CONTRACT DOCUMENTS
AND
SPECIFICATIONS

ANNUAL RESURFACING & PAVING FY 2020-2021

PW200819

FOR
THE CITY OF SNELLVILLE

PREPARED BY:

CITY OF SNELLVILLE
2342 OAK ROAD
SNELLVILLE, GA 30078
PHONE # 770-985-3503
FAX # 770-985-3525

AUGUST 19TH, 2020

CONTRACT DOCUMENTS
AND
SPECIFICATIONS

ANNUAL RESURFACING & PAVING FY 2020-2021
BID NUMBER PW200819

FOR
THE CITY OF SNELLVILLE

SPECIFICATIONS

DIVISION 0 BIDDING AND CONTRACT REQUIREMENTS

00020	Advertisement for Bid
00100	Instructions to Bidders
00410	Bid Bond
00440	Corporate Certificate
00500	Contract Agreement
00510	Notice of Award
00520	Notice to Proceed
00610	Performance Bond
00620	Payment Bond
00700	General Conditions
00800	Supplemental Conditions
00900	Pay Request Form 1

DIVISION 1 SITEWORK - GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

Section 400	Hot Mix Asphaltic Concrete Construction
Section 402	Hot Mix Recycled Asphaltic Concrete
Section 828	Hot Mix Asphaltic Concrete Mixtures

ATTACHMENT A
The list of priority streets to be paved in the City of Snellville. This list is preliminary and does not preclude the addition or subtraction of streets as needed by the City.

END OF SECTION

INVITATION TO BID

ANNUAL RESURFACING & PAVING BID
PW200819

The City of Snellville is soliciting competitive bids from qualified vendors for the resurfacing and paving of City roads for FY 2020-2021, PW200819.

Bids should be typed or submitted in ink and returned in a sealed envelope marked on the outside with the project identification, bid number and Company Name. Bids will be received until 2:00 P.M. local time on **Monday September 21st, 2020** at the Snellville City Hall Reception Desk, First Floor, 2342 Oak Road, Snellville, Georgia 30078. Bidder must submit one (1) original and two (2) copies of the bid documents. Any bid received after this date and time will be marked as "late" and disqualified. Bids will be opened by the City of Snellville at 2:15pm local time on **Monday September 21st, 2020**. An initial bid tabulation documenting the Bid opening and listing Bidders will be available upon request on the next business day following the date of the Bid opening or viewed on our website at www.snellville.org.

Bid specifications may be obtained from the City Clerk's office, 2342 Oak Road, Snellville, GA 30078. Questions regarding specifications should be directed in writing to Melisa Arnold, City Clerk, at marnold@snellville.org. Bids are legal and binding upon the bidder when submitted.

All bidders must submit with the bid a bid bond, certified check or cashier's check in an amount not less than $5,000.00. The successful vendor will be required to meet insurance requirements, submit a performance bond and a payment and materials bond to the City in the amount of 100% of the Contract Price. Insurance and bonding companies must be licensed to do business by the Georgia Secretary of State, authorized to do business in Georgia by the Office of the Georgia Insurance Commissioner and must have an A.M. Best rating of A-6 or higher.

The Bids shall remain valid for a period of 90 days from bid opening. The City reserves the right to waive any formality and any technicalities, and to reject any or all bids if it is deemed to be in the best interest of the City to do so.

Butch Sanders, City Manager
City of Snellville, Georgia

ANNUAL RESURFACING AND PAVING OF CITY ROADS
PW200819

INSTRUCTIONS TO BIDDERS

BIDDERS ARE ADVISED TO UNDERSTAND COMPLETELY THE GENERAL CONDITIONS AND SPECIAL PROVISIONS, PRIOR TO SUBMITTING THEIR BID.

A. QUALIFICATIONS

l. Bids will be considered only from experienced and well equipped Contractors engaged in work of this type and magnitude.

2. Bidders must submit evidence setting forth qualifications which entitle them to consideration as a responsible Contractor. A list of work of similar character successfully completed within the last two years may be required. This list should include the location of the projects, their size, and equipment available for use on this work. Before accepting any bid, the City may require evidence of the Contractor's financial ability to successfully perform the work to be accomplished under the contract.

B. GUARANTEE TO ACCOMPANY BID

Bids must be accompanied by a certified check or cashier's check or acceptable bid bond (City of Snellville form provided. Failure to use City form may result in rejection of bid or bid being deemed non-responsive) in an amount not less than $5,000.00, payable to the City of Snellville. Failure to do so will be cause for rejection.

C. SUBMITTING BIDS

Bids must be submitted in an envelope with the following information clearly typed or printed on the outside:

City of Snellville
Resurfacing and Paving City Roads
Bid Number PW200819
Company Name

Bidder must submit one (1) original and two (2) copies of the bid documents.

D. BONDS

Prior to execution of a contract, a Contract Performance Bond and a Payment bond, each equal to 100% of the Contract amount must be provided by the successful Bidder by a surety company qualified to do business in the State of Georgia and satisfactory to the City. Bonds given shall meet the requirements as listed in this Bid package.

E. INSURANCE REQUIREMENTS

Prior to execution of the contract, and at all times that this Contract is in force, the contractor must obtain, maintain and furnish the City Certificates of Insurance from licensed companies doing business in the State of Georgia and acceptable to City covering:

l. Statutory Worker's Compensation Insurance:
   a. Employers Liability:
      Bodily Injury by Accident - $l00,000 each accident
      Bodily Injury by Disease - $500,000 policy limit
      Bodily Injury by Disease - $l00,000 each employee

2. Comprehensive General Liability Insurance
   a. $l,000,000 limit of liability per occurrence for bodily injury and property damage
   b. Owner's and Contractor's protective liability
   c. Blanket contractual Liability
   d. Blanket "X", "C", and "U"
   e. Products/Completed Operations Insurance
   f. Broad form property Damage
   g. Personal Injury Coverage
   h. Fire Legal Liability

3. Automobile Liability
   a. $1,000,000 limit of liability per occurrence for bodily injury and property damage
   b. comprehensive form covering all owned, non-owned and hired vehicles

4. Umbrella Liability Insurance
   a. $l,000,000 limit of liability
   b. Coverage at least as broad as primary coverage as outlined under Items l, 2 and 3 above

5. The City of Snellville should be shown as an additional Insured on General Liability Automobile Liability and Umbrella Liability policies.

6. All the above policies shall be endorsed to provide for 30 days written notice to City, in the event of cancellation, non-renewal or material changes in coverages.

7. Certificate Holder should read:
City of Snellville, Georgia
2342 Oak Road
Snellville, GA 30078

8. Insurance company must have an A. M. Best rating of A-6 or higher.

9. Insurance Company must be licensed to do business by The Georgia Secretary of State.

l0. Insurance Company must be authorized to do business in Georgia by The Georgia Insurance Department.

GENERAL BOND REQUIREMENTS

l. Bid Bond - Amount of Bond should be not less than $5,000.00. City Bid Bond form attached.

2. Performance Bonds - Amount of Bond should be 100% of the total amount of the contract.

3. Payment, Labor & Materials Bonds - Amount of bond should be 100% of the total amount of the contract.

SPECIFIC BOND REQUIREMENTS

l. Insurance and Bonding Company must be licensed to do business in Georgia.

2. Insurance and Bonding Company must be licensed to do business by The Georgia Secretary of State.

3. Insurance and Bonding Company must be authorized to do business in Georgia by The Georgia Insurance Department.

4. Insurance and Bonding Company must have an A. M. Best Rating of A-6 or higher.

WITHDRAWAL OF BID BOND

After Bid opening, vendor has up to twenty-four (24) hours to notify the City Manager of an obvious error made in calculation of Bid. Withdrawal of Bid Bond for this reason must be done in writing within the twenty-four (24) hour period. Bid Bond may not be withdrawn otherwise.

F. AUTHORITY TO SIGN

l. If a Bid is made by an individual, the name and mailing address must be shown.

If a bid is made by a firm or partnership, the name and mailing address of each

member of the firm or partnership must be shown.

If a Bid is made by a Corporation, the Corporate Certificates must be executed.

2. The Bidder should insure that the legal and proper name of his proprietorship, firm, partnership or corporation is printed or typed in the space provided on the Schedule of Items.

G. RIGHTS RESERVED

l. City reserves the right to reject any or all Bids, to waive informalities and to re-advertise. It is understood that all Bids are made subject to this agreement, that City reserves the right to decide which Bid it deems lowest and best, and in arriving at this decision, full consideration will be given to the reputation of the Bidder, his financial responsibility, and work of this type successfully completed.

2. Bidders are advised to examine the Plans and Specifications carefully and to make examinations of the City of the proposed work as are necessary to familiarize themselves with local conditions which may affect the proposed work. Bidders are also advised to inform themselves fully in regard to conditions under which the work will be performed. City will not be responsible for Bidders errors or misjudgment, nor for any information on local conditions or general laws and regulations.

3 Any unauthorized additions, conditions, limitations, or provisions attached to the Bid shall render it informal, and may be cause for rejection. City reserves the right to waive informalities.

4. No Bids may be withdrawn after submission of Proposal for a period of 45 days after the date set for opening thereof.

5. City reserves the right to reject any and all Bids from any person, firm, or corporation who is in arrears in any obligation to City of Snellville, Georgia.

6. City reserves the right to increase or decrease the unit quantities specified in this document.

H. AWARD OF CONTRACT

l. Prior to award of the contract, the successful bidder will be required to submit a construction schedule to the City, demonstrating the bidder's ability to commence and proceed in a timely manner on all of the City resurfacing projects for which he is the successful bidder.

Failure to demonstrate the ability for simultaneous contract execution and progression will result in, at the City's discretion, the award of any or all of the

Bidder's contracts to the next lowest responsible bidder, or the re-advertisement and rebidding of any or all of these contracts.

2. The contract, if awarded, will be awarded to that responsible bidder whose bid will be most advantageous to City, price and other facts considered. The City is to make the determination.

I. FAILURE TO EXECUTE CONTRACT

Failure to execute the Contract, Performance Bond, Payment Bond, or furnish satisfactory proof of coverage of the insurance required within ten days after the date of Notice of Award of the contract may be just cause for the annulment of the award and for the forfeiture of the guaranty to City, not as a penalty, but a liquidation of damages sustained. Failure to progress in a timely manner after beginning may also be just cause for such annulment of award. The Contract and Contract bonds shall be executed in multiple originals.

J. TIME

l. Time is of the utmost importance of this project. The successful bidder will be required to commence work within ten (l0) calendar days from receipt of the Notice to Proceed, and must carry on with utmost diligence in order to complete the work at the earliest possible date.

2. The contract time for completion of work for this contract shall be as stated in the bond. For failure to complete the work within this period, the Contractor shall pay City liquidated damages in accordance with Section l08.08 of the Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges, l983 Edition, for each calendar day in excess of the contract time until the project is considered substantially complete by the City.

3 Retainage on work completed will be withheld by City in accordance with l09.07.8 (a & b) of the Georgia Department of Transportation Standard Specifications, as follows:

a. As long as the gross value of work completed is less than 50% of the total contract amount, or if the contractor is not maintaining his construction schedule to the satisfaction of the Engineer, the City shall retain l0% of the gross value for the work completed. Work: as indicated by the current estimate certified by the Engineer for payment.

b. After the gross value of completed work becomes equal to or exceeds 50% of the total contract amount within a time period satisfactory to the City, at the request of the contractor, then the total amount to be retained shall be 5% of the gross value of the completed work, indicated by current estimates, until all

pay items are substantially completed.

K. LOCATION AND SITE

l. The site of the proposed work is located inside the City Limits of the City of Snellville and will be designated by the Director of Public Works at the time the contract is awarded.

2. The contractor shall accept the site in its present condition and carry out all work in accordance with the requirements of the specifications, as indicated on the drawings or as directed by the engineer.

3. The Contract Documents contain the provisions required for the completion of the work to be performed pursuant to this Contract. Information obtained from an Officer, agent, or employee of the City or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract. Each Bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to so familiarize himself shall in no way relieve any Bidder from any obligation in respect to his Bid.

4. The Contractor is responsible for the location of above and below ground utilities and structures which may be affected by the work.

L. COMPLIANCE WITH OSHA STANDARDS AND REGULATIONS

The work connected with this Contract shall be performed in accordance with all applicable OSHA regulations and standards including any additions or revisions thereto until the job is completed and accepted by City.

M. INFORMATION AND QUESTIONS

Should any question or need for information arise, it should be directed in writing to:

Melisa Arnold
City of Snellville
2342 Oak Road
Snellville, GA 30078

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

The Bidder has carefully examined and fully understands the Contract, Plans, and Specifications, Instructions to Bidders, and other Documents hereto attached, and has made a personal examination of the Site of the proposed work, and has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his proposal is accepted, he will contract with City 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 Roads and Bridges, l993 Edition, and any supplemental specifications modifying them except as noted below and in the special provision. All construction materials such as aggregate, asphaltic concrete, Portland cement concrete, pipe, precast structures, etc. will be furnished from Georgia Department of Transportation certified suppliers only.

The quantities are approximate and may be increased or decreased as to any and all units as necessary to complete the construction of said Project without entitling the Contract to any claim for extra compensation because of any injury, damage, or delay he may sustain on account of such increase or decrease. The Contractor shall be entitled to compensation on the foregoing unit prices only on the quantities of materials actually furnished and work actually done are determined and approved in writing by the Engineer through an inspection of the work completed.

In case of discrepancies between the figures shown in the unit prices and the totals, the unit prices shall apply and the totals shall be corrected to agree with the unit prices.

It is the intent of this proposal to include all items of construction and all Work indicated on the Drawings and called for in the Specifications.

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

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

The Bidder further proposes and agrees hereby to promptly commence the Work with adequate force and equipment within ten (l0) calendar days from receipt of Notice to Proceed. The bidder also agrees that liquidated damages may be assessed in accordance with the “Instruction to Bidders.”

Attached hereto is an executed Bid Bond or Certified check on the (Bank) ____, of (City, State)_____ in the amount of Five Thousand Dollars ($5,000.00) according to the conditions under "Instruction to Bidders."

If this bid shall be accepted by City 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, as stated in the Instructions to Bidders, attached hereto, within ten days from the date of Notice of Award of the contract, then City may at its option, determine that the undersigned abandoned the contract, thereupon this bid shall be null and void, and the sum stated in the attached Bid Bond or certified check shall be forfeited to City as liquidated damages.

Bidder further declares that the full name and resident address of all person and parties interested in the foregoing bid as principals are as follows:

COMPANY NAME _____

AUTHORIZED REPRESENTATIVE'S SIGNATURE _____

FAILURE TO RETURN THIS PAGE AS PART OF BID DOCUMENT MAY RESULT IN REJECTION OF BID.

Approximate Quantities:

ITEM	UNITS	EST. QTY	UNIT PRICE
ASPHALT PATCHING, 19 mm recycled asphalt including bituminous material and Tack Coat	**TONS**	**3027**	
ASPHALT RESURFACING, 9.5mm TYPE 1 recycled asphalt including bituminous material and Tack Coat	**TONS**	**474**	
6.5' EDGE MILLING	**LF**	**25130**	
MANHOLE ADJUSTMENTS	**EACH**	**39**	
CRACK SEALING	**LF**	**27477**	
"FDR" 19MM @ 220#/SY 9.5MM @ 165#/SY	**SY**	**1970**	
		TOTAL:	

COMPANY NAME _____

AUTHORIZED REPRESENTATIVE'S SIGNATURE _____

SECTION 00410

BID BOND

STATE OF GEORGIA

COUNTY OF GWINNETT

KNOW ALL MEN BY THESE PRESENTS, that we,

_____ _____ as

principal, and, _____

_____ as Surety, are held and firmly bound to the City of Snellville,

Georgia in the sum of _____ Dollars

($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the Owner a Proposal for Annual Resurfacing and Paving Project, Bid Number PW200819.

NOW THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of conformed Contract Documents execute a Contract in accordance with the Bid upon the terms, conditions and prices set forth therein, and in the form and manner required by the Owner and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to the Owner, each in an amount of one hundred percent (100 %) of the total Contract Price, in form and with security satisfactory to the Owner, or in the event of the failure of the Contractor to execute and deliver the Contract Agreement and give said Performance and Payment Bonds, the Contractor shall pay the Owner the difference not to exceed the dollar amount stated above between the amount specified in said Proposal and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said Proposal, and execute the Special Assurances form, then this obligation shall be void; otherwise, it shall 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 aforesaid owner, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

This bond is given pursuant to and in accordance with all laws of the State of Georgia applicable hereto are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this _____ day of _____ , 20___.

PRINCIPAL_____

Signed and sealed in the presence of:

1. _____

By:_____

Title:_____
_

2. _____

By:_____

Title:_____
_

SURETY: _____

Signed and sealed in the presence of:

1. _____

By:_____

Title:_____
_

2._____

By:_____

Title:_____
_

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state of Georgia.

END OF SECTION
PW200819

SECTION 00440

CORPORATE CERTIFICATE

I, _____, certify that I am the Secretary of the Corporation named as Contractor in the foregoing Bid; that _____, who signed said Bid on behalf of the Contractor was then _____ of the Corporation; that said Bid was duly signed for and on behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of _____. This _____ day of _____, 20___.

_____

(SEAL)

END OF SECTION
PW200819

CONSTRUCTION CONTRACT

STATE OF GEORGIA

COUNTY OF GWINNETT

THIS CONTRACT made and entered into as of the _____ day of _____, 2020, by and between CITY OF SNELLVILLE, a Georgia municipal corporation (hereinafter referred to as "Owner") and _____ (hereinafter referred to as "CONTRACTOR") and _____ (hereinafter referred to as "Surety").

W I T N E S S E T H:

WHEREAS, OWNER wishes to contract with CONTRACTOR for construction services, and CONTRACTOR wishes to so contract; and

WHEREAS, OWNER desires to provide fair and reasonable payments to CONTRACTOR on the terms and subject to the conditions set forth in this Contract.

NOW THEREFORE, in consideration of these premises, and the mutual covenants and undertakings herein contained, each intending to be legally bound, OWNER and the CONTRACTOR covenant and agree as follows:

1.

The CONTRACTOR shall, in accordance with the terms of this Contract, including Contractor's Request for Proposal (**September 21, 2020**), and attached hereto as Exhibit "A" and incorporated herein) and any written addenda, modifications or change orders, arrange to secure all architectural, engineering, mechanical and electrical design technology, labor, materials and equipment, necessary to produce and complete the work within the time prescribed herein. It is the intention of the Contract that the CONTRACTOR pay for all labor, equipment, materials, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for the proper completion of the work, whether temporary or permanent and

whether or not incorporated or to be incorporated in the work.

2.

The CONTRACTOR shall provide at CONTRACTOR'S expense all permits, licenses, governmental fees and inspections and similar costs, including but not limited to, compliance with the requirements of the Georgia Department of Transportation and the Gwinnett County Department of Transportation.

3.

Completion of the work and construction required by this Contract shall be within a reasonable time. The Completion Date shall be the date on which (1) CONTRACTOR certifies that all work required by the Contract has been completed, (2) the construction has been approved by OWNER, and (3) any applicable licenses, permits, or regulatory approval have been issued.

4.

The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work, including but not limited to compliance with applicable building codes.

5.

The CONTRACTOR shall supervise and direct the work using his best skill, knowledge and attention and shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract. CONTRACTOR shall not knowingly employ on the work any unfit person or anyone not skilled in the task assigned to him.

6.

The CONTRACTOR shall keep the premises reasonably free from accumulation of waste material or rubbish and shall at completion of the work remove all waste and rubbish, tools,

construction equipment, machinery and surplus materials.

7.

The CONTRACTOR shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the CONTRACTOR'S operations under this Contract, whether such operations be performed by CONTRACTOR, any subcontractor, or by anyone directly or indirectly employed by either CONTRACTOR or any subcontractor, or by anyone for whose acts any of them may be liable:

(1) Claims under workers' or workmen's compensation disability benefit and other similar employee benefit acts;

(2) Claims for damages because of bodily injury, occupational sickness or disease, or death of its employees

(3) Claims for damages because of bodily injury, sickness or disease, or death of any person other than its employees;

(4) Claims for damages insures by usual personal injury liability coverage which are sustained (a) by a person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (b) by any other person; and

(5) Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use resulting there from.

The insurance required by this Contract shall be written for not less than any limits of liability required by law and as approved by the OWNER.

8.

The CONTRACTOR agrees to indemnify OWNER and hold OWNER and its agents and employees harmless from and against all actions, causes of action, suits, liabilities, claims, damages, losses, costs and expenses (including attorney's fees and costs) arising out of or resulting from (a) any

act or omission of CONTRACTOR in the performance or non-performance of the Work or its obligations hereunder, (b) any breach of contract by CONTRACTOR, and (c) any claim for injury to person or property arising out of, or in the course of, the work as contemplated by this Contract. The parties hereto agree that the terms of this Paragraph shall survive any termination or expiration of the Contract. In any and all claims against the OWNER, or any of their agents or employees, by any employee of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or and subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

9.

