CITY OF CASSELBERRY
INVITATION TO BID

ITB-2017-0090
STORM DRAIN REHABILITATION PROJECT

Procurement Division
95 Triplet Lake Drive, 2nd Floor
Casselberry, Florida 32707

SECTION 00100

ADVERTISEMENT FOR INVITATION TO BID (ITB)

ITB-2017-0090
STORM DRAIN REHABILITATION PROJECT

1.01 PUBLIC NOTICE.

Public Notice is hereby given by the City of Casselberry, Florida, a municipal corporation existing under the laws of the State of Florida, invites interested, licensed and qualified firms to submit competitive sealed bids in response to **ITB-2017-0090**, **STORM DRAIN REHABILITATION PROJECT** as outlined in the ITB solicitation document.

Bidders are invited to submit bids for the work on the bid forms provided in the Contract Documents. Other bid forms will not be accepted. The Bidder must supply all information required by the bid form, Contract Documents and required attachments

ADVERTISEMENT DATE: **Thursday, December 8, 2016 (Orlando Sentinel)**

1.02 DESCRIPTION OF WORK.

The City of Casselberry (City) has identified multiple locations throughout the City where stormwater infrastructure is showing signs of failure and in possible need of rehabilitation. Singhofen & Associates, Inc. (SAI) was contracted by the City to investigate the locations as provided by the City and develop proposed solutions to address identified deficiencies. The City has identified twenty five (25) storm drain systems that are in need of repair. A map showing the general location of the areas is included on Figure 1.1 within the project Technical Memorandum (Please refer to Attachment #2). Corrective actions include, but are not limited to, pipe lining, chemical grout repairs, flowable fill, asphalt repair and pipe/MES replacements, along with related MOT, sod, clearing/grubbing and mobilization.

The Contractor for this Project must perform at least fifty five percent (55%) of the work with its own forces.

1.03 PRE-BID CONFERENCE.

There will be no pre-bid conference for this project.

IMPORTANT NOTE: It is imperative that all Bidders have a clear understanding of the scope of services requirements. As such, the City reserves the right to schedule a pre-bid conference. Therefore, in the event a mandatory pre-bid conference is required and/or subsequently scheduled, attendance will be a pre-requisite for a bid submittal; and bid submittals will only be accepted from those who are represented at a mandatory pre-bid conference. Attendance at the pre-bid conference will be evidenced by the Bidder's/representative's signature on the attendance roster. In the event of a mandatory pre-bid conference, the time, date, and location of the meeting will be noted in the released Addendum notifying such requirement. Please plan your travel time accordingly.

1.04 REQUESTING THE SOLICITATION DOCUMENTS.

The ITB documents are available on-line at no charge via the City of Casselberry website: http://www.casselberry.org/bids.aspx. Register as a vendor to download the solicitation documents. Solicitations may also be viewed and downloaded via the Onvia DemandStar®

System website: http://www.demandstar.com. The City is not responsible for errors and omissions occurring in the transmission or downloading of any documents from these websites. In the event of any discrepancy between information on these websites and the hardcopy specifications, the terms of the hardcopy specifications shall prevail. For more information call the Procurement Division at 407.262.7700, extension 1137 or extension 1142. Important: The desire of the City to pursue bid submittals shall in no way obligate the City to compensate you for your efforts or to execute a contract with your firm.

1.05 ONLINE SERVICE PROVIDER DISCLAIMER.

Onvia through its DemandStar® System has no affiliation with the City other than as a service that facilitates communication between the City and its vendors. Onvia through its DemandStar® System is an independent entity and is not an agent or representative of the City. Communications to Onvia or through its DemandStar® System do not constitute communications to the City.

1.06 BID BOND INFORMATION.

A cashier's check on any national or state bank or a bid bond on the form contained in the Contract Documents in an amount not less than 5% of the total amount bid, made payable to the City of Casselberry, must accompany each bid as a guarantee that the Bidder will not withdraw its bid for a period of eighty five (85) calendar days (or one hundred fifteen (115) calendar days if federal funds are applicable) after opening of the bids, and as a guarantee that, in the event the Contract is awarded to the Bidder, Bidder will, within seven (7) calendar days after the date of award of the Contract, enter into a Contract with the Owner and furnish the required and executed contracts, insurance policy endorsements, certificates of insurance and performance and payment bonds. If Bidder fails to do this, Bidder will forfeit the amount of the cashier's check or bid bond as liquidated damages. The Bidder agrees that these Liquidated Damages are not a penalty. The bid bond and performance and payment bonds are required to be secured by an agency of the surety, which agency will have an established place of business in the State of Florida and will be duly licensed to conduct business therein.

1.07 INTERPRETATION, QUESTIONS AND ADDENDA.

All questions relating to this ITB document must be in writing and hand-delivered or delivered electronically through email to Willie Velez, CPPB – Procurement Administrator; wvelez@casselberry.org no later **3:00 P.M. Local Time on Thursday, December 29, 2016**. The Procurement Division can be also reached via telephone at 407.262.7700; extension 1137 or extension 1142.

1.08 FAILURE TO COMPLY WITH BID INSTRUCTIONS.

Failure to comply with any of the foregoing instructions, provide a bid submittal in the manner prescribed herein or any other essential element of this Invitation to Bid (ITB) may be grounds for disqualification of your bid submittal.

1.09 CITY PERMIT FEES.

In accordance with approved Ordinance No. 314, adopted September 27, 1976, of the City of Casselberry, Florida, there will not be a City permit fee collected for this City-owned Contract.

1.10 BID SUBMITTAL FORMS AND REPRODUCTION.

A. Bid Forms: All bids must be submitted on the City's standard solicitation forms and must include all applicable completed attachments included herein. Bids on Bidder's quotation

forms shall not be accepted. Please ensure all applicable required submittal documents are included with your bid response.

B. Reproduction: **Please submit two (2) copies of the bid submittal package, one (1) unbound original and one (1) bound copy.** The submittal MUST also include a single CD-ROM or memory stick containing the entire bid submittal formatted to be read with Microsoft® software products or Adobe® PDF software.

1.11 BID SUBMITTAL AND DELIVERY.

A. Sealed bid submittals must be received in the City's Procurement Division no later than **2:00 P.M. Local Time on Tuesday, January 10, 2017**. Bid submittals received after the stated date and time will not be accepted and will be returned unopened. Under no circumstances shall bids delivered after the time specified be considered. The City shall not be responsible for any occurrence for bid submittals delivered incorrectly or to the wrong address or location. No exceptions will be made. The decision to refuse to consider a bid that was received beyond the date/time established in the solicitation shall not be the basis of a protest. Bid submittals shall be delivered to the below address in a sealed, opaque envelope or packaging material, plainly marked on the outside with the following:

City of Casselberry Procurement Division
95 Triplet Lake Drive, 2nd Floor
Casselberry, Florida 32707
RE: Solicitation **ITB-2017-0090**
Solicitation Title: **STORM DRAIN REHABILITATION PROJECT**
Date and time bid submittal is due.

Attention: Willie Velez, CPPB – Procurement Administrator

B. If submitted by mail, the bid submittal shall be enclosed in a sealed envelope addressed to the designated Procurement Administrator. Bids submitted by mail must be received by the Procurement Division by the time specified herein for the opening thereof.
   1. Please be advised that United States Postal Service (USPS) Express and Priority service class; are delivered to the City once daily. Accordingly, in order for a submission to be received by the Procurement Division when the services of the USPS are used, a Bidder or bidder is responsible for ensuring that their submittal is transmitted in such manner as necessary for the USPS to receive, sort, and deliver to the City by the submittal due date and time.
   2. The City only collects other USPS mail one (1) time per day upon opening of the local Post Office branch, which is then sorted by the City for delivery to the Procurement Division and other City departments. Submissions arriving at the USPS after the initial pick-up by the City will be placed in the City's call-box for pick-up and will not be delivered to or received by the Procurement Division until the next business day.
   3. When using the USPS or any other mail delivery services, it is the sole responsibility of the Bidder to ensure that Proposals are received in the Procurement Division by the due date and time. The City shall not be responsible for delays caused by any occurrence.

C. The City is not responsible for the failure of a Bidder or the Bidder's agent to submit responses in a timely manner or for a bid submittal that is not properly addressed or

identified. Bid submittals by email, telephone or fax shall be rejected as non-responsive regardless of where it is received

1.12 PROCUREMENT PROCESS TENTATIVE SCHEDULE.

Tentative Schedule	
Task	**Date**
ITB Released to General Public	Thursday, December 8, 2016
ITB Pre-Bid Conference (if applicable)	N/A
Deadline for Questions by Interested Parties	Thursday, December 29, 2016 at 3:00 P.M.
Last Addendum Issuance	No later than Wednesday, January 4, 2017
Bid Due Date and Opening	Tuesday, January 10, 2017 at 2:00 P.M.
Evaluation and Selection	January 2017
City Commission Approval of Contract	Monday, February 13, 2017

1.13 RIGHT TO CANCEL OR REJECT.

A. A solicitation may be canceled, or any or all submittals in response to a solicitation issued by the City may be rejected, by the Procurement Administrator, in whole or in part, without recourse, when it is in the best interest of the City in accordance with the Section 5.14 of City of Casselberry Purchasing Policy. As the best interests of the City of Casselberry may require, the right is reserved to make award(s) by individual items, group of items, all or none, or a combination thereof, with one or more suppliers. The Bidder agrees that the City has the right to reject, for any reason and without penalty, any and/or all proposal packages or any part of a proposal package, prior to and after the rankings are made by the City, and that the City has the right, for any reason and without penalty, to terminate any contract negotiations commenced with any Bidder. The City also reserves the right to re-advertise and solicit new bids/proposals or to abandon the project in its entirety without reason and without penalty.

B. The City reserves the right to accept or reject any or all Bids/Proposals, or to waive any formalities, technicalities, irregularities, or immaterial variation.

C. The City also reserves the right to reject the bid submittal from a Bidder who has previously failed to perform properly, or complete on time contracts of a similar nature, or who investigation shows is not in a position to perform the contract.

The City welcomes your response to this ITB document. Bids should be prepared in accordance with the ITB instructions and will be evaluated by the City as stated herein. All bidders are asked to be thorough yet concise in their response. Thank you for your interest in doing business with the City of Casselberry, Florida.

Issued By: City of Casselberry, Florida | Procurement Division

END OF SECTION

SECTION 00200

INSTRUCTIONS TO BIDDERS

1.01 BIDS.

Bids are requested from Qualified Contractors for the **STORM DRAIN REHABILITATION PROJECT** for the City of Casselberry, Florida, hereinafter called the OWNER, to be performed in accordance with the Specifications and Procedural Documents prepared by the OWNER.

1.02 EXAMINATION OF DOCUMENTS AND INSPECTION OF SITE.

Before submitting a Bid, Bidders shall carefully read the Specifications and Procedural Documents, fully inform themselves of all existing conditions and limitations, and include in the Bid a sum to cover the cost of all items included in the Contract Documents.

1.03 FORM.

Each Bid shall be made on a form prepared by the OWNER and included as one of the Contract Documents and shall be submitted in a sealed envelope bearing the title of the work and the name of the Bidder.

1.04 DELIVERY OF BID.

Sealed bid submittals must be received in the City's Procurement Division no later than **2:00 P.M. Local Time on Tuesday, January 10, 2017**. Bid submittals received after the stated date and time will not be accepted and will be returned unopened. The City will not be responsible for any bid submittals delivered incorrectly or to the wrong address or location. No exceptions will be made.

1.05 DISCREPANCIES.

Please check the stated unit prices before submitting the bid as no change in prices shall be allowed after bid opening. All prices and notations must be in ink or typewritten. In cases of extended price irregularities, unit pricing shall prevail. Please note that the City reserves the right to clarify and correct extended amount errors. In cases of a difference between the stipulated amount of the Bid written in words and the stipulated amount written in figures, the stipulated amount stated in words shall prevail.

1.06 MODIFICATIONS.

Bids shall not contain any recapitulations of the work to be done. Alternate Bids will not be considered unless requested specifically by the OWNER. Oral Bids or modifications will not be considered.

1.07 BID OPENING.

Bid submittals will be announced publicly by the Procurement Division on the due date and time or as soon thereafter as possible. The names of the respondents, their bid amounts and verification of bond submittal, if applicable, will be publicly announced. Sealed bids, bids, or replies received by an agency pursuant to a competitive solicitation are exempt from s. 119.07(1) and s. 24(a), Article I of the State Constitution until such time as the agency provides notice of an intended decision or until 30 days after opening the bids or final replies, whichever is earlier. All other information will be subject to Florida's Open Government Laws to Public Contracting.

1.08 AWARD OR REJECTION.

It is the intention of the OWNER to realize the construction of the proposed improvements at the lowest possible cost within the limits of the estimated available funds and at no sacrifice in the quality

and, if possible, in the Scope of the Work. The Contract will be awarded to the responsible Bidder who submits the lowest and best qualified Bid complying with these instructions and with the Advertisement, provided the total of the Contract is within the estimated available funds.

The OWNER reserves the right to reject any or all Bids or to waive any informality or technicality in any Bid in the interest of the OWNER. No Bidder may withdraw his Bid for a period of 60 days after the date of opening thereof.

By submitting a bid submittal, the Bidder certifies that the Bidder has fully read and understands this ITB document and has full knowledge of the scope, nature, quantity, and quality of work to be performed; the detailed requirements of the services to be provided; and the conditions under which the services are to be performed.

In determining responsibility, the following qualifications will be considered:

A. The Bidder's ability, capacity, and skill to perform the contract or provide the service within the time specified;

B. The reputation, judgement, and experience of the Bidder;

C. The quality of performance of previous contracts or services including previous performance with the City;

D. Previous and existing compliance by the Bidder with laws and ordinances relating to the contract or service;

E. Financial resources of the Bidder to perform the contract or provide the service;

F. Ability to provide future maintenance and service for the use of the subject of the contract; and,

G. Whether the Bidder is in arrears to the City on a debt or a contract; whether the Bidder is in default on surety to the City; or whether the Bidder's taxes are delinquent;

H. The OWNER may use past project(s) and the Contractor's performance on these projects to evaluate the best responsive and responsible bidder. The evaluation of the "Best Bidder" involves the review of the Contractor's demonstrated skill level and capabilities to perform the work, review of the Contractor's approach to similar projects, and its abilities and cooperation in handling the administrative requirements of past projects, payments to subcontractors and the Contractor's claim history. The determination of the "Best Bidder" will be at the sole discretion of the OWNER.

1.09 WAIVER.

By providing a bid response to this solicitation, each Bidder agrees to waive any claim, cause of action, demand, action, obligation, damages or liability, whether known or unknown, that the Bidder has or may have against the OWNER, the Engineer, and their respective employees, arising out of or in connection with the administration, evaluation or recommendation of any bid; the waiver of any requirements under the bid document; or the contractor documents; the acceptance or rejection of any bids; and award of the contract, or by reason of any fact or matter whatsoever, including any act or omission by the OWNER or Engineer.

1.10 INTERPRETATIONS, QUESTIONS AND ADDENDA.

All questions relating to this ITB document must be in writing and hand-delivered or delivered electronically through email or fax to Willie Velez, CPPB – Procurement Administrator; wvelez@casselberry.org no later **3:00 P.M. Local Time on Thursday, December 29, 2016**. The Procurement Division can be also reached via telephone at 407.262.7700; extension 1137 or extension 1142.

A. Any interpretations, clarifications, or changes will be made in the form of written addenda issued by the Procurement Division.

B. Any oral communications will not be authoritative and will not be binding on the City.

C. It is the sole responsibility of the Bidder to contact the Procurement Division prior to submitting a bid submittal to ascertain if any addenda have been issued, to obtain all such addenda, and to return executed addenda with each bid submittal.

D. Addenda will be available to all Bidders on the City of Casselberry website: http://www.casselberry.org/bids.aspx, and via the Onvia DemandStar® System website: http://www.demandstar.com.

1.11 BIDDERS INTERESTED IN MORE THAN ONE BID.

No person, firm, or corporation shall be allowed to make, file or have an interest in more than one (1) bid for the same work, unless alternate bids are called for. A person, firm or corporation who has submitted a sub-bid to a Bidder or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-bid or quoting process to other Bidders.

1.12 BID GUARANTY.

Each Bid shall be accompanied by a certified check or bid guaranty acceptable to the OWNER in an amount equal to five percent (5%) of the total bid, payable without condition to the OWNER, as a guaranty that the Bidder, if awarded the Contract, will promptly execute the Agreement in accordance with the Bid and the Procedural Documents, and will furnish good and sufficient bond for the faithful performance of the same, and for the payment to all persons supplying labor and materials for the work. The Bid Guaranties of all Bidders, except the three (3) lowest, will be returned promptly after the canvass of bids.

1.13 PERFORMANCE AND PAYMENT BONDS.

The successful Bidder, simultaneously with the execution of the Contract, will be required to furnish separate Performance and Payment Bonds in an amount equal to one hundred percent (100%) of the Contract Amount each. The Bonds shall be secured from a surety company satisfactory to the OWNER. The form of the Bonds of the successful Bidder will require execution and be included in the Contract Documents.

1.14 TIME FOR COMPLETION AND LIQUIDATED DAMAGES.

It is understood and agreed that time is the essence of the Contract, and that failure on the part of the Contractor to complete the Contract Work within the time stated in the Agreement will result in certain loss and damage to the OWNER.

It is therefore covenanted and agreed that, if the Contractor shall fail or neglect to complete his Work on or before the date fixed for completion by these Documents, then said Contractor agrees to pay to the OWNER, as Liquidated Damages, the amounts specified in the Agreement.

The full amount of such damages shall be deducted from payments due the Contractor or obtained by other legitimate means of recovery if earned payments withheld are inadequate to cover such damages.

1.15 SUBSTITUTION OF MAJOR EQUIPMENT.

The Bidder shall submit a Base Bid based upon the equipment specified.

If the Bidder desires to offer a substitute to the Base Bid, he shall indicate in the bid submittal the amount to be deducted from or added to the Contract providing that he is awarded a contract and the proposed substitution is acceptable to the Engineer. In order for the Engineer to determine if the proposed substitute item is a satisfactory alternate to that specified, two (2) sets of drawings, specifications, full descriptive literature and a detailed list of the equipment proposed shall be submitted with the bid submittal. In the event that the OWNER does not approve the substitution, then the specified items shall be furnished for the amount of the Base Bid.

1.16 PUBLIC ENTITY CRIMES.

As required by section 287.133, Florida Statutes, the Bidder warrants that it is not on the convicted contractor list for a public entity crime committed within the past thirty six (36) months. The Bidder further warrants that it will neither utilize the services of, nor contract with, any supplier, sub-contractor, or consultant in connection with this Agreement for a period of thirty six (36) months from the date of being placed on the convicted contractor list. By providing a bid submittal to this solicitation, the Bidder certifies that it is qualified to do business with the City of Casselberry in accordance with all Florida Statutes.

1.17 DISCRIMINATION.

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

1.18 QUALIFICATIONS OF BIDDER.

It is the intention of the City to award this contract to the overall lowest price, most responsive and responsible bidder. Accordingly, the Owner will require all bidders to submit with his or her bid, information including, but not limited to, the following: 1) evidence of Bidder's FDOT certifications and applicable licenses to perform the work and services; 2) a completed reference sheet documenting all projects of similar size, scope and complexity completed by the bidder over the past three (3) years that includes the following information:

Project Name:	
Type of Project/Service:	
Address:	
Contracting Agency/Client:	
Contact Name and Phone #:	
Contact Email Address and Fax #:	
Contract Amount:	Date Work Performed:

1.19 FINANCIAL INFORMATION.

At the sole discretion of the City, the City may request from the apparent overall lowest price, most responsive and responsible bidder a financial statement documenting the organization's liquidity position documenting the bidder's financial resources and the adequacy of its plant and/or

equipment. Said information shall be certified by a Certified Public Accountant for bids over $25,000, and shall be submitted on the Associated General Contractors of America Form "Standard Questionnaires and Financial Statement for Bidders," available from AGC, 1975 "E" Street, NW, Washington DC 20016. The Owner, at its discretion, may require any or all of the above-listed information from any other Bidder.

1.20 SUPPLEMENTAL DOCUMENTS AND ATTACHMENTS.

All attachments listed herein are hereby incorporated into the solicitation and made available as individual attachments.

A. Attachment #1: Construction Plans

B. Attachment #2: Storm Drain Rehabilitation Project Corrective Action Plan (CAP)

C. The Florida Department of Transportation (FDOT) standards can be obtained from the FDOT's website: http://www.fdot.gov/roadway/DS/18/STDs.shtm.

PLEASE NOTE: Although this is not a State project, all FDOT standards shall remain in effect at all times during construction; the cost of which should be reflected and incorporated in your bid submittal.

D. The City of Casselberry Utilities Standards & Specification Manual can be obtained from the City's website: http://www.casselberry.org/documentcenter/view/1325

END OF SECTION

SECTION 00400

BID

1.01 THE FOLLOWING BID IS HEREBY MADE to the City of Casselberry, Florida, hereinafter called the OWNER. Bid is submitted by_____.

The Undersigned Bidder, hereby proposes and agrees to furnish all the necessary labor, materials, equipment, tools and services needed for the construction of the landscape, hardscape and irrigation for the **STORM DRAIN REHABILITATION PROJECT** for the City of Casselberry, Florida, in accordance with the Plans, Specifications and Procedural Documents prepared by the City of Casselberry, Florida.

In submitting this Bid, the Undersigned declares that the only persons or parties interested in the Bid as principals are those named herein, and that the Bid is made without collusion with any other person, firm or corporation.

1.02 The Undersigned acknowledges that he has received a complete set of Contract Documents as listed in the ENUMERATION OF CONTRACT DOCUMENTS.

The Undersigned acknowledges receipt of the following Addenda:

Addendum No. and Date	Addendum No. and Date
_____	_____
_____	_____

1.03 The Undersigned declares that he has examined the Contract Documents and is familiar with the local conditions at the site where the Work is to be performed and with the conditions affecting the Contract and the requirements of the construction, and understands that in making this Bid he waives all right to plead any misunderstanding regarding the same.

1.04 **CONTRACT TIME.**
If awarded the Contract, the Undersigned agrees to complete the Work within the time limits stated in the Agreement.

The Undersigned further agrees to begin work not later than ten (10) days after the issuance date of the Notice to Proceed (NTP), unless otherwise provided, and to prosecute the Work in such manner and with sufficient materials, equipment and labor as will ensure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the Contract.

In case of failure to complete the Work within the time specified herein, or within such extra time as may have been allowed by extensions, the Undersigned agrees to pay the OWNER or have the OWNER withhold from the Undersigned such sums as liquidated damages as stated in the Agreement and General Conditions.

1.05 BID GUARANTY (BID DEPOSIT).

The Bid Guaranty attached, without endorsement, or Bid Deposit (certified check, or cashier's check), in the sum of $_____ Dollars (which amount is 5% of the submitted Base Bid) is furnished herewith to the OWNER as a guarantee that the Agreement will be executed and a Performance Bond furnished within ten (10) days after award of Contract to the Undersigned, or that the Undersigned will pay to the OWNER the difference between the stipulated amount of this Bid and such larger amount for which the OWNER may in good faith contract with another party to perform the Work covered by this Bid, provided that such payment shall be limited to the amount of this Bid Guaranty.

The Undersigned agrees that the Bid Deposit is the measure of Liquidated Damages due the OWNER at the expiration of sixty (60) days from the opening of Bids if for any reason the Undersigned withdraws his Bid or Bid after the opening of the Bids and prior to the time a formal written Agreement, evidencing the Contract, has been signed and delivered to the OWNER and a satisfactory Performance and Payment Bond has been furnished, whether or not the Undersigned at the time of such withdrawal has been designated as the successful Bidder.

The Undersigned further agrees that withdrawal of this Bid, or failure to sign the Agreement within the time hereinabove set forth, shall automatically bar the Undersigned from any further consideration and terminate any and all rights the Undersigned may have acquired in, by or through this Bid.

The Undersigned further agrees that the OWNER shall have the right to retain the Bid Deposit for a period of 60 days from the date of opening of Bids if the Undersigned is one of the three (3) lowest Bidders, and for a period of 10 days from the date of opening Bids if the Undersigned is not one of the three lowest Bidders.

1.06 EXECUTION OF AGREEMENT AND FURNISHING BOND.

Within ten (10) days after being awarded the Contract, the Undersigned agrees to execute the form of Agreement included as one of the Contract Documents, and to furnish a Performance and Payment Bond in an amount equal to 100% of the Contract Amount.

1.07 ESTIMATED QUANTITIES, UNIT PRICES AND TOTALS.

The Undersigned hereby proposes and agrees to furnish all the necessary engineering, plant, labor, materials, equipment, tools and services necessary to perform the **STORM DRAIN REHABILITATION PROJECT** for the City of Casselberry, Florida, all in accordance with the Specifications and Procedural Documents prepared by the City of Casselberry Engineering Division for the following stipulated amount (the amount in words shall govern). Bidder also acknowledges full and complete review of the plans and has performed his own takeoff which is the basis for his bid. Bidder further acknowledges that the quantities shown on the Tabulation of Quantities sheets are provided for estimation purposes only, and the actual bid shall be based on the work shown on the plans.

PROJECT NO. PW 1501

City of Casselberry Storm Drain Rehabilitation Project

Bid Form

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENDED PRICE
101-1	MOBILIZATION (5% OF BASE BID)	LS	1		
102-1	MAINTENANCE OF TRAFFIC	LS	1		
104	PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION	LS	1		
110-1-1	CLEARING & GRUBBING	LS	1		
110-15-2	TREE PRESERVATION & REPLACEMENT	LS	1		
120-14	EXCAVATION, EMBANKMENT, & GRADING	LS	1		
121-70	FLOWABLE FILL	CY	3		
160-4	TYPE B STABILIZATION	SY	1375		
285-708	OPTIONAL BASE,BASE GROUP 08	SY	1375		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	113		
400-2-1	CONC CLASS II, CULVERTS	CY	1		
400-4-2	CONC CLASS IV, ENDWALLS	CY	1		
425-1-541	INLETS, DT BOT, TYPE D, <10'	EA	2		
425-1-545	INLETS, DT BOT,TYPE D, PARTIAL	EA	1		
425-2-61	MANHOLES, P-8, <10'	EA	1		
425-5-1	MANHOLE, ADJUST, UTILITIES	EA	1		
430-175-115	PIPE CULV, OPT MATL, ROUND, 15"S/CD	LF	88		
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	LF	385		
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	LF	284		
430-175-224	PIPE CULV, OPT MATL, OTHER, 24"S/CD	LF	19		
430-982-129	MITERED END SECT, OPTIONAL RD, 24" CD	EA	2		
430-982-629	MITERED END SECT, OPT - OTHER, 24" CD	EA	1		
430-94-1	DESILTING PIPE, 0 - 24"	LF	200		
430-94-3	DESILTING PIPE, 37 - 48"	LF	417		
431-1-1	PIPE LINER, OPTIONAL MATERIAL, 0-24"	LF	1267		
431-1-2	PIPE LINER, OPTIONAL MATERIAL, 25-36"	LF	203		
431-1-3	PIPE LINER, OPTIONAL MATERIAL, 37-48"	LF	417		
431-1-4	PIPE LINER, OPTIONAL MATERIAL, 49-60"	LF	384		
432-3-1	CHEM GROUT REPAIR, PIPE,NON-TEST,15"	EA	8		
432-3-2	CHEM GROUT REPAIR, PIPE,NON-TEST,18"	EA	3		

432-3-4	CHEM GROUT REPAIR, PIPE,NON-TEST,24"	EA	18		
432-3-5	CHEM GROUT REPAIR, PIPE,NON-TEST,30"	EA	2		
432-3-6	CHEM GROUT REPAIR, PIPE,NON-TEST,36"	EA	7		
432-3-8	CHEM GROUT REPAIR, PIPE,NON-TEST,48"	EA	11		
433-1	CHEM GROUT REPAIR, MANHOLE / INLET	EA	4		
440-1-10	UNDERDRAIN, TYPE I	LF	7128		
520-1-8	CONCRETE CURB & GUTTER, MIAMI	LF	677		
520-3	VALLEY GUTTER- CONCRETE	LF	92		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	225		
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	1309		
530-3-3	RIPRAP- RUBBLE, BANK AND SHORE	TN	437		
530-3-4	RIPRAP, RUBBLE, F&I, DITCH LINING	TN	46		
550-10-918	FENCING,SPECIAL TYP, 0.0-5.0', RESET EXI	LF	50		
570-1-2	PERFORMANCE TURF, SOD	SY	6268		
700-1	SIGNAGE & MARKINGS	LS	1		
1050-11-224	UTILITY PIPE, F&I,PVC,WATER/SEWER,8-19.9	LF	6		
				BID TOTAL	**$**

TOTAL BASE BID FOR SOLICITATION ITB-2017-0090 (PROJECT NUMBER: PW 1501)

_____**Dollars** **$**_____
(In Words) **(In Figures)**

The Undersigned acknowledges that the bids submitted herewith are based on the materials and equipment specified by the Engineer. ***The bidder shall submit the base bid for those items that are specifically referenced within the document. An alternate or deductive bid may be submitted for "EQUAL" items. The award of bid will be made on the Base Bid.***

1.08 SUBSTITUTE EQUIPMENT.

The following items are offered as a satisfactory substitute for the item specified. If the items listed below are accepted as a substitute for the one specified, the amount indicated below will be deducted from or added to the Contract price as indicated. If no substitute equipment is offered by the Bidder with this Bid, then the equipment, as specified, shall be furnished at the Bid Amount.

Item _____ Unit _____ Unit Price _____
Item _____ Unit _____ Unit Price _____

Revised Total _____

1.09 CHANGES IN THE WORK.

The Undersigned agrees that if the OWNER decides to alter the work by an amount not exceeding 25% percent of the total money value of the original Contract amount or Contract amount corrected as provided in the Contract Documents, he will perform the work as altered or omit work originally required upon written instruction from the OWNER, at an amount to be determined by one of the following methods at the discretion of the OWNER:

A. According to the General Conditions; or

B. At the cost of labor and material plus a single percentage or overhead and profit, as indicated below:

Cost Plus Percentage for Overhead and Profit

The actual cost of the additional work shall be documented by material invoices and payroll records of all labor. The percentage to be applied for overhead and profit shall be 15% percent, and shall be applied whether the work involves the Contractor's own forces or those of a subcontractor. If the work involves a subcontractor; the total percentage applied by the subcontractor plus the Contractor shall not exceed 15% percent (e.g., 10% percent for the Subcontractor plus 5% percent for the Contractor).

1.10 OWNER'S RIGHTS RESERVED.

The Undersigned understands that the OWNER reserves the right to reject any or all Bids or to waive any informality or technicality in any Bid in the interest of the OWNER.

The Undersigned acknowledges that the OWNER may award a Contract to the Bidder who submits the lowest qualified Bid for the Base Bid.

I/we, the undersigned, as authorized signatory to commit the firm, do hereby accept in total all the terms and conditions stipulated and referenced in this ITB document and do hereby agree that if a contract is offered or negotiated it will abide by the terms and conditions presented in the ITB document or as negotiated pursuant thereto. The undersigned, having familiarized him/herself with the terms of the ITB documents, local conditions, and the cost of the work at the place(s) where the work is to be done, hereby submits and agrees to perform within the time stipulated, all work required in accordance with the scope of services and other documents including Addenda, if any, on file at the City of Casselberry Procurement Division for the price set forth herein. The signature(s) below are an acknowledgment of my/our full understanding and acceptance of all the terms and conditions set forth in this ITB document or as otherwise agreed to between the parties in writing.

1.11 THE ABOVE BID IS HEREBY RESPECTFULLY SUBMITTED BY:

_____

Contractor/Company Name

_____

Signed By Date

_____

Printed Name

_____
Title

_____
Business/Physical Address

_____
City State Zip

_____
Mailing Address (if different that business address)

_____
City State Zip

(____)_____(____)_____
Phone Number Fax Number

Seal (If bid by a Corporation)

STATE OF _____
COUNTY OF _____

The foregoing instrument was executed before me this ____ day of _____, 20___, by _____as_____of_____ _____, who personally swore or affirmed that he/she is authorized to execute this document and thereby bind the Corporation, and who is personally known to me OR has produced _____ as identification.

_____
NOTARY PUBLIC, State of _____

(stamp)

END OF SECTION

PROJECT NO. PW 1501

SECTION 00430

BID GUARANTY

KNOW ALL MEN BY THESE PRESENT, that we, the Undersigned, _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto the City of Casselberry, Florida, as OWNER in the penal sum of _____ ($_____) 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 _____, 2017.

The condition of the above obligation is such that, whereas the Principal has submitted to the City of Casselberry, Florida, a certain Bid, attached hereto and hereby made a part hereof to enter into a Contract, in writing, for **STORM DRAIN REHABILITATION PROJECT** in the City of Casselberry, Florida.

NOW, THEREFORE:

a) If said Bid shall be rejected, or in the alternate;

b) If said Bid shall be accepted and the Principal shall execute and deliver a contract (in the Form of Agreement) attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials 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.

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 OWNER may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presented to be signed by their proper officers, the day and year first set forth above.

_____
Principal

_____
Surety

By: _____ (SEAL)

END OF SECTION

SECTION 00440

TRENCH SAFETY STATEMENT

Bidder acknowledges that included in the various items of the bid and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. The bidder further identifies the cost of compliance with the applicable trench safety standards as follows:

Trench Safety Measure (Description)	Units of Measure **(LF, SY)**	**Unit Quantify**	**Unit Cost**	**Extended Cost**
A.				
B.				
C.				
D.				
TOTAL:				

NOTE: The total cost shown herein is already included in the various items in the Total Bid Price in the Contractor's Bid and is not additional to the pricing shown on the Bid Form.

Bidder, by signature below, assures that the contractor performing trench excavating will comply with the applicable Trench Safety Standards. Failure to complete the above and submit with the Bid Form along with other required bidding documents may result in bid being declared non-responsive.

Submitted, signed and sealed this _____ day of _____, 2017.

_____
CONTRACTOR SIGNATURE

By: _____
Printed Name Title

_____
Business Address

ATTEST:

_____
Signature Seal

NOTE: If the Contractor intends to install pipe by some other method than trenching under the definitions found in the Florida Trench Safety Act (90-96, Laws of Florida), he shall so indicate by outlining in the space provided below the method he proposes and how it will comply with the Florida Trench Safety Act and related OSHA Standards for the OWNER's evaluation.

The Cost of accomplishing the work by any alternate methods to trenching is included in the bid prices shown in the Contractor's Bid. Outline of Alternate Method:

Submitted, signed and sealed this _____ day of _____, 2017.

_____
CONTRACTOR SIGNATURE

By: _____
Printed Name Title

_____
Business Address

ATTEST:

_____
Signature Seal

END OF SECTION

PROJECT NO. PW 1501

SECTION 00450

SWORN STATEMENT UNDER SECTION 287.133(3)(a)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to _____
[print name of the public entity]

by _____
[print individual's name and title]

for _____
[print name of entity submitting sworn statement]

whose business address is:

_____

_____

_____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____ (If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:

_____.)

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to changes brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

   A. A predecessor or successor of a person convicted of a public entity crime; or

   B. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes

those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services led by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. I understand that a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

7. ***DISCRIMINATION***: I understand that an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. [Indicate which statement applies.]

___ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent

proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. [attach a copy of the final order]

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE I FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____[Signature]

STATE OF _____
COUNTY OF _____

The foregoing instrument was executed before me this ____ day of _____, 20___, by _____as_____of_____ _____, who personally swore or affirmed that he/she is authorized to execute this document and thereby bind the Corporation, and who is personally known to me OR has produced _____ as identification.

_____
NOTARY PUBLIC, State of _____

(stamp)

END OF SECTION

PROJECT NO. PW 1501

SECTION 00460

DRUG-FREE WORKPLACE CERTIFICATION

In order to have a drug-free workplace, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the damages of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or please of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or of any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

_____	_____
Company Name (please print or type)	Print or type Authorized Signature
_____	_____
Authorized Signature	Date of Signature

END OF SECTION

SECTION 00470
PUBLIC ENTITY CONDITIONS

1.01 CONE OF SILENCE/BLACK-OUT PERIOD; QUESTIONS REGARDING THE BID.

A. Lobbying is defined as any action taken by an individual, firm, association, joint venture, partnership, syndicate, corporation, and/or all other groups who seek to influence the governmental decision of a City Commission Member, the City Manager, any requesting or evaluating Department/Division/Office personnel and/or any member of the Evaluation Committee concerning an active solicitation during the black-out period.

B. A lobbying black-out period commences upon the issuance of this solicitation document.
   1. For awards requiring City Commission approval concludes at the beginning of the meeting at which the City Commission will be presented the award(s) for approval or a request to provide authorization to negotiate a Contract(s). However, if the City Commission refers the item back to the City Manager, Procurement Division and/or requesting Division/Department/Office for further review or otherwise does not take action on the item, the Cone of Silence / Lobbying Black-out Period will be reinstated until such time as the City Commission meets to consider the item for action.
   2. For awards requiring City Manager approval concludes upon issuance of a Notice of Intent to Award.

C. Bidders, Respondents, potential Vendors, service providers, lobbyists, consultants, or Vendor representatives shall not contact any City Commission member, the City Manager, any requesting or evaluating Division/Department/Office personnel, and/or any member of the Evaluation Committee concerning an active Solicitation during the Cone of Silence / Lobbying Black-out Period.

D. All questions and inquiries concerning procedural matters shall be directed to the Procurement Division. Any questions relating to the interpretation of specifications or any aspect of the solicitation process shall be addressed to the Procurement Division, in writing, at least ten (10) calendar days before the proposal opening date or prior to the specific date and time specified in this solicitation for questions.

E. Contact or communications by Bidders or Respondents to any City Commission member, the City Manager, any requesting or evaluating City personnel, or any member of the Evaluation Committee, initiated during the Cone of Silence / Lobbying Black-Out Period, may result in disqualification from the Solicitation process by the Procurement Division.

1.02 SOVEREIGN IMMUNITY.

Notwithstanding any other provision set forth in this solicitation and/or the resulting awarded Agreement, nothing contained in this solicitation and/or the resulting awarded Agreement shall be construed as a waiver of the City's right of sovereign immunity under Section 768.28, F.S., or other limitations imposed on the City's potential liability under state or federal law. The City shall not be liable under this solicitation and/or the resulting awarded Agreement for punitive damages or interest for the period before judgment. Further, the City is not liable for any claim or judgment or portion thereof, to any one person for more than two hundred thousand dollars ($200,000.00), or any claim or judgment, or portion thereof, which, when totaled with all other claims or

judgments paid by the City arising out of the same incident or occurrence, exceeds the sum of three hundred thousand dollars ($300,000.00). This paragraph will survive termination of this solicitation and/or the resulting awarded Agreement.

1.03 FORCE MAJEURE CLAUSE.

A party shall not be held liable for failure of or delay in performing its obligations under this Agreement if such failure or delay is the result of an act of God, such as earthquake, hurricane, tornado, flooding, or other natural disaster, or in the case of war, action of foreign enemies, terrorist activities, labor dispute or strike, government sanction, blockage, embargo, or failure of electrical service. The non-performing party must make every reasonable attempt to minimize delay of performance. In the event *force majeure* continues longer than 120 days, either party may terminate the Agreement, repaying the full amount of the deposit within 10 days of termination notice.

1.04 PUBLIC RECORDS COMPLIANCE.

The City is a public agency subject to Chapter 119, Florida Statutes. The successful Bidder agrees to comply with Florida's Public Records Law. As such the following language applies effective July 1, 2016 and shall be included in the awarded Agreement:

A. The parties specifically acknowledge that this Agreement is subject to the laws of the state of Florida, including without limitation Chapter 119, Florida Statutes, which generally make public all records or other writings made or received by the parties. If the CONTRACTOR is either a "contractor" as defined in Section 119.0701(1)(a), Florida Statutes, or an "agency" as defined in Section 119.011(2), Florida Statutes, the CONTRACTOR shall:

1. Keep and maintain all public records required by the CITY to perform the services herein; and
2. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, F.S. or as otherwise provided by law; and
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement Term and following completion of the Agreement if the CONTRACTOR does not transfer the records to the CITY; and
4. Upon completion of the Agreement, transfer, at no cost, to the CITY all public records in possession of the CONTRACTOR or keep and maintain public records required by the CITY to perform the services herein. If the CONTRACTOR transfers all public records to the CITY upon completion of the Agreement, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the Agreement, the CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY, upon request from the CITY's custodian of public records, in a format compatible with the information technology systems of the CITY.

B. All requests to inspect or copy public records relating to the Agreement shall be made

directly to the CITY. Notwithstanding any other provision of this Agreement to the contrary, failure to comply with the requirements of this paragraph shall result in the immediate termination of the Agreement, without penalty to the CITY. A CONTRACTOR who fails to provide the public records to the CITY within a reasonable time may be subject to penalties pursuant to Section 119.10, F.S. Further, the CONTRACