



City of Decatur®

PROJECT MANUAL

June 11, 2026

City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10

Owner:

City of Decatur
509 North McDonough Street
Decatur, Georgia 30030

Cara Scharer

Assistant City Manager - Public Works
Email: julie.harlan@decaturga.com

Construction Plans and Project Manual

Prepared by:

AtkinsRéalis
1600 RiverEdge Parkway,
Suite 700
Atlanta, Georgia 30328

John Boudreau

Email: john.boudreau@atkinsrealis.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>Page Number</u>
A Invitation To Bid	4
B Proposal Form/List of SubContractors	5 to 14
C Instruction to Bidders	13 to 14
D Construction Contract	15 to 16
E Guarantee	17
F Payment Bond	18 to 21
G Performance Bond	22 to 24
H Bid Bond	25 to 26
I Non-Collusion Affidavit of Prime Bidder	27
J E-Verify Contractor Affidavit Instructions and Forms	28 to 32
K Final Waiver of Lien	33 to 34
L General Conditions	35 to 69
M Special Provisions	70 to 225
N Easement Agreements/Requirements for private property	226 to 246

TECHNICAL SPECIFICATIONS

Unless otherwise directed, all work performed under this Contract shall be in accordance with the State of Georgia Department of Transportation *Standard Specifications for the Construction of Roads and Bridges*, dated January 21, 2021, Edition, the 2024 Supplemental Specifications, current Supplemental and/or Reference Specifications modified by GDOT, including the GDOT 2025 Construction Standards and Details, and the attached Special Provisions.

How to Obtain GDOT Specifications:

1. State of Georgia, Department of Transportation, *STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF TRANSPORTATION SYSTEMS* dated January 21, 2021. All the specific sections from these standard specifications referred to in these Contract Documents are available for review and downloading at: [2021StandardSpecifications.pdf \(ga.gov\)](https://www.gdot.ga.gov/2021StandardSpecifications.pdf)
2. To order hard copies (books) of the two publications listed above, please contact:
Georgia Department of Transportation
One Georgia Center
600 West Peachtree St., NW
Atlanta, Georgia 30308
Phone: (404) 631-1990
3. The City of Decatur contract supersedes all conflicts between the GDOT Specifications, and the Special Provisions provided. The Contractor is to notify the City of all conflicts if they should exist between the City contract, the GDOT Specifications and the Special Provisions prior to submitting their Bid for this project.

Section M- SPECIAL PROVISIONS

Section Description

105-0000	Traffic Control
01-2200	Unit Prices
01-2500	Product Substitutions
01-2500.01	Product Substitutions Request Form
01-3100	Project Management and Coordination
01-3216	Construction Schedules

01-3233	Construction Photographs
01-3300	Submittal Procedures
01-3310	Shop Drawings, Product Data and Samples
01-4500	Quality Control Services
01-5100	Erosion Control and Pollution Control
01-7123	Construction Staking
01-7400	Cleaning
01-7839	Closeout Submittals
02-2200	Geotechnical Information
02-4113	Selective Site Demolition
31-2301	Excavating, Backfilling and Compacting for Structures
31-2319	Dewatering
32-1216	Asphalt Paving
31-1313	Concrete Paving
32-1373	Concrete Paving Joints Sealants
32-9000	Lawns and Grasses
32-9113	Mulching
32-9300	Trees Plants and Ground Covers
33-0000	Utilities
999-9000	Miscellaneous Construction Allowance

END OF SECTION

SECTION A **INVITATION TO BID**

The City of Decatur will receive bids for the City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10 until 2:00 p.m. on Tuesday, July 21, 2026, in the City Manager's Office at Decatur City Hall, 509 North McDonough Street, Decatur, Georgia 30030, at which time and place all bids will be publicly opened and read aloud. The work includes selective traffic control, selective demolition, installation of curb, concrete curb and sidewalk, milling, and paving, signage, roadway pavement markings, striping, signage, erosion control measures, landscape and similar items.

Bids are to be submitted on a proper form furnished by the City and shall be addressed to the City Manager, City Hall, Decatur, Georgia, sealed, dated and enclosed in an envelope appropriately marked on the outside "**City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10**", marked with the name of the bidder and date and hour of opening, and mailed or delivered to reach the designated office on or before the above stipulated date and time.

A **mandatory pre-bid conference** is scheduled for **10:00 a.m. on Tuesday, June 25, 2026, at 2635 Talley Street, 1st Floor, Decatur, Ga. 30031**. A site visit will occur after the meeting for those interested. Bidders must attend this briefing session for their submittal to be considered. Any questions regarding bids and/or misunderstandings that may arise from this proposal should be submitted, in writing, and should be directed to [Julie Harlan, Active Transportation Director, julie.harlan@decaturga.com](mailto:julie.harlan@decaturga.com), no later than **12:00 noon on Wednesday, June 30, 2026**. The Contract Documents for this project may be obtained online at no charge at www.decaturga.com/rfps.

A certified check or bank draft, payable to the order of the City of Decatur, Georgia, negotiable U. S. Government Bonds, or Satisfactory Bid Bond executed by the Bidder and acceptable in an amount equal to five percent (5%) of the estimated cost of construction shall be submitted with each bid. The successful bidder will be required to furnish and pay for Satisfactory Performance and Payment Bond or Bonds. Prior to beginning construction, the successful bidder will file with the City a certificate of insurance.

The Contractor will not discriminate against any employee or applicant for employment because of actual or perceived race, color, religion, national origin, ancestry, sex, sexual orientation, gender identity, age, disability, marital status, familial status, or veteran/military status. The City reserves the right to reject any or all bids or to waive informalities in the bidding. Bids may be held by the City for a period not to exceed sixty (60) days from the date of the opening of bids for the purpose of reviewing the bids.

END OF SECTION

SECTION B
PROPOSAL FORM

For: **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10**

B-01. We have carefully examined the Invitation for Bids, the latest State of Georgia Department of Transportation Standard Specification, the Project Manual, and the construction drawings for the projects entitled **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10 by AtkinsRéalis**. We have examined the site and conditions affecting the work. We have received Addendum(a) No.(s) ___ and have included their provisions in this Proposal. We understand that this is a **Lump Sum Bid Project, and we are providing Unit Prices for potential Additions and Deductions requested by the city and that our proposed Lump Sum bid is a total of all the unit prices that have been provided in our Bid Form.**

B-02. LUMP SUM BASE BID:

We propose to furnish all services, labor, material, tools, equipment, transportation, supervision, overhead, profit and other items necessary to complete the construction in the entirety of the **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10 Project** in accordance with the Project Manual and the Construction Documents, for the **LUMP-SUM AMOUNT** of _____ Dollars (\$_____).

B-05. The undersigned agrees that this proposal may not be revoked or withdrawn after the time set for the opening of the bids but shall remain open for acceptance for a period of sixty (60) days following such time.

B-06. In case the undersigned be notified in writing by email, fax, mail or delivery of the acceptance of this proposal within sixty (60) days after the time set for the opening of bids, the undersigned agrees to execute within ten (10) days a contract for the work for the above-stated compensation and at the same time to furnish and deliver to the Owner a Performance Bond at 100% and a Payment Bond at 100% in accordance with Sections F and G of the Project Manual, both in a combined amount equal to 200% of the contract sum.

B-07. The undersigned agrees to commence actual physical work on the site with adequate force and equipment within ten days of the date of the notice to proceed by the undersigned and to complete fully all work in 210 consecutive calendar days from the included date.

B-08. Enclosed herewith is a bid bond (Certified checks not acceptable) in the amount of _____ Dollars (\$_____), being not less than 5% of the Base Bid Amount. The undersigned agrees that the above-stated amount is the proper measure of liquidated damages which the Owner will sustain by the failure of the undersigned to execute the contract and to furnish the Performance and Payment Bond in case this proposal is accepted, and further agrees to the following:

B-09. If this proposal is accepted within sixty (60) days after the date set for the opening of bids and the undersigned fails to execute the contract with ten (10) days after notice of such acceptance or if he fails to furnish both Performance and Payment Bond, the obligation of the bid bond will remain in full force and effect, and the money payable thereon shall be paid into the funds of the Owner as liquidated damages for

such failure; otherwise, obligation of the bond will be null and void.

B-10. The City reserves the right to request clarification or information submitted in any proposal, to request additional information from any proposer, or to reject any or all proposals, and to readvertise proposals.

The City also reserves the right to extend the date or time scheduled for the opening of proposals.

Award, if made, will be to the responsible and responsive proposer submitting the proposal which is deemed by the City, in the sole discretion, to be the most advantageous to the City, price and other factors being considered. The City reserves the right to reject the bid of a bid who has previously failed to perform properly or complete contracts of a similar nature on time, whom investigation shows is not in a position to fulfil the contract.

To ensure the proper and fair evaluation of proposals, the City highly discourages any communication initiated by a proposer or its agent to an employee of the City evaluating or considering the proposal during the period following the opening of proposals and prior to the time a decision has been made with respect to the Contract award. Lobbying of City employees and/or elected officials regarding this solicitation by any member of a bidder's staff, or those people employed by any legal entity affiliated with an organization that is responding to the solicitation, is strictly prohibited. An appropriate employee of the City may initiate communication with a proposer to obtain information or clarification needed to develop a proper and accurate evaluation of the proposal. Any communication initiated by the proposer during evaluation should be submitted in writing and delivered to David Junger. Unauthorized communication by the proposer may disqualify the proposer from consideration. Negative campaigning through the mass media about the current service delivery is strictly prohibited. Such actions may cause your bid to be rejected.

The City reserves the option to negotiate terms, conditions and pricing with the lowest responsive, responsible bidder(s) at its discretion. All companies submitting a bid will be notified in writing of award.

ERRORS IN BIDS: Bidders or their authorized representative are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting bids. Failure to do so will be at the bidder's own risk.

RESPONSIBLE / RESPONSIVE BIDDER: Responsible bidder means a person or entity that has the capability in all respects to perform fully and reliably the contract requirements. Responsive Bidder means a person or entity that has submitted a bid that conforms in all material respects to the requirements set forth in the invitation for bids.

Date_____

Firm Name_____

By_____

Title_____

Respectfully submitted,

Name_____

Address_____

By_____

Title_____

SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____,
20_____.

NOTARY PUBLIC

My Commission Expires: _____

The full names and addresses of persons and firms interested in the foregoing bids as principals are as
follows:

The legal name of the bidder is:

PROPOSAL FORM AND PROPOSED UNIT PRICES:

The Contractor's proposal to complete the City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10 is a LUMP-SUM BID. The LUMP- SUM- BID AMOUNT shall be a total of all the Unit Price construction items added together to complete the project. The Contractor is responsible for verifying all quantities to complete the project, as required by the construction plans, bid manual, special provisions, GDOT specifications and the attached geotechnical reports. Should the scope of the project, and therefore this contract, need to be adjusted, the Contractor understands and proposes to furnish all services, labor, material, tools, equipment, transportation, supervision and other items necessary to complete the project and the installation of the construction items at the Unit Prices listed and provided below in the BID FORM.

BID FORM

Item No	Description	Unit	Quantity	Unit Price	Cost
150-1000	TRAFFIC CONTROL	LS	1		
210-0100	GRADING COMPLETE	LS	1		
163-0232	TEMPORARY GRASSING	AC	.5		
163-0240	MULCH	TN	8		
163-0550	CONSTRUCT AND REMOVE INLET	EA	4		
165-0010	MAINT. TEMP. SILT FENCE, TP A	LF	1,310		
165-0105	MAIN. OF INLET SEDIMENT TRAP	EA	4		
171-0010	TEMP SILT FENCE TYP. A	LF	1,310		
643-8200	BARRIER FENCE (ORANGE) 4' TP	LF	170		
163-1935	CONST. & REMOVE COMP.FILTER	LF	120		
444-1000	SAWED JOINTS IN PVMT, 6 IN	LF			
402-3130	RECYCLED ASPH CONC 12.5 MM SUPERPAVE GP2 ONLY, INCL BITUM MATL & H LIME, 4 IN	TN	230		
402-3130	RECYCLED ASPH CONC 19 MM SUPERPAVE GP2 ONLY, INCL BITUM MATL & H LIME, 4 IN	TN	230		
402-3130	RECYCLED ASPH CONC 25 MM SUPERPAVE GP2 ONLY, INCL BITUM MATL & H LIME, 4 IN	TN	230		
446-1100	PAVEMENT REINF FABRIC STRIPS, TP 2, 18 WIDTH	LF	110		
413-0750	BITUM TACK COAT	GL	220		
432-0206	MILL ASPHALT CONCRETE PAVEMENT, 1 ½ IN DEPTH	SY	2,750		
500-9999	CLASS B CONCRETE BASE OR PVMT WIDENING	CY	6		
310-05040	GR AGGR BASE CRS, 4 INCH INCL MATL	SY	360		

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

310-05060	GR AGGR BASE CRS, 6 INCH INCL MATL	SY	130		
441-0104	CONC. SIDEWALK 4" (INCLUDES ADA RAMP AND DETECTABLE WARNING STRIP)	SY	425		
441-0016	DRIVEWAY CONC, 6 IN. TK, CLASS A CONCRETE	SY	50		
441-4020	CONC VALLEY GUTTER, 6IN, CLASS A CONC.	LF	85		
441-5002	CONC HEADER CURB, 6IN, TP2	LF	530		
441-5008	CONC HEADER CURB, 6IN, TP7	LF	215		
441-6012	CONC CURB & GUTTER 6 IN X24 IN TP 2 (AS REQUIRED AND DIR.	LF	10		
636-1033	HIGHWAY SIGNS, TP1 MATL. REFL SHEETING, TP9	SF	82		
636-1036	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 11	SF	55		
636-2070	GALV STEEL POST, TP 7(GROUND MOUNTED BREAKWAY SIGN SUPPORT REQ'D)	LF	180		
653-0120	THERMOPLASTIC PVMT MARKING, ARROW TP 2	EA	2		
652-0105	PAVEMENT MARKING, BIKE LANE SHARED SYMBOL (SHARROW SYMBOL)	EA	12		
653-1502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	EA	12		
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	LF	1,492		
653-1804	THERMOPLASTIC SOLID TRAF	LF	165		
611-5360	RESET HIGHWAY SIGN	EA	2		
653-6004	THERMOPLASTIC TRAF STRIPING, WHITE	SY	10		
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	LF	1,300		
653-1001	RAISED PVMT MARKERS TP 1	EA	50		
653-1003	RAISED PVMT MARKERS TP 3	EA	50		
UNDEF	ROSA 'MEIJOCOS' (PINK DRIFT ROSE) - 3 GAL	EA	53		
UNDEF	HEMEROCALLIS X 'HAPPY RETURNS' (HAPPY RETURNS	EA	74		

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

UNDEF	MUHLENBERGIA CAPILLARIS 'LENCA' (REGAL MIST PINK	EA	28		
UNDEF	TRACHELOSPERMUM ASIATICUM (ASIATIC JASMINE) - 1 GAL.	EA	86		
700-9300	SOD - BERMUDA (TIFTUF)	SY	625		
702-9025	LANDSCAPE MULCH - PINE STRAW MULCH - 3" THICK LAYER	SY	130		
708-1000	PLANT TOPSOIL	CY	80		
700-7000	AGRICULTURAL LIME	TN	2		
700-8000	FERTILIZER MIXED GRADE	TN	1		
700-8100	FERTILIZER NITROGEN CONTENT	LB	100		
999-8001	COMPRESSIV STRENGTH- CONCRETE	EA	5		
999-8003	COMPACTION TEST - GRADDED AGGREGATE	EA	4		
UNDEF.	GEOTECHICAL REPORT AND MATERIAL TESTING	EA	1		
999-0000	MISCELLANEOUS CONTINGENCY (AS DIRECTED	ALLOW	1	\$75,000.00	\$75,000.00
	TOTAL LUMP SUM BID				

Any items that are not indicated in the BID FORM are considered incidental to the work. Their cost shall be included as part of the overall LUMP-SUM BID PROPOSAL AMOUNT and shall be included in the Grading Complete Pay Item # 210-0100.

The **Miscellaneous Construction Allowance (SPECIAL PROVISION #999-9000)** has been provided to construct the project, which may or may not be ultimately required to complete the project. The Miscellaneous Construction Contingency will be used only as directed and by the City of Decatur. Use of this item will be only as specifically authorized by the City of Decatur. Every effort will be made to negotiate an acceptable price with the Contractor for potential miscellaneous construction items.

If the City of Decatur is unable to negotiate an agreeable price with the Contractor, City of Decatur reserves the right to negotiate both price and warranties with specialty contractors for this purpose. The Contractor will then be required to include the authorized work, utilizing the authorized specialty subcontractor. A maximum allowance of 5% may be included for overhead purposes of the Contractor above the negotiated specialty contractor agreement.

LIST OF SUBCONTRACTORS

I do; ____ I do not ____ propose to subcontract some of the work on this Project. Subcontractors, if used, are listed in the table below:

LIST OF SUBCONTRACTORS

1. Subcontractor Company Name _____

Address _____ City, State & Zip _____

Phone _____ Fax _____

Contact Name & Title _____

Contact Email _____

Is this Subcontractor a federal, state, local or other certified
minority, women-owned, small or disadvantaged business?

☐
Yes

☐
No

2. Subcontractor Company Name _____

Address _____ City, State & Zip _____

Phone _____ Fax _____

Contact Name & Title _____

Contact Email _____

Is this Subcontractor a federal, state, local or other certified
minority, women-owned, small or disadvantaged business?

☐
Yes

☐
No

Number of years in business _____

List of three (3) projects of similar size and scope, along with
references for each project, including experience in asphalt paving
and specifically full depth reclamation of pavement.

a. _____

b. _____

c. _____

Copy and attach this page if additional space is needed for listing of additional subcontractors.

END OF SECTION

SECTION C
INSTRUCTIONS TO BIDDERS

1. Bids must be delivered to the City of Decatur, City Manager's Office, City Hall, 509 North McDonough Street, Decatur, Georgia 30030, no later than 2:00 P.M. on July 21st, 2026 as indicated on the Invitation for Bids.
2. All bids will be placed in a sealed envelope using a mailing label. All information regarding project name, and opening date must be included on the mailing label. All bids shall be addressed to the City of Decatur, Attention City Manager.
3. All bids will be held firm for sixty (60) days from the opening date.
4. All bids must be accompanied by a bid surety in the amount of not less than five percent (5%) of the bid amount. Bid surety must be in the form of a bond issued by a bonding company licensed to do business in the State of Georgia. Bond shall be made payable to the City of Decatur. Bid sureties will be held by the City until award is made. Unsuccessful bidder(s) surety will be returned. Successful bidder's surety will be held to ensure compliance with bid.
5. The successful bidder will provide a Performance Bond in the amount of not less than one hundred percent (100%) of the amount bid in the City of Decatur favor and a labor and Payment Bond in the amount of not less than one hundred percent (100%) of the amount bid, both made payable to the City of Decatur. The Performance Bond will be security for the faithful performance of the Contract, and the Payment bond will be security for the payment of all persons performing labor under the terms of this Contract and furnishing materials in connection with this Contract.
6. Preparation of Bids: Each bid must be submitted on the prescribed form with all blank spaces for bid prices filled in, in ink or typewritten, in both words and figures.
7. Subcontracts: The bidder is specifically advised that any person, for, or other party to whom it is proposed to award a subcontractor under this contract:
8. Must be acceptable to and pre-approved by the Owner; and,
9. Must submit all requisite certifications by the proposed subcontractor. Approval of the proposed subcontractor cannot be given by the owner unless and until the proposed subcontractor has submitted the Certifications and/or other evidence showing that it has fully complied with any reporting requirements to which it was subject. Although the bidder is not required to attach such Certifications by proposed subcontractors to their bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.
10. The successful bidder will be required to provide a current and valid Business License before the Contract can be awarded.
11. Price must be entered indicating a total **Lump Sum Bid**.

12. Bidders electing not to bid the project are requested to enter a “No Bid.”
13. Bid award will be made in part or in total, whichever is to the best advantage of the City.
14. The City of Decatur reserves the right to waive any informalities and refuse all bids or award the bid in the best interest of the City to the lowest responsive and responsible bidder.
15. No sales tax will be charged on any orders. Any contractor that does not have the capability of selling materials to the City on a tax-exempt basis (sale for resale) will build the sales tax into the cost of materials. The City of Decatur reserves the right to purchase any materials from the contractor’s supplier and negotiate a reduction in the contract price equal to the amount of the materials bill. This action, if applied, is not intended to reduce the contractor’s profit. It is intended to avoid the sales tax due to the City’s tax-exempt status.
16. Technical specifications used within this bid invitation are to be considered generic. Any reference to brand names should be considered as “Or Approved Equal.”
17. All construction shall be in accordance with the terms as stated in the Invitation for Bids, the Instructions to Bidders for Construction Projects, the Special Provisions, the Contractor's Bid Form, the Drawings and Conditions attached hereto and made a part hereof.
18. Successful bidders will warrant all workmanship for **one (1) year** and all material for a period of one
(1) year or the term of the manufacturer's warranty whichever is greater, from the date of acceptance by the City of Decatur.
19. All work will begin within ten (10) days after Notice to Proceed has been given to the successful bidder and will be completed within 120 days of issuance of Notice to Proceed.
20. As compensation for the loss to the City of Decatur, if the work is not completed and accepted by the City of Decatur on or before the completion date, contractor will pay the City of Decatur as liquidated damages of five hundred dollars (\$500.00) for each day of delay beyond the contract period.
21. The contractor also agrees to provide a full-time experienced superintendent on-site for the full duration of the construction project.
22. The Contractor agrees to work with the City of Decatur to always maintain safe vehicular and pedestrian access to the project.

END OF SECTION

SECTION D
CONSTRUCTION CONTRACT

THIS AGREEMENT, made this ____ day of _____, 2____ by and between the City of Decatur, Georgia hereinafter called "Owner", and _____ a corporation, a partnership or an individual doing business as _____ of _____ County and State of _____, herein called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the OWNER to commence and complete the construction described as **City of Decatur, Parkwood Traffic Calming Improvements at East lake Road, US 278/SR10**, for the **Lump Sum Price** of _____ Dollars (\$_____), hereinafter called the Project, and all extra work in connection therewith, under the terms as stated in the General Conditions, Supplemental General Conditions and Technical Specifications of the Contract; and at its own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal Bid Form, the Project Manual, Construction Schedule, General Conditions, Special Provisions and Technical Specifications of the Contract, the plans, which include all maps, plats, blue prints, and other drawings and printed or written explanatory matter thereof, the specifications and contract documents therefore as prepared by Landis Evans and AtkinsRéalis, herein entitled the Engineer, all of which are made a part hereof and collectively evidence and constitute the contract.

The Contractor hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project on or before 210 calendar days from the date of the NTP. The Contractor further agrees to pay, as liquidated damages, five hundred dollars (\$500.00) for each consecutive calendar day thereafter as hereinafter provided in Paragraph 31 of the General Conditions.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to conditions contained in the Invitation to Bid, the Instructions to Bidders, the Contractor's Bid Form, the Project Manual, the Drawings, the General Conditions, the Special Provisions and Technical Specifications and to make payments on account thereof as provided in Paragraph 39, "Payments to Contractor," of Section L, General Conditions . Performance Bond, Payment Bond and Insurance required by the General Conditions and other parts of the Contract will be furnished in the amount of and within the time stipulated therein.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in three (3) counterparts, each of which shall be deemed original, in the year and day first mentioned above.

(Seal)

ATTEST:

(Secretary)

(Witness)

(Owner)

By: _____

(Title)

(Seal)

(Secretary)

(Witness)

(Contractor)

By: _____

(Title)

(Address and Zip Code)

NOTE: Secretary of the Owner should attest. If Contractor is a corporation, Corporate Secretary should attest.

END OF SECTION

SECTION E
GUARANTEE

Date: _____

COUNTY OF _____

STATE OF _____

_____, as General Contractor (), Sub-Contractor () on _____

_____ does hereby guarantee that all work executed under the plans and specifications will be free from defects of materials and workmanship for a period of 12 months from the date of final acceptance of the job and that all defects occurring within that period shall be replaced at no cost to the Owner.

Nothing in the above shall be deemed to imply that this guarantee shall apply to work, which has been abused or neglected by the Owner.

Contractor hereby acknowledges that the date of final acceptance for this project is established as _____

_____.

By: _____

Title: _____

SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____,
20_____.

NOTARY PUBLIC

My Commission Expires: _____

END OF SECTION

SECTION F
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____

(Name of Contractor)

(Address of Contractor)

a _____
(Corporation, Partnership or Individual)

hereinafter called Principal, and _____

(Name of Surety)

(Address of Surety)

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

The City of Decatur, Georgia
(Name of Oblige)

509 North McDonough Street, Decatur, Georgia 30030
(Address of Oblige)

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

The condition of this obligation is such that whereas the Principal entered into a certain Contract with the Oblige, dated as of the _____ day of _____, 2__, a copy of which is incorporated herein by reference and made a part hereof, for the completion of the **City of Decatur, Parkwood Traffic Calming Improvements at East lake Road, US 278/SR10**, NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall well, truly and faithfully perform said contract in accordance to its terms, covenants and conditions and shall promptly and fully pay all persons furnishing labor, materials, services, skill, tools, machinery and/or

equipment used by said Principal or any immediate or remote subcontractor or furnisher or labor or materials under him in the performance of said contract, and any authorized extension or modification thereof, in lawful money of the United States as the same shall become due, including all amounts due for materials, lubricants, oil, gasoline, electricity, repairs on machinery, equipment and tools, consumed or used in connection with performance of the work and all insurance premiums and other charges incurred under said contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

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

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extension of time, alterations, or additions to the terms of the contract or to the work to be performed thereunder shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the contract or to the work to be performed thereunder.

PROVIDED FURTHER, that Principal and Surety further bind themselves, their heirs, executors, administrators and assigns, jointly and severally, that they shall promptly make payments of all taxes, licenses, assessments, contributions, penalties and interest thereon, when, and if, the same may be lawfully due the State of Georgia or any County, municipality or political subdivision thereof by reason of and directly connected with the performance of the Contract, or any part thereof.

PROVIDED, HOWEVER, that no suit or action shall be commenced here under by any person furnishing labor, materials, services, skill, tools, machinery, and /or equipment having a direct contractual relationship with a subcontractor, but not contractual relationship express or implied with the Principal.

Unless such person shall have given notice to the Principal within ninety (90) days after such person did, or performed the last of the work or labor, or furnished the last of the materials, services, skill, tools, machinery and/or equipment for which claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials, services, skill, tools, machinery and/or equipment were furnished, or for whom the work or labor was done or performed. Such a notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Principal, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer, and a copy of such notice shall be delivered to the Obligee, to the person and at the address provided for in the contract, within five (5) days of the mailing of the notice to the Principal.

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

PROVIDED FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed original on this _____ day of _____, 20__.

(SEAL) _____
(Principal)
By: _____
Name: _____
(Please print or type)
Title: _____
Address: _____

ATTEST

(Principal Secretary)

(Witness as to Principal)

(Title) (SEAL)

(Address)

(SEAL)

(Surety)

(Attorney-in-Fact) and Resident Agent

(Please print or type)

(Address)

ATTEST:

Agent: _____
(Attorney-in-fact)

Name: _____
(Witness as to Surety)

Title: _____

Address: _____

(SEAL)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a partnership, all partners should execute Bond. Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a Notary.

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 Georgia.

END OF SECTION

SECTION G
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That _____

(Name of Contractor)

(Address of Contractor)

a _____
(Corporation, Partnership or Individual)

hereinafter called Principal, and _____

(Name of Surety)

(Address of Surety)

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

The City of Decatur, Georgia
(Obligee)

509 North McDonough Street, Decatur, Georgia 30030
(Address of Obligee)

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

The condition of this obligation is such that whereas the Principal entered into a certain Contract with the Owner, dated as of the _____ day of _____, 2____, a copy of which is incorporated herein by reference and made a part hereof, for the completion of **City of Decatur, Parkwood Traffic Calming Improvements at East lake Road, US 278/SR10**, NOW, THEREFORE, the conditions of this obligation are such that if the above bound Principal shall well, truly and faithfully perform said contract according to its terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Obligee, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform all undertakings, covenants, terms, conditions and agreement of

any and all duly authorized modifications of said contract that may hereafter be made, then this obligation shall be void; otherwise, it shall remain in full force and effect.

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder.

PROVIDED FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed original on this _____ day of _____, 20____.

(SEAL)

CONTRACTOR- PRINCIPAL

(Principal)

By: _____

Name: _____
(Please print or type)

Title: _____

Address: _____

ATTEST

(Principal Secretary)

Name: _____
(Witness as to Principal)

Title: _____

Address: _____

(SEAL)

SURETY:

(Surety)

By: _____

(Attorney-in-Fact) and Resident Agent

(SEAL)

Name: _____

(Please print or type)

Address: _____

ATTEST:

(Attorney-in-Fact)

Name: _____

(Witness as to Surety)

Title: _____

Address: _____

(SEAL)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a partnership, all partners should execute Bond. Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a Notary.

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 Georgia.

END OF SECTION

SECTION H
BID BOND

(Five Percent (5%) of Bid)

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

_____, as **CONTRACTOR**, and

_____, as **SURETY**, are

hereby held and firmly bound unto CITY OF DECATUR, GEORGIA, as **CITY**, in the penal sum of _____ Dollars (\$ _____) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, 20_____.

The condition of the above obligation is such that whereas the **CONTRACTOR** has submitted to the **CITY** a certain bid attached hereto and hereby made a part hereof to enter a contract in writing for the construction of the **CITY OF DECATUR, PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT EAST LAKE RD. US 278/SR10**.

NOW, THEREFORE,

- (a) If said bid shall be rejected or in the alternate,
- (b) If said bid shall be accepted and the **CONTRACTOR** shall execute and deliver a Contract in the Form of Contract attached hereto (properly complete in accordance with said bid) and shall furnish a bond for thier faithful performance of said Contract and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

BID BOND, page 2 of 2

The **SURETY**, for value received, hereby stipulates and agrees that the obligations of said **SURETY** and its bond shall be in no way impaired or affected by any extension of the time within which the **CITY** may accept such bids and said **SURETY** does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the **CONTRACTOR** and the **SURETY** corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

CONTRACTOR (SEAL)

By: _____

SURETY (SEAL)

By: _____
Georgia Representative

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

END OF SECTION

SECTION I
NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____.
County of _____.

_____, being first duly sworn deposes and says that:

(1) He/She is _____ of
(owner, partner, officer representative, or agent)

_____, the Bidder that has submitted the attached Bid;

(2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not collusive or sham bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or, to fix any overhead, profit or cost element of the bid price or the bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Decatur, Georgia or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Signed: _____

(Title)

Subscribed and sworn to before me
this _____ day of _____, 20____

Notary Public
My commission expires _____

END OF SECTION

SECTION J
E-VERIFY FORMS

Georgia's Illegal Immigration Reform and Enforcement Act of 2011
Contractor, Subcontractor and Sub-subcontractor Evidence of Compliance

Contractor, all Subcontractors, and all Sub-subcontractors shall comply with Georgia's Illegal Immigration Reform and Enforcement Act of 2011. Contractor, Subcontractors and Sub-subcontractors, must provide Evidence of Compliance with these requirements, by:

1. Registering with the United States Department of Homeland Security federal work authorization E-Verify program.
2. Providing the Employment Eligibility Verification Program (EEV) Basic Pilot Program User Identification Number.
3. Providing Affidavits using the attached forms, maintaining records and affidavits for inspection by Owner at any time, and incorporating and attaching affidavits to contracts for construction.

Note: Below is a link to the U.S. Department of Homeland Security E-Verify site where a Contractor, Subcontractor, and/or Sub-subcontractor can register for the program.

<http://www.dhs.gov/e-verify>

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

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Decatur has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.

Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

Name of Project

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

Executed on _____, ____, 20____ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____,
20____.

NOTARY PUBLIC

My Commission Expires: _____

Subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(3)

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

Name of Contractor

on behalf of the City of Decatur has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned subcontractor shall submit, at the time of such contract, this affidavit to

Name of Contractor

Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor

Name of Project

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

Executed on _____, _____, 20____ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BE BEFORE ME ON THIS _____ DAY OF _____,
20_____.

NOTARY PUBLIC

My Commission Expires: _____

Sub-subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(4)

By executing this affidavit, the undersigned sub-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 for

Name of Subcontractor
and

Name of Contractor

on behalf of the City of Decatur has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period, and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to

Name of Subcontractor

Sub-subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

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

Executed on _____, _____, 20____ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____,
20_____.

NOTARY PUBLIC

My Commission Expires: _____

END OF SECTION

SECTION K
FINAL WAIVER OF LIEN

CITY OF DECATUR,
PARKWOOD TRAFFIC CALMING IMPROVEMENTS AT
EAST LAKE RD. US 278/SR10

who after being duly sworn, depose(s) and say(s) that the facts stated in the above affidavit are true.

_____, Notary Public

_____, County, Georgia

This _____ day of _____, 20____.

END OF SECTION

SECTION L
GENERAL CONDITIONS

1. Contract and Contract Documents

The Plans, Project Manual, and Addenda shall form part of this Contract, and the Provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines, and marginal notes contained herein and in said Documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light on the interpretation of the provisions in which they refer.

2. Definitions - The terms as used in this contract are respectively defined as follows:

- (a) "Agreement": The written contract between the Owner and Contractor covering the work to be performed, contract price, contract time and other requirements; other contract documents are attached to the Agreement and made a part thereof as provided therein.
- (b) "Contractor": The person, firm or corporation with whom the contract is made by the Owner.
- (c) "Engineer": The person, firm or corporation named as such in the Agreement, or as otherwise designated in writing by the Owner.
- (d) "Subcontractor": A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, and under separate contract or agreement with, the Contractor.
- (e) "Work on (at) the project": Work to be performed at the location of the project, including the transportation of materials and supplies to or from the location of the project by employees of the Contractor and any Subcontractor.
- (f) "Contract Documents": the Form of Contract between the City of Decatur and Contractor, Instructions to Bidders, Invitation to Bid, Proposal Form, Performance Bond, Payment Bond, Bid Bond, Non-Collusion Affidavit of Prime Bidder, E-Verify Contractor Affidavit Instructions and Forms, Final Waiver of Lien, General Conditions, Specifications, Special Provisions, Drawings, all addenda issued prior to execution of the contract, and all modifications issued after execution of the contract such as change orders and written interpretations.

3. Spirit and Intent

It is the spirit and intent of the Specifications and accompanying Drawings to provide that the work and all parts thereof shall be fully completed and suitable in every way for the purposes for which they are designed. Mention in the Specifications or indications on the Drawings of articles or materials, operations or methods requires that the Contractor provide each item listed, of quality or subject to

qualification notes; perform according to conditions stated each operation prescribed; and provide therefore all necessary labor, materials, tools, equipment and incidentals to complete the work as shown on the plans. The Drawings and Specifications are intended to be mutually explanatory and complete; all work called for by one, even if not by the other, shall be fully executed. Detailed drawings shall take precedence over small scale drawings. In case of discrepancy, either in the figures, in the Drawings or in the Specifications, the matter shall be promptly submitted to the Engineer who will promptly make a determination in writing. Any adjustment by the Contractor without this determination shall be at their own risk and expense.

4. Examination of Site

Before submitting bids for the work, each bidder shall be held to have examined the premises and satisfied himself to the existing conditions under which he shall be pledged to operate or that in any manner shall affect the work. The Contractor is expected and requested to examine the location of the work and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground, the character or equipment and facilities needed preliminary to and during the prosecution of the work; the general and local conditions and all other matters which can in any way affect the work to be done under the Contract. No allowance shall be made subsequently in this connection in behalf of the Contractor for any error or negligence on their part.

5. Additional Instructions and Detail Drawings

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the Contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Engineer will prepare jointly (a) a schedule, fixing the dates at which special detail drawings will be required, such drawings, if any, to be furnished by the Engineer, in accordance with said schedule, and (b) a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of material, supplies and equipment, and the completion of the various parts of the work: each such schedule to be subject to change from time to time in accordance with the progress of the work.

6. Errors and Omissions

The Contractor shall not be allowed to take advantage of errors or omissions in the Specifications or Drawings as full instruction will be given if such errors are discovered. Upon their discovery of any statement or detail which is discrepant or otherwise appears in error, the Contractor shall immediately call it to the attention of the Engineer.

Should any portions of the Drawings and Specifications be obscure or in dispute, they shall be referred to the Engineer and he shall decide as to the true meaning and intent. He shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said Plans and Specifications.

7. Nondiscrimination in Employment

During the performance of this Contract, the Contractor agrees as follows: The Contractor will not discriminate against any employee or applicant for employment because of actual or perceived race, color, religion, national origin, ancestry, sex, sexual orientation, gender identity, age, disability, marital status, familial status, or veteran/military status. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their actual or perceived race, color, religion, national origin, ancestry, sex, sexual orientation, gender identity, age, disability, marital status, familial status, or veteran/military status. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship; and participation in recreational and educational activities. The Contractor confirms that it has a non-discrimination policy in place that prohibits discrimination based on actual or perceived race, color, religion, national origin, ancestry, sex, sexual orientation, gender identity, age, disability, marital status, familial status, or veteran/military status.

8. Safety and Health Act

Contractor shall comply with the U.S. Department of Labor's Safety and Health Regulations for Construction promulgated under the National Occupational Safety and Health Act of 1970 (PL91-596) and under Sec. 107 of the Contract Work Hours and Safety Standards Act (PL91-54).

- (a) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to their health, and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

9. Shop or Setting Drawings

The Contractor shall submit promptly to the Engineer electronic copies or setting drawing prepared in accordance with the schedule predetermined as aforesaid. After examination of such drawings by the Engineer and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Engineer with two corrected copies. If requested by the Engineer, the Contractor must furnish additional copies. Regardless of corrections made in or approval given to such drawings by the Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings and for their conformity to the Plans and Specifications, unless he notifies the Engineer in writing of any deviations at the time he furnishes such drawings.

10. Materials, 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 materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

- (b) Any work necessary to be performed after regular working hours, on Sunday or Legal Holidays, shall be performed without additional expense to the Owner.

11. Contractor's Title to Materials

No materials or supplies for the work shall be purchased by the Contractor or by Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

12. Materials and Workmanship

Workmanship and materials shall be as prescribed by these Specifications and Drawings. Whenever not explicitly described, all workmanship used or employed in carrying out the work shall be the best of the respective grades and qualities. Where equipment, materials or articles are referred to in the Specifications as "equal to" any standard, the Engineer shall decide the question of equality. When required by the Specifications or when called for by the Engineer, the Contractor shall furnish for approval full information concerning the materials or articles which he contemplates incorporating the work. Samples of materials shall be submitted for approval when so directed, Machinery, equipment, materials and articles installed or used without such approval shall be at the risk of subsequent rejection.

13. Inspection and Testing of Materials

- (a) All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards and as specified in the General Conditions, Paragraph 66 "Control of Materials" and the Technical Specifications.
- (b) Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

14. Temporary Equipment

The Contractor shall furnish, maintain and remove at completion of the project all equipment such as temporary shoring and bracing, safety walls, roads, ramps, chutes and like facilities, as required for proper execution of the work of all trades. The Contractor and each subcontractor shall provide for their own use all forms and temporary equipment and structures required for the execution of work. Such temporary equipment and structures shall conform to requirements of authorities having jurisdiction over such work including the City of Decatur and shall be always maintained in safe condition, shall be constructed immediately prior to start of work requiring such structures and shall be removed immediately when no longer required.

15. Lifting Devices and Hoisting Facilities

The Contractor shall provide, operate and maintain construction cranes for hoisting materials, as well as other type hoists, as may be required for execution of the work of all trades. Such apparatus, equipment and construction shall meet the requirements of labor laws and other applicable laws.

16. Temporary Support Facilities

- (a) Sanitary Facilities: The Contractor shall provide self-contained toilet units of a type acceptable to governing authorities, adequate for use by personnel at project site and shall on a daily basis dispose of waste materials at a designated waste disposal site.
- (b) Water and Electric Power: The Contractor shall be responsible for obtaining or providing temporary water and electric power as necessary for construction operations. The Contractor shall provide service with ground water-fault circuit interrupter feature activated from each circuit at a 20-amp or less rating. The Contractor shall provide potable water adequate for personnel at project site as well as paper cups and waste receptacles.
- (c) Security: The Contractor shall provide temporary security and protection. The types of provisions required include barricades, warning signs/lights, environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project site.
- (d) Lighting: The contractor shall provide temporary lighting for all areas of the project site where existing lighting, artificial or natural, is removed. This temporary lighting shall remain until the new lighting is operational. The light levels of the temporary lighting shall match that which is removed.

17. "Or Equal" Clause

Whenever a material, article or piece of equipment is identified on the plans or in the specifications by reference to manufactures' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard; and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the materials, article, or equipment so proposed, is, in the opinion of the Engineer, of equal substance and function. It shall not be purchased or installed by the contractor without the Engineer's written approval.

18. Patents

- (a) The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.
- (b) License or Royalty Fees: License and/or Royalty Fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or their authorized licensee, direct by the Owner and not by or through the Contractor.

- (c) If the Contractor uses any design, device or materials covered by letters, patent or copyright, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or their Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

19. Surveys, Permits, and Regulations

The Contractor shall procure and pay all surveys, permits, licenses and approval necessary for the execution of their contract.

The Contractor shall comply with all laws, ordinance, rules, orders, and regulations relating to performance of the work, the protection of adjacent property, and the maintenance of passageways, guard fences or other protective facilities.

20. Contractor's Obligations

The Contractor shall and will in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings covered by this contract any and all supplemental plans and drawings, and in accordance with the directions of the Engineer as given from time to time during the progress of the work. He shall furnish, erect, maintain, and remove such construction plant and such temporary works as may be required.

The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications, and shall do, carry on, and complete the entire work to the specification of the Engineer and the Owner.

The Contractor shall, without additional expense to the Owner, obtain all licenses and permits required for the execution of the work. The Contractor shall give supervision to the work and have a responsible foreman continuously on the job to act for him. The Contractor shall provide and maintain all temporary roadways and utilities which may be authorized and all barriers, colored lights, danger signals, and other devices necessary to provide for traffic control and safety. The Contractor shall, at all times, be responsible for the safety and conduct of their employees. The Contractor shall, for the protection of the Owner, maintain liability insurance for the duration of the work in limits described in these contract documents and insurance covering property as well as any other insurance required by law. The Engineer may in writing require the Contractor to remove from the work such employees as the

Engineer deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the work is deemed by the Engineer to be contrary to the Owner's interests.

The Contractor will replace to the satisfaction of the Owner all areas disturbed or damaged by Contractor to the condition that they were found before work was begun. Contractor will replace any and all pavement removed or damaged which is located in the road or street to the satisfaction of the Inspector.

21. Weather Conditions

In the event of temporary suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will and will cause its subcontractors to protect carefully the Contractor's and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of its Subcontractors so to protect the work, such materials shall be removed and replaced at the expense of the Contractor.

22. Protection of Work and Property - Emergency

The Contractor shall always safely guard the Owner's property from injury or loss in connection with this contract. It shall always safely guard and protect its own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract or by the Owner or the Owner's duly authorized representatives.

In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner. It shall notify the Engineer immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for approval.

The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in Paragraph 28 "Changes in Work" of the General Conditions.

23. Inspection by Owner and Engineer

The authorized representatives and agents of the Owner and the Engineer shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. The Inspector shall call the attention of the Contractor to any failure of the work or materials to conform to the Specifications and Contract. The Inspector may reject materials or suspend the work until any questions at issue can be referred to and decided by the Engineer.

The Contractor shall furnish the Inspector with every reasonable facility for ascertaining whether the work performed, and materials used are in accordance with the requirements and intent of the Specifications and Contract. No work shall be done, or materials used without suitable supervision or inspection by the Inspector or their representative. Failure to reject any defective work or materials shall

not in any way prevent later rejection when such defect is discovered or obligate the Owner to final acceptance.

24. Reports, Records, and Data

The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this contract.

The Contractor shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred on the project and used in support of its proposal and shall make such material available at all reasonable times during the period of the contract and for three years from the date of final payment under this contract, for inspection by the Owner, and any reviewing agencies, and copies thereof shall be furnished upon request. The Contractor agrees that the provisions of this section shall be included in any contracts it may make with any subcontractor, assignee or transferee.

25. Superintendence by Contractor

At the site of the work the Contractor shall employ an experienced full-time construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can continue in that capacity for the job involved unless he ceases to be on the Contractor's payroll.

26. Field Display of Plans and Specifications

The Contractor shall maintain on site a well-organized, up to date set of Drawings and Specifications to include, but not limited to, all revisions, addenda, change orders, copies of observation reports, memoranda, shop drawings, etc., that affect the work.

27. Minor Modifications

The Contractor shall make such minor modifications in the execution of work to be done under these Specifications which in the judgment of the Engineer shall be necessary or expedient to carry out the intent of the contract before or during the progress of the contract. No increase over the contract price shall be paid to the Contractor on account of such minor modifications. Work which materially increases the cost to the Contractor shall not be ordered under the provisions of this paragraph.

28. Changes in Work

No changes in the work covered by the approved Contract Documents shall be made without having prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:

- (a) Unit bid prices previously provide with Bid.

- (b) An agreed lump sum.
- (c) The actual cost of the following:
 - 1. Labor, including foremen.
 - 2. Materials entering permanently into the work.
 - 3. The ownership or rental cost of construction plant and equipment during the time of use on the extra work.
 - 4. Power and consumable supplies for the operation of power equipment.
 - 5. Insurance.
 - 6. Social Security and old age and unemployment contributions.

To the cost under (c) there shall be added a fixed fee to be agreed upon but not to exceed five percent (5%) of the actual cost of the work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

29. Changes in Other Quantities

The Engineer may increase or decrease the quantities of any and all other Pay Items, without changing the Unit Prices Bid, regardless of if it should increase or decrease the original Contract Amount by more than 20 percent. This includes the addition of any Alternate Bid Items.

30. Extras

Without invalidating the Contract, the Owner may order extra work or make changes by altering, adding to or deducting from the work, the contract sum being adjusted accordingly, and the consent of the Surety being first obtained where necessary or desirable. All the work of the kind bid upon shall be paid for at the Unit Price stipulated in the Contractors Bid Proposal, and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the Owner or its Engineer, acting officially for the Owner, and the price is stated in such order.

31. Time for Completion and Liquidated Damages

It is hereby understood and mutually agreed by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract: and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed".

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this contract to pay to the Owner the amount specified in the contract not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from the time to time by the Owner from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the owner determines that the contractor is without fault and the contractors' reasons for the time extension are acceptable to the owner; Provided further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- (a) To any preference, priority or allocation order duly issued by the Government:
- (b) To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantines restrictions, strikes, freight embargoes, and severe weather; and
- (c) To any delays of Subcontractors or supplies occasioned by any of the causes specified in subsections (a) and (b) of this article:

Provided further, that the Contractor shall, within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

32. Delays – Damages

If the Contractor refuses or fails to prosecute the work or any separable part thereof, with such diligence as will insure its completion within the time specified, or any extension thereof, or fails to complete said work within such time, the City of Decatur may, by written notice to Contractor, terminate its right to proceed with the work or such part of work as to which there has been delay. In such event, the City of Decatur may take over the work and prosecute the same to completion, by Contract or otherwise, and the Contractor and his sureties shall be liable to the City of Decatur for any excess cost occasioned the City of Decatur thereby. If the Contractor's right to proceed is so terminated, the City of Decatur may take

possession of and utilize in completing work, such materials, appliances, and plant as may be on the site of the work and necessary, therefore. If the City of Decatur does not terminate the right of the Contractor to proceed, the Contractor shall continue to work, in which event the actual damages for the delay will be impossible to determine and in lieu thereof the Contractor shall pay to the City of Decatur as fixed, agreed, and liquidated damages for each calendar day of delay until the work is completed or accepted the amount as set forth in this section and the Contractor and their sureties shall be liable for the amount thereof; Provided: That the right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages because of any delays in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, but not restricted to, acts of God, or of the public enemy, acts of the Government, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather or delays in subcontractors due to such cause, if the Contractor shall within ten (10) days from the beginning of any such delay (unless the City of Decatur shall grant a further period of time prior to date of final settlement of the Contract) notify the City of Decatur's representative in writing of the causes of delay, who shall ascertain the facts and extent of the delay and extend the time for completing the work when in their judgment the findings of fact justify such an extension, and their findings of fact thereon shall be final and conclusive on the parties hereto, subject only to appeal, within thirty (30) days, by the Contractor to the City of Decatur, whose decision on such appeal as to the facts of delay and the extension of time for completing the work shall be final and conclusive on the parties hereto.

Where actual damages for any delay in completion contemplated by this section are impossible of determination of reason by the City of Decatur's election under said sections not to terminate the right of the Contractor to proceed, the Contractor and their sureties shall be liable for and shall pay to the City of Decatur the amount stated in the Construction Contract as fixed, agreed and liquidated damages for each calendar day of such delay until the work is completed or accepted; Provided: The City of Decatur may accept the work if there has been such a degree of completion as will, in its opinion, make the project reasonably safe, fit, and convenient for the use and accommodation for which it was intended. In such case, the Contractor shall not be charged with liquidated damages, but the City of Decatur may assess the actual damages caused by such delay. Acceptance is subject to approval by the Owner.

33. Correction of Work

All work, all materials, whether incorporated in the work or not, manufacture, and all methods of construction shall always be and places subject to the inspection of the Engineer who shall be the final judge of the quality and suitability of the work, materials processes of manufacture, and methods of construction for the purposes for which they are used. Should they fail to meet their approval they shall be reconstructed, made good, replaced and/or corrected by the Contractor at its own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the Engineer, it is undesirable to replace any defective or damaged materials or reconstruct or correct any portion of the work injured or not performed in accordance with the Contract Documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgment of the Engineer shall be equitable.

34. Subsurface Conditions Found Different

Should the contractor encounter sub-surface and/or latent conditions at the site materially differing from those shown in the Geotechnical Report, he shall immediately give notice to the Engineer of such conditions before they are disturbed. The Engineer will thereupon promptly investigate the conditions, and if they materially differ from those shown on the Geotechnical Report, he will at once make such changes in the Plans and/or Specifications as he may find necessary, any increase or decrease of cost resulting from such changes to be adjusted in the manner provided in Paragraph 28 "Changes in Work" of the General Conditions.

35. Claims for Extra Cost

No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the Engineer approved by the Owner, as aforesaid, and the claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms of subparagraph 28(c) of the General Conditions, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and when requested by the Owner, give the Owner access to accounts relating thereto.

36. Rights of the Owner to Terminate Contract

In the event that any of the provisions of this contract are violated by the Contractor, or by any of their subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract, such notice to contain the reasons for such intention to terminate the contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement of correction be made, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor and the Surety shall have the right to take over and perform the contract: Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work and prosecute the same to completion by contract or by force account for the account and at the expense of the Contractor and the Contractor and their Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

37. Sequence of Work

Work is to be processed in an orderly manner. The organization of the Specifications or Drawings does not necessarily indicate the order or sequence in which work is to be performed. If prior construction or other contracts on the contract site will interfere with this work, the Engineer will declare the time and date when this contract can be started on the site. The Contractor shall keep an adequate force on the job until work is completed, except for interrupting weather conditions and extensions approved by the Engineer. The Contractor shall give due and adequate notice of all work he proposes to start to those in control of properties which may be affected by their operations.

The Contractor shall submit a progress schedule at the pre-construction conference outlining the order of their construction process. Priorities within this schedule shall be coordinated with the Owner. The Contractor shall not be granted extensions or delay charges when it is deemed clearly that the Contractor could have continued work on other components of the project or locations on the site.

38. Schedule of Values and Periodic Estimates

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with progress schedule. The Contractor shall also furnish on forms to be supplied by the Owner (a) a detailed estimate, or Schedule of Values, giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

39. Payments to Contractor

- (a) Provided that an Application for Payment is received by the Engineer not later than the twenty-fifth day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the fifteenth day of the following month. If an Application for Payment is received by the Engineer after the date fixed above, payment shall be made by the Owner not later than twenty (20) days after the Engineer receives the Application for Payment.
- (b) In preparing estimates, the material delivered on the site and preparatory work done may be taken into consideration. The Contractor will not be paid for stored materials.
- (c) All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of the terms of the contract.
- (d) Owner's Rights to Withhold Certain Amounts and Make Application Thereof: The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, materialmen, and furnisher of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. The Contractor shall, at the Owners request furnish satisfactory evidence that all obligations of nature hereinabove designated have been paid, discharged, or waived. If the Contractor fails so to do, then the Owner may, after having served written notice, direct, or withhold from the Contractors unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the contractor shall be resumed, in accordance with the terms of this contract, but in no event shall the

provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor or their Surety. In paying any unpaid bills of the Contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner shall be considered as a payment made under the contract by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments.

40. Contract Retainage

- (a) After work has commenced at the construction site, progress payments to be made on some periodic basis, and at least monthly, based on the value of work completed as may be provided in the Contract Documents plus the value of materials and equipment suitably stored, insured, and protected at the construction site and at the Owner's discretion such materials and equipment suitably stored, insured, and protected off site at a location approved by the Owner's authorized contract representative when allowed by the Contract Documents, less retainage; and
- (b) Retainage to a maximum of 10 percent of each progress payment; provided, however, when 50 percent of the contract value including change orders and other additions to the contract value provided for by the Contract Documents is due and the manner of completion of the contract work and its progress are reasonably satisfactory to the Owner's authorized contract representative, the Owner may not hold additional retainage. At the discretion of the Owner and with the approval of the Contractor, the retainage of each subcontractor may be released separately as the subcontractor completes their work.
- (c) If, after discontinuing the retention, the Owner's authorized contract representative determines that the work is unsatisfactory or has fallen behind schedule, retention may be resumed at the previous level. If retention is resumed by the Owner, the Contractor and subcontractors shall be entitled to resume withholding retainage accordingly.
- (d) At substantial completion of the work or such other standard of completion as may be provided in the Contract Documents and as the Owner's authorized contract representative determines the work to be reasonably satisfactory, the Owner shall, within 30 days after invoice and other appropriate documentation as may be required by the Contract Documents are provided, pay the retainage to the Contractor. If at that time there are any remaining incomplete minor items, an amount equal to 200 percent of the value of each item as determined by the Owner's authorized contract representative shall be withheld until such item or items are completed. The reduced retainage shall be shared by the Contractor and subcontractor as their interests may appear.

41. Application for Payment

The Contractor shall be eligible to initiate an application for payment on AIA FORM G702 & 703 at the end of each month's work. The Contractor shall submit it to the Owner's representative, if he requires receipts or other vouchers, showing their payment for materials and labor, including payment to subcontractors. The application shall be forwarded directly to the Owner's representative. On completion of the work, the Contractor can submit to the Owners representative an application for payment in full in the amount of the contract. Along with such application, the Contractor shall furnish an affidavit and such other information as the Owner's representative may require as protection of the Owner against

liens. *Final payment will be made after certification by the Engineer that the work has been satisfactorily completed and is accepted in accordance with the contract, plans and specifications.*

Upon receipt of an Application for Payment, Owner's representative and Engineer shall make an inspection and issue to the Contractor a Certificate for Payment or state in writing the corrections which must be made according to the plans and specifications before he will be paid. These corrections shall be made at once, and the Owner's representative shall issue a Certificate for Payment on their acceptance. The Owner shall pay the full amount of the certificate within fifteen (15) days after receiving the Certificate of Payment from the Owner's representative.

Payments may be withheld on account of defective work not remedied, claims filed, failure of the Contractor to make payments properly to subcontractors or for labor, materials or equipment, damage to the Owner or another contractor, or persistent failure to carry out the work in accordance with the contract documents.

42. Acceptance of Work and Final Payment

Before final acceptance of the work and payment to the Contractor of the percentage retained by the Owner the following requirements shall be complied with:

- (a) Final Inspection: Upon notice from the Contractor that their work is completed, the Inspector shall make a final inspection of the work and shall notify the Contractor of all instances where their work fails to comply with the Specifications, as well as any defects he may discover. The Contractor shall immediately make such alterations as are necessary to make the work comply with the Specifications, and to the satisfaction of the Inspector.
- (b) Guarantee: The Contractor shall furnish a written guarantee that all work executed under this Contract will be free from defects of materials and workmanship for a period of one (1) year from the date of final acceptance and that all defects occurring within that period shall be replaced at no cost to the Owner.
 - (1) The Contractor shall, in case of work performed by their subcontractors and where guarantees are required, secure warranties from said subcontractors and deliver them to the Owner upon completion of the work.
 - (2) Where guarantee or warranties are written in any section for a period of more than one (1) year, such longer terms shall apply.
 - (3) Nothing in the above shall be deemed to imply that this guarantee shall apply to work which has been abused or neglected by the Owner.
 - (4) It is specifically understood that the terms of the guarantee called for in the Specifications, the compliance therewith, and the fulfillment of all obligations thereunder are fully protected by the Performance Bond furnished by the Contractor.

- (c) Liens: Final acceptance of the work will not be granted and the retained percentage will not be due or payable until the Contractor has furnished the Owner proper and satisfactory evidence under oath that all claims for labor and material employed or used in the construction of the work under this Contract have been settled, and that no legal claims can be filed against the Owner for such labor or material.
- (d) Final Estimate: Upon completion of all alterations and repairs required by the final inspection or operating test, the satisfactory completion of the operating test, and upon submitting proper and satisfactory evidence to the Owner that all claims have been settled, the Engineer shall issue a certificate of final acceptance of the work. The Contractor shall then prepare their final estimate; the payment shall then become due.

43. Acceptance of Final Payment Constitutes Release

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and others relating to or arising out of this work. No payment, however, final or otherwise, shall operate to release the Contractor or their sureties from any obligations under this contract or the Performance and Payment Bond or constitute a waiver of claims arising from unsettled liens, faulty or defective work appearing after completion, failure of the work to comply with the requirements of the contract documents or terms or any special warranties required by the contract documents.

44. Payments by Contractor

- (a) The contractor shall pay (a) for all transportation and utilities services not later than the 20th day of the calendar month following that in which services are rendered, (b) for all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of the cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof, not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and (c) to each of their subcontractors, not later than the 15th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by their subcontractors to the extent of each subcontractor's interest therein.
- (b) The Contractor shall furnish the Owner, whenever requested, with satisfactory evidence that all persons who have done work, or furnished materials under this agreement have been duly paid or satisfactorily secured. In cases such evidence is not furnished as aforesaid, such amounts as may be necessary to meet the claim of such unsatisfied person may be retained from monies due to the Contractor under this Contract, until the liabilities aforesaid shall be fully discharged.

45. Record of Construction Changes and As-Built Drawings

On completion of work, the Contractor shall mark the appropriate contract drawings in digital format showing the final locations of all underground installations, vaults, power lines, water lines, sewage lines, drainage lines, septic lines, etc. They also shall record the proper location of all installations above ground where they have been changed on the site from designated locations on the plans. The Engineer can provide digital data of the construction drawings format to the Contractor at a minimal cost so that the Contractor may record field changes and adjustments. The Contractor shall provide to the City of Decatur upon completion of the project digital files with the above-mentioned as-built information based on Georgia West Zone and that is Geo-referenced so that it aligns with the City of Decatur's GIS system.

46. Project Closeout

- (a) This section covers work to be done when the project is complete.
- (b) The Contractor shall assemble all of its final papers, bind them into some type of folder and submit it to the Owner. Partial submissions will not be accepted.
- (c) Submit in writing Contractor's guarantees on all work. Also submit guarantees by subcontractors and manufacturers were requested on these Specifications. All guarantees shall be in writing and made out in the name of the Owner.

47. Warranty Guarantee

The Contractor shall guarantee all work under this contract, to be free from defects of material and workmanship, for a period of one year from the date of acceptance by the Engineer, except as otherwise agreed upon in writing by the parties to the contract.

Thefts and "Acts of God" damage are the responsibility of the Contractor until final date of acceptance. Repair of such damage shall be the responsibility of the Owner from the date of acceptance of the entire job until the end of the warranty period.

48. Environmental Protection

Trees to Save - Trees not marked to be removed shall be carefully protected by the Contractor from foliage, trunk and root damage. Roots shall be protected to the outer perimeter of tree foliage (or dripline) and 2 feet beyond.

49. Special Hazards

The Contractor's and their Subcontractor's Public Liability and Property Damage Insurance shall provide adequate protection against the following special hazards: excavation, shoring and electrical.

50. Hold Harmless

The Contractor agrees to indemnify and save harmless the Owner, the Engineer and all of their officers, partners,

agents and employees from and against all loss or expense (including court costs and attorney's fees) by reason of liability imposed by law upon Owner or Engineer for damages because of bodily injury, including death at any time, resulting thereof sustained by any person or persons or on account of damage to or destruction of property, real or personal, including loss of use thereof, arising out of or in consequence of performance of this work, whether such injuries to property are due or claimed to be due to the negligence of the Contractor, their Sub-Contractors, the Owner or Engineer, their officers, partners, agents and employees except only such injury, death or damage as shall have been occasioned by the sole negligence of the Owner or Engineer.

51. City of Decatur Insurance Requirements

The Contractor shall, at the time of execution of this Agreement, file with the Owner the certificate(s) of insurance as contained in the Agreement, which shall cover all of the Contractor's insurance as required herein including evidence of payment of premiums thereon, and the policy or policies of insurance covering said Owner, the Engineer and their officers, agents and employees. Each such policy and certificate shall be satisfactory to the Owner, shall reference the insured project as the **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10** and shall bear an endorsement precluding the cancellation or reduction in coverage without giving the Owner at least fifteen (15) days prior notice thereof in writing. All policies shall be written by insurers licensed to do business in the State of Georgia and acceptable to the Owner, with a current A.M. Best rating of no less than A-: VII. Coverages shall be maintained without interruption from the date of commencement of the project until the date of final payment and termination of any coverage required to be maintained after final payment. Completed operations coverage shall be maintained until the date of the architect's final certificate of payment. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations under this Contract.

On all required coverages, the Contractor shall secure from all subcontractors' certificates of insurance as evidence that each subcontractor carries insurance to provide coverage under this Contract up to the same minimum limits required of the Contractor in this Agreement. All subcontractors' certificates of insurance shall refer to the insured project as the **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road, US 278/SR10**. The Contractor shall submit copies of its subcontractors' insurance certificates to the Owner and Engineer as evidence of such insurance coverage. The Contractor acknowledges and agrees that each subcontractor performing work for this Contract will meet these minimum insurance requirements and that any costs or uninsured events arising from or involving a subcontractor working on behalf of the Contractor for this Contract is the sole responsibility of the Contractor. The Contractor agrees to indemnify said Owner for any costs, expenses or damages that may arise from any subcontractor having insufficient insurance coverage.

The insurance provided by the Contractor will be primary insurance and any other insurance, self-insured retention, deductibles, or risk retention programs maintained or participated in by the Owner or the Engineer and their officers, agents and employees will be specifically excess and not contributory to the insurance furnished by Contractor and by its subcontractors.

- (a) Comprehensive or Commercial General Liability Insurance – The Contractor shall take out, pay for, and maintain until completion and acceptance of the work required by this Contract, commercial general liability insurance as shall protect the Contractor and the said Owner from all claims for bodily injury and property damage which may arise because of the nature of the work or from operations under this Contract.

The Contractor is not required to have its subcontractors named as co-insureds in the Contractor's policy of public liability and property damage; but the policy shall protect the Contractor and the Owner from contingent liability which may arise from operations of subcontractors.

Each of said policies of insurance shall provide coverage in the following minimum amounts: Commercial general liability insurance with a minimum combined bodily injury and property damage limit of One Million Dollars (\$1,000,000) per occurrence, a personal and advertising injury limit of One Million Dollars (\$1,000,000), a products-completed operations aggregate limit Three Million Dollars (\$3,000,000) and a general aggregate limit of Three Million Dollars (\$3,000,000) per location.

\$1,000,000 Each Occurrence Limit
\$1,000,000 Personal and Advertising Injury Limit
\$3,000,000 Products/Completed Operations Aggregate
\$3,000,000 General Aggregate

- (b) Comprehensive Automobile Liability - The Contractor shall also take out, pay for, and maintain until completion and acceptance of the work required by this Contract, automobile public liability and property damage insurance as shall protect the Contractor and said Owner from claims for bodily injury or property damage which may arise from the use of motor vehicles engaged in various operations under this Contract.

The policy or policies of automobile insurance shall provide coverage in the following minimum amounts: Automobile liability insurance covering owned, hired and non-owned vehicles, with separate coverage in an amount not less than One Million Dollars (\$1,000,000) combined single limit for bodily injury and property damage.

\$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

- (c) Umbrella Policy- The Contractor shall have an umbrella policy over General Liability, Automobile Liability, Workers' Compensation/Employers' Liability and any such policies that the umbrella can be placed over that involves insurance that is applicable to the work under this contract or at least applicable to the minimum required insurance under this contract. The policy shall be placed in the amount of Four Million Dollars (\$4,000,000) or an amount equal to that to be paid for the work being performed under this agreement, whichever is greater.

- (d) Workers' Compensation Insurance - Before beginning the work, the Contractor shall furnish to the Owner satisfactory proof that it has been taken out, for the period covered by the work under this Contract, Statutory Workers' Compensation and Employers' Liability Insurance. Such insurance shall be maintained in full force and effect during the period covered by this Contract.
- (e) Property Insurance – Until the project is completed and accepted by the Owner, the Contractor shall purchase and maintain property insurance written on a builder's risk "all risk" or equivalent policy form on a 100 percent completed value basis on the insurable portion of the project for the benefit of the Owner, the Contractor, subcontractors as their interests may appear. Property insurance shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements.
- (f) Boiler and Machinery Insurance – Until the project is completed and accepted by the Owner, the Contractor shall purchase and maintain boiler and machinery insurance which shall specifically cover such insured objects during installation and through final acceptance.
- (g) Loss of Use Insurance – The Contractor shall purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.
- (h) Pollution Liability Insurance – From the date of commencement of the project until five years after the date of final payment or termination of the agreement, whichever occurs first, the Contractor shall maintain a contractor's pollution liability ("CPL") policy with (1) a per-claim limit of not less than \$ of One Million Dollars (\$1,000,000) and (2) an annual-aggregate limit of not less than of One Million Dollars (\$1,000,000), covering the acts, errors and/or omissions of the Contractor for damages (including from mold).
 - (i) Deductibles - For all required coverages, each deductible may not exceed \$25,000
 - (ii) per occurrence unless otherwise agreed upon by the Owner.
- (j) Notification of Insurance Companies - The Contractor shall advise all insurance companies to familiarize themselves with all of the conditions and provisions of this Contract, and insurance companies shall waive the right of special notification or any change or of decreased or increased work, or of cancellation of the Contract or of any other act or acts by the Owner or its authorized employees and agents, under the terms of this Contract and failure to so notify the aforesaid insurance companies of changes shall in no way relieve the insurance companies of their obligation under this Contract.
- (k) Indemnification - The Contractor shall indemnify and save harmless the Owner, the Engineer and all of their officers, agents, and employees from all suits, actions or claims of any character brought for or on account of any injuries to or death of or damages received by any person, persons or property resulting from the operations of the Contractor or any of its

subcontractors, in prosecuting the work under this Contract.

- (l) Additional Insured - For all required coverages, the Contractor shall name the Owner as an additional insured and shall provide Owner with proof thereof with the certificate of insurance and copy of endorsement that meets the additional insured requirement or specifically lists owner as additional insured for said contract in the policy for said work by Contractor on behalf of this Contract.
- (m) Subrogation Waiver - The Contractor waives all rights of subrogation against the Owner with respect to claims arising out of operations performed pursuant to or incidental to this Contract, whether by Contractor or its subcontractors. Written evidence that each respective insurer acknowledges and agrees to such waivers of subrogation rights shall be submitted to Owner prior to commencement of the project (at minimum, a certificate of insurance, followed by a copy of an endorsement or policy language evidencing the insurer's acknowledgement of an agreement to such waiver). In the event such requirement is not met and/or any subrogation proceeding is commenced by or on behalf of the Contractor or its insurers, the Contractor shall fully indemnify and save harmless the Owner for all costs, expenses and damages resulting therefrom, and shall take action necessary to stop any subrogation proceedings by the Contractor's insurers.

52. Final Payment and Bond

The Contractor will be paid one (1) final payment at the completion and acceptance of the job by the City of Decatur, Georgia, or by other terms agreeable to the Contractor and the City of Decatur. The Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the total amount of the contract and payment bond for 100% of the total amount of the Contract at the time the Contract is executed. Such bonds will be on forms approved by the City Attorney. The surety company must be authorized to do business in the State of Georgia.

32. Additional or Substitute Bond

If at any time the Owner for justifiable cause shall be or become dissatisfied with any surety or sureties, then upon the Performance or Payment Bonds, the Contractor shall within five (5) days after notice from the Owner so to do, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties 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 they be made until the new surety or sureties have furnished such an acceptable bond to the Owner.

54. Assignments

It is understood by the Contractor that the work of the Contractor is considered personal by the Owner. The Contractor agrees not to assign, sublet or transfer any or all its interest in this contract without prior written approval of the Owner. The Owner reserves the right to review all subcontracts prepared in connection with the contract, and the Contractor agrees that it shall submit to the Owner any proposed subcontract documents together with subcontract cost estimates for review and written concurrence of

the Owner in advance of their execution. All subcontracts in the amount of \$10,000.00 or more shall include the provisions set forth in this section.

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 claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this contract.

55. Mutual Responsibility of Contractors

If, through acts of neglect on the part of the Contractor, any other Contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement or arbitration if such other Contractor or subcontractors will so settle. If such other Contractor or subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claim.

56. Other Contracts

The Owner or Engineer may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with other such contractors, including the Owner or their employees, and carefully fit their own work to such additional work as directed by the Engineer or Owner. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or employee of the Owner.

The Contractor shall coordinate their operations with those of other Contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The Contractor, including their subcontractors, shall keep informed of the progress and the detail work of other Contractors and shall notify the Engineer immediately of lack of progress or defective workmanship on the part of the other contractors. Failure of a Contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with their own work.

57. Subcontracting

Each portion of the Work shall be performed by an organization equipped and experienced to do work in the field. Contracts shall be awarded only to parties satisfactory to the Owner and Engineer. The Contractor shall submit any proposed subcontract documents together with subcontract cost estimates for review and written concurrence of the Owner and Engineer in advance of their execution.

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

- (b) The Contractor shall not award any work to any subcontractor without prior written approval of the Owner, which approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the subcontract, which statement shall contain such information as the Owner may require.
- (c) The Contractor shall be as fully responsible to the Owner for the acts and omissions of their 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, Technical Specifications, Special Provisions, and other contract documents in so far 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.

58. Engineer's Authority

The Engineer shall give all orders and directions contemplated under this contract and specifications, related to the execution of the work. The Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.

The Engineer shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute, under this contract and other Contractors performing work for the Owner shall be adjusted and determined by the Engineer.

All the work under the contract shall be completed to the satisfaction of the Engineer or their authorized representative who shall in all cases determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are paid for hereunder and shall decide all questions and the fulfillment of the conditions of this contract on the part of the Contractor. Their determination and decision, in case any questions shall arise, shall be a condition precedent to the right of the Contractor to receive any payment hereunder.

59. Miscellaneous Construction Allowance PI. Pay Item 999.9000

The Contractor shall include in their proposal the cash Miscellaneous Construction Allowance as stated in the Bid Proposal Form. The Contractor shall purchase the "Allowed Materials" as directed by the Owner

If the actual price for purchasing the "Allowed Materials" is more or less than the "Miscellaneous Construction Allowance," the contract price shall be adjusted accordingly. An adjustment in contract price shall be made based on the Unit Prices which includes the overhead, profit, insurance or any other incidental expenses or as agreed upon LUMP-SUM price with a maximum of 5% cost for overhead profit, insurance or other incidental expenses.

60. Rejection

All materials furnished and work done when not in accordance with the Specifications and Contract, will be rejected and shall immediately be removed and other work done, and materials furnished by the Contractor at their own expense and in accordance with. If the Contractor fails to remove the work and materials as above ordered, within forty-eight (48) hours, then the Inspector shall have the right and authority to stop the Contractor and their work at once and to supply men and material at the cost and expense of the Contractor to remove said work and materials.

61. Storage

The Contractor shall provide suitable protection for material and equipment on the site and shall maintain all storage space in a safe, clean and orderly condition. The Contractor shall be responsible for securing and maintaining the storage site. The Owner assumes no liability for loss or damage to materials or equipment due to improper storage, lack of protection from the elements or from any other causes. Inflammable materials shall be enclosed in safe containers. All construction equipment shall be stored at the staging area at the end of each workday.

62. Use of Premises and Removal of Debris

The Contractor expressly undertakes at their own expense:

- a. to take every precaution against injuries to people or damage to property.
- b. to store their apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as not unduly interfere with the progress of their work or the work of any other contractors.
- c. to place upon work or any part thereof only such loads as are consistent with the safety of that portion of the work.
- d. to clean up daily all refuse, rubbish, scrap materials, and debris caused by their operations, to the end that always the site of the work shall present a neat, orderly and workmanlike appearance.
- e. before final payment, to remove all surplus material, false-work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from their operations, and to put the site in a neat, orderly condition

to affect all cutting, fitting or patching of their work required to make the same to conform to the plans and specifications and, except with the consent of the Engineer, not to cut or otherwise alter the work of any other Contractor.

- f. The Contractor shall keep the work and surrounding areas free from accumulation of waste materials, all rubbish and objectionable matter during the work. All mortar; cement and toxic material shall be removed from the surface of the earth and not allowed to become mixed with the earth. Upon completion of the Work, the Contractor shall remove all debris, waste materials and superfluous materials from and about the project area as well as all equipment, tools and machinery, to the satisfaction of the Owner.

63. Maintenance

Except as otherwise provided in the Specifications, the Contractor shall be responsible for all maintenance until completion and final acceptance of the total project. Various items of maintenance are indicated in applicable sections of the Specifications to which the Contractor is referred. The contractor is expected to maintain all erosion control fences, berms, dams, grassing and other mechanisms until the project is completed. Maintenance shall be in accordance with local and state guidelines and regulations.

64. Pre-Construction Conference

The Contractor shall schedule a pre-construction conference with the Owner and Engineer at least three (3) days before beginning work under the contract. The contractor shall submit a proposed work schedule, traffic control plan and construction staging and phasing plan at the pre-construction conference.

65. Traffic Control

All project work must conform to applicable state and local guidelines for uniform traffic control. The Contractor shall submit a traffic control plan to the Owner for approval at the pre-construction conference. The Contractor shall coordinate with the City on preparing a traffic control plan that addresses vehicular and pedestrian traffic, temporary parking, and parking relocation for the project. See Special Provisions Section 150.

66. Control of Materials

Source of Supply and Quality Requirements: The materials used in the work shall conform to the requirements of the contract, plans and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or processed).

To expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after the execution of the contract but, in all cases, prior to delivery of such materials.

Samples, Tests and Cited Specifications: All materials used in the work shall be inspected, tested by a materials testing company and approved by the Engineer before incorporation in the work. All work in

which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Tests in accordance with cited standard methods of AASHTO or ASTM which are current on the date of advertisement for bids will be made by and at the expense of the owner. Samples will be taken by a qualified representative of the Contractor. All materials being used are subject to inspection, test or rejection at any time prior to or during incorporation into the work.

Certification of Compliance: The Engineer may permit the use prior to sampling and testing of certain materials, or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each of such materials or assemblies delivered to work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used based on certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or- equal" and the contractor elects to furnish the specified "brand name", the contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to work. Such a certificate of compliance shall clearly identify each lot delivered and shall certify as to: (a) Conformance to the specified performance, testing, quality of dimensional requirements; and (b) Suitability of the material or assembly for the use intended in the contract work.

Should the contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly, However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies based on certificates of compliance.

Plant Inspection: The Engineer or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for their acceptance of the material or assembly.

Should the engineer conduct plant inspections, the following conditions shall exist:

- (a) The Engineer shall have the cooperation and assistance of the contractor and the producer with whom they have contracted for materials.

- (b) The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished; and
- (c) If required by the Engineer, the contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject material which, when retested, does not meet the requirements of the contract, plans, or specifications.

Field Office and Laboratory: When specified and provided as a contract item, the contractor shall furnish a building for the exclusive use of the Engineer as a field office and field-testing laboratory. The building shall be furnished and maintained by the contractor as specified herein and shall become the property of the contractor when the contract work is completed.

Storage of Materials: Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in their work. Stored materials shall be located to facilitate their prompt inspection. The contractor shall coordinate the storage of all materials with the Engineer.

Unacceptable Materials: Any material or assembly that does not conform to the requirements of the contract, plans or specifications shall be considered unacceptable and shall be rejected. The contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

No rejected material or assembly, the defects of which have been corrected by the contractor, shall be returned to the site of the work until such time as the Engineer has approved its use in the work.

Owner-Furnished Materials: The contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the owner. Owner-furnished materials shall be made available to the contractor at the location specified herein.

All costs of handling and transportation from the specified location to the site of work, storage and installing Owner-furnished materials shall be included in the unit price bid for the contractor item when such owner-furnished material is used.

After owner-furnished material has been delivered to the specified location, the contractor shall be responsible for any damage, loss or other deficiencies which may occur during the contractor's handling, storage, or use of such owner-furnished material. The owner will deduct from any monies due or to become due to the contractor any cost incurred by the owner in making good such loss due to the contractor's handling, storage, or use of owner-furnished materials.

67. Measurements

Before ordering any material or doing any work, the Contractor shall verify all measurements at the site and shall be responsible for correctness of same. No extra charge or compensation will be allowed on account of the difference between actual dimensions and the measurements indicated on the drawings. Any difference which may be found shall be submitted to the Engineer for consideration prior to work.

68. Quantities of Estimate

Wherever the estimated quantities of work to be done and materials to be furnished under this contract are shown in any of the documents including the proposal, they are given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this contract, and such increase or diminution shall in no way vitiate this contract, nor shall any such increase or diminution give cause for claims or liability for damages.

Quantity estimates where shown have been made carefully but the Engineer assumes no liability for omissions and errors. Estimates are only an aid to clarifying units and a check for the Contractor to compare with their own estimates. Differences shall be brought to the attention of the Engineer. Quantities necessary to complete the work on the Drawings shall be provided by the Contractor. No extra compensation will be allowed for extra quantities necessary to complete the Work as shown on the plans.

69. Lands and Rights-of-Way

Prior to the start of construction, the Owner shall obtain all lands and rights-of-way necessary for the carrying out and completion of work to be performed under this contract.

70. Layout of Work

All lines, grades, levels and benchmarks shall be established and maintained by Contractor. Before commencing any work, the Contractor shall verify all grades, lines, levels and dimensions as indicated on the Drawings. They shall report any errors or inconsistencies to the Engineer before commencing work.

The Contractor shall stake the entire project, both as to location of all construction items as well as finish grades. This stake-out may be accurate or rough, depending on the Contractor's preference. This stakeout shall be made early in the construction process and preserved for reference during construction.

The purpose of the staking, with inspection and adjustment by the Engineer, is to adapt the design to the site rather than allow the design to be forced upon the site. Staking is subject to various degrees of adaptation which can only be determined by the Engineer. This variation is an aesthetic decision, the amount of adjustment most often determined by the existing trees, terrain, soil conditions, utilities, sub-surface water and by other intangibles which are impractical to survey in absolute accuracy.

The Contractor shall notify the Engineer at least three (3) working days before inspection of the stakeout. During the inspection, the Engineer will adjust the stake-out as necessary to fit the trees,

topography and all other objects and conditions on the site. At this time the Engineer will clearly mark all trees and other vegetation to be removed. This staking-inspection process must take place prior to any tree removal, grading, construction and any other work on the site. During the inspection, the Contractor shall be at the site along with the person who will superintend the clearing and grading work under this contract.

The staking inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall ever be done without the stakeout first being adjusted and approved by the Engineer. All alignment, dimension and elevation of any grading, excavation, construction and planting is subject to adjustment to accommodate existing conditions and to save trees and other vegetation.

Any work progress delays caused by inadequate, incomplete or improper staking shall not merit an extension of the contract or delay charges by the Contractor.

The Engineer shall have two (2) days to respond to any request to come to the site and adjust a stake-out. The Engineer shall have a minimum of two (2) days to resolve any problems created by unknown conditions discovered during the stakeout or construction.

The Contractor shall be responsible for adequately scheduling their process to allow constant work to continue. When unknown conditions inhibit the flow of work in a specific location during the inspection, the Contractor shall continue unhindered portions elsewhere on the project and notify the Engineer immediately.

71. Geotechnical Assistance

The Contractor shall retain at their own expense the services of a qualified geotechnical engineer to advise on all construction techniques and material testing involved in the Work, including the design, checking and approval of compaction, of subgrade, testing of concrete, temporary bracing, shoring, underpinning and other items pertinent to the Work, and on construction methods for solution of problems which may be encountered. **The Geotechnical Engineer shall be GDOT a prequalified,** primarily concerned with construction methods necessary to prevent settlement or failure of buildings, walkways, foundations, pavement and/or damage to such surrounding structures as sidewalks, roads, utilities, and embankments on the Owners property. Geotechnical engineers shall provide services and consulting related to material sampling, material testing, soil compaction and other related construction conditions. **All Geotechnical reports and findings shall be provided to the Owner each month with the contractors' Application for Payment.**

72. Utilities

The Contractor shall be responsible for contacting all utilities to confirm locations so that no facilities will be cut. Call Utility Protection Center at 811. The Contractor shall be responsible for ensuring that sewer manholes, telephone manholes, valves, etc. will be adjusted to finish grade and will have risers provided prior to surfacing.

The Contractor, at his expense, shall immediately repair existing utility lines shown on the drawings, such as cables, ducts, conduits and piping and damaged by Contractor's operations (unless they are to be abandoned) and protect and maintain in use until relocation of same has been completed or shall be cut and capped where directed or shall be prepared for service connections when so required.

The Contractor shall exercise extra precaution to avoid damage to underground utilities; The Contractor shall notify the utility locating service to flag and mark with paint all underground utilities before any work commences. The Contractor shall determine the exact location of all existing utilities, structures and underground utilities, which may not be indicated in the drawings, and he shall conduct their work so as to prevent interruption of service or damage to them. The Contractor shall protect existing structures, utilities and underground utilities and be responsible for their replacement if damaged by him.

73. Shoring and Bracing

The Contractor is required to provide all temporary and permanent Shoring and Bracing of existing facilities to construct the proposed improvements and project. This includes but is not limited to the temporary and permanent Shoring and Bracing of existing buildings, foundations, walls, utilities, slopes, walks, and other existing site features. All Shoring and Bracing plans and methods shall be preapproved by the City of Decatur Building Department prior to installation. All Shoring and Bracing plans are to be sealed by a structural engineer registered in the state of Georgia.

74. Inclusion of Accessories

Unless specifically mentioned otherwise, all anchors, bolts, screws, fittings, fillers, hardware accessories, trim and other parts required for, or in connection with, an item of material to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the item whether or not shown on the drawings or specified.

75. Installation and Protection of Materials

All items shall be installed in a workmanlike manner in accordance with the best recognized practice of the trade. Manufactured items shall be installed in strict accordance with the manufacturer's printed directions, specifications and recommendations. All working parts shall be properly adjusted after installation and left in perfect working order. Unless otherwise indicated, items exposed to weather and subject to flooding shall be installed so as to shed water. Items in all cases shall be installed plum and true and in proper relation to surrounding materials. The Contractor shall be responsible for preparing samples as required in the Specifications and to obtain approvals prior to construction of the item.

All materials shall be shipped, stored and handled in a manner that will afford protection and ensure their being in first class condition at the time they are incorporated in the Work. After installation, all materials shall be properly protected against damage to ensure their being in first class condition when the project is completed and accepted by the Owner.

76. Reference to GDOT Standard Specifications

When standard specifications such as the American Society for Testing and Materials, Federal Specifications, Department of Commerce (commercial Standards), American Institute of Steel Construction, American Association of State Highway and Transportation officials (AASHTO)

guidelines, or other well-known public or trade associates are cited as a standard to govern materials or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied in the GDOT Standard Specifications. Such standards as are mentioned are generally recognized by and available to the trades concerned.

77. Reference to Manufacturer's Publications

Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the Specifications shall be considered as the latest edition or revision of such publications that is in effect on the date of the Invitation or Advertisement for Bids.

78. Document Signatures

Within five (5) days of notification of award or prior to execution of the contract, whichever is earliest, the Contractor shall file with the Engineer a list of all persons in their firm who are authorized to sign documents such as contracts, certificates and affidavits on behalf of the firm and to fully bind the firm to all conditions and provisions of such documents.

79. Materials Furnished by Others

Whenever Contractor or any subcontractor shall receive items from another contractor or from the Owner for storage, erection or installation, the Contractor or subcontractor shall give receipts for items delivered, and any necessary replacement of items received. No adjustment will be made to contract price for increased insurance premiums, except for materials or equipment furnished by the Owner and not listed as such in other contract documents.

80. Substitute Materials and Equipment

Approval by the Engineer of substitute materials and equipment shall not relieve the Contractor from their responsibility to supply and install any additional materials, equipment or labor required to make the substitution properly function within the intent of the contract documents issued for bid whether or not recognized by the Engineer or Contractor. The Contractor shall supply and install such required substitutions at no additional cost to the Owner.

81. Protection of Existing Structures

The Contractor shall be liable for all damage to existing structures, that occur as a result of their negligence to provide proper and adequate protective measures, including but not limited to buildings, foundations, walls, fences, paving, conduits, furniture, pipe, wiring, drains, underground utilities, signage and signs and equipment. The Contractor shall be liable for all damage to trees, shrubs, turf, and other vegetation. The Contractor shall not encroach on neighboring properties or damage fences or vegetation outside the limit of work.

82. Working Hours

Construction on Monday through Friday shall begin no earlier than 7:00 a.m. and may continue until 6:00 p.m. Construction on Saturdays may begin no earlier than 9:00 a.m. and may continue until 5:00 p.m. No Construction on Sundays is allowed. Some portions of the work may require construction to occur outside of these standard work hours. Requests for non-standard work hours must be submitted one week in advance to the City of Decatur for approval.

83. General Guaranty

Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Owner, shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

84. Disagreement

Should any disagreement or difference arise as to the estimate, quantities or classifications or as to the meaning of the Drawings or Specifications, or any point concerning the character, acceptability, and nature of the several kinds of work, any materials and construction thereof, the decision of the Engineer shall be final and conclusive and binding upon all parties to the Contract.

85. Notice and Service Thereof

Any notice to any Contractor from the Owner relating to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the said Contractor at their last given address, or delivered in person to the said Contractor or their authorized representative on the work.

86. Provisions Required by Law Deemed Inserted

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

87. Prohibited Interests

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner

who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

88. Use and Occupancy Prior to Acceptance by Owner

The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Owner, provided the Owner:

- (a) Secures written consent of the Contractor except in the event, in the opinion of the Engineer, the Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other contract requirements.
- (b) Secures endorsement from the insurance-carrier and consent of the surety permitting occupancy of the building or use of the project during the remaining period of construction, or,
- (c) When the project consists of more than one building, and one of the buildings is occupied, it secures permanent fire and extended coverage insurance, including a permit to complete construction. Consent of the surety must also be obtained.

89. Video of the Project

Pre and Post Construction, the Contractor shall furnish to the Owner a complete video of the project work limits and surrounding area, prior to construction disturbance and the conclusion of the project that documents the existing and proposed conditions of all aspects of the project. This includes but is not limited to video of the storm pipe and photographs of the site features above ground and below ground elements. Photographs shall also be provided during the construction progress, at a minimum of a weekly basis not previously documented prior to the construction start.

90. Suspension of Work

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

91. Temporary Suspension of Work

The Engineer shall have the authority to suspend the work, wholly or in part, for such period as he may deem to be in the best interest of the Owner, due to conditions which are considered unfavorable to the suitable carrying out of work, or for failure on the part of the Contractor to carry out instructions or to perform any provision of the contract. The Contractor shall immediately respect the written order to suspend the work wholly or in part. The Contractor shall not suspend work without such written authority and shall immediately resume work when conditions are favorable or when methods have been corrected, as approved by the Engineer in writing.

92. Employment of Certain Persons Prohibited

No person under the age of sixteen years and no person who, at the time, is serving sentence in a penal or correctional institute shall be employed on the work covered by this Contract.

93. Complaints, Proceedings, or Testimony by Employees

No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to their employer.

94. Ineligible Subcontractors

The Contractor shall not subcontract any part of the work covered by this Contract or permit subcontracted work to be further subcontracted without the Owners prior written approval of the subcontractor. The Owner will not approve any subcontractor for work covered by this Contract who is at the time ineligible under the provisions of any applicable regulations to receive an award of such subcontract.

95. Arbitration

Arbitration shall be allowed only if mutually agreeable to both parties, and the decisions of the arbitrators shall not be binding.

96. Miscellaneous Requirements

- (a) All sites shall be properly signed and marked using the **Manual on Uniform Traffic Control Devices** involving construction work zones to assure proper warning of motorists. It is the Contractor's explicit and exclusive responsibility to always maintain a safe work zone. All cones, barrels and barricades must use high intensity reflective materials.
- (b) Pulling shoulders and eliminating drop-offs are required to provide no ponding of water on existing asphalt. All water shall drain perpendicular to travel lanes. The cost of pulling the shoulders and eliminating drop-offs will not be paid separately but shall be included in the overall bid submitted.
- (c) All permanent lane striping shall be completed within ten (10) consecutive calendar days from the date the road was resurfaced. All other pavement markings as required in the scope of work shall be completed within twenty-one (21) consecutive calendar days from the date the road was resurfaced.
- (d) Temporary pavement marking is required on all resurfaced roadways which previously had existing striping. The temporary pavement marking material shall be 3M - Scotch-Lane Foil

Tape, Series 5160 and 5161, or equal. Temporary tape on the centerline shall be two tandem two-foot strips with a maximum gap of forty-eight feet. On curves greater than six degrees, a centerline shall be placed using two two-foot-long strips with a maximum gap of eighteen feet. Skip-line temporary tape in lane shift areas shall not be allowed. All tape shall be removed prior to permanent striping.

- (e) All ingresses and egresses shall be sufficiently tapered to provide reasonable passage without damage to vehicles or disturbance to passengers. In general, intersecting roadways which will not be resurfaced should be tapered beginning at the projected gutter-line of the mainline roadway. The Inspector will be responsible for delineating any exception.

97. Conflicts within the Contract Documents

If conflicts exist between the GDOT Standard Specifications and the General Conditions, or Supplemental General Conditions and Contract Specifications, the governing descending order will be as follows:

1. Special Provisions
2. General Conditions (Section L).
3. Project Plans including Special Plan Details
4. GDOT Standard Plans including Standard Construction Details
5. GDOT Supplemental Specifications
6. GDOT Standard Specifications

98. Compliance with Applicable Law

The Contractor shall comply and shall require its subcontractors to comply with the regulations for compliance with Title VI of the Civil Rights Act of 1964, as amended, and 23 CFR 710.405(b) as stated in the Notice of Compliance with Title VI of the Civil Rights Act of 1964 of this contract.

The Contractor shall comply and shall require its subcontractors to comply with the provisions of Section 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the Drug-Free Workplace Act as stated in the Certification Regarding Drug-Free Workplace of this contract.

The Contractor acknowledges and agrees that failure to complete appropriate certifications or the submission of a false certification shall result in the termination of this contract.

The Contractor shall comply and require its subcontractors to comply with all applicable requirements of the Americans with Disabilities Act of 1990.

END OF SECTION

SECTION M

SPECIAL PROVISION

Section 150-0000– Traffic Control

Add the following to GDOT Specification,

Section 150.01 and Section 150.06:

150.01 General Description:

1. This section as supplemented by the Plans, Specifications, and Manual on Uniform Traffic Control Devices (MUTCD) shall be considered the Temporary Traffic Control (TTC) Plan in accordance with Work Zone Safety and Mobility Policy and a Traffic Control Plan submitted by the contractor. Activities shall consist of furnishing, installing, maintaining, and removing necessary traffic signs, pedestrian signs, barricades, lights, signals, cones, pavement markings and other traffic control devices and include flagging and other means for guidance and protection of vehicular and pedestrian traffic through the Work Zone. This Work shall include both maintaining existing devices and installing additional devices as necessary in construction work zones.
2. When any provisions of this Specification or the Plans do not meet the minimum requirements of the MUTCD, the MUTCD shall control. The current Edition of the MUTCD shall be in effect for the duration of the project.
3. All traffic control devices used during the construction of the project shall meet the standards utilized in the MUTCD, and shall comply with the requirements of these Specifications, Georgia Construction Standards and Details, Project Plans, Design Manuals, and Special Provisions.
4. The Contractor's attention is directed to articles 104.05 and 107.07 of the GDOT Standard Specifications and the special provisions for traffic control and sequence of operations regarding maintenance of traffic during construction, for additional traffic control notes see GDOT std. drawing no. 9100.
5. The price bid for Traffic Control is Lump Sum - shall include, but is not limited to, construction, maintenance, and removal of temporary signing and pavement markings, barricades, channelizing devices, etc. required for maintenance of traffic during construction. All temporary signing and pavement marking shall be in accordance with the "Manual on Uniform Traffic Control Devices", current edition and/or as directed by the representative of the city.
6. All work must conform to applicable state and local requirements for traffic control and safety. Prior to construction the contractor shall submit a traffic control plan to the owner for review and approval. Such a plan at a minimum shall address safety and traffic management for residents, pedestrians, bicyclists and motorists, maintenance of 2-way traffic, advanced notice of construction activities affecting traffic, construction staging, proposed detours, signing and marking, warning devices, the use of flaggers and similar traffic control measures.
7. Utilities included in the contract are bound by Special Provision 150 and shall meet its requirements. For utilities not included in the contract but working within the project limits, they shall, at a minimum, follow the MUTCD. Moreover, in accordance with the Utility Accommodation Policy and Standards Manual dated 2016, the Engineer reserves the right to require additional certified flaggers, signs, warning lights, channelization devices, and other safety devices as may be necessary to properly protect, warn, and safeguard the traveling public. In addition, the Department reserves the right to place time restrictions or moratoriums on all utility work covered under a permit when, in the opinion of the city, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive, or would unnecessarily inconvenience the traveling public. In case of emergencies, Utilities shall be provided access in accordance with Utility Accommodation Policy and Standard Manual.

Traffic Control
150-0000-1

8. The Worksite Traffic Control Supervisor (WTCS) shall have a copy of Part VI of the MUTCD and the Contract on the job site.

Copies of the current MUTCD may be obtained from the FHWA web page at <http://mutcd.fhwa.dot.gov>.

150.06 Special Conditions

A. Traffic Control Plan:

All work must conform to applicable state and local requirements for traffic control and safety. Prior to construction, the Contractor shall submit their Phased Traffic Control Plan to complete *all work* to the city for their review and approval. Such Plan at a minimum shall address safety and traffic management for residents, pedestrians, bicyclist and motorist, maintenance of 2 -way traffic, advance notice of construction activities affecting traffic, construction staging, proposed detours, signing and marking, warning devices, the use of flaggers and similar traffic control devices. The proposed Traffic Control Plan shall include the Contractors' proposed schedule for the completion of all work. The Contractor attention is directed to Articles 104.5 and 107.7 of the GDOT Standard Specifications.

B. Lane closures:

Proposed Lane Closers to construct the project for any of the intersecting and perpendicular streets within the project limits shall be submitted to the city for approval at least 7 days prior to implementation of the lane closures. These lane closures shall be furnished, installed and maintained in accordance with Georgia Standard Specifications, applicable City of Decatur Standards and the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). Cost for furnishing, installing and maintaining the lane closures shall be included in the price bid for Traffic Control.

C. Lane Closures and Work Hours:

1. With City prior approval, single lane closures may be allowed between the hours of 10:00 am to 2:00 pm and 7:00 pm to 7:00 am, Monday through Friday.
2. Single lane closures are not allowed between the hours of 7:00 am to 10:00 am and 2:00 pm to 7:00 pm Monday through Friday.

D. Crosswalk and Pedestrian Circulation:

The Contractor shall always maintain pedestrian access around the perimeter of the construction area. For all crosswalk locations, the Contractor shall provide a pedestrian safety plan. The pedestrian safety plan shall maintain safe crossing for East Lake and Parkwood 24 hours a day and seven days a week. While completing the project, the contractor cannot interfere with school vehicle and pedestrian traffic crossings.

E. Milled Surfaces:

The Contractor shall pave all milled surfaces within 48 hours and open to traffic. The needs and control of all road users (motorists, bicyclists and pedestrians within the highway right-of-way and easements, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations and management of traffic incidents. When necessary, existing striping shall be removed by grinding, unless specified by the representative of the city.

F. Aggregate Surface Course- No separate payment will be made for the aggregate surface course for maintenance of traffic. Costs for aggregate surface course for maintenance of traffic shall be included under the price bid for Traffic Control Lump Sum.

G. Maintaining Traffic Signals:

1. The contractor shall be responsible for the maintenance of traffic signals and Advanced Traffic Management system (ATMs) devices from the time that the system is modified until final acceptance. The contractor is responsible for damages to all devices that he or their subcontractors cause, in accordance with Section 107 and other specifications.
2. The Contractor shall always maintain detection for traffic signals. This applies to existing traffic signals. This may require temporary detection either by loops or video detection. Failure to maintain the detection of the traffic signals will result in assessment of non-refundable deductions as noted in Section 150.7.01. All Traffic Loops that shall be replaced in 24 hours
3. The Contractor shall always maintain interconnect to the traffic signals. This may require temporary devices and other items. Failure to maintain interconnect to the traffic signals will result in assessment of non-refundable deductions as noted in Section 150.7.01.

H. Warning Devices:

Warning devices shall be placed prior to commencement of any road improvement work and shall remain in place until the conclusion of all signing and striping work.

END OF SECTION 150-0000

SECTION 01 2200

UNIT PRICES

PART 1 GENERAL

1.01 SCOPE

A. Section Includes:

1. Unit price work.
2. List of unit prices required.
3. Procedures for unit price work.

B. Related Sections

1. Applications for payment: As outlined in General Conditions and Bid Schedule
2. Procedures for modifications to the Contract: As outlined in General Conditions.
3. Procedures for utilization of testing and inspection: As outlined in Specifications.
4. Contract closeout procedures: As outlined in Specifications.

1.02 SUBMITTALS

Supporting Data: With applications for payment covering unit price work submit substantiated measurement of quantity installed or executed.

A. Unit Prices

1. Indicate unit price for each item on Bid Form.
2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

3. Quantities:
 - a. Including in the contract base bid an amount equal to the unit price times the estimated quantities.
 - b. Contractors are required to determine and verify all quantities prior to their bid.
 - c. Unit Prices are for future additions and deductions that may be requested by the city. The Contractor Lump-Sum bid is a total of all Unit Prices.
 4. Accepted unit prices will be included in the agreement.
- B. Procedures for Modifications to the Contract: Procedures for submitting and handling modifications due to changes are specified elsewhere.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 2200

UNIT PRICES
SECTION 01 2200 -2

SECTION 01 2500
PRODUCT SUBSTITUTIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section

1.02 SUMMARY

- A. This section specifies administrative and procedural requirements for handling requests for substitution, made after award of the Contract.
- B. Standards: Refer to Section “Codes and Standards” for applicability of industry standards to products specified.

1.03 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for “substitutions.” The following are not considered substitutions:
 - 1. Revisions to Contract Documents requested by the Owner or Designer.
 - 2. Specified options of products and construction methods included in Contract Documents.
 - 3. The Contractor’s determination of and compliance with governing regulations and order issued by governing authorities.

1.04 MATERIAL

- A. Use materials and equipment that are new and of quality suited to use intended, suitable for function intended, and plainly labeled and delivered to Project site in original unopened containers when nature of materials is suitable for containers.

- B. The Engineer has endeavored to specify materials, products and assemblies which are totally free of asbestos, polychlorinated biphenyl (PCB) or other similar materials believed to endanger the health and safety of construction workers and future building occupants. However, manufacturers' information and other data normally furnished to the Engineer by producers of building material products and systems do not always contain accurate, complete, or appropriate information for the Engineer to properly evaluate each product.
- C. It shall therefore be a requirement of these Contract Documents that neither the Contractor, nor their material suppliers, nor their Subcontractors install or otherwise incorporate any materials containing asbestos, PCB or other hazardous materials within the boundaries of the Project. No soil found on site, or transported to the site from remote locations, which is contaminated with material containing asbestos, PCB, Radon, gasoline, fuel oil, diesel fuel or other similar fossil fuels shall be used to fill backfill or landscape topsoil.
- D. The Contractor shall require that each of their Subcontractors and material suppliers warrants to City and Engineer, that all materials, products, and assemblies incorporated, or submitted for incorporation into this Project, are totally free of asbestos, PCB, or other such hazardous materials. This warranty shall include all materials, products and assemblies specified and otherwise required in the Contract Documents. This warranty shall also include all materials, components and accessories not specifically enumerated or detailed in these Contract Documents, but which are required by performance specifications or recommended by manufacturers for complete installation of materials, products, and assemblies. If the Contractor or their Subcontractors or material suppliers have knowledge that, or believe that an item, component, material or accessory within a product or assembly may contain asbestos, PCB or other such hazardous material, it is the Contractor's sole responsibility to secure a written certification from the manufacturer of any suspected material stating this material is totally free of asbestos, PCB or other hazardous materials.
- E. A copy of the Products that are specified by reference standards or in descriptive manner without a manufacturer's name, model number or trade name, shall be selected by the Contractor, shall comply with all specified requirements, and shall not contain asbestos, PCB or other hazardous materials in any form. The Contractor shall be responsible for determining that materials requested for substitution are totally free of asbestos, PCB or other similar materials known to endanger the health and safety of construction workers and future building occupants written certification shall be submitted to the Owner and Engineer.

1.05 WORKMANSHIP

- A. Follow the manufacturer's instructions. When instructions conflict with Contract Documents, make request for clarification before proceeding. Maintain a copy of manufacturer's instructions at Project site.
- B. Comply with industry standards except when specified tolerances indicate more rigid standards or more precise workmanship. Perform work by qualified people to produce workmanship of specified quality.
- C. Join materials to uniform, accurate fit to meet with straight lines free of smears and overlaps. Install exposed materials appropriately level, plumb, and at accurate right angles or flush with adjoining materials. Attach materials with sufficient strength, number, and spacing of attachments that will not fail until materials joined are broken or permanently deformed.

1.06 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard or description, provide any product meeting specifications.
- B. For products specified by naming one or more products or manufacturers, request for substitution for any product not named is required
- C. For products specified by naming one or more products or manufacturers with no substitutions permitted, provide one of named products.
- D. Where items of methods, materials, systems, and equipment are specified as products of certain named manufacturers, products of those named manufacturers, or approved equivalents, are acceptable. Certain specified construction and equipment details may not be regularly included as part of the named manufacturer's standard catalog equipment but shall be provided by the manufacturer as required for the proper functioning of the equipment. The Contractor shall assume full responsibility to assure that the manufacturer provides materials and equipment conforming to indicated and specified requirements. Reasonable minor variations in equipment due to manufacturing methods are expected and will be acceptable; however, indicated, and specified performance and material requirements are minimum. The Engineer reserves the right to determine equality of equipment that deviates from any of the indicated and specified requirements.
- E. Naming any manufacturer does not imply approval of that manufacturer's nonconforming products.
- F. The Contractor shall include in the Work; the materials, products and equipment named in the Contract Documents by trade name, proprietary name or manufacturer's catalog numbers, including any specified modifications thereto unless proposed substitutions are approved in writing by the Design Team.

1.07 SUBSTITUTIONS

- A. The Engineer will consider formal requests from Contractor and Vendor for product substitutions.

1. The contractor shall submit written requests using Section 01 2500.01 Substitution Form to Engineer for review and consideration of proposed substitution.
 2. Each proposed substitution shall require Engineer's written approval prior to inclusion in Work.
 3. Any request not to use a complete Substitution Form will not be considered.
- B. Submit separate requests for each substitution in compliance with Section 01 2500. Support each request with:
1. Complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
 2. Product identification including manufacturer's name and address.
 3. Manufacturer's product data including product description, reference standards, and performance and test data.
 4. Samples as applicable.
 5. Name and address of similar projects on which product has been installed and date of each installation.
 6. Itemized comparison of proposed substitution with product specified. List significant variations including costs.
 7. Data relating to changes in construction schedule.
 8. List of changes required in other Work or products.
 9. Designation of required license fees or royalties.
 10. Designation of availability of maintenance service and source of replacement materials.
- C. Substitutions will not be considered for acceptance when they are indicated or implied on Shop Drawings or Product Data Submittals without formal requests from the Contractor or when acceptance will require substantial revision of Contract Documents.
- D. When a request for substitution is denied, the General Contractor shall provide specified Product.
- E. Substitute products shall not be installed without an Engineer's written acceptance or prior approval.
- F. Where the shop drawings, product data and/or samples as submitted by Contractor indicate a departure from the Contract which Engineer deems to be a minor adjustment in the interest of Owner, not involving a change in the Contract Price or Contract Time, Engineer will approve the data/drawing, but the approval will contain, in substance, the following notation:

"The modification shown on the attached data/drawings is approved in the interest of Owner to effect an improvement for the Project and is accepted with the understanding that it does not involve any change in the Contract Price or Contract Time; that it is subject generally to all Contract stipulations and covenants; and that it is without prejudice to any and all rights of Owner under the Contract and Bond or Bonds."

Approval by Engineer of shop drawings, product data and/or samples will be general and shall not relieve Contractor from the responsibility of adherence to the Contract, nor shall it relieve him of the responsibility for any error which may exist or result.

1.08 CONTRACTOR'S REPRESENTATIVE

- A. In making formal request for substitution, Contractor/Subcontractor represents:
1. He has investigated proposed product and has determined it is equal to or superior to specified product.
 2. He will provide the same warranties and bonds for substitutions as for specified product.
 3. He certifies cost data presented is complete and includes all related costs under this Contract but excludes any Engineer's redesign costs and waives all claims for additional costs related to substitution which subsequently becomes apparent. Any redesign costs from use of substitution are the responsibility of the contractor.
 4. He will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.
 5. He waives claims for additional costs caused by substitution which may subsequently become apparent or unforeseen at the time of approval.

1.09 ENGINEER'S DUTIES

- 1.09.1 Review Contractor's requests for substitutions with reasonable promptness.
- 1.09.2 Notify Contractor, in writing, of decision for acceptance or rejection of requests for substitution.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 2500

SECTION 01 2500.01
PRODUCT SUBSTITUTION REQUEST FORM

TO:

FROM:

Name of Company _____

Street Address

City and State

Phone Number and Name of Person to Contact

PROJECT:

1. Specification Section and Paragraph Numbers of product specified: _____

2. Proposed Substitution:

a. Name and Model No. _____

b. Manufacturer: _____

Name

Address

Phone

c. Description:

d. Attach applicable performance and test data.

e. Numbers of applicable reference standards.

f. Attach a color chart, if applicable.

g. Attach installation instructions.

3. Manufacturer's Reputation: Attach the following:

a. Evidence of reputation for prompt delivery.

b. Evidence of reputation for efficiency in servicing products.

01 2500.01-1

4. Comparison: Attach an itemized comparison of the proposed substitution with product specified, including all reference standards related to the product.
5. Previous Installation: Provide the following information on similar projects on which proposed substitution was used, list projects in both the locale of the project and the Atlanta metro area:

Name and Address of Project	Date of Installation	Name, address, and phone number of Design Team
-----------------------------	----------------------	---

a.

b.

c.

d.

6. Changes in Work: Attach data relating to changes required in other work to permit use of proposed substitution and changes required in the construction schedule.
7. In making request for substitution, petitioner represents that he has examined the Drawings and has determined that, to the best of their knowledge, the proposed substitution is appropriate for the use intended in the Drawings and Specifications.

Signature of Petitioner/Bidder Date

END OF SECTION 01 2500.01

01 2500.01-2

SECTION 01 3100
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Provisions and other Division 1 Specification Sections, apply to this section.

1.02 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project meetings.
- B. Related Requirements:
 - 1. Section 01 7839 "Closeout Submittals" for coordinating closeout of the Contract.

1.03 DEFINITIONS

- A. RFI: Request from Contractor seeking information required by or clarifications of the Contract Documents.

1.04 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entities performing subcontractor supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

01 3100-01

Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Always keep list current.

1.05 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence are required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence are required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.

6. Preinstallation conferences.
 7. Project closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.06 COORDINATION DRAWINGS

- A. Coordination Drawings: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationships of various systems and components.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Indicate required installation sequences.
 - f. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to the Design Team indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 2. Review: Design Team will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If the Design Team determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Design Team will inform Contractor, who shall make changes as directed and resubmit.

01 3100-03

1.07 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Design Team/Owner's Representative will return RFIs submitted to Design Team/Owner's Representative by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. Name of Design Team's Prime Consultant/Owner's Representative.
 - 6. RFI number, numbered sequentially.
 - 7. RFI subject.
 - 8. Specification Section number and title and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.
 - 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 12. Contractor's signature.
 - 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716 or software-generated form with substantially the same content as indicated above, acceptable to Design Team/Owner's Representative.
 - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Design Team's Action: Design Team will review each RFI, determine action required, and respond. Allow seven working days for the Design Team's response for each RFI. RFIs received by Engineer after 1:00 p.m. will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:

- a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Design Team's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Design Team's action may include a request for additional information, in which case Design Team's time for response will date from time of receipt of additional information.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit logs monthly. Use CSI Log Form 13.2B. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Design Team's Prime Consultant.
 4. RFI numbers, including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Design Team's response was received.
- F. On receipt of the Design Team's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Design Team within seven days if Contractor disagrees with response.

1.08 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify the Owner and Design Team of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Contractor will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including the Owner and Design Team, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Design Team, but no later than 15 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of the Owner, Design Team, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference.

01 3100-05

Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect progress including, but not limited to, the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of recorded documents.
 - m. Use of the premises.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Construction waste management and recycling.
 - s. Office, work, and storage areas.
 - t. Security.
 4. Minutes: Contractor will record and distribute meeting minutes.
- C. Pre-installation Conferences: Contractor shall conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Design Team/Owner's Representative of scheduled meeting dates.
 2. Agenda: Review of the progress of other construction activities and preparations for the activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.

- j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
- 3. Contractors shall record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requesting information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to the performance of the Work and reconvene the conference at the earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Design Team/Owner's Representative, but no later than 30 days prior to the scheduled date of Substantial Completion.
- 1. The contractor shall conduct the conference to review requirements and responsibilities related to Project closeout.
 - 2. Attendees: Authorized representatives of the Owner, Design Team, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of recorded documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for delivery of material samples, attic stock, and spare parts.
 - f. Requirements for demonstration and training.
 - g. Preparation of Contractor's punch list.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.

- i. Submittal procedures.
 - j. Coordination of separate contracts.
 - k. Owner's partial occupancy requirements.
 - l. Installation of Owner's furniture, fixtures, and equipment.
 - m. Responsibility for removing temporary facilities and controls.
 - 4. Minutes: Contractor shall record and distribute meeting minutes.
- E. Progress Meetings: Contractor shall conduct progress meetings at monthly intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of the Owner and Design Team, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review the present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of shop drawing reviews.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.

- 18) Documentation of information for payment requests.
- 4. Minutes: Contractor shall record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 3100

SECTION 01 3216
CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 SCOPE

- A. The work under this Section includes preparing, furnishing, distributing, and periodic updating of the construction schedules as specified herein.
- B. The purpose of the schedule is to demonstrate that the Contractor can complete the overall Project within the Contract Time and meet all required interim milestones.

1.02 QUALITY ASSURANCE

- A. The development of the Overall Project Schedule (OPS) shall be by a party who has experience performing CPM scheduling utilizing the scheduling software on projects of similar type, size, and complexity.

1.03 SUBMITTALS

- A. Overall Project Schedule (OPS)
 - 1. Submit the OPS within 10 days after the date of the Notice to Proceed.
 - 2. The Owner's Representative will review the schedule and return it within 5 days after receiving receipt.
 - 3. If required, resubmit corrected schedule within 5 days after receipt of a returned copy.
- B. Near Term Schedule (NTS)
 - 1. Submit the first Near Term Schedule within 10 days of the Notice to Proceed.
 - 2. The Owner's Representative will review the schedule and return it within 5 days after receiving receipt.
- C. Schedule of Values (SOV)
 - 1. Submit the SOV within 10 days after the date of Notice to Proceed.
 - 2. The Owner's Representative will review the SOV and return a reviewed copy within 5 days after receipt.
 - 3. If required, resubmit corrected SOV within 5 days after receipt of a returned copy, or before submittal of first Application for Payment.
- D. Submit an update of the OPS, NTS, and narrative with each progress payment request. Provide each update on a CD or flash drive, and an 11-inch x 17-inch copy.

1.04 APPROVAL

- A. Approval of the Contractor's construction schedule and revisions thereto shall in no way relieve the Contractor of any of Contractor's duties and obligations under the Contract. Approval is limited to the format of the schedule and does not in any way indicate approval of, or concurrence with, the Contractor's means, methods, and ability to carry out the work.

1.05 OVERALL PROJECT SCHEDULE (OPS)

- A. The Contractor shall submit to the Owner for approval a detailed OPS of the Contractor's proposed operations for the duration of the Project. The OPS shall be in the form of a Critical Path Method bar chart.
- B. Critical Path Method Schedule
 - 1. Each activity shall be identified by a separate bar. Activities with a duration of more than 30 days shall be sub-divided into separate activities. Activities shall be grouped into separate areas of construction of the entire Project.
 - 2. The schedule shall include activities for shop drawing preparation and review, fabrication, delivery, and installation of major or critical path materials and equipment items.
 - 3. The schedule shall show the proposed start and completion date for each activity. A separate list of activity start and stop dates and working day requirements shall be provided.
 - 4. The schedule shall identify the Notice to Proceed date, the Contract Completion date, major milestone dates, and a critical path.
 - 5. The schedule shall be printed on a maximum 11-inch x 17-inch size paper. If the OPS needs to be shown on multiple sheets, a simplified, one-page summary bar chart showing the entire Project shall be provided.
 - 6. The schedule shall have a horizontal time scale based on calendar days and shall identify the Monday of each week.
 - 7. The schedule shall show the precedence for each activity.
 - 8. Activities shall show relationships to other activities using arrows.

1.06 NEAR TERM SCHEDULE (NTS)

- A. The Contractor shall develop and refine a detailed NTS showing the day-to-day activities with committed completion dates that must be performed during the upcoming 30-day period. The detailed schedule shall represent the Contractor's best approach to the work that must be accomplished to maintain progress consistent with the OPS.
- B. The NTS shall be in the form of a Critical Path method bar chart and shall include a written narrative description of all activities to be performed and describe corrective action to be taken for items that are behind schedule.

1.07 UPDATING

- A. Show all changes occurring since the previous submission of the updated schedule.
- B. Indicate progress of each activity and show actual completion dates.

- C. The Contractor shall be prepared to provide a narrative report at the Project Coordination Meetings. The report shall include the following:
1. A description of the overall Project status and comparison to the OPS.
 2. Identify activities that are behind schedule and describe corrective action to be taken.
 3. A description of changes or revisions to the Project and their effect on the OPS.
 4. A description of the NTS of the activities to be completed during the next 30 days. The report shall include a description of all activities requiring participation by the Owner's Representative and/or Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 3216

SECTION 01 3233
CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 SUMMARY

- A. Provisions in this Section are mandatory procedures for preparing and submitting construction photographs.
- B. The Contractor shall furnish all equipment, labor, and materials required to provide the City with digital construction videos and photographs of the Project.

1.02 PHOTOGRAPHS

- A. Progress Photographs
 - 1. Prior to the beginning of any work, the Contractor shall take Project videos of the work area to record existing conditions.
 - 2. Take progress photographs daily. Schedule photography to allow submittal of photos with monthly Application for Payment.
 - 3. Take photographs beginning the first month of construction activity and terminating at Date of Final Acceptance.
 - 4. Take photographs on the same day each month, weather permitting, and at same time of day.
 - 5. Standard locations of which photos will be taken will be selected by the Owner's Representative. Take photos of the same standard location each month, unless otherwise directed by Owner's Representative. Assign a number to each of the standard photo locations, in comparison with previous and future submittals.
 - 6. In addition to photographs of standard locations, take photographs which best show significant elements of the work. Locations for these photos shall be selected by the Contractor. Assign a number to each of the non- standard photograph locations, for comparison with previous and future submittals.
- B. Color Aerial Photographs
 - 1. Contractor to provide aerial photography at the following intervals:
 - a. Before construction starts.
 - b. Monthly with pay requests.
 - c. Upon completion of construction at Final Acceptance.

1.03 SUBMITTAL OF PHOTOGRAPHS

- A. Progress Photographs
 - 1. Submit electronic photographs with Contractor's Application for Payment.

2. Format and progress photographs: Provide electronic file in .jpg format. Photographs shall include the date and time marking of the recording.
3. Identify each photograph with photograph number, location, and element of work. Provide written description of photograph number, project name, date, and Contractor's name.

B. Color Aerial Photographs

1. Smith Aerial Service: 404/531-6448 or approved equal.
 - a. Size:
 - i. 8 by 10-inches for submittal with payrequests.
 - ii. 8 by 10-inches of 4 viewpoints, selected by Owner, of approved, finished work.
 - b. Print on glossy, photo quality paper.
 - c. Provide a high resolution ".jpg" file of each and all images.
 - d. Mounting:
 - i. Identify each print on the back with:
 1. Name of Project.
 2. Name of Owner's Representative.
 3. Name of Contractor.
 4. Name and address of photographer.
 5. Date photograph was taken.
 6. Description of vantage point.
 - ii. Enclose back-to-back in clear plastic sleeves that are punched for a standard 3-ring binder.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 3233

SECTION 01 3300
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 02 through 33 Sections for specific requirements for submittals in those Sections.

1.03 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Design Team's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require the Design Team's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users can access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.04 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Design Team and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Design Team's and Construction Manager's final release or approval.
 - g. Scheduled date of fabrication.
 - h. Scheduled dates for purchasing.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.04 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Design Team's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by the Design Team for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of the need to review submittals concurrently for coordination.
 - a. Design Team and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on the Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow a reasonable period while allowing sufficient time in the Design Team's professional judgment to permit adequate review for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. The Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in the same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. General: Submittals shall be transmitted via e-Builder software or approved equal unless, in the opinion of the Design Team, the submission of electronic information would place an undue burden on the Contractor or their Subcontractor.
 2. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 3. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use capital letters "HP", space and Specification Section number followed by a hyphen and then a sequential number (e.g., HP 042000). Resubmittals shall include a number suffix after another hyphen (e.g., HP 042000-01-01).

4. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Design Team and Construction Manager.
5. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software acceptable to the Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Design Team/Owner's Representative.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
- E. Options: Identify options requiring selection by the Design Team.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Design Team and Construction Manager on previous

submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Design Team and Construction Manager's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Design Team and Construction Manager's action stamp.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Post electronic submittals as PDF electronic files via e-Builder or approved equal.
 - a. The Design Team, through Construction Manager, will return the annotated file. Annotate and retain one copy of a file as an electronic Project record document file.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data is not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:

- a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
- a. Wiring diagrams show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances are required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:
- a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
- a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationships and attachment to adjoining construction clearly indicated.

- g. Seal and signature of professional engineer if specified.
 - 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
 - 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
 - D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 - 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 - 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 - 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 - 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

- a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. The Design Team, through Construction Manager, will return submittal with options selected.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- G. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- H. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.

6. Test procedures and results.
7. Limitations of use.
- L. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- M. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- N. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- O. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.02 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If the criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to the Design Team.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file copy of certificate, signed and sealed by the design professional responsible, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note

corrections and field dimensions. Mark with approval stamp before submitting to Design Team and Construction Manager.

- B. Approval Stamp: Stamp each submittal with uniform approvals. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 DESIGN TEAM AND CONSTRUCTION MANAGER'S ACTION

- A. Action Submittals: Design Team and Construction Manager will review each submittal, make marks to indicate corrections or revisions required, and return them. The Design Team and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Design Team and Construction Manager will review each submittal and will not return it or will return it if it does not comply with requirements. The Design Team and Construction Manager will forward each submittal to an appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Design Team and Construction Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Design Team without action.

END OF SECTION 01 3300

SECTION 01 3310
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.01 SCOPE

- A. The work under this Section includes submittal to the Owner's Representative of shop drawings, product data and samples required by the various Sections of these Specifications.
- B. Submittal Contents: The submittal contents required are specified in each Section. All electronic submittals shall be made using Newforma (or approved equal) project management software.
- C. Definitions: Submittals are categorized as follows:
 - 1. Shop Drawings
 - a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements, and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or an appropriate number of prints hereof, with name or preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note dimensions that are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawings to be used in connection with the work without appropriate final "Action" markings by the Owner's Representative.
 - c. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, Specification Section, schedule, or room numbers shown on the Contract Drawings.
 - d. Drawings to be submitted in pdf format unless full-size hard copies are necessary for clarification.
 - e. Minimum detail sheet size shall be 8-1/2 x 11-inches.
 - f. Minimum Scale:
 - (1) Assembly Drawings Sheet, Scale: 1-inch = 30 feet.
 - (2) Detail Sheet, Scale: 1/4-inch = 1 foot.
 - 2. Product Data
 - a. Product data includes standard printed information on materials, products, and systems, not specially prepared for this Project, other than the designation of selections from among available choices printed therein.
 - b. Collect the required data into one submittal for each unit of work or system and mark each copy to show which choices and options are applicable to the Project. Include manufacturer's standard printed recommendations for

application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.

- c. Submit in pdf format unless hard copies are necessary for clarification.

3. Samples

- a. Samples include both fabricated and un-fabricated physical examples of materials, products, and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or, where indicated, for more detailed testing and analysis.
 - b. Provide units identical with final condition of proposed materials or products for the work. Include “range” samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide a full set of optional samples where the Owner’s Representative selection is required. Prepare samples to match the Owner’s Representative sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture, and “kind” by the Owner’s Representative. Owner’s Representative will note “test” samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.
4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and similar information, devices and materials applicable to the work but not processed as shop drawings, product data or samples.

1.02 SPECIFIC CATEGORY REQUIREMENTS

- A. General: Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:
 - 1. The date of submittal and the dates of any previous submittals.
 - 2. The Project title.
 - 3. Numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.
 - 4. The Names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the Specification Section number, permanent equipment tag numbers and applicable Drawing No.
 - 6. Field dimensions clearly identified as such.

7. Relation to adjacent or critical features of the work or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Notification to the Owner's Representative in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.
10. Identification of revisions on resubmittals.
11. An 8 x 3-inch blank space for Contractor and Owner's Representative stamps.
12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the work and of Contract Documents.
13. Submittal sheets or drawings showing more than the item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.03 ROUTING OF SUBMITTALS

A. Submittals and routine correspondence shall be routed as follows:

1. Supplier to Contractor (through representative if applicable)
2. Contractor to Owner's Representative
3. Owner's Representative to Contractor and Owner
4. Contractor to Supplier

PART 2 PRODUCTS

NOTE:

All references to vendors and "approved manufacturers" are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by the City of Decatur.

2.01 SHOP DRAWINGS

- A. Unless otherwise specifically directed by the Owner's Representative, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work.
- B. Submit all shop drawings in the form of digital PDF.

2.02 MANUFACTURER'S LITERATURE

- A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal clearly indicates which portion of the contents is being submitted for the Owner's Representative review.
- B. Submit the number of copies which are required to be returned (not to exceed three) plus three copies which will be retained by the Owner's Representative.

2.03 SAMPLES

- A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.
- B. Unless otherwise specifically directed by the Owner's Representative, all samples shall be of the precise article proposed to be furnished.
- C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Owner's Representative.
- D. All material samples shall be both scanned and submitted electronically and mailed to the appropriate Owner's Representative.

2.04 COLORS

- A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Owner's Representative for review and selection.
- B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, they completely describe the relative costs and capabilities of each.

PART 3 EXECUTION

3.01 CONTRACTOR'S COORDINATION OF SUBMITTALS

- A. Prior to the submission for the Owner's Representative review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:
 - 1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
 - 2. Coordinate as required with all trades and all public agencies involved.
 - 3. Submit a written statement of review and compliance with the requirements of all applicable technical Specifications as well as the requirements of this Section.
 - 4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.
- B. Each copy of the shop drawings and data shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Owner's Representative without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.
- C. The Owner may back charge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a "No Exceptions Taken" mark.

D. Grouping of Submittals

1. Unless otherwise specifically permitted by the Owner's Representative, make all submittals in groups containing all associated items.
2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Owner's Representative along with Contractor's comments as to compliance, non-compliance or features requiring special attention.

E. Schedule of Submittals

1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility. The schedule shall provide for the submittal of items which relate to one another to be submitted concurrently.

3.02 TIMING OF SUBMITTALS

- A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
- B. In scheduling, allow sufficient time for the Owner's Representative review following the receipt of the submittal.

3.03 REVIEWED SHOP DRAWINGS

A. Owner's Representative Review

1. Allow a minimum of 14 days for the Owner's Representative's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals. The Owner's Representative will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two weeks for reprocessing each submittal. Advise the Owner's Representative on each submittal as to whether processing time is critical to the progress of the work, and therefore the work would be expedited if processing time could be foreshortened.
2. Acceptable submittals will be marked "No Exceptions Taken". A minimum of three copies will be retained by the Owner's Representative for Owner's Representative, and the Owner's use and the remaining copies will be returned to the Contractor.
3. Submittals requiring minor corrections before the product is acceptable will be marked "Make Corrections Noted". The Contractor may order, fabricate, and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for review and marked "No Exceptions Taken" prior to installation or use of products.
4. Submittals marked "Amend and Resubmit" must be revised to reflect required

- changes and the initial review procedure repeated.
5. The “Rejected - See Remarks” notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.
 6. Only two copies of items marked “Amend and Resubmit” and “Rejected - See Remarks” will be reviewed and marked. One copy will be retained by the Owner’s Representative and the other copy with all remaining unmarked copies will be returned to the Contractor for resubmittal.
- B. No work or products shall be installed without a drawing or submittal bearing the “No Exceptions Taken” notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Owner’s Representative stamp.
- C. Substitutions: In the event the Contractor obtains the Owner’s Representative approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Owner’s Representative, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.
- D. Use of the “No Exceptions Taken” notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials, and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Owner’s Representative review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to ensure confirmation with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.04 RESUBMISSION REQUIREMENTS

- A. Shop Drawings
1. Revise initial Drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.
 2. Indicate on Drawings all changes which have been made other than those requested by the Owner’s Representative.
- B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION 01 3310

APPENDIX I
SUBMITTAL INFORMATION AND SCHEDULES

PROJECT _____

CONTRACTOR _____

CONTRACTOR'S ADDRESS _____

PROJ. MANAGER _____ PHONE (____) _____ FAX (____) _____

SUPERINTENDENT _____ PHONE (____) _____ FAX (____) _____

MOBILIZATION DATE _____

PROJECTED SUBMITTAL DATES (SAMPLE)

SUBMITTAL	DATE	SUBMITTAL	DATE		

Remarks:

COMPLETED BY _____ DATE _____

END OF APPENDIX

SUBMITTAL INFORMATION AND SCHEDULES
01 3330-APPENDIX 1

Section 01-4500
Quality Control

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

1.02 SUMMARY

- A. This section specifies administrative and procedural requirements for quality control services.
- B. Quality Control Services include inspections and tests and related actions including reports performed by independent agencies, governing authorities, and the Contractor. They do not include Contract Administration field activities performed by the Owner's Representative.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.
 - 2. Inspections, tests and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Documents required.
 - 3. Requirements for the Contractor to provide quality control services required by the Designer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.03 RESPONSIBILITIES

- A. Contractor Responsibilities: The Contractor shall provide and pay for inspections, tests and similar quality control services required by GDOT, City, County, and State codes or ordinances, or by a plan approval authority and which are made by a legally constituted authority, unless otherwise provided by the Contract Documents.
- B. The Contractor is responsible for testing and retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.

Quality Control
01 4500-1

1. The cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
 2. Materials and work covered without testing and approval, if required, shall be uncovered, and subsequently recovered at the Contractor's expense.
- C. The Contractor shall advise the Owner's Representative and the respective inspection and testing agency not less than 48 hours prior to beginning work to be inspected or tested and ensure that proper facilities and cooperation are provided and that no work is carried out without required testing.
- D. The Contractor shall provide storage for storing and curing concrete specimens at the project site.
- E. The Contractor will provide inspections, tests and similar quality control services
- F. If desired, The Owner reserves the right to choose to employ and pay for the services of an independent testing agency, testing laboratory or other qualified firm to perform a check in material testing services.

1.04 COORDINATION

- A. The Contractor and each agency engaged to perform inspections, tests, and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition, the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
- B. The Contractor shall include adequate time for testing and issuing of test results in the construction schedule.

1.05 SUBMITTALS

- A. The independent testing agency shall submit a certified written report of each inspection, test, or similar service, to the Owner's Representative, the contractor and the Owner with each monthly Application of Payment.

- B. Report Data: Written reports of each inspection, test, or similar service shall include but not be limited to:

1. Project Name.
2. Date report issued.
3. Name, address and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making inspections.
6. Identification of product and Specification Section.
7. Designation of the work and test method.
8. Test results and interpretation of test results.
9. Ambient conditions at the time of sample taking and testing.

1.06 QUALITY ASSURANCE

- A. Qualification for Testing Agency: Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specializes in the types of inspections and tests to be performed.
- B. Tests and inspections shall be conducted in accordance with specified requirements, and if not specified, in accordance with the applicable standards of the American Society for Testing and Materials (ASTM) or other recognized and accepted authorities in the field.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 4500

Quality Control
01 4500-3

SECTION 01 5100
EROSION, SEDIMENTATION AND POLLUTION
CONTROL

1.01 SCOPE

- A. The Work specified in this Section consists of furnishing, installing, and maintaining temporary erosion controls and temporary sedimentation controls, and pollution controls (air, water, soil) as specified herein and as shown on Drawings. The work shall include all labor, equipment, and materials, and performing all operations in connection with site preparation through final site stabilization.
- B. Erosion and sediment control "Best Management Practices" shall be installed prior to land disturbing activities and concurrent land disturbing activities and shall be properly maintained until a permanent vegetative cover is provided on all disturbed areas. Contractor shall strictly adhere to the Erosion, Sedimentation, and Pollution Control Plans (ES&PCP).
- C. Erosion control measures shall be maintained at all times. Added erosion and sedimentation control measures shall be installed if deemed necessary by on-site inspections by the local governing authority.
- D. Temporary erosion controls shall include grassing, mulching, watering, and reseeding on-site sloped surfaces, providing berms and/or ditches at the top of the slopes and providing interceptor ditches at the ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or minimized. Contractor shall anticipate multiple temporary polyacrylamide (PAM), grassing and mulching applications to the construction site during the construction period.
- E. Temporary sedimentation controls shall include silt dams, traps, barriers, and appurtenances (refer to ES&PCP) facilities, etc.
- F. The Contractor is the "Operator" and along with the Owner, the Primary Permittee as defined in the Permit (see next sentence for definition of Permit). The Contractor is responsible for all daily, weekly, monthly or any other on-site inspections and maintenance of the Erosion, Sediment and Pollution Control measures as required by the Authorization To Discharge Under the National Pollutant Discharge Elimination System Storm Water Discharges Associated With Construction Activity for Infrastructure Construction Projects General Permit No. GAR 100002 (hereafter and above referred to as the Permit) as well as other specific responsibilities of the Permit including documentation of deficiencies and repairs of deficiencies. All such responsibilities of the Permit are hereby a part of Contractor's work. All inspections shall be documented, and copies of the documentation will be submitted to the Owner and Owner's Testing Agency on a weekly basis. The Contractor shall keep all records of inspections, repairs, maintenance, reinspection's and any other documentation required by the permit on site and available for review by the regulating authorities. Any punitive or other enforcement actions levied by any regulating authority for failure to comply with the permit are the responsibility of the Contractor and will be paid by the Contractor. All discharge sampling and reporting of sampling shall be the responsibility of the Contractor. Copies of the discharge sample results will be provided to the Owner and Owner's Testing Agency.

SECTION 01 5100-01

1.02 REGULATORY REQUIREMENTS

- A. The manual for Erosion and Sediment Control in Georgia, Latest Edition, as published by the Georgia Soil and Water Conservation Commission, "Best Management Practices", shall apply to all land disturbing activities.
- B. The State of Georgia Department of Natural Resources Environmental Protection Division "National Pollutant Discharge Elimination System: General Permit No. GAR 100002" (NPDES GAR 100002), shall apply to all land disturbing activities for this Project.

1.03 SUBMITTALS

- A. Schedule of Operations: Submit schedule of proposed operations conforming with the "SWPPP Implementation Sequence" as delineated on the ES&PCPs, including program for erosion control measures, logs, documentation, identified superintendent with required continuing education certification, maintenance of control facilities and vegetative practices. Show anticipated starting and completion dates for land-disturbing activities including excavation, filling, and rough grading, finished grading, construction of temporary and permanent control measures, and disposition of temporary sediment control measures.
- B. Submit a sample of erosion control blanket "Tensar North American Green BioNet C125BN" or approved equal for all disturbed areas requiring blankets or matting, where indicated in the Contract Documents.
- C. Submit samples of anionic polyacrylamide (PAM) and PAM gel bars or logs or approved equal.
- D. As required by the Permit and ES&PCPs, submit written notification requesting the Initial Inspection by the Engineer to the Owner as soon as feasible.
- E. Submit Notice-of-Termination (NOT) to Georgia DNR-EPD, along with the Owner, at such time as the site meets the Permit requirement for same.

1.04 PROJECT CONDITIONS

- A. Furnish and install erosion control measures prior to any land disturbance activity. Contractor shall conform with the Land Disturbance Activities Sequence. Contractor shall protect all waterways (including wetlands, lakes, ponds, streams, and rivers) from siltation and pollution trespass. Sediment trespass into any waterway shall be the Contractor's responsibility and said sediment shall be removed by the Contractor at no additional cost to the Owner.
- B. Schedule grading operations to allow permanent erosion control to take place in the same construction season. Avoid or minimize exposure of soils to winter weather. Maintain all controls until vegetative cover has been established.
- C. Construct and maintain temporary erosion control measures until such time as permanent paving, planting and restoration of natural areas is effective in control of erosion from the site. Extent of erosion control construction shall be responsibility of Contractor.

SECTION 01 5100-02

- D. Protect adjacent and downstream properties from any siltation or sedimentation from disturbed areas.
- E. For disturbed areas left idle for fourteen calendar days, Contractor shall apply temporary grassing and mulch.
- F. The Contractor is responsible for all quantities of soil erosion control measures regardless of if shown on the Drawings. The extent of soil erosion control measures shown on the Drawings should be considered minimum.

1.05 QUALITY CRITERIA AND DOCUMENTATION

- A. Procedures shall comply with "Manual for Erosion and Sediment Control in Georgia", Latest Edition published by the Georgia Soil and Water Conservation Committee. In order to conform with the State of Georgia, Federal Clean Water Act, Contractor shall be required to file a "Notice of Intent" with the State's Environmental Protection Division (EPD) fourteen calendar days prior to land disturbance activities with both the Owner's signature and the Contractor's signature. Contractor will also be required to keep a logbook on site documenting the Contractor's inspection of erosion control devices (minimum once/week and within 24 hours of any storm event of .5-inch or above) and noting any corrections or modifications. The Contractor shall document all rainfall events at the construction trailer within said logbook. This will be subject to review by the Georgia EPD. Contractor shall also file a "Notice of Termination" when the site is fully stabilized, and all storm water discharge associated with the construction activity has ceased. The Contractor shall coordinate and assist the Owner's testing firm with the required storm water monitoring requirements and maintain a logbook on site at all times with monitoring reports prepared by the Owner's testing firm.

1.06 PROTECTION OF ADJACENT PROPERTY AND STATE WATER BUFFERS

- A. Protection from sediment trespass into existing State Water Buffers and adjacent property is of the essence. Contractor shall flag and fence buffers, tree save areas and property lines prior to any construction activities. Stream Buffers (State Water Buffers) shall be appropriately flagged and protected as shown on the approved "Erosion, Sedimentation & Pollution Control Plans". Said buffers shall be identified with signage during the construction period. Said Signage shall read as follows:

"STATE WATER BUFFER - DO NOT DISTURB"

Signs shall be placed at forty-foot intervals, parallel with any State Water Buffer identified on the plan(s). Signs shall be weatherproof and shall be a minimum size of 11-inch X 17-inch.

- B. Adequately protect adjacent property including sidewalks, curbing, roadways, and all utilities therein. It shall be the Contractor's responsibility to restore to their original condition any damage to existing facilities resulting from the Contractor's activities.
- C. When grading or clearing adjacent to property lines, mark all property lines between the Project and adjacent property owners to ensure no damage is done to adjacent property.

SECTION 01 5100-03

1.07 PROTECTION OF EXISTING FACILITIES

- A. The Contractor shall be responsible for protection of all existing facilities which are to remain. Items included herein are existing pavements, water lines, sewer lines, fences, drainage structures, survey monuments, power lines, telephone lines, etc. Contractor shall restore any damaged facilities due to construction activities, to their original condition at no additional cost to the Owner.

1.08 PROTECTION OF EXISTING TREES AND VEGETATION

- A. Under no circumstances shall any vegetation be cut or otherwise damaged which has been shown on the Drawings to be saved or marked by the Owner's Representative or Owner to be saved.
- B. All trees and vegetation marked to be saved shall be protected by temporary barricades, be watered and maintained where necessary and replaced when damaged during construction. Root systems cut or damaged during construction shall be protected from additional damage and covered with soil as soon as possible.

1.09 EROSION, SEDIMENT AND POLLUTION CONTROL SUPERINTENDENT

- A. Contractor shall provide a designated representative to remain on site during land disturbance activities with a minimum of five years' experience in erosion, sediment and pollution control, along with erosion and sediment control continuing education credentials. Said representative shall oversee land disturbance operations with an emphasis on "being prepared" for rain events, through strict adherence to the land disturbance construction activities sequence, strict adherence to all "Best Management Practices" as defined in the "Manual for Erosion and Sediment Control in Georgia" and through proper earth shaping, terracing, berming, maximizing storm water travel lengths, minimizing storm water path slopes, immediate mulching, fertilizing, grassing, and site stabilization through every means possible. This designated representative shall be "Qualified Personnel" as defined by the NPDES GAR 100002 and shall be Level 1a and 1b trained in accordance with NPDES GAR 100002.

1.10 HAZARDOUS WASTE

- A. All hazardous waste materials shall be disposed of in a manner specified by Georgia State Solid Management regulations. All personnel shall be informed and instructed regarding the correct procedure for waste disposal. Notices stating these procedures shall be posted in the construction office and the construction superintendent shall be responsible for ensuring that these procedures shall be followed.

1.11 SANITARY WASTE

- A. All sanitary waste shall be collected from the portable units, as necessary, by a Georgia State licensed sanitary waste management Contractor, or as required by local regulations.

1.12 TEMPORARY FUELING TANK AREA

- A. Temporary fueling tanks shall have a Georgia E.P.D. approved secondary containment (liner system) basin to prevent and/or minimize site contamination.

- B. Temporary fueling tank locations shall be located remotely from drainage ways, drainage systems, and state waters (streams, springheads, etc.).

1.13 EQUIPMENT MAINTENANCE AREA

- A. Equipment maintenance areas shall be clearly identified with signage. Said signage shall read as follows:

Equipment Maintenance Area

Discharge of new or used oil, fuel, lubricants, etc., is prohibited. Utilize containment/capture systems. Recycle used oils, contaminated fuels and lubricants. Illegal discharges are subject to fines and penalties.

- B. Sign shall be weatherproof and have a minimum size of 36-inch x 36-inch.
- C. Equipment Maintenance Area(s) shall be located remotely from drainage ways, drainage systems, and state waters (streams, springheads, etc.)

1.14 STORM WATER RUNOFF QUALITY CONTROLS

- A. The Contractor shall conform to the phasing, sequencing, installation, inspection, maintenance, and stabilization requirements of the approved "Erosion, Sedimentation, and Pollution Control Plans". The Contractor shall educate all construction personnel of the importance of limiting the area of construction disturbance through appropriate phasing and intermediate stabilization of areas that have reached appropriate grades. This includes installing perimeter areas of pavements and walks, proper and rapid seedbed preparation and installation of vegetation. The Contractor shall work diligently to develop a construction mindset with the on-site personnel, which shall focus on the daily reduction of exposed land disturbance. This shall improve storm water quality due to vegetative stabilization and also allows for more efficient construction activities during the Winter "wet" season when pavement binder is in place for construction staging.

PART 2 PRODUCTS

NOTE:

All references to vendors and "approved manufacturers" are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by the City of Decatur.

2.01 TEMPORARY GRASSING MATERIALS

- A. Lime: Lime shall be finely ground limestone (Dolomite) containing not less than 85% of total carbonates and shall be ground to such a fineness that 98% will pass through a 20-mesh sieve and not less than 70% will pass through a 100-mesh sieve.
- B. Fertilizer: Fertilizer shall be complete commercial slow-release fertilizer type formula complying with State and Federal fertilizer laws. The fertilizer shall be free flowing for application with spreading equipment and delivered to the site in the original, unopened containers, which shall bear the manufacturer's certificate of compliance covering analysis. The Owner's Representative shall be furnished with duplicate copies of invoices for all fertilizer used on the Project. Fertilizer shall be the following:

1. 6-12-12; 6% Nitrogen (N), 12% Phosphorus (P), 12% Potassium(K).
 2. Ammonia Nitrate
- C. Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Grass seed shall be labeled in accordance with U. S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of Invitation of Bids. Seed shall be furnished in sealed standard containers, unless exception is granted in writing by the Owner's Representative. Seed that has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified. **The Contractor shall provide appropriate seed and or sod to match in kind, the existing grass type for each single-family parcel that may be disturbed or impacted.**
1. Common Bermuda Grass; Fresh, clean new seed testing 98% for purity and 85% for germination.
 2. Annual Ryegrass (*Lolium temulentum*). Seed: Fresh, clean, new seed testing 98% for purity and 85% for germination.
- D. Water: Water used in this work shall be furnished by the Contractor and shall be suitable for irrigation and free from ingredients harmful to plant life. The Contractor shall furnish hose and other watering equipment required for the work, including water trucks and transport.
- E. Hydromulch: Wood cellulose fiber containing no germination inhibiting or growth inhibiting agents. Characteristics shall be as follows:
1. Percent Moisture Content: 9.0% (+/- 3.0%).
 2. Percent Organic Matter: 99.2% (+/- 0.8%).
 3. Percent Ash Content: 0.8% (+/- .02%).
 4. PH: 4.8 (+/- 0.5).
 5. Water Holding Capacity: 150 grams water/100 grams fiber, minimum.

2.02 RIP RAP

- A. Stone for Rip Rap shall be consistent with Section 805 Rip Rap of the State of Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges, Latest Edition, unless otherwise shown or specified on the plans.
- B. Stone Rip Rap: Use sound, tough, durable stones resistant to the action of air and water. Slabby or shaley pieces will not be acceptable. Specific gravity shall be 2.0 or greater.

Rip rap shall have less than 66 percent wear when tested in accordance with AASHTOT-96. Unless shown or specified otherwise, stone rip rap shall be Type 1 rip rap. Process rip rap in such a manner as to produce a quarry run material including rock fines which meet the gradation for the following two (2) types:

SECTION 01 5100-06

1. Type 1 Rip Rap: The largest pieces shall have a maximum volume of two cubicfeet. At least 35 percent of the mass shall be comprised of pieces which weigh 125 pounds or more. The remainder shall be well graded down to the finest sizes. Rock fines shall comprise a maximum of 10 percent of the total mass. Rock finesare defined as material passing a No. 4 sieve.
2. Type 3 Rip Rap: The largest pieces of material shall have a maximumapproximate volume of one (1) cubic foot. At least 35% of the mass shall be comprised of pieces which weigh fifteen (15) pounds or more. The remainder shall be well graded down to the finest sizes. Rock fines shall comprise a maximumof 10 percent of the total mass. Rock fines are defined as material passing a No.4 sieve.

C. Sand-Cement Bag Rip Rap

1. The bags shall be of cotton, burlap or fiber reinforced paper capable of containingthe sand-cement mixture without leakage during handling and placing. Bags previously used for sugar or any other material which will adversely affect the sand-cement mixture shall not be used. Capacity shall be not less than 0.75 cubic foot,nor more than two cubic feet.
2. Sand and Portland cement shall be mixed at the maximum ratio of 5:1 by weightand shall obtain a minimum compressive strength of 500 psi in seven days. Forsand-cement bag rip rap, the amount of water used shall be just enough to makeup the optimum moisture content of the aggregate and cement, as determined byAASHTO T 134. When sand-cement rip rap is to be pre-bagged, the sand- cement shall be mixed dry, and after placing each course, the bags shall be wet until sufficient moisture is present for proper cement hydration.

2.03 FILTER FABRIC

- A. Silt fence shall be GA DOT - Type "C" or Type "S" ("Sensitive"), approved silt fence, as specified in the Contract Documents.

2.04 FILTER STONE

- A. Filter stone shall be crushed stone conforming to the Department of Transportation,State of Georgia Standard Specifications for Construction of Roads and Bridges – 1993 – Table 1800.01 H, Size as shown on details.

2.05 EROSION CONTROL BLANKET

- A. Slopes > 3:1 (33% or greater)
1. Tensar North American Green BioNet C125BN
 2. Or approved equal.
- B. Slopes < 3:1 (33% or less) and vegetated drainage channels
1. Tensar North America Green BioNet C125BN

2. Or approved equal

2.06 POLYARCRYLAMIDE

- A. Anionic Polyacrylamide shall be utilized on the Project in emulsion form and gel bars/logs.

PART 3 EXECUTION

3.01 EROSION AND SEDIMENTATION CONTROL

- A. Land Disturbance Activity Sequence shall be adhered to by the Contractor.
- B. Silt Fence: Trench six inch deep along silt fence line layout. Bury eight inches of fabricas detailed. In areas of concentrated flow, install multiple rows of silt fence or brace with 4 x 4 timbers and hog wire. (Refer to GA D.O.T. Standards and Specifications, Latest Edition, Section 171).
- C. The Contractor shall provide erosion control check dams as shown on the plans and as per the Manual for Erosion and Sediment Control in Georgia, Latest Edition.
- D. Erosion and sedimentation controls shall be maintained in a condition which will retain unfiltered water.
- E. The Contractor shall construct the sedimentation control devices prior to clearing and grubbing the site to ensure complete silt control.
- F. When the silt or the debris level is greater than one third of the volume or height of device, the Contractor shall remove the silt or debris to restore the proper elevation of the device.
- G. The Contractor shall have all erosion and sedimentation control devices in service and operating properly prior to completion and final acceptance of the Contract.
- H. Responsibility: The Contractor shall be solely responsible for ensuring that no silt or debris leaves the immediate construction site. Any silt area disturbed shall be returned to its natural state as directed by the Owner's Representative at the Contractor's expense.
- I. The Contractor has the option to submit additional control measures in the form of shop drawings.
- J. Temporary seeding shall be provided for all exposed soil surfaces that are not to be fine graded or landscaped within 14 calendar days. The Contractor shall anticipate multiple temporary seeding applications during the Project construction period.
- K. Temporary seeding shall be applied to any and all disturbed areas left idle for fourteen days and shall be applied no later than the 15th calendar day from last land disturbance activity (i.e., clearing, grubbing or grading).

SECTION 01 5100-08

- L. Contractor shall provide temporary grassing and mulching for all disturbed areas within seven calendar days of reaching finished grades. Contractor shall reduce area of disturbance daily through use of temporary grassing and mulching.

3.02 GRADING OPERATIONS

- A. Grading Operations: Grading operations shall be phased. Grading operations shall be scheduled so that the ground surface will be disturbed for the shortest possible time before permanent construction is installed. Large areas shall be maintained as flat as possible to minimize soil transport through surface flow. Contractor shall immediately install graded diversion channels, ditches, and berms to direct storm runoff sediment and filtering controls. Contractor shall grade fill slopes in a manner which prevents surface areas from flowing over newly constructed fill slope areas through shaping and providing required temporary downlines or diversions to permanent storm structures as construction allows.
- B. Storm Drainage System: As much of the permanent storm drainage pipes as practical shall be initially installed and surface water diverted to them. Contractor shall provide the required temporary inlet sediment traps immediately. Temporary inlet sediment traps shall be immediately installed, as base of structure is set and shall be adjusted up periodically as the grading operation raises the grades around the structure. The storm drainage pipes shall be completed as soon as conditions will allow.
 - 1. Temporary sediment barriers shall be maintained around drainage structures until final stabilization has occurred.
- C. Ground Cover
 - 1. All exposed soil shall be protected by application of ground cover.
 - 2. Ground cover may consist of any effective erosion preventative treatment such as straw or other mulches, planting, etc.
 - 3. All grassing or planting operations shall include mulching as stabilization until ground cover by planting is effective.

3.03 STABILIZATION PRACTICES

- A. The Contractor shall be responsible for controlling soil erosion during all phases of construction, not only to preserve and protect slopes, drainage structures, pavement, and other facilities, but also to reduce potential sources of water pollution and damage to adjacent property.
- B. Mulching: Contractor shall apply dry straw or hay at depth of six to eight inches and/or wood chip mulch to disturbed areas at a depth of two to three inches. Said mulch shall be uniformly applied by hand or mechanical equipment. Straw or hay mulch shall be pressed into the soil with a disk harrow with disk set straight or with special "Packer Disk". The edge of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application.

SECTION 01 5100-09

- C. Polyacrylamide (PAM): Contractor shall utilize anionic polyacrylamide as a temporary soil-binding agent to reduce soil erosion. PAM is available in emulsions, powders and gel bars or logs. PAM shall be utilized in conjunction with other "best management practices". PAM shall be utilized in direct soil surface applications where the timely establishment of vegetation is not feasible (including building pad and parking lot areas). PAM shall be applied in conjunction with temporary seeding efforts or as a separate hydro spray application. The maximum application of PAM, in pure form, shall not exceed 200 pounds/acre/year. Contractor shall install a PAM gel bar or log in each storm structure (secured with rope) and replace at the manufacturer's recommended interval. Contractor shall apply PAM via hydro spreader to all disturbed areas per manufacturer's recommendations. Do not mechanically disturb areas after application. Provide written dated certification of each application indicating square footages that were treated.
- D. Temporary Stabilization: Topsoil stockpiles and disturbed areas of the site, where construction activity has ceased for at least fourteen calendar days, shall be stabilized with temporary seeding and/or mulch.
- E. Lime and Fertilizer Rates: Lime shall be applied at a rate of one ton per acre and commercial fertilizer 6-12-12 shall be applied at the rate to 1500 pounds per acre to disturbed areas being prepared for planting.
- F. Seed Bed Preparation for Temporary Vegetation: Loosen ground surface by discing, raking or harrowing. If the area has been recently loosened or disturbed, no further roughening shall be required. Remove all large clods, boulders and debris that will interfere with the work. Remove all stones two inches and larger in any given dimension.
- G. Planting of Temporary Vegetation (Hydroseeding): Disturbed areas shall be seeded with Annual Ryegrass. Apply Meyer Zoysia at the rate of ninety pounds per acre. Apply Annual Ryegrass at a rate of forty pounds per acre. Disturbed areas shall be planted with a hydro-seeder after areas have been prepared for seeding unless plans show otherwise. Existing trees and shrubs in hydro-seeded area shall be protected during Hydroseeding. Apply seed, fertilizer, lime, and fiber in one application. Temporary vegetative cover shall be maintained by the Contractor until the permanent lawn season, at which time the tall fescue or annual ryegrass shall be mowed down to the ground surface, the lawn area disc harrowed, the soil prepared for planting lawns and the permanent lawn planted or sodded as called for on the Plans.
- H. Planting Seasons:
 - *Denotes optimum Planting Season
 - Annual Ryegrass: August 1 - April 15 (*September 1 - December 10).
 - Common Bermuda (April 1 – August 31)
- I. Reseeding: Reseed and provide straw cover for bare areas one square foot and larger to establish and maintain vegetative cover and to prevent sheet and rill erosion. Repair erosion damage as required and reseed.
- J. Matting and Mulching: All seeding shall be covered with matting and/or mulch. After seeding, all slopes that exceed three feet (H): one foot (V) shall be covered with erosion control matting and/or blankets. The mats and/or blankets shall be installed as per the manufacturer's recommendations and Specifications using the recommended fastening hardware. Remaining seeded areas shall be covered with straw or hay spread

at the rate of approximately two and a half (2.5) tons/acre or wood cellulose fiber applied at the rate of approximately 6 to 9 tons/acre. Areas of the site that are to be paved shall be stabilized through the proper compaction of the soil and placement of a graded, stone aggregate base.

- K. Rolling: Roll all seeded areas with roller weighting 60 to 90 pounds per linear foot of roller before applying mulch. On steep slopes cover seeds by dragging spiked chains or similar methods.
- L. Watering: Provide watering as required to establish and maintain healthy vegetative cover within local restrictions as applicable.
- M. Permanent Stabilization: Disturbed areas of the site where finished grade has been achieved, and construction activity has ceased for at least fourteen calendar days, shall be stabilized with season dependent permanent seeding in accordance with the construction plans. The seed mixture shall be hydroseeded with a tank mixture of Polyacrylamide (PAM) and a tackifier. Polyacrylamide (PAM) application shall not exceed the rate as outlined in the "Manual for Erosion and Sediment Control in Georgia", Latest Edition. Per acre, shall be applied to the disturbed areas. After seeding all slopes that exceed three feet (H): one foot (V) shall be covered with erosion control matting and/or blankets. The mats and/or blankets shall be installed as per the manufacturer's recommendations and Specifications using the recommended fastening hardware.
- N. The Contractor shall be responsible for completing all permanent erosion control features at the earliest practical time. Temporary measures shall be used until permanent measures are completed.
- O. Where erosion control facilities have been constructed, the Contractor shall maintain and restore such facilities as necessary to ensure proper functioning. After construction has been completed; remove sediment from erosion control facilities and grade the areas.
- P. It shall be the Contractor's responsibility to maintain all access to the site in such manner as to prevent mud from washing or being tracked onto existing pavements. The Contractor shall provide a temporary hose bib system to wash truck tires or provide a water truck with a pressure hose for wash down of trucks and equipment entering the public right-of-way as necessary.

3.04 STRUCTURAL PRACTICES

- A. Temporary Construction Entrance: Stabilized, stone aggregate construction entrances shall be constructed, as per the detail set forth in the Manual for Erosion and Sediment Control in Georgia, Latest Edition. The temporary construction entrances shall reduce vehicle tracking of sediments. Outgoing trucks shall have the tires washed prior to exiting the site onto any public street or right-of-way. Any mud, dirt, or rock that is tracked onto public streets shall be swept immediately and material placed within the perimeter controls.
- B. Silt Barriers: A single row of Type "S" silt fence shall be installed along the toe of all downstream slopes and a double row of Type "S" silt fence shall be installed adjacent to all State Waters buffers, as per the Manual for Erosion and Sediment Control in Georgia, Latest Edition, and where shown on the plans.

SECTION 01 5100-11

- C. Diversion Berms/Dikes: Temporary/permanent diversion berms/dikes shall be constructed as per the approved Erosion, Sedimentation, and Pollution Control Plans. The diversions shall be minimum six feet wide and shall be raised each day with finishgrade during grading activities. The diversions shall be constructed to intercept and redirect runoff to the temporary storm drainage structure sediment inlet traps prior to the runoff reaching the perimeter sediment controls.

3.05 DUST CONTROL

- A. The Contractor shall keep airborne dust to a minimum by using water sprinkling or tossing and/or other suitable means to limit dust and dirt from rising and scattering in the air. Contractor shall water all disturbed earth no later than five days from last rain or last watering.

3.06 POLLUTION AND SPILL PREVENTION

- A. The Contractor shall make every effort to control both air and water pollution. No tires, oils, asphalt, paint, or coated metals are permitted in combustible waste piles. Pollutants such as fuels, lubricants, bitumen's, raw sewage, and other harmful materials will not be discharged into or near rivers, streams, or man-made channels. Equipment maintenance shall be performed with containment and capture of used oil. Contractor shall not pour or drain used lubricants or other necessary mechanical fluids onto the ground. Remove from site and deliver to a recycling center.
- B. Material Management Practices: The following material management practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. The Contractor shall follow good housekeeping practices on site during the construction Project.
 - 1. An effort shall be made to store only enough products required to do the job.
 - 2. All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
 - 3. Products shall be kept in their original containers with the original manufacturer's label.
 - 4. Substances shall not be mixed with one another unless recommended by the manufacturer.
 - 5. Whenever possible, all of a product shall be used up before disposing of the container.
 - 6. Manufacturer's recommendations for proper use and disposal shall be followed.
 - 7. The site Superintendent shall inspect daily to ensure proper use and disposal of materials onsite.
- C. Hazardous Products: The Contractor shall use the following practices to reduce the risks associated with hazardous materials.

SECTION 01 5100-12

1. Products shall be kept in original containers unless they are not resealable.
2. Original labels and material safety data shall be retained with the product by the General Contractor. They contain important product information.
3. Surplus products shall be disposed of following and in conformance with Local and State recommended methods.

D. Product Specific Practice:

The following specific practices shall be followed for products stored on-site:

1. Petroleum Products: All onsite vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers that shall be clearly labeled and stored in a clearly identified area. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendations.
2. Fertilizers: Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit the exposure to stormwater. Any fertilizers that are to be stored on site shall be stored in a protected, securable enclosure. The contents of any partially used bags of fertilizers shall be transferred to a clearly labeled sealable plastic container to avoid spills.
3. Paints: All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to local and state regulations.
4. Concrete: Concrete trucks shall be allowed to wash out, discharge, and drum wash only at the identified equipment maintenance area(s). Maintenance areas shall be equipped with a discharge containment area (e.g., earth berms surrounding area). The containment area shall be cleaned up and removed from the site upon completion of concrete installation work.

E. Spill Prevention and Cleanup: The following practices shall be followed for spill prevention and cleanup:

1. Local, State, and manufacturer's recommended methods for spill clean up shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.
2. Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite. Equipment and materials shall include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, respirators, cat litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
3. All spills shall be cleaned up immediately upon discovery.
4. The spill area shall be kept well ventilated, and personnel shall wear the appropriate protective clothing to prevent injury from contact with a hazardous substance.

5. Spills of toxic or hazardous material shall be reported to the appropriate Local or State government agency, regardless of size.
6. The spill prevention plan shall be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measure shall also be included.
7. The General Contractor shall be responsible for assigning personnel to be responsible for spill prevention and cleanup coordination. The General Contractor shall designate, at a minimum, three site personnel to receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel shall be posted in the material storage area and in the onsite construction office.

3.07 MAINTENANCE

- A. Inspect slope protection and erosion control elements after each rainfall. Clear all debris and accumulated sediment from behind barriers when one third full so their functional capacity is not reduced during the construction period.

3.08 REMOVAL OF TEMPORARY EROSION CONTROL DEVICES

- A. As soon as permanent vegetative cover is established and accepted by the City Contractor shall remove temporary devices, including sediment barriers, berms, silt traps, and similar devices. Contractor to remove retrofit structures and clean out all accumulated silt and debris in permanent stormwater pipes.
- B. Remove all debris resulting from temporary erosion control from Project site.

3.09 NOTICE OF TERMINATION

- A. The contractor will sign the Notice of Termination (NOT) when the project is complete, and all conditions of the permit have been met. The signed NOT will be submitted to the Owner for review, signature and submittal to the EPD. The NOT will not be submitted until all permit conditions, including establishment of permanent vegetation as defined by the Permit is established. Therefore, if the contractor performs grassing operations during the season that requires temporary vegetative cover and demobilizes from the project, he will return to the site in the appropriate planting season and establish permanent vegetation as defined by the Permit. The contractor is responsible for continuing inspections required by the Permit until the permanent vegetation is established and the NOT is submitted to the EPD.

END OF SECTION 01 5100

SECTION 01 5100-14

**SECTION 01 7123
CONSTRUCTION
STAKING**

PART 1 GENERAL

1.01 SCOPE

- A. Construction staking shall include all of the surveying work required to layout the work and control the location of the finished Project. The Contractor shall have the full responsibility for constructing the Project to the correct horizontal and vertical alignment, as shown on the Drawings, as specified, or as ordered by the Engineer. The Contractor shall assume all costs associated with rectifying work constructed in the wrong location.
- B. From the information shown on the Drawings and the information to be provided as indicated under Project Conditions below, the Contractor shall:
 - 1. Be responsible for setting reference points and/or offsets, establishment of baselines, and all other layout, staking, and all other surveying required for the construction of the Project.
 - 2. Safeguard all reference points, stakes, grade marks, horizontal and vertical control points, and shall bear the cost of re-establishing same if disturbed.
 - 3. Stake out the permanent and temporary easements or the limits of construction to ensure that the Work is not deviating from the indicated limits.
 - 4. Be responsible for all damage done to reference points, baselines, center lines and temporary benchmarks, and shall be responsible for the cost of re-establishment of reference points, baselines, center lines and temporary benchmarks as a result of the operations.
- C. Baselines shall be defined as the line to which the location of the work is referenced, i.e., edge of pavement, road center line, property line, right-of-way, or survey line.

1.02 PROJECT CONDITIONS

- A. The Drawings provide the location and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in the Specifications. The Engineer may order changes to the location of some of the components of the Project or provide clarification to questions regarding the correct alignment.

1.03 QUALITY ASSURANCE

- A. The Contractor shall furnish documentation, prepared by a surveyor currently registered in the State of Georgia, confirming that staking is being done to the horizontal and vertical alignment shown in the Contract Documents. This requires that the Contractor hire, at the Contractor's own expense, a currently registered surveyor, acceptable to the Owner, to provide ongoing construction staking or confirmation of such.
- B. Any deviations from the Drawings shall be confirmed by the Engineer prior to construction of that portion of the Project.

SECTION 01 7123-01

1.04 SITE WORK

- A. Staking Precision: The precision of construction staking shall match the precision of a component's location indicated on the Drawings. Staking of utilities shall be done in accordance with generally accepted practice for the type of utility.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 7123

SECTION 01 7123-02

**SECTION 01 7400
CLEANING****PART 1 GENERAL****1.01 SCOPE**

- A. This Section covers the general cleaning which the Contractor shall be required to perform both during construction and before final acceptance of the Project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.02 QUALITY ASSURANCE

- A. **Contractor shall keep the site clean. At a minimum daily, and more often, if necessary, the contractor shall conduct inspections verifying that the requirements of cleanliness are being met.**
- B. In addition to the standards described in this Section, they comply with all pertinent requirements of governmental agencies having jurisdiction.

1.03 WASTE MATERIALS

- A. The Contractor shall handle hazardous waste and materials in accordance with applicable Local, State and Federal regulations. Waste shall also be disposed of in approved landfills as applicable.
- B. The Contractor shall prevent accumulation of wastes which create hazardous conditions.
- C. Burning or burying rubbish and waste materials on the site shall not be allowed.
- D. Disposal of hazardous wastes or materials into sanitary or storm sewers shall not be allowed.
- E. Store volatile waste in covered metal containers. Remove from Project site daily.
1. Allow no volatile wastes to accumulate on Project site.
 2. Provide adequate ventilation during use of volatile substances.
- F. Do not burn or bury waste materials or rubbish on Project site. Comply with governmental and environmental regulatory requirements for disposal of waste.
- G. Dispose of no volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains, on pavements, in gutters, or on Project site.
- H. Dispose of no waste or cleaning materials containing materials harmful to plant growth on Project site. As quickly as possible, clean up materials which are accidentally spilled.
- I. Graffiti or other distasteful comments or illustrations authored on any building materials used on Project is prohibited. Monitor Project for violations of this criteria, and, if found, take appropriate action immediately to cover, clean, or replace defaced materials.

1.04 DISPOSAL OF SURPLUS MATERIALS

- A. Unless otherwise shown on the Drawings, specified or directed, the Contractor shall legally dispose of the site all surplus materials and equipment from demolition and shall provide suitable off-site disposal site, or utilize a site designated by the Owner.

1.05 CLEANING MATERIALS AND EQUIPMENT

- A. Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

1.06 COMPATIBILITY

- A. Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Owner's Representative.

1.07 PROGRESS CLEANING

A. General

1. Do not allow the accumulation of scrap, debris, waste material and other items not required for construction of this work.
2. At least each day, and more often, if necessary, completely remove all scrap, debris and waste material from the job site.
3. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the environment.
4. Storage of debris, new construction material and equipment is not allowed within the right of way.

B. Site

1. Daily, and more often, if necessary, inspect the site and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. Restack materials stored on site weekly.
3. At all times maintain the site in a safe, neat and orderly condition which meets the approval of the Owner's Representative.

C. Structures

1. Weekly, and more often, if necessary, inspect the structures and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. As required preparatory to installation of successive materials, clean the structures or pertinent portions as recommended by the manufacturer of the successive material.
3. Schedule cleaning operation so that dust and other contaminants resulting from cleaning operations will not fall on wet, recently painted surfaces.

1.08 FINAL CLEANING

- A. Definitions: Unless otherwise specifically specified, “clean” for the purpose of this Article shall be interpreted as the level of cleanliness generally provided by commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.
- B. General: Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste.
- C. Site: Unless otherwise specifically directed by the Owner’s Representative, hose down all paved areas on the site and all public sidewalks directly adjacent to the site; rake clean other surfaces of the grounds. Completely remove all resultant debris.
- D. Structures:
 - 1. Remove all traces of soil, waste material, splashed material, and other foreign matter to provide a uniform degree of exterior cleanliness. Visually inspect all exterior surfaces and remove all traces of soil, waste material, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. If necessary, to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure. In the event of stubborn stains not removable with water, the Owner’s Representative may require light sandblasting or other cleaning at no additional cost to the Owner.
- E. Post-Construction Cleanup: All evidence of temporary construction facilities, haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other evidence of construction shall be removed, as directed by the Owner’s Representative.
- F. Restoration of Landscape Damage: Any landscape feature damaged by the Contractor shall be restored as nearly as possible to its original condition at the Contractor's expense. The Owner’s Representative will decide what method of restoration shall be used.
- G. Timing: Schedule final cleaning as approved by the Owner’s Representative to enable the Owner to accept the Project.
- H. Clean all finished surfaces in accord with manufacturer’s product data and requirements specified in trade sections, prior to Date of Substantial Completion. All general and specific cleaning shall be performed prior to Contractor’s request that the Projector portion thereof be inspected for Final Certification.
- I. Remove dust, debris, oils, stains, fingerprints, and labels from exposed interior and exterior finish surfaces, including glazing materials.
- J. Repair, patch, and touch-up marred surfaces to match adjacent finishes. Replace materials which cannot be repaired or patched.
- K. Clean disturbed areas of Project site of debris:
 - 1. Broom-clean paved surfaces. Remove oil and similar deleterious substances.
 - 2. Remove debris from grassed and landscaped areas and from undisturbed areas.

- L. All exposed exterior concrete and pavement surfaces shall be cleaned by appropriate methods (pressure washed) to remove oil stains, including but not limited to mud stains.

1.09 CLEANING DURING OWNER'S OCCUPANCY

- A. Should the Owner occupy the work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning of the occupied spaces shall be as determined by the Owner's Representative in accordance with the Supplementary Conditions of the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 7400

**SECTION 01 7839
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SCOPE

- A. Closeout includes general requirements in preparation for Final Completion and Final Payment. Closeout is directly related to "Final Certification" and may be a single time period for entire work or a series of time periods for parts of the work accepted as substantially complete.

1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. Prior to requesting Substantial Completion, complete the following and list all known exceptions.
1. If Final Certification is requested for a portion of the work, define such portion.
 2. Submit Application for Payment:
 - a. Submit a sworn statement indicating 100 percent completion of the work claimed as complete.
 - b. List incomplete items, value of incomplete work, and reasons for being incomplete.
 - c. Include documentation for completion.
 3. Indicate accounting changes to Contract Sum.
 4. Submit for that portion of the work:
 - a. Specific Warranties.
 - b. Workmanship/maintenance bonds
 - c. Maintenance agreements.
 - d. Final certifications.
 - e. Record drawings.
 - f. Maintenance manuals.
 - g. Project photographs, if pertinent to Project activities.
 - h. Damage or settlement survey.
 5. Obtain and submit releases enabling:
 - a. Owner's use of the work.
 - b. Access to services and utilities.
 - c. Occupancy permits.
 - d. Operating certificates.
 6. Advise Owner of pending insurance change-over requirements.
 7. Obtain and submit operating certificates, final inspection/test certificates, and similar releases enabling Owner's full and unrestricted use of the work and access to services and utilities.

CLOSE OUT SUBMITTALS
01 7839 -01

8. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
9. Touch-up and otherwise repair and restore marred exposed finishes.