CONTRACTOR warrants that title to all work, materials and equipment will pass to Owner free and clear of all claims, liens, security interests or encumbrances upon payment to the CONTRACTOR of all costs incurred.

10.

Neither this Contract nor any written addenda, modifications, nor change orders shall disclaim, exclude, nor modify any implied warranties available at law to OWNER, including but not limited to the implied warranty of merchantability.

11.

Owner shall pay CONTRACTOR for the performance of the services and work required by this contract as follows: _____ Dollars ($_____) per ton of asphalt patching, _____ Dollars ($_____) per ton of asphalt resurfacing, _____ Dollars ($_____) per linear foot of edge milling, _____ Dollars ($_____) each for manhole adjustments,

_____ Dollars ($_____) per linear foot of crack sealing and _____ Dollars ($_____) per square yard of Full Depth Reclamation. Notwithstanding any other provision of this Contract and notwithstanding any representation by any officer or employee of the OWNER, the amount to be paid to CONTRACTOR by Owner shall not exceed the bid amount without first obtaining the approval of the Mayor and Council of the City of Snellville. In order to secure the approval of this Mayor and Council of the City of Snellville, a written change order has to be approved by a formal vote of the Mayor and Council at a duly called meeting pursuant to the laws of the State of Georgia. At the discretion of the OWNER, an amount may be retained to ensure the quality of the work and completion of the project as provided by Title 13, Chapter 10 of the Official Code of Georgia Annotated. Prior to receiving a draw, the CONTRACTOR shall secure complete lien releases from all workmen and materialmen and shall have such materialmen and workmen execute Affidavits that all monies have been paid.

12.

This Contract is conditioned on both parties' compliance with the requirements of O.C.G.A. § 13-10-91. OWNER employs 100 or more employees, and is in compliance with O.C.G.A. § 13-10-91. CONTRACTOR hereby states that it has complied with the requirements of O.C.G.A. § 13-10-91, as attested to by the affidavit attached hereto as Exhibit "C," and will obtain the employee-number category and eligibility verification from all subcontracts CONTRACOR uses regarding this project.

13.

Time is of the essence of this Contract.

14.

This Contract constitutes the sole and entire Contract between the parties hereto and no

modification hereof shall be binding unless attached hereto and signed by all parties hereto. This Contract shall be binding upon and shall enure to the benefit of the heirs, personal representatives, successors and assigns of the parties hereto. CONTRACTOR may not assign its rights or obligations under this Contract without the express written approval of the OWNER.

15.

In case any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal, or unenforceable in any respect, the invalidity, illegality or unenforceability shall not affect the other provisions, and the remaining provisions of this Contract shall be given full effect.

16.

This Contract is executed in duplicate and each executed copy may be deemed an original. No representation, or promise or inducement not included in this contract shall be binding upon any party hereto.

17.

This Contract and the rights of the parties hereto and to the property shall be interpreted in accordance with the laws of the State of Georgia. All disputes and determinations of rights and obligations arising from or relating to this Contract shall be heard in the Superior Court of Gwinnett County, Georgia. Both parties hereto waive any objection to personal or subject matter jurisdiction or venue lying in the Superior Court of Gwinnett County, Georgia, and agree that all reasonable attorneys' fees of the winning party of such disputes shall be paid by the losing party.

18.

Pursuant to O.C.G.A. §13-10-1, the undersigned _____ agrees to be the Surety for performance and payment of all obligations. Surety shall execute a performance bond and payment bond in the forms attached hereto as Exhibit "D" and "E" and shall

provide as security for said performance and payment bond a first lien deed to secure debt on property having a value in excess of the amount of the contract.

IN WITNESS WHEREOF, the parties have executed these presents in duplicate the day and year first above written.

OWNER:
CITY OF SNELLVILLE

(Corporate Seal)

By: _____
Barbara Bender, Mayor

Attest: _____
Melisa Arnold, City Clerk

Sworn to and subscribed
before me this _____ day
of _____, 2020.

_____
Witness

_____
Notary Public

My Commission Expires:

CONTRACTOR:

_____

(Corporate Seal)

By: _____

Title: _____

Sworn to and subscribed
before me this _____ day
of _____, 2020.

_____
Witness

_____
Notary Public

My Commission Expires:

SURETY:

(SEAL) _____

Sworn to and subscribed
before me this _____ day
of _____, 2020.

_____
Witness

_____
Notary Public

My Commission Expires:

STATE OF GEORGIA

COUNTY OF GWINNETT

AFFIDAVIT OF SUBCONTRACTOR AND MATERIALMEN

Personally, before me, a notary public, appeared the undersigned, who after being duly sworn according to law, deposes and says that he is _____ who has supplied materials or services for the work performed on Exhibit "A" attached hereto and that all items of labor and materials used in the improvement of said property by the undersigned have been paid for in full or will be paid for in full from the funds being advanced this date, without exception.

Deponent says there are not now any other unpaid bills or possibility of liens against said property arising from said repairs or improvements. Deponent understands this Affidavit is being relied upon by the City of Snellville, the Owner of the property in allowing funds to be advanced and paid out under said contract.

Sworn to and subscribed
before me this _____ day
of _____, 20___.

_____
Notary Public

_____
Signature

_____
Date

_____
Printed Name

My Commission Expires:

_____
Entity

_____
Title of Officer or Agent

STATE OF GEORGIA

COUNTY OF GWINNETT

CONTRACTOR AFFIDAVIT AND AGREEMENT

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 contracting with the City of Snellville has registered with and is participating in a federal work authorization program* [any of the electronic verification or work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with the City of Snellville, contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the City of Snellville at the time the subcontractor(s) is retained to perform such service.

_____
EEV / Basic Pilot Program* User Identification Number

_____ _____
BY: Authorized Officer or Agent Date

_____
Title of Authorized Officer or Agent of Contractor

_____
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE

_____ DAY OF _____, 20_____

_____
Notary Public
My Commission Expires:

_____

* As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

STATE OF GEORGIA

COUNTY OF GWINNETT

SUBCONTRACTOR AFFIDAVIT

By executing this affidavit, the undersigned subcontractor 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 under a contract with _____ on behalf of the City of Snellville has registered with and is participating in the Employment Eligibility Verification (EEV)/Basic Pilot Program, or E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. § 13-10-91.

_____
EEV/Basic Pilot Program User Identification Number

Sworn to and subscribed
before me this _____ day
of _____, 20___.

_____
Notary Public

_____
Signature

_____
Date

_____
Printed Name

My Commission Expires:

_____
Entity

_____
Title of Officer or Agent

SECTION 00510

NOTICE OF AWARD

TO: _____

PROJECT KNOWN AS: ANNUAL RESURFACING & PAVING BID FY 2020-2021, PW200819

FOR: THE CITY OF SNELLVILLE, GEORGIA

The **OWNER** has considered the Bid submitted by you for the above described Work in response to its Advertisement for Bids dated _____.

You are hereby notified that your Bid in the amounts as follows:

as follows: _____ Dollars ($_____) per ton of asphalt patching, _____ Dollars ($_____) per ton of asphalt resurfacing, _____ Dollars ($_____) per linear foot of edge milling, _____ Dollars ($ _____) each for manhole adjustments, _____ Dollars ($_____) per linear foot of crack sealing and _____ Dollars ($_____) per square yard of full depth reclamation (FDR) has been accepted for the works as described and delineated within the contract documents and plans as provided for the projects assigned.

You are required to furnish the required Contractor's Performance Bond, Payment Bond, and certificates of insurance to be included in the Agreement between the City of Snellville and _____
_____

You are required to return an acknowledged copy of this **NOTICE OF AWARD** to the **OWNER**.

Dated this _____ day of _____, 20___.

CITY OF SNELLVILLE, **OWNER**

By: _____

Printed Name: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of this above NOTICE OF AWARD is hereby acknowledged by _____, a duly sworn agent of or an authorized representative for _____, this the ____ day of _____, 20___.

By: _____

Name: _____

Title:_____

END OF SECTION

SECTION 00520

NOTICE TO PROCEED

TO: _____

_____

PROJECT KNOWN AS: ANNUAL RESURFACING & PAVING FY 2020-2021 PW200819

FOR: THE CITY OF SNELLVILLE, GEORGIA

You are hereby notified to commence work in accordance with the Agreement dated _____, on or before _____, and you are to complete the work by _____, _____.

You are required to provide the OWNER with a Proposed Schedule for the Project before any construction can commence.

You are required to return an acknowledged copy of this **NOTICE TO PROCEED** to the **OWNER**.

Dated this _____ day of _____, 20___.

CITY OF SNELLVILLE, **OWNER**

By: _____

Name: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____, a duly sworn agent of or an authorized representative for _____, this the _____ day of _____, 2020.

By: _____

Name: _____

Title: _____

END OF SECTION

SECTION 00610

PERFORMANCE BOND

STATE OF GEORGIA

COUNTY OF GWINNETT

KNOW ALL MEN BY THESE PRESENTS, that _____, as Principal, hereinafter called Contractor, and _____ as Surety, are held firmly bound unto The City of Snellville, Georgia, hereinafter called Owner, as Obligee, in the amount of _____ Dollars ($ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly be these presents.

WHEREAS, Contractor has by written agreement dated _____, _____, entered into a Contract with Owner for:

Those obligations and work described in said contract relating to the Annual Resurfacing and Paving Project.

In accordance with Drawings and Specifications provided by the City of Snellville, which are by reference made a part of the Contract and a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if the Principal shall in all respects promptly and faithfully perform and comply with the terms and conditions of said Contract and his obligations thereunder and shall indemnify the Owner and their representative and save either or all of them harmless against and from all costs, expenses and damages arising from the performances of said Contract or the repair of any work thereunder, then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, in accordance with the following terms and conditions:

A. The Principal and Surety jointly and severally agree to pay the Owner any difference between the sum to which the said Principal would be entitled on the completion of the Contract, and that sum which the Owner may be obliged to pay for the completion of said work by Contract or otherwise, and any damages, direct or indirect or consequential, which the said Owner may sustain on account of such work, or on account of the failure of said Contractor to properly and in all things, keep and execute all of the provisions of said Contract.

B. This Bond shall remain in full force and effect for a period of one (1) year from the date of acceptance of the project by the Owner or Owner's Representative shall provide that the Contractor guarantee to repair or replace for said period of one (1) year all work performed and materials and equipment furnished that were not performed or furnished according to the terms of the Contract, and shall make good defects thereof which have become apparent before the expiration of said period of one (1) year. If any part of the project, in the judgment of the Owner, for the reasons above stated needs to be replaced, repaired or made good during that time, the Owner shall so notify the Contractor in writing. If the Contractor refuses or neglects to do such work within five (5) days from the date of service of such notice, the Owners shall have the work done by others and the cost thereof shall be paid by the Contractor or his Surety.

C. The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying the same shall in any way affect its obligations on this bond; and it does hereby waive Notice of any change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

D. The Surety represents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's Rating of "_____" and Financial Category of "Class _____".

E. All claims and disputes under this Bond shall be subject to the Jurisdiction of the Superior Courts of Gwinnett County, Georgia. Venue shall lie only in the Superior Courts of Gwinnett County, Georgia. With respect to any claims or disputes under this bond, the Principal and Surety hereby waive any defenses of lack of personal or subject matter jurisdiction or lack of venue in the Superior Courts of Gwinnett County and agree to have all disputes heard in the Superior Courts of Gwinnett County.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their several seals, this _____ day of _____, 2020, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESSES:
(If Sole Ownership or Partnership, two (2) witnesses required. If Corporation, Secretary only will attest and affix seal).

_____

_____

PRINCIPAL:

_____
Name of Firm

_____
Signature of Authorized Officer (Affix Seal)

_____
Title

_____
Business Address

_____
City State

SURETY:

WITNESS:

_____

_____
Corporate Surety

_____
Attorney-in-Fact (Affix Seal)

_____
Business Address

_____
City State

_____
Name of Local Insurance Agency

END OF SECTION

SECTION 00620

PAYMENT BOND

STATE OF GEORGIA

COUNTY OF GWINNETT

KNOW ALL MEN BY THESE PRESENTS, that _____, as Principal, hereinafter called Contractor, and _____ as Surety, are held firmly bound unto The City of Snellville, Georgia, as Obligee, in the amount of _____ Dollars ($ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly be these presents.

WHEREAS, Contractor has by written agreement dated _____, _____, entered into a Contract with Owner for:

Those obligations and work described in said contract relating to the Annual Resurfacing & Paving Project.

In accordance with Drawings and Specifications prepared by the City of Snellville, and which are by reference made a part of the Contract and a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if the Principal shall promptly make payments to all claimants, as herein below defined, then this obligation shall be void; otherwise, the Bond shall remain in full force and effect, subject to the following terms and conditions:

A. A claimant is defined as any person supplying the Principal with labor, material and supplies, used directly or indirectly by the said Principal or any subcontractor in the prosecution of the work provided for in said Contract and as further defined under Georgia law.

B. The Principal and the Surety jointly and severally, shall repay the Owner any sum which the Owner may be compelled to pay because of a lien for labor or materials furnished for any work included in or provided by said Contract.

C. The Surety, for value received, hereby stipulates and agrees that no charge, extension of time, alteration of or addition to the terms of the Contract or to the work to be performed thereunder or the Specification applicable thereto shall in any way affect its obligation on this Bond, and the Surety hereby waives notice of any such change, extension of time, alterations of or addition to the terms of the Contract, or to the work or to the Specifications.

D. The Surety represents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's rating of " _____ " and Financial Category of " Class _____ ". The Surety also warrants and represents that it is legally authorized to do business in the State of Georgia.

E. All claims and disputes under this Bond shall be subject to the jurisdiction of the Superior Courts of Gwinnett County, Georgia. Venue shall lie only in the Superior Courts of Gwinnett County, Georgia. With respect to any claims or disputes under this bond, the Principal and Surety hereby waive any defenses of lack of personal or subject matter jurisdiction or lack of venue in the Superior Court of Gwinnett County and agree to have all disputes heard in the Superior Courts of Gwinnett County.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their several seals, this _____ day of _____, 2020, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

PRINCIPAL:

WITNESSES: (If Sole Ownership or Partnership, two (2) witnesses required. If Corporation, Secretary only will attest And affix seal.)

_____

_____

_____
Name of Firm

_____
Signature of Authorized Officer (Affix Seal)

_____
Title

_____
Business Address

_____
City State

SURETY:

WITNESS:

_____

_____
Corporate Surety

_____
Attorney-in-Fact (Affix Seal)

_____
Business Address

_____
City State

_____
Name of Local Insurance Agency

END OF SECTION

SECTION 00700

GENERAL CONDITIONS

1. **Notice of Award of Contract**: Proposals submitted shall be good for a ninety (90) day period. Within ninety (90) days after receipt of proposal, the Owner shall notify the successful bidder of the award of the Contract.

   Should the Owner require additional time to award a Contract, the time may be extended by mutual agreement between the Owner and the successful bidder. If an Award of Contract has not been made within ninety (90) days from the bid date or within the extension mutually agreed upon, the bidder may withdraw the bid without further liability on the part of either party.

2. **Execution of Contract Documents**: With the notification of Award of Contract, the Owner shall furnish the Contractor four (4) conformed copies of Contract Documents for execution by him and his surety.

   Within ten (10) days after receipt the notification of Award of Contract, the Contractor shall return all the documents properly executed by himself and his surety. Attached to each document shall be the power of attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

   Within three (3) days after receipt of the documents executed by the Contractor and his surety with the power of attorney and certificates of insurance, the Owner shall complete the execution of the documents. The General Contractor will received one copy of the completed signed documents and 5 sets of plans and specifications.

   Should the Contractor and/or surety fail to execute the documents within time specified, the Owner shall have the right to proceed on the bid bond accompanying the bid.

   If the Owner fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw his bid without penalty.

   Should either party require an extension of any of the time limits stated above, this shall be done only by mutual agreement between both parties.

3. **Contract Security**: The Contractor shall furnish a Performance Bond and a Payment Bond in penal sums equal to the amount of the Contract Price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreements of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor and products in the prosecution of the work provided by the Contract Documents. Such bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the State of Georgia and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such bond is declared a bankrupt or loses its right to do business in the State of Georgia or is removed from the list of Surety Companies accepted on Federal bonds, Contractor shall within ten (10) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety shall have furnished an acceptable bond to the Owner.

   The person executing the bond on behalf of the surety shall file with the bond a general power of attorney, unlimited as to amount and type of bond covered by such power of attorney and certified to by an official of said surety.

4. **Insurance**: The Contractor shall not commence work under this Contract until all insurance described below has been obtained and such insurance has been approved by the Owner, nor shall the Contractor allow any

subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved by the Contractor.

(a) **Workmen's Compensation**: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Workmen's Compensation Insurance for all of his employees to be engaged in work on the project under this Contract, and in case any such work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation insurance for all of the employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation insurance. Workmen's Compensation insurance shall include Broad Form All States endorsement.

(b) **Comprehensive General Liability**: The Contractor shall procure and shall maintain during the life of the Contract Agreement, such Comprehensive General Liability insurance as shall protect him and any subcontractor performing work covered by this Contract from claims for damages for Bodily injury, including accidental death, as well as from claims for property damages, which may arise from operations under the Contract Agreement, whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The amount of insurance shall not be less than the following:

$2,000,000	Bodily Injury, including death, each occurrence.
$1,000,000	Property Damage, each occurrence.
$2,000,000	Property Damage, in the aggregate.

The insurance shall include coverage of the following hazards:
Products/Completed Operations
Independent Contractors
Contractual Liability
Underground
Explosion/Collapse

(c) **Owner's Protective Liability**: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Owner's Protective Liability Insurance with the same limits as the Comprehensive General Liability.

(d) **Automobile Liability**: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Comprehensive Automobile Liability insurance in amounts not less than the following:

$1,000,000	Bodily Injury or death to any one person.
$1,000,000	Bodily Injury, each occurrence.
$1,000,000	Property Damage, each occurrence.

The insurance shall include coverage for non-owned and hired vehicles.

(e) **Materials and Equipment Floater**: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Materials, and Equipment Floater Insurance to protect the interests of the Owner, Contractor, and subcontractor against loss by vandalism, malicious mischief, and all hazards included in a standard All Risk Endorsement including a building risk insurance for the total amount of the building bid. The amount of the insurance shall at all times equal or exceed the full amount of the Contract. The policies shall be in the names of the Owner and the Contractor.

(f) **Certificates of Insurance**: Certificates acceptable to the Owner shall be attached to the signed Contract Documents when they are transmitted to the Owner for execution. These certificates shall contain the statement that "Coverage afforded under the policies will not be canceled unless **AT LEAST THIRTY (30) days** prior to cancellation written notice has been given to the Owner, as evidenced by receipts of registered or certified mail.

5. **Indemnification**: The Contractor agrees to indemnify Owner and hold Owner and its agents and employees harmless from and against all actions, causes of action, suits, liabilities, claims, damages, losses, costs and expenses (including attorney's fees and costs) arising out of or resulting from (a) any act or omission of Contractor in the performance or non-performance of the Work or its obligations hereunder, (b) any breach of contract by Contractor, and (c) any claim for injury to person or property arising out of, or in the course of, the Work as contemplated by this Contract. The parties hereto agree that the terms of this Paragraph 5 shall survive any termination or expiration of the Contract.

   In any and all claims against the Owner, or any of their agents or employees, by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

6. **Notice to Proceed**: The Notice to Proceed shall be issued following the pre-construction conference within three (3) days of the execution of the Contract Agreement by the Owner. If there are reasons why the Notice to Proceed should not be issued within this period, the time may be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the three (3) day period or within the period mutually agreed upon, the Contractor may terminate the Contract Agreement without further liability on the part of either party.

7. **Suspension of Work, Termination and Delay**:

   (a) If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtors act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen, materials or equipment, or if he repeatedly fails to make prompt payments to subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the work, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor and take possession of the project and of all products, tools, construction equipment and machinery thereon owned by the Contractor, and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished.

   If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services such excess will be paid by the Contractor and/or his surety to the Owner. Such costs incurred by the Owner will be determined by the Owner and incorporated in a change order.

   (b) Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys by the Owner due to the Contractor will not release the Contractor from compliance with the Contract Documents.

   (c) After ten (10) days from delivery of a written notice to the Contractor, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the Contract. In such case, the Contractor shall be paid for all work executed and any expense sustained.

8. **Assignments**: The Contractor shall not assign the whole or any part of this Contract or any moneys due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any moneys due or to become due under this Contract, the Instrument of assignment shall contain a clause

substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the Contractor shall be subject to prior liens of all persons, firms and corporations for services rendered or materials supplied for the performance of the work called for in this contract.

9. **Subcontracting**:

   (a) The Contractor shall not subcontract the complete work, or any major part thereof, and shall not award any work to any subcontractor without prior written approval of the Owner, which approval will not be given except upon the basis of written statements containing such information as the Owner may require.

   (b) The Contractor shall utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

   If the Contractor desires to perform specialty work he shall submit a request to the Owner accompanied by evidence that the Contractor's own organization has successfully performed the work in question, is presently competent to perform the work, and the performance of the work by specialty subcontractors will result in materially increased costs or inordinate delays.

   (c) The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

   (d) The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

   (e) Nothing contained in this Contract shall create any contractual relation between any subcontractor and the Owner.

10. **Authority of the Owner**: The Owner will appoint a representative to act on its behalf during the construction period. The appointed representative shall decide questions which may arise, such as those pertaining to quality and acceptability of products furnished and work performed. He shall interpret the intent of the Contract Documents in a fair and unbiased manner. The representative will make visits to the site and determine if the work is proceeding in accordance with the Contract Documents. He shall judge as to the accuracy of quantities submitted by the Contractor in partial payment estimates and the acceptability of the work which these quantities represent. The decisions of the owners representative shall be final and conclusive and binding upon all parties to the Contract.

11. **Separate Contracts**:

   (a) The Owner reserves the right to let other contracts in connection with this project. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their products and the execution of their work, and the Contractor and other Contractors shall properly connect and coordinate their work with each other. If the proper execution or results of any part of the Contractor's work depends upon the work of any other Contractor the Contractor shall inspect and promptly report to the owners representative any defects in such work that render it unsuitable for such proper execution and results.

   (b) The Owner may perform additional work related to the project with its own forces. The Contractor will afford the Owner reasonable opportunity for the introduction and storage of products and the execution of work, and shall properly connect and coordinate his work with theirs.

(c) If the performance of additional work by other Contractors or the Owner is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such additional work by the Owner or others cost him an additional expense or time, he may be entitled to additional moneys or an extension of the Contract Time. The Contractor may make a claim therefore as provided in "Changes in the Contract."

12. **Laws and Regulations**: All applicable Federal, State, and County laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract as though written out in full herein. The Contractor shall keep himself fully informed of all laws, ordinances and regulations of the Federal, State, County, and municipal governments or authorities in any manner affecting those engaged or employed in the work or the materials used in the work or in any way affecting the conduct of the work and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in these Contract Documents or in the Drawings or Specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall promptly report the same in writing to the Owner. He shall at all times observe and comply with all such existing and future laws, ordinance and regulations and shall protect and indemnify the Owner and its agents against the violation of any such law, ordinance, regulation, order or decree, whether by himself or by his employees.

    Permits and licenses of a temporary nature, including building permits, necessary for the execution of the work shall be secured by Contractor. **The City of Snellville will not charge any fees associated with any permits and licenses required by the City**.

13. **Taxes**: The Contractor will pay all sales, consumer, use and other similar taxes required by the law of the place where the work is performed. The Owner will be responsible for any sales or use tax due on products furnished by the Owner to the Contractor to be incorporated into the work.

14. **Notice and Service Thereof**:

    (a) All Notices, demands, requests, instructions, approvals, and claims shall be in writing.

    (b) Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor specified in the Bid (or at such other office as the Contractor may from time to time designate to the Owner in writing), or if deposited in the United States Mail in a sealed, postage, prepaid envelope, or delivered, with charges prepaid, to any telegraph company for transmission, in each case addressed to such office.

    (c) All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the City of Snellville, at the office of the City Clerk, 2342 Oak Road, Snellville, Georgia 30078. Any notice to or demand upon the Owner shall be sufficiently given if delivered to the office of the City Clerk or if deposited in the United States Mail in a sealed, postage, prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to said Clerk or to such other representative of the Owner or to such other address as the Owner may subsequently specify in writing to the Contractor for such purposes.

    (d) Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery or (in the case of mailing) when the same should have been received in due course of post or (in the case of telegrams) at the time of actual receipt, as the case may be.

15. **Patents**: The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the owner and its officers, agents, and employees harmless from loss on account thereof, if the Contractor has reason to believe that the design, process or product specified is an

infringement of a patent, he shall be responsible for such infringement unless he notifies the Owner prior to the bid date.

16. **Land and Rights of Way**: The Owner will provide, as indicated in the Contract Documents and prior to Notice to Proceed, the lands upon which the work is to be done, right-of-way for access thereto, and such other lands which are designated for the use of the Contractor. The Contractor shall confine his work and all associated activities to the easements and other areas designated for his use. The Contractor shall comply with any limits on construction methods and practices which may be required by easement agreements.

    If, due to some unforeseen reason, the necessary easements are not obtained, the Contractor shall receive an equitable extension of Contract Time and/or an equitable increase in the Contract Price to cover his additional costs as a result thereof. His claim therefor shall be handled as provided for under "Changes in the Contract."

17. **Products, Services and Facilities**:

    (a) It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all products labor (including labor performed after regular working hours, on Sundays, or on legal holidays), equipment, tools, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, place into operation, and deliver the work.

    It is further understood that the Contractor's proposed construction schedule is based on a normal 40 hour work week, less recognized holidays. If the Contractor desires to work in excess of this limit, he shall submit a written request to the Owner a minimum of five (5) days prior to the desired work date. The Contractor shall be responsible for any additional expenses incurred by the Owner as a result of the extended work hours.

    (b) Products shall be so stored in accordance with the manufacturer's recommendations to ensure the preservation of their quality and fitness for the work. Stored products to be incorporated in the work shall be located so as to facilitate prompt inspection.

    (c) Manufactured products shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

    (d) Products shall be furnished in accordance with shop drawings and/or samples submitted by the Contractor and approved by the Owner.

    (e) Products to be incorporated into the work shall not be purchased by the Contractor or the subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which any interest is retained by the seller.

    (f) The Contractor shall maintain a local office with telephone and fax. The contractor shall be required to have a responsible representative on call at all times. The Contractor will also be required to maintain a crew with necessary tools and equipment available on call after normal working hours, on weekends during inclement weather and other times when work is not in progress to perform any necessary emergency repair work which may occur as a result of the work under this Contract.

18. **Supervision of Work**: The Contractor will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will employ and maintain on the project site a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The superintendent shall be present on the site at all times as required to perform adequate supervision and coordination of the work.

The supervisor shall have full authority to act on behalf of the Contractor and to execute the orders or directions of the Engineer without delay. He shall have full authority to promptly supply products, tools, plant equipment and labor as may be required. His authority shall be such that all communication given to him shall be as binding as if given to the Contractor.

The Contractor shall employ only competent and skilled personnel.

The Contractor shall, upon demand from the Owner, immediately remove any Superintendent, Foreman or workman whom the Owner may consider incompetent or undesirable.

19. **Interruption of Facility Operations**: The Contractor shall provide the Owner with at least five (5) days written notice prior to any interruption in the City of Snellville of any utility operations required by construction activity. The Notice shall include the date and time of the scheduled interruption; the length of time the interruption will be in effect; the procedures to be followed in effecting the interruption; a complete identification of all those processes, equipment and operations to be affected; and all other information the Owner may require. The Contractor shall provide any equipment, piping, auxiliary power or other means necessary to sustain facility operations or function for interruptions which have not been identified by the Specifications, or when interruptions must exceed the time allowed by the Specifications.

20. **Protection of Work, Property and Persons**:

    (a) The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all products to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

    (b) The Contractor will comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54). He will erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the work may affect them.

    (c) The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by him or any of his subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

    (d) In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor without special instruction or authorization from the Owner, shall act to prevent threatened damage, injury or loss. He will give the Owner prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby, and shall request a change order covering the changes and deviations involved.

    (e) During unseasonable weather, the Contractor shall stop all work when so directed by the Owner. Completed work and stored products shall be suitably protected.

21. **Protection of the Environment**:

    (a) All measures required to minimize water pollution to affected waters shall be undertaken in the proposed work. To achieve this end, regard shall be given to the protection of the watershed natural cover, measures instituted to assure minimal siltation and bank erosion from the construction, and other measures taken to reduce water pollution to a minimum.

(b) Any area used or involved in the project disturbed by the Contractor, shall be restored to present or better condition even though such area is outside the limits of that specified for grading, grassing or landscaping.

(c) All chemicals used during project construction or furnished for project operation whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

(d) The Contractor shall so schedule his work that he does not interrupt the operation of any existing facility except as specifically allowed by the provisions of section 19, above.

Bypasses of untreated or partially treated wastes will not be permitted unless the Contractor has obtained prior approval from the Owner and the Environmental Protection Division. The Owner shall be notified in writing of the date, time and duration of such bypasses at least two weeks in advance. The Contractor shall pay all fines that may be imposed on the Owner for the bypassing of wastewater without prior approval.

(e) Necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor, in such a manner and at such points as shall be approved by the Owner. Their use shall be strictly enforced.

(f) Should the Contractor so desire, he may build shanties or other structures for housing tools, machinery, and supplies, but they will be permitted only at approved places, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before the completion of the work, all such structures shall be removed, together with all rubbish and trash, at the expense of the Contractor.

(g) Indemnification from Environmental Claims. The Contractor shall indemnify and hold harmless the Owner from any claims for damages or penalties for environmental violations arising from the Contractor's work on the project. The Contractor shall defend and hold harmless the Owner from claims made by the Federal Environmental Protection Agency, the State Department of Natural Resources or Environmental Protection Division, and any owners of property or affected citizens for environmental damage allegedly caused by the contractor's performance of work on the project. This indemnity shall be in addition to other promises and indemnities contained herein. The Contractor covenants and agrees with the Owner that the work called for in the contract documents, including the General Conditions and project Specifications, do not call for the contractor to perform any work or use any materials which would violate applicable state and federal environmental law.

22. **Protection of Underground Utilities**: The Contractor shall protect from damage all existing improvements or utilities at or adjacent to the site of the work, the location of which is made known to him by the Owner or his agent, and shall repair or restore any damage to such facilities resulting from failure to exercise reasonable care in the performance of work, provided these facilities are located on the drawing or located by the Contractor in cooperation with the Owner of such facilities or implied and obvious from adjacent structures or known utilities. If the Contractor fails or refuses to repair any such damage promptly, the Owner may have the work performed and charge the cost thereof to the Contractor. All Contractor cost caused by construction started by others after the bid date, shall be subject to adjustment by change order as provided elsewhere.

23. **Schedules, Reports and Records**: The Contractor shall submit to the Owner progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed. Within three (3) days of the execution of the Contract by the Owner, the Contractor shall deliver to the Owner a construction progress schedule in form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various tasks required under the Contract Documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the Progress Schedule.

The Contractor shall maintain on the project site throughout the Contract Time an up to date set of record drawings. Record Drawings shall depict the project as actually constructed; providing elevations, dimensions,

angles, details, sections, etc., as required to locate all exposed or concealed features of the construction. Special attention shall be given to recording deviations from the Contract Drawings. The locations shall be referred to easily by identifiable, permanent landmarks or benchmarks, to allow future reproducibility of the measurements with a minimum of personnel and equipment.

24. **Drawings and Specifications**: The Drawings, Specifications, Contract Documents, and all supplemental documents, are considered essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to define, describe and provide for all work necessary to complete the project in an acceptable manner, ready for use, occupancy, or operation by the Owner.

    In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. In cases where products or quantities are omitted from the Specifications, the description and quantities shown on the Drawings shall govern.

    Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Owner, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities and prior to the Owner's correction shall be done at the Contractor's risk.

    The Owner will furnish the Contractor five (5) copies of the Contract Drawings and the Specifications, one (1) copy of which the Contractor shall have available at all times on the job site. Additional copies may be provided at cost to the contractor.

25. **Shop Drawings**: The term shop drawings shall mean drawings, prints, descriptive literature, test reports, samples, calculations, schedules, material lists, information and items of similar meaning. The Contractor shall furnish all shop drawings for this Project within sixty days of the notice to proceed.

26. **Surveys**: The Contractor shall survey and establish all base lines for locating all the components of the work according to bench marks provided by the Owner. From this survey, unless otherwise specified in the Contract Documents, the Contractor shall develop and make all details needed for construction including slope stakes, batter boards, stakes for pile locations and other working points, lines and elevations .

    The Contractor shall carefully preserve bench marks. In case of willful or careless destruction of the bench marks, the Contractor shall be charged with the resulting expense to restablish any bench mark.

27. **Testing, Inspection and Rejection of Work**:

    (a) **Testing of Materials**: Unless otherwise specifically provided for in the Specifications, the inspection and testing of products to be incorporated in the work at the site shall be made by bureaus, laboratories, or agencies approved by the Owner and the cost of such inspection and testing shall be paid by the Contractor. The Contractor shall furnish evidence satisfactory to the Owner that the products have passed the required tests prior to their incorporation into the work. The Contractor shall promptly segregate and remove rejected products from the site of the work.

    (b) **Inspection**: The Contractor shall furnish the Owner with every reasonable facility for ascertaining whether or not the work performed and products used are in accordance with the requirements and intent of the Specifications and Contract Documents. No work shall be done or products used without suitable supervision or inspection by the Engineer or his representative. Failure to reject any defective work or product shall not in any way prevent later rejection when such defect is discovered, or obligate the Owner to final acceptance.

(c) **Authority and Duties of the Resident Inspector**: Resident Inspectors shall be authorized to inspect all work done and all products furnished, including preparation, fabrication and manufacture of the products to be used, but they shall not be authorized to alter or waive any requirements of the Drawings, Specifications or Contract Documents. The Resident Inspector may reject products or suspend the work until any question at issue can be referred to and decided by the Owner. The responsibility of the Contractor is not lessened by the presence of the Resident Inspector.

(d) **Rejection of Work and Materials**: All products furnished and all work done that is not in accordance with the Drawings or Specifications or that is defective will be rejected. All rejected products or work shall be removed immediately. If rejected products or work is not removed within forty-eight (48) hours, the Owner shall have the right and authority to stop the work immediately and shall have the right to arrange for the removal of said rejected products or work at the cost and expense of the Contractor. All rejected products or work shall be replaced with other products or work which conform with the Drawings and Specifications.

(e) **Contractor's Responsibility**: Inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract and defective work shall be made good regardless of whether such work has been previously inspected by the Owner and accepted or estimated for payment. The failure of the Owner to reject improper work shall not be considered a waiver of any defect which may be discovered later, or for work actually defective.

28. **Time for Completion and Liquidated Damages**: The Contract Time shall begin on a date specified in the Notice to Proceed issued by the Engineers.

The Contractor will proceed with the work at a rate of progress which will insure completion within the Contract Time. It is expressly understood and agreed by and between the Contractor and the Owner, that the Contract Time for the completion of the work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

If the Contractor shall fail to complete the work within the Contract Time, or extended Contract Time if authorized by change orders, then the Contractor will pay to the Owner the amount of liquidated damages specified in the Contract Documents for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents.

The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to the following and the Contractor has promptly given written notice of such delay to the Owner.

(a) To any preference, priority or allocation order duly issued by the Owner.

(b) To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or acts of war, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, and freight embargoes.

(c) To any delays of subcontractors occasioned by any of the causes specified in paragraphs (a) and (b).

29. **Changes in the Contract**:

(a) **Changes in the Work**: The Owner may at any time, as the need arises, order changes within the scope of the work without invalidating the Contract Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the work, an equitable adjustment shall be authorized by Change Order.

Any change in unit prices which increases the contract price by more than $2,000.00 must be approved by the Mayor and Council before a change order may take effect.

The Owner, also, may at any time, by issuing a field order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered by the Owner unless the Contractor believes that such field order entitles him to a change in Contract Price or time or both, in which event he shall give the Owner written notice thereof within five (5) days after the receipt of the field ordered change, and the Contractor shall not execute such changes pending the receipt of an executed Change Order or further instruction from the Owner.

Should the Contractor encounter, or the Owner discover, during the progress of the work, subsurface or latent conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Drawings and Specifications, the attention of the Owner shall be called immediately to such conditions before they are disturbed. The Owner shall thereupon promptly investigate the conditions. If he finds that they do so materially differ, and upon written request of the Contractor, an equitable adjustment shall be authorized by Change Order.

The Owner may, when changes are minor or when changes would result in relatively small changes in the Contract Price or Contract Time, elect to postpone the issuance of a Change Order until such time that a single change order of substantial importance can be issued incorporating several changes. In such cases, the Owner shall indicate this intent in a written response to the Contractor's request for a change.

(b) **Changes in Contract Price**: The Contract Price may be changed only by a Change Order. The value of any work covered by a Change Order or of any claim for increase or decrease in the Contract Price shall be determined by one or more of the following methods in the order of precedence listed below:

(1) By estimating the number of unit quantities of each part of the work which is changed and then multiplying the estimated number of such unit quantities by the price bid (which price shall include the Contractor's overhead and profit) for a unit quantity thereof.

(2) The Owner shall fix the total lump sum value of the change in the work of the Contractor and shall set out the price which shall be added to or deducted from the Contract Price (which price shall include the Contractor's overhead and profit). On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

(3) By ordering the Contractor to proceed with the work and to keep and present in such form as the Owner may direct a correct account of the cost of the change together with all vouchers therefor. The cost may include an allowance for overhead and profit not to exceed 15% of the net cost. The cost may also include all items of labor or materials, the use of power tools and equipment actually used, power and all items of cost such as public liability and Workmen's Compensation Insurance, pro rata charges for foremen, also Social Security, Old Age and Unemployment Insurance. If deductions are ordered, the credits shall be the net cost. Among the items considered as overhead are included insurance other than that mentioned above, bond or bonds, superintendent, timekeeper, clerks, watchmen, use of small tools, incidental job burdens and general office expenses.

Figuring changes, instructions for measurement of quantities set forth the Specifications shall be followed. The Contractor shall, when required by the Owner, furnish to the Owner an itemized breakdown of the quantities and prices used in computing the value of any change that might be ordered.

(c) **Changes in Contract Time**: The Contract Time may be changed only by a Change Order. Changes in the work described in section 29, part (a) and any other claim made by the Contractor for a change in the

Contract Time (including those allowed under "Time for Completion and Liquidated Damages") shall be evaluated by the Owner and if the conditions warrant, an appropriate adjustment of the Contract Time will be made.

30. **Payments and Completion**:

(a) **Contract Price**: The Contract Price is the sum of the unit prices stated in the agreement for each item multiplied by the actual quantities installed of each item. The Contract Price is the total amount payable by the Owner to the Contractor for the performance of the work set forth in the Contract Documents.

(b) **Breakdown of Cost**: Before the first application for payment the Contractor shall submit to the Owner a breakdown of cost for the various portions of the work, including quantities if required by the Owner, aggregating the total Contract Price prepared in such form as specified or as the Owner and the Contractor may agree upon and supported by such data to substantiate its correctness as the Owner may reasonably require. This schedule, when approved by the Owner, shall be used only as a basis for the Contractor's application for payment.

(c) **Progress Payments**: At the end of each calendar month, the Contractor shall prepare an itemized application for payment supported by such other substantiating data as the Owner may reasonably require covering work completed during the month. The Contractor's Certificate for Payment shall be submitted to the Owner by the 5th of the month for consideration of payment for that month. The Contractor shall submit documentation of vendor payments for products and services, including all sub-contractors, used under this contract, lien releases and at least four photographs per day working.

The Contractor warrants and guarantees that title to all work and products covered by an Application for Payment, whether incorporated into the project or not, will pass to the Owner upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances (except retention equal in percentage to that being retained by the Owner which may be withheld from suppliers and subcontractors to guarantee completion and performance).

(d) **Certificate for Payments**: If the Contractor has made application for payment as above, the Owner will approve the Certificate for Payment, with a copy to the Contractor, for such amount as he determines to be properly due, or state in writing his itemized and specific reasons for withholding a Certificate as provided herein. The Contractor shall submit to the Owner a certificate for payment every month between the first and the fifth day of the month.

The Owner's representative has five days to approve the Certificate for Payment submitted by the contactor. The Owner shall pay to the Contractor the amount approved in the Certificate for Payment by the 15th day of the month.

No certificate for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the project by the Owner, shall constitute an acceptance of any work not in accordance with the Contract Documents.

Each Certificate of Payment shall include any lien release from any manufacture or subcontractor for work done or products purchase for the project.

