encroach on the surface of travelway. A portable changeable message sign may be used in lieu of the W- 20 sign.

GENERAL/TIME RESTRICTIONS:

A. STONE BASES, SOIL AGGREGATE BASE AND SOIL BASES

1. All Highways
Differences in elevation of more than two inches between surfaces carrying or adjacent to traffic will not be allowed for more than a 24-hour period. A single length of excavated area that does not exceed 1000 feet in total length may be left open as a start up area for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously excavate and backfill in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed.

2. LIMITED ACCESS HIGHWAY RAMPS (INTERSTATES):
On projects that include ramp rehabilitation work, one ramp at a time may be excavated for the entire length of the ramp from the gore point of the ramp with the interstate mainline to the intersection with the crossing highway. This single ramp may remain excavated with a vertical difference in elevation greater than two (2") inches for a maximum of fourteen (14) calendar days with drums spaced at twenty (20') feet intervals as shown in Detail 150-B and a buffer space accepted under Section 150.06.F. After fourteen (14) calendar days the section shall be healed as required for all other highways. This area will be allowed in addition to the 1000 feet allowed for all other highways.

B. ASPHALT BASES, BINDERS AND TOPPINGS

1. Differences in Elevation between The Surfaces of Adjacent Travelways

a. Travel lanes shall be paved with a plan that minimizes any difference in elevation between adjacent travel lanes. The following limitations will be required on all work:
b. Differences of two inches (2") or less may remain for a maximum period of fourteen (14) calendar days. Differences of greater than two inches (2") shall be permitted for continuous operations only.

EMERGENCY SITUATIONS: Inclement weather, traffic accidents, and other events beyond the control of the Contractor may prevent the work from being completed as required above. The Contractor shall notify the Engineer in writing stating the conditions and reasons that have prevented the Contractor from complying with the time limitations. The Contractor shall also outline a plan detailing immediate steps to complete the work. Failure to correct these conditions on the first calendar day that conditions will allow corrective work shall be considered as nonperformance of Work under Subsection 150.08.

2. Differences in Elevation Between Asphalt Travelway and Paved Shoulders
Differences in elevation between the asphalt travelway and asphalt paved shoulders shall not be allowed to exist beyond the maximum durations outlined below for the conditions shown in Details 150-B, 150-C, 150-D, and 150-E: Detail 150-B conditions shall not be allowed for more than 24 hours. A single length that does not exceed 1000 feet in total length may be left open for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously pave in a proficient manner. Prior approval of the Engineer shall be obtained before any section is allowed to exceed 24 hours. Any other disturbed shoulder areas shall be healed as in Detail 150-E. Detail 150-C conditions will not be allowed for more than 48 hours. Detail 150-D conditions will not be allowed for more than 30 calendar days. Detail 150-E conditions will not be allowed for more than 60 calendar days. Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.08.

C. PORTLAND CEMENT CONCRETE
Work adjacent to a Portland Cement Concrete travel way, which involves the following types of base and shoulders, shall be accomplished according to the time restrictions outlined for each type of base or shoulder. Traffic control devices shall be in accordance with Subsection 150.05.

1. Cement Stabilized Base
Work adjacent to the traveled way shall be healed as per Detail 150-E within forty eight (48) hours after the seven (7)-calendar day curing period is complete for each section placed. During the placement and curing period, traffic control shall be in accordance Detail 150-B.

2. Asphaltic Concrete Base
When an asphaltic concrete base is utilized in lieu of a cement stabilized base the asphaltic concrete base shall be healed as per Detail 150-E within forty-eight (48) hours after the placement of each section of asphaltic concrete base. For the first forty eight hours traffic control shall comply with Detail 150-B.

3. Concrete Paved Shoulders
Concrete paved shoulders shall be placed within sixty (60) calendar days after the removal of each section of existing shoulder regardless of the type of base materials being placed on the shoulders. During the placement

period, traffic control devices shall be in accordance with the appropriate detail based on the depth of the change in elevation. Differences in elevation of more than two inches between the travel way and the shoulder will not be allowed for more than a 24-hour period. A single length of excavated area that does not exceed 1000 feet in total length may be left open as a start up area for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously excavate and backfill in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed. Any other disturbed shoulder areas shall be healed as in Detail 150-E.

4. Asphaltic Concrete Shoulders

A difference in elevation that meets the requirements of Detail 150-B shall not be allowed to exist for a period greater than forty-eight (48) hours. After the removal of the existing shoulder the section or segment of travelway may be healed with stone as per Detail 150-E for a maximum of fourteen (14) calendar days. Asphaltic concrete shoulders shall be placed within two (2") inches or less of the travel way surface within fourteen (14) calendar days after the removal of the stone healed section or the removal of each section of the existing shoulder. The two (2") inches or less difference in elevation shall not remain in existence for a period that exceeds thirty (30) calendar days unless the paved shoulder is utilized as a detour for the traveled way. During the placement period, traffic control shall be in accordance with the appropriate detail based on the depth of the change in elevation. The Contractor may propose an alternate plan based on Subsection 150.06.F. Failure to meet the above requirements and time restrictions shall be considered as nonperformance of Work under Subsection 150.08.

D. MISCELLANEOUS ELEVATION DIFFERENTIALS FOR EXCAVATIONS ADJACENT TO THE TRAVELWAY

Drainage structures, utility facilities, or any other work which results in a difference in elevation adjacent to the travelway shall be planned and coordinated to be performed in such a manner to minimize the time traffic is exposed to this condition. The excavation should be back filled to the minimum requirements of Detail 150-E as soon as practical. Stage construction such as plating or backfilling the incomplete work may be required. The difference in elevation shall not be allowed to exist for more than five (5) calendar days under any circumstances. Failure to correct this condition shall be considered as non-performance of Work under Subsection 150.08.

E. CONDUIT INSTALLATION IN PAVED AND DIRT SHOULDERS

The installation of conduit and conduit systems along the shoulders of a traveled way shall be planned and installed in a manner to minimize the length of time that traffic is exposed to a difference in elevation condition. The following restrictions and limitations shall apply:

1. Differences in Elevation of Two (2") Inches or Less

The shoulder may remain open when workers are not present. When workers are present the shoulder shall be closed and the channelization devices shall meet the requirements of Subsection 150.05. The difference in elevation on the shoulder shall remain for a maximum period of fourteen (14) calendar days.

2. Differences in Elevation Greater Than Two (2") Inches

The shoulder shall be closed. The shoulder closure shall not exceed twenty-four (24) hours in duration unless the Special Conditions in Subsection 150.11 modifies this restriction or the Engineer allows the work to be considered as a continuous operation. Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.08.

F. MODIFICATIONS TO DETAILS 150-B, 150-C, 150-D AND 150-E

The Contractor may propose any alternate temporary traffic control plan that utilizes a portion of the travel lane as a "buffer space". This buffer space may allow for an enhanced work area that will allow for the placement of materials to proceed at a pace that could not be achieved with the time restriction requirements outlined in Section 150.06.A, 150.06.B, and 150.06.C. The Contractor may propose modified time restrictions based on the use of the buffer space. Any proposed modifications in the time duration allowed for the differences in elevations to exist shall be reviewed by the Engineer as a component of the overall TTC plan. No modifications shall be made until

the proposed plan is accepted by the Engineer. The Engineer shall have no obligation to consider any proposal which results in an increase in cost to the Department.

For the travel lane described in each of the details 150-B, 150-C, 150-D and 150-E it is presumed that the pavement marking edgeline (yellow or white solid stripe) is located at the very edge of the travel lane surface. A buffer space (temporary paved shoulder) that utilizes a portion of the travel lane should be six (6') feet in width desirable but shall not be less than four (4') feet in width. Any remaining travel lane(s) shall not be less than ten (10') feet in width.

If the proposed shifting of the traffic to obtain a buffer space and maintain a minimum travel lane(s) of ten (10') feet requires the use of any existing paved shoulders then the cost of maintenance and repair of the existing paved shoulder(s) shall be the responsibility of the Contractor. The Contractor is responsible for the costs of maintenance and repairs even if the existing paved shoulder(s) is to be removed in a later stage of the work. Existing shoulders that have rumble strips shall have the rumble strips removed before the shoulder can be utilized as part of the travel lane. The cost of the removal of the rumble strips shall be done at no cost to the Department even if the shoulder is to be removed in a later stage of the work.

Any modifications to the staging and time restrictions that are approved as part of the TTC plan shall be agreed to in writing. Failure to meet these modifications shall be considered as non-performance of the Work under Subsection 150.08.

G. ASPHALTIC CONCRETE RESURFACING PROJECTS
SHOULDER CONSTRUCTION INCLUDED AS A PART OF THE CONTRACT: When the placement of asphaltic concrete materials creates a difference in elevation greater than two (2") inches between the earth shoulder (grassed or un-grassed) and the edge of travelway, or between the earth shoulder and a paved shoulder that is less than four (4') feet in width, the Contractor shall place and maintain drums in accordance with the requirements of Subsection 150.05A.1.a.4). When the edge of the paved surface is tapered with a 30-45 degree wedge, drums may be spaced at 2.0 times the speed limit in MPH. Drums shall remain in place and be maintained until the difference in elevation has been eliminated by the placement of the appropriate shoulder materials.

SHOULDER CONSTRUCTION NOT INCLUDED AS A PART OF THE CONTRACT: When the placement of asphaltic concrete materials creates a difference in elevation greater than two (2") inches between the earth shoulder (grassed or un-grassed) and the edge of travelway or between the earth shoulder and a paved shoulder that is less than four (4') feet in width, the Contractor shall notify the Engineer, in writing, when the resurfacing work including all punchlist items has been completed. See Subsection 150.03.L for the requirements for "LOW/SOFT SHOULDERS" and "SHOULDER DROP-OFF" signage.

Location of drums when Elevation Difference exceeds 4 inches. Drums spaced at 20-foot intervals.
Note: If the travel way width is reduced to less than 10 feet by the use of drums, vertical panels shall be used in lieu of drums.
Drums spaced at 40-foot intervals. Location of drums when Elevation Difference is 2+ inches to 4 inches.
New Construction Travel Lane
ELEVATION DIFFERENCE 2+ to 4 inches
DETAIL 150-C
6 inches ±
New Construction Travel Lane
ELEVATION DIFFERENCE GREATER THAN 4 INCHES
DETAIL 150-B
Drums spaced at 80-foot intervals. Location of drums when Elevation Difference is 2 inches or less.
Location of drums immediately after completion of healed sections spaced at 40-foot intervals.

150.07 FLAGGING AND PILOT CARS:

A. FLAGGERS
Flaggers shall be provided as required to handle traffic, as specified in the Plans or Special Provisions, and as required by the Engineer.
New Construction Travel Lane
HEALED SECTION
DETAIL 150-E
2 feet ±
Compacted graded aggregate, TOP OF DRUM TO BE LEVEL sub base material or dirt.
NO STEEPER THAN 4:1
New Construction Travel Lane
ELEVATION DIFFERENCE OF 2 INCHES OR LESS
DETAIL 150-D
4 feet ±

B. FLAGGER CERTIFICATION
All flaggers shall meet the requirements of the MUTCD and shall have received training and a certificate upon completion of the training from one of the following organizations:

a. National Safety Council
b. Southern Safety Services
c. Construction Safety Consultants
d. Ivey Consultants
e. American Traffic Safety Services Association (ATSSA)

Certifications from other agencies will be accepted only if their training program has been approved by any one of the organizations listed above. Failure to provide certified flaggers as required above shall be reason for the Engineer suspending work involving the flagger(s) until the Contractor provides the certified flagger(s). Flaggers shall have proof of certification and valid identification (photo I.D.) available any time they are performing flagger duties.