B. Observation Procedures

1. Upon receipt of Contractor's request, Owner's Representative will either proceed with initial observation or advise Contractor of prerequisites not fulfilled.
2. Following initial observation, Owner's Representative will either prepare Certificate of Final Certification or advise Contractor of work which must be performed prior to issuance of certificate.
3. Re-observe when requested and assured work has been substantially completed.
4. Results of completed observation will form initial "punch list" for final acceptance.

1.03 PREREQUISITES TO FINAL ACCEPTANCE

A. General: Prior to requesting Owner's Representative's observation for certification of Final acceptance and Final payment, complete the following. List known exceptions.

1. Indicate accounting changes to Contract Sum.
2. Submit Final Application for Payment with:
 - a. Final releases.
 - b. Supporting documentation not previously submitted and accepted.
 - c. Certificates of insurance for Products and Completed Operations where required.
3. Submit copy of Owner's Representative's Final Punch List. Contractor shall.
4. Submit:
 - a. Specific warranties, workmanship / maintenance bonds, maintenance agreements, final certifications, and similar documents not submitted at time of Substantial Completion.
 - b. Record drawings and maintenance manuals not submitted at time of Substantial Completion.
 - c. Final Project photographs.
5. Submit consent of surety, warranty and or guarantees
6. Finishes manuals, Provide three copies:
 - a. Assemble manuals bound in hard cover binders, presenting for Owner's guidance full details of all finish materials used in the building including care and maintenance.
 - b. Include a list of all finishes and their product names, numbers, colors, and cleaning and maintenance data. Include a list of installers and service representatives with company names and addresses, names of individual contacts, and telephone numbers.
 - c. Submit documents in suitable transfer cases indexed and marked for each division of the work.

CLOSE OUT SUBMITTALS
01 7839 -02

7. Submit executed contracts for extended maintenance or service required by the Contract Documents to Owner's Representative for transfer to Owner.
8. Revise and submit evidence of final (continuing) requirements.
9. Complete final clean-up.
10. Place legal advertisements in newspaper(s) in compliance with State law.

B. Re-observance Procedure:

1. Upon receipt of Contractor's notice that work has been completed, including punch list items and excepting incomplete items delayed because of acceptable circumstances, Owner's Representative will observe work.
2. Upon completion of observation, Owner's Representative will either prepare certificates of Final Certification or advise Contractor of work not completed or obligations not fulfilled.
3. If necessary, procedure will be repeated.

1.04 RECORD DOCUMENT SUBMITTALS

A. General

1. Furnish three complete sets of required documents.
2. Do not use required documents for construction purposes.
3. Protect from deterioration and loss in a secure fire resistive location.
4. Provide digital as-built/record drawings.

B. As-Built Record Drawings

1. As-built record drawings are to be prepared by the Contractor and submitted to the Engineer to incorporate into CAD. At project closeout, submit record drawings of all constructed improvements, including but not limited to all site improvements and storm drainage installations. As-built drawings to be clearly and neatly drawn on the base of the original design. Submittals of approved as-built drawings will precede any application for final payment by the Contractor.

C. Record Project Manual

1. Maintain two copies of Project Manual, including addenda, Change Orders, and similar modifications.
2. Mark up variations occurring in actual work continually. Changes will be reviewed monthly for completeness and accuracy with the Application for Payment.

D. Record Product Data

1. Maintain two copies of each Product Data Submittal.
2. Mark up significant variations in the actual work. Include:
 - a. Variations in product as delivered to site.
 - b. Variations from manufacturer's instructions and recommendations for installation.

CLOSE OUT SUBMITTALS
01 7839 -03

3. Cross-reference with Change Orders and markup record drawings and Specifications.
- E. Record Sample Submittal: Immediately prior to Substantial Completion, Owner's Representative will meet with Contractor at site, and determine which, if any, samples to be transmitted to Owner. Comply with Owner's Representative's instructions for packaging, identification marking, and delivery to Owner's sample storage place. Dispose of other samples.
- F. Maintenance and Operating Manuals
- In addition to hard copies, contractor shall provide digital copies.
1. Bind into heavy duty 3-ring binders, minimum 2-inch size, permanently identified and indexed with thumb tabs, and provide in pdf format with separate file for each specific section. In addition to hard copies, contractor should provide digital copies.
 2. Include:
 - a. Name of Project, nature of information, Contractor/subcontractor and name and address of local parts supplier and service organization.
 - b. Emergency instruction.
 - c. Spare parts or materials.
 - d. Warranties.
 - e. Inspection procedures.
 - f. Applicable shop drawings.
 - g. Applicable product data.
 - h. Procedures for maintenance and cleaning of all flooring, cabinetry, countersurfaces and other materials used.
- G. Miscellaneous Record Submittals
1. Refer to other Sections of these Specifications for requirements of miscellaneous record keeping and submittals in connection with performance of the work.
 2. Immediately prior to Date(s) of Submittal Completion:
 - a. Complete miscellaneous records and place them in good order.
 - b. Identify and bind or file.
 - c. Make ready for continued use and reference.
- H. Inspection Reports: Submit certificates from applicable local governmental agencies that the construction has been inspected as required by laws or ordinances and that the buildings/structures are approved for occupancy/use. In addition to hard copies, contractor shall provide digital copies.

CLOSE OUT SUBMITTALS
01 7839 -03

- I. Warranties: In accord with Contract Conditions, provide warranties as follows:
 - 1. Contractor shall furnish their warranty and shall require each subcontractor to furnish their warranty, in writing. Assemble, bind, label, and transmit warranties as required for other manuals above. Unless specifically indicated otherwise in individual Sections, the period for warranties shall begin on the Date of Substantial Completion and shall continue for one year. Warranties shall state the Date of Substantial Completion and the date on which the warranty expires. In addition to hard copies, contractor shall provide digital copies.
 - 2. Contractor shall forward manufacturers and installers' warranties as specified in the individual Specification Sections. Assemble, bind, label, and transmit warranties as required for other manuals above. Unless specifically indicated otherwise in individual Sections, the period for warranties shall begin on the Date of Substantial Completion. Warranties shall state the Date of Substantial Completion and the date on which the warranty expires. In addition to hard copies, contractor shall provide digital copies.
- J. Valve Tag Schedules: Furnish two copies of schedules with closeout documents, and mount one copy, framed under glass, in mechanical room.
- K. Keys: City will install all keyed cores and distribute keys to City staff.

1.05 OPERATING/MAINTENANCE INSTRUCTIONS

- A. Coordinate demonstrations and trial operations of equipment for Owner's designated personnel and complete such demonstrations prior to Date of Final Certification. Each installer of work requiring maintenance or operation shall:
 - 1. Meet with Owner's personnel, at Project site to provide basic instructions needed for proper operation and maintenance of entire work.
 - 2. Provide instructions by manufacturer's representatives as required.
 - 3. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification materials, control sequences, hazards, cleaning, and similar procedures and facilities.
 - 4. Review maintenance and operations in relation to warranties and similar continuing commitments.

1.06 CONTINUING INSPECTIONS

Comply with Owner's request to participate in inspections at end of each time period required by specific warranties or similar components. Participate in general inspection of work approximately one year beyond Date(s) of Submittal Completion.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 7839

CLOSE OUT SUBMITTALS
01 7839 -04

SECTION 02 2200
GEOTECHNICAL
INFORMATION

PART 1 GENERAL

1.01 SCOPE

A subsurface exploration and geotechnical engineering evaluation has not been performed by the city. The contractor is responsible for providing geotechnical investigation and report of findings prior to commencing construction.

The contractor shall refer to construction documents and notes for geotechnical requirements that are within the project limits. The purpose of the coring's is to determine the existing pavement thickness and the subgrade material. The contractor shall provide a report of their findings to the city.

1.02 GEOTECHNICAL INVESTIGATION DATA

- A. Owner and Owner's Representatives do not assume responsibility for variations in kind, depth, quantity and condition of soils; they disclaim responsibility for accuracy, true location, and extent of geotechnical investigation that has been prepared by others; and they further disclaim responsibility for interpretation of that data by Bidders as in projecting soil bearing values, rock profiles, soil stability, and presence, level and extent of underground water.

B. Geotechnical investigation report will be required by the Contractor.

1.03 BIDDER INVESTIGATION

- A. Bidder shall visit the site and acquaint himself with site conditions.
- B. Bidder may, at their own expense and prior to bidding, make soils surveys and investigations he considers necessary.
- C. Obtain authorization from the Owner, through Owner's Representative, prior to start of borings or subsurface investigations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 02 2200

SECTION 02 4113
SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Work described in this section includes demolition and removal of any existing built site construction, utilities, appurtenances; capping of existing utilities; and all incidental items necessary to provide a condition suitable to construct the full scope of improvements illustrated and/or implied on the Contract Documents.
- B. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.
- C. The Contractor is solely responsible for the scope of Demolition required to build the entirety of new construction illustrated or implied on the Drawings. Ascertain the entire scope of Demolition by whatever means necessary and include the cost for same in the Contract Sum. Specific items illustrated on the drawings could include but not necessarily limited to; demolition, milling, full depth pavement removal and installation, sidewalks, curbs, ramps, signs, and driveways. Verify the number, location and condition of items to be demolished, removed or modified and include their verified number in the Contract Sum.
- D. Render all areas where improvements are illustrated or implied to be built, clear of debris and free of demolished remnants and debris and other items or conditions which might have a deleterious effect on the continued construction of the project.
- E. By submitting their bid, the Contractor acknowledges that he understands the entire scope of Demolition and removal necessary to complete renovation and new construction.
- F. Become thoroughly familiar with all existing conditions at the Project site, the drawings, specifications; City, County, GDOT and State Regulations and Ordinances to fully ascertain the scope of work illustrated and/or implied on the Drawings.
- G. Visit the site to inspect existing conditions to inform himself of all the existing conditions on the Project site.
- H. The Owner, and Owner's Representatives do not guarantee that all the existing utilities are illustrated on the Drawings. The Contractor shall locate and verify all horizontal and vertical locations of all existing utilities at no expense to the Owner. In the event that there are, in the opinion of the Contractor, items for demolition not illustrated on the drawings, he shall notify the Owner's Representatives in writing during the Bid Phase of the Project. The Owner's Representatives shall evaluate any such information and shall respond as feasible during the Bid Phase of the Project.

SELECTIVE SITE DEMOLITION
02 4113-1

1.02 PROJECT CONDITIONS

A. Traffic

1. Conduct Demolition operations and removal of debris to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities.
2. Do not close or obstruct streets, walks or other occupied or used facilities without permission from the Owner.
3. Provide alternate routes around closed or obstructed vehicle or pedestrian traffic ways as required.
4. Submit a Traffic Control Plan for review.
5. Traffic Control Plan must coordinate all traffic control with the City of Decatur, Georgia Department of Transportation and/or other interested third parties.
6. Provide all temporary traffic control and traffic safety devices including but not limited to barricades, signage, signal lights, and/or flagmen to protect the public at large, and all Contractor's personnel while operating within public streets and/or rights-of-way.

B. Use of explosives is not permitted.

C. Promptly repair damages caused to items to remain by Demolition operations at no additional cost to Owner.

D. Costs related to the removal, relocation, replacement and/or rerouting of all existing utilities or other built, stored, stockpiled items of any kind, surface or subsurface is the responsibility of the Contractor and will be included in the Contract Sum.

E. Site shall be rendered obstruction free, whether obstructions (utility poles, guy wires etc.,) are noted on the drawings or not.

1.03 EROSION, SEDIMENT AND POLLUTION CONTROLS

A. Furnish and install Erosion Sediment and Pollution Control Measures prior to Demolition operations.

B. Use water sprinkling, temporary enclosures, and other suitable methods necessary to limit the amount of dust and dirt rising and scattering in the air, to the lowest level of air pollution practical for the condition of work. Comply with the governing regulations.

C. Follow and implement all Local, State and Federal regulations pertinent to Demolition operations or any resultant erosion, sediment, and pollution control measures.

1.04 SUBMITTALS

A. Submit detailed Shop Drawing(s) which illustrates all incidental Demolition items and/or operations, including means and methods, such as power poles, power or cable boxes, meters/meter boxes, cable boxes or underground utilities, fiber optic boxes and/or cabling, guy wires, utility appliances and other such appurtenances which may in any way effect the

construction of the Project. Furnish contact names and telephone numbers of all utility or appurtenant suppliers.

PART 2 PRODUCTS

2.01 MATERIALS TO BE REUSED

- A. Materials to be disassembled and reused shall be handled and stored in a manner and placed so as to prevent damage. Damaged materials shall be repaired or replaced at no cost to Owner. Fasteners, fittings and brackets related to materials to be reused shall, if not salvageable in first-class condition, be replaced at no cost to Owner.

2.02 MATERIALS TO BE REMOVED

- A. Materials to be disassembled and not reused shall be treated as "waste" and disposed of by Contractor. In addition:
 - 1. Burning of waste on site is not permitted.
 - 2. Waste materials shall become the property of the Contractor and shall be promptly removed from site. Storage or sale of salvageable items on site shall not be permitted. Disposal of said materials shall be done so legally.
 - 3. Do not store waste in right of way, planted or tree save areas or any area that can be damaged by storage operations.

PART 3 EXECUTION

3.01 EXTERIOR DEMOLITION

- A. Structures
 - 1. Structures indicated to be removed shall be moved off Owner's property or demolished with debris removed from site.
 - 2. Owner assumes no responsibility for actual condition of existing structures.
 - 3. Scope of Demolition includes all coordination with Owner for removal of all incidental appurtenances found on the site.
- B. Demolish and/or remove any encountered foundations, footings, asphalt pavement, walls, piping, concrete slabs, vaults and/or other below-grade construction interfering with new construction.
- C. Any voids below grade caused by demolition of structures, or below-grade construction, including storm and sanitary sewer structure removal, shall be filled as specified in Division 31 – Earthwork. Consult the owner's Geotechnical Testing Consultant for assessment of existing conditions and recommendations prior to proceeding and provide report to Owner's Representatives prior to proceeding.

SELECTIVE SITE DEMOLITION
02 4113-3

D. Utilities

1. Disconnect and seal off utilities to be demolished prior to start of Demolition.
2. Utilities shall be disconnected below existing grade level by representatives of public utility being disconnected.
3. Do not interrupt utility service to existing adjacent occupied facilities except as required and approved by Public Utility Company and Owner.

- E. Clearing and removal of trees to be completed in a manner to protect adjacent trees, and root systems of adjacent trees; to be saved.

3.02 PROTECTION

- A. Limit Demolition operations to those items required to provide a condition suitable to construct the full scope of improvements illustrated and/or implied on the Drawings for new construction.
- B. Protect and prevent damage to existing construction to remain. Repair and/or replace, at the expense of the Contractor, any and all damage to any of the Owner's property or any adjacent or nearby property Owner's possessions in kind that are to remain.

3.03 OTHER

- A. See Mechanical, Plumbing and Electrical drawings and specifications for any additional utility demolition requirements.

3.04 QUALITY CRITERIA

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed demolition Work like that indicated for this Project.

END OF SECTION 02 4113

SELECTIVE SITE DEMOLITION
02 4113-4

SECTION 31 2301
EXCAVATING, BACKFILLING, AND COMPACTING FOR STRUCTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Section includes the excavation, backfilling and compacting required for the structures shown in the Contract Drawings.

1.02 RELATED SECTIONS

- A. Section 01 3330 - Structural Submittals.
- B. Section 01 4525 - Structural Testing/Inspection Agency Services.

1.03 REFERENCES

- A. ASTM D422 - Standard Test Method for Particle-Size Analysis of Soils.
- B. ASTM D698 - Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³).
- C. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
- D. ASTM D1586 - Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils.
- E. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
- F. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

(In the event of a conflict these reference standards the most stringent shall apply.)

1.04 DEFINITIONS

- A. Granular subbase: Granular fill directly beneath slabs-on-grade.
- B. Structural fill: Fill under the structure other than the granular subbase.

1.05 SUBMITTALS

- A. Upon request, submit soil test reports performed by the Structural Testing/Inspection Agency.

1.06 QUALITY ASSURANCE

- A. Structural Testing/Inspection Agency shall perform the following quality related items:
 - 1. Verify structural fill complies with specifications.
 - 2. Determine particle size, liquid limit, plastic limit, plasticity index and maximum density of each type of soil.
 - 3. Observe proof rolling.
 - 4. Perform a sufficient number of field density tests to verify compaction of structural fill. As a minimum, perform one test per lift for every 1,000 square feet of fill placed.
 - 5. Verify foundation bearing capacity.
 - 6. Verify quantities of material removed and quantities of material placed where Unit Prices are involved.

1.07 SURVEY

- A. Prior to construction, have structure location staked and certified by a licensed surveyor. If discrepancies between actual lines and elevations exist, notify Owner's Representative before proceeding with layout of structure.

1.08 SUBSURFACE CONDITIONS

- A. A limited subsurface investigation of the site has been performed by the owner and is provided in these specifications.
- B. Contractor may examine the site and make their own subsurface explorations at no additional cost to the Owner. Notify Owner prior to making any subsurface explorations.

1.09 EXISTING UTILITIES

- A. Locate existing underground utilities by careful hand excavation. If utilities are to remain in place, provide protection from damage during construction operations.
- B. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Do not interrupt existing utility service facilities occupied and used by Owner or others unless written permission is given by the Owner's Representative and then only after temporary utility services have been provided.
- C. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the Owner's Representative immediately for directions.
- D. Repair damaged utilities to satisfaction of utility owner.

1.10 NOTICE

- A. Notify the Owner's Representative 48 hours prior to the beginning of any excavation work.

PART 2 PRODUCTS

2.01 GRANULAR SUBBASE

- A. Provide subgrade and granular subbase shall meet GDOT and Geotechnical Specifications.

2.02 STRUCTURAL FILL

- A. Structural fill shall comply with GDOT and Geotechnical Specifications
- B. Structural fill shall be free of organics, debris and deleterious materials.

PART 3 EXECUTION

3.01 EXCAVATION

- A. Perform excavation to the depths and limits on the Drawings and as specified herein.
- B. Undercutting may be required in areas that exhibit excessive water surfacing during proof rolling.
- C. Ground water may be encountered during the foundation excavation. Provide a system for controlling the ground water to a level at least three feet below the lowest point of the excavation.
- D. Keep excavations dry by sloping ground away from holes and trenches.

3.02 PROOFROLLING

- A. After stripping or excavation and before any fill placement, fill areas shall be proof rolled with a minimum of two coverages of a loaded dump truck or scraper in each of two perpendicular directions.
- B. Areas found to be soft, or pumping by Geotechnical Engineer shall have the soft soil removed and replaced with structural fill and compacted as outlined herein.

3.03 PLACEMENT OF STRUCTURAL FILL

- A. Do not place structural fill on subgrade that contains frost, mud or is frozen.
- B. Structural fill shall be placed and compacted in 8-inch-thick loose layers.
- C. Compact structural fill shall be placed in accordance with GDOT and Geotechnical specifications.

3.04 PLACEMENT OF GRANULAR SUBBASE

- A. Do not place granular subbase on subgrade that contains frost, mud or is frozen.
- B. Compact granular shall be placed in accordance with GDOT and Geotechnical specifications.

3.05 CLEAN UP

- A. Remove excess excavated materials from job site and upon completion leave site in clean condition.

3.06 TESTING

- A. All testing is to meet the requirements outlined in the GDOT Sampling, Testing, and Inspection Guide. Tests shall be made in accordance with ASTM Method D-1556 and/or ASTM 2922. Minimum testing frequency shall be based on the most stringent of the following requirements as applicable. Additional tests may be required by the Engineer in areas he deems critical.

END OF SECTION 31 2301

SECTION 31 2319
DEWATERING

PART 1 GENERAL

1.01 SCOPE

- A. This Section shall apply to all excavations.
- B. Construct all permanent work in areas free from water. Design, construct and maintain all wells, pumps, vacuum systems, sumps, dikes, levees, cofferdams and diversion and drainage channels as necessary to maintain the areas free from water and to protect the areas to be occupied by permanent work from water damage. Remove temporary works after they have served their purpose.
- C. The Contractor shall be responsible for the stability of all temporary and permanent slopes, grades, foundations, materials, and structures during the course of the Contract. Repair and replace all slopes, grades, foundations, materials, and structures damaged by water, both surface and subsurface, to the lines, grades and conditions existing prior to the damage, at no additional cost to the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CARE OF WATER

- A. Except where the excavated materials are designated as materials for permanent work, material from required excavation may be used for dikes, levees, cofferdams and other temporary backfill.
- B. Furnish, install, maintain, and operate necessary pumping and other equipment for dewatering the various parts of the work and for maintaining the foundation and other parts free from water as required for constructing each part of the work.
- C. Install all drainage ditches, sumps, and pumps to control excessive seepage on excavated slopes, to drain isolated zones with perched water tables and to drain impervious surfaces at final excavation elevation.
- D. Dewater by means which will ensure dry excavations, preserve final lines and grades, do not disturb or displace adjacent soil.
- E. All pumping and drainage shall be done with no damage to property or structures and without interference with the rights of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors, and in accordance with all pertinent laws, ordinances and regulations.
- F. Do not overload or obstruct existing drainage facilities.

- G. After they have served their purpose, remove all temporary protective work at a satisfactory time and in a satisfactory manner. All diversion channels and other temporary excavations in areas where the compacted fill or other structures will be constructed shall be cleaned out, backfilled, and processed under the same Specifications as those governing the compacted fill. Fill or grout all temporary dewatering wells unless otherwise directed by the Engineer.
- H. When the temporary works will not adversely affect any item of permanent work or the planned usage of the Project, the Contractor may be permitted to leave such temporary works in place. In such instances, breaching of dikes, levees and cofferdams may be required.

3.02 DEWATERING

- A. By the use of well points, pumps, tile drains or other approved methods, the Contractor shall prevent the accumulation of water in excavated areas. Should water accumulate, it shall be promptly removed.
- B. Excavations shall be continuously dewatered to maintain a ground water level no higher than three to four feet below the lowest point in the excavation. Dewatering systems shall be designed to allow for localized variations in the depth of excavations required to reach a suitable foundation. Dewatering shall be accomplished well enough in advance of excavation to ensure that groundwater is already lowered prior to completing the final excavation to finish subgrade.
- C. All destabilized subgrade conditions caused by inadequate or untimely dewatering operations shall be undercut and backfilled with suitable backfill material at no additional cost to the Owner.
- D. Piezometric observation wells are required to monitor the ground water level to insure proper dewatering prior to excavation below the static water table. The number of wells required will vary depending on the size and depth of structures.

END OF SECTION 31 2319

SECTION 32 1216
ASPHALT PAVING REQUIREMENT'S

1 - GENERAL

1.01 RELATED DOCUMENTS AND SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 32 1313 – Concrete Paving (for concrete sidewalk pavement requirements).

1.02 SCOPE

- A. Asphalt roadways shall be constructed at the locations and to the dimensions, lines, grades and cross section indicated on the Drawings or as directed by the Owner's Representative and in conformity with the provisions and requirements set out in these Specifications.

1.03 DEFINITION

- A. Surface Course: The upper course of asphaltic concrete placed on a roadway. Asphaltic Concrete Base Course: The lower lift(s) of asphaltic concrete generally placed on graded aggregate base (GAB), soil cement or other stabilized base material.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.
 - 1. Job-Mix Designs: For each job mix proposed for the Work.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of GDOT for asphalt paving work.
 - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.
- B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated, as documented according to ASTM E 548.

- C. Asphalt-Paving Publication: Comply with AI MS-22, "Construction of Hot Mix Asphalt Pavements,"
- D. Manufacturer Qualifications: A qualified manufacturer.
 - 1. Manufacturer shall be a paving-mix manufacturer registered with and approved by GDOT.
- E. Asphalt-Paving Publication: Comply with AI MS-22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated.

1.06 PROTECTION

- A. Contractor shall not park vehicles, store or stage any materials or equipment under the overhanging branches or the drip line of trees to be saved. Drip line is defined as the area of ground perpendicularly below the outer reaches of the tree's branches.
- B. Contractor shall review all construction adjustment considerations with the Owner's Representative prior to implementation.
- C. Contractor shall keep detailed field notes of all adjustments and changes.
- D. Contractor shall utilize gravel fill base material when paved surfaces, or trails are placed over any tree root system or under any tree canopies. Reference details on construction documents.
- E. Trees and roots shall be protected from damage both above grade and below ground by using the development process outlined in Part 3 – Execution. The tree penalty clause in the specifications shall apply.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with unbroken seals and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.08 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or

excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Prime Coat: Minimum surface temperature of 60 deg F.
 2. Tack Coat: Minimum surface temperature of 60 deg F.
 3. Slurry Coat: Comply with weather limitations in ASTM D 3910.
 4. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
 5. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 55 deg F for water-based materials, and not exceeding 95 deg F.

1.09 INSPECTION AND TESTING

- A. Roadway shall be hand probed immediately and prior to paving by a geotechnical consultant to determine structural conditions.

PART 2 - PRODUCTS

2.01 AGGREGATES

- A. General: Comply with Georgia Department of Transportation (GDOT) Standard Specifications for each mix indicated on the Drawings.
- B. Use materials and gradations that have performed indicated in construction drawings
- C. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel.
- D. Fine Aggregate: ASTM D 1073 or AASHTO M 29, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- E. Gravel: 57 stone
- F. Graded Aggregate Base (GAB).

2.02 ASPHALT MATERIALS

- A. Comply with Georgia Department of Transportation (GDOT) Standard Specifications for each mix indicated on the Drawings.

ASPHALT PAVING
32 1216-3

- B. Water: Potable.

2.03 AUXILIARY MATERIALS

- A. Pavement-Marking Paint: Use traffic line paints that meet the applicable requirements of GDOT Section 870.2.02.
 - 1. Color: As indicated.

2.04 MIXES

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:
 - 1. Comply with Georgia Department of Transportation Standard Specifications for each mix indicated on the Drawings.
 - 2. Base Course: as indicated on the Drawings.
 - 3. Surface Course: as indicated on the Drawings.

- B. Emulsified-Asphalt Slurry: ASTM D 3910, Type 2.

2.05 STAKING MATERIAL

- A. Staking Materials shall be placed in the field according to the plans and shall consist of the following:
 - 1. 1" x 2" x 3' tall stakes for centerline of trail.
 - 2. 1" x 2" x 18" tall stakes for corners.
 - 3. Plastic survey flagging tape:
 - a. Red – Indicates trees to remove
 - b. Yellow – Indicates trees to save
 - c. White – Indicates centerline
 - d. Pink – control points
 - 4. Wire Flags (Pink)
 - 5. 2" x 2" x 12" Hub stakes
 - 6. Mallet – Short handle for driving in stakes

PART 3 - EXECUTION

3.01 EQUIPMENT

- A. No track type equipment shall be used in the construction of this Work. Rubber tire vehicles shall be used exclusively and shall be limited to small back hoes, bobcats, pickup trucks, dump trucks and narrow paving machines of the type used for golf course cart paths. Equipment shall be light-weight, small scale vehicles capable of negotiating 8' to 10' wide pathways.
- B. Asphalt spreader machines shall have a spreader opening of width not to exceed (width of trail) and total width not to exceed (width of trail plus 2').

3.02 LAYOUT

- A. Contractor shall stake sidewalk coordinate control points as per the plans with hub stakes and tall stakes and shall flag stakes with pink surveying tape.
- B. Contractor shall stake the center line of the proposed sidewalk layout as per the plans with wire/flag stakes to indicate routes.
- C. Owner's Representative shall walk the stakeout to adjust the layout and flag trees to be removed with red surveying tape.
- D. The Owner's Surveyor shall make field notes and transfer field adjustments to the construction documents.
- E. Contractor shall prepare a construction stakeout of the sidewalk based on the revised layout and grading plans. Stakeout shall include horizontal and vertical (i.e. spot elevations) information.
- F. Contractor and Landscape Architect shall walk the stakeout again to make minor horizontal adjustments and to adjust the vertical grading.
- G. The Owner's Surveyor shall transfer revised data to the construction documents for contractor's reference.

3.03 CLEARING AND GRUBBING

- A. Clearing and grubbing shall be performed in accordance with the requirements of the specifications.
- B. Contractor shall remove trees and underbrush from the trail corridor. This shall be accomplished with a rubber tire tractor and bush hog. Small trees shall be cut off flush with the ground. Large trees shall be cut down by hand saws or uprooted and removed by knocking the tree down so that it falls within the trail corridor. All stumps shall be ground down 18"-24" below finished subgrade. Trees shall be cut into pieces and removed by small truck. No dragging of cut trees, tree trunks or limbs shall be permitted. No root rakes shall be permitted.

- C. Limbs, brush and treetops shall be removed or chipped and blown out into the adjacent woods.
- D. Contractor shall hand rake surface leaf mulch and humus away from trail bed. Contractor shall scatter this material in designated areas that will not be disturbed by construction. Soil mixed with ground up stump litter shall be removed from the trail corridor and not be left under the trail surface.

3.04 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

- A. Unless otherwise indicated or stipulated, the removal of structures, obstructions, etc., will be performed in accordance with the requirements of the specifications.

3.05 PARKING AND DRAINAGE EXCAVATION

- A. Trail and drainage excavation, as indicated on the Drawings or as directed by the Owner's Representative, shall be performed in accordance with the requirements of the specifications.

3.06 EMBANKMENT CONSTRUCTION

- A. Embankment construction, as indicated on the Drawings or as directed by the Owner's Representative, shall be performed in accordance with the provisions of Section "Clearing and Grubbing".

3.07 SUBGRADE PREPARATION

- A. If necessary, to cut roots on the uphill slope, it should be done prior to grading. Owner's Representative to give directions in the field.
- B. Fine grading shall proceed to remove bumps, dips and holes from trail bed. Stump holes must be filled and compacted. Drainage pipes, walls, bridge abutments, etc., may be constructed using the trail as an access route.
- C. Subgrade shall be shaped so that the finished Asphalt surface will slope to direct water into the natural drainage swales and conform to natural drainage patterns to the greatest extent possible within the limits imposed by the drawings and specifications. Cross slope shall be downhill at 2 percent.
- D. The subgrade for the trails shall be formed by exaction to a depth equal to the thickness of the asphalt and base course except where the trail passes under or through the drip line of a tree or trees. Contractor shall not excavate where the trail passes under or through the drip line of a tree or trees unless the soils are determined to be unstable.
- E. Rough grade of native soil shall be roller compacted to achieve maximum density as indicated on the Drawings.
- F. Yielding or unsuitable material shall be removed and backfilled with satisfactory

ASPHALT PAVING
32 1216-6

material except where the trail passes under or through the drip line of a tree or trees.

- G. Where yielding or unsuitable materials are found where the trail passes under or through the drip line of a tree or trees the geotechnical consultant shall be utilized to determine the subgrade conditions, to verify subgrade preparation specifications. Geotechnical test results for subgrade preparation shall be submitted to Owner's Representative for any specification revisions prior to beginning of Work.
- H. Final grade of subbase shall conform to the lay of the trail less than the depth of the asphalt and specified base.
- I. For thin based light duty trail, a geotextile fabric shall be placed along the trail prior to placing base material.

3.08 BASE COURSE

- A. Contractor shall work from within the proposed paving edges.
- B. Contractor shall place a minimum of graded aggregate base indicated in the construction documents. Base course shall be compacted thoroughly and finished to a smooth, unyielding surface and proper line, grade and cross section of the proposed construction. Density shall be shown on the plans or details.
- C. Except as indicated elsewhere, proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 - 1. Completely proof-roll subgrade. Limit vehicle speed to 3 mph.
 - 2. Proof roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
 - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- D. Where the trail passes under or through the drip line of a tree or trees, the Contractor shall place the base course and trail in accordance with the 'Root Bridge' detail in the plans. The geotechnical consultant shall be utilized to take soil borings as necessary to determine the subsurface conditions, to verify that base material specifications and details are sufficient to support the trails and specified uses. Geotechnical test results for base material shall be submitted to Owner's Representative for any base specification revisions prior to beginning of Work.
- E. Drainage pipes, wall, bridge abutments, etc., may be constructed using the trail as an access route only after base cover is placed and compacted. Light duty pipes may be placed prior to rough grading.

3.09 SURFACE PREPARATION

- A. Contractor shall place asphalt paving over the approved base.
- B. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
- C. Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.20 to 0.50 gal./sq. yd. Apply enough material to penetrate and seal but not flood surface. Allow prime coat to cure.
 - 1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated. Protect primed substrate from damage until ready to receive paving.
- D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.10 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at the temperature specified in the job mix formula with a tolerance of $\pm 20^{\circ}\text{F}$ ($\pm 11^{\circ}\text{C}$).
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.11 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 1. Clean contact surfaces free of sand, dirt, or other objectionable material and apply tack coat to joints.
 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
 6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.12 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement.
 1. Complete compaction before mix temperature cools to 185 deg F.
 2. Do not permit heavy equipment, including rollers, to stand on finished surface before it has thoroughly cooled or set.
 3. Compact hot mix paving with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
 4. Start rolling longitudinally at extreme lower side of sections and proceed toward center of pavement. Roll to slightly different lengths on alternate roller runs.

5. Do not roll centers of sections first under any circumstances.

B. Breakdown Rolling:

1. Complete breakdown or initial rolling immediately after rolling joints and outside edge.
2. Operate rollers as close as possible to edge without causing pavement displacement.
3. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness.
4. Repair displaced areas by loosening at once with lutes or rakes and filling, if required, with hot loose material before continuing rolling.

C. Intermediate Rolling:

1. Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density.
2. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 - i. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.

- D. Finish Rolling:** Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

- E. Edge Shaping:** While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

- F. Repairs:** Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

3.13 HEALING IN PAVING

- A. Shape and finish cut slopes, fill slopes, and embankment meets, or other areas effected by parking lot construction and installation and remove any construction debris.
- B. Prepare soil as specified in landscape specifications.
- C. Where applicable, sod or mulch (depending on existing adjacent conditions) to edge of parking lot curb, path / trail immediately after trail construction is completed to minimize erosion and increase aesthetics

3.14 PATCHING

- A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompress existing unbound-aggregate base course to form new subgrade.
- B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- C. Patching: Fill excavated pavements with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.15 REPAIRS

- A. Leveling Course: Install and compact leveling course consisting of hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch in existing pavements.
 - 1. Install leveling wedges in compacted lifts not exceeding 3 inches thick.
- B. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch.
 - 1. Clean cracks and joints in existing hot-mix asphalt pavement.
 - 2. Use emulsified asphalt slurry to seal cracks and joints less than 1/4 inch wide. Fill flush with surface of existing pavement and remove excess.
 - 3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inch wide. Fill flush with surface of existing pavement and remove excess.

3.16 INSTALLATION TOLERANCES

- A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus, or minus 1/2 inch.
 - 2. Surface Course: Plus 1/4 inch, no minus.
- B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot

straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch.
2. Surface Course: 1/8 inch.
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.17 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Owner's Representative.
- B. Allow paving to age for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply pavement marking in accordance with construction plans. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 1. Broadcast glass beads uniformly into wet pavement markings at a rate of 6lb/gal.

3.18 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances according to GDOT standards.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to GDOT standards.
- E. Replace and compact hot-mix asphalt where core tests were taken.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.19 CLEANING, DISPOSAL, PROTECTION AND MAINTENANCE

- A. Cleaning: After completion of paving operations, clean surfaces of excess or spilled asphalt materials to the satisfaction of the Owner's Representative.

- B. Disposal: Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow milled materials to accumulate on-site.
- C. Protection:
 - 1. After final rolling, do not permit vehicular traffic on asphalt pavement until it has cooled and hardened and in no case no sooner than six hours.
 - 2. Provide barricades and warning devices as required to protect pavement and the general public.
- D. Maintenance: The Contractor shall maintain the surfaces of pavement until the acceptance of the Project. Maintenance shall include replacement, overlay, milling and reshaping as necessary to prevent raveling of the road material, the preservation of smooth surfaces and the repair of damaged or unsatisfactory surfaces, to the satisfaction of the Owner's Representative.

END OF SECTION 32 1216

SECTION 32 1313
CONCRETE
PAVING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 apply to this Section.

1.02 SUMMARY

- A. Section Includes:
 - 1. Sidewalks
 - 2. Curbs and gutters.
 - 3. Driveways,
 - 4. Island curbs
 - 5. Other

1.03 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast- furnaces lag.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings:
 - 1. Joint plan, showing type and location, no smaller than the scale of the construction documents.
 - 2. Joint details, including dowels, where appropriate.
- C. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.
- D. Samples for Verification: For each type of product or exposed finish, prepared as Samples of size indicated below:
 - 1. Exposed Aggregate: 10-lb Sample of each mix.

CONCRETE PAVING
32 1313-1

E. Other Action Submittals:

1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

F. Qualification Data: For qualified ready-mix concrete manufacturer if requested.

G. Material Certificates: For the following, from manufacturer, if requested:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Fiber reinforcement.
4. Admixtures.
5. Curing compounds.
6. Applied finish materials.
7. Bonding agent or epoxy adhesive.
8. Joint fillers.

H. Material Test Reports: For each of the following:

1. Aggregates, if requested.

I. Field quality-control reports.

1.05 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

B. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field-Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

C. Concrete Testing Service: Engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.

- D. ACI Publications: Comply with ACI 301 unless otherwise indicated.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockups of full-thickness sections of concrete paving to demonstrate typical joints; surface finish (including the different types of broom finishes based on slope %), texture, and color; curing; and standard of workmanship.
 - 2. Build mockups of concrete paving in the location and of the size indicated or, if not indicated, build mockups where directed by Owner and not less than 96 inches by 96 inches.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless the Owner specifically approves such deviations in writing.
 - 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- F. Preinstallation Conference: Conduct conference at Project site if requested.
 - 1. Review methods and procedures related to concrete paving, including but not limited to, the following:
 - a. Concrete mixture design.
 - b. Quality control of concrete materials and concrete paving construction practices.
 - 2. Require representatives of each entity directly concerned with concrete paving to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete paving subcontractor.
 - e. Manufacturer's representative of stamped concrete paving system used for detectable warnings.

1.06 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicle and pedestrian traffic as required for other construction activities.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials or 55 deg F for water-based materials, and not exceeding 95 deg F.

CONCRETE PAVING
32 1313-3

PART 2 - PRODUCTS

2.01 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
 - 1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

All references to vendors and “approved manufacturers” are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by the City of Decatur.”

2.02 STEEL REINFORCEMENT

- A. Recycled Content: Provide steel reinforcement with an average recycled content of steel so postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 25 percent.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from steel wire into flat sheets.
- C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- D. Epoxy-Coated Welded Wire Reinforcement: ASTM A 884, Class A, plain steel.
- E. Reinforcing Bars: ASTM A 615, Grade 60 (Grade 420); deformed.
- F. Galvanized Reinforcing Bars: ASTM A 767, Class II zinc coated, hot dip galvanized after fabrication and bending; with ASTM A 615, Grade 60 (Grade 420) deformed bars.
- G. Epoxy-Coated Reinforcing Bars: ASTM A 775 or ASTM A 934; with ASTM A 615, Grade 60(Grade 420) deformed bars.
- H. Steel Bar Mats: ASTM A 184; with ASTM A 615, Grade 60 (Grade 420), deformed bars; assembled with clips.
- I. Plain-Steel Wire: ASTM A 82.
- J. Deformed-Steel Wire: ASTM A 496.
- K. Epoxy-Coated-Steel Wire: ASTM A 884, Class A coated.
- L. Joint Dowel Bars: ASTM A 615, Grade 60 (Grade 420) plain-steel bars. Cut bars true to length with ends square and free of burrs.

CONCRETE PAVING
32 1313-4

- M. Epoxy-Coated, Joint Dowel Bars: ASTM A 775; with ASTM A 615, Grade 60 (Grade 420), plain-steel bars.
- N. Tie Bars: ASTM A 615, Grade 60 (Grade 420), deformed.
- O. Hook Bolts: ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6), internally and externally threaded. Design hook-bolt joint assembly to hold coupling against paving form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- P. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:
 - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
- Q. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating, compatible with epoxy coating on reinforcement.
- R. Zinc Repair Material: ASTM A 780.

2.03 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, gray portland cement Type I or Type III. Supplement with the following as appropriate:
 - a. Fly Ash: ASTM C 618, Class C or Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
 - 2. Blended Hydraulic Cement: ASTM C 595 cement.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source with documented service-record data of satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials.
 - 1. Maximum Coarse-Aggregate Size: Per State Department of Transportation requirements.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Exposed Aggregate: Selected, hard, and durable; washed; free of materials with deleterious reactivity to cement or that cause staining; from a single source, with gap-graded coarse aggregate as follows:

CONCRETE PAVING
32 1313-5

1. Aggregate Sizes: Per State Department of Transportation requirements.
- D. Water: Potable and complying with ASTM C 94.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
 1. Water-Reducing Admixture: ASTM C 494, Type A.
 2. Retarding Admixture: ASTM C 494, Type B.
 3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
 4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
 6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

2.04 FIBER REINFORCEMENT

- A. Synthetic Micro-Fiber: Monofilament or fibrillated polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches long.
- B. Synthetic Macro Fiber: Polyolefin macro-fibers engineered and designed for use in concrete paving, complying with ASTM C 1116, Type III, minimum 1-1/2 inches long, a minimum aspect ratio of 70 shall provide a minimum tensile strength of 70 KSI.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Monofilament Fibers:
 - 1) Axim Italcementi Group, Inc.; FIBRASOL II P.
 - 2) Euclid Chemical Company (The), an RPM company; Fiberstrand 100, Fiberstrand 150.
 - 3) FORTA Corporation .
 - 4) Grace, W. R. & Co. - Conn.; Grace MicroFiber.
 - 5) Metalcrete Industries; Polystrand 1000.
 - 6) QC Construction Products; QC FIBERS.
 - 7) or approved equivalent.
 - b. Fibrillated Fibers:
 - 1) Axim Italcementi Group, Inc.; FIBRASOL F.
 - 2) Euclid Chemical Company (The), an RPM company; Fiberstrand F.
 - 3) FORTA Corporation .
 - 4) Grace, W. R. & Co. - Conn.; Grace Fibers.

CONCRETE PAVING
32 1313-6

- 5) Propex Concrete Systems Corp.; Fibermesh 300.
 - 6) or approved equivalent.
- c. Macro Fibers:
- 1) Euclid Chemical Company (The), an RPM company; TUF-STRAND SF.
 - 3) FORTA Corporation, FORTA-FERRO .
 - 4) Grace, W. R. & Co. - Conn.; Grace Fibers.
 - 5) Sika, STRUX 90/40.
 - 6) or approved equivalent.

2.05 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, dry or cotton mats.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Axim Italcementi Group, Inc.; Caltexol CIMFILM.
 - b. BASF Construction Chemicals, LLC; Confilm.
 - c. ChemMasters; Spray-Film.
 - d. Conspec by Dayton Superior; Aquafilm.
 - e. Dayton Superior Corporation; Sure Film (J-74).
 - f. Edoco by Dayton Superior; BurkeFilm.
 - g. Euclid Chemical Company (The), an RPM company; Eucobar.
 - h. Kaufman Products, Inc.; VaporAid.
 - i. Lambert Corporation; LAMBCO Skin.
 - j. L&M Construction Chemicals, Inc.; E-CON.
 - k. Meadows, W. R., Inc.; EVAPRE.
 - l. Metalcrete Industries; Waterhold.
 - m. Nox-Crete Products Group; MONOFILM.
 - n. Sika Corporation, Inc.; SikaFilm.
 - o. SpecChem, LLC; Spec Film.
 - p. Symons by Dayton Superior; Finishing Aid.
 - q. TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
 - r. Unitex; PRO-FILM.
 - s. Vexcon Chemicals Inc.; Certi-Vex EnvioAssist.
 - t. or approved equivalent.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating. Product composed of hydrocarbon resins and dissipating agents that begin to break down upon exposure to UV light and traffic within 4 to 6 weeks after application, resulting in a film removable with standard degreasing agents and mechanized scrubbing actions so as to not impair the later addition of applied finishes.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Anti-Hydro International, Inc.; A-H Curing Compound #2 DR WB.
 - b. ChemMasters; Safe-Cure Clear.
 - c. Conspec by Dayton Superior.
 - d. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
 - e. Edoco by Dayton Superior.
 - f. Euclid Chemical Company (The), an RPM company; Kurez W VOX.
 - g. Kaufman Products, Inc.; Thinfilm 420.
 - h. Lambert Corporation; AQUA KURE - CLEAR.
 - i. L&M Construction Chemicals, Inc.; L&M CURE R.
 - j. Meadows, W. R., Inc.; 1100-CLEAR SERIES.
 - k. Nox-Crete Products Group; Resin Cure E.
 - l. SpecChem, LLC; PaveCure Rez.
 - m. Symons by Dayton Superior; Resi-Chem Clear.
 - n. Tamms Industries, Inc., Euclid Chemical Company (The); TAMMSCURE WB 30C.
 - o. TK Products, Division of Sierra Corporation.
 - p. Vexcon Chemicals Inc.; Certi-Vex Enviocure 100.
 - q. or approved equivalent.
- F. White, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class A, dissipating.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Anti-Hydro International, Inc.; A-H Curing Compound #2 WP WB.
 - b. ChemMasters; Safe-Cure 2000.
 - c. Conspec by Dayton Superior .
 - d. Dayton Superior Corporation; Day-Chem White Pigmented Cure (J-10-W).
 - e. Edoco by Dayton Superior; Resin Emulsion Cure V.O.C. (Type II).
 - f. Euclid Chemical Company (The), an RPM company; Kurez VOX White Pigmented.
 - g. Kaufman Products, Inc.; Thinfilm 450.
 - h. Lambert Corporation; AQUA KURE - WHITE.
 - i. L&M Construction Chemicals, Inc.; L&M CURE R-2.
 - j. Meadows, W. R., Inc.; 1100-WHITE SERIES.
 - k. SpecChem, LLC; PaveCure Rez White.
 - l. Symons by Dayton Superior; Resi-Chem White.
 - m. Vexcon Chemicals Inc.; Certi-Vex Enviocure White 100.
 - n. or approved equivalent.

2.06 RELATED MATERIALS

- A. Joint Fillers: ASTM D 1751 Type II, asphalt-saturated cellulosic fiber in performed strips.
1. Premolded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated on the Drawings.

2. Use of multiple pieces of lesser dimensions to make up the required depth and width of the joint will not be permitted.
 3. Except as otherwise noted on the Drawings, joint filler shall be ½ inch thick
- B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nongrazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin capable of humid curing and bonding to damp surfaces; of class suitable for application temperature, of grade complying with requirements, and of the following types:
1. Types I and II, non-load bearing or Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Chemical Surface Retarder: Water-soluble, liquid, set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ChemMasters; Exposee.
 - b. Scofield, L. M. Company; LITHOTEX Top Surface Retarder.
 - c. Sika Corporation, Inc.; Rugasol-S.
 - d. SpecChem, LLC; Spec Etch.
 - e. TK Products, Division of Sierra Corporation; TK-6000 Concrete Surface Retarder.
 - f. Unitex; TOP-ETCH Surface Retarder.
 - g. Vexcon Chemicals Inc.; Certi-Vex Envioset.
 - h. or approved equivalent.
- F. Pigmented Mineral Dry-Shake Hardener: Factory-packaged, dry combination of portland cement, graded quartz aggregate, color pigments, and plasticizing admixture. Use color pigments that are finely ground, nonfading mineral oxides interground with cement.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ChemMasters; ConColor.
 - b. Scofield, L. M. Company; LITHOCHROME Color Hardener.
 - c. Symons by Dayton Superior; Hard Top.
 - d. or approved equivalent.

2. Color: As selected by Owner from manufacturer's full range.

- G. Rock Salt: Sodium chloride crystals, kiln dried, coarse gradation with 100 percent passing 3/8-inch sieve and 85 percent retained on a No. 8 sieve.

2.07 DETECTABLE WARNING MATERIALS

- A. Detectable Warning Stamp: Semirigid polyurethane mats with formed underside capable of imprinting detectable warning pattern on plastic concrete; perforated with a vent hole at each dome.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Advanced Surfaces Inc.
- b. Matcrete Precision Stamped Concrete Tools.
- c. Southern Color N.A., Inc.
- d. Stampcrete International Ltd.
- e. Superior Decorative by Dayton Superior.
- f. or approved equivalent.

2. Size of Stamp: One piece matching detectable warning area.

- B. Liquid Release Agent: Manufacturer's standard, clear, evaporating formulation designed to facilitate release of stamp mats.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Advanced Surfaces Inc.; Liquid Release.
- b. Matcrete Precision Stamped Concrete Tools; Liquid Release Agent.
- c. Southern Color N.A., Inc.; SCC Clear Liquid Release.
- d. Stampcrete International Ltd.; Stampcrete Liquid Release.
- e. Superior Decorative by Dayton Superior; Pro Liquid Release.
- f. or approved equivalent.

2.08 PAVEMENT MARKINGS

- A. Pavement-Marking Paint: Alkyd-resin type, lead and chromate free, ready mixed, complying with AASHTO M 248, colors complying with FS TT-P-1952.

1. Color: As indicated.

- B. Pavement-Marking Paint: MPI #32 Alkyd Traffic Marking Paint.

1. Color: As indicated.

- C. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, Type II.

1. Color: As indicated.

CONCRETE PAVING
32 1313-10

D. Pavement-Marking Paint: MPI #97 Latex Traffic Marking Paint.

1. Color: As indicated.

E. Glass Beads: AASHTO M 247, Type 1.

2.09 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.

B. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 3000 psi.
2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.50.
3. Slump Limit: 4 inches, plus or minus 1 inch.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 4.0 to 5.5 percent.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use admixtures in concrete as required for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

F. Cementitious Materials: Limit percentage by weight of cementitious materials other than portland cement according to ACI 301 requirements as follows:

1. Fly Ash or Pozzolan: 25 percent.
2. Ground Granulated Blast-Furnace Slag: 50 percent.
3. Combined Fly Ash or Pozzolan, and Ground Granulated Blast-Furnace Slag: 50 percent, with fly ash or pozzolan not exceeding 25 percent.

G. Synthetic Microfiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate for application and performance required, but not less than 1.0 lb/cu. Yd.

CONCRETE PAVING
3 2 1313-11

- H. Synthetic Macro Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate for application and performance required, but not less than 3.0 lb/cu. Yd.
 - 1. Submit fiber manufacturer's documentation indicating that proposed fiber dosage will provide a minimum Re3 (RDT150) value of 35% in accordance with ASTM C 1609.
- I. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94 and ASTM C 1116. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For concrete batches of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For concrete batches larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
 - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixing time, quantity, and amount of water added.
- C. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C 109/C 109M.

CONCRETE PAVING
3 2 1313-12

- D. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
 4. Compressive Strength: Not less than 9000 psi at 28 days when tested according to ASTM C 109/C 109M.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.
 2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 10 tons.
 3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2inch according to requirements in Section 312000 "Earth Moving.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 AGGREGATE BASE COURSE

- A. Aggregate base course for paving and the spreading, grading and compaction methods employed shall conform to standard requirements for usual base course of this type for first class work and the following:
1. GDOT Specification Section 310, Graded Aggregate Construction.
- B. Compaction of aggregate base course shall be to 95% of maximum density as determined by ASTM D 1557, Method D. Stone greater than 2-1/2 inches shall be excluded from course.

CONCRETE PAVING
3 2 1313-13

- C. Width of base course shall be greater than or equal to the width of pavement surface, if continuous lateral support is provided during rolling, and shall extend at least 2 x base thickness beyond the edge of the course above, if not so supported.
- D. Aggregate material shall be applied in lifts less than or equal to 6 inches thick, compacted measure. Each lift shall be separately compacted to specified density, using a 6 ton steel wheel roller or vibratory roller equivalent to a 6-ton static roller, or an approved equivalent. Completely proof-roll subbase and base course in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 MPH.
 - 1. Material shall be placed adjacent to wall, manhole, catch basin and other structures only after they have been set to required grade and level.
 - 2. Rolling shall begin at sides and progress to center of crowned areas and shall begin on low side and progress toward high side of sloped areas. Rolling shall continue until material does not creep or wave ahead of roller wheels.
 - 3. Surface irregularities (pumping or rutting) which exceed ½ inch measured by means of a 10-foot-long straightedge shall be corrected according to the requirements in Division 31 Section "Earthwork."
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected.
- E. Subgrade and base course shall be kept clean and uncontaminated. Less select materials shall not be permitted to become mixed with gravel. Materials spilled outside pavement lines shall be removed and area repaired.
- F. Portions of subgrade or of construction above which become contaminated, softened or dislodged by passing of traffic, or otherwise damaged, shall be cleaned, replaced and otherwise repaired to conform to the requirements of the specification before proceeding with the next operation.

3.03 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.04 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screen guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.05 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

CONCRETE PAVING
3 2 1313-14

- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Zinc-Coated Reinforcement: Use galvanized-steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.
- F. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963.
- G. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.06 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
 - 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
 - 1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
 - 2. Provide tie bars at sides of paving strips where indicated.
 - 3. Butt Joints: Use bonding agent or epoxy bonding adhesive at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 - 4. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
 - 5. Doweled Joints: Install dowel bars and support assemblies at joints where indicated.

CONCRETE PAVING
3 2 1313-15

Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, buildings, and other fixed objects, and where indicated.
1. Locate expansion joints at intervals shown on the drawings or a minimum of 50 feet.
 2. Extend joint fillers full width and depth of joint.
 3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas at maximum spacing of 15 ft. on center each way or as shown on the drawings. Complete contraction jointing within twelve hours of concrete placement
- E. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
1. Grooved Joints: As soon as concrete can be worked without raveling, form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 3/8-inch maximum radius. Repeat grooving of contraction joints after applying surface finishes.
 - a. Tolerance: Ensure that grooved joints are within 2 inches either way from centers of dowels.
 2. Sawed Joints: As soon as concrete can be worked without raveling, form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
 - a. Tolerance: Ensure that sawed joints are within 2 inches either way from centers of dowels.
 3. Doweled Contraction Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.
 4. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 3/8-inch maximum radius. Repeat tooling of edges after applying surface finishes.

3.07 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.
- B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
 - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement dowels and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.
- K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.
 - 1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.
- L. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
 - 1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow.

CONCRETE PAVING
32 1313-17

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.
- M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.08 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared, and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
 2. Medium-to-Fine-Textured Broom Finish on slopes less than 5%: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
 3. Medium-to-Coarse-Textured Broom Finish on slopes greater than 5%: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff- bristled broom, perpendicular to line of traffic.

3.09 SPECIAL FINISHES

- A. Monolithic Exposed-Aggregate Finish: Expose coarse aggregate in paving surface as follows:
1. Immediately after float finishes, spray-apply chemical surface retarder to paving according to manufacturer's written instructions.
 2. Cover paving surface with plastic sheeting, sealing laps with tape, and remove when ready to continue finishing operations.
 3. Without dislodging aggregate, remove mortar by concealing the aggregate by lightly brushing surface with a stiff, nylon-bristle broom. Do not expose more than one-third of the average diameter of the aggregate and not more than one-half of the diameter of the smallest aggregate.

4. Fine-spray surface with water and brush. Repeat cycle of flushing and brushing until cement film is removed from aggregate surfaces to depth required.
- B. Seeded Exposed-Aggregate Finish: Immediately after initial floating, spread a single layer of aggregate uniformly on paving surface. Tamp aggregate into plastic concrete and float finish to entirely embed aggregate with mortar cover of 1/16 inch.
1. Spray-apply chemical surface retarder to paving according to manufacturer's written instructions.
 2. Cover paving surface with plastic sheeting, sealing laps with tape, and remove sheeting when ready to continue finishing operations.
 3. Without dislodging aggregate, remove mortar concealing the aggregate by lightly brushing surface with a stiff, nylon-bristle broom. Do not expose more than one-third of the average diameter of the aggregate and not more than one-half of the diameter of the smallest aggregate.
 4. Fine-spray surface with water and brush. Repeat cycle of water flushing and brushing until cement film is removed from aggregate surfaces to depth required.
- C. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on paving surface according to manufacturer's written instructions and as follows:
1. Uniformly spread slip-resistive aggregate over paving surface at the recommended rate in two applications. Tamp aggregate flush with surface using a steel trowel, but do not force below surface.
 2. Uniformly distribute approximately two-thirds of slip-resistive aggregate over paving surface with mechanical spreader, allow to absorb moisture, and embed by power floating. Follow power floating with a second slip-resistive aggregate application, uniformly distributing remainder of material at right angles to first application to ensure uniform coverage and embed by power floating.
 3. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.
 4. After curing, lightly work surface with a steel wire brush or abrasive stone and water to expose nonslip aggregate.
- D. Rock-Salt Finish: After initial floating, uniformly spread rock salt over paving surface at the rate of 5 lb/100 sq. ft.
1. Embed rock salt into plastic concrete with roller or float.
 2. Cover paving surface with 1-mil- thick polyethylene sheet and remove sheet when concrete has hardened and seven-day curing period has elapsed.
 3. After seven-day curing period, saturate concrete with water and broom-sweep surface to dissolve remaining rock salt, thereby leaving pits and holes.

- E. Pigmented Mineral Dry-Shake Hardener Finish: After initial floating, apply dry-shake materials to paving surface according to manufacturer's written instructions and as follows:
1. Uniformly spread dry-shake hardener at a rate recommended by manufacturer to match paving color required.
 2. Uniformly distribute approximately two-thirds of dry-shake hardener over the concrete surface with mechanical spreader; allow hardener to absorb moisture and embed it by power floating. Follow power floating with a second application of pigmented mineral dry-shake hardener, uniformly distributing remainder of material at right angles to first application to ensure uniform color and embed hardener by final power floating.
 3. After final power floating, apply a hand-trowel finish followed by a broom finish.
 4. Cure concrete with curing compound recommended by dry-shake hardener manufacturer. Apply curing compound immediately after final finishing.

3.10 DETECTABLE WARNINGS

- A. Block outs: Form block outs in concrete for installation of detectable paving units specified in Division 32.
1. Tolerance for Opening Size: Plus 1/4 inch, no minus.
- B. Stamped Detectable Warnings: Install stamped detectable warnings as part of a continuous concrete paving placement and according to stamp-mat manufacturer's written instructions.
1. Before using stamp mats, verify that the vent holes are unobstructed.
 2. Apply liquid release agent to the concrete surface and the stamp mat.
 3. Stamping: While the initially finished concrete is plastic, accurately align and place stamp mats in sequence. Uniformly load, gently vibrate, and press mats into concrete to produce imprint pattern on concrete surface. Load and tamp mats directly perpendicular to the stamp mat surface to prevent distortion in shape of domes. Press and tamp until mortar begins to come through all the vent holes. Gently remove stamp mats.
 4. Trimming: After 24 hours maximum, cut off the tips of mortar formed by the vent holes.
 5. Remove residual release agent according to manufacturer's written instructions, but no fewer than three days after stamping concrete. High-pressure-wash surface and joint patterns, taking care not to damage stamped concrete. Control, collect, and legally dispose of runoff.

3.11 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.

- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.12 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:
 - 1. Elevation: 3/4 inches.
 - 2. Thickness: Plus 3/8-inch, minus 1/4 inch.
 - 3. Surface: Gap below 10-foot long, unleveled straightedge not to exceed 1/2 inch.
 - 4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches of tie bar.
 - 5. Lateral Alignment and Spacing of Dowels: 1 inch.
 - 6. Vertical Alignment of Dowels: 1/4 inch.
 - 7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4-inch per 12 inches of dowel.

CONCRETE PAVING
32 1313-21

8. Joint Spacing: 3 inches.
9. Contraction Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.

3.13 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints, leave contact faces of joint clean and dry.
- C. Install semi-rigid joint filler. Overfill joint and trim joint filler flush with top of joint after hardening.

3.14 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Owner.
- B. Allow concrete paving to cure for a minimum of 28 days and be dry before starting pavement marking.
- C. Sweep and clean the surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, firmly secured to concrete surface. Mask an extended area beyond edges of each stencil to prevent paint application beyond stencil. Apply paint so that it cannot run beneath stencil.
 2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal.

3.15 FIELD QUALITY CONTROL

- A. Testing Agency: **Contractor will engage a qualified testing agency to perform tests and inspections.**
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 1. Testing Frequency: Obtain at least one composite sample for each 5000 sq. ft. or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39; test one specimen at seven days and two specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three-consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500psi.
- D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, son scope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- G. Concrete paving will be considered defective if it does not pass tests and inspections.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Prepare test and inspection reports.

3.16 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with Portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spilling materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign materials. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 1313

SECTION 32 1373
CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01.

1.02 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Hot-applied joint sealants.

1.03 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, Samples of materials that will contact or affect joint sealants.
 - 1. Use ASTM C 1087 or manufacturer's standard test method to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Submit no fewer than three (3) pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
 - 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
 - 5. Testing will not be required if joint-sealant manufacturers submit joint-preparation data that are based on previous testing, not older than 24 months, of sealant products for compatibility with and adhesion to joint substrates and other materials matching those submitted.

1.04 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in ½ inch wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

- C. Pavement-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.
- D. Qualification Data: For qualified Installer, if requested.
- E. Product Certificates: For each type of joint sealant and accessory, from manufacturer.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.
- G. Preconstruction Compatibility and Adhesion Test Reports: From joint- sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility with and adhesion to joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
- D. Preinstallation Conference: Conduct conference at Project site.

1.06 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by a joint-sealant manufacturer.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Owner from manufacturer's full range.
- C. All references to vendors and "approved manufacturers" are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by the City of Decatur."

2.02 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Nonsag, Silicone Joint Sealant for Concrete: ASTM D 5893, Type NS.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Crafcro Inc., an ERGON company; Road Saver Silicone.
 - b. Dow Corning Corporation; 888.
 - c. Pecora Corporation; 301 NS.
 - d. Or Approved Equivalent.
- B. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Crafcro Inc., an ERGON company; Road Saver Silicone SL.
 - b. Dow Corning Corporation; 890-SL.
 - c. Pecora Corporation; 300 SL.
 - d. Or Approved Equivalent.
- C. Multicomponent, Pourable, Traffic-Grade, Urethane Joint Sealant for Concrete: ASTM C 920, Type M, Grade P, Class 25, for Use T.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; Urexpan NR-200.
 - b. Or Approved Equivalent.

2.03 HOT-APPLIED JOINT SEALANTS

- A. Hot-Applied, Single-Component Joint Sealant for Concrete: ASTM D 3406.
 - 1. Products: Subject to compliance with requirements, available products that maybe incorporated into the Work include, but are not limited to, the following:
 - a. Crafcro Inc., an ERGON company; Super seal 444/777.
 - b. Or Approved Equivalent.
- B. Hot-Applied, Single-Component Joint Sealant for Concrete and Asphalt: ASTM D 6690, Types I, II, and III.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Meadows, W. R., Inc.; Seal tight Hi-Spec or Seal tight 3405.
 - b. Right Pointe; D-3405 Hot Applied Sealant.
 - c. Or Approved Equivalent.

2.04 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- D. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.05 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.03 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturers' written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place joint sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Non-sag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
 - 1. Remove excess joint sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.04 CLEANING

- A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.05 PROTECTION

- A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.06 PAVEMENT-JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Joints within cement concrete pavement.
 - 1. Joint Location:
 - a. Expansion and isolation joints in cast-in-place concrete pavement.
 - b. Contraction joints in cast-in-place concrete slabs.
 - c. Other joints as indicated.
 - 2. Silicone Joint Sealant for Concrete: Single component, non-sag.
 - 3. Urethane Joint Sealant for Concrete: Multicomponent, pourable, traffic-grade.
 - 4. Hot-Applied Joint Sealant for Concrete: Single component.
 - 5. Joint-Sealant Color: As selected by Owner from manufacturer's full range.
- B. Joint-Sealant Application: Joints between cement concrete and asphalt pavement.
 - 1. Joint Location:
 - a. Joints between concrete and asphalt pavement.
 - b. Joints between concrete curbs and asphalt pavement.
 - c. Other joints as indicated.
 - 2. Hot-Applied Joint Sealant for Concrete and Asphalt: Single component.
 - 3. Joint-Sealant Color: As selected by Owner from manufacturer's full range.

END OF SECTION 32 1373

SECTION 32 9000

LAWNS AND GRASSES

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Removal of existing vegetation.
- B. Grading of sodded and seeded areas.
- C. Extent of Sodding and Seeding as indicated on Drawings and in Schedules.
- D. Provide and furnish all labor, materials and equipment required or inferred from Drawings and Specifications to complete the Work of this Section.
- E. The placement of the sod shall be sequenced in such a manner as to allow proper root growth and establishment prior to the completion of the project and acceptance by the City and the Property Owner.

1.02 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. American Society for Testing and Materials (ASTM): C 136 Sieve Analysis of Fine and Coarse Aggregates D 422 Particle-Size Analysis of Soils E11 Wire-Cloth Sieves for Testing Purposes
 - 2. American Sod producers Association –Guideline Specifications for Sodding: FSO-F-241 Fertilizers, Mixed, Commercial

1.03 SUBMITTALS

- A. Approval: Obtain approval from Owner's Representative for all submittals prior to beginning of Work, unless otherwise noted.
- B. Onsite Topsoil Sample: Submit 1 quart container of topsoil proposed for use.
- C. Import Soil Mix Sample: Submit 1 quart container of proposed imported topsoil that is being imported as a component of the soil mix.
- D. Soil Report: Submit results of laboratory soil tests of on-site soil and proposed topsoil for soil mix.

- E. Fertilizer Analysis: (to be used in soil mix and on lawn areas) Submit label or technical data for fertilizer bearing the trade name, manufacturer's name, weight and analysis.
- F. Planting Schedule: Submit sod schedule showing scheduled of planting in each area of site, prior to beginning of the Work.
- G. Grass Seed Certification: Prior to acceptance of sod, submit seed vendor's certified statement for each grass seed mono-stand or mixture required, stating botanical and common name, percentage by weight of each species and variety, and percentages of purity, germination, and weed seed. Include the year of production and the date of packaging.
 - 1. Certification of each seed mixture for turfgrass sod, identifying source, including name and telephone number of the supplier

1.04 QUALITY ASSURANCE

- A. Source Quality Control
 - 1. General: Only plant material grown in a recognized nursery in accordance with good horticultural practice will be accepted. Provide healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, abrasions or disfigurement.
 - 2. Inspection of Sod Material prior to Striping:
 - a. Contractor must locate where the sod material to be supplied for the Project and inform the Owner's Representative in writing of location.
 - c. In the event plant material is found to be unacceptable, the Contractor will pursue other sources until acceptable sod material is found at no additional cost to the Owner.
 - d. Approval at the sod source does not impair the right of the Owner's Representative to inspect and reject material at the time of shipping or during installation of the Work.
 - 3. Shipping:
 - a. Ship sod materials with certificates of inspection required by governing authorities. Inspection by Federal and/or State Governments at Grower does not preclude rejection of sod at the site by the Owner's Representative. Comply with regulations applicable to landscape materials. Prepare sod for shipment to prevent damage.
- B. Do not make substitutions: If specified sod material is not obtainable, submit to Owner's Representative proof of non-availability and proposal for use of equivalent material. For proof of non-availability submit a written statement from a minimum of 6 reliable Nursery Sources (American Nurserymen's Association Members) that the sod in question is not obtainable in the Eastern United States.

- C. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- D. Topsoil: Before delivery of topsoil, furnish Owner's Representative with written statement stating location of property from which topsoil is to be obtained, depth to be stripped, and crops grown during past 2 years.
- E. Soil Report: Contractor shall engage a reputable laboratory to provide testing and analysis of stockpiled soils to be used in soil mixes. In the report, list fertilization and soil amendment recommendations to ensure vigorous growth for all plants specified. The soil report shall include analysis of a minimum of three soil samples from different locations on site.
- F. Approval and Selection of Materials and Work: The selection of all materials and the execution of all operations required under the Drawings and Specifications is subject to the approval of the Owner's Representative and the Owner. They have the right to reject any and all materials and any and all Work which, in their opinion, does not meet the requirements of the Contract Documents at any stage of the operations. The Contractor shall remove rejected work and/or materials from Project site and replace promptly.
- G. Sod Installation: Installation of the sod including the preparation of the prescribed soil mix, grading and installation of sod shall be performed by a contractor experienced in installation.
- H. Only experienced Sod Contractors or subcontractors meeting all of the following qualifications will be considered this Work. If the Design/Builder proposes to self-perform the Work described herein, the Contractor shall list previous projects in which sod has successfully been installed on the same scope of size.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored on site.
- B. Sod: Time delivery so that sod will be placed within 24 hours after stripping. Protect sod against drying and breaking of rolled strips.

1.06 JOB CONDITIONS

- A. Insurance on plant material and other materials stored or installed is the responsibility of the Contractor. Such insurance shall cover fire, theft and vandalism. Should the Contractor elect not to provide such insurance, he will in no way hold the Owner responsible for any losses incurred by the aforementioned acts. The Contractor is responsible for all costs incurred in replacing damaged or stolen materials prior to Date of Substantial Completion of the Work.

- B. Proceed with and complete the Work as rapidly as portions of Site become available.
- C. Existing Utilities: Determine location of underground utilities. Perform Work in a manner which will avoid possible damage. Excavate as required. Maintain grade stakes set by others unless removal is mutually agreed upon by parties concerned. All damage to utilities resulting from Work covered in these Contract Documents will be repaired at the Contractor's own expense.
- D. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Owner's Representative in writing before planting. If the Contractor plants over rubble, unsuitable fill, etc., the Contractor shall remove the planting and replace the planting at no additional cost to the Owner.
- E. Watering shall be done regularly by the Contractor to establish and maintain healthy lawn until warranty period has expired. Water source and all fees associated shall be the responsibility of the Contractor at no additional cost to the Owner.

1.07 PLANTING SEASON

- A. Planting season shall be as follows:

Material	Planting Season	
	<u>Spring</u>	<u>Fall</u>
Seeding: Cool Season:	March 01 to May 15	September 01 to November 15
Sodding: Cool Season:	March 01 to May 15	September 01 to November 15
Warm Season;	April 15 to August 15	Sodding:

- 1. Dormant Bermuda Grass sod may be installed; however, Contractor shall assume full responsibility for all sod through establishment and acceptance. Owner will not pay for dormant sod until fully established during season.
- B. Planting shall only be performed when weather and soil conditions are suitable for planting the material specified in accordance with locally accepted practice.
- C. Planting season may be extended with the written permission of the Design Professional.

1.08 ACCEPTANCE

- A. Acceptance:
 - 1. Acceptance of material by the Design Professional will be for general conformance to specified requirements and shall not relieve the Contractor of responsibility for full conformance to the Contract Documents.
- B. Sod and seed areas will be accepted when in compliance with all the following conditions:
 - 1. Roots are thoroughly knit to the soil.
 - 2. Absence of visible joints (sodded areas).
 - 3. All areas show a uniform stand of specified grass in healthy condition;
 - a. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close

stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and barespots not exceeding 6 by 6 inches.

- b. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well- rooted, even-colored, viable lawn has been established, free of weeds, openjoints, bare areas, and surface irregularities.
4. At least 60 days have elapsed since the completion of work under this Section.

1.09 WARRANTY

- A. Warranty for a period of one year, following the Date of Substantial Completion, all grass against any defects (including: death and unsatisfactory growth) as determined by the Owner's Representative. Defects resulting from neglect by the Owner, abuse or damage by others, or unusual phenomenon or incidents beyond the Contractor's control are expected. Should questions arise concerning the responsibility of replacement, the Owner's Representative will be available for arbitration provided the Owner and Contractor mutually desire.
- B. Remove and replace all lawn found to be dead or in unhealthy condition during warranty period as determined by Owner's Representative or Owner. Make replacements as soon as weather conditions permit.
- C. Replacements: Match adjacent specimens of same species. Replacements are subject to all requirements stated in the Contract Documents and are subject to inspection by the Owner's Representative prior to removal.
- D. Repair grades, lawn areas, paving and any other damage resulting from replacement planting operations, at no additional cost to the Owner.
- E. Inspect Project Site monthly during warranty period to determine what changes, if any, should be made in the maintenance program. Submit all recommended changes in writing to the Owner.
- F. Replacements made during the Warranty Period or following inspection for Final Acceptance will carry on additional one year warranty beginning at the time of replacement.

PART 2 PRODUCTS

2.01 NATIVE / TOPSOIL

- A. Native / topsoil shall be stockpiled for re-use in Landscape Work. Native / topsoil shall be screened using a mobile mechanical screening machine with a 1/2" size sieve. If quantity or quality of stockpiled topsoil is insufficient, provide additional topsoil as required to complete Work.
- B. Imported Topsoil: Provide new topsoil, which is fertile, friable, natural loam, surface soil, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of

roots, stumps, stones larger than 1/2" in any dimension, and other extraneous or toxic matter harmful to plant growth. The Owner's Representative reserves the right to require that the material be screened for use in Soil Mix.

- C. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at Project Site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes, unless specified. Soil shall have a pH value between 5.5 and 6.5 and an organic matter content of 5% to 10% of total dry weight.
- D. All references to vendors and "approved manufacturers" are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by The City of Decatur."

2.02 ORGANIC COMPOST

- A. Compost shall be derived from organic wastes that meet all State Environmental Agency requirements. The product shall be well composted, free of viable weed seeds and contain material of a generally humus nature capable of sustaining growth of vegetation, with no materials toxic to plant growth.

1. Compost shall have the following properties:

<u>Parameters</u>	<u>Range</u>
pH	5.5 - 7.5
Ash content	no less than 8% & no more than 40%
Salt content	less than 10 millimho/cm 25 degrees C
Moisture content	45% - 65%
Organic particle size	75% - 100% pass through 1.5mm sieve
C:N ratio	<25:1
Foreign Matter	<1% (dry weight)
Organic amendment	5 – 8 on Solvita Maturity test

- 2. No sludge-based materials, including municipal sewage sludge, and no bio-solids of any kind, and no sludge-based derivatives shall occur in the product or any product component or in any manufacturing processes.
- 3. Finished compost shall be free of stones, debris, plant material and other deleterious materials.
- 4. Occurrence of metals and contaminants shall meet or exceed minimums of U.S. EPA Standard 40.

2.03 SOIL AMENDMENTS

- A. Lime: ASTM C602, agricultural limestone containing a minimum of 85% calcium carbonate equivalent and as follows:

LAWNS AND GRASSES
32 9000-6

1. Class T, ground so that not less than 90% passes through a No. 8 mesh sieve and a minimum of 75% passes through a No. 60 mesh sieve.
 2. Class O, ground so that not less than 95% passes through a No. 8 mesh sieve and a minimum of 55% passes through a No. 60 mesh sieve
 3. Provide lime in form of dolomitic limestone.
- B. Bonemeal: Commercial, raw, finely ground; 4% nitrogen and 20% phosphoric acid.
- C. Superphosphate: Soluble mixture of treated minerals; 20% available phosphoric acid.
- D. Sand: USGA Clean, washed, natural or manufactured, free of toxic materials.
- E. Commercial Fertilizer: Complete fertilizer of neutral character, consisting of fast and slow-release nitrogen, with some elements derived from organic sources and containing following percentages of available plant nutrients:
1. For lawns, provide fertilizer in accordance with results and recommendations of soil report relative to lawn installation. Provide nitrogen in a form that will be available to lawn during initial period of growth. A minimum composition of 1 lb/1000 sq. ft. of actual nitrogen, 4% phosphorus and 2% potassium by weight.
- F. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50% water insoluble nitrogen, phosphorus and potassium:
1. For lawns, provide fertilizer in accordance with results and recommendations of soil report relative to lawn installation. Provide nitrogen in a form that will be available to lawn during initial period of growth. A minimum composition of 20% nitrogen, 10% phosphorus and 10% potassium by weight

2.04 SOIL MIX FOR SOD

- A. Sod – 4”-6” depth:
20% Screened Existing or Native Topsoil
70% USGA Sand
10% Organic Compost
Provide amended topsoil as recommended by soil analysis.
- B. Top Dressing for all sod – ½” depth: 5% Screened Existing or Native Topsoil
90% USGA Sand
5% Organic Compost
Provide amended topsoil as recommended by soil analysis.

2.05 PLANT MATERIALS

- A. Seed Material
1. Seed mixture: A mix of native (Georgia) grasses and wildflowers are to be hydroseeded at a minimum rate of 20 pounds per acre with ‘Southeastern U.S. Roadside Native Mix’ as well as a minimum rate of 3 pounds per acres
 2. of ‘Southeastern Annual & Perennial Wildflower Mix’ ERNMX-169). Entire area

shall be seeded with a cover crop of Brown Top Millet at a minimum rate of 10 pounds per acre.

a. Approved Seed Providers:

- i. Ernst Seeds (Phone: 800.873.3321)
- ii. Or approved equivalent

B. Sod Materials

1. Sod: Provide strongly rooted sod, not less than 2 years old and free of weed and undesirable native grasses. Only provide sod capable of growth and development when planted (viable, not dormant). Provide machine cut sod of a uniform minimum soil thickness of 5/8 inch, plus thickness of top growth and thatch. Rolled sod should be placed using equipment intended for rolled sod installation. Sod for all other lawns should consist of pieces consistent in size and shape. All sod must be a true certified turfgrass.
2. Certified Turfgrass Sod: Tiftuf all areas, including limitations on thatch, weeds, diseases, nematodes and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color and texture, strongly rooted and capable of vigorous growth and development when planted.
 - a. All sod shall be Bermuda and or match the adjacent property owner grass type when replacing outside the right of way.

C. Size of Sod:

1. Furnish either big roll or block sod. Ensure that big roll sod is a minimum of 21 in. wide x 52 ft. long. Minimum dimensions for block sod shall be 12 in. wide x 22 in. long. Ensure that all sod consists of uniform soil thickness of not less than 1 in.

D. Strength of Sod Strips: Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape if suspended vertically when grasped in the upper 10% of the section.

E. Moisture Content: Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

F. Time Limitations: Sod shall be harvested, delivered, and transplanted within a 36-hour period unless a suitable preservation method is approved prior to delivery. Sod not transplanted within this period shall be inspected and approved by the Design Professional prior to its installation.

G. Thatch: Sod shall be relatively free of thatch. A maximum of 1/2 in. (uncompressed) thatch will be permitted.

H. Diseases, Nematodes, and Insects: Sod shall be free of diseases, nematodes, and soil-borne insects. State Nursery and Plant Materials Laws require that all sod be inspected and approved for sale. The inspection and approval must be made by the State Agricultural Department, Office of the State Entomologist.

- I. Weeds: Sod shall be free of objectionable grassy and broad leaf weeds. Turfgrass sod shall be considered free of such weeds if less than five such plants are found per 100 sq. ft. of area.
 1. Turfgrass sod shall not be acceptable if it contains any of the following weeds: common bermudagrass (wiregrass), quack grass, Johnson grass, poison ivy, nutsedge, nimble will, Canada thistle, bindweed, bent grass, wild garlic, ground ivy, **perennial sorrel and brome grass**.

2.06 SOD FARM GROWING MEDIUM

- A. Soil in which sod was grown shall be classified as loam or sandy loam (silt loam is not acceptable) and shall conform to the following grain size distribution for material passing the #10 sieve:

<u>U.S. Sieve No.</u>	<u>% Passing by Weight</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	100	---
20	75	100
40	30	85
100	12	45
270	5	25
0.002 mm	1	4

1. The maximum retained on the #10 sieve shall be 15% by weight of the total sample.
2. Tests shall be combined hydrometer and wet sieving in compliance with ASTM D422.
3. The organic content shall be between 3.0 and 8.0 percent.

2.07 WEED CONTROL

- A. Weed control for stockpiled topsoil shall be a non-selective weed killer for control of grassy and broadleaf weeds; weed control shall have short residual, allowing seeding and sodding operations to occur within 7 days of application.

2.08 HYDRO SEEDING PRODUCTS

- A. Wood Fiber Mulch and Tackifier utilized in the hydroseeding process shall comply with the Department of Transportation, State of Georgia Special Provisions, Section 700 – Grassing. Refer to Plans for other seeding mixes.

2.09 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Sod Staples: Biodegradable staples: Ecoturf Sod Staples or approved equivalent.

PART 3 EXECUTION

3.01 PREPARATION

A. General

1. Contractor shall examine conditions under which planting is to be installed, review applicable architectural and engineering drawings, and be familiar with alignment of underground utilities before digging. The Contractor shall meet with the Owner's Representatives before any work is initiated for review and general coordination procedures.
2. The existing sod shall be stripped of any excess organic material or grass prior to commencement of renovation. Topsoil remaining after organic material removal shall be removed and stockpiled for later use.
3. Planting time: Planting operations are to be performed at such times of the year as the job may require, with the stipulation that the Contractor guarantee the plant material as specified. Plant only during periods when weather conditions are suitable.
4. Stake locations and outline areas and secure Owner's Representative acceptance before start of excavation for planting work. Make adjustments as may be requested.
5. Notify Owner's Representative of adverse sub-surface drainage or soil conditions. State conditions and submit a proposal for correction including costs. Obtain approval for method of correction prior to continuing Work in the affected area. In the event that alternate locations are selected, the Contractor shall prepare such areas at no additional expense to the Owner.

3.02 PREPARATION FOR SOD

- A. Loosen the grade of lawn areas to a minimum depth of 12 inches. **Remove stones over 1/2" in any dimension and sticks, roots, rubbish and other extraneous matter.** Limit preparation to areas which will be planted promptly after preparation.
- B. Place approximately 1/2 of total amount of topsoil required. Work into top of loosened subgrade to create a transition layer and then place remainder of topsoil mixture to minimum depth required to meet lines, grades and elevations shown, after light rolling and natural settlement. Grades shall be within +/- 1/2" of designated slopes and elevation.
- C. Allow for sod thickness in areas to be sodded.
- D. **Remove small loose rocks, stone and debris of 1/2" or larger with a Harley Rock Machine or equivalent** as required leaving the grade reasonably free of such miscellaneous matter. Remove all debris legally from the Site.
- E. Grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll and rake, remove ridges and fill depressions as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.

- F. Fertilize and lime prior to start of grassing operation. Apply ground limestone at the rate recommended by soil test analysis and work into top six inches of soil. Apply fertilizer at the recommended rate; work into top two inches of soil. The fertilizer application shall not precede the placement of sod by more than three days.
- G. The depths and grades indicated on the Drawings are the final grades after settlement and shrinkage of the organic material. The Contractor shall install the planting soil mix at a higher level to compensate for this anticipated reduction of planting soil volume.
- H. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create muddy soil condition.
- I. Restore lawn areas to specified condition if eroded or otherwise disturbed after finegrading and prior to planting.

3.03 INSTALLING SOD

- A. Sod
 - 1. Water soil prior to receiving sod. At the time of sod placement soil must be moist but not saturated.
 - 2. Lay sod within 24 hours from time of stripping. If not possible, sod may be stored on site up to 36 hours after stripping provided sod is properly protected: unstack, unroll and place in shade and keep moist until installation.
 - 3. If sod is dormant when installed it shall be overseeded with annual rye prior to shipment from the sod farm.
 - 4. Do not plant sod on frozen ground.
 - 5. Roll the surface prior to laying the sod.
 - 6. Lay sod to form a solid mass with tightly fitted joints. Snugly fit ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
 - 7. Lay sod if from rolls as specified. **Monofilament mesh is to be removed from the sod as it is placed.** Lay sod to form a solid mass with tightly fitted joints. Trim ends of rolls as necessary to provide square joints and snugly fit ends and sides. Tamp or roll lightly to ensure contact with subgrade. Work sifted sand into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
 - 8. Anchor sod with sod staples to prevent slippage on slopes equal to or greater than 3:1 and wherever erosion can be anticipated. Lay sod perpendicular to slope direction, with staggered joints.
 - 9. Immediately after sod installation, water thoroughly with a fine spray until the soil is damp to a depth of 4". The watering shall be the responsibility of the Contractor during the installation and maintenance period. The sod shall be kept moist until rooting occurs and then irrigate as needed a healthy and vigorous stand of grass.
 - 10. Add ½ in. top dressing of soil mix spread evenly on top of sod.

Roll the surface after "rooting in" has occurred.

3.04 SEED APPLICATION

- A. Seed shall be applied in two applications: by mechanical spreader ideally in late fall and winter. Spring planting from March to May will only be allowed if Contractor provides temporary irrigation approved by the Owner to establish the need of developing the seedlings.
- B. Soil Preparation.
1. Tall vegetation within planting site should be mowed and sprayed with herbicide after some regrowth to eliminate existing vegetation.
 2. After 2 weeks, lightly cultivate the soil surface (avoid deep tilling as additional viable weed seed will be brought to the surface).
 3. A second application of herbicide may be necessary, if weed seedlings appear.
 4. Contractor shall remove all debris and stones larger than 2 inches prior to application of seed.
- C. First Application: Seed shall be broadcast by means of an approved mechanical spreader, to give a uniform application at the following rates:
- Seed
Seed Mixtures:
- Southeastern U.S. Roadside Native Mix at a rate of 20 pounds per acre.
 - Southeastern Annual & Perennial Wildflower Mix at a rate of 3 pounds per acre.
 - Brown Top Millet as a cover crop at a rate of 10 pounds per acre.
1. Prior to seeding the area shall be fine graded. Stones and other debris greater than 1 in. in any dimension which are visible on surface shall be removed.
 2. Seed shall be applied in two equal applications for uniform coverage; direction of gravel spreader for second pass shall be perpendicular to that of the first pass. Seeding shall not be done when it is raining or snowing, or when wind velocity exceeds 5 mph.
 3. Following seeding the area shall be lightly raked to mingle seed with top 1/8 to 1/4 in. of soil.
- D. Following seeding and raking, entire area shall be rolled with a hand roller having a weight of 60 to 90 lb./ft. of width, and a minimum diameter of 2 ft. Entire area shall then be watered by use of lawn sprinklers, or other approved means. Initial watering shall continue until the equivalent of a 2 in. depth of water has been applied to entire seeded surface, at a rate which will not dislodge the seed. Watering shall be repeated thereafter as frequently as required to prevent drying of the surface, until the grass attains an average height of 1/4 in. Watering methods and apparatus which may cause erosion of the surface shall not be permitted.
- E. Evenly apply wheat straw 2 inches thick over all seeded areas, approximately 60 bales per acre. The Contractor shall not, under any circumstances, use local hay as it will be Johnson Grass.

- F. Apply asphalt emulsion binder to mulch at rate to effectively hold mulch in place. Immediately replace mulch that blows away.
- G. Rope off entire seeded area to prevent vehicles and pedestrians from entering area.

3.05 FERTILIZER:

- A. Do not apply nitrogen between October 15 and March 15.
- B. After sod is installed, apply liquid fertilizer for grow-in purposes. Alternate applications of 32-0-0 and 12-4-12 at a rate of 8 ½ gallons of each product per acre per week for a three-week period, with three to four days between applications of 32-0-0 and 12-4-12.
- C. Fertilizers shall be applied only during the growing season when Bermuda is completely out of dormancy. If fertilizer brand type recommends a different rate, the Contractor shall advise the Owner's Representative of the rate recommended prior to applying any fertilizer to clarify the proper rate of use.
- D. 32-0-0 liquid fertilizer to be comprised of 7.89% ammoniacal nitrogen, 7.89% nitrate nitrogen and 16.22% urea nitrogen.
- E. 12-4-12 liquid fertilizer to be comprised of 12% total nitrogen (N), 4% available phosphate (P₂O₅) and 12% soluble potash (K₂O).

3.06 MAINTENANCE

- A. **Begin maintenance immediately after planting. The Contractor is responsible for maintenance of the project until the Final accepted by the city.**
- B. Maintain sod until Date of Substantial Completion of the Work in total.
- C. Maintain lawns by watering, fertilizing, weeding, weekly mowing, repair of eroded areas and re-seeding or re-sodding as necessary to establish a uniform stand of the specified grasses. Contractor shall perform "Grow-In" activity (weed control, fertilizing, watering & mowing) throughout the contract period and at a minimum, shall include 6 weeks of "Grow-In" activity and monitoring, after initial laying of sod. Grow-in activity per Sports turf manufacturer Recommendations. Provide written Grow-in and normal maintenance instructions to the Owner. Grow in activity shall continue until final acceptance by the Owner.
- D. Mowing shall be accomplished so as not to remove more than 1/3 of the leaf tissue per mowing.

3.07 CLEAN UP AND PROTECTION

- A. During Work, keep pavements clean and work area in an orderly condition.
- B. Upon completion of Work, clear grounds of debris, superfluous materials and all equipment. Remove from Site to satisfaction of Owner.

- C. Protect Sod from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged Work as directed by Owner's Representative, at no additional cost to the Owner.
- D. Theft: Contractor is responsible for theft of plant material at the Project Site before, during and after planting, until the Date of Substantial Completion of the Work in total.

3.08 INSPECTION AND ACCEPTANCE

- A. Periodic inspections will be made from time to time by the Owner's Representative to review the quality and progress of the work. Work found to be unacceptable must be corrected within five calendar days. Removed the sod promptly from project site.
- B. Lawn installations shall meet the following criteria as determined by the Owner's Representative:
 - 1. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 6 by 6 inches.
 - 2. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well- rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.
- C. One Year Warranty commences on the date of issuance of the Certificate of Substantial Completion.
- D. Final Acceptance: One year after Date of Substantial Completion of the Work in total the Landscape Architect and the Owner inspect the Work for Final Acceptance. Upon satisfactory completion of repairs and/or replacements the Owner's Representative certifies, in writing, Final
- E. Acceptance of the Work. The Final Acceptance Certification issued by Owner will serve as evidence that Contractor's one-year warranty obligations have been met.

END OF SECTION 32 9000

LAWNS AND GRASSES
32 9000-14

SECTION 32-9135

MULCH

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. This work shall consist of ground preparation, furnishing mulch of all newly constructed planting islands.
- B. Areas to be mulched:
 - 1. All island areas within construction limits.
 - 2. Larger pieces of mulch and non-mulch materials are not acceptable.

1.02 RELATED WORK

- A. Section 32 91 13.15 – Soil Preparation (Performance Specification)

1.03 JOB CONDITIONS: Schedule work to comply with requirements for erosion control.

PART 2 – PRODUCTS

- A. Approved brown mulch: “Pine Bark” Type B nuggets. Contractor to provide sample of mulch for Engineer approval. Mulch is to be purchased from a commercial landscape material supplier. Highest quality bark mulch is to be provided by the Contractor.

PART 3: EXECUTION

- A. All disturbed areas shall be covered by a continuous **4” deep layer of Type B brown mulch** after soil disturbance or after planting keep mulch 6” (inches) away from trunks of trees and plants.

END OF SECTION

SECTION 32 9300

TREES, PLANTS & GROUNDCOVER

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Extent of Landscape Work is indicated on Drawings and in Schedules.
- B. Provide and furnish all labor, materials and equipment required or inferred from Drawings and Specifications to complete the Work of this Section.

1.02 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. American National Standards Institute, Inc. (ANSI):
 - Z60.1 American Standard for Nursery Stock (Sponsor: American Association of Nurserymen, Inc.)
 - A300 American National Standards for Tree Care Operations
 - 2. American Society for Testing and Materials (ASTM):
 - F 405 Corrugated Polyethylene (Pe) Tubing and Fittings
 - 3. "Hortus Third", A Concise Dictionary of Plants Cultivated in the United States and Canada, Cornell University, L.H. Bailey Hortorium, MacMillian Publishing Co., New York, NY.
 - 4. International Society of Arboriculture (ISA)

1.03 QUALITY ASSURANCE

- A. Source Quality Control
 - 1. General: Only plant material grown in a recognized nursery in accordance with good horticultural practice will be accepted. Provide healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions or disfigurement.
 - 2. Inspection of Plant Material prior to Digging:
 - a. Contractor must locate all plant material to be supplied for the Project and inform the Landscape Architect in writing of location within ten (10) days of Award of the Contract.

- b. The Landscape Architect and the Owner's Representative will select and tag 100% of plant materials required for the Project, at the Contractor's sources.
 - c. In the event plant material is found to be unacceptable, the Contractor will pursue other sources until acceptable plant material is found, at no additional cost to the Owner. If, due to unacceptable plant material at the Contractor's source, additional tagging trips are required by the Landscape Architect, the Contractor will reimburse the Landscape Architect for time (\$800.00/day) plus travel expenses.
 - d. Approval at the plant source does not impair the right of the Landscape Architect to inspect and reject material at the time of shipping or during installation of the Work.
3. Shipping:
- a. Ship landscape materials with certificates of inspection required by governing authorities. Inspection by Federal and/or State Governments at Grower does not preclude rejection of plants at the site by the Landscape Architect. Comply with regulations applicable to landscape materials. Prepare plants for shipment to prevent damage to the plants.
 - b. From March 15th to September 15th, ship plant material to be transported over 100 miles at night only. Make arrangements to have plant material watered during shipment as necessary to avoid excessive stress. Plant material may be rejected if not properly shipped.
 - c. Do not ship plant material in temperatures below 20 degrees Fahrenheit.
- C. Do not make substitutions: If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material. For proof of non-availability submit a written statement from a minimum of 12 reliable Nursery Sources (American Nurserymen's Association Members) that the plant in question is not obtainable in the Eastern United States.
- D. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- E. Topsoil: Before delivery of topsoil, furnish Landscape Architect with written statement stating location of property from which topsoil is to be obtained, depth to be stripped, and crops grown during past 2 years.
- F. Soil Report: Contractor shall engage a reputable laboratory to include testing and analysis of soils representative of planting areas and lawn areas on site and new topsoil to be used in soil mix and on site with reference to specified plant materials, as necessary. In the report, list fertilization and soil amendment recommendations to ensure vigorous growth for all plants specified. Soil Report to include analysis of a minimum of three soil samples from different locations on site.
- G. Approval and Selection of Materials and Work: The selection of all materials and the execution of all operations required under the Drawings and Specifications is subject to the approval of the Landscape Architect and the Owner. They have the right to reject any and all materials and any and all Work which, in their opinion, does not meet the requirements of the Contract Documents at any stage of the operations.

- H. The Contractor shall remove rejected work and/or materials from Project site and replace promptly.

1.04 SUBMITTALS

- A. Approval: Obtain approval from Landscape Architect for all submittals prior to beginning of Work, unless otherwise noted.
- B. Native / Topsoil Sample: Submit 1/2 cubic foot of native / topsoil proposed for use.
- C. Soil Mix Sample: Submit 1/2 cubic foot of **each proposed soil mix**.
- D. Soil Report: Submit results of laboratory soil tests on existing native / site topsoil and proposed topsoil for each type of soil mix. All costs associated with testing shall be the Contractor's responsibility.
- E. Fertilizer Analysis: (to be used in soil mix and on lawn areas) Submit label or technical data for fertilizer bearing the trade name, manufacturer's name, weight and analysis.
- F. Planting Schedule: Submit planting schedule showing scheduled dates for each type of planting in each area of site, prior to beginning of the Work.
- G. Certification: Prior to acceptance of plant material, submit certificates of inspection as required by governmental authorities, and manufacturers or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
- H. Maintenance Instructions: Upon completion of the installation, submit typewritten recommendations for maintenance of any portion of the landscape which, in the opinion of the Contractor, requires special attention.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored on site.
- B. Trees, Shrubs and Ground Cover: Provide freshly dug trees and shrubs. Do not prune prior to delivery. Do not bend or bind-tie trees or shrubs in such manner as to damage bark, break branches or destroy natural shape. Provide protective covering during shipment. Deliver trees, shrubs and ground cover after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set trees, shrubs and ground cover in shade, protect from weather and mechanical damage, and keep roots moist. Do not store plant material on asphalt or concrete surface. If planting is delayed more than 24 hours the Contractor shall provide temporary irrigation system to keep plant material roots moist.

- C. Do not remove container grown stock from containers until planting time.
- D. Label at least one tree and one shrub of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name.
- E. Do not remove labels attached to plant material by the Landscape Architect until directed to do so.

1.06 JOB CONDITIONS

- A. Insurance on plant material and other materials stored or installed is the responsibility of the Contractor. Such insurance shall cover fire, theft and vandalism. Should the Contractor elect not to provide such insurance, he will in no way hold the Owner responsible for any losses incurred by the aforementioned acts. The Contractor is responsible for all costs incurred in replacing damaged or stolen materials prior to Date of Substantial Completion of the Work.
- B. Proceed with and complete Landscape Work as rapidly as portions of Site become available, working within seasonal limitations for each kind of Landscape Work required.
- C. Existing Utilities: Determine location of underground utilities. Perform Work in a manner which will avoid possible damage. Excavate as required. Maintain grade stakes set by others unless removal is mutually agreed upon by parties concerned. All damage to utilities resulting from Work covered in these Contract Documents will be repaired at the Contractor's expense.
- D. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect in writing before planting.
- E. Planting Time: Plant or install materials during suitable weather conditions.
- F. Planting Schedule: Prepare a proposed planting schedule. Schedule dates for each type of Landscape Work during contract period. Coordinate schedule with General Contractor and Irrigation Contractor.
- G. Coordination with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Landscape Architect. If planting of trees and shrubs occurs after lawn Work, protect lawn areas and promptly repair damage to lawns resulting from plant operations.

1.07 PLANTING SEASON

- A. Planting: Planting may commence as soon as the ground has thawed at the nursery and at the site of planting, and weather conditions make it practicable to work both at the nursery and at the site.

- 1. Planting shall occur within the following seasonal limitations:

<u>Material</u>	<u>Planting Period</u>
Deciduous Trees and Shrubs	Between October 15 and March 15
Evergreen Trees and Shrubs	Between October 15 and March 15

- B. Regardless of the dates specified above, planting shall only be performed when weather and soil conditions are suitable for planting the material specified in accordance with locally accepted practice.
- C. Planting season may be extended only with the written permission of the Design Professional. Plant material guarantee shall be honored regardless of extended planting season.

1.08 ACCEPTANCE

- A. Acceptance of plant material by the Design Professional will be for general conformance to specified size, character, and quality, and shall not diminish responsibility for full conformance to the Contract Documents.
- B. Acceptance in Part
 - 1. The work may be accepted in parts when it is deemed to be in the Owner's best interest to do so, and when permission is given to the Contractor in writing to complete the work in parts.
 - 2. Acceptance and use of such areas by the Owner shall not waive any other provisions of this Contract.

1.09 WARRANTY

- A. Warranty for a period of one year, following the Date of Substantial Completion, all trees, shrubs, groundcovers, and grass against any defects (including: death and unsatisfactory growth) as determined by the Landscape Architect. Defects resulting from neglect by the Owner, abuse or damage by others, or unusual phenomenon or incidents beyond the Contractor's control are excepted. Should questions arise concerning the responsibility of replacement, the Landscape Architect will be available for arbitration provided the Owner and Contractor mutually desire.
- B. Following the Date of Substantial Completion, Contractor is responsible for watering all newly installed plant materials, as needed, until the warranty period is complete to help advance plant materials toward full establishment.
- C. Remove and replace all trees, shrubs, groundcovers and lawn, or other plants found to be dead or in unhealthy condition during warranty period as determined by Landscape Architect or Owner. Make replacements as soon as weather conditions permit.
- D. Replacements: Match adjacent specimens of same species. Replacements are subject to all requirements stated in the Contract Documents and are subject to inspection by the Landscape Architect prior to digging.
- E. Repair grades, lawn areas, paving and any other damage resulting from replacement planting operations, at no additional cost to the Owner.
- F. Inspect Project Site monthly during warranty period to determine what changes, if any, should be made in the maintenance program. Submit all recommended changes in writing to the Landscape Architect and the Owner.

- G. Replacements made during the Warranty Period or following inspection for Final Acceptance will carry on additional one year warranty beginning at the time of replacement.

PART 2 PRODUCTS

2.01 NATIVE PLANTING SOIL / TOPSOIL

- A. If native / topsoil has not been stockpiled for re-use in Landscape Work, provide additional native / topsoil as required to complete Landscape Work.
- B. Provide new topsoil, which is fertile, friable, natural loam, surface soil, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 1/2" in any dimension, and other extraneous or toxic matter harmful to plant growth.
- C. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at Project Site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes, unless specified. Planting soil shall have a pH value between 5.5 and 6.5 and organic matter content of 5 to 10% of total dry weight.
- D. All references to vendors and "approved manufacturers" are included for description of quality and content of the designated equipment/materials. Equivalent items may be accepted if they meet all standards of quality and purpose for the intended use, as determined by the City of Decatur.

2.02 SOIL AMENDMENTS

- A. Lime: Limestone shall be an approved agricultural limestone containing no less than 50% of total carbonates, and 25% total magnesium with a neutralizing value of at least 100%. The material shall be ground to such a fineness that 40% will pass through a No. 100 U.S. Standard Sieve, and 98% will pass through a No. 20 U.S. Standard Sieve. The lime shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original unopened containers, each bearing the manufacturer's guaranteed analysis. Any lime which becomes caked or otherwise damaged, making it unsuitable for use, will be rejected.
- B. Humus: Air dried, finely shredded, and pH range suitable for intended horticultural use. Humus may be peat type or completely decomposed forest type including composted leaves, bark and organic wastes.
- C. Bonemeal: Commercial, raw, finely ground; 4% nitrogen and 20% phosphoric acid.
- D. Superphosphate: Soluble mixture of treated minerals; 20% available phosphoric acid.
- E. Commercial Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic sources and containing following percentages of available plant nutrients:
 - 1. For trees and shrubs and ground cover, provide a homogeneous slow-release fertilizer complete with micro-nutrients having an analysis of 12-4-8 (12 pounds of nitrogen, 4 pounds of available phosphoric acid, and 8 pounds of water-soluble potash respectively for each 100 pounds of mixture).

2.03 ORGANIC COMPOST (CLM) IS A COMPLETE LANDSCAPE MIX FROM MR. NATURALOR APPROVED EQUIVALENT

A. Perma Till® 3/8" 5/16" Expanded Slate Carolina Stalite® Ingredients, or approved equivalent:

1. 3/8" – #8 Stalite Rotary Kiln Expanded Argillitic Slate, or approved equivalent.
2. ASTM C29 Unit Dry Weight loose (48 lb. / cf to 55 lb. / cf)

3. 3/8" -#8

<u>Sieve Size</u>	<u>% Passing</u>
1/2"	100%
3/8"	80 - 100%
#4	5 - 40%
#8	0 – 20%
#16	0 - 10%

4. Absorption (ASTM C127) No more than 12%
5. The expanded slate shall contain 0% organic impurities.
6. The expanded slate shall contain 0% clay lumps.

B. Coarse Natural Quartzite River Sand

1. Sand processed with Dial / Auto split classifier with operational updraft / recirculating system removing weed seed, silt and trash.

<u>Sieve Size</u>	<u>% Passing</u>
#4	98 – 100%
#6	96 – 100%
#10	90 – 95%
#18	10 – 50%
#35	5 – 20%
#60	0 – 5%
#140	0 – 1%
#270	0 – 0.2%

2. Tolerance for manufactured sand is 0% (Manufactured sand not acceptable).

C. Worm Castings

1. 100% pure Worm Castings Compost (residual from growing worms in formulated antibiotic-free nutrient rich feeding compost).

D. Hen Manure Compost / Organic Component

1. Humus material shall have an ash content of no less than 8% and no more than 40%
2. pH of the organic matter shall be between 5.5 and 7.5
3. Salt content shall be less than 10 millimho / cm at 25 degrees C, (Ece<10) on a saturated paste extract.
4. All composted constituents shall be derived from uncontaminated hen manure and from pine bark feed stocks only.
5. Nitrogen source shall be from hens raised on feeds that are 100% free of antibiotics, 100% free of growth hormones, and 100% free of other medical compounds.
6. The organic amendment shall have a Carbon / Nitrogen ratio of <25:1.
7. The compost shall be aerobic without malodorous presence of decomposing raw materials.
8. 75% to 100% of organic amendment particles shall pass the 1.5 mm sieve size.
9. Moisture measured via wet-weight basis shall be within the 45% to 65% range.
10. Finish compost shall be free of stones, debris, plant material and other deleterious materials.
11. Organic amendment shall test between 5 to 8 on the Solvita Maturity Test.
12. Occurrence of metals and contaminants shall meet or exceed minimums of U.S. EPA Standard 40.

E. Pine Bark Humus

1. Aged and screened 1/2" minus.
2. Shall contain no sticks, no rocks, no sand, no dirt, nor other deleterious materials.

2.04 PLANTING SOIL TYPES

- A. Planting soil mix for on-grade plantings: Provide soil mix amended as per laboratory recommendations. Basic planting soil mix consists of:
1. Soil Type 1 – Tree & Shrub Areas 50% Existing or Native Planting Soil

50% Prepared Additives (by volume as follows) 3 parts humus

1-part Organic Compost,

Commercial fertilizer as recommended in soil analysis
Lime as recommended in soil analysis

2.05 PLANT MATERIALS

A. General

1. Provide plants true to species and variety, complying with recommendations of ANSI

Z60.1 "American Standard for Nursery Stock".

2. Specific requirements concerning plant material and the way it is to be supplied are shown on the Drawings and Plant List.
3. Acclimatization: Plants must have grown under climatic conditions similar to those of the locality of the project site for a minimum of two years immediately prior to being planted on the Project.

B. Quality and Size

1. Furnish nursery grown plants, freshly dug, normally shaped and well branched, fully foliated when in leaf and with healthy well developed root systems. Plants to be free of insect infestations or their eggs.
2. Plants shall be free of physical damage such as scrapes, broken or split branches, scars, bark abrasions, sunscalds, fresh limb cuts, disfiguring knots, or other defects. These defects shall not interrupt more than 25% of the circumference of the plant cambium.
3. Furnish plants to match as closely as possible whenever symmetry is called for.
4. Provide trees and shrubs of sizes shown or specified. Trees and shrubs of larger size may be used if acceptable to the Landscape Architect, and if sizes of roots or rootballs are increased proportionately. The increased size will not result in additional cost to the Owner.
5. Stock specified in a size range: Within each size range not less than 50% of the plants must be of the maximum size specified.
6. Balled and Burlapped Plants: Plants designated "B&B" are to have firm, natural balls of soil corresponding to sizes specified in ANSI Z60.1 "American Standard for Nursery Stock". Balls to be firmly wrapped in biodegradable burlap and securely tied with biodegradable heavy twine, rope and/or wire baskets. Plants with loose, broken or manufactured rootballs will be rejected. Rootballs shall be lifted from the bottom only, not by stems or trunks.
7. Container grown plants in cans or plastic containers will be acceptable in lieu of balled and burlapped plants provided that they are of specified quality. The container must be removed prior to planting, with care being exercised as to not injure the plant.

C. Trees

1. Provide trees of height and caliper listed or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are specified in the Contract Documents.
2. Provide self-supporting trees with straight trunks and leaders intact. Where required in the Contract Documents, provide trees with character as described.
3. Determining dimensions for trees are caliper, height and spread. Caliper shall be measured 6" above ground for trees up to and including 4" caliper. Trees over 4" caliper shall be measured 12" above ground. Specified height and spread dimensions refer to the main body of the plant and not branch tip to tip. Take measurements with branches in natural position.
4. Tree Forms: Do not limb up tree forms more than 2 feet before planting. Prune to desired shape as directed by Landscape Architect.

- D. Ground Cover: Provide established and well-rooted plants, in removable containers or integral peat pots, having not less than minimum number and length of runners by ANSI Z60.1 for the specified pot size.

2.06 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Burlap for wrapping earthball shall be biodegradable jute mesh not less than 7.2 oz. persquare yard. Wrapping materials made from manmade fibers are unacceptable.
- B. Stakes and dead men: Grade No. 2 or better, uniform grade pressure treated pine LP-22, or sound new hardwood or redwood free of knotholes and other defects.
1. See details for staking materials and methods.
 2. Corrugated Drainpipe and Fittings: Black, ASTM F-405 with integral filter fabric.
- E. Soil separator: Rot resistant polypropylene filter fabric, water permeable, and unaffected by freeze-thaw.
- F. Drainage Gravel: Clean #57 crushed stone. (Variable check with state D.O.T)
- G. Water is available at the site, furnished by the Owner at no cost to the Contractor. Water transportation is the sole responsibility of the Contractor.
- H. Mulch:
1. Hardwood mulch: Shall be aged for a minimum of three years and ground to a fine texture. Mulch shall be free of branches, sticks, cones, leaves, any foreign matter, insects and disease.
- I. Lawn Anti-Erosion Mulch: Clean, threshed straw of wheat, rye, oats or barley.
- J. Anti-Desiccant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.
- K. Drainage Matting with integral filter fabric to be Mira Drain 9000 as manufactured by Mirifi, Inc., Charlotte, North Carolina (800) 438-1855, or approved equal.
- L. Drainpipe: 4" corrugated perforated polyethylene drain tubing with green stripe as manufactured by Advanced Drainage Systems (ADS) or approved equal.

PART 3 EXECUTION

3.01 PREPARATION

A. General

1. Contractor shall examine conditions under which planting is to be installed, review applicable architectural and engineering drawings and be familiar with alignment of underground utilities before digging.
2. Planting time: Planting operations are to be performed at such times of the year as the job may require, with the stipulation that the Contractor guarantees the plant material as specified. Plant only during periods when weather conditions are suitable.
3. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure Landscape Architect's acceptance before start of excavation for planting work. Adjust as may be requested.
4. Notify Landscape Architect of adverse sub-surface drainage or soil conditions. State conditions and submit a proposal for correction including costs. Obtain approval for method of correction prior to continuing Work in the affected area. In the event that alternate locations are selected, the Contractor shall prepare such areas at no additional expense to the Owner.

B. Excavation for Trees and Specimen Shrubs:

1. Excavate pits, beds and trenches with vertical sides, as specified and as shown on the drawings.
2. Loosen hardpan and moisture barrier until hardpan has been broken and moisture is allowed to drain freely.
3. For balled and burlapped (B&B trees and shrubs), make excavations at least 4 feet wider than the ball diameter for the top 12" of the pit. For the remaining depth of the pit, excavate at least 2 feet wider than the ball diameter and equal to the ball depth, plus an allowance for setting of ball on a layer of compacted backfill. Allow for 6" minimum setting layer of excavated soil.
4. For container grown stock, excavate as specified for balled and burlapped stock, adjusted to size of container width and depth.

C. Test Drainage

1. Tree and specimen shrub pits: Fill every third tree pit with water. If percolation is less than 100% within a period of 12 hours, drill a 10"-hole auger to a depth of 4 feet below the bottom of the pit. Fill auger hole with drainage gravel and cover with soil separator. Retest pit. In case drainage is still unsatisfactory, notify Landscape Architect, in writing, of the condition before planting trees in the questionable areas. Contractor is fully responsible for warranty of the trees and specimen shrubs.

D. Subsoil Removal

1. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil. Do not use as backfill.

3.02 PREPARATION OF PLANTING SOIL

- A. Before mixing, remove extraneous materials over 1/2" in any direction, clean topsoil of roots, stones, plants, clods, clay lumps, and other extraneous materials harmful or toxic to plant growth.
- B. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
- C. For pit and trench type backfill, mix planting soil prior to backfilling and keep covered until used.
- D. For ground cover and shrub beds, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.
 1. Mix lime, if required, with dry soil prior to mixing fertilizer.
 2. Prevent lime from contacting roots of acid-loving plants.
 3. Apply phosphoric acid fertilizer (in addition to that constituting a portion of complete fertilizers) directly to subgrade before applying planting soil and tilling.

3.03 PLANTING TREES

- A. Set balled and burlapped (B&B) stock on layer of compacted planting soil mixture, plumb and in center of pit or trench with top of ball 2"-3" above the finish grade and also 2"-3" above the grade they bore to natural grade before transplanting. Remove all straps and ropes made of man-made fibers completely from rootball. Loosen and remove burlap and biodegradable ropes from top half of rootball. Cut and remove the top half of all wire baskets before backfilling. Use planting soil mixture to backfill plant pits. When plants are set, place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
- B. Contractor shall remove all man made or impervious materials from the rootball and trunk before final installation of trees and specimen shrubs.
- C. Set container grown stock as specified for balled and burlapped stock, except remove containers, without damaging rootballs, prior to backfilling.
- D. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again after planting as per manufacturer's recommendations.
- E. Mulching: Immediately after planting work has been completed, mulch pits, trenches and planting beds. Provide a minimum depth of 4" hardwood mulch. Finish edges according to detail.
- F. Water: Soak all plants immediately after planting, continue watering thereafter as necessary until Substantial Completion.
- G. Smooth planting areas to conform to specified grades after full settlement has occurred and mulch has been applied.

3.04 STAKING, GUYING AND PRUNING

- A. Stake and guy trees immediately after planting. Plants shall be plumbed after staking or guying. Maintain stakes, wires and guys until acceptance of the Work in total.
- B. Staking trees of 1" to 4" caliper: Drive stakes securely into ground and fasten to tree as detailed. Adhere to staking details unless alternate detail has been approved by Landscape Architect prior to beginning of planting operation.
- C. Pruning: Unless otherwise directed by the Landscape Architect do not cut tree leaders, and
- D. Remove only injured or dead branches from trees, if any. Prune shrubs at the direction of the Landscape Architect.
- E. Remove and replace promptly any plants pruned or mis-formed resulting from improper pruning.
- F. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures.

3.05 PLANTING SHRUB AND GROUND COVER BEDS

- A. Excavate large enough area in loosened soil to install specified container grown plants. Contractor shall till subsoil of entire bed when in mass planting.
- B. Work 4"-6" of topsoil mix into the top layers of soil by digging or tilling. **Contractor shall till in topsoil mix in the entire bed when in mass planting, not just the individual rootballs.**
- C. Remove containers without damaging the rootball and set in excavated hole.
- D. Place container grown plant in excavated hole with top of rootball even with final shrub bed elevation.
- E. Backfill rootball with soil from the bed and lightly compact soil around plant to eliminate voids and air pockets.
- F. Mulching: Immediately after planting mulch planting beds with a minimum depth of 4" hardwood mulch. Finish edges according to detail. Remove all mulch from foliage of plants.
- G. Watering: Soak entire area immediately after planting. Continue watering thereafter as necessary until Substantial Completion.

3.06 MAINTENANCE

- A. Begin maintenance immediately after planting.
- B. Maintain trees, shrubs and other plants until Date of Substantial Completion of the Work in total.
- C. Pre-Emergent Herbicide: Immediately after planting, pre-emergent herbicide shall be applied to ornamental shrub beds and around base of trees, in strict accordance with chemical manufacturer's printed instructions.
- D. Post Emergent Herbicide: Upon the appearance of weeds within planted areas, pre-emergent herbicide shall be applied to ornamental shrub beds and around base of trees, in strict accordance with chemical manufacturers' printed instructions.

- E. Insecticide: Upon the appearance of insect problems, all trunks of deciduous trees shall be sprayed with insecticide, applied by chemical manufacturer.
- F. Pruning: Each tree and shrub shall be pruned to preserve the natural character of the plant. Pruning shall be done after delivery of plants and after plants have been inspected and approved by the Design Professional. Pruning procedures shall be reviewed with Design Professional before proceeding.
- G. Maintain trees, shrubs and other plants by watering, pruning, cultivating, weeding, and re-mulching as required for healthy growth. Restore planting saucers. Tighten and repair stake and guy support and reset trees and shrubs to proper grades or vertical position as required. Restore or replace damaged wrappings.
- H. **Contractor shall remove all weeds and re-mulch all beds to a minimum of 4" depth prior to final punch list walk.**

3.07 CLEAN UP AND PROTECTION

- A. During Landscape Work, keep pavements clean and work area in an orderly condition.
- B. Upon completion of Work, clear grounds of debris, superfluous materials and all equipment. Remove from Site to satisfaction of Landscape Architect and Owner.
- C. Protect Landscape Work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged Landscape Work as directed, at no additional cost to the Owner.
- D. Theft: Contractor is responsible for theft of plant material at the Project Site before, during and after planting, until the Date of Substantial Completion of the Work in total.

3.08 INSPECTION AND ACCEPTANCE

- A. Periodic inspections will be made from time to time by the Owner's Representative to review the quality and progress of the work. Work found to be unacceptable must be corrected within five calendar days. Remove rejected plants and materials promptly from project site.
- B. Upon completion of Work, the Contractor shall notify the Owner's Representative and the Owner at least ten (10) days prior to requested date of inspection for Substantial Completion of all or portions of the Work. The Owner's Representative will issue a punch list for work to be corrected. All work in the punch list must be completed within five (5) working days from date of inspection. Where inspected Work does not comply with requirements, replace rejected Work and continue specified maintenance until re-inspected by the Owner's Representative and found to be acceptable.
- C. Certificate of Substantial Completion will be issued for acceptable Work. If punch list items are issued with the Certificate, they must be corrected within five (5) working days.
- D. One Year Warranty commences on the date of issuance of the Certificate of Substantial Completion.
- E. Final Acceptance: One year after Date of Substantial Completion of the Work in total the Owner's Representative and the Owner inspect the Work for Final Acceptance. Upon satisfactory completion of repairs and/or replacements the Owner's Representative certifies, in writing, Final Acceptance of the Work. The Final Acceptance Certification issued by Owner's Representative will serve as evidence that Contractor's one-year warranty obligations have been met.

END OF SECTION 32 9300

UTILITIES
SECTION 33-0000

PART 1 GENERAL

1.01 SCOPE

- A. Contractor shall visit the site to become thoroughly familiar with all existing conditions; review all previous drawings and specifications and previous technical reports prior to formulating Bid. Previous drawings, specifications and technical data are available for review at the Owner's office.
- B. By submitting their bid, the Contractor certifies that all means, methods, labor equipment and materials to complete the satisfactory construction of the project is included within the contract sum of their bid.
- C. Costs related to the removal, relocation, replacement and/or rerouting of all existing utilities or other built, stored, stockpiled items of any kind, surface or subsurface is the responsibility of the Contractor and will be included in the Contract Sum.
- D. Contractor is required to adjust all manhole tops to finish grade.
- E. Contractor shall call utility locate prior to any excavation. Contractor is responsible for damage to existing utilities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 33 0000

UTILITIES SECTION
33-0000-01

Section 999-9000
Miscellaneous Construction Allowance

Section 999.1 General Description

Pay Item No. 999-9000 is intended for unforeseen construction or miscellaneous construction, requested by the city and which may be required to complete the **City of Decatur, Parkwood Traffic Calming Improvements at East Lake Road and, US278/SR10 project**. The use of the Miscellaneous Construction Allowance will be at direction and request of the City Engineer. Use of this item will be only as specifically authorized by the City of Decatur or its designee.

The Contractor shall not be reimbursed for Miscellaneous Construction Allowance, unless he has **in writing specific authorization to proceed with the work from the City of Decatur Project Engineer**.

In the event that the scope of the project, and therefore this contract, needs to be adjusted, by adding work, The Contractor agrees to furnish all services, labor, material, demolition (removal), overhead, profit, insurance, tools, equipment, transportation, supervision and other items necessary to complete the installation of the additional construction items for **Unit Price that has been provided in the Bid Proposal Form**.

If the City request additional work to be performed that is not listed as a Unit Price in the Bid Proposal Form, every effort will be made to negotiate an acceptable price with the Contractor for miscellaneous construction. If the City of Decatur or its designee is unable to negotiate an agreeable price with the Contractor, City of Decatur reserves the right to negotiate both price and warranties with specialty contractors for this purpose. The Contractor will then be required to include the authorized work, utilizing the authorized specialty subcontractor. A maximum allowance of 5% may be included for overhead purposes of the prime contractor above the negotiated specialty contractor agreement.

Section 999.2 Payment

For payment purposes, negotiated prices will be converted to a percentage of Item No. 999- 9000. Payment for this item will be only for amounts authorized by the Engineer. Final Payment may or may not equal 100% of the Miscellaneous Construction Allowance, Lump Sum Price that is included in the Contract. At the completion of the project, the remaining (unused balance) of the Miscellaneous Construction Allowance will be reduced from the Total Contract Amount. **The Contractor does not retain the unused balance of the Miscellaneous Construction Allowance.**

Payment will be made under:

Item No. 999-9000 Miscellaneous Construction..... per

Lump Sum

END OF SECTION 999-000

Miscellaneous Construction Allowance
999-0000-1

STATE OF GEORGIA
COUNTY OF DEKALB

CITY OF DECATUR
TEMPORARY CONSTRUCTION EASEMENT

PROJECT: Parkwood/US 278/SR10 Intersection Traffic Calming Improvements

This indenture made this the 26th day of February, 2025, by and between Katherine Marie Cross, Grantor(s), and the CITY OF DECATUR, GEORGIA, Grantee.

WITNESSETH:

That for and in consideration of the benefit to my/our property by the construction of the Traffic Calming Improvements, the undersigned by these presents does hereby grant, for the construction of the said improvements, the right to enter upon my/our land for the purpose of access and grading during construction within the easement area on that tract of land lying and being located in Land Lot 236 of the 15th District, DeKalb County, Georgia, being more particularly depicted on Exhibit "A", attached hereto and made a part hereof by this reference; Address: **221 W. Parkwood Road, Decatur, GA.**, Tax ID No: **15 236 04 076**.

Said easement will begin at the commencement of the project and will expire upon completion of project.

The work will be done with as little inconvenience to the Grantor(s) or tenant(s) as is consistent with reasonable progress and the property shall be restored to a reasonably clean and good condition upon completion of the work. The conveyance of this Temporary Construction Easement is subject to the attached Special Stipulations identified on Exhibit "B" attached hereto.

The undersigned does hereby agree to release, hold harmless and indemnify the City of Decatur, Georgia from any and all claims and causes of action of any nature by the holder or holders of any mortgage or lien on the undersigned's real property. The undersigned hereby accepts as full compensation the above-stated benefit as consideration for the grant of the property interest acquired by the City of Decatur and accepts said benefit as the owner of the real property and on behalf of any and all mortgage or lien holders. Grantor(s) hereby warrants that she/he has the right to convey said easement and binds her/himself, her/his successors and assigns forever to defend by virtue of these presents.

IN WITNESS WHEREOF the Grantor(s) has hereunto set her/his hand and seal the day above written.

Signed, Sealed and Delivered in the presence of:

Cynthia J. Brackman
Witness

Katherine Marie Cross
Katherine Marie Cross

Dianna D. Hunt
Notary Public

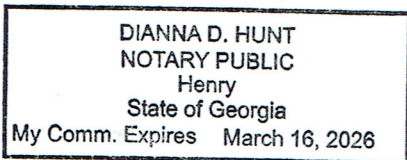


EXHIBIT "A"

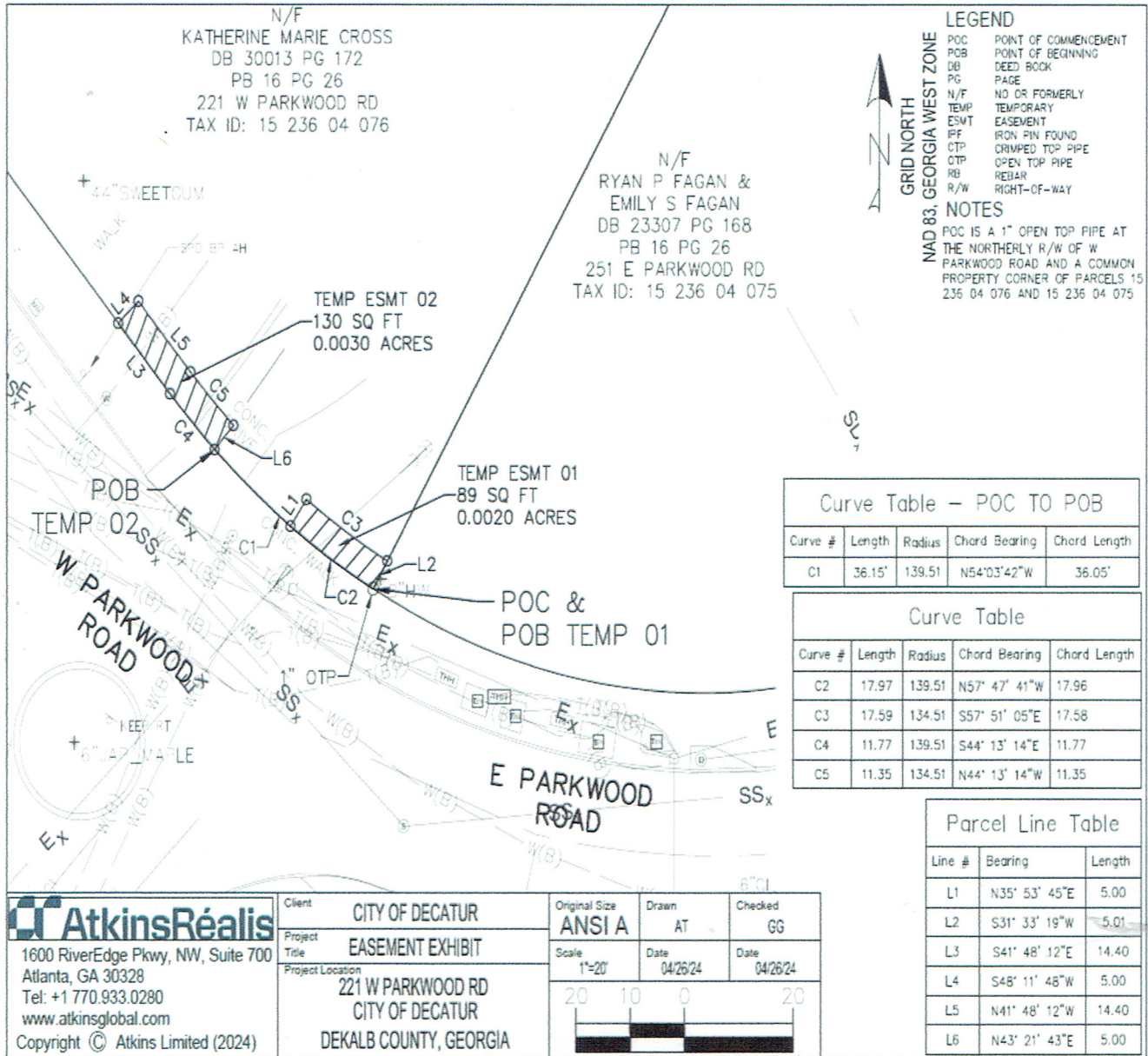


EXHIBIT "B"

- 1- The city will exercise the greatest of care during construction to protect the existing landscape strip of gardenia bushes and the small wall adjacent to the driveway. In the event either are damaged during the construction process, the city and/or its contractor will replace to the extent possible with the same species and size as the original shrubs.

221 W PARKWOOD ROAD

TEMPORARY EASEMENT 01

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a 1 inch open top pipe found at the intersection of the northerly right-of-way line of West Parkwood Road and the common line between Tax Parcels 15 236 04 075 and 15 236 04 076 now or formerly owned by Ryan P. Fagan and Katherine Marie Cross, respectively, said point being the POINT OF BEGINNING;

Thence run along said northerly right-of-way line curving to the right and having a radius of 139.51 feet and an arc length of 17.97 being subtended by a chord of North 57 degrees 47 minutes 41 seconds West for a distance of 17.96 feet to a point;

Thence leaving said northerly right-of-way line, North 35 degrees 53 minutes 45 seconds East for a distance of 5.00 feet a point;

Thence run along a curve to the left having a radius of 134.51 feet and an arc length of 17.59 being subtended by a chord of South 57 degrees 51 minutes 05 seconds East for a distance of 17.58 feet to a point;

Thence, South 31 degrees 33 minutes 19 seconds West for a distance of 5.01 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 89 square feet or 0.0020 acres.

221 W PARKWOOD ROAD

TEMPORARY EASEMENT 02

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a one inch open top pipe found at the intersection of the northerly right-of-way line of West Parkwood Road and the common line between Tax Parcels 15 236 04 075 and 15 236 04 076 now or formerly owned by Ryan P. Fagan and Katherine Marie Cross, respectively, said point being the POINT OF COMMENCEMENT;

Thence run along said northerly right-of-way line curving to the right having a radius of 139.51 feet and an arc length of 36.15 feet being subtended by a chord of North 54 degrees 03 minutes 42 seconds West for a distance of 36.05 feet to a point, said point being the POINT OF BEGINNING;

Thence continue along said northerly right-of-way line the following courses and distances:

Thence, along a curve to the right having a radius of 139.51 feet and an arc length of 11.77 feet being subtended by a chord of North 44 degrees 13 minutes 14 seconds West for a distance of 11.77 feet to a point;

Thence, North 41 degrees 48 minutes 12 seconds West for a distance of 14.40 feet to a point;

Thence leaving said northerly right-of-way line, North 48 degrees 11 minutes 48 seconds East for a distance of 5.00 feet to a point;

Thence, South 41 degrees 48 minutes 12 seconds East for a distance of 14.40 feet to a point;

Thence, along a curve to the left having a radius of 134.51 feet and an arc length of 11.35 feet being subtended by a chord of South 44 degrees 13 minutes 14 seconds East for a distance of 11.35 feet to a point;

Thence, South 43 degrees 21 minutes 43 seconds West for a distance of 5.00 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 130 square feet or 0.0030 acres.

**AGREEMENT FOR
TEMPORARY CONSTRUCTION EASEMENT**

**PROJECT: Parkwood/US
278/SSR 10 Intersection
Calming Improvements
TAX PARCEL ID: 15 237 05 031
250 W. Parkwood Rd,
Decatur, GA**

GEORGIA, DEKALB COUNTY

For and in consideration of the sum of One (\$1.00) and other valuable consideration, receipt whereof being acknowledged, the undersigned grants to the City of Decatur an option to acquire the following described property:

Temporary Construction Easement on that tract or parcel of land located in **Land Lot 237** of the **15th District of DeKalb County**, Georgia and being more particularly described on Exhibit "A" attached hereto and made a part hereof by reference.

For the sum of **One Thousand Thirty-One Dollars (\$1,031.00)**, the undersigned agrees to execute and deliver to the City of Decatur a temporary construction easement on property owned by the undersigned as reflected on the attached Exhibit "A".

* * * * *
The following conditions are imposed upon the grant of this option:

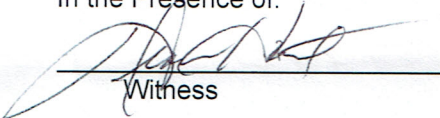
- 1) This option shall extend for 60 days from this date.
- 2) The consideration recited is full payment for the rights conveyed.

537 **Square Feet of Temporary Construction Easement**

- 3) Any Special Stipulations agreed to shall be reflected on Exhibit "B" attached hereto and made a part hereof

Witness my hand and seal this 10th day of April, 2025.

Signed, Sealed and Delivered
In the Presence of:



Witness

 (LS)

Print Name: Steven J. Kaczmarczyk

 (LS)

Print Name: Annemarie B. Kaczmarczyk

EXHIBIT "A"

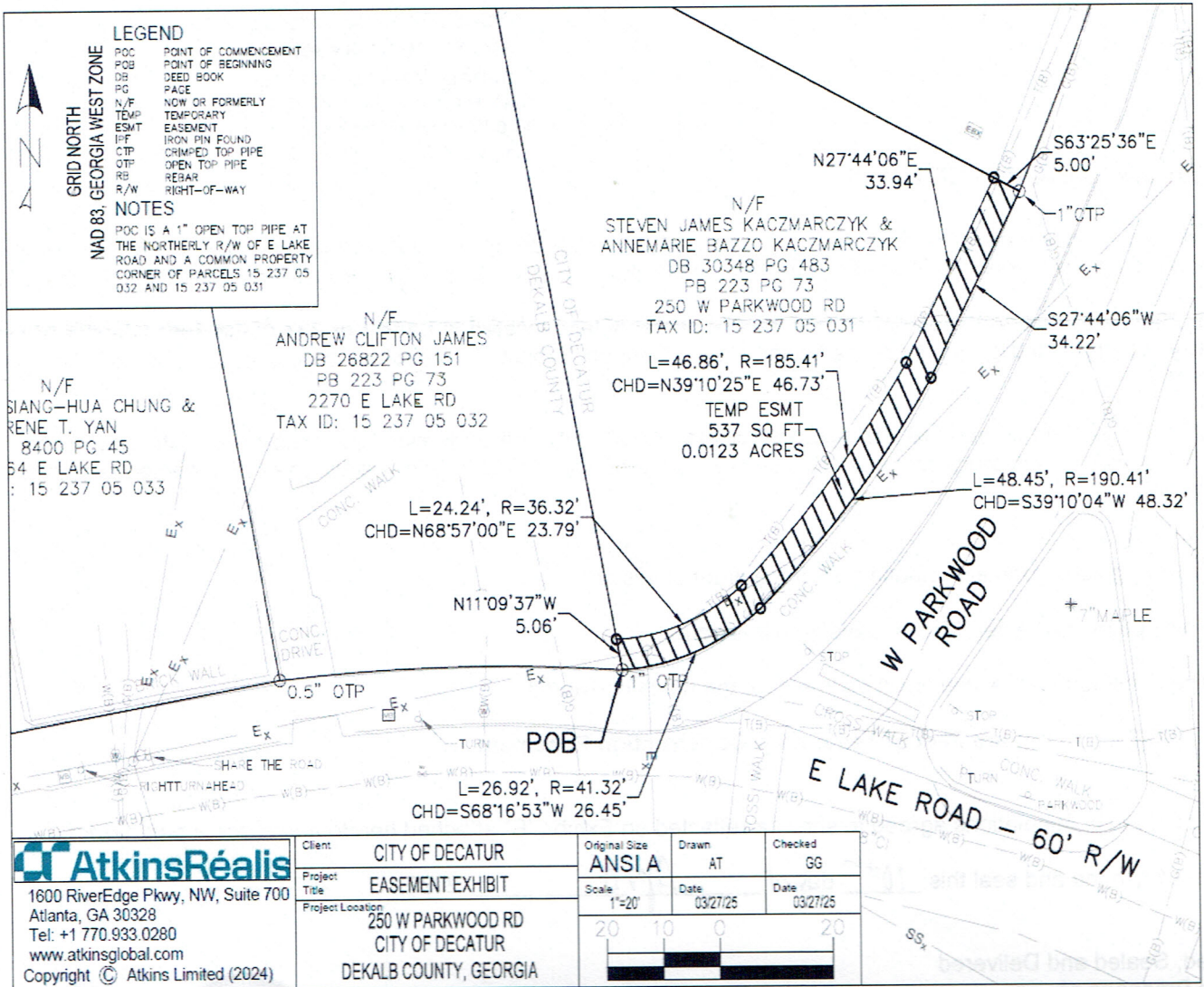


EXHIBIT "B"

SPECIAL STIPULATIONS

- 1) Upon relocation of the existing sidewalk from Sta 101+83.42 to Sta 200+73.49, the ground will be smoothly sloped and sodded to tie into the relocated sidewalk.**

STATE OF GEORGIA
COUNTY OF DEKALB

CITY OF DECATUR
TEMPORARY CONSTRUCTION EASEMENT

PROJECT: Parkwood/US 278/SR10 Intersection Traffic Calming Improvements

This indenture made this the 7th day of March, 2025, by and between Ryan P. Fagan & Emily S. Fagan, Grantor(s), and the CITY OF DECATUR, GEORGIA, Grantee.

WITNESSETH:

That for and in consideration of the benefit to my/our property by the construction of the Traffic Calming Improvements, the undersigned by these presents does hereby grant, for the construction of the said improvements, the right to enter upon my/our land for the purpose of access and grading during construction within the easement area on that tract of land lying and being located in Land Lot **236 of the 15th District**, DeKalb County, Georgia, being more particularly depicted on Exhibit "A", attached hereto and made a part hereof by this reference; Address: **251 E. Parkwood Road, Decatur, GA**, Tax ID No: **15 236 04 075**.

Said easement will begin at the commencement of the project and will expire upon completion of project.

The work will be done with as little inconvenience to the Grantor(s) or tenant(s) as is consistent with reasonable progress and the property shall be restored to a reasonably clean and good condition upon completion of the work.

The undersigned does hereby agree to release, hold harmless and indemnify the City of Decatur, Georgia from any and all claims and causes of action of any nature by the holder or holders of any mortgage or lien on the undersigned's real property. The undersigned hereby accepts as full compensation the above-stated benefit as consideration for the grant of the property interest acquired by the City of Decatur and accepts said benefit as the owner of the real property and on behalf of any and all mortgage or lien holders. Grantor(s) hereby warrants that she/he has the right to convey said easement and binds her/himself, her/his successors and assigns forever to defend by virtue of these presents.

IN WITNESS WHEREOF the Grantor(s) has hereunto set her/his hand and seal the day above written.

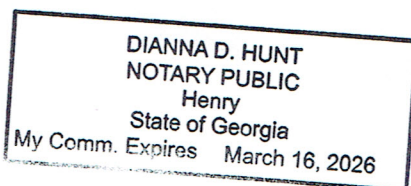
Signed, Sealed and Delivered in the presence of:

Jessie Hambrick
Witness

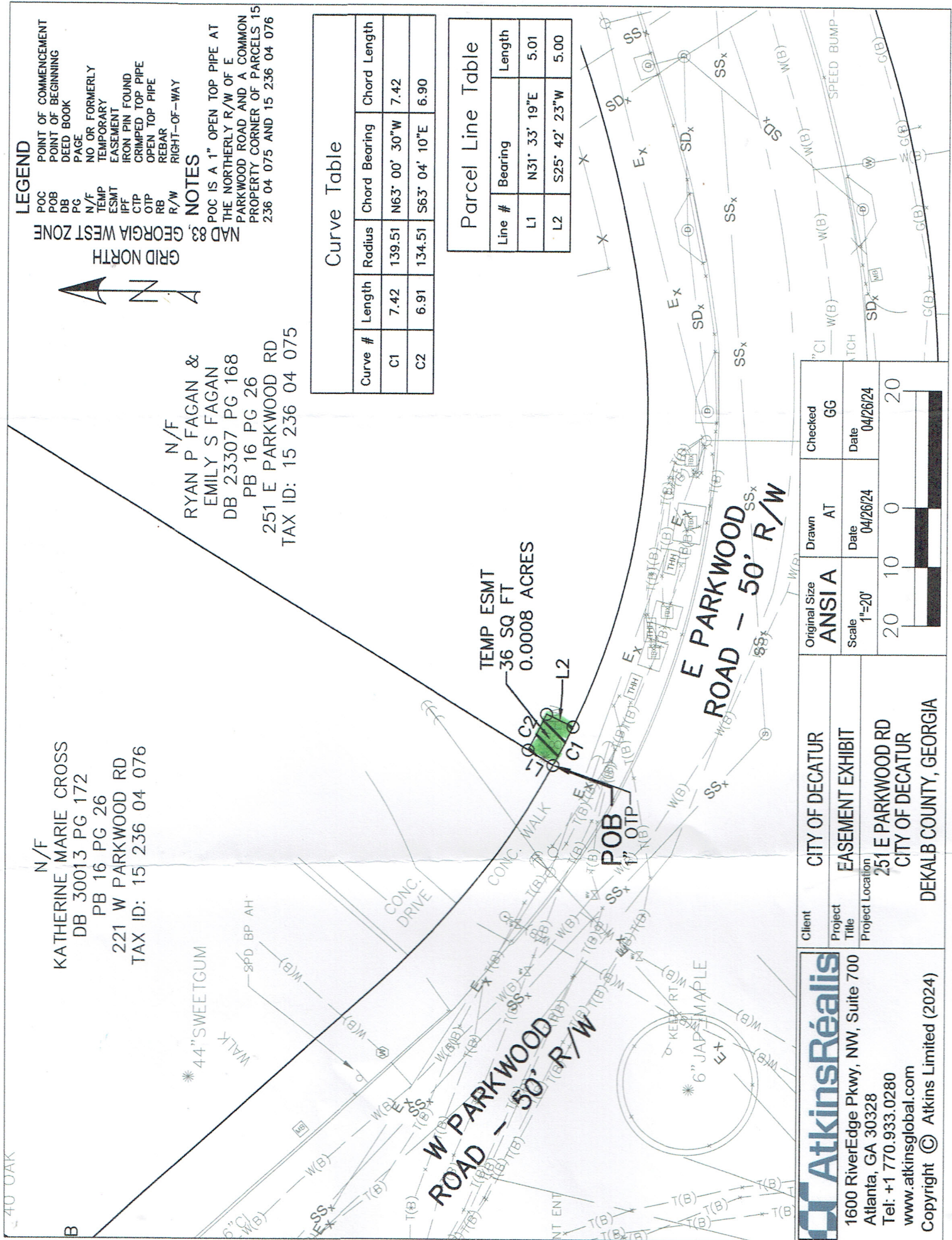
[Signature]
Notary Public

Ry Fagan
Ryan P. Fagan

Emily S Fagan
Emily S. Fagan



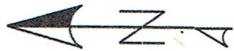
Parcel No. 15 236 04 075



LEGEND

POC POINT OF COMMENCEMENT
POB POINT OF BEGINNING
DB DEED BOOK
PG PAGE
N/F NO OR FORMERLY
TEMP TEMPORARY
ESMT EASEMENT
IPF IRON PIN FOUND
CTP CRIMPED TOP PIPE
OTP OPEN TOP PIPE
RB REBAR
R/W RIGHT-OF-WAY

GRID NORTH



NOTES

POC IS A 1" OPEN TOP PIPE AT
THE NORTHERLY R/W OF E
PARKWOOD ROAD AND A COMMON
PROPERTY CORNER OF PARCELS 15
236 04 075 AND 15 236 04 076

N/F
RYAN P FAGAN &
EMILY S FAGAN
DB 23307 PG 168
PB 16 PG 26
251 E PARKWOOD RD
TAX ID: 15 236 04 075

N/F
KATHERINE MARIE CROSS
DB 30013 PG 172
PB 16 PG 26
221 W PARKWOOD RD
TAX ID: 15 236 04 076

Curve Table

Curve #	Length	Radius	Chord Bearing	Chord Length
C1	7.42	139.51	N63° 00' 30"W	7.42
C2	6.91	134.51	S63° 04' 10"E	6.90

Parcel Line Table

Line #	Bearing	Length
L1	N31° 33' 19"E	5.01
L2	S25° 42' 23"W	5.00

1600 RiverEdge Pkwy, NW, Suite 700
Atlanta, GA 30328
Tel: +1 770.933.0280
www.atkinsglobal.com

Client
Project Title
Project Location

CITY OF DECATUR
EASEMENT EXHIBIT
251 E PARKWOOD RD
CITY OF DECATUR
DEKALB COUNTY, GEORGIA

Original Size
Scale
1"=20'

Drawn
Date
04/26/24

Checked
Date
04/26/24

GG

20 10 0 20

251 E PARKWOOD ROAD

TEMPORARY EASEMENT

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a 1 inch open top pipe found at the intersection of the northerly right-of-way line of West Parkwood Road and the common line between Tax Parcels 15 236 04 075 and 15 236 04 076 now or formerly owned by Ryan P. Fagan and Katherine Marie Cross, respectively, said point being the POINT OF BEGINNING;

Thence along said common line, North 31 degrees 33 minutes 19 seconds East for a distance of 5.01 feet to a point;

Thence leaving said common line, along a curve to the left having a radius of 134.51 feet and an arc length of 6.91 being subtended by a chord of South 63 degrees 04 minutes 10 seconds East for a distance of 6.90 feet to a point;

Thence, South 25 degrees 42 minutes 23 seconds West for a distance of 5.00 feet to a point on the northerly right-of-way line of East Parkwood Road;

Thence along said northerly right-of-way line curving to the right having a radius of 139.51 feet and an arc length of 7.42 being subtended by a chord of North 63 degrees 00 minutes 30 seconds West for a distance of 7.42 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 36 square feet or 0.0008 acres.

STATE OF GEORGIA
COUNTY OF DEKALB

CITY OF DECATUR
TEMPORARY CONSTRUCTION EASEMENT

PROJECT: Parkwood/US 278/SR10 Intersection Traffic Calming Improvements

This indenture made this the 13 day of MARCH, 2025, by and between Stephen J. Dorage & Linda W. Dorage, Grantor(s), and the CITY OF DECATUR, GEORGIA, Grantee.

WITNESSETH:

That for and in consideration of the benefit to my/our property by the construction of the Traffic Calming Improvements, the undersigned by these presents does hereby grant, for the construction of the said improvements, the right to enter upon my/our land for the purpose of access and grading during construction within the easement area on that tract of land lying and being located in Land Lot **237 of the 15th District**, DeKalb County, Georgia, being more particularly depicted on Exhibit "A", attached hereto and made a part hereof by this reference; Address: **264 W. Parkwood Road, Decatur, GA**, Tax ID No: **15 237 05 030**.

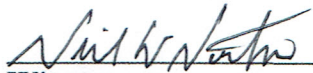
Said easement will begin at the commencement of the project and will expire upon completion of project.

The work will be done with as little inconvenience to the Grantor(s) or tenant(s) as is consistent with reasonable progress and the property shall be restored to a reasonably clean and good condition upon completion of the work.

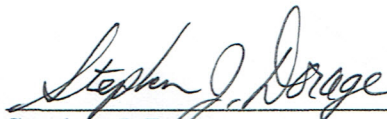
The undersigned does hereby agree to release, hold harmless and indemnify the City of Decatur, Georgia from any and all claims and causes of action of any nature by the holder or holders of any mortgage or lien on the undersigned's real property. The undersigned hereby accepts as full compensation the above-stated benefit as consideration for the grant of the property interest acquired by the City of Decatur and accepts said benefit as the owner of the real property and on behalf of any and all mortgage or lien holders. Grantor(s) hereby warrants that she/he has the right to convey said easement and binds her/himself, her/his successors and assigns forever to defend by virtue of these presents.

IN WITNESS WHEREOF the Grantor(s) has hereunto set her/his hand and seal the day above written.

Signed, Sealed and Delivered in the presence of:



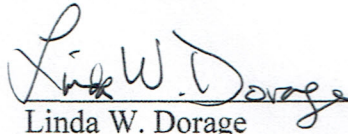
Witness



Stephen J. Dorage



Notary Public



Linda W. Dorage

DIANNA D. HUNT
NOTARY PUBLIC
Henry

State of Georgia

My Comm. Expires March 16, 2026

Parcel No. 15 237 05 030

"EXHIBIT A"

PARKWOOD ROAD

LEGEND

POC POINT OF COMMENCEMENT
POB POINT OF BEGINNING
DB DEED BOOK
PG PAGE
N/F NO OR FORMERLY
TEMP TEMPORARY
ESMT EASEMENT
IPF IRON PIN FOUND
CTP CRIMPED TOP PIPE
OTP OPEN TOP PIPE
RB REBAR
R/W RIGHT-OF-WAY

NOTES

POC IS A 1" CRIMPED TOP PIPE AT THE WESTERLY R/W OF W PARKWOOD ROAD AND A COMMON PROPERTY CORNER OF PARCELS 15 237 05 031 AND 15 237 05 032

GRID NORTH, NAD 83

GEORGIA WEST ZONE

N

TEMP ESMT 02

151 SQ FT

**STEPHEN J. DORAGE &
LINDA W. DORAGE
DB 7667 PG 77
PB 85 PG 139
264 W PARKWOOD RD
TAX ID: 15 237 05 030**

L9

4" HO

25" OAK

(B)

(S)

(G)

(H)

(I)

(J)

(K)

(L)

(M)

(N)

(O)

(P)

(Q)

(R)

(S)

(T)

(U)

(V)

(W)

(X)

(Y)

(Z)

(AA)

(AB)

(AC)

(AD)

(AE)

(AF)

(AG)

(AH)

(AI)

(AJ)

(AK)

(AL)

(AM)

(AN)

(AO)

(AP)

(AQ)

(AR)

(AS)

(AT)

(AU)

(AV)

(AW)

(AX)

(AY)

(AZ)

(BA)

(BB)

(BC)

(BD)

(BE)

(BF)

(BG)

(BH)

(BI)

(BJ)

(BK)

(BL)

(BM)

(BN)

(BO)

(BP)

(BQ)

(BR)

(BS)

(BT)

(BU)

(BV)

(BW)

(BX)

(BY)

(BZ)

(CA)

(CB)

(CC)

(CD)

(CE)

(CF)

(CG)

(CH)

(CI)

(CJ)

(CK)

(CL)

(CM)

(CN)

(CO)

(CP)

(CQ)

(CR)

(CS)

(CT)

(CU)

(CV)

(CW)

(CX)

(CY)

(CZ)

(DA)

(DB)

(DC)

(DD)

(DE)

(DF)

(DG)

(DH)

(DI)

(DJ)

(DK)

(DL)

(DM)

(DN)

(DO)

(DP)

(DQ)

(DR)

(DS)

(DT)

(DU)

(DV)

(DW)

(DX)

(DY)

(DZ)

(EA)

(EB)

(EC)

(ED)

(EE)

(EF)

(EG)

(EH)

(EI)

(EJ)

(EK)

(EL)

(EM)

(EN)

(EO)

(EP)

(EQ)

(ER)

(ES)

(ET)

(EU)

(EV)

(EW)

(EX)

(EY)

(EZ)

(FA)

(FB)

(FC)

(FD)

(FE)

(FF)

(FG)

(FH)

(FI)

(FJ)

(FK)

(FL)

(FM)

(FN)

(FO)

(FP)

(FQ)

(FR)

(FS)

(FT)

(FU)

(FV)

(FW)

(FX)

(FY)

(FZ)

(GA)

(GB)

(GC)

(GD)

(GE)

(GF)

(GG)

(GH)

(GI)

(GJ)

(GK)

(GL)

(GM)

(GN)

(GO)

(GP)

(GQ)

(GR)

(GS)

(GT)

(GU)

(GV)

(GW)

(GX)

(GY)

(GZ)

(HA)

(HB)

(HC)

(HD)

(HE)

(HF)

(HG)

(HH)

(HI)

(HJ)

(HK)

(HL)

(HM)

(HN)

(HO)

(HP)

(HQ)

(HR)

(HS)

(HT)

(HU)

(HV)

(HW)

(HX)

(HY)

(HZ)

(IA)

(IB)

(IC)

(ID)

(IE)

(IF)

(IG)

(IH)

(II)

(IJ)

(IK)

(IL)

(IM)

(IN)

(IO)

(IP)

(IQ)

(IR)

(IS)

(IT)

(IU)

(IV)

(IW)

(IX)

(IY)

(IZ)

(JA)

(JB)

(JC)

(JD)

(JE)

(JF)

(JG)

(JH)

(JI)

(JJ)

(JK)

(JL)

(JM)

(JN)

(JO)

(JP)

(JQ)

(JR)

(JS)

(JT)

(JU)

(JV)

(JW)

(JX)

(JY)

(JZ)

(KA)

(KB)

(KC)

(KD)

(KE)

(KF)

(KG)

(KH)

(KI)

(KJ)

(KL)

(KM)

(KN)

(KO)

(KP)

(KQ)

(KR)

(KS)

(KT)

(KU)

(KV)

(KW)

(KX)

(KY)

(KZ)

(LA)

(LB)

(LC)

(LD)

(LE)

(LF)

(LG)

(LH)

(LI)

(LJ)

(LK)

(LL)

(LM)

(LN)

(LO)

(LP)

(LQ)

(LR)

(LS)

(LT)

(LU)

(LV)

(LW)

(LX)

(LY)

(LZ)

(MA)

(MB)

(MC)

(MD)

(ME)

(MF)

(MG)

(MH)

(MI)

(MJ)

(MK)

(ML)

(MN)

(MO)

(MP)

(MQ)

(MR)

(MS)

(MT)

(MU)

(MV)

(MW)

(MX)

(MY)

(MZ)

(NA)

(NB)

(NC)

(ND)

(NE)

(NF)

(NG)

(NH)

(NI)

TEMP ESMT 02
151 SQ FT-
0.0035 ACRES

DW ESMT
320 SQ FT-
0.0074 ACRES

TEMP ESMT 01
180 SQ FT-
0.0041 ACRES

POC &
POB ESMT 01
N/F
JAMES ANDREW CLIFTON
DB 26822 PG 151
PB 223 PG 73
250 W PARKWOOD RD
TAX ID: 15 237 05 031

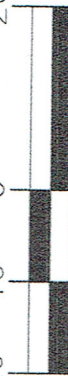
AtkinsRéalis
1600 RiverEdge Pkwy, NW, Suite 700
Atlanta, GA 30328
Tel: +1 770.933.0280
www.atkinsglobal.com
Copyright © Atkins Limited (2024)

Client	CITY OF DECATUR
Project Title	EASEMENT EXHIBIT
Project Location	264 W PARKWOOD RD CITY OF DECATUR DEKALB COUNTY, GEORGIA

Original Size ANSI A	Drawn AT	Checked GG
Scale 1"=20'	Date 04/26/24	Date 04/26/24

Curve Table					
Curve #	Arc Length	Radius	Chd Bearing	Chd Length	
C1	7.42	90.23	N20°46'44"E	7.42	
C2	7.21	95.22	S20°58'00"W	7.21	
C3	21.09	95.22	S12°27'07"W	21.05	
C4	11.21	90.22	N02°43'44"E	11.20	
C5	18.00	55.00	N10°12'22"W	17.92	
C6	19.64	60.00	S10°12'22"E	19.55	
C7	11.53	95.22	S02°38'15"W	11.52	

Line Table		
Line #	Bearing	Distance
L1	N63°25'36"W	5.01
L2	N23°07'21"E	28.57
L3	S64°26'12"E	5.04
L4	S23°07'21"W	28.87
L5	N64°26'12"W	18.99
L6	N17°36'25"E	13.87
L7	S87°11'19"E	17.50
L8	N87°11'19"W	5.01
L9	N70°25'04"E	5.00



264 W PARKWOOD ROAD

TEMPORARY EASEMENT 01

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a 1-inch crimped top pipe found at the intersection of the westerly right-of-way line of West Parkwood Road with the common line between Tax Parcels 15 237 05 030 and 15 237 05 031 now or formerly owned by Stephen J. & Linda W. Dorage and James Andrew Clifton, respectively, said crimped top pipe being the POINT OF BEGINNING;

Thence leaving said westerly right-of-way line, North 63 degrees 25 minutes 36 seconds West for a distance of 5.01 feet to a point;

Thence, North 23 degrees 07 minutes 21 seconds East for a distance of 28.57 feet to a point;

Thence, along a curve to the left having a radius of 90.23 feet and an arc length of 7.42 being subtended by a chord of North 20 degrees 46 minutes 44 seconds East for a distance of 7.42 feet to a point;

Thence, South 64 degrees 26 minutes 12 seconds East for a distance of 5.04 feet to a point on the westerly right-of-way line of West Parkwood Road;

Thence run along the westerly right-of-way line the following courses and distances:

Thence, along a curve to the right having a radius of 95.22 feet and an arc length of 7.21 being subtended by a chord of South 20 degrees 58 minutes 00 seconds West for a distance of 7.21 feet to a point;

Thence, South 23 degrees 07 minutes 21 seconds West a distance of 28.87 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 180 square feet or 0.0041 acres.

264 W PARKWOOD ROAD

TEMPORARY EASEMENT 02

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a 1-inch crimped top pipe found at the intersection of the westerly right-of-way line of West Parkwood Road with the common line between Tax Parcels 15 237 05 030 and 15 237 05 031 now or formerly owned by Stephen J. & Linda W. Dorage and James Andrew Clifton, respectively, said crimped top pipe being the POINT OF COMMENCEMENT;

Thence run along said westerly right-of-way line the following courses and distances:

Thence, North 23 degrees 07 minutes 21 seconds East a distance of 28.87 feet to a point;

Thence, along a curve to the left having a radius of 95.22 feet and an arc length of 7.21 being subtended by a chord of North 20 degrees 58 minutes 00 seconds East for a distance of 7.21 feet to a point;

Thence, along a curve to the left having a radius of 95.22 feet and an arc length of 21.09 being subtended by a chord of North 12 degrees 27 minutes 07 seconds East for a distance of 21.05 feet to a point, said point being the POINT OF BEGINNING;

Thence leaving said westerly right-of-way line, North 87 degrees 11 minutes 19 seconds West for a distance of 5.01 feet to a point;

Thence, along a curve to the left having a radius of 90.22 feet and an arc length of 11.21 being subtended by a chord of North 02 degrees 43 minutes 44 seconds East for a distance of 11.20 feet to the beginning of a non-tangential curve.

Thence, along a curve to the left having a radius of 55.00 feet and an arc length of 18.00 being subtended by a chord of North 10 degrees 12 minutes 22 seconds West for a distance of 17.92 feet to a point;

Thence, North 70 degrees 25 minutes 04 seconds East for a distance of 5.00 feet to a point on the westerly right-of-way line of West Parkwood Road;

Thence run along said westerly right-of-way line the following courses and distances:

Thence, along a curve to the right having a radius of 60.00 feet and an arc length of 19.64 being subtended by a chord of South 10 degrees 12 minutes 22 seconds East for a distance of 19.55 feet to the beginning of a non-tangential curve.

Thence, along a curve to the right having a radius of 95.22 feet and an arc length of 11.53 being subtended by a chord of South 02 degrees 38 minutes 15 seconds West for a distance of 11.52 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 151 square feet or 0.0035 acres.

264 W PARKWOOD ROAD

DRIVEWAY EASEMENT

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 237, 15th District, City of Decatur, DeKalb County, Georgia and being more particularly described as follows:

COMMENCE at a 1-inch crimped top pipe found at the intersection of the westerly right-of-way line of West Parkwood Road with the common line between Tax Parcels 15 237 05 030 and 15 237 05 031 now or formerly owned by Stephen J. & Linda W. Dorage and James Andrew Clifton, respectively, said crimped top pipe being the POINT OF COMMENCEMENT;

Thence run along said westerly right-of-way line the following courses and distances:

Thence, North 23 degrees 07 minutes 21 seconds East a distance of 28.87 feet to a point;

Thence, along a curve to the left having a radius of 95.22 feet and an arc length of 7.21 feet being subtended by a chord of North 20 degrees 58 minutes 00 seconds East for a distance of 7.21 feet to a point, said point being the POINT OF BEGINNING.

Thence leaving said westerly right-of-way line, North 64 degrees 26 minutes 12 seconds West for a distance of 18.99 feet to a point;

Thence, North 17 degrees 36 minutes 25 seconds East for a distance of 13.87 feet to a point;

Thence, South 87 degrees 11 minutes 19 seconds East a distance of 17.50 feet to a point on the westerly right-of-way line of West Parkwood Road;

Thence along said westerly right-of-way line curving to the right having a radius of 95.22 feet and an arc length of 21.09 feet being subtended by a chord of South 12 degrees 27 minutes 07 seconds West for a distance of 21.05 feet to the POINT OF BEGINNING.

Said tract or parcel of land contains 320 square feet or 0.0074 acres.

**AGREEMENT FOR
TEMPORARY CONSTRUCTION EASEMENT**

**PROJECT: Parkwood/US
278/SSR 10 Intersection
Calming Improvements
TAX PARCEL ID: 15 237 12 001
266/270 E. Parkwood Rd,
Decatur, GA**

GEORGIA, DEKALB COUNTY

For and in consideration of the sum of One (\$1.00) and other valuable consideration, receipt whereof being acknowledged, the undersigned grants to the City of Decatur an option to acquire the following described property:

Temporary Construction Easement on that tract or parcel of land located in **Land Lot 237** of the **15th District of DeKalb County, Georgia** and being more particularly described on Exhibit "A" attached hereto and made a part hereof by reference.

For the sum of **One Thousand Five Hundred Eight Dollars (\$1,508.00)**, the undersigned agrees to execute and deliver to the City of Decatur a temporary construction easement on property owned by the undersigned as reflected on the attached Exhibit "A".

The following conditions are imposed upon the grant of this option:

- 1) This option shall extend for 60 days from this date.
- 2) The consideration recited is full payment for the rights conveyed.

744 Square Feet of Temporary Construction Easement

X Temporary Driveway Easement (2)

- 3) Any Special Stipulations agreed to shall be reflected on Exhibit "B" attached hereto and made a part hereof

Witness my hand and seal this 22 day of April, 2025.

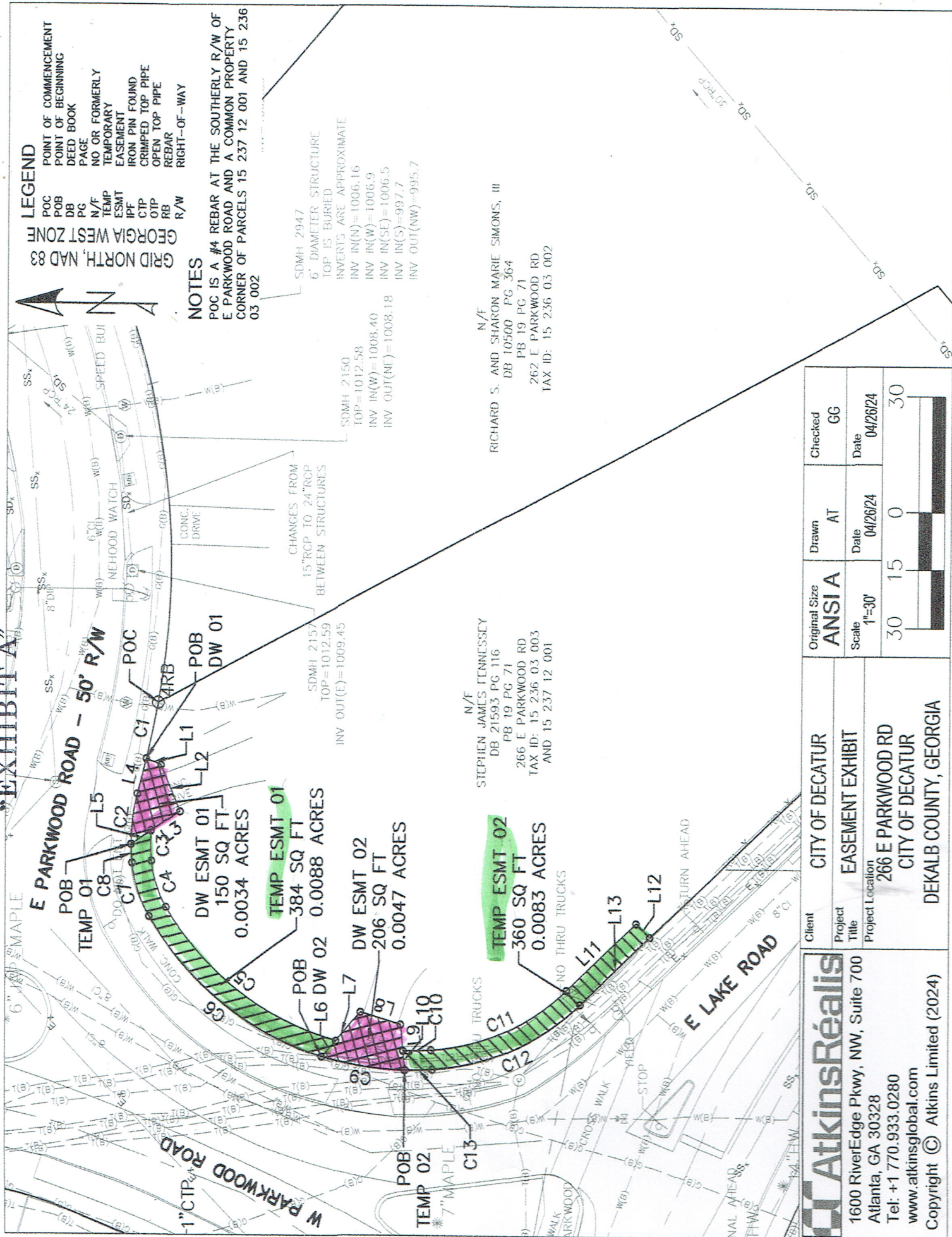
Signed, Sealed and Delivered
In the Presence of:

[Signature]
Witness

[Signature: Stephen J. Fennessy] (LS)
Print Name: Stephen J. Fennessy

[Signature: Christine A. Fennessy] (LS)
Print Name: Christine A. Fennessy

“EXHIBIT A”



LEGEND

- POC POINT OF COMMENCEMENT
- POB POINT OF BEGINNING
- DB DEED BOOK
- PG PAGE
- N/F NO OR FORMERLY
- TEMP TEMPORARY
- ESMT EASEMENT
- IPF IRON PIN FOUND
- CTP CRIMPED TOP PIPE
- OIP OPEN TOP PIPE
- RB REBAR
- R/W RIGHT-OF-WAY

NOTES

POC IS A #4 REBAR AT THE SOUTHERLY R/W OF E PARKWOOD ROAD AND A COMMON PROPERTY CORNER OF PARCELS 15 237 12 001 AND 15 236 03 002

SDMH 2947
6" DIAMETER STRUCTURE
TOP IS BURIED
INVERTS ARE APPROXIMATE
INV IN(N)=1006.16
INV IN(W)=1006.9
INV IN(SE)=1006.5
INV IN(S)=997.7
INV OUT(NW)=995.7

N/F
STEPHEN JAMES TENNESSEY
DB 21593 PG 116
PB 19 PG 71
266 E PARKWOOD RD
TAX ID: 15 236 03 003
AND 15 237 12 001

N/F
RICHARD S. AND SHARON MARIE SIMONS, III
DB 10500 PG 364
PB 19 PG 71
262 E PARKWOOD RD
TAX ID: 15 236 03 002

1600 RiverEdge Pkwy, NW, Suite 700
Atlanta, GA 30328
Tel: +1 770.933.0280
www.atkinsglobal.com

Copyright © Atkins Limited (2024)

Client

CITY OF DECATUR

Project Title

EASEMENT EXHIBIT

Project Location

266 E PARKWOOD RD
CITY OF DECATUR
DEKALB COUNTY, GEORGIA

Original Size

ANSI A

Scale

1"=30'

Drawn

AT

Checked

GG

Date

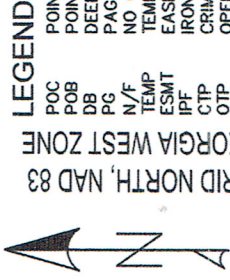
04/26/24

Date

04/26/24

30 15 0 30

"EXHIBIT A"



LEGEND
 POC POINT OF COMMENCEMENT
 POB POINT OF BEGINNING
 DB DEED BOOK
 PG PAGE
 N/F NO OR FORMERLY
 TEMP TEMPORARY
 ESMT EASEMENT
 IPF IRON PIN FOUND
 CTP CRIMPED TOP PIPE
 OTP OPEN TOP PIPE
 RB REBAR
 R/W RIGHT-OF-WAY

NOTES

POC IS A #4 REBAR AT THE SOUTHERLY R/W OF
 E PARKWOOD ROAD AND A COMMON PROPERTY
 CORNER OF PARCELS 15 237 12 001 AND 15 236
 03 002

Line Table		
Line #	Bearing	Length
L1	S22° 31' 44"W	4.15
L2	S67° 48' 04"W	12.76
L3	N34° 21' 17"W	15.07
L4	S76° 02' 17"E	9.33
L5	S34° 21' 17"E	6.18
L6	N48° 51' 32"W	5.51
L7	S48° 51' 32"E	15.09
L8	S16° 56' 03"W	10.67
L9	S84° 36' 16"W	11.71
L10	N84° 36' 16"E	5.03
L11	S44° 24' 02"E	24.68
L12	S45° 35' 58"W	5.00
L13	N44° 24' 02"W	24.68

Curve Table			
Curve #	Length	Radius	Chord Length
C1	14.74	206.26	14.74
C2	12.98	51.85	12.94
C3	7.70	46.85	7.69
C4	12.48	30.00	12.39
C5	56.41	71.48	54.95
C6	57.96	76.48	56.58
C7	14.56	35.00	14.45
C8	4.69	51.85	4.69
C9	21.58	76.48	21.51
C10	7.09	71.48	7.09
C11	38.57	55.00	37.79
C12	42.08	60.00	41.22
C13	6.99	76.48	6.99

AtkinsRéalis 1600 RiverEdge Pkwy, NW, Suite 700 Atlanta, GA 30328 Tel: +1 770.933.0280 www.atkinsglobal.com Copyright © Atkins Limited (2024)	Client	CITY OF DECATUR	
	Project Title	EASEMENT EXHIBIT	
	Project Location	266 E PARKWOOD RD CITY OF DECATUR DEKALB COUNTY, GEORGIA	
Original Size	ANSI A	Drawn	AT
Scale	1"=30'	Date	04/26/24
	30 15 0 30	Date	04/26/24

EXHIBIT "B"

SPECIAL STIPULATIONS

- * The two mature sweetgum trees at the southeast section of the easement (along East Lake Road, near where our fence along East Lake Road begins), no damage to trees OR to their root system.
- * Any of the driveway that is affected during construction will be replaced in kind to provide a smooth transition to the remainder of the driveway.
- * No damage to hydrangea or its root system (bordering upper driveway entrance at northeast corner)
- * Construction will require removal of the existing hedges along the portion of the sidewalk between the upper and lower driveway entrances. The hedges will be replaced with Southern Arrowwood (*Viburnum dentatum*), with plantings approximately four feet apart. (This is an inexpensive plant native to Georgia.)
- * Due to the condition of the existing sidewalk, the sidewalk between upper and lower driveway entrances will be replaced in full.
- * No damage to existing azaleas or their root system that border our property and neighboring property at 262 East Parkwood.