(e) **Retention**: The Owner shall retain the following amounts from each properly certified pay request:

(1) Between zero percent (0%) and twenty percent (20%) of the contract amount, the retention is five percent (5%). Between 20.1 % and forty percent (40) of the contract amount, the retention is four percent (4%). Between 40.1% and sixty percent (60%) of the contract amount, the retention is three percent (3%). Between 60.1% and ninety percent (90%) of the contract amount, the retention is two percent (2%).

(2) When the value of the work completed totals at least ninety percent (90%) or higher, the retention is (1%) of the Contract Amount. The owner shall release any retention with the final pay request.

(3) The Owner may elect to reinstate retention of five percent (5%) of the value of the work completed if at any time the Contractor fails to make satisfactory progress according to the contractors approved schedule or if there is other specific cause.

No form of collateral in lieu of cash will be acceptable as retainage.

Amounts retained by the Contractor from payments due to product suppliers and subcontractors (expressed as percentage) shall not exceed that being retained by the Owner.

(f) **Payments Withheld**: The Owner may decline to approve an Application for payment and may withhold his certificate in whole or in part as may be necessary to protect the Owner from loss because of:

(l) Failure of the Contractor to make payments properly to subcontractors or for labor or products.

(2) Unsatisfactory prosecution of the work by the Contractor.

When the above reasons for non-payment are corrected, then payment shall be made for amounts withheld because of such reasons, not later than the next payment.

(g) **Failure of Payment** : If the Owner should fail to approve any Certificate for Payment, through no fault of the Contractor, within seven (7) days after receipt of the Contractor's Application for Payment, and if the Owner should fail to pay the Contractor within thirty (30) days after received the Certificate for Payment, then the Contractor shall receive interest on the balance due with the interest being the legal annual rate of five percent (5%). In addition, the Contractor may elect, upon seven (7) days written notice to the Owner, to stop the work until payment, including interest has been received.

(h) **Completion of the Work**: Upon receipt of written notice from the Contractor that the work is complete or substantially complete (except for items specifically listed by the Contractor as incomplete) and ready to be placed into service for the operating test period, the Engineer will, within a reasonable time, inspect the work. Prior to initiating the operating test, all work required by the Contract Documents, Contract Drawings, and Specifications must be completed or substantially complete before the operating test period is performed. This includes, but is not limited to the following:

(l) Performing functional tests and providing manufacturer’s required certification as required in Section 01027 “Testing” and what is defined in the Specifications for each item.

(2) Furnishing completed Record Drawings.

(3) Grassing and restoration of the work area.

If the Owner finds the work of the Contractor complete or substantially complete and acceptable in accordance with the provisions of the Contract Documents and the Record Drawings accurately depict the completed work, he shall recommend to the Owner that the operating test period begin.

The operating systems test period begins when the Owner finds the Contractor's work complete or substantially complete and runs for a period of thirty (30) days minimum. During this period, the Contractor shall complete all remaining items of work, make adjustments found to be necessary, and exercise all equipment and systems.

In the event that the final inspection reveals deficiencies in meeting the Contract requirements, the Contractor shall complete all remaining items of work, and make adjustments found to be necessary. Upon receipt of written notice from the Contractor that the work is complete and ready for re-inspection, the Owner will make a final inspection.

After final inspection the Contractor will be notified in writing by the Owner of the final acceptance of the work. The date of final acceptance shall be the termination date for the Contractor's liability for the physical properties of the facilities and the beginning of the guaranty period.

Before final payment can be made, the Contractor must certify in writing to the Owner that all payrolls, materials bills, and other indebtedness connected with the project have been paid.

Contractor shall not be entitled to final payment if there is disputed indebtedness or if there are liens upon the property.

Upon completion of all work if there is disputed indebtedness or there are liens upon the property, semifinal payment may, at the Owner's option, be made in accordance with the following provisions:

(1) The Owner shall retain an amount equal to the disputed indebtedness and/or liens upon the property including all related cost and interest in connections with said disputed indebtedness and liens which the Owner may be compelled to pay upon and subsequent adjudication.

(2) The Contractor shall certify to those items of work not disputed that all payable, materials bills and other indebtedness connected with the work have been paid or otherwise satisfied.

The making and acceptance of the final payment shall constitute a waiver of claims by the Owner other than those for faulty work covered by and appearing within the warranty period.

The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and still unsettled.

31. **Guarantee**: The Contractor shall warrant and guarantee for a period of one year from the date of final acceptance that the completed system or work is free from all defects due to faulty products or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

END OF SECTION

SECTION 00800

SUPPLEMENTAL GENERAL CONDITIONS

The provisions of the City of Snellville Supplemental General Conditions as described herein change, amend, or supplement the General Conditions and shall supersede any conflicting provisions of this CONTRACT. All provisions of the General conditions that are not changed, amended, or supplemented, remain in full force.

1.01 Contract Approval
1.02 Contract Change Orders
1.03 Certificate for Payment Forms
1.04 Conflict of Interest
1.05 Protection of Lives and Property
1.06 Remedies
1.07 Gratuities
1.08 Audit and Access to Records
1.09 Small, Minority and Women's Businesses
1.10 Anti-Kickback
1.11 Violating Facilities
1.12 State Energy Policy
1.13 Equal Opportunity Requirements

1.01 CONTRACT APPROVAL

A. The OWNER and the CONTRACTOR, will furnish the OWNER'S Attorney such evidence as required so that the OWNER'S Attorney can complete and execute "Certificate of Owner's Attorney" (Section 1.14) before the OWNER submits the executed Contract Documents to the Contractor.

B. Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

1.02 CONTRACT CHANGE ORDER

A. Although the contract price may be decreased, the contract price may not be increased by more that two thousand dollars ($2,000.00) without prior written approval of Mayor and Council in advance of performing the work or providing the materials. These changes shall be mutually agreed to by the OWNER and CONTRACTOR and a change order must be issued. The contract change order will include extra work, work for which quantities have been altered from those shown in the Bid Proposal, as well as decreases or increases in the quantities of installed units which are different than those shown in the bidding schedule because of final measurements. All changes must be recorded on a contract change order before they can be included in a partial Certificate of Payment.

B. Section 00910, "Contract Change Order" or similar form approved by the City of Snellville shall be used to record CONTRACT changes.

C. The CONTRACT sum is, in whole or in part, based on unit prices. The OWNER reserves the right to increase or decrease a unit price quantity as may be deemed reasonable or necessary in order to complete the Project.

1.03 CERTIFICATE FOR PAYMENT FORMS

A. Section 00900, "Certificate for Payment", or similar form approved by the City of Snellville shall be used when estimating monthly payments due to the CONTRACTOR.

B. The OWNER may after consultation with the ENGINEER withhold or, on account of subsequently discovered evidence, nullify the whole or part of any approved partial payment estimate to such extent as may be necessary to protect the OWNER from loss on account of:

1. Defective work not remedied.

2. Claims filed.

3. Failure of CONTRACTOR to make payments properly to subcontractors or suppliers.

4. A reasonable doubt that the WORK can be completed for the balance then unpaid.

5. Damage to another CONTRACTOR.

6. Performance of WORK in violation of the terms of the CONTRACT DOCUMENTS.

C. Where WORK on unit price items is substantially complete but lacks testing, clean up and/or corrections, amounts shall be deducted from unit prices in partial payment estimates to amply cover such testing, clean-up and/or corrections.

D. When the items in B and C are cured, payment shall be made for amounts withheld because of them.

E. Payments will not be made that would deplete the retainage nor place in escrow any funds that are required for retainage nor invest the retainage for the benefit of the CONTRACTOR.

1.04 CONFLICT OF INTEREST

A. Unacceptable bidders. An ENGINEER or ARCHITECT (individual or firm including persons they employ) who has prepared plans and specifications will not be considered an acceptable bidder. Any firm or corporation in which such ENGINEER or ARCHITECT (including persons they employ) is an officer, employee, or holds or controls a substantial interest will not be considered an acceptable bidder. Contracts or purchases by the CONTRACTOR shall not be awarded or made to a supplier or manufacturer. Bids will not be awarded to firms or corporations who are owned or controlled wholly or in part by a member of the governing body of the OWNER or to an individual who is such a member.

B. The OWNER'S officers, employees, or agents shall not engage in the award or administration of this CONTRACT if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (a) the employee, officer or agent; (b) any member of their immediate family; (c) their partner of (d) an organization which employs, or is about to employ, any of the above has financial or interest in the CONTRACTOR. The OWNER'S officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything or monetary value from the CONTRACTOR or subcontractor.

1.05 PROTECTION OF LIVES AND PROPERTY

A. In order to protect the lives and health of its employees under the CONTRACT, the CONTRACTOR shall comply with all pertinent provisions of the Occupational Safety and Health Administration (OSHA) and any State Safety and Health agency requirements.

B. The CONTRACTOR alone shall be responsible for the safety, efficiency, and adequacy of its plant, appliances, and methods, and for any damage that may result from their failure or their improper construction, maintenance or operation.

1.06 REMEDIES

Unless otherwise provided in this CONTRACT, all claims, counterclaims, disputes, and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this CONTRACT or the breach thereof will be heard in the Superior Court of Gwinnett County, Georgia. All parties hereby waive any defenses of lack of personal or subject matter jurisdiction or lack of venue in the Superior Court of Gwinnett County and agree to have all disputes heard in the Superior Court of Gwinnett County.

1.07 GRATUITIES

A. If the OWNER finds after a notice and hearing that the CONTRACTOR, or any of the CONTRACTOR'S agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, agent of the OWNER, the State, or Gwinnett County officials in an attempt to secure this CONTRACT or favorable treatment in awarding, amending, or making any determinations related to the performance of this CONTRACT, the OWNER may, by written notice to the CONTRACTOR, terminate this CONTRACT. The OWNER may also pursue other rights and remedies that the law or this CONTRACT provides. However, the existence of the facts on which the OWNER bases such findings shall be an issue and may be reviewed in proceedings under the Remedies clause of this CONTRACT.

B. In the event this CONTRACT is terminated as provided in paragraph A the OWNER may pursue same remedies against the CONTRACTOR as it could pursue in the event of a breach of the CONTRACT by the CONTRACTOR. As a penalty, in addition to any other damages to which it may be entitled by law, the OWNER may pursue exemplary damages in an amount (as determined by the OWNER) which shall be not less than three nor more than ten times the costs the CONTRACTOR incurs in providing any such gratuities to any such officer or employee.

1.08 AUDIT AND ACCESS TO RECORDS

For all negotiated contracts (except those of $10,000 or less), the City of Snellville, the Comptroller General, the OWNER or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the CONTRACTOR, which are pertinent to the CONTRACT, for the purpose of making audits, examinations, excerpts and transcriptions. The CONTRACTOR shall maintain all required records for three years after final payment is made and all other pending matters are closed.

1.09 SMALL, MINORITY AND WOMEN'S BUSINESSES

If the CONTRACTOR intends to let any subcontracts for a portion of the work, the CONTRACTOR shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services. Affirmative steps shall consist of (1) including qualified small minority, and women's businesses on solicitation lists; (2) assuring that small, minority and women's businesses are solicited whenever they are potential sources; (3) dividing total requirements when economically feasible, into small tasks or quantities to permit maximum participation of small, minority and women's businesses; (4) establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority and women's businesses; (5) using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the U.S. Department of

Commerce; (6) requiring each party to a subcontract to take the affirmative steps of this section; and (7) CONTRACTORS are encouraged to procure goods and services from labor surplus area firms.

1.10 ANTI-KICKBACK

The CONTRACTOR shall comply with the Copeland Anti-kickback Act (18 USC 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This act provides that each CONTRACTOR shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. The OWNER shall report all suspected or reported violations to FmHA.

1.11 VIOLATING FACILITIES.

CONTRACTOR shall comply with all applicable standards, orders or requirements issued under section 306 of the Clean Water Air Act (42 U.S.C. 1857 (h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations 40 CFR Part 15 which prohibit the awarding of non-exempt federal contracts, grants, or loans to facilities included on EPA's list of violating facilities, The CONTRACTOR will report violations to the EPA.

1.12 STATE ENERGY POLICY

The CONTRACTOR shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in the State Energy Conservation Plan, shall be utilized.

1.13 EQUAL OPPORTUNITY REQUIREMENTS

For all contracts, the CONTRACTOR shall comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60).

END OF SECTION

PARTIAL PAYMENT ESTIMATE	Contract No. _____ Partial Payment Estimate No. _____ Page

OWNER: CITY OF SNELLVILLE, GA	CONTRACTOR:	PERIOD OF ESTIMATE FROM _____ TO _____

CONTRACT CHANGE ORDER SUMMARY

No. _____	CITY Approval Date	Additions	Deductions		ESTIMATE
				1. Original Contract	_____
				2. Change Orders	_____
				3. Revised Contract (1+2	_____
				4. Work Completed*	_____
				5. Stored Materials *	_____
				6. Subtotal (4+5)	_____
				7. Retainage	_____
				8. Previous Payments	_____
Totals Net Charge	_____	_____	_____	9. Amount Due (6-7-8) * Detailed breakdown attached	_____

CONTRACT TIME

Original (days) _____ Revised _____ Remaining _____	On Schedule ___ yes ___ no	Starting Date_____ Projected Completion _____

CONTRACTOR'S CERTIFICATION:

The undersigned Contractor certifies that to the best of their knowledge, information and belief that work covered by this payment estimate has been completed in accordance with the contract documents, that all amounts have been paid by the Contractor for work for which previous payment estimates were issued and payments received from the Owner, and the current payment shown herein is now due.

Contractor_____

Name_____

By _____

Date_____

CERTIFIED AND APPROVED BY CITY OF SNELLVILLE:

Name_____

By_____

Date_____

END OF SECTION

DIVISION 1

SITEWORK

GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

PW200819

GEORGIA DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

Section 400—Hot Mix Asphaltic Concrete Construction

Delete Section 400 and substitute the following:

400.1 General Description

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

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

Work will be accepted on a lot-to-lot basis according to the requirements of this Section and Section 106.

400.1.01 Definitions

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

New Construction: A roadway section more than 0.5 mile (800 m) long that is not longitudinally adjacent to the existing roadway. If one or more lanes are added longitudinally adjacent to the existing lane, the lane(s) shall be tested under the criteria for a resurfacing project. If work is performed on the existing roadway including leveling, grade changes, widening and/or resurfacing then that lane shall be tested under the criteria for a resurfacing project.

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

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

Independent Sample (Quality Assurance Sample): A sample taken by the Department to verify an acceptance decision without regard to any other sample that may also have been taken to represent the material in question.

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

400.1.02 Related References

A. Standard Specifications

Section 106—Control of Materials

Section 109—Measurement and Payment

Section 152—Field Laboratory Building

Section 413—Bituminous Tack Coat

Section 424—Bituminous Surface Treatment

Section 802—Coarse Aggregate for Asphaltic Concrete

Section 820 – Asphalt Cement

Section 828—Hot Mix Asphaltic Concrete Mixtures

B. Referenced Documents

AASHTO T 315

AASHTO T 209

AASHTO T 202

AASHTO T 49

Georgia Department of Transportation Standard Operating Procedure (SOP) 27

Georgia Department of Transportation Standard Operating Procedure (SOP) 15

Georgia Department of Transportation Standard Operation Procedure (SOP) 40

GDT 38

GDT 73

GDT 78

GDT 83

GDT 93

GDT 119

GDT 125

GDT 134

GSP 15

GSP 21

QPL 1

QPL 2

QPL 7

QPL 26

QPL 30

QPL 39

QPL 41

QPL 45

QPL 65

QPL 67

QPL 70

QPL 77

400.1.03 Submittals

A. Invoices

Furnish formal written invoices from a supplier for all materials used in production of HMA when requested by the Department. Show the following on the Bill of Lading:

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

Purchase asphaltic cement directly from a supplier listed on Qualified Products List 7 and provide copies of Bill of Lading at the Department's request.

B. Paving Plan

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

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

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

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

C. Job Mix Formula

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

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

Do the following to have the formulas approved in accordance with SOP 40 "Approval of Contractor Job Mix Formulas" and to ensure their quality:

1. Submit proposed job mix formulas for review at least two weeks before beginning the mixing operations.
2. Do not start hot mix asphaltic concrete work until the Engineer has approved a job mix formula for the mixture to be used. No mixture will be accepted until the Engineer has given approval.
3. Provide mix designs for all Superpave and 4.75 mm mixes to be used. The Department will provide mix design results for other mixes to be used.
4. After a job mix formula has been approved, assume responsibility for the quality control of the mixtures supplied to the Department according to Subsection 106.01, "Source of Supply and Quantity of Materials."

D. Quality Control Program

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

400.2 Materials

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

Table 1—Materials Specifications

Material	Subsection
Asphalt Cement, Grade Specified	820.2
Coarse Aggregates for Asphaltic Concrete	802.2.02
Fine Aggregates for Asphaltic Concrete	802.2.01
Mineral Filler	883.1
Heat Stable Anti-Stripping Additive	831.2.04
Hydrated Lime	882.2.03
Silicone Fluid (When approved by the Office of Materials and Research)	831.2.05
Bituminous Tack Coat: PG 58-22, PG 64-22, PG 67-22	820.2
Hot Mix Asphaltic Concrete Mixtures	828

400.2.01 Delivery, Storage, and Handling

Storage of material is allowed in a properly sealed and insulated system for up to 24 hours except that Stone Matrix Asphalt (SMA), Open-Graded Friction Course (OGFC), or Porous European Mix (PEM) mixtures shall not be stored more than 12 hours. Mixtures other than SMA, OGFC, or PEM may be stored up to 72 hours in a sealed and insulated system, equipped with an auxiliary inert gas system, with the Engineer's approval. Segregation, lumpiness, drain-down, or stiffness of stored mixture is cause for rejection of the mixture. The Engineer will not approve using a storage or surge bin if the mixture segregates, loses excessive heat, or oxidizes during storage.

The Engineer may obtain mixture samples or recover asphalt cement according to GDT 119. AASHTO T 315, AASHTO T 202 and T 49 will be used to perform viscosity and penetration tests to determine how much asphalt hardening has occurred.

A. Vehicles for Transporting and Delivering Mixtures

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

Follow these guidelines when preparing vehicles to transport bituminous mixtures:

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

   Install the insulating material so it is protected from loss and contamination. A "Heat Dump Body" may be used in lieu of insulation of the bed. "Heat Dump Body" refers to any approved transport vehicle that is capable of diverting engine exhaust and transmitting heat evenly throughout the dump body to keep asphalt at required temperature. Mark the "Heat Dump Body" clearly with "OPEN" and "CLOSE" position at the exhaust diverter. Install a padlock and lock it in the "OPEN" position when the "Heat Dump Body" is used to transport bituminous mixtures.
4. Mark each transporting vehicle with a clearly visible identification number.
5. Create a hole in each side of the bed so that the temperature of the loaded mixture can be checked. The placement of these holes shall be located to assure that the thermometer is being placed in the hot mix asphaltic concrete.

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

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

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

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

400.3 Construction Requirements

400.3. 01 Personnel

General Provisions 101 through 150.

400.3.02 Equipment

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

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

A. Field Laboratory

Provide a field laboratory according to Section 152.

B. Plant Equipment

1. Scales

   Provide scales as follows:

   a. Furnish (at the Contractor's expense) scales to weigh bituminous plant mixtures, regardless of the measurement method for payment.

   b. Ensure that the weight measuring devices that provide documentation comply with Subsection 109.01, "Measurement and Quantities."

   c. When not using platform scales, provide weight devices that record the mixture net weights delivered to the truck. A net weight system will include, but is not limited to:

      - Hopper or batcher-type weight systems that deliver asphaltic mixture directly to the truck
      - Fully automatic batching equipment with a digital recording device

   d. Use a net weight printing system only with automatic batching and mixing systems approved by the Engineer.

   e. Ensure that the net weight scale mechanism or device manufacturer, installation, performance, and operation meets the requirements in Subsection 109.01, "Measurement and Quantities"

   f. Provide information on the Project tickets according to Department of Transportation SOP-15.

2. Time-Locking Devices

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

3. Surge- and Storage-Systems

   Provide surge and storage bins as follows:

   a. Ensure bins for mixture storage are insulated and have a working seal, top and bottom, to prevent outside air infiltration and to maintain an inert atmosphere during storage. Bins not intended as storage bins may be used as surge bins to hold hot mixtures for part of the working day. However, empty these surge bins completely at the end of the working day.

   b. Ensure surge and storage bins can retain a predetermined minimum level of mixture in the bin when the trucks are loaded.

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

d. Ensure the scale mechanism or device manufacture, installation, performance, and operation meets the requirements in Subsection 109.01"Measurement and Quantities".

4. Controls for Dust Collector Fines

Control dust collection as follows:

a. When collecting airborne aggregate particles and returning them to the mixture, have the return system meter all or part of the collected dust uniformly into the aggregate mixture and waste the excess. The collected dust percentage returned to the mixture is subject to the Engineer's approval.

b. When the collected dust is returned directly to the hot aggregate flow, interlock the dust feeder with the hot aggregate flow and meter the flow to maintain a flow that is constant, proportioned, and uniform.

5. Hydrated Lime Treatment System

When hydrated lime is required as a mixture ingredient:

a. Use a separate bin and feed system to store and proportion the required quantity into the mixture.

b. Ensure that the aggregate is uniformly coated with hydrated lime aggregate before adding the bituminous material to the mixture. Add the hydrated lime so that it will not become entrained in the exhaust system of the drier or plant.

c. Control the feeder system with a proportioning device that meets these specifications:

- Is accurate to within ± 10 percent of the amount required
- Has a convenient and accurate means of calibration
- Interlocks with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes and to ensure that mixture produced is properly treated with lime

Provide flow indicators or sensing devices for the hydrated lime system and interlock them with the plant controls to interrupt mixture production if hydrated lime introduction fails to meet the required target value after no longer than 60 seconds.

6. Net Weight Weighing Mechanisms

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

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

Check the accuracy of the bitumen scales as follows:

- Use standard test weights.
- If the checks indicate printed weights are out of tolerance, have a registered scale serviceperson check the batch scales and certify the accuracy of the printer.
- While the printer system is out of tolerance and before its adjustment, continue production only if using a set of certified truck scales to determine the truck weights.

b. Ensure plants using batch scales maintain ten 50 lb (25 kg) standard test weights at the plant site to check batching scale accuracy.

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

C. Equipment at Project Site

1. Cleaning Equipment

Provide sufficient hand tools and power equipment to clean the roadway surface before placing the bituminous tack coat. Use power equipment that complies with Subsection 424.3.02.F, "Power Broom and Power Blower."

2. Pressure Distributor

To apply the bituminous tack coat, use a pressure distributor complying with Subsection 424.3.02.B, "Pressure Distributor."

3. Bituminous Pavers

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

- As wide and deep as indicated on the Plans
- True to line, grade, and cross section
- Smooth
- Uniform in density and texture

a. Continuous Line and Grade Reference Control. Furnish, place, and maintain the supports, wires, devices, and materials required to provide continuous line and grade reference control to the automatic paver control system.

b. Automatic Screed Control System. Equip the bituminous pavers with an automatic screed control system actuated from sensor-directed mechanisms or devices that will maintain the paver screed at a pre-determined transverse slope and elevation to obtain the required surface.

c. Transverse Slope Controller. Use a transverse slope controller capable of maintaining the screed at the desired slope within ± 0.1 percent. Do not use continuous paving set-ups resulting in unbalanced screed widths or off-center breaks in the main screed cross section unless approved by the Engineer.

d. Screed Control. Equip the paver to permit the following four modes of screed control. The method used shall be approved by the Engineer.

- Automatic grade sensing and slope control
- Automatic dual grade sensing
- Combination automatic and manual control
- Total manual control

Ensure the controls are referenced with a taut string or wire set to grade, or with a ski-type device or mobile reference at least 30 ft (9 m) long when using a conventional ski. Approved non-contacting laser or sonar-type skis listed on QPL 91 "Georgia's List of Approved Non-contacting Laser and Sonar-type Electronic Grade and Slope Controls" may be used in lieu of conventional 30 ft (9m) skis. Under limited conditions, a short ski or shoe may be substituted for a long ski on the second paver operating in tandem, or when the reference plane is a newly placed adjacent lane.

Automatic screed control is required on all Projects; however, when the Engineer determines that Project conditions prohibit the use of such controls, the Engineer may waive the grade control, or slope control requirements, or both.

e. Paver Screed Extension. When the laydown width requires a paver screed extension, use bolt-on screed extensions to extend the screeds, or use an approved mechanical screed extension device. When the screed is extended, add auger extensions to assure a length of no more than 18 inches (0.5 m) from the auger to the end gate of the paver. Auger extensions may be omitted when paving variable widths. Ensure the paver is equipped with tunnel extensions when the screed and augers are extended.

NOTE: Do not use extendible strike-off devices instead of approved screed extensions. Only use a strike-off device in areas that would normally be luted in by hand labor.

4. Compaction Equipment

Ensure that the compaction equipment is in good mechanical condition and can compact the mixture to the required density. The compaction equipment number, type, size, operation, and condition is subject to the Engineer's approval.

400.3.03 Preparation

A. Prepare Existing Surface

Prepare the existing surface as follows:

1. Clean the Existing Surface. Before applying hot mix asphaltic concrete pavement, clean the existing surface to the Engineer's satisfaction.
2. Patch and Repair Minor Defects

Before placing leveling course:

a. Correct potholes and broken areas requiring patching in the existing surface and base as directed by the Engineer.

b. Cut out, trim to vertical sides, and remove loose material from the areas to be patched.

c. Prime or tack coat the area after being cleaned. Compact patches to the Engineer's satisfaction. Material for patches does not require a job mix formula, but shall meet the gradation range shown in Section 828. The Engineer must approve the asphalt content to be used.

3. Apply Bituminous Tack Coat

Apply the tack coat according to Section 413. The Engineer will determine the application rate, which must be within the limitations Table 2.

Table 2—Application Rates for Bituminous Tack, gal/yd² (L/m²)

	Minimum	Maximum
All Mixes *	0.04 (0.180)	0.06(0.270)
*On thin leveling courses and freshly placed asphaltic concrete mixes, reduce the application rate to 0.02 to 0.04 gal/yd² (0.09 to 0.18 L/m²).		

B. Place Patching and Leveling Course

1. When the existing surface is irregular, bring the surface area to the proper cross section and grade with a leveling course of hot mix asphaltic concrete materials.
2. Place leveling at the locations and in the amounts directed by the Engineer.
3. Use leveling course mixtures meeting the requirements of the job mix formulas defined in:
   - Subsection 400.3.05.A, "Observe Composition of Mixtures"
   - Section 828
   - Leveling acceptance schedules in Subsection 400.3.06.A, "Acceptance Plans for Gradation and Asphalt Cement Content"
4. If the leveling and patching mix type is undesignated, determine the mix type by the thickness or spread rate according to Table 3, but do not use 4.75 mm mix on interstate projects.

Table 3—Leveling and Patching Mix Types

Thickness	Rate of Spread	Type of Mix
Up to 0.75 in (19 mm)	Up to 85 lbs/yd² (45 kg/m²)	4.75 mm Mix or 9.5 mm Superpave Type 1
0.75 to 1.5 in (19 to 38 mm)	85 to 165 lbs/yd²(45 to 90 kg/m²)	9.5 mm Superpave Type 2
1.5 to 2 in (38 to 50 mm)	165 to 220 lbs/yd² (90 to 120 kg/m²)	12.5 mm Superpave *
2 to 2.5 in (50 to 64 mm)	220 to 275 lbs/yd² (120 to 150 kg/m²)	19 mm Superpave *
Over 2.5 in (64 mm)	Over 275 lbs/yd² (150 kg/m²)	25 mm Superpave

* These mixtures may be used for isolated patches no more than 6 in. (150 mm) deep and no more than 4 ft. (1.2 m) in diameter or length.

400.3.04 Fabrication

General Provisions 101 through 150.

400.3.05 Construction

Provide the Engineer at least one day's notice prior to beginning construction, or prior to resuming production if operations have been temporarily suspended.

A. Observe Composition of Mixtures

1. Calibration of plant equipment

   If the material changes, or if a component affecting the ingredient proportions has been repaired, replaced, or adjusted, check and recalibrate the proportions.

   Calibrate as follows:

   a. Before producing mixture for the Project, calibrate by scale weight the electronic sensors or settings for proportioning mixture ingredients.
   b. Calibrate ingredient proportioning for all rates of production.

2. Mixture control

   Compose hot mix asphaltic concrete from a uniform mixture of aggregates, bituminous material, and if required, hydrated lime, mineral filler, or other approved additive.

   Ensure the constituents are proportional to produce mixtures that meet the requirements in Section 828. The general composition limits prescribed are extreme ranges within which the job mix formula must be established. Base mixtures on a design analysis that meets the requirements of Section 828.

   Ensure that the field performance of the in-place mixtures meet the requirements of Subsection 828.2.B for Permeability, Moisture Susceptibility, Rutting Susceptibility and Fatigue. In-place mix may be evaluated for compliance with requirements of Subsection 828.2.B at the discretion of the State Bituminous Construction Engineer under the following conditions:

   - Deviates greater than 10 percent on gradation for mixture control sieves from the approved Job Mix Formula based on Acceptance or Independent Samples.
   - Deviates greater than 0.7 percent in asphalt cement content from the approved Job Mix Formula based on Acceptance or Independent Samples.
   - The calculated mean pavement air voids result in an adjusted pay factor less than 0.80 or any single sub lot result in mean pavement air voids exceeding 10.5 percent.
   - Mix produced not using an approved mix design and/or job mix formula.

   Remove and replace (at the Contractor's expense) any areas determined to not meet the requirements of Subsection 828.2.B

   If control test results show that the characteristic tested does not conform to the job mix formula control tolerances given in Section 828, take immediate action to ensure that the quality control methods are effective.

   Control the materials to ensure that extreme variations do not occur. Maintain the gradation within the composition limits in Section 828.

B. Prepare Bituminous Material

Uniformly heat the bituminous material to the temperature specified in the job mix formula with a tolerance of ± 20 °F (± 11 °C).

C. Prepare the Aggregate

Prepare the aggregate as follows:

1. Heat the aggregate for the mixture, and ensure a mix temperature within the limits of the job mix formula.
2. Do not contaminate the aggregate with fuel during heating.
3. Reduce the absorbed moisture in the aggregate until the asphalt does not separate from the aggregate in the prepared mixture. If this problem occurs, the Engineer will establish a maximum limit for moisture content in the aggregates. When this limit is established, maintain the moisture content below this limit.

D. Prepare the Mixture

Proportion the mixture ingredients as necessary to meet the required job mix formula. Mix until a homogenous mixture is produced.

1. Add Hydrated Lime

When hydrated lime is included in the mixture, add it at a rate specified in Section 828 and the job mix formula. Use methods and equipment for adding hydrated lime according to Subsection 400.3.02.B.6, "Hydrated Lime Treatment System."

Add hydrated lime to the aggregate by using Method A or B as follows:

Method A—Dry Form—Add hydrated lime in its dry form to the mixture as follows, according to the type of plant:

a. Batch Type Asphalt Plant: Add hydrated lime to the mixture in the weigh hopper or as approved and directed by the Engineer.

b. Continuous Plant Using Pugmill Mixer: Feed hydrated lime into the hot aggregate before it is introduced into the mixer so that dry mixing is complete before the bituminous material is added.

c. Continuous Plant Using Drier-Drum Mixer: Add hydrated lime so that the lime will not become entrained into the air stream of the drier and so that thorough dry mixing will be complete before the bituminous material is added.

Method B—Lime/Water Slurry—Add the required quantity of hydrated lime (based on dry weight) in lime/water slurry form to the aggregate. This solution consists of lime and water in concentrations as directed by the Engineer.

Equip the plant to blend and maintain the hydrated lime in suspension and to mix it with the aggregates uniformly in the proportions specified.

2. Add Gilsonite Modifier

When approved by the Office of Materials and Research and required by the Contract, add the Gilsonite modifier to the mixture at a rate to ensure eight percent by weight of the asphalt cement is replaced by Gilsonite. Use either PG 64-22 or PG 67-22 asphalt cement as specified in Subsection 820.2.01. Provide suitable means to calibrate and check the rate of Gilsonite being added. Introduce Gilsonite modifier by either of the following methods.

a. For batch type plants, incorporate Gilsonite into the pugmill at the beginning of the dry mixing cycle. Increase the dry mix cycle by a minimum of 10 seconds after the Gilsonite is added and prior to introduction of the asphalt cement. For this method, supply Gilsonite in plastic bags to protect the material during shipment and handling and store the modifier in a waterproof environment. The bags shall be capable of being completely melted and uniformly blended into the combined mixture.

Gilsonite may also be added through a mineral filler supply system as described in Subsection 400.3.02.B.5, "Mineral Filler Supply System." The system shall be capable of injecting the modifier into the weigh hopper near the center of the aggregate batching cycle so the material can be accurately weighed.

b. For drum drier plants, add Gilsonite through the recycle ring or through an acceptable means which will introduce the Gilsonite prior to the asphalt cement injection point. The modifier shall be proportionately fed into the drum mixer at the required rate by a proportioning device which shall be accurate within ± 10 percent of the amount required. The entry point shall be away from flames and ensure the Gilsonite will not be caught up in the air stream and exhaust system.

3. Materials from Different Sources

Do not use mixtures prepared from aggregates from different sources intermittently. This will cause the color of the finished pavement to vary.

E. Observe Weather Limitations

Do not mix and place asphaltic concrete if the existing surface is wet or frozen. Follow the temperature guidelines in the following table:

Table 4—Lift Thickness Table

Lift Thickness	Minimum Temperature
1 in (25 mm) or less	55 °F (13 °C)
1.1 to 2 in (26 mm to 50 mm)	45 °F (8 °C)
2.1 to 3 in (51 mm to 75 mm)	40 °F (4 °C)
3.1 to 4 in (76 mm to 100 mm)	35 °F (2 °C)
4.1 to 8 in (101 mm to 200 mm)	32 °F (0 °C) and rising. Base Material must not be frozen.

F. Perform Spreading and Finishing

Spread and finish the course as follows:

1. Determine the course's maximum compacted layer thickness by the type mix being used according to Table 5.

Table 5—Maximum Layer Thickness

Mix Type	Minimum Layer Thickness	Maximum Layer Thickness	Maximum Total Thickness
25 mm Superpave	2 1/2 in (64 mm)	4 in (100 mm) *	—
19 mm Superpave	1 3/4 in (44 mm)	3 in (75 mm) *	—
12.5 mm Superpave	1 3/8 in (35 mm)	2 1/2 in (64 mm)**	8 in (200 mm)
9.5 mm Superpave Type II	1 1/8 in.(28 mm)	1 1/2 in (38 mm)**	4 in (100 mm)
9.5 mm Superpave Type I	7/8 in (22 mm)	1 1/4 in (32 mm)	4 in (100 mm)
4.75 mm Mix	3/4 in (19 mm)	1 1/8 in (28 mm)	2 in (50 mm)
* Allow up to 6 in (150 mm) per lift on trench widening. **Place 9.5 mm Superpave and 12.5 mm Superpave up to 4 in (100 mm) thick for driveway and side road transition.			

2. Unload the mixture into the paver hopper or into a device designed to receive the mixture from delivery vehicles.
3. Except for leveling courses, spread the mixture to the loose depth for the compacted thickness or the spread rate. Use a mechanical spreader true to the line, grade, and cross section specified.
4. For leveling courses, use a motor grader equipped with a spreader box and smooth tires to spread the material or use a mechanical spreader meeting the requirements in Subsection 400.3.02.C, "Equipment at Project Site."
5. Obtain the Engineer's approval for the sequence of paving operations, including paving the adjoining lanes. Minimize tracking tack onto surrounding surfaces.
6. Ensure the outside edges of the pavement being laid are aligned and parallel to the roadway center line.
7. For New Construction or Resurfacing Contracts containing multiple lifts or courses, arrange the width of the individual lifts so the longitudinal joints of each successive lift are offset from the previous lift at least 1 ft (300 mm). This requirement does not apply to the lift immediately over thin lift leveling courses.

   Ensure the longitudinal joint(s) in the surface course and the mix immediately underneath asphaltic concrete OGFC or PEM are at the lane line(s).

NOTE: Perform night work with artificial light provided by the Contractor and approved by the Engineer.

8. Where mechanical equipment cannot be used, spread and rake the mixture by hand. Obtain the Engineer's approval of the operation sequence, including compactive methods, in these areas.
9. Keep small hand raking tools clean and free from asphalt build up. Do not use fuel oil or other harmful solvents to clean tools during the work.
10. Do not use mixture with any of these characteristics:
    - Segregated
    - Nonconforming temperature
    - Deficient or excessive asphalt cement content
    - Otherwise unsuitable to place on the roadway in the work
11. Remove and replace mixture placed on the roadway that the Engineer determines has unacceptable blemish levels from segregation, raveling, streaking, pulling and tearing, or other deficient characteristics. Replace with acceptable mixture at the Contractor's expense. Do not continually place mixtures with deficiencies.

    Do not place subsequent course lifts over another lift or courses placed on the same day while the temperature of the previously placed mix is 140 °F (60 °C) or greater.

12. Obtain the Engineer's approval of the material compaction equipment. Perform the rolling as follows:
    a. Begin the rolling as close behind the spreader as possible without causing excessive distortion of the asphaltic concrete surface.
    b. Continue rolling until roller marks are no longer visible.
    c. Use pneumatic-tired rollers with breakdown rollers on all courses except asphaltic concrete OGFC, PEM and SMA or other mixes designated by the Engineer.
13. If applicable, taper or "feather" asphaltic concrete from full depth to a depth no greater than 0.5 in (13 mm) along curbs, gutters, raised pavement edges, and areas where drainage characteristics of the road must be retained. The Engineer will determine the location and extent of tapering.

G. Maintain Continuity of Operations

Coordinate plant production, transportation, and paving operations to maintain a continuous operation. If the spreading operations are interrupted, construct a transverse joint if the mixture immediately behind the paver screed cools to less than 250 ºF (120 ºC).

H. Construct the Joints

1. Construct Transverse Joints
    a. Construct transverse joints to facilitate full depth exposure of the course before resuming placement of the affected course.
    b. Properly clean and tack the vertical face of the transverse joint before placing additional material.

    NOTE: Never burn or heat the joint by applying fuel oil or other volatile materials.

    c. Straightedge transverse joints immediately after forming the joint.
    d. Immediately correct any irregularity that exceeds 3/16 in. in 10 ft (5 mm in 3 m).
2. Construct Longitudinal Joints

   Clean and tack the vertical face of the longitudinal joint before placing adjoining material. Construct longitudinal joints so that the joint is smooth, well sealed, and bonded.

I. Protect the Pavement

Protect sections of the newly finished pavement from traffic until the traffic will not mar the surface or alter the surface texture. If directed by the Engineer, use artificial methods to cool the newly finished pavement to open the pavement to traffic more quickly.

J. Modify the Job Mix Formula

If the Engineer determines that undesirable mixture or mat characteristics are being obtained, the job mix formula may require immediate adjustment.

400.3.06 Quality Acceptance

A. Acceptance Plans for Gradation and Asphalt Cement Content

The Contractor will randomly sample and test mixtures on a lot basis. The Department will monitor the Contractor testing program and perform comparison and quality assurance testing. The Contractor's Quality Control Technicians shall participate in the Department's Independent Assurance Systems Basis Program.

1. Determine Lot Amount

   A lot consists of the tons (megagrams) of asphaltic concrete produced and placed each production day. If this production is less than 500 tons (500 Mg), or its square yard (meter) equivalent, production may be incorporated into the next working day. The Engineer may terminate a lot when a pay adjustment is imminent if a plant or materials adjustment resulting in a probable correction has been made. Terminate all open lots at the end of the month, except for materials produced and placed during the adjustment period. If the final day's production does not constitute a lot, the production may be included in the lot for the previous day's run; or, the Engineer may treat the production as a separate lot with a corresponding lower number of tests.
2. Determine Lot Acceptance

   If the Engineer determines that the material is not acceptable to leave in place, the materials shall be removed and replaced at the Contractor's expense.

3. Provide Quality Control Program

   Provide a Quality Control Program as established in SOP 27 which includes:

   - Assignment of quality control responsibilities to specifically named individuals who have been certified by the Office of Materials and Research
   - Provisions for prompt implementation of control and corrective measures
   - Provisions for communication with Project Manager, Bituminous Technical Services Engineer, and Testing Management Operations Supervisor at all times
   - Provisions for reporting all test results daily through the Office of Materials and Research computerized Field Data Collection System; other checks, calibrations and records will be reported on a form developed by the Contractor and will be included as part of the project records
   - Notification in writing of any change in quality control personnel

   a. Certification Requirements:

      - Use laboratory and testing equipment certified by the Department. (Laboratories which participate in and maintain AASHTO accreditation for testing asphaltic concrete mixtures will be acceptable in lieu of Departmental certification.)
      - Provide certified quality control personnel to perform the sampling and testing. A Quality Control Technician (QCT) may be certified at three levels:

        1) Temporary Certification – must be a technician trainee who shall be given direct oversight by a certified Level 1 or Level 2 QCT while performing acceptance testing duties during the first 5 days of training. The trainee must complete qualification requirements within 30 GDOT production days after being granted temporary certification. A trainee who does not become qualified within 30 GDOT production days will not be re-eligible for temporary certification. A certified Level 1 or Level 2 QCT shall be at the plant at all times during production and shipment of mixture to monitor work of the temporarily certified technician.
        2) Level 1 – must demonstrate they are competent in performing the process control and acceptance tests and procedures related to hot mix asphalt production and successfully pass a written exam.
        3) Level 2 – must meet Level 1 requirements and must be capable of and responsible for making process control adjustments, and successfully pass a written exam.

           - Technician certification is valid for 3 years from the date on the technician's certificate unless revoked or suspended. Eligible technicians may become certified through special training and testing approved by the Office of Materials and Research. Technicians who lose their certification due to falsification of test data will not be eligible for recertification in the future unless approved by the State Materials and Research Engineer.

   b. Quality Control Management

      1) Designate at least one Level 2 QCT as manager of the quality control operation. The Quality Control Manager shall meet the following requirements:

         - Be accountable for actions of other QCT personnel
         - Ensure that all applicable sampling requirements and frequencies, test procedures, and Standard Operating Procedures are adhered to
         - Ensure that all reports, charts, and other documentation is completed as required

      2) Provide QCT personnel at the plant as follows:

         - If daily production for all mix types is to be greater than 250 tons (megagrams), have a QCT person at the plant at all times during production and shipment of mixture until all required acceptance tests have been completed
         - If daily production for all mix types will not be greater than 250 tons (megagrams) a QCT may be responsible for conducting tests at up to two plants, subject to random number sample selection
         - Have available at the plant or within immediate contact by phone or radio a Level 2 QCT responsible for making prompt process control adjustments as necessary to correct the mix

      3) Sampling, Testing, and Inspection Requirements.

Provide all sample containers, extractants, forms, diaries, and other supplies subject to approval of the Engineer.

Perform daily sampling, testing, and inspection of mixture production that meets the following requirements:

(a) Randomly sample mixtures according to GSP 15, and GDT 73 (Method C) and test on a lot basis. In the event less than the specified number of samples are taken, obtain representative 6 in (150 mm) cores from the roadway at a location where the load not sampled was placed. Take enough cores to ensure minimum sample size requirements are met for each sample needed.

(b) Maintain a printed copy of the computer generated random sampling data as a part of the project records.

(c) Perform sampling, testing, and inspection duties of GSP 21.

(d) Perform extraction or ignition test (GDT 83 or GDT 125) and extraction analysis (GDT 38). If the ignition oven is used, a printout of sample data including weights shall become a part of the project records. For asphalt cement content only, digital printouts of liquid asphalt cement weights may be substituted in lieu of an extraction test for plants with digital recorders. Calculate the asphalt content from the ticket representing the mixture tested for gradation.

(e) Save extracted aggregate, opposite quarters, and remaining material (for possible referee testing) of each sample as follows:

- Store in properly labeled, suitable containers
- Secure in a protected environment
- Store for three working days. If not obtained by the Department, within three days they may be discarded in accordance with GSP 21.

(f) Add the following information on load tickets from which a sample or temperature check is taken:

- Mixture temperature
- Signature of the QCT person performing the testing

(g) Calibrate the lime system when hydrated lime is included in the mixture:

- Perform a minimum of twice weekly during production
- Post results at the plant for review
- Provide records of materials invoices upon request (including asphalt cement, aggregate, hydrated lime, etc.)

(h) Take action if acceptance test results are outside Mixture Control Tolerances of Section 828.

- One sample out of tolerance
  (1) Contact Level 2 - QCT to determine if a plant adjustment is needed
  (2) Immediately run a process control sample. Make immediate plant adjustments if this sample is also out of tolerance
  (3) Test additional process control samples as needed to ensure corrective action taken appropriately controls the mixture
- Two consecutive acceptance samples of the same mix type out of tolerance regardless of Lot or mix design level, or three consecutive acceptance samples out of tolerance regardless of mix type
  (1) Stop plant production immediately
  (2) Reject any mixture already in storage that:
    - Deviates more than 10 percent in gradation from the job mix formula based on the acceptance sample
    - Deviates more than 0.7 percent in asphalt content from the job mix formula based on the acceptance sample
  (3) Make a plant correction to any mix type out of tolerance prior to resuming production

- Do not send any mixture to the project before test results of a process control sample meets Mixture Control Tolerances
- Reject any mixture produced at initial restarting that does not meet Mixture Control Tolerances

4) Comparison Testing and Quality Assurance Program

Periodic comparison testing by the Department will be required of each QCT to monitor consistency of equipment and test procedures. The Department will take independent samples to monitor the Contractor's quality control program.

a) Comparison Sampling and Testing

Retain samples for comparison testing and referee testing if needed as described in Subsection 400.3.06.A.3.b.3. Discard these samples only if the Contractor's acceptance test results meet a 1.00 pay factor and the Department does not procure the samples within three working days.

The Department will test comparison samples on a random basis. Results will be compared to the respective contractor acceptance tests and the maximum difference shall be as follows:

Table 6—Allowable Percent Difference Between Department and Contractor Acceptance Tests

SIEVE SIZE	SURFACE	SUB-SURFACE
1/2 in. (12.5 mm)		4.0%
3/8 in. (9.5 mm)	3.5%	4.0%
No. 4 (4.75 mm)	3.5%	3.5%
No. 8 (2.36 mm)	2.5%	3.0%
No. 200 (75 μm)	2.0%	2.0%
A.C.	0.4%	0.5%

(1) If test comparisons are within these tolerances:

- Continue production
- Use the Contractor's tests for acceptance of the lot

(2) If test comparisons are not within these tolerances:

- Another Departmental technician will test the corresponding referee sample
- Results of the referee sample will be compared to the respective contractor and Departmental tests using the tolerance for comparison samples given above.
  - (a) If referee test results are within the above tolerances when compared to the Contractor acceptance test, use the Contractor's test for acceptance of the effected lot.
  - (b) If referee test results are not within the above tolerances when compared to the Contractor acceptance test, the Department will review the Contractor's quality control methods and determine if a thorough investigation is needed.

b) Independent Verification Sampling and Testing

(1) Randomly take a minimum of two independent samples from the lesser of five days or five lots of production regardless of mix type or number of projects.

(2) Compare test deviation from job mix formula to Mixture Control Tolerances in Section 828. If results are outside these tolerances, another sample from the respective mix may be taken.

NOTE: For leveling courses less than 110 lb/yd² (60 kg/m²) having quality assurance test results outside the Mixture Control Tolerances of Section 828, use the Department's test results only.

If test results of the additional sample are not within Mixture Control Tolerances, the Department will take the following action:

- Take random samples from throughout the subject lot(s) as established in Subsection 400.3.06.A.3.b.3 and use these test results for acceptance and in calculations for the monthly plant rating. Determine if the Contractor's quality control program is satisfactory and require prompt corrective action by the Contractor if specification requirements are not being met.
- Determine if the QCT has not followed Departmental procedures or has provided erroneous information.
- Take samples of any in-place mixture represented by unacceptable QCT tests and use the additional sample results for acceptance and in calculations for the monthly plant rating. The Contractor QCT tests will not be included in the monthly plant rating.

B. Compaction

Determine the mixture compaction using either GDT 39 , GDT 59 or AASHTO T-331. The method of GDT-39 for "Uncoated Specimens, Dense Graded Mixtures Only" shall not apply when the water absorption of a sample exceeds 2.0 percent, as measured according to AASHTO T-166. In this case, either AASHTO T-331 or the paraffin method of GDT-39 shall apply. The compaction is accepted in lots defined in Subsection 400.3.06. A "Acceptance Plans for Gradation and Asphalt Cement Content" and is within the same lot boundaries as the mixture acceptance.

1. Calculate Pavement Mean Air Voids

   The Department will calculate the pavement air voids placed within each lot as follows:

   a. One test per sub-lot.
      - Lots $\geq$ 500 tons of mix should be divided into 5 sub-lots of equal distance.
      - Lots < 500 tons of mix should be comprised of a sub-lot or sub-lots consisting of up to 100 tons of mix each. There may be less than 5 sub-lots.

   b. Average the results of all tests run on randomly selected sites in that lot.

   c. Select the random sites using GDT 73.

   Density tests are not required for asphaltic concrete placed at 125 lbs/yd^2 (68 kg/m^2) or less, 4.75 mm mix and mixes placed as variable depth or width leveling. Compact these courses to the Engineer's satisfaction. Density tests will not be performed on turn-outs and driveways.

   The targeted maximum Pavement Mean Air Void content for all Superpave mixtures is 5.0 percent. Ensure that the maximum Pavement Mean Air Voids for all Superpave mixtures does not exceed 7.8 percent. The maximum Pavement Mean Air Voids for 2 foot shoulder widening is 9.0 percent. The adjustment period for density shall be three lots or three production days, whichever is less, in order for the contractor to ensure maximum compactive effort has been achieved which will yield no more than the specified maximum allowed Mean Air Voids. If the contractor needs to adjust the mixture to improve density results, a change in the job mix formula may be requested for approval during the adjustment period so long as the following values are not exceeded:

   - Coarse pay sieve ± 4%
   - No. 8 (2.36 mm) sieve ± 2%
   - No. 200 (75 µm) sieve ± 1%
   - Asphalt Content ± 0.2%
   - All value changes must still be within specification limits

   If the Office of Materials and Research is satisfied that the contractor has exerted the maximum compactive effort and is not able to maintain Pavement Mean Air Voids at no more than 7.8%, the Engineer may establish a maximum target for Pavement Mean Air Voids.

   If the Pavement Mean Air Voids within a Lot exceeds 7.8 (or 100% of the maximum target air voids, if established is not maintained); the Engineer may stop the paving operation until appropriate steps are taken by the Contractor to correct the deficiency. Upon approval of the Engineer, the paving operation may be restarted but will be limited to a

1000 ft (300 m) test section to verify that the corrective action taken will result in satisfactory density. Continued operation may not be permitted if the Pavement Mean Air Voids fail to meet the specified density requirements.

2. Parking Facilities Pavement Mean Air Voids
   - 7.8 percent or less for state funded Park and Ride Parking Lots
   - 8.3 percent or less for all other parking facilities on Contracts with ≥ 1000 tons combined of all asphaltic concrete mix types.
   - 9.0 percent or less for all other parking facilities on Contracts with < 1000 tons combined of all asphaltic concrete mix types.
   - If the Office of Materials and Research is satisfied that the contractor has exerted the maximum compactive effort and is not able to maintain the specified Pavement Mean Air Voids, the Engineer may establish a maximum allowable percent Pavement Mean Air Voids. To determine a maximum allowable percent Pavement Mean Air Voids, a Control Strip (100 feet minimum) shall be placed to the same width and thickness to be utilized during construction of that mix type. The materials used in the construction of the Control Strip shall conform to the requirementsof the approved Job Mix Formula as defined in Sub-Section 400.1.03. The materials shall be furnished from the same source and shall be of the same type used in the remainder of the pavement course and mix type represented by the Control Strip. The in-place air voids of the Control Strip, if accepted, shall be the maximum allowable percent Pavement Mean Air Voids for the remainder of the pavement course which it represents. The in-place air voids of the Control Strip will be determined by averaging the results of five density tests taken at randomly selected sites within the Control Strip. The density tests shall be tested in accordance with GDT 73, Procedure 2.a (Cores) or Procedure 2.b (Nuclear Gauge). Compaction of the Control Strip shall be continued until no appreciative increase in density can be obtained by additional roller coverages.
3. Obtain Uniform Compaction

For a lot to be accepted for compaction, the air void range cannot exceed 4 percent for new construction or 5 percent for resurfacing projects. The range is the difference between the highest and lowest acceptance test results within the affected lot.

C. Surface Tolerance

In this Specification, pavement courses to be overlaid with an Open-Graded Friction Course or PEM are considered surface courses. Asphalt paving is subject to straightedge and visual inspection and irregularity correction as shown below:

1. Visual and Straightedge Inspection

   Paving is subject to visual and straightedge inspection during and after construction operations until Final Acceptance. Locate surface irregularities as follows:

   a. Keep a 10 ft (3 m) straightedge near the paving operation to measure surface irregularities on courses. Provide the straightedge and the labor for its use.
   b. Inspect the base, intermediate, and surface course surfaces with the straightedge to detect irregularities.
   c. Correct irregularities that exceed 3/16 in. in 10 ft (5 mm in 3 m) for base and intermediate courses, and 1/8 in. in 10 ft (3 mm in 3 m) for surface courses.

   Mixture or operating techniques will be stopped if irregularities such as rippling, tearing, or pulling occur and the Engineer suspects a continuing equipment problem. Stop the paving operation and correct the problem.

D. Reevaluation of Lots

Reevaluation of Lots and acceptance will be based on Department evaluations. The Department will be reimbursed by the Contractor for all costs of these evaluations. Request for reevaluation shall be made within 5 working days of notification of the lot results.

E. Segregated Mixture

Prevent mixture placement yielding a segregated mat by following production, storage, loading, placing, and handling procedures. Ensure needed plant modifications and provide necessary auxiliary equipment. (See Subsection 400.1.01, "Definitions.")

If the mixture is segregated in the finished mat, the Department will take actions based on the degree of segregation. The actions are described below.

4. Unquestionably Unacceptable Segregation

   When the Engineer determines the segregation in the finished mat is unquestionably unacceptable, follow these measures:

   d. Suspend Work and require the Contractor to take positive corrective action. The Department will evaluate the segregated areas to determine the extent of the corrective work to the in-place mat as follows:
      - Perform extraction and gradation analysis by taking 6 in (150 mm) cores from typical, visually unacceptable segregated areas.
      - Determine the corrective work according to Subsection 400.3.06.E.3.

   e. Require the Contractor to submit a written plan of measures and actions to prevent further segregation. Work will not continue until the plan is submitted to and approved by the Department.

   f. When work resumes, place a test section not to exceed 500 tons (500 Mg) of the affected mixture for the Department to evaluate. If a few loads show that corrective actions were not adequate, follow the measures above beginning with step 1.a. above. If the problem is solved, Work may continue.

2. Unacceptable Segregation Suspected

   When the Engineer observes segregation in the finished mat and and the work may be unacceptable, follow these measures:

   g. Allow work to continue at Contractor's risk.

   h. Require Contractor to immediately and continually adjust operation until the visually apparent segregated areas are eliminated from the finished mat. The Department will immediately investigate to determine the severity of the apparent segregation as follows:
      - Take 6 in (150 mm) cores from typical areas of suspect segregation.
      - Test the cores for compliance with the mixture control tolerances in Section 828.

      When these tolerances are exceeded, suspend work for corrective action as outlined in Subsection 400.3.06.E.3.

3. Corrective Work

   a. Remove and replace (at the Contractor's expense) any segregated area where the gradation on the control sieves is found to vary 10 percent or more from the approved job mix formula, the asphalt cement varies 1.0% or more from the approved job mix formula, or if in-place air voids exceed 13.5% based on GDT 39. The control sieves for each mix type are shown in Subsection 400.5.01.B "Determine Lot Acceptance."

   b. Subsurface mixes. For subsurface mixes, limit removal and replacement to the full lane width and no less than 10 ft. (3 m) long and as approved by the Engineer.

   i. Surface Mixes. For surface mixes, ensure that removal and replacement is not less than the full width of the affected lane and no less than the length of the affected areas as determined by the Engineer.

   Surface tolerance requirements apply to the corrected areas for both subsurface and surface mixes.

400.3.07 Contractor Warranty and Maintenance

A. Contractor's Record

Maintain a dated, written record of the most recent plant calibration. Keep this record available for the Engineer's inspection at all times. Maintain records in the form of:

- Graphs
- Tables
- Charts
- Mechanically prepared data

400.4 Measurement

Thickness and spread rate tolerances for the various mixtures are specified in Subsection 400.4.A.2.b, Table 11, Thickness and Spread Rate Tolerance at Any Given Location. These tolerances are applied as outlined below:

A. Hot Mix Asphaltic Concrete Paid for by Weight

1. Plans Designate a Spread Rate

a. Thickness Determinations. Thickness determinations are not required when the Plans designate a spread rate per square yard (meter).

If the spread rate exceeds the upper limits outlined in the Subsection 400.4.A.2.b, Table 11, "Thickness and Spread Rate Tolerance at Any Given Location", the mix in excess will not be paid for.

If the rate of spread is less than the lower limit, correct the deficient course by overlaying the entire lot.

The mixture used for correcting deficient areas is paid for at the Contract Unit Price of the course being corrected and is subject to the Mixture Acceptance Schedule—Table 9 or 10.

b. Recalculate the Total Spread Rate. After the deficient hot mix course has been corrected, the total spread rate for that lot is recalculated, and mix in excess of the upper tolerance limit as outlined in the Subsection 400.4.A.2.b, Table 11, "Thickness and Spread Rate Tolerance at Any Given Location" is not paid for.

The quantity of material placed on irregular areas such as driveways, turnouts, intersections, feather edge section, etc., is deducted from the final spread determination for each lot.

2. Plans Designate Thickness

If the average thickness exceeds the tolerances specified in the Subsection 400.4.A.2.b, Table 11, "Thickness and Spread Rate Tolerance at Any Given Location", the Engineer shall take cores to determine the area of excess thickness. Excess quantity will not be paid for.

If the average thickness is deficient by more than the tolerances specified in the Thickness and Spread Rate Tolerance at Any Given Location table below, the Engineer shall take additional cores to determine the area of deficient thickness. Correct areas with thickness deficiencies as follows:

a. Overlay the deficient area with the same mixture type being corrected or with an approved surface mixture. The overlay shall extend for a minimum of 300 ft (90 m) for the full width of the course.

b. Ensure that the corrected surface course complies with Subsection 400.3.06.C.1, "Visual and Straightedge Inspection." The mixture required to correct a deficient area is paid for at the Contract Unit Price of the course being corrected.

The quantity of the additional mixture shall not exceed the required calculated quantity used to increase the average thickness of the overlaid section to the maximum tolerance allowed under the following table.

Table 11—Thickness and Spread Rate Tolerance at Any Given Location

Course	Thickness Specified	Spread Rate Specified
Asphaltic concrete base course	± 0.5 in (±13 mm)	+40 lbs, -50 lbs (+20 kg, -30 kg)
Intermediate and/or wearing course	± 0.25 in (± 6 mm)	+20 lbs, -25 lbs (+10 kg, -15 kg)
Overall of any combination of 1 and 2	± 0.5 in (±13 mm)	+40 lbs, -50 lbs (+20 kg, -30 kg)

Note: Thickness and spread rate tolerances are provided to allow normal variations within a given lot. Do not continuously operate at a thickness of spread rate not specified.

When the Plans specify a thickness, the Engineer may take as many cores as necessary to determine the average thickness of the intermediate or surface course. The Engineer shall take a minimum of one core per 1,000 ft (300 m) per two lanes of roadway. Thickness will be determined by average measurements of each core according to GDT 42.

If the average exceeds the tolerances specified in the Subsection 400.4.A.2.b, Table 11, "Thickness and Spread Rate Tolerance at Any Given Location", additional cores will be taken to determine the area of excess thickness and excess tonnage will not be paid for.

B. Hot Mix Asphaltic Concrete Paid for by Square Yard (Meter)

1. The thickness of the base course or the intermediate or surface course will be determined by the Department by cutting cores and the thickness will be determined by averaging the measurements of each core.

2. If any measurement is deficient in thickness more than the tolerances given in the table above, additional cores will be taken by the Department to determine the area of thickness deficiency. Correct thickness deficiency areas as follows:
   a. Overlay the deficient area with the same type mixtures being corrected or with surface mixture. Extend the overlay at least 300 ft (90 m) for the full width of the course.
   b. Ensure that the corrected surface course complies with Subsection 400.3.06.C.1, Visual and Straightedge Inspection" .
   c. The mixture is subject to the Mixture Acceptance Schedule—Table 9 or 10.
3. No extra payment is made for mixtures used for correction.
4. No extra payment is made for thickness in excess of that specified.

C. Asphaltic Concrete

Hot mix asphaltic concrete, complete in place and accepted, is measured in tons (megagrams) or square yards (meters) as indicated in the Proposal. If payment is by the ton (megagram), the actual weight is determined by weighing each loaded vehicle on the required motor truck scale as the material is hauled to the roadway, or by using recorded weights if a digital recording device is used.

The weight measured includes all materials. No deductions are made for the weight of the individual ingredients. The actual weight is the pay weight except when the aggregates used have a combined bulk specific gravity greater than 2.75. In this case the pay weight is determined according to the following formula:

$$T1 = T \times \left\{ \frac{\% AC + \left(\dfrac{\% \text{ Aggregate} \times 2.75}{\text{combined bulk Specific Gravity}} \right) + \% Y}{100} \right\}$$

Where:

T1	Pay weight, tonnage (Mg)
T=	Actual weight
% AC=	Percent asphalt cement by weight of total mixture
% Aggregate =	Percent aggregate by weight of total mixture
Combined Bulk Sp. Gr.=	Calculated combined bulk specific gravity of various mineral aggregates used in the mixture
% Y=	Percent hydrated lime by weight of mineral aggregate

D. Bituminous Material

Bituminous material is not measured for separate payment.

E. Hydrated Lime

When hydrated lime is used as an anti-stripping additive, it is not measured for separate payment.

F. Field Laboratory

The field laboratory required in this Specification is not measured for separate payment.

G. Asphaltic Concrete Leveling

Payment of hot mix asphaltic concrete leveling, regardless of the type mix, is full compensation for furnishing materials, bituminous materials, and hydrated lime (when required) for patching and repair of minor defects, surface preparation, cleaning, hauling, mixing, spreading, and rolling.

Mixture for leveling courses is subject to the acceptance schedule as stated in Subsection 400.3.06.A and Subsection 400.3.06.B.

H. Asphaltic Concrete Patching

Hot mix asphaltic concrete patching, regardless of the type mix, is paid for at the Contract Unit Price per ton (Megagram), complete in place and accepted. Payment is full compensation for:

- Furnishing materials such as bituminous material and hydrated lime (when required)
- Preparing surface to be patched
- Cutting areas to be patched, trimmed, and cleaned
- Hauling, mixing, placing, and compacting the materials

400.4.01 Limits

When the asphaltic concrete is paid for by the square yard (meter) and multiple lifts are used, the number and thickness of the lifts are subject to the Engineer's approval and are used to prorate the pay factor for the affected roadway section.

400.5 Payment

Hot mix asphaltic concrete of the various types are paid for at the Contract Unit Price per ton (megagram) or per square yard (meter). Payment is full compensation for furnishing and placing materials including asphalt cement, hydrated lime when required, approved additives, and for cleaning and repairing, preparing surfaces, hauling, mixing, spreading, rolling, and performing other operations to complete the Contract Item.

Payment will be made under:

Item No. 400	Asphaltic concrete type Superpave, group-blend, Including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete type, Superpave, group-blend, including bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete type Superpave, group-blend, Including bituminous materials, Gilsonite modifier, and hydrated lime	Per ton (megagram)

Item No. 400	_____ inches asphaltic concrete, type Superpave, group-blend including bituminous materials, Gilsonite modifier and hydrated lime	Per square yard (meter)
Item No. 400	Asphaltic concrete type Stone Matrix Asphalt, group-blend, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete type OGFC, group 2 only, including bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete type OGFC, group 2 only, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 400	Asphaltic concrete type Porous European Mix, group 2 only, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)

400.5.01 Adjustments

A. Determine Lot Acceptance

The control sieves used in the mixture acceptance schedule for the various types of mix are indicated below:

Control Sieves Used in the Mixture Acceptance Schedule	
Asphaltic concrete 25 mm Superpave	1/2 in., No. 8 (12.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 19 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement

Control Sieves Used in the Mixture Acceptance Schedule	
Asphaltic concrete 9.5 mm Superpave	No. 4, No. 8 (4.75 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 4.75 mm Mix	No. 8 (2.36 mm) sieve and asphalt cement

The Department will perform the following tasks:

1. Determine the mean of the deviations from the job mix formula per test results per lot.
2. Determine this mean by averaging the actual numeric value of the individual deviations from the job mix formula; disregard whether the deviations are positive or negative amounts.

C. Calculate Pavement Mean Air Voids

The Department will determine the percent of maximum air voids for each lot by dividing the pavement mean air voids by the maximum pavement mean air voids acceptable.

D. Asphaltic Concrete For Temporary Detours

Hot mix asphaltic concrete placed on temporary detours not to remain in place as part of the permanent pavement does not require hydrated lime. Hot mix used for this purpose is paid for at an adjusted Contract Price. The payment for this item shall cover all cost of construction, maintenance and removal of all temporary mix. Hot mix asphaltic concrete placed as temporary mix shall meet requirements established in Subsection 400.3.05.F.

Where the Contract Price of the asphaltic concrete for permanent pavement is let by the ton (megagram), the Contract Price for the asphaltic concrete placed on temporary detours is adjusted by subtracting $0.75/ton ($0.85/mg) of mix used.

Where the Contract price of the mix in the permanent pavement is based on the square yard (meter), obtain the adjusted price for the same mix used on the temporary detour by subtracting $0.04/yd² ($0.05/ m²) per 1-in (25-mm) plan depth.

Further price adjustments required in Subsection 400.3.06, “Quality Acceptance,” are based on the appropriate adjusted Contract Price for mix used in the temporary detour work.

E. Determine Lot Payment

If the Engineer determines that the material is not acceptable to leave in place, remove and replace the materials at the Contractor’s expense.

GEORGIA DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SUPPLEMENTAL SPECIFICATION

Section 402—Hot Mix Recycled Asphaltic Concrete

Delete Section 402 and substitute the following:

402.1 General Description

This work includes producing and placing hot mix recycled asphaltic concrete that incorporates reclaimed asphalt pavement (RAP), reclaimed asphalt shingles (RAS), virgin aggregate, hydrated lime, and neat asphalt cement.

402.1.01 Definitions

General Provisions 101 through 150.

402.1.02 Related References

A. Standard Specifications

Section 400—Hot Mix Asphaltic Concrete Construction

Section 800—Coarse Aggregate

Section 828—Hot Mix Asphaltic Concrete Mixtures

B. Referenced Documents

SOP 41 "Guidelines for RAP Stockpile Approval"

402.1.03 Submittals

A. Certified Weight Tickets

Notify the Engineer before removing RAP from a stockpile that belongs to the Department. Submit to the Engineer the certified weight tickets of materials removed from the stockpile.

B. Affidavit

Submit to the laboratory an affidavit stating the sources of stockpiled materials to be used on a State project. Include the following information in the letter:

- State project number
- Location from which the material was removed
- Approximate removal dates
- Mix types removed and the estimated quantity of each type in the stockpiles
- Other available information about the stockpiled material such as percentage of local sand in the RAP

Obtain specific approval from the laboratory to use RAP or RAS stockpiles.

Adhere to Guidelines for RAP Stockpile Approval.

402.2 Materials

A. RAP Material Composition

Use RAP materials from any of the following:

- Existing roadway
- Contractor's RAP stockpile that has been approved by the Department
- Department stockpile

NOTE: The location of Department RAP material stockpiles will be given on the Plans.

Do not use RAP materials that contain alluvial gravel or local sand in any mixture placed on interstate projects except for mixtures used in shoulder construction. When used in shoulder construction, limit RAP containing local sand or alluvial gravel so that the sand or gravel contributes no more than 20% of the total aggregate portion of the mix.

1. RAP Percentage

   For non-interstate projects, limit the percentage of RAP allowed in recycled mixes so that the overall amount of alluvial gravel does not exceed 5 percent of the total mix. The percentage of alluvial gravel, local sand, and Group I material in the RAP will be determined through petrographic analysis or available records.

   RAP furnished to the Contractor but not used in the work remains the Contractor's property.

   RAP used in the recycled mixtures for mainline or ramps (if applicable) may make up from 0 to 40 percent of the mixture depending on the amount of RAP available, the production facilities, and whether the mixture meets the requirements in Section 828.

   The maximum ratio of RAP material to the recycled mixture is 40 percent for continuous mix type plants and 25 percent for batch type plants.

2. Process RAP Material

   Process RAP material to be used in the recycled mixture so that 100 percent will pass the 2 in (50 mm) sieve. Additional crushing and sizing may be required if the RAP aggregate exceeds the maximum sieve size for the mix type as shown in Section 828. Obtain representative materials from the RAP stockpile for the mix design.

B. RAS Material

RAS materials are produced as a by-product of manufacturing roofing shingles and/or discarded shingle scrap from the reroofing of buildings.

1. Limit the amount of RAS material used in the recycled mixture to no greater than 5 percent of the total mixture weight.
2. Shred the RAS material before incorporating it into the mix to ensure that 100 percent of the shredded pieces are less than 1/2 in (12.5 mm) in any dimension.
3. Remove all foreign materials such as paper, roofing nails, wood, or metal flashing.
4. Provide test results for Bulk Sample Analysis, known as Polarized Light Microscopy, if post-consumer shingles are used to certify the RAS material is free of asbestos. Test stockpiles at the rate of one test per 1000 tons (megagrams) prior to processing.

Other than as specifically stated in this Subsection, ensure that RAS material is used according to the same requirements as described for RAP material.

C. Asphaltic Concrete Removed from an Existing Roadway

Asphaltic concrete removed from an existing roadway becomes the Contractor's property unless specified otherwise on the Plans. RAP material retained by the Department is designated on the Plans, and the RAP shall be stockpiled at the location specified on the Plans.

D. Local Sand and Group I Material in RAP

Use of local sand in recycled mixes is restricted as stipulated in Section 828 for the Project. However, RAP which contains local sand may be used in surface and intermediate layers of non-interstate projects so long as the RAP percentage used does not contribute more than 5% local sand to the total aggregate portion of the mix. The amount of local sand in the RAP material shall be considered when determining the percentage of local sand in the total mix.

Where Pay Items specify that Group II only aggregate is to be used, RAP which consists primarily of Group II aggregate, but contains some Group I aggregate, shall be limited such that the Group I aggregate makes up no more than 5% of the total aggregate portion of the mix. When a Blend I mix is specified, any Group I materials in the RAP will be considered when determining the Group I portion allowed in the total mix as specified in Subsection 828.2.A.2.

E. Asphalt Cement

Using laboratory evaluations, the Department will determine the asphalt cement grade to be used in the recycled mixture. The asphalt cement shall meet the requirements of Section 820.

When the asphalt cement is blended with asphalt cement recovered from the RAP material and after tests on residue from thin film oven tests, the asphalt cement shall have a viscosity of 6,000 to 16,000 poises (600 to 1600 Pa) or as approved by the Engineer. Recover asphalt cement from the recycled mixture to verify that the specified viscosity is being met.

If the Engineer determines during construction that the selected asphalt cement grade is not performing satisfactorily, the Department may change the asphalt cement grade in the mixture, with no change in the Contract Unit Price.

F. Recycled Mixture

The recycled mixture shall be a homogenous mixture of RAP or RAS material, virgin aggregate, hydrated lime, and neat asphalt cement. Ensure that the mixture conforms to an approved mixture design outlined in Section 828.

402.2.01 Delivery, Storage, and Handling

Separate the stockpiles by Project sources and by Group I and Group II aggregate types. Erect a sign on each stockpile to identify the source(s).

If RAP material from different project sources becomes intermixed in a stockpile, only use those materials when approved by the laboratory.

The Department may reject by visual inspection stockpiles that are not clean and free of foreign materials.

402.3 Construction Requirements

402.3.01 Personnel

General Provisions 101 through 150.

402.3.02 Equipment

A. Hot Mix Plant

Use a hot mix plant for the recycling process with necessary modifications approved by the Engineer to process recycled material. Design, equip, and operate the plant so that the proportioning, heating, and mixing yields a uniform final mixture within the job mix formula tolerances.

B. Cold Feed Bin

Proportion the RAP or RAS material using a separate cold feed bin. Ensure that the material meets the size requirements in Subsection 402.2, "Materials." The ratio of the RAP or RAS to virgin aggregate shall be controlled gravimetrically.

C. Electronic Belt Weighing Devices

Use electronic belt weighing devices to monitor the flow of RAP or RAS and the flow of virgin aggregate. For batch-type plants, the RAP or RAS portion of the mix may be weighed in a weigh hopper before incorporating it into the pugmill. The RAP shall be screened through a 2-inch maximum sized screen prior to crossing the cold feed weigh.

Ensure the amount of RAP material incorporated into the asphalt plant does not change after this final measurement is processed by the asphalt plant computer.

D. Feeders and Conveyors

Equip plants with an interlocking system of feeders and conveyors that synchronize the RAP or RAS material flow with the virgin aggregate flow. Ensure that the electronic controls track the flow rates indicated by the belt weighing devices and develop the signal to automatically maintain the desired ratio at varying production rates. Design the RAP or RAS feeder bins, conveyor system, and auxiliary bins (if used) to prevent RAP material from segregating and sticking.

402.3.03 Preparation

General Provisions 101 through 150.

402.3.04 Fabrication

General Provisions 101 through 150.

402.3.05 Construction

Follow the requirements in Section 400 for hot mix recycled asphaltic concrete production and placement, materials, equipment, and acceptance plans except as noted or modified in this Specification.

402.3.06 Quality Acceptance

The Department may require additional quality control tests to determine the RAP stockpile consistency and the RAP aggregate quality. In this case, conduct at least three extraction/gradation tests from each individual source. Ensure that aggregate meets the quality standards in Section 800.

402.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

402.4 Measurement

Recycled asphaltic concrete mixture, complete in place and accepted, is measured in tons (megagrams). The weight is determined by recorded weights if an approved recording device is used. Or, the weight is determined by weighing each loaded vehicle on an approved motor truck scale as the material is hauled to the roadway.

402.4.01 Limits

General Provisions 101 through 150.

402.5 Payment

The work performed and the materials furnished as described in this Specification will be paid for at the Contract Unit Price per ton (megagram). Payment is full compensation for providing materials, hauling and necessary crushing, processing, placing, rolling and finishing the recycled mixture, and providing labor, tools, equipment, and incidentals necessary to complete the work, including hauling and stockpiling RAP or RAS material.

Payment will be made under:

Item No. 402	Recycled asphaltic concrete ___ mm Superpave, group-blend, including bituminous materials	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete ___ mm Superpave, group-blend, including bituminous materials and hydrated lime	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete ___ mm Superpave, group-blend, including polymer-modified bituminous materials and hydrated lime	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete ___ mm Superpave, Type__, group-blend, including bituminous materials and hydrated lime	Per ton (megagram)
Item No.	Recycled asphaltic concrete _____ mm mix, group-blend,	Per ton (megagram)

402	including bituminous materials and hydrated lime	
Item No. 402	_____in (mm) recycled asphaltic concrete type Superpave, group-blend, including bituminous materials	Per square yard (meter)
Item No. 402	_____in (mm) recycled asphaltic concrete type Superpave, group-blend, including bituminous materials and hydrated lime	Per square yard (meter)
Item No. 402	_____in (mm) recycled asphaltic concrete type Superpave, group-blend, including polymer-modified bituminous materials and hydrated lime	Per square yard (meter)
Item No. 402	_____in (mm) recycled asphaltic concrete _____ mm mix, group-blend, including bituminous materials and hydrated lime	Per square yard (meter)
Item No. 402	Recycled asphaltic concrete patching including bituminous materials	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete patching including bituminous materials and hydrated lime	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete leveling including bituminous materials	Per ton (megagram)
Item No. 402	Recycled asphaltic concrete leveling including bituminous materials and hydrated lime	Per ton (megagram)

402.5.01 Adjustments

A. Determine Lot Acceptance

The control sieves used in the mixture acceptance schedule for the various types of mix are indicated below:

Control Sieves Used in the Mixture Acceptance Schedule	
Asphaltic concrete 25 mm Superpave	1/2 in., No. 8 (12.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 19 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 12.5 mm Superpave	3/8 in., No. 8 (9.5 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 9.5 mm Superpave	No. 4, No. 8 (4.75 mm, 2.36 mm) sieves and asphalt cement
Asphaltic concrete 4.75 mm Mix	No. 8 (2.36 mm) sieve and asphalt cement

The Department will perform the following tasks:

5. Determine the mean of the deviations from the job mix formula per test results per lot.
2. Determine this mean by averaging the actual numeric value of the individual deviations from the job mix formula; disregard whether the deviations are positive or negative amounts.

B. Calculate Pavement Mean Air Voids

The Department will determine the percent of maximum air voids for each lot by dividing the pavement mean air voids by the maximum pavement mean air voids acceptable.

C. Asphaltic Concrete for Temporary Detours

Hot mix asphaltic concrete placed on temporary detours that will not remain in place as part of the permanent pavement does not require hydrated lime. Hot mix used for this purpose is paid for at an adjusted Contract Price. The payment for this item shall cover all cost of construction, maintenance and removal of all temporary mix. Hot mix asphaltic concrete placed as temporary mix shall meet requirements established in Subsection 400.3.05.F.

Where the Contract Price of the asphaltic concrete for permanent pavement is let by the ton (megagram), the Contract Price for the asphaltic concrete placed on temporary detours is adjusted by subtracting $0.75/ton ($0.85/mg) of mix used.

Where the Contract price of the mix in the permanent pavement is based on the square yard (meter), obtain the adjusted price for the same mix used on the temporary detour by subtracting $0.04/yd² ($0.05/ m²) per 1-in (25-mm) plan depth.

Further price adjustments required in Subsection 400.3.06, "Quality Acceptance," are based on the appropriate adjusted Contract Price for mix used in the temporary detour work. Hot mix asphalt produced as temporary mix containing no

hydrated lime, when required in the permanent mix, shall be removed and replaced with permanent mix containing hydrated lime.

D. Determine Lot Payment

If the Engineer determines that the material is not acceptable to leave in place, remove and replace the materials at the Contractor's expense.

Revised: April 11, 2012

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 828—Hot Mix Asphaltic Concrete Mixtures

Delete Section 828 and substitute the following:

828.1 General Description

This specification includes the requirements for hot mix asphaltic concrete mixtures, including:

- Open-graded surface mixtures (OGFC and PEM)
- Stone Matrix Asphalt mixtures (SMA)
- Superpave mixtures
- Fine-graded (4.75 mm) mixtures

828.1.01 Definitions

The Nominal Maximum Sieve Size is one standard sieve size larger than the first sieve to retain more than ten percent of the aggregate, per AASHTO R35. Mixture types in this section are identified according to Nominal Maximum Sieve Size.

828.1.02 Related References

A. Standard Specifications

Section 400-Hot Mix Asphaltic Concrete Construction

Section 800–Coarse Aggregate

Section 802–Aggregates for Asphaltic Concrete

Section 819–Fiber Stabilizing Additives

Section 820–Asphalt Cement

Section 831–Admixtures

Section 882–Lime

Section 883–Mineral Filler

B. Referenced Documents

AASHTO R30

AASHTO R35

AASHTO T-321

AASHTO T 112

AASHTO T 209

AASHTO T 305

AASHTO T 312

AASHTO T-245

AASHTO TP63

SOP-36

SOP-2

GDT 1

GDT 56

GDT 63

GDT 66

GDT 114

GDT 115

GDT 123

QPL 1

QPL 2

QPL 7

QPL 26

QPL 41

QPL 77

QPL 81

828.2 Materials

A. Requirements

Use approved hot mix asphalt concrete mixtures that meet the following requirements:

1. Produce each asphalt mixture according to a Job Mix Formula and Asphalt Mix Design approved by the Department for submittal and approval of Job Mix Formulas, see Subsection 400.1.
2. Ensure that individual acceptance test results meet the Mixture Control Tolerances specified in the appropriate table below, Subsection 828.2.01 through 828.2.04.
3. Ensure that the Engineer approves all materials used to prepare and place the mixtures before incorporating them into the Work. Use only the ingredients listed in the approved Asphalt Mix Design and Job Mix Formula. For virgin aggregates use sources which meet the requirements of Section 802 and are listed in QPL 1 or QPL 2; for mixes in which local sand is permitted, use the approved sand source identified in the mix design. For mixtures containing Reclaimed Asphalt Pavement (RAP), use only RAP from the approved stockpile identified in the mix design. Use asphalt cement meeting the requirements of Section 820, from a source listed in QPL 7.
4. Obtain approved SMA mix designs, Superpave mix designs and 4.75 mm mix designs from a mix design laboratory certified by the Department. Obtain approved mix designs for types PEM and OGFC mixtures from the Department's Office of Materials and Research, which produces and furnishes these mix designs.
5. Ensure all SMA mix designs are designed in accordance with GDT-123 ("Determining the Design Proportions of Stone Matrix Asphalt Mixtures"). SMA mix designs shall be verified and approved by the Department prior to use. Ensure that Superpave and 4.75 mm mix designs are designed in accordance with SOP-2 ("Control of Superpave Bituminous Mixture Designs") and are approved by the Department as provided therein. Ensure that these mixes are designed by a laboratory and technician certified in accordance with SOP-36, ("Certification of Laboratories and Personnel for Design of SMA and Superpave Asphalt Mixtures").
6. Use only mixtures composed of the aggregate groups and blends indicated in the Proposal and Plans by their pay item designations, defined as follows:

Pay Item Designation	Allowable Aggregate Groups
Group I or II	Group I, Group II, or Blend I
Group II only	Group II only
Blend I	Either 100% Group II material or a blend of Group I and Group II. Do not use Group I material for more than 60%, by weight, of the total aggregate nor more than 50%, by weight, of the coarse aggregate fraction.

7. For patching or leveling use Group I, Group II, or Blend I. Mix types for patching and leveling are specified in Subsection 400.3.03.B.

8. Include lime (hydrated lime) from an approved source and meeting the requirements of Section 882 in all paving courses except as otherwise provided in the Contract. For a list of approved sources of lime, see QPL 41.
   a. Add lime to each mixture at the rate prescribed in the approved mix design.
   b. Mix designs using only virgin aggregate shall include lime at a minimum rate of 1.00 % of the total dry aggregate weight. Mix designs using RAP shall include lime at a minimum rate equal to 1.00 % of the virgin aggregate fraction plus 0.50 % of the aggregate in the RAP fraction.
   c. If necessary to meet requirements for mixture properties, and pursuant to an approved mix design, add more lime or add lime plus an approved Heat-Stable Anti-Stripping Additive that meets the requirements of Section 831. However, the Department will not make additional payment for these materials. For a list of sources of Heat-Stable Anti-Stripping Additives, see QPL 26.
   d. Where specifically allowed in the contract on LARP, airport, and parking lot projects, an approved Heat-Stable Anti-Stripping Additive that meets the requirements of Section 831 may be substituted for hydrated lime. In this case the mix gradation shall be adjusted as necessary to replace the lime with an equivalent volume of fines passing the 0.075 mm sieve. Add Heat-Stable Anti-stripping Additive at a minimum rate of 0.5 percent of the asphalt cement portion.
9. Use performance grade PG 64-22 or PG 67-22 asphalt cement in all mix designs and mixtures except as follows:
   a. For mixtures containing $\geq$ 25% equivalent binder replacement for RAP/RAS mixtures, the State Bituminous Construction Engineer will determine the performance grade to be used, based on Table 2 – Binders Selection Guideline for Reclaimed Asphalt Pavement (RAP) Mixtures, AASHTO M323 and laboratory testing results as required in Section 828.2.B.
   b. Use only grade PG 76-22, excluding shoulder construction in the following mixes: all SMA, 12.5 mm PEM, 9.5 mm and 12.5 mm OGFC, 12.5 mm Superpave, on projects with ADT greater than 25,000; and in all mixtures for which polymer-modified asphalt is specified in the pay item.
10. Use of local sand is restricted as follows:
   a. Do not place mixtures containing local sand on the traveled way of the mainline or ramps of the Interstate System. Mixtures with local sand may be used for shoulder construction on these facilities.
   b. Local sand shall not constitute more than 20 % of the total aggregate weight of any mix design or production mix.
   c. Subject to the above limits, 19 mm, 12.5 mm, and 9.5 mm Superpave mix designs and 4.75 mm mix designs containing local sand may be used on projects with a current ADT not exceeding 2,000.
   d. 25 mm Superpave mix designs containing not more than 20 % local sand may be used on all facilities except the main line and ramps of the Interstate System.
   e. Obtain local sand for use in asphalt mixtures from a source approved by the Department.
   f. Approval of local sand sources: The Department will sample, test, and approve sources of local sand. Local sand shall not contain more than 7.0 % clay by weight and shall be free of foreign substances, roots, twigs, and other organic matter. It shall be free of clay lumps, as determined by AASHTO T 112, and shall have a sand equivalent value exceeding 25%, as determined by GDT 63.

B. Fabrication

1. Design procedures: For all Superpave and 4.75 mm mixes, designers shall adhere to the Superpave System for Volumetric Design (AASHTO T 312 and AASHTO R30), as adapted in SOP-2. All Superpave mixes are to be designed at a design gyration number (N_{des}) of 65 gyrations and initial gyration number (N_{ini}) of 6 gyrations. For 4.75 mm mixes, (N_{des}) shall be 50 gyrations, and (N_{ini}) shall be 6 gyrations. The Department will design open-graded mixes according to GDT 114. In all cases, the procedure for measuring Maximum Specific Gravity (G_{mm}) shall be AASHTO T 209. In addition to gradation and volumetric analysis, mix designs shall include the following performance tests, as applicable.

2. Performance Test:
   a. Permeability test: Superpave and Stone Matrix mix designs shall include testing according to GDT -1 Measurement of Water Permeability of Compacted Asphalt Paving Mixtures. Specimen air voids for this test shall be 6.0 ±1.0 %. The average permeability of three specimens may not exceed 3.60 ft per day (125 $\times 10^{-5}$cm per sec).
   b. Moisture susceptibility test: Mix designs of all types except open-graded surface mixes shall include testing for moisture susceptibility according to GDT 66. Specimen air voids for this test shall be 7.0 ±1.0% for all mixes excluding Stone Matrix mixes. Specimen air voids for this test shall be 6.0 ± 1.0% for Stone Matrix mixes. The minimum tensile splitting ratio is 0.80, except that a tensile splitting ratio of no less than 0.70 may

be acceptable if all individual strength values exceed 100 psi (690 kPa). Average splitting strength of the three conditioned and three controlled samples shall be not less than 60 psi (415 kPa) for either group. Retention of coating as determined by GDT 56 shall be not less than 95%.

c. Rutting susceptibility test. Mix designs of all types except Open-graded Surface Mixes (OGFC and PEM), and mixtures designed exclusively for trench widening shall include testing according to GDT 115 or AASHTO TP63. Design limits for this test are as follows: Specimen air voids for this test shall be 5.0 ± 1.0% for all mix types. Testing temperature shall be 64°C (147°F) for all mix types except 19 mm and 25 mm Superpave mixes, which shall be tested at 49°C (120°F). Maximum deformation shall be 5.0 mm for all mixes except 4.75 mm mix, 9.5 mm Type I and 9.5 mm Type II Superpave mixes. Maximum deformation for the 9.5 mm Type II Superpave mix shall be 6.0 mm at 64°C (147°F) and 8.0 mm at 64°C (147°F) for the 4.75 mm and 9.5 mm Type I Superpave mix.

d. Fatigue testing: The Department may verify Superpave designs by fatigue testing according to AASHTO T 321 or other procedure approved by the Department.

C. Acceptance

See Subsection 106.03 and Section 400. Ensure that individual test results meet the Mixture Control Tolerances listed in Subsections 828.2, 828.2.01 ,828.2.02, 828.2.03, or 828.2.04, whichever applies with the following exception. Field verification results for rutting susceptibility tests performed on laboratory fabricated and/or roadway cores obtained from asphalt plant produced mixtures shall meet specified requirements with a tolerance of +2.0 mm.

D. Materials Warranty

See General Provisions 101 through 150.

828.2.01 Open-Graded Surface Mixtures

A. Requirements

Produce the mixture according to an approved mix design and Job Mix Formula. Ensure that Open-Graded Surface Mixtures meet the following mixture control tolerances and mix design criteria:

Sieve Size	Mixture Control Tolerance, %	Design Gradation Limits, % Passing		
		9.5 mm OGFC	12.5 mm OGFC	12.5 mm PEM
3/4 in (19 mm) sieve	±0.0		100*	100*
1/2 in (12.5 mm) sieve	±6.1	100*	85-100	80-100
3/8 in (9.5 mm) sieve	±5.6	85-100	55-75	35-60
No. 4 (4.75 mm) sieve	±5.7	20-40	15-25	10-25
No. 8 (2.36 mm) sieve	±4.6	5-10	5-10	5-10
No. 200 (75 µm) sieve	±2.0	2-4	2-4	1-4
Range for % AC	±0.4	6.0-7.25	5.75-7.25	5.5-7.0
Class of stone (Section 800)		"A" only	"A" only	"A" only
Drain-down (AASHTO T305), %		<0.3	<0.3	<0.3

* Mixture control tolerance is not applicable to this sieve for this mix.

1. In 12.5 mm and 9.5 mm OGFC and 12.5 mm PEM mixes, use only PG 76-22 asphalt cement (specified in Section 820).

2. All OGFC and PEM mixes shall include a stabilizing fiber of the type (cellulose or mineral) specified in the mix design and meeting the requirements of Section 819. The dosage rate shall be as specified in the mix design and shall be sufficient to prevent drain-down exceeding the above tolerance.

B. Fabrication

See Section 400.

828.2.02 Stone Matrix Asphalt Mixtures

A. Requirements

Produce the mixture according to an approved mix design and Job Mix Formula. Ensure that Stone Matrix Asphalt mixtures meet the following mixture control tolerances and mix design criteria:

Sieve Size	Mixture Control Tolerance	Design Gradation Limits, Percent Passing		
		9.5 mm SMA	12.5 mm SMA	19 mm SMA
1- in (25 mm) sieve	±0.0			100*
3/4 in (19 mm) sieve	±7.0	100*	100*	90-100
1/2 in (12.5 mm) sieve	±6.1	98-100**	85-100	44-70
3/8 in (9.5 mm) sieve	±5.6	70-100	50-75	25-60
No. 4 (4.75 mm) sieve	±5.7	28-50	20-28	20-28
No. 8 (2.36) mm sieve	±4.6	15-30	16-24	15-22
No. 50 (300 µm) sieve	±3.8	10-17	10-20	10-20
No. 200 (75 µm) sieve	±2.0	8-13	8-12	8-12
Range for % AC (Note 1)	±0.4 (Note 2)	6.0-7.5	5.8-7.5	5.5-7.5
Design optimum air voids (%)		3.5 ±0.5	3.5 ±0.5	3.5 ±0.5
% aggregate voids filled with AC (VFA)		70-90	70-90	70-90
Tensile splitting ratio after freeze-thaw cycle GDT-66		80%	80%	80%
Drain-down (AASHTO T305), %		<0.3	<0.3	<0.3

*Mixture control tolerance is not applicable to this sieve for this mix.

**Mixture control tolerance shall be ± 2.0% for this sieve for 9.5 mm SMA mixes placed at spread rates greater than 135 lb/yd^2. For 9.5 mm SMA mixes placed at spread rates of 135 lb/yd^2 or less, 100 % passing is required on this sieve.

Note 1: Range for % AC is Original Optimum AC (OOAC) at 35 gyrations (Gyratory compactor) or 50 blows (Marshall compactor) prior to Corrected Optimum AC (COAC) calculation detailed in GDT 123 (Appendix A)

Note 2: Quality Acceptance Test Results for AC content that deviate > ± 0.3% from the approved Job Mix Formula (JMF) consistently over three lots may subject the mix to a revised AC content on project JMF at the discretion of the Office of Materials and Research based on deviation trend.

1. SMA mixtures shall be compacted at 35 gyrations with the Superpave Gyratory compactor or 50 blows with the Marshall compactor.
2. All SMA mixtures shall contain mineral filler and fiber stabilizing additives and shall meet the following requirements:
   a. Asphalt cement grade PG-76-22 (specified in Section 820) is required in all SMA mixtures.
   b. Aggregates for SMA shall meet the requirements of Subsection 802.2.02.A.3.
   c. Use the approved mineral filler specified in the mix design and meeting the requirements of Section 883 Approved sources of mineral filler are listed in QPL 81.

   Use the approved Fiber Stabilizing Additive of the type (cellulose or mineral) specified in the mix design and meeting the requirements of Section 819. Approved sources of Fiber Stabilizing Additive are listed in QPL 77. The dosage rate will be as specified in the mix design and shall be sufficient to prevent drain-down exceeding the above tolerance.

B. Fabrication

See Section 400.

828.2.03 Superpave Asphalt Concrete Mixtures

A. Requirements for Superpave Mixtures (except Parking Lot Mixtures)

Produce the mixture according to an approved mix design and Job Mix Formula. Ensure that Superpave Asphalt Concrete mixtures meet the following mixture control tolerances and mix design limits:

1. Gradation limits for Superpave mixtures are as follows:

Sieve Size	Mixture Control Tolerance	Design Gradation Limits, Percent Passing				
		9.5 mm Superpave Type I	9.5 mm Superpave Type II	12.5 mm Superpave (Note 1)	19 mm Superpave	25 mm Superpave
1½ in (37.5 mm)						100*
1- in (25.0 mm)	± 8.0			100*	100*	90-100
3/4 in (19.0 mm)	±8.0**	100*	100*	98-100****	90-100	55-89**
1/2 in (12.5 mm)	±6.0***	98-100****	98-100****	90-100	60-89***	50-70
3/8 in (9.5 mm)	±5.6	90-100	90-100	70-89	55-75	
No. 4 (4.75 mm) s	±5.6	65-85	55-75			
No. 8 (2.36 mm)	±4.6	48-55	42-47	38-46	32-36	30-36
No. 200 (75 µm)	±2.0	5.0-7.0	5.0-7.0	4.5-7.0	4.0-6.0	3.5-6.0
Range for % AC (Note 3)	± 0.4 (Note 2)	5.5-7.25	5.25-7.00	5.00-6.25	4.25-5.50	4.00-5.25

* Mixture control tolerance is not applicable to this sieve for this mix.

** Mixture control tolerance shall be ± 10.0% for this sieve for 25 mm Superpave.

***Mixture control tolerance shall be ± 8.0% for this sieve for 19 mm Superpave.

****Mixture control tolerance shall be ± 2.0% for this sieve for 12.5 mm and 9.5 mm mixes.

Note 1: Use PG 76-22 in 12.5 mm Superpave, excluding shoulder construction, on all projects with ADT greater than 25,000 as detailed in the Contract Pay Item.

Note 2: Quality Acceptance Test Results for AC content that deviate > ± 0.3 % from the approved Job Mix Formula (JMF) consistently over three Lots may subject the mix to a revised AC content on project JMF at the discretion of the Office of Materials and Research based on statistical trend.

Note 3: Range for % AC is Original Optimum AC (OOAC) at 65 gyrations prior to the Corrected Optimum AC (COAC) calculation detailed in SOP 2 (Appendix D).

2. **Volumetric limits are as follows:**

Design Parameter	Mix Type	Limits
% of Max. Specific Gravity (G_{mm}) at design gyrations, N_{des})	All	96%
% G_{mm} at the initial number of gyrations, N_i	All	91.5% maximum
% voids filled with asphalt (VFA) at N_{des}	9.5 mm Type I	Min. 72; Max. 80
	9.5 Type II and 12.5 mm	Min. 72; Max. 76
	19 mm	Min. 71; Max 76
	25 mm	Min. 69; Max 76
Fines to effective asphalt binder ratio (F/P_{be})	9.5 mm Type I	0.6 to 1.4
	All other types	0.8 to 1.6
Minimum Film Thickness (microns)*	All	> 7.00

Minimum % Voids in Mineral Aggregate (VMA) Note: VMA shall be calculated using the effective specific gravity of the aggregate (G_{se}). See SOP-2SP.	25 mm	13.0
	19 mm	14.0
	12.5 mm	15.0
	9.5 Type I	16.0
	9.5 Type II	16.0

***** Superpave Mixtures approved prior to January 31, 2012, may be grandfathered in to meet Minimum Film Thickness requirement by mixture adjustments made by the State Bituminous Construction Engineer.

B. Requirements for Superpave Parking Lot Mixes (<u>NOT</u> FOR STANDARD HIGHWAY/STREET PAVING)

1. Surface Layers for parking facilities:

Sieve Size	Mixture Control Tolerance	Design Gradation Limits, Percent Passing		
		4.75 mm Mix	9.5 mm Superpave Type I	9.5 mm Superpave Type II
1- in (25.0 mm) sieve	± 8.0			
3/4 in (19.0 mm) sieve	±8.0**		100*	100*
1/2 in (12.5 mm) sieve	±6.0	100*	98-100****	98-100****
3/8 in (9.5 mm) sieve	±5.6	90-100	90-100	90-100
No. 4 (4.75 mm) sieve	±5.6	75-95	65-85	55-75
No. 8 (2.36 mm) sieve	±4.6	60-65	48-55	42-47
No. 50 (300 µm) sieve	±3.8	20-50		
No. 200 (75 µm) sieve	±2.0	4-12	5.0-7.0	5.0-7.0
Range for Total AC	± 0.4	6.00 - 7.50	5.40 - 7.25	5.25 - 7.00

* Mixture control tolerance is not applicable to this sieve for this mix.
****Mixture control tolerance shall be ± 2.0% for this sieve for 12.5 mm and 9.5 mm mixes.

2. Subsurface Layers for parking facilities:

Sieve Size	**Mixture Control Tolerance**	**Design Gradation Limits, Percent Passing**		
		12.5 mm Superpave	**19 mm Superpave**	**25 mm Superpave**
				100*
1- in (25.0 mm) sieve	± 8.0	100*	100*	90-100
3/4 in (19.0 mm) sieve	±8.0**	98-100****	90-100	55-89**
1/2 in (12.5 mm) sieve	±6.0***	90-100	60-89***	50-70
3/8 in (9.5 mm) sieve	±5.6	70-89	55-75	
No. 8 (2.36 mm) sieve	±4.6	38-46	32-36	30-36
No. 200 (75 µm) sieve	±2.0	4.5-7.0	4.0-6.0	3.5-6.0
Range for Total AC	± 0.4	5.00 - 6.25	4.25 - 5.50	4.00 - 5.25

*Mixture control tolerance is not applicable to this sieve for this mix.

**Mixture control tolerance shall be ±10.0% for this sieve for 25 mm Superpave mixes.

***Mixture control tolerance shall be ±8.0% for this sieve for 19 mm Superpave mixes.

****Mixture control tolerance shall be ±2.0% for this sieve for 12.5 mm and 9.5 mm Superpave mixes.

3. Volumetric limits for parking facilities are as follows:

Design Parameter	Mix Type	Limits
% of Max. Specific Gravity (G_{mm}) at design gyrations, N_{des})	All	96%
% G_{mm} at the initial number of gyrations, N_i	All	91.5% maximum
% voids filled with asphalt (VFA) at N_{des}	9.5 mm Type I	Min. 72; Max. 80
	9.5 Type II and 12.5 mm	Min. 72; Max. 78
	19 and 25 mm	Min. 71; Max 76
Fines to effective asphalt binder ratio (F/P_{be})	9.5 mm Type I	0.6 to 1.4
	all other types	0.8 to 1.6
Minimum Film Thickness (microns)*	4.75 mm	> 6.00
	All other types	> 7.00
Minimum % Voids in Mineral Aggregate (VMA) Note: VMA shall be calculated using the effective specific gravity of the aggregate (G_{se}). See SOP-2.	25 mm	13.0
	19 mm	14.0
	12.5 mm	15.0
	9.5 mm Types I,II	16.0

* Mixtures approved prior January 31, 2012, may be grandfathered in to meet Minimum Film Thickness requirement by mixture adjustments made by the State Bituminous Construction Engineer.

C. Fabrication

See Section 400.

828.2.04 Fine-Graded Mixtures

A. Requirements

Produce the mixture according to an approved mix design and Job Mix Formula. Ensure that fine-graded mixtures meet the following mixture control tolerances and design limits:

ASPHALTIC CONCRETE - 4.75 mm Mix		
Sieve Size	**Mixture Control Tolerance**	**Design Gradation Limits, % passing**
1/2 in (12.5 mm) sieve*	±0.0	100*
3/8 in (9.5 mm) sieve	±5.6	90-100
No. 4 (4.75 mm) sieve	±5.7	75-95
No. 8 (2.36 mm) sieve	±4.6	60-65

No. 50 (300 μm) sieve	±3.8	20-50
No. 200 (75 μm) sieve	±2.0	4-12
Range for % AC	±0.4	6.00 – 7.50
Design optimum air voids (%)		4.0 – 7.0
% Aggregate voids filled with AC		60 - 80
Minimum Film Thickness (microns)**		> 6.00

* Mixture control tolerance is not applicable to this sieve for this mix.

**** 4.75 mm Mixtures approved prior January 31, 2012, may be grandfathered in to meet Minimum Film Thickness requirement by mixture adjustments made by the State Bituminous Construction Engineer.

B. Fabrication

See Section 400.

C. Acceptance

See Subsection 106.3 and Section 400. Ensure that individual test results meet the Mixture Control Tolerances listed in Subsections 828.2, 828.2.01, 828.2.02, 828.2.03, 828.2.04, whichever applies.

D. Materials Warranty

See General Provisions 101 through 150.

ATTACHMENT “A”

FY 2020-2021 STREET LISTING

PW200819

The list of priority streets to be paved in the City of Snellville. This list is preliminary and does not preclude the addition or subtraction of streets as needed by the City.

- Brooks Dr.
- Classic Dr.
- Green Turf Dr.
- Overwood Lane
- Overwood Trace
- Timberline Trace

Proposed Resurfacing Projects FY 2020-2021

PW200819

- Brooks Drive
- Classic Drive
- Green Turf Drive
- Overwood Lane
- Overwood Trace
- Timberline Trace
- Garmon Drive (crack seal only)
- Southwind Court (crack seal only)