C. FLAGGER APPEARANCE AND EQUIPMENT
Flaggers shall wear high-visibility clothing in compliance with Subsection 150.01.A and shall use a Stop/Slow paddle meeting the requirements of the MUTCD for controlling traffic. The Stop/Slow paddles shall have a shaft length of seven (7) feet minimum. The Stop/Slow paddle shall be retro-reflectorized for both day and night usage. In addition to the Stop/Slow paddle, a flagger may use a flag as an additional device to attract attention. This flag shall meet the minimum requirements of the MUTCD. The flag shall, as a minimum, be 24" inches square and red or red/orange in color. For night work, the vest shall have reflectorized stripes that meet the requirements of the MUTCD.

D. FLAGGER WARNING SIGNS
Signs for flagger traffic control shall be placed in advance of the flagging operation in accordance with the MUTCD. In addition to the signs required by the MUTCD, signs at regular intervals, warning of the presence of the flagger shall be placed beyond the point where traffic can reasonably be expected to stop under the most severe conditions for that day's work.

E. PILOT VEHICLE REQUIREMENTS
Pilot vehicles will be required during placement of bituminous surface treatment or asphaltic concrete on two-lane roadways unless otherwise specified. Pilot vehicles shall meet the requirements of the MUTCD.

F. PORTABLE TEMPORARY TRAFFIC CONTROL SIGNALS
The Contractor may request, in writing, the substitution of portable temporary traffic control signals for flaggers on two-lane two-way roadways provided the temporary signals meets the requirements of the MUTCD, Section 647, and Subsection 150.02.A.8. As a part of this request, the Contractor shall also submit an alternate temporary traffic control plan in the event of a failure of the signals. Any alternate plan that requires the use of flaggers shall include the use of certified flaggers. The Contractor shall obtain the approval of the Engineer before the use of any portable temporary traffic control signals will be permitted.

150.08 ENFORCEMENT

The safe passage of pedestrians and traffic through and around the temporary traffic control zone, while minimizing confusion and disruption to traffic flow, shall have priority over all other Contractor activities. Continued failure of the Contractor to comply with the requirements of Section 150 (TRAFFIC CONTROL) will result in non-refundable deductions of monies from the Contract as shown in this Subsection for non-performance of Work. Failure of the Contractor to comply with this Specification shall be reason for the Engineer suspending all other work on the Project, except erosion control and traffic control, taking corrective action as specified in Subsection 105.15, and/or withholding payment of monies due to the Contractor for any work on the Project until traffic control deficiencies are corrected. These other actions shall be in addition to the deductions for non-performance of traffic control.

SCHEDULE OF DEDUCTIONS FOR EACH CALENDAR DAY OF DEFICIENCIES OF TRAFFIC CONTROL INSTALLATION AND/OR MAINTENANCE
ORIGINAL TOTAL CONTRACT AMOUNT

From More Than To and Including Daily Charge
$0 $100,000 $200
$100,000 $1,000,000 $500
$1,000,000 $5,000,000 $1,000
$5,000,000 $20,000,000 $1,500
$20,000,000 $40,000,000 $2,000
$40,000,000 $---------- $3,000

150.09 MEASUREMENT

A. TRAFFIC CONTROL

When listed as a pay item in the Proposal, payment 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 of the Project percent complete shown on the last pay statement plus 25 (twenty-five) percent will be paid (less previous payments), not to exceed one hundred (100) percent. When no payment item for Traffic Control-Lump Sum is shown in the Proposal, all of the requirements of Section 150 and the Temporary Traffic Control Plan shall be in full force and effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submittal.

B. SIGNS

When shown as a pay item in the contract, interim special guide signs will be paid for as listed below. All other regulatory, warning, and guide signs, as required by the Contract, will be paid for under Traffic Control Lump Sum or included in the overall bid submitted.

1. Interim ground mounted or interim overhead special guide signs will be measured for payment by the square foot. This payment shall be full compensation for furnishing the signs, including supports as required, erecting, illuminating overhead signs, maintaining, removing, re-erecting, and final removal from the Project. Payment will be made only one time regardless of the number of moves required.
2. Remove and reset existing special guide signs, ground mount or overhead, complete, in place, will be measured for payment per each. Payment will be made only one time regardless of the number of moves required.
3. Modify special guide signs, ground mount or overhead, will be measured for payment by the square foot. The area measured shall include only that portion of the sign modified. Payment shall include materials, removal from posts or supports when necessary, and remounting as required.

C. TEMPORARY BARRIER

Temporary Barrier shall be measured as specified in Sections 620.

D. CHANGEABLE MESSAGE SIGN, PORTABLE

Changeable Message Sign, Portable will be measured as specified in Section 632.

E. TEMPORARY GUARDRAIL ANCHORAGE, Type 12
Temporary Guardrail Anchorage- Type 12 will be measured by each assembly, complete in place and accepted according to the details shown in the plans, which shall also include the additional guardrail and appurtenances necessary for transition and connection to Temporary Concrete Barrier. Payment shall include all necessary materials, equipment, labor, site preparation, maintenance and removal.

F. TRAFFIC SIGNAL INSTALLATION- TEMPORARY
Traffic Signal Installation- Temporary will be measured as specified in Section 647.

G. FLASHING BEACON ASSEMBLY
Flashing Beacon Assemblies will be measured as specified in Section 647.

H. PORTABLE IMPACT ATTENUATORS
Each Portable Impact Attenuator will be measured by the unit/array, which shall include all material components, hardware, incidentals, labor, site preparation, and maintenance, including spare parts recommended by the manufacturer for repairing accident damage. Each unit will be measured only once regardless of the number of locations installed, moves required, or number of repairs necessary because of traffic damage. Upon completion of the project, the units shall be removed and retained by the Contractor.

I. PAVEMENT MARKINGS
Pavement markings will be measured as specified in Section 150.

150.10 PAYMENT:
When shown in the Schedule of Items in the Proposal, the following items will be paid for separately.

Item No. 150. Traffic Control …… Lump Sum
Item No. 150. Traffic Control, Solid Traffic Stripe _ Inch, (Color)…. per Linear Mile
Item No. 150. Traffic Control, Skip Traffic Stripe _ Inch, (Color) …. per Linear mile
Item No. 150. Traffic Control, Solid Traffic Stripe,
Thermoplastic ____ Inch, (Color) …….. per Linear Mile
Item No. 150. Traffic Control, Skip Traffic Stripe,
Thermoplastic _____ Inch, (Color) …… per Linear Mile
Item No. 150. Traffic Control, Pavement Arrow with
Raised Reflectors ……..……. per Each
Item No. 150. Traffic Control, Raised Pavement Markers-All Types. per Each
Item No. 150. Interim Ground Mounted Special Guide Signs …….. per Square Foot
Item No. 150. Interim Overhead Special Guide Signs ……. per Square Foot
Item No. 150. Remove & Reset Existing Special Guide Signs,
Ground Mount, Complete in Place …… per Each
Item No. 150. Remove & Reset, Existing Special Guide Signs,
Overhead, Complete in Place ……. per Each
Item No. 150. Traffic Control, Portable Impact Attenuator……. per Each
Item No. 150. Traffic Control, Pavement Markers, Words
and Symbols …… per Square Foot
Item No. 150. Traffic Control, Pavement Arrow (Painted) with
Raised Reflectors …… per Each
Item No. 150. Traffic Control, Workzone Law Enforcement…….. per Hour
Item No. 150. Modify Special Guide Sign, Ground Mount……..…… per Square Foot
Item No. 150. Modify Special Guide Sign, Overhead…… per Square Foot
Item No. 620. Temporary Barrier…….. per Lineal Foot
Item No. 632. Changeable Message Sign, Portable ……. per Each
Item No. 641. Temporary Guardrail Anchorage, Type 12 …… per Each
Item No. 647. Traffic Signal Installation, Temp …… Lump Sum

Item No. 647. Flashing Beacon Assembly, Structure Mounted ….. per Each
Item No. 647. Flashing Beacon Assembly, Cable Supported …….. per Each

Revised: November 8, 2005 Revised: November 7, 2006 Revised: July 15, 2008

SPECIAL PROVISION
SECTION 150- TRAFFIC CONTROL
150.11 SPECIAL CONDITIONS

A. The Contractor shall not install lane closures, pace traffic or move equipment or materials in the roadway between the hours of 6:00 a.m. to 9:30 a.m. and 4:00 p.m. to 7:00 p.m. Monday through Friday. No lane closures will be allowed on Saturdays or Sundays without prior approval of the Engineer.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 161—Control of Soil Erosion and Sedimentation

Add the following: **161.1 General Description**

This Work includes using control measures shown on the Plans, ordered by the Engineer, or as required during the life of the Contract to control soil erosion and sedimentation through the use of any of the devices or methods referred to in this Section.

161.1.01 Definitions Certified Personnel— certified personnel are defined as persons who have successfully completed the Level IA certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department's WECS certification course.
Design Professional as defined in the current GAR100002 NPDES permit.

161.1.02 Related References

A. Standard Specifications

Section 105—Control of Work
Section 106—Control of Materials
Section 107—Legal Regulations and Responsibility to the Public
Section 109—Measurement and Payment
Section 160—Reclamation of Material Pits and Waste Areas
Section 162—Erosion Control Check Dams
Section 163—Miscellaneous Erosion Control Items
Section 166—Restoration or Alteration of Lakes and Ponds
Section 170—Silt Retention Barrier
Section 171—Temporary Silt Fence
Section 205—Roadway Excavation
Section 434—Sand Asphalt Paved Ditches
Section 441—Miscellaneous Concrete
Section 603—Rip Rap
Section 700—Grassing
Section 710—Permanent Soil Reinforcing Mat
Section 715—Bituminous Treated Roving
Section 716—Erosion Control Mats (Blankets)
Erosion control measures contained in the Specifications include:

Erosion Control Measure	**Section**
Temporary Check Dams	163.3.05.J
Erosion Control Measure	**Section**
Bituminous Treated Mulch	700.3.05.G
Concrete Paved Ditches	441
Bituminous Treated Roving	715
Erosion Control Mats (Blankets)	716
Erosion Control Check Dams	162
Grassing	700
Maintenance of Temporary Erosion Control Devices	165
Permanent Soil Reinforcing Mat	710
Reclamation of Material Pits and Waste Areas	160
Rip Rap	603
Restoration or Alteration of Lakes and Ponds	166
Sand-Asphalt Ditch Paving	434
Sediment Basin	163.3.05.C
Silt Control Gate	163.3.05.A
Silt Retention Barrier	170
Sod	700.3.05.H & 700.3.05.I

Mulch	163
Temporary Grassing	163.3.05.F
Temporary Silt Fence	171
Temporary Slope Drains	163.3.05.B
Triangular Sediment Barrier	720
Silt Filter Bag	719
Organic & Synthetic Material Fiber Blanket	713

Referenced Documents Erosion and Sedimentation Pollution Control Plans (ESPCP)

161.1.03 Submittals A. Status of Erosion Control Devices

The Worksite Erosion Control Supervisor (WECS) or certified personnel will inspect the installation and maintenance of the Erosion Control Devices according to Subsection 167.3.05.B and the ESPCP.
1. Submit all reports to the Engineer within 24 hours of the inspection. Refer to Subsection 167.3.05.C for report requirements. 2. The Engineer will review the reports and inspect the Project for compliance and concurrence with the submitted reports. 3. The Engineer will notify the WECS or certified personnel of any additional items that should be added to the reports. 4. Items listed in the report requiring maintenance or correction shall be completed within 72 hours.

B. Erosion and Sedimentation Pollution Control Plan

1. Project Plans

An erosion and sedimentation pollution control plan (ESPCP) for the construction of the project will be provided by the Department. The ESPCP will be prepared for the various stages of construction necessary to complete the project. If the Contractor elects to alter the stage construction from that shown in the plans, it will be the responsibility of the Contractor to have the plans revised and prepared in accordance with the current GAR100002 NPDES permit by a Design Professional to reflect all changes in Staging. This will also include any revisions to erosion and sedimentation control item quantities. If the changes affect the Comprehensive Monitoring Program (CMP), the Contractor will be responsible for any revisions to the CMP as well. Submit revised plans and quantities to the Engineer for review prior to land disturbing activities. 2. Haul Roads, Borrow Pits, Excess Material Pits, etc. The Contractor is responsible for preparing erosion and sedimentation control plans for construction access roads and or haul roads borrow pits, excess material pits, etc (inside the Right of Way). Prepare these plans for all stages of construction and include the appropriate items and quantities. Submit these plans to the Engineer for review prior to land disturbing activities. These plans are to be prepared by a Design Professional. If construction of access roads, haul roads, borrow pits, excess material pits, etc., (inside the Right of Way) encroach within the 25 foot (7.6 m) buffer along the banks of all state waters or within the 50 ft. (15 m) buffer along the banks of any state waters classified as a “trout stream”, a state water buffer variance must be obtained by the Contractor prior to beginning any land disturbing activity in the stream buffer. 3. Erosion Control for Borrow and Excess Material Pits Outside the Right-of-Way Erosion control for borrow pits and excess material pits outside the right of way is the responsibility of the Contractor. If borrow or excess material pits require coverage under the National Pollutant Discharge Elimination System permit (NPDES) or other permits or variances are required, submit a copy of all documentation required by the permitting agency to the Engineer. All costs associated with complying with local, state, and federal laws and regulations are the responsibility of the Contractor.
4. Culverts and Pipes

The ESPCP does not contain approved methods to construct a stream diversion or stream diversion channel. The Contractor shall prepare a diversion plan utilizing a Design Professional as defined in the current NPDES permit. See Subsection 161.3.05 G for additional information. 5. Temporary Asphalt or Concrete Batch Plants
In addition to the requirements of any applicable specifications, if the Department authorizes the temporary installation and use of any asphalt, concrete or similar batch plants within its right of way, the contractor shall submit an NOI to the Georgia Environmental Protection Division for coverage under the following NPDES permits; The Infrastructure permit for the construction of the plant, and the Industrial permit for the operation of, such a plant. The contractor shall submit the NOIs as both the Owner and the Operator. **161.2 Materials**

General Provisions 101 through 150. **161.2.01 Delivery, Storage, and Handling** General Provisions 101 through 150.

161.3 Construction Requirements

161.3.01 Personnel A. Duties of the Worksite Erosion Control Supervisor Before beginning Work, designate a Worksite Erosion Control Supervisor (WECS) to initiate, install, maintain, inspect, and report the condition of all

erosion control devices as described in Sections 160 through 171 or in the Contract and ESPCP documents. The designee shall submit their qualifications on the Department provided resume form for consideration and approval. The contractor may utilize additional persons having WECS qualifications to facilitate compliance however, only one WECS shall be designated at a time. The WECS and alternates shall:

- Be an employee of the Prime Contractor.
- Have at least one year of experience in erosion and sediment control, including the installation, inspection, maintenance and reporting of BMPs.
- Successfully completed the Georgia Soil and Water Conservation Commission Certification Course Level IA and the Department's WECS Certification Course.
- Provide phone numbers where the WECS can be located 24 hours a day.

The WECS' duties include the following:

1. Be available or have an approved representative available 24 hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control and flooding control.
2. Inform the Engineer in writing whenever the alternate WECS assumes project responsibilities.
3. Ensure that erosion control deficiencies are corrected within seventy two (72) hours or immediately during emergencies. Deficiencies that interfere with traffic flow, safety or downstream turbidity are to be corrected immediately.
4. During heavy rain, have the construction area patrolled day or night, any day of the week to quickly detect and correct erosion or flooding problems before they interfere with traffic flow, safety, or downstream turbidity.
5. Be on the site within three (3) hours after receiving notification of an emergency prepared to positively respond to the conditions encountered. The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to Subsection 105.15, "Failure to Maintain Roadway or Structures."
6. Maintain and submit for project record, "As-built" Erosion and Sedimentation Control Plans that supplement and graphically depict EC-1 reported additions and deletions of BMPs. The As-Built plans are to be accessed and retained at a Department facility at all times.
7. Ensure that both the WECS and the alternate meet the criteria of this Subsection.
8. The WECS shall maintain a current certification card for the duration of the project. Recertification of the WECS will be required prior to the expiration date shown on the Certification card in order to remain as Certified Personnel and the WECS for the project.

Failure of the WECS or alternate to perform the duties specified in the Contract, or whose performance, has resulted in a citation being received from a State or Federal Regulatory Agency, e.g. the Georgia Environmental Protection Division, shall result in one or more of the following;

- Suspension of the WECS' certification for a period of not less than 30 days
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and 108.05 for a period not less than 14 days
- Department wide revocation of the WECS certification for a period of 12 months
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and 108.05

161.3.02 Equipment General Provisions 101 through 150.

161.3.03 Preparation General Provisions 101 through 150.

161.3.04 Fabrication General Provisions 101 through 150.

161.3.05 Construction Coordinate the temporary and permanent erosion control provisions in this Specification with the permanent erosion control provisions in the Contract to ensure economical, effective, and continuous erosion

control throughout the construction and post-construction periods. At all times that land disturbing activity is underway, a person meeting the requirements of, "certified person" by the GSWCC (Level IA) must be on the project.
A. Control Dust Pollution The contractor shall keep dust pollution to a minimum during any of the activities performed on the project. It may be necessary to apply water or other BMPs to roadways or other areas reduce pollution. **B. Perform Permanent or Temporary Grassing**
Perform permanent grassing, temporary grassing, or mulching on cut and fill slopes weekly (unless a shorter period is required by Subsection 107.23) during grading operations. When conditions warrant, the Engineer may require more frequent intervals. Under no circumstances shall the grading (height of cut) exceed the height operating range of the grassing equipment. It is extremely important to obtain a cover, whether it is mulch, temporary grass or permanent grass. Adequate mulch is a must.
When grading operations or other soil disturbing activities have stopped, perform grassing or erosion control as shown in the Plans, as shown in an approved Plan submitted by the Contractor, or as directed by the Engineer.
C. Seed and Mulch
Refer to Subsection 161.3.05.B, "Perform Permanent or Temporary Grassing".
D. Implement Permanent or Temporary Erosion Control
1. Silt fence shown along the perimeter, e.g. right of way, and sediment containment devices, e.g. sediment basins, shall be installed prior to or concurrently with clearing and grubbing operations.

2. Incorporate permanent erosion control features into the Project at the earliest practicable time, e.g. velocity dissipation, permanent ditch protection.

3. Use temporary erosion control measures to address conditions that develop during construction but were unforeseen during the design stage.

4. Use temporary erosion control measures when installation of permanent erosion control features cannot be accomplished.

The Engineer has the authority to:
 Limit the surface area of erodible earth material exposed by clearing and grubbing.
 Limit the surface area of erodible earth material exposed by excavation and borrow and fill operations.
 Limit the area of excavation, and embankment operations in progress to correspond with the Contractor's ability to keep the finish grading, mulching, seeding, and other permanent erosion control measures current.
 Direct the Contractor to provide immediate permanent or temporary erosion control to prevent contamination of adjacent streams or water courses, lakes, ponds, or other areas of water impoundment.

Such Work may include constructing items listed in the table in Subsection 161.1.02.A, "Related References" or other control devices or methods to control erosion.
E. Erodible Area NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 17 acres (7 ha) except as approved by the State Construction Engineer. The maximum of 17 acres (7 ha) of exposed erodible earth applies to the entire Project and to all of its combined operations as a whole, not to the exposed erodible earth of each individual operation. Upon receipt of a written request from the contractor the State Construction Engineer, or his designee, will review; the request, any justifications and the Project conditions for waiver of the 17 acres (7 ha) limitation. If the 17 acre limitation is increased by the State Construction Engineer, the WECS shall not be assigned to another project in that capacity and should remain on site each work day that the exposed acreage exceeds 17 acres. After installing temporary erosion control devices, e.g., grassing, mulching, stabilizing an area, and having it approved by the Engineer, that area will be released from the 17 acres (7 ha) limit. **F. Perform Grading Operations**
Perform the following grading operations:
1. Complete each roadway cut and embankment continuously, unless otherwise specified in the Contract or ordered by the Engineer.

2. Maintain the top of the earthwork in roadway sections throughout the construction stages to allow water to run off to the outer edges. . 3. Provide temporary slope drain facilities with inlets and velocity dissipaters (straw bales, silt fence, aprons, etc.) to carry the runoff water to the bottom of the slopes. Place drains at intervals to handle the accumulated water. 4. Continue temporary erosion control measures until permanent drainage facilities have been constructed, pavement placed, and the grass on planted slopes stabilized to deter erosion.
G. Perform Construction in Rivers and Streams Perform construction in river and stream beds as follows:
1. Unless otherwise agreed to in writing by the Engineer, restrict construction operations in rivers, streams, and

impoundments to:
 Areas where channel changes or access for construction are shown on the Plans to construct temporary or permanent structures.

2. If channel changes or diversions are not shown on the Plans, the Contractor shall develop diversion plans prepared in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. The Engineer will review prepared diversion plans for content only and accepts no responsibility for design errors or omissions. Amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental. 3. If additional access for construction or removal of work bridges, temporary roads/access or work platforms is necessary, and will require additional encroachment upon river or stream banks and bottoms, the contractor shall prepare a plan in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. Plans should be submitted at least 12 weeks prior to the date the associated work is expected to begin. If necessary, the plan will be provided to the appropriate regulating authority, e.g. United States Army Corps of Engineers by the Department for consideration and approval. No work that impacts areas beyond what has been shown in the approved plans will be allowed to begin until written approval of the submitted plan has been provided by the Department. Approved plan amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental. 4. Clear rivers, streams, and impoundments of the following as soon as conditions permit:
 Falsework
 Piling that is to be removed
 Debris
 Other obstructions placed or caused by construction operations

5. Do not ford live streams with construction equipment. 6. Use temporary bridges or other structures that are adequate for a 25-year storm for stream crossings. Include costs in the price bid for the overall contract. 7. Do not operate mechanized equipment in live streams except to construct channel changes or temporary or permanent structures, and to remove temporary structures, unless otherwise approved in writing by the Engineer. **H. State Water Buffers and Environmental Restrictions** 1 The WECS shall review the plans and contract documents for environmental restrictions, Environmentally Sensitive Areas (ESA), e.g. buffers, etc prior to performing land disturbing activities.
2. The WECS shall ensure all parties performing land disturbing activities within the project limits are aware of all environmental restrictions.

3. Buffer delineation shall be performed prior to clearing, or any other land disturbing activities. Site conditions may require temporary delineation measures are implemented prior to the installation of orange barrier/safety fencing. The means of temporary delineation shall have the Engineer's prior approval.

4. The WECS shall allow the Engineer to review the buffer delineation prior to performing any land disturbing activities, including but not limited to clearing, grubbing and thinning of vegetation. Any removal and relocation of buffer delineation based upon the Engineer's review will not be measured for separate payment.

5. The WECS shall advise the Engineer of any surface water(s) encountered that are not shown in the plans. The WECS shall prevent land disturbing activities from occurring within surface water buffers until the Engineer provides approval to proceed.

I. General Requirements Projects that consist of asphalt resurfacing, shoulder reconstruction and/or shoulder widening; schedule and perform the construction of the project to comply with the following: After temporary and permanent erosion control devices are installed and the area permanently stabilized (temporary or permanent) and approved by the Engineer, the area may be released from the 1 acre (0.4 ha) limit. The maximum of 1 acre (0.4 ha) of erodible earth applies to the entire project and to all combined operations, including borrow and excess material operations that are within the right of way, not 1 acre (0.4 ha) of exposed erodible earth for each operation.

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 1 acre (0.4 ha). 1. Do not allow the disturbed exposed erodible area to exceed 1 acres (0.4 ha). This 1 acre (0.4 ha) limit includes all disturbed areas relating to the construction of the project including but not limited to slope and shoulder construction. 2. At the end of each working day, permanently stabilize all of the area disturbed by slope and shoulder reconstruction to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. For purposes of this Specification, the end of the working day is defined as when the construction operations cease. For example, 6:00 a.m. is the end of the working day on a project that allows work only between 9:00 p.m. and 6:00 a.m.)

3. Stabilize the cut and fill slopes and shoulder with permanent or temporary grassing and a Wood Fiber Blanket (Section 713, Type II). Mulching is not allowed. Borrow pits, soil disposal sites and haul roads will not require daily applications of wood fiber blanket. The application rate for the Wood Fiber Blanket on shoulder reconstruction is the rate specified for Shoulders. For shoulder reconstruction, the ground preparation requirements of Subsection 700.3.05.A.1 are waived. Preparation consists of scarifying the existing shoulders 4 to 6 in (100 to 150 mm) deep and leaving the area in a smooth uniform condition free from stones, lumps, roots or other material.

4. If a sudden rain event occurs that would not allow the Contractor to apply the Type II Wood Fiber Blanket per Section 713, install Wood Fiber Blanket Type I per Section 713 if directed by the Engineer. Wood Fiber Blanket Type I application is for emergency use only.

Install temporary grass or permanent grass according to seasonal limitations and Specifications. When temporary grass is used, use the overseeding method (Subsection 700.3.05.E.4) when planting permanent grass. 3. Remove and dispose of all material excavated for the trench widening operation at an approved soil disposal site by the end of each working day. When shoulder reconstruction is required, this material may be used to reconstruct the graded shoulder after all asphaltic concrete pavement has been placed. 4. Provide immediate permanent and/or temporary erosion control measures for borrow pits, soil disposal sites and haul roads to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. 5. Place asphalt in the trench the same day as the excavation occurs. Place asphalt or concrete in driveways and side roads being re-graded the same day as the excavation occurs. Stabilize any disturbed or exposed soil that is not covered with asphalt with a Wood Fiber Blanket (and grass seed). Payment will be made for the Wood Fiber Blanket and grass seed only if the shoulder has been constructed to final dimensions and grade and no further grading will be required. 6. Do not allow the grading (height of cut or fill) to exceed the operating range of the grassing equipment. 7. When grading operations or other soil disturbing activities are suspended, regardless of the reason, promptly perform all necessary permanent stabilization and/or erosion control work. 8. Use temporary erosion control measures to: To correct conditions that develop during construction but were unforeseen during the design stage. To use as needed before installing permanent erosion control features. To temporarily control erosion that develops during normal construction practices but are not associated with permanent control features on the Project. 9. When conditions warrant, such as unfavorable weather (rain event), the Engineer may require more frequent intervals for this work.

161.3.06 Quality Acceptance Before Final Acceptance of the Work, clean drainage structures within the project limits, both existing and newly constructed, and ensure that they are functioning properly. Costs to accomplish this work are incidental and shall be included in the overall bid for the Contract. **161.3.07 Contractor Warranty and Maintenance** Maintain the erosion control features installed to:

- Contain erosion within the limits of the right-of-way
- Control storm water discharges from disturbed areas

Effectively install and maintain the erosion control features. Ensure these features contain the erosion and sediment within the limits of the rights of way and control the discharges of storm-water from disturbed areas to meet all local, state, and federal requirements on water quality.

If a construction Project has separate contractors, the Prime Contractor shall maintain the erosion control features at grading sites as acceptable to the Engineer until the Contract is accepted. If any erosion control devices are damaged by any contractor either by neglect, by construction methods, or any other reasons, including acts of nature, they shall be repaired within 24 hours by the Prime Contractor at no cost to the Department.

161.4 Measurement Control of soil erosion and sedimentation is not measured separately for payment.

161.4.01 Limits General Provisions 101 through 150.

161.5 Payment When no pay item is shown in the Contract, the requirements of this Specification and the Erosion Control Plan shall be in full effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submitted with the exception of inspections performed by qualified personnel which will be included in Section 167. When listed as a pay item in the Contract, payment will be made at the unit price bid for each particular item.

No payment will be made for erosion control outside the Right-of-Way or construction easements except as provided for by the Plans. **161.5.01 Enforcement and Adjustments A. Failure to Provide a WECS** If a designated WECS is not maintained or if the Contractor does not comply with this Specification, cease activities except traffic control and erosion control work. Monies that are due or that may become due also may be withheld according to the Specifications

B. Failure to submit reports

A non-refundable deduction will be taken from the schedule below whenever the WECS fails to submit completed reports required by Subsection 167.3.05.C in accordance with the provisions of this specification.

C. Failure to Comply with Specifications If the Contractor fails to comply with any of the requirements of this Specification, all activities shall cease immediately except traffic control and erosion control related work. Monies that are currently due or that may become due shall be withheld according to the specifications. In addition, nonrefundable monies shall be deducted from the contract as shown in the Schedule of Deductions table below. These deductions are in addition to any actions taken in the above subsections. Deductions assessed for uncorrected deficiencies shall continue until all corrections are completed to the satisfaction of the Engineer.

D. Receipt of a Consent Order or Notice of Violation, etc Regulatory enforcement actions will be resolved including at a minimum the following steps;

- The Department will perform an internal review of the alleged violations
- The Department will then meet with the Contractor to review and further determine responsibilities for the alleged violations
- The Department will then arrange to collectively meet with the regulatory agencies to negotiate resolutions and/or settlements.

The Department does not waive any rights of the Contractor to resolve such matters however, in the event that regulatory agency communication is addressed jointly to the Department and to the contractor, the Department reserves the right to coordinate all communications, e.g., written correspondence, and to schedule jointly attended meetings with Regulatory agencies such that timely and accurate responses are known to the Department. Such Orders or Notices may result in the assessment of Deductions from the table below for each day the condition remains non-compliant following an agreed remedy.

Monetary penalties for which the contractor is obligated for as a result of regulatory enforcement may be withheld from future monies due the contractor.

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies
Initial Occurrence*
Original Total Contract Amount

From More Than	To and Including	Daily Charge
$0	$100,000	$750
$100,000	$1,000,000	$1125
$1,000,000	$5,000,000	$2000
$5,000,000	$15,000,000	$3000
$15,000,000	--	$5000

*Continued non-compliance with the requirements of this specification may result in the doubling of the above

tabulated Daily Charge. Upon written request from the Contractor, the Engineer may allow, limited activities to concurrently proceed once significant portions of the corrective work have been completed. This authorization may be similarly rescinded if in the opinion of the Engineer corrective work is not being diligently pursued.

Date: August 26, 2002
First Use Date 2001 Specifications: November 1, 2002
Revised: January 16, 2003
Revised: August 1, 2003
Revised: February 1, 2004
Revised: October 15, 2005
Revised: July 15, 2008

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 167—Water Quality Monitoring

Add the following:

167.1 General Description

This Specification establishes the Contractor's responsibility to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) Infrastructure Permit No. GAR 100002 as it pertains to Part IV. Erosion, Sedimentation and Pollution Control Plan.

167.1.01 Definitions

Certified Personnel— certified personnel are defined as persons who have successfully completed the appropriate certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department's WECS certification course.

167.1.02 Related References

A. Standard Specifications

Section 161—Control of Soil Erosion and Sedimentation

B. Referenced Documents

NPDES Infrastructure Permit No. GAR 100002, Part IV
GDOT WECS seminar.
Environmental Protection Divisions Rules and Regulations (Chapter 391-3-26)
Georgia Soil and Water Conservation Commission Certification Level IA course.
OCGA 12-7

167.1.03 Submittals

General Provisions 101 through 150

167.2 Materials

General Provisions 101 through 150.

167.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

167.3 Construction Requirements

167.3.01 Personnel

Use certified personnel to perform all monitoring, sampling, inspections, and rainfall data collection.

Use the Contractor designated WECS or select a prequalified consultant from the Qualified Consultant List (QCL) to perform water quality monitoring.
Ensure that monitoring consultants' employees who perform monitoring, sampling, inspections, and rainfall data collection are GASWCC Certified.

167.3.02 Equipment

Provide equipment necessary to complete the Work or as directed.

167.3.03 Preparation

General Provisions 101 through 150.

167.3.04 Fabrication

General Provisions 101 through 150.

167.3.05 Construction

A. General

Perform inspections, rainfall data collection, testing of samples, and reporting the test results on the project according to the requirements in Part IV of the NPDES Infrastructure permit and this Specification.
Take samples manually or with the use of automatic samplers, according to the permit. Analyze all according to the permit, regardless of the method used to collect the samples.
If samples are analyzed in the field using portable turbidemeters, the monitoring results shall state that they are being used and a digital readout of NTUs is what is provided.
Submit bench sheets, work sheets, etc., when using portable turbidemeters. There are no exceptions to this requirement.
Perform required inspections and submit all reports required by this Specification within the time frames specified. Failure to perform the inspections within the time specified will result in the cessation of all construction activities with the exception of traffic control and erosion control. Failure to submit the required reports within the times specified will result in non-refundable deductions as specified in Subsection 161.5.01.B.

B. Inspections

The Department will provide one copy of required inspection forms for use and duplication. Inspection forms may change during the contract to reflect regulatory agency needs or the need of the Department. Any costs associated with the change of inspection forms shall be considered incidental. Alternate formats of the provided forms maybe created, used and submitted by the Contractor provided the required content and/or data fields and verbatim certification statements from the Department's current forms are included.
The Engineer shall inspect the installation and condition of each erosion control device required by the erosion control plan within seven days after initial installation. This inspection is performed for each stage of construction when new devices are installed. The WECS shall ensure all installation deficiencies reported by the Engineer are corrected within two business days.
Ensure that the inspections of the areas listed below are conducted by certified personnel and at the frequencies listed. Document all inspections on the appropriate form provided by the Department.
1. Daily:
a. Petroleum product storage, usage and handling areas
b. All locations where vehicles enter/exit the site

Continue these inspections until all entry and exit sites are stabilized and fuel is not stored or transferred on the site. Utilize the Daily inspection form.
2. Weekly and after Rainfall Events:

Conduct inspections on these areas every seven calendar days and within twenty-four hours after the end of a rainfall event that is 0.5 in (13 mm) or greater:
a. Disturbed areas not permanently stabilized
b. Material storage areas

c. Structural control measures, Best Management Practices (BMPs)

d. Water quality monitoring locations and equipment

Continue these inspections until all BMPs have been removed. Utilize the EC-1 Form.
3. Monthly:
Once per month, inspect all areas where final stabilization has been completed. Look for evidence of sediments or pollutants entering the drainage system and or receiving waters. Inspect all permanent erosion control devices that remain in place to verify the maintenance status and that the devices are functioning properly.
Continue these inspections until the Notice of Termination is submitted. Utilize the Monthly inspection form.

C. Reports:

1. Inspection Reports:
Summarize the results of inspections noted above in writing on the appropriate Daily, Weekly, Monthly or EC-1 form provided by the Department. Include the following information:
- Date(s) of inspection
- Name of personnel performing inspection
- Status of devices
- Observations
- Action taken
- Signature of personnel performing the inspection
- Any incidents of non-compliance

The inspection form certification sheet shall be signed by the project WECS and the inspector performing inspections on behalf of the WECS (if not the same person).
Submit all inspection reports to the Engineer within twenty-four hours of the inspection.
The Engineer will review the submitted reports and inspect the project to determine their accuracy.
The Engineer will notify the certified personnel of any additional items that should be added to the inspection report.
Correct any items listed in the inspection report requiring routine maintenance within 72 (seventy –two) hours of notification.
Assume responsibility for all costs associated with additional sampling as specified in Part IV.D.6.d.3.(c) of the NPDES GAR 100002 permit if either of these conditions arise:
- BMPs shown in the Plans are not properly installed and maintained, or
- BMPs designed by the Contractor are not properly designed, installed and maintained.

2. Monitoring Reports

a. Report Requirements

Include in all reports, the following certification statement, signed by the WECS or consultant providing monitoring on the project:
—I certify under penalty of law that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.‖

When a rainfall event requires a sample to be taken, submit a report of the monitoring results to the Engineer within seven working days of the date the sample was obtained. Include the following information:

1) Date of sampling

2) Rainfall amount on sample date (sample date only)

3) NTU of sample & analysis method

4) Location where sample was taken (station number, etc.)

5) Receiving water or outfall sample

6) Project number and county

7) Whether the sample was taken by automatic sampler or manually (grab sample)

b. Report Requirements with No Qualifying Rainfall Events

In the event that a qualifying rainfall event does not occur prior to the submittal of the NOT (Notice of Termination), submit a report that states ―No qualifying rainfall event occurred and no samples were taken.‖

c. Test Results

Provide monitoring test results to the Engineer within 48 hours of the samples being analyzed. This notification may be verbal or written. This notification does not replace the requirement to submit the formal monitoring summary to the Engineer within 7 working days of the samples being collected.

3. Rainfall Data Reports

Record the measurement of rainfall once each twenty-four hour period. Measure rainfall data at the active phase of construction on the site.

Project rain gauges and those used to trigger the automatic samplers are to be emptied after every rainfall event. This will prevent a cumulative effect and prevent automatic samplers from taking samples even though the rainfall event was not a qualifying event.

The daily rainfall data supplied by the WECS to the Engineer will be the official rainfall data for the project.

167.3.06 Quality Acceptance

General Provisions 101 through 150.

167.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

167.4 Measurement

Water Quality Inspections in accordance with the inspection and reports sub-sections will be measured for payment by the month up to the time the Contract Time expires. Required inspections and reports after Contract Time has expired will not be measured for payment.

Water Quality Monitoring and Sampling are measured per each. When the monitoring location is a receiving water, the upstream and downstream samples constitute one sample. When the monitoring location is an outfall, a single outfall sample constitutes one sample.

167.4.01 Limits

General Provisions 101 through 150. Submit the monitoring summary report to the Engineer within 7 working days

167.5 Payment

Payment for Water Quality Monitoring and Sampling will be made as follows:
Water Quality Monitoring and Sampling per each is full compensation for meeting the requirements of the monitoring sections of the NPDES permit and this Specification, obtaining samples, analyzing samples, any and all necessary incidentals, and providing results of turbidity tests to the Engineer, within the time frame required by the NPDES Infrastructure permit, and this Specification.
This item is based on the rainfall events that require sampling as described in Part IV.D.5 of the permit.
The Department will not pay for samples taken and analyzed for rainfall events that are not qualifying events as compared to the daily rainfall data supplied by the WECS.
Water Quality Inspections will be paid at the Contract Price per month. This is full compensation for performing the requirements of the inspection section of the NPDES permit and this Specification, any and all necessary incidentals, and providing results of inspections to the Engineer, within the time frame required by the NPDES Infrastructure permit, and this Specification.

Payment will be made under:

Item No. 167	Water quality inspections	Per month

Water Quality Monitoring and Sampling will be paid per each.

Payment will be made under:

167.5.01 Adjustments

General

Item No. 167	Water quality monitoring and sampling	Per each

Provisions 101 through 150.

Date: November 1, 2002
First Use Date January 1, 2003

Planting Zone Map

Revised December 30, 2002 Revised August 4, 2003 Revised April 27, 2004 First Use Date June 1, 2004 Revised October 31, 2005 Revised October 23, 2008

SPECIAL PROVISION
Section 647 – Traffic Signal Installation

In addition to the standard provisions Traffic Signal Installation shall include the following provisions and their cost:

1. Any additional work described in the contract or in the plans that does not have a specific payment associated with the work shall be included as part of the traffic signal installation pay item to include but not limited to erosion control, grassing, irrigation repair, and grading complete activities.
2. The Sensys detection, repeaters, radios, BlueTOAD, IronSky CCTV camera, and associated equipment will require transfer from the existing strain poles to the new mast arms as part of traffic signal installation.
3. The existing strain poles to be removed shall be demolished and removed from the project as part of the traffic signal installation pay item.
4. Disturbed areas shall have permanent stabilization if not sodded or stabilized as directed by the engineer. If grassing activities are not in season then rye grass or grassing as directed by the engineer will be utilized. Once grassing is in season, the area will be prepared and reseeded with permanent grassing.
5. Any irrigation facilities and yard lights damaged during the course of project activities shall be repaired and replaced in-kind and the contractor shall coordinate with the facility owner.
6. The contractor shall file a Notice of Intent and Notice of Termination with the EPD as well as file & maintain utility locates.
7. The contractor shall be solely responsible for utility coordination on the project and will provide a contact to the City at the pre-construction conference.
8. The contractor shall provide independent testing services for the project which will include sub-grade compaction and concrete testing as directed by the engineer. Documentation will be provided at time of payment request.
9. Trees within the project area will be pruned to a height of 14 feet as directed by the engineer. Trees placed for landscaping purposes are to be excluded as directed by the engineer. Any trees removal performed during the course of the project will include stump removal or grinding as part of the work.
10. The contractor will provide a video of the project area before the project begins and after the project is complete. Each video will be provided to be City once it is complete in an acceptable format.
11. The contractor will coordinate with Sandy Springs Traffic/Transportation Unit before installing any traffic signal equipment or striping.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 700—Grassing

Delete Section 700 and substitute the following:

700.1 General Description

This work includes preparing the ground, furnishing, planting, seeding, fertilizing, sodding, and mulching disturbed areas within the Right-of-Way limits and easement areas adjacent to the right-of-way as shown on the Plans except as designated by the Engineer to remain natural.

700.1.01 Definitions

General Provisions 101 through 150.

700.1.02 Related References

A. Standard Specifications

Section 160—Reclamation of Material Pits and Waste Areas
Section 163—Miscellaneous Erosion Control Items
Section 718—Wood Fiber
Section 822—Emulsified Asphalt
Section 882—Lime
Section 890—Seed and Sod
Section 891—Fertilizers
Section 893—Miscellaneous Planting Materials
Section 895—Polyacrylamide

B. Referenced Documents

QPL 33
QPL 84

700.1.03 Submittals

Submit manufacturer's product expiration date along with written instructions to ensure proper application, safety, storage, and handling of Polyacrylamide products used in The Work.

700.2 Materials

Use materials that meet the requirements of the following Specifications:

Material	Section
Wood Fiber Mulch	718.2
Agricultural Lime	882.2.01
Seed	890.2.01
Sod	890.2.02
Fertilizer	891.2.01
Plant Topsoil	893.2.01
Mulch	893.2.02
Inoculants	893.2.04
Tackifiers	QPL 33
Anionic Polyacrylamide	QPL 84 & Section 895

A. Seeds
Whenever seeds are specified by their common names, use the strains indicated by their botanical names.

B. Water
Obtain the water for grassing from an approved source. Use water free of harmful chemicals, acids, alkalies, and other substances that may harm plant growth or emit odors. Do not use salt or brackish water.

C. Agricultural Lime
Agricultural lime rates will be based on a laboratory soil test report. The Contractor is responsible for ensuring the tests are performed by an approved laboratory. Provide a copy of test results to the Engineer. Refer to Section 882 Lime and GSP 18 of the Sampling and Testing Inspection manual for additional information on rates, use, handling and sampling procedures.

D. Fertilizer Mixed Grade
Fertilizer analysis and rates will be based on a laboratory soil test report. The Contractor is responsible for ensuring the tests are performed by an approved laboratory. Provide a copy of test results to the Engineer. Refer to Section 891 Fertilizer and GSP 18 of the Sampling and Testing Inspection manual for additional information on rates, use, handling and sampling procedures.

E. Mulch
Use straw or hay mulch according to Subsection 700.3.05.G.
Use wood fiber mulch in hydroseeding according to Subsection 700.3.05.F.1.

700.2.01 Delivery, Storage, and Handling
General Provisions 101 through 150.

700.3 Construction Requirements

700.3.01 Personnel
General Provisions 101 through 150.

700.3.02 Equipment
Use grassing equipment able to produce the required results.
Never allow the grading (height of cut) to exceed the grassing equipment's operating range.

A. Mulch Material Equipment
Use mulching equipment that uniformly cuts the specified materials into the soil to the required control depth.

B. Hydroseeding Equipment
For hydroseeding equipment, see Subsection 700.3.05.F.

700.3.03 Preparation
General Provisions 101 through 150.

700.3.04 Fabrication
General Provisions 101 through 150.

700.3.05 Construction
Follow the planting zones, planting dates, types of seed, seed mixtures, and application rates described throughout this Section. The Engineer has the authority to alter the planting dates as set forth by a period of 2 weeks. This 2-week period may be applied to either the beginning of the specified planting and/or to the end of the end of the specified planting season.

In general:

- Obtain the Engineer's approval before changing the ground cover type.
- Do not use annual rye grass seeds with permanent grassing.
- Follow the planting zones indicated on the Georgia State Planting Zone Map, below.
- Sod may be installed throughout the year, weather permitting.
- For permanent grassing, apply the combined amounts of all seeds for each time period within each planting zone and roadway location listed in the Seeding Table, below. Do not exceed the amounts of specified seed.

Planting Zone Map

NON-NATIVE GRASS SEEDING TABLE 1
(Temporary and Permanent Seed Types for Shoulders, Medians and Slopes 3:1 or Flatter)

Common Name	Botanical Name	Class/Type	Rate/Acre	Planting Zone	Planting Dates
Common Bermuda Grass (Hulled)	*Cynodon dactylon*	Required Permanent Grass	10 (11)	1	April 16 – August 31
Common Bermuda Grass (Unhulled)			10 (11)		
Common Bermuda Grass (Hulled)	*Cynodon dactylon*	Required Permanent Grass	10 (11)	2,3,4	April 1 – October 15
Common Bermuda Grass (Unhulled)			10 (11)		
Bahaia Grass	*Paspalum motatum*		10 (11)		
Rye Grass, Millet, Cereal Grass (Oats)	*Lolium penne spsp. Multiflorum, Echinochloa cursgalli, Avena sativa*	Temporary Grass	50 (56)	1	September 1-April 15
Rye Grass, Millet, Cereal Grass (Oats)	*Lolium penne spsp. Multiflorum, Echinochloa cursgalli, Avena sativa*	Temporary Grass	50 (56)	2,3,4	October 16-March 31

NON-NATIVE SEEDING TABLE 2

(Temporary and Permanent Seed Types
for back slopes, fill slopes and areas which will not be subject
to frequent mowing, slopes steeper than 3:1)

Common Name	Botanical Name	Class/Type	Rate/Acre	Planting Zone	Planting Dates
Interstate Lespedeza	*Lespedeza sericea*	Permanent Grass	50(56)	1,2	March 1 – August 31
Weeping Lovegrass	*Eragrostis curvula*	Temporary Grass	10(11)		
Interstate Lespedeza	*Lespedeza sericea*	Permanent Grass	75(84)	1,2	September 1- February 28
Tall Fescue	*Festuca arundinacea*	Temporary Grass	50(56)		
Interstate Lespedeza	*Lespedeza sericea*	Permanent Grass	50(56)	3,4	April 1 – October 31
Weeping Love Grass	*Eragrostis curvula*	Temporary Grass	10(11)		
Interstate Lespedeza	*Lespedeza sericea*	Permanent Grass	50(56)	3,4	November 1 – March 31
Weeping Love Grass	*Eragrostis curvula*	Temporary Grass	10(11)		

NATIVE GRASS SEEDING TABLE 3

For Non-mowable Slopes or Areas Designated as Permanent Native Grass Plots.

Plant native seed mixes on back slopes, fill slopes and areas which will not be subject to frequent mowing (slopes steeper than 3:1).

Common Name	Botanical Name	Class/Type	Rate/Acre	Planting Zone	Planting Dates
Canada Wild Rye	*Elymus canadensis*	Cool Season	Minimum 2 (2)	1,2,3,4	October 31 - March 31
Virginia Wild Rye	*Elymus virginicus*	Cool Season	Minimum 2 (2)	1,2,3,4	October 31 - March 31
Bottle-brush Grass	*Hystrix patula*	Cool Season	Minimum 2 (2)	1,2,3,4	October 31 - March 31
Little Bluestem	*Schizachyrium scoparium* (*Andropogon scoparius*)	Warm Season	Minimum 2 (2)	1,2,3,4	March31- August 31
Indiangrass	*Sorghastrum nutans*	Warm Season	Minimum 2 (2)	1,2,3,4	March 31- August 31
Eastern Gama Grass	*Tripsacum dactyloides*	Warm Season	Minimum 2 (2)	1,2,3,41,2,3,4	March 31- August 31
Rice Cut Grass	*Leersia oryzoides*	Warm Season	Minimum 2 (2)	1,2,3,4	March 31- August 31
Deertongue	*Panicum clandestinum*	Warm Season	Minimum 2 (2)	1,2,3,4	March 31- August 31
Switchgrass	*Panicum virgatum*	Warm Season	Minimum 2 (2)	1,2,3,4	March 31- August 31
Woolgrass	*Scirpus cyperinus*	Cool Season	Minimum 2 (2)	1,2,3,4	October 31 - March 31
River Oats	*Chasmanthium latifolium*	Cool Season	Minimum 2 (2)	1,2,3,4	October 31 - March 31
Purple Top	Tridens flavus	Warm Season	Minimum 2 (2)	1,2,3,4	March 31- August 31

See plan sheets/plant lists for detailed native restoration and riparian mitigation seed mix combinations to be applied at a minimum rate total of 10 (11) lbs per acre (kg/hectare) for each combined mix. If the mix is not provided in the plan sheets, use a minimum of 3 species based on planting dates shown above.

HERBACEOUS PLANT SEEDING TABLE 4

(Approved for Riparian Mitigation or for Seed Mixes on Slopes Steeper than 3:1-Requiring Permanent Planting)

Common name	Botanical name	Class/type	Rate/Acre	Planting Zone	Planting Dates
Joe Pye Weed	*Eupatorium fistulosum*	Herbaceous Pe	Minimum 2 (2)	1,2,3,4	September 1 – May 1
Ironweed	*Vernonia novaboracensis*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	March 1 - August 31,
White snakeroot	*Ageratina altissima (Eupat rugosum)*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Swamp milkweed	*Asclepias incarnata*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	March 1 - August 31,
Frost aster	*Aster pilosus (Symphyotric*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Partridge pea	*Chamaecrista fasciculata (fasciculata)*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	March 1 - August 31,
Lance-leaf coreopsis	*Coreopsis lanceolata*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Tall coreopsis	*Coreopteris tripteris*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Boneset	*Eupatorium perfoliatum*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Sneezeweed	*Helenium autumnale*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Swamp sunflower	*Helianthus angustifolius*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	March 1 - August 31,
Fringed loosestrife	*Lysimachia ciliata*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Wild bergamot	*Monarda fistulosa*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Mountain mint	*Pycnanthemum tenuifolium*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Black-eyed susan	*Rudbeckia hirta*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Goldenrod	*Solidago nemoralis*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	September 1 – May 1
Butterfly Weed	*Aesclepias tuberose*	Herbaceous Perennial	Up to 10(11)	1,2,3,4	March 1 - August 31,

For native restoration and riparian mitigation seed mix combinations, use Table 4 for approved native herbaceous seed types in combination with Table 3 of native grass seeds. Native restoration and riparian seed mixes should incorporate a mix of 60% native grass types (see Table 3) and 40% native herbaceous types (see Table 4) applied at a minimum rate total of 10 (11) lbs per acre (kg/hectare) for each combined mix.

TABLE 5: TEMPORARY GRASS - SPECIES, SEEDING RATES AND PLANTING DATES

Species	Rates per 1000 sq. ft.	Rates per Acre	Planting Date By Zone		
			1 & 2	2	3 & 4
Rye (Grain)	3.9 lbs	168 lbs	8/1 - 11/30	8/15 - 12/1	9/1 - 2/28
Ryegrass	0.9 lbs	40 lbs	8/1 - 11/30	9/1 - 12/15	9/15 - 1/1
Rye & Annual Lespedeza	0.6 lbs 0.6 lbs	28 lbs 24 lbs	3/1 - 4/1	2/1 - 3/1	2/1 - 3/1
Weeping Lovegrass	0.1 lbs	4 lbs	3/15 - 6/15	3/15 - 7/15	3/15 - 7/15
Sudangrass	1.0 lbs	60 lbs	4/1 - 8/31	4/1 - 8/31	3/15 - 8/1
Browntop Millet	1.1 lbs	50 lbs	4/1 - 6/30	4/1 - 7/15	4/1 - 7/15
Wheat	3.9 lbs	168 lbs	9/1 - 12/31	9/1 - 12/31	9/15 - 1/31

When stage construction or other conditions prevent completing a roadway section continuously, apply temporary grassing to control erosion. Temporary grassing is used to stabilize disturbed areas for more than sixty (60) calendar days. Temporary grass may be applied any time of the year, utilizing the appropriate seed species and application rate as shown in the chart above. Apply mulch to areas planted in temporary grass at the rate of ¾ inch to 1.5 inches. Do not place slope mats on areas planted in temporary grass.

A. Ground Preparation

Prepare the ground by plowing under any temporary grass areas and preparing the soil as follows:

1. Slopes 3:1 or Flatter

On slopes 3:1 or flatter, plow shoulders and embankment slopes to between 4 in and 6 in (100 mm and 150 mm) deep.

Plow front and back slopes in cuts to no less than 6 in (150 mm) deep. After plowing, thoroughly disk the area until pulverized to the plowed depth.

2. Slopes Steeper Than 3:1

Serrate slopes steeper than 3:1 according to Plan details when required.

On embankment slopes and cut slopes not requiring serration (sufficient as determined by the Engineer), prepare the ground to develop an adequate seed bed using any of the following methods as directed by the Engineer:

Plow to a depth whatever depth is practicable.

Use a spiked chain.

Walk with a cleated track dozer.

Scarify.

Disking cut slopes and fill slopes is not required.

3. All Slopes

a. Obstructions

Remove boulders, stumps, large roots, large clods, and other objects that interfere with grassing or may slide into the ditch.

b. Topsoil

Spread topsoil stockpiled during grading evenly over cut and fill slopes after preparing the ground.
Push topsoil from the top over serrated slopes. Do not operate equipment on the face of completed serrated cuts.

4. Native Restoration Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas.

For Permanent Grassing in native restoration areas, multitrophic native planting areas, riparian areas, stream restoration areas, and wetland and stream mitigation areas, provide the minimum ground preparation necessary to provide seed to soil contact. Riparian areas may also be seeded using the no-till method. The no-till method is defined by planting permanent grass seeds using a drill-type seeder over existing vegetation without plowing or tilling soil. Ensure that existing vegetation is less than 3 inches in height (this may be achieved by mowing or using a mechanical string trimmer).

B. Grassing Adjacent to Existing Lawns

When grassing areas adjacent to residential or commercial lawns, the Engineer shall change the plant material to match the type of grass growing on the adjacent lawn. The Contract Unit Price will not be modified for this substitution.

C. Temporary Grassing

Apply temporary grassing according to Subsection 163.3.05.F. Determine lime requirements by a laboratory soil test. Refer to seeding Table 5 for species, amounts of seed and planting dates.

In March or April of the year following planting and as soon as the weather is suitable, replace all areas of temporary grass with permanent grass by plowing or overseeding using the no-till method. If the no-till method is used, ensure that temporary grass is less than 3 inches in height (this may be achieved by mowing). Additional mulch will be required only if the temporary grass does not provide adequate mulch to meet the requirements of Subsection 700.3.05.G, “Mulching”.

Temporary grass, when required, will be paid for according to Section 163.

Projects that consist of asphalt resurfacing with shoulder reconstruction and/or shoulder widening: Type II Wood Fiber Blanket is used to stabilize disturbed areas, no till seeding will be used when permanent grassing is applied and the areas will not be re-disturbed.

D. Applying Agricultural Lime and Fertilizer Mixed Grade

Apply and mix lime and fertilizer as follows:

1. Agricultural Lime

Uniformly spread agricultural lime on the ground at the approximate rate determined by the laboratory soil test.

a. Agricultural Lime may be used as filler material in mixed grade fertilizer in lieu of inert material. The use of agricultural lime as filler material is to be shown on the fertilizer bag or invoice from the supplier. Do not deduct any amount of fertilizer when lime is used as filler.

2. Fertilizer Mixed Grade
Uniformly spread the fertilizer selected according to Subsection 700.2.D over the ground or by use of hydroseeding.
For bid purposes base estimated quantities on an initial application of 400 lb/acre of 19-19-19.

3. Mixing
Before proceeding, uniformly work the lime and fertilizer into the top 4 in (100 mm) of soil using harrows, rotary tillers, or other equipment acceptable to the Engineer.
On cut slopes steeper than 3:1, other than serrated slopes, reduce the mixing depth to the maximum practical depth as determined by the Engineer.

Omit mixing on serrated slopes.

4. Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas

Omit the application of lime and fertilizer within riparian areas.

E. Seeding

Prepare seed and sow as follows:

1. Inoculation of Seed

Inoculate each kind of leguminous seed separately with the appropriate commercial culture according to the manufacturer's instructions for the culture.

When hydroseeding, double the inoculation rate.

Protect inoculated seed from the sun and plant it the same day it is inoculated.

2. Sowing

Weather permitting, sow seed within 24 hours after preparing the seed bed and applying the fertilizer and lime.
Sow seed uniformly at the rates specified in the seeding tables. Use approved mechanical seed drills, rotary hand seeders, hydroseeding equipment, or other equipment to uniformly apply the seed. Do not distribute by hand.
To distribute the seeds evenly sow seed types separately, except for similarly sized and weighted seeds. They may be mixed and sown together.

Do not sow during windy weather, when the prepared surface is crusted, or when the ground is frozen, wet, or otherwise non-tillable.

3. Overseeding

Temporary grass areas that were prepared in accordance with Subsection 700.3.05.A, may be overseeded using the no-till method. The no-till method is defined by planting permanent grass seeds using a drill-type seeder over existing temporary grass without plowing or tilling soil and in accordance with Subsection 700.3.05.C.

4. Riparian Seed Mix shall be used when specified in the Plans. A mix of at least three (3) species from Seeding Table 3 (Native Grasses) and at least two (2) species from Seeding Table 4 (Approved Riparian Mitigation - Herbaceous Plants). The seed, shall be applied as Permanent Grassing within those areas designated on the Plans. The kinds of seed, shall be used according to the appropriate Planting Dates given in the tables.

F. Hydroseeding

Hydroseeding may be used on any grassing area. Under this method, spread the seed, fertilizer, and wood fiber mulch in the form of a slurry. Seeds of all sizes may be mixed together. Apply hydroseeding as follows:

1. Use wood fiber mulch as a metering agent and seed bed regardless of which mulching method is chosen. Apply wood fiber mulch at approximately 500 lbs/acre (560 kg/ha).
2. Prepare the ground for hydroseeding as for conventional seeding in Subsection 700.3.05.A.
3. Use specially designed equipment to mix and apply the slurry uniformly over the entire seeding area.
4. Agitate the slurry mixture during application.

5. Discharge slurry within one hour after being combined in the hydroseeder. Do not hydroseed when winds prevent an even application.

6. Closely follow the equipment manufacturer's directions unless the Engineer modifies the application methods.

7. Mulch the entire hydroseeded area according to Subsection 700.3.05.F.1, above, and Subsection 700.3.05.G, below.

Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas may be hydroseeded. When hydroseeding in these areas only use water, seed and wood fiber mulch.

G. Mulching

Except as noted in Subsection 700.3.05.B and Subsection 700.3.05.C, apply mulch immediately after seeding areas as follows:

Areas with permanent grass seed and covered with slope mats or blankets will not require mulch.
Evenly apply straw or hay mulch between 3/4 in and 1-1/2 in (20 mm and 40 mm) deep, according to the texture and moisture content of the mulch material.

Mulch shall allow sunlight to penetrate and air to circulate as well as shade the ground, reduce erosion, and conserve soil moisture. If the type of mulch is not specified on the Plans or in the Proposal, use any of the following as specified.

1. Mulch with Tackifier

Apply mulch with tackifier regardless of whether using ground or hydroseeding equipment for seeding.

a. Mulch uniformly applied manually or with special blower equipment designed for the purpose. When using a blower, thoroughly loosen baled material before feeding it into the machine so that it is broken up.

b. After distributing the mulch initially, redistribute it to bare or inadequately covered areas in clumps dense enough to prevent new grass from emerging (if required).

Do not apply mulch on windy days.

Apply enough tackifier to the mulch to hold it in place. Immediately replace mulch that blows away.
If distributing the mulch by hand, immediately apply the tackifier uniformly over the mulched areas.
Tackifier: Use a tackifier listed in the Laboratory Qualified Products Manual and apply at the manufacturer's recommended rates.

2. Walked-in-Mulch

Apply walked-in-mulch on slopes ranging in steepness from 5:1 to 2:1 and treat as follows:
a. Immediately walk it into the soil with a cleated track dozer. Make dozer passes vertically up and down the slope.

b. Where walked-in-mulch is used, do not roll or cover the seeds as specified in Subsection 700.3.05.E.3.

3. Apply only wheat straw mulch on Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas after they have been seeded. The wheat straw mulch is to be applied with a maximum thickness of 1 inch.

H. Sod

Furnish and install sod in all areas shown on the Plans or designated by the Engineer.
1. Kinds of Sod

Use only Common Bermudagrass (Cyndon dactylon) or one of the following Bermudagrass varieties:

Tifway 419
Tifway II
Tift 94

Tifton 10
Midlawn
Midiron
GN-1
Vamont

No dwarf Bermuda types shall be used. Sod shall be nursery-grown and be accompanied with a Georgia Department of Agriculture Live Plant License Certificate or Stamp. Sod shall consist of live, dense, well-rooted material free of weeds and insects as described by the Georgia Live Plant Act.

2. Type And Size Of Sod:

Furnish either big roll or block sod. Ensure that big roll sod is a minimum of 21 inches wide by 52 feet long. Minimum dimensions for block sod are 12 inches wide by 22 inches long. Ensure all sod consists of a uniform soil thickness of not less than 1 inch.

3. Ground Preparation

Excavate the ground deep enough and prepare it according to Subsection 700.3.05.A to allow placing of sod. Spread soil, meeting the requirements of Subsection 893.2.01, on prepared area to a depth of 4 inches.

4. Application of Lime and Fertilizer
Apply lime and fertilizer according to Subsection 700.3.05.D within 24 hours prior to installing sod.

5 Weather Limitation

Do not place sod on frozen ground or where snow may hinder establishment.

6. Install Sod

Install Sod as follows:

- Place sod by hand or by mechanical means so that joints are tightly abutted with no overlaps or gaps. Use soil to fill cracks between sod pieces, but do not smother the grass.
- Stake sod placed in ditches or slopes steeper than 2:1 or any other areas where sod slipping can occur.
- Use wood stakes that are at least 8 in (200 mm) in length and not more than 1 in (25 mm) wide.
- Drive the stakes flush with the top of the sod. Use a minimum of 8 stakes per square yard (meter) to hold sod in place.
- Once sod is placed and staked as necessary, tamp or roll it using adequate equipment to provide good contact with soil.
- Use caution to prevent tearing or displacement of sod during this process. Leave the finished surface of sodded areas smooth and uniform.

Watering Sod

After the sod has been placed and rolled or tamped, water it to promote satisfactory growth. Additional watering will be needed in the absence of rainfall and during the hot dry summer months. Water may be applied by Hydro Seeder, Water Truck or by other means approved by the Engineer.

8. Dormant Sod

Dormant Bermuda grass sod can be installed. However, assume responsibility for all sod through establishment and until final acceptance.

9. Establishment

Sod will be inspected by the Engineer at the end of the first spring after installation and at the time of Final Inspection. Replace any sod that is not live and growing. Any cost for replacing any unacceptable sod will be at the Contractor's expense.

I. Application of Nitrogen

Apply nitrogen at approximately 50 lbs/acre (56 kg/ha) when specified by the Engineer after plants have grown to 2 inches (50 mm) in height.

One application is mandatory and must be applied before Final Acceptance.

Apply nitrogen with mechanical hand spreaders or other approved spreaders capable of uniformly covering the grassed areas. Do not apply nitrogen on windy days or when foilage is damp.

Do not apply nitrogen between October 15 and March 15 except in Zone 4.

1. Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas

Do not apply nitrogen to these areas.

J. Application of Polyacrylamide (PAM)

1. Prepare soil according to project Plans and Specifications prior to applying PAM.
2. Apply PAM according to manufacturer's recommendations and the requirements listed herein.
3. Apply Polyacrylamide (PAM) to all areas that receive permanent grassing.
4. Apply PAM (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
5. Use only anionic PAM.
6. Ensure that the application method provides uniform coverage to the target and avoids drift to non-target areas including waters of the state.
7. Achieve > 80% reduction in soil loss as measured by a rainfall simulator test performed by a certified laboratory (1 hour storm duration, 3 inches (75 mm) rainfall per hour).
8. Ensure uniform coverage to the target area and minimize drift to non-target areas. Apply anionic PAM to all cut and fill slopes, permanently grassed or temporarily grassed, either prior to grassing or in conjunction with hydroseeding operations. Mulch will not be eliminated.
9. Use application rates in accordance with manufacturer's instructions.
10. Do not exceed 200 lbs/acre/year (224 kg/ha/year).
11. Do not include polyacrylamide when planting in Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas

700.3.06 Quality Acceptance

The Engineer may require replanting of an area that shows unsatisfactory growth for any reason at any time.
Except as otherwise specified or permitted by the Engineer, prepare replanting areas according to the Specifications as if they were the initial planting areas. Use a soil test or the Engineer's guidance to determine the fertilizer type and application rate, then furnish and apply the fertilizer.

700.3.07 Contractor Warranty and Maintenance

A. Plant Establishment
Before Final Acceptance, provide plant establishment of the specified vegetation as follows:

1. Plant Establishment

Preserve, protect, water, reseed or replant, and perform other work as necessary to keep the grassed areas in satisfactory condition.

2. Watering

Water the areas during this period as necessary to promote maximum growth.

3. Mowing

Mow seeded areas of medians, shoulders, and front slopes at least every 6 months. Avoid damaging desirable vegetation.

In addition, mow as necessary to prevent tall grass from obstructing signs, delineation, traffic movements, sight distance, or otherwise becoming a hazard to motorists.

Do not mow lespedezas or tall fescue until after the plants have gone to seed.

4. Do not mow riparian areas, stream restoration areas, or wetland and stream mitigation areas after planting.

B. Additional Fertilizer Mixed Grade
Apply fertilizer based on the initial soil test report at half the recommended rate each spring after initial plant establishment. For bid purposes apply 200 lbs/acre of 19-19-19. Continue annual applications until Final Acceptance. This additional fertilizer will be measured and paid for at the Contract Unit Price for fertilizer mixed grade.

Do not apply additional fertilizer to Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas.

C. Growth and Coverage
Provide satisfactory growth and coverage, ensuring that vegetation growth is satisfactory with no bare spots larger than1 ft^2 (0.1 m^2). Bare spots shall comprise no more than 1 percent of any given area. An exception is given for seed not expected to have germinated and shown growth at that time.

D. Permissible Modifications
When all Items of the work are ready for Final Acceptance except for newly planted repaired areas or other areas with insufficient grass, the Contractor may fill the eroded areas or treat bare areas with sod obtained, placed, and handled according to Subsection 700.3.05.H.

Carefully maintain the line and grade established for shoulders, front slopes, medians, and other critical areas.
Sod as described above will not be paid for separately, but will be an acceptable substitute for the satisfactory growth and coverage required under this Specification. These areas treated with sod are measured for payment under the Item for which the sod is substituted.

700.4 Measurement

A. Permanent Grassing
Permanent Grassing will be measured for payment by the acre (hectare).

B. Mulches
Straw or hay mulch applied to permanent grassing areas will be measured by the ton (megagram). Wood fiber mulch furnished by the Contractor for permanent grassing is not measured for separate payment.

C. Quantity of Sod
Sod is measured for payment by the number of square yards (meters) , surface measure, completed and accepted.

D. Water
Water furnished and applied to promote a satisfactory growth is not measured for payment.

E. Quantity of Lime and Fertilizer Mixed Grade
Lime and fertilizer are measured by the ton (megagram). Lime used as a filler in fertilizer is measured by the ton (megagram).

F. Quantity of Nitrogen Used for Permanent Grassing
Nitrogen is measured in pounds (kilograms) based on the weight of fertilizer used and its nitrogen content.

G. Replanting and Plant Establishments
No measurement for payment is made for any materials or work required under Subsection 700.3.06 and Subsection 700.3.07.

H. Temporary Grass
Temporary grass is measured for payment by the acre (hectare) according to Section 163.

I. Seeded Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas

Seeded Native Restoration Areas, Multitropic Native Planting Areas, Riparian areas, Stream Restoration area, and Wetland and Stream Mitigation areas will be measured by the acre (hectare). and included under the pay item “Native Restoration and Riparian Seeding”.

700.4.01 Limits
General Provisions 101 through 150.

700.5 Payment
As grassing and planting progress, the Contractor will receive full measurement and payment on regular monthly estimates provided the work complies with the Specifications.

A. Permanent Grassing
Permanent grassing will be paid for at the Contract Price per acre (hectare), complete and in place. Payment is full compensation for preparing the ground, seeding, wood fiber mulch, polyacrylamide, and providing plant establishment, soil tests and other incidentals.

B. Straw or Hay Mulch
Straw or hay mulch required for Permanent Grassing will be paid for according to Section 163.

C. Fertilizer Mixed Grade
Fertilizer mixed grade will be paid for at the Contract Price per ton (megagram). Payment is full compensation for furnishing and applying the material.

D. Lime
Lime will be paid for at the Contract Price per ton (megagram). Lime used as filler in fertilizer will be paid for per ton (megagram). Payment is full compensation for furnishing and applying the material.

E. Nitrogen

Nitrogen will be paid for at the Contract Price per pound (kilogram) of nitrogen content. Payment is full compensation for furnishing and applying the material.

F. Sod
Sod will be paid by the square yard (meter) in accordance with the following schedule of payments. Payment is full compensation for ground preparation, including addition of topsoil, furnishing and installing live sod, and for Plant Establishment.

1. 70% of the Contract Price per square yard will be paid at the satisfactory completion of the installation.

2. 20% of the Contract Price will be paid upon satisfactory review of sod which is healthy, weed free and viable at the inspection made at the end of the first spring after installation.,.

3. 10% of the contract price will be paid upon satisfactory review of sod that is healthy, weed free and viable at the Final Acceptance.

G. Temporary Grass
Temporary Grass will be paid for under Section 163.

H. Seeded Native Restoration Areas, Multitropic Native Planting Areas, Riparian Areas, Stream Restoration Areas, and Wetland and Stream Mitigation Areas

Seeded Native Restoration Areas, Multitropic Native Planting Areas, Riparian areas, Stream Restoration area, and Wetland and Stream Mitigation areas will be paid for at the Contract Price per acre (hectare), complete and in place. Payment is full compensation for preparing the ground, seeding, and providing plant establishment and other incidentals. and included under the pay item “Native Restoration and Riparian Seeding”.

Payment will be made under:

Item No. 700	Permanent grassing	Per acre (hectare)
Item No. 700	Agricultural lime	Per ton (megagram)
Item No. 700	Fertilizer mixed grade	Per ton (megagram)
Item No. 700	Fertilizer nitrogen content	Per pound (kilogram)
Item No. 700	Sod	Per square yard (meter)
Item No. 700	Native Restoration and Riparian Seeding	Per acre (hectare)

700.5.01 Adjustments
General Provisions 101 through 150.

EXHIBIT M
TO CONTRACT AGREEMENT

NOTICE TO CONTRACTORS
COMPLIANCE WITH ELECTRICAL SAFETY PROVISIONS
(Bidder to sign and return)

I hereby certify that I am a principal and duly authorized representative of _____, ("Contractor"), whose address is _____, _____, _____ _____, and I further certify that:

(1) The provisions of Section 46-3-30 of the Official Code of Georgia Annotated, relating to the "High Voltage Safety Act" will be complied with in full; and

(2) The provisions of OSHA 29CFR1910.333(c) relating to work near high voltage power lines; and

(3) The provisions of Part 4 of the National Electrical Safety Code.

(3) The Contractor shall be required to ensure that each subcontractor hired is in compliance with the provisions listed above.

CONTRACTOR:

Date: _____ Signature: _____
Title: _____

APPENDICES

1. AFFIDAVITS

   – Affidavit Verifying Status for City Public Benefit Application

   – Contractor Affidavit Under O.C.G.A. §13-10-91(b(1)

2. CORPORATE CERTIFICATE

3. BONDS

4. LIST OF SUBCONTRACTORS

5. REQUEST FOR REFERENCES

Affidavit Verifying Status
for City Public Benefit Application
(Bidder to sign and return)

By executing this affidavit under oath, as an applicant for a City of Sandy Springs, Georgia Business License or Occupation Tax Certificate, Alcohol License, Taxi Permit, execution of contract or other public benefit as referenced in O.C.G.A. Section 50-36-1, I am stating the following with respect to my application for a City of Sandy Springs license/permit and/or contract for

[Name of natural person applying on behalf of individual, business, corporation, partnership, or other private entity]

1) _____ I am a United States citizen

OR

2) _____ I am a legal permanent resident 18 years of age or older or I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act 18 years of age or older and lawfully present in the United States.*

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.

Signature of Applicant: _____ Date: _____

Printed Name: _____

*Alien Registration number for non-citizens _____

****PLEASE INCLUDE A COPY OF YOUR PERMANENT RESIDENT CARD, EMPLOYMENT AUTHORIZATION, GREEN CARD, OR PASSPORT WITH A COPY OF YOUR DRIVER'S LICENSE IF YOU ARE A LEGAL PERMANENT RESIDENT (#2).**

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____.

Notary Public: _____

My Commission Expires: _____

*Note: O.C.G.A. § 50-36-1(e)(2) requires that aliens under the federal Immigration and Nationality Act, Title 8 U.S.C., as amended, provide their alien registration number. Because legal permanent residents are included in the federal definition of "alien", legal permanent residents must also provide their alien registration number. Qualified aliens that do not have an alien registration number may supply another identifying number below:

_____

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)
(Bidder to sign and return)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Sandy Springs has registered with, is authorized to use and uses 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. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____
Federal Work Authorization User Identification Number

_____
Date of Authorization

_____
Name of Contractor

_____
Name of Project

_____
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____ 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 _____

_____
NOTARY PUBLIC

My Commission Expires: _____

CORPORATE CERTIFICATE

I, _____, certify that I am the Secretary of the Corporation named as Contractor in the foregoing bid; that _____ who signed said bid in behalf of the Contractor, was then (title)_____ of said Corporation; that said bid was duly signed for and in 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 ___Georgia_____.

This _____ day of _____, 2012.

(Seal)

_____

(Signature)

BID BOND
(BID BOND TO BE RETURNED WITH BID)

KNOW ALL MEN BY THESE PRESENTS, THAT _____

_____

(Name of Contractor)_____

(Address of Contractor) at _____

(Corporation, Partnership and or Individual) hereinafter called Principal, and _____

_____
(Name of Surety)

_____
(Address of Surety

A corporation of the State of _____, and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

City of Sandy Springs Georgia
7840 Roswell Rd., Bldg.-500, Sandy Springs, Georgia 30350

herein after referred to as Obligee, in the penal sum of_____ Dollars ($ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, to the City of Sandy Springs, Georgia, a proposal for furnishing materials, labor and equipment for:

For

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Proposal.

NOW, THEREFORE, the conditions of this obligation are such that if the bid is accepted, the Principal shall within ten days after receipt of notification of the acceptance execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by the City of Sandy Springs, Georgia, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to the City of Sandy Springs, Georgia, each in an amount of 100% of the total Contract Price, in form and with security satisfactory to said the City of Sandy Springs, Georgia, and otherwise, to be and remain in full force and virtue 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 City of Sandy Springs, Georgia, upon demand, the amount

hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant, to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including, but not limited to, O.C.G.A. § 36-91-1, et. seq., and is intended to be and shall be constructed as a bond in compliance with the requirements thereof.

Signed, sealed, and dated this _____ day of _____A.D., 20____

ATTEST:

_____ _____

(Principal Secretary) (Principal)

(SEAL) BY: _____

_____ _____

(Witness to Principal) (Address)

_____

(Address)

_____

(Surety)

ATTEST

BY: _____

(Attorney-in-Fact) and Resident Agent

_____

(Attorney-in-Fact)

(Seal)

_____

(Address)

_____

(Witness as to Surety)

_____

(Address)

_____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT

_____
(Name of Contractor)

_____
(Address of Contractor)

a _____
(Corporation, Partnership or Individual)

_____

Hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

A Corporation of the State of _____ and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

The City of Sandy Springs. Georgia
7840 Roswell Rd., Bldg.-500, Sandy Springs, Ga. 30350

hereinafter referred to as Obligee; are held firmly bound unto said Obligee and all persons doing work or furnishing skill, tools, machinery, supplies, or material under or for the purpose of the Contract hereinafter referred to, in the penal sum of:
_____Dollars ($ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such, as whereas the Principal entered into a certain contract, hereto attached, with the Obligee, dated for:

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

NOW THEREFORE, the conditions of this obligation are such that if the above bound Principal shall well, truly, fully and faithfully perform said contract according to its terms, covenants, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the oblige, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreement of any and all duly authorized modifications of said contract that may hereafter be made, then his obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees

that no change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the work to be performed hereunder.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including but not limited to, O.C.G.A. § 36-91-1 et. seq., and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

Signed, sealed, and dated this _____ day of _____A.D., 20____

ATTEST:

_____ _____

(Principal Secretary) (Principal)

(SEAL)

BY: _____

_____

(Witness to Principal)

_____

(Address)

_____

(Surety)

ATTEST BY:

_____

Attorney-in-Fact) and Resident Agent

_____

(Attorney-in-Fact)

(Seal) _____

(Address)

_____

(Witness as to Surety)

_____

(Address)

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: THAT _____
(Name of Contractor)

_____
(Address of Contractor)

a _____
(Corporation, Partnership or Individual)

_____
Hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

a Corporation of the State of _____ and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

The City of Sandy Springs Georgia
7840 Roswell Rd., Bldg.-500, Sandy Springs, Georgia 30350

hereinafter referred to as Obligee; for the use and protection of all subcontractors and all persons supplying labor, services, skill, tools, machinery, materials and/or equipment in the prosecution of the work provided for in the contract herein after referred to in the full and just sum of _____Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, the Principal and Surety bind themselves, their, and each of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such, as whereas the Principal entered into a certain contract hereto attached, with the Obligee, dated _____ for:

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall well, truly, and faithfully perform said Contract in accordance to its terms, covenants, and conditions, and shall promptly pay all persons furnishing labor, materials, services, skill, tools, machinery and/or equipment for use in the performance of said Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect.

All persons who have furnished labor, materials, services, skill, tools, machinery and/or equipment for use in the performance of said Contract shall have a direct right of action on this Bond, provided payment has not been made in full within ninety (90) days after the last day on which labor was performed, materials, services, skill, tools, machinery, and equipment furnished or the subcontract completed.

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees

that no change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed there under shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the work to be performed there under.

PROVIDED, HOWEVER, that no suit or action shall be commenced hereunder by any person furnishing labor, materials, services, skill, tools, machinery, and/or equipment having a direct contractual relationship with a subcontractor, but no contractual relationship express or implied with the Principal:

Unless such person shall have given notice to the Principal within One Hundred and Twenty (120) days after such person did, or performed the last of the work or labor, or furnished the last of the materials, services, skill, tools, machinery and/or equipment for which claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials, services, skill, tools, machinery and/or equipment were furnished, or for whom the work or labor was done or performed. Such a notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Principal, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State in which the aforesaid project is located, save that such service need not be made by a public officer, and a copy of such notice shall be delivered to the Obligee, to the person and at the address provided for in the Contract, within five (5) days of the mailing of the notice to the Principal.

PROVIDED, FURTHER, that any suit under this bond must be instituted before the expiration of one (1) year after the acceptance of the public works covered by the Contract by the proper authorities.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including, but not limited to, O.C.G.A. § 36-91-1, et. seq., and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

Signed, sealed, and dated this _____ day of _____A.D., 20____

ATTEST:

_____ _____

(Principal Secretary) (Principal)

(SEAL) BY: _____

_____ _____

(Witness to Principal) (Address)

_____

(Address)

_____

(Surety)

ATTEST BY: _____

(Attorney-in-Fact) and Resident Agent

_____

(Attorney-in-Fact)

(Seal)

_____

(Address)

_____

(Witness as to Surety)

_____

(Address)

_____

MAINTENANCE BOND

CITY OF SANDY SPRINGS, GEORGIA
PROJECT NO: **7229** FULTON COUNTY, GEORGIA
BOND NO: _____

KNOW ALL MEN BY THESE PRESENTS
That we,_____ as Principal, and
_____ as Surety, are held and firmly bound unto the CITY OF SANDY SPRINGS, GEORGIA, as Obligee in the sum of 1/3 of the contract bid for the payment of which said Principal and Surety bind themselves, their heirs, administrators, executors, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into an agreement with the City of Sandy Springs for

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

and said work has now been completed and the Obligee desires a maintenance bond guarantee said streets and improvements for a period of one (1) year beginning _____ and ending _____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall fully indemnify and save harmless the City of Sandy Springs from any and all loss, costs, expenses or damages, for any repairs or replacements required because of defective workmanship or materials in said construction, then this obligation shall be null and void; otherwise to be and remain in full force and effect as to any such claim arising within one (1) year from the completion of said construction as set forth in said agreement.

Signed, sealed and dated this_____ day of _____, 20 _____

Witness:

_____
(Principal)

_____
(Name of Surety. Company)

_____
(Attorney-in-fact)

LIST OF SUBCONTRACTORS
(Bidder to complete and return)

I do _____, do not _____, propose to subcontract some of the work on this project. I propose to Subcontract work to the following subcontractors:

Company Name:_____

REQUEST FOR REFERENCES

ITB #15-048

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION
POWERS FERRY ROAD AT HEARDS ROAD
PROJECT NUMBER: T-7229

All references must be from customers for whom your company has provided **similar services within the past thirty-six (36) months** as the specifications of ITB #15-048.
References for: _____

(Company Name)

1. Company _____

Street Address _____

City, State & Zip _____

Contact Person Name_____ Phone_____

Email address_____

Describe specific job performed and date: _____

_____

2. Company_____

Street Address _____

City, State & Zip _____

Contact Person Name_____ Phone_____

Email address_____

Describe specific job performed and date: _____

_____

3. Company _____

Street Address _____

City, State & Zip _____

Contact Person Name _____ Phone _____ Email address_____

Describe specific job performed and date: _____

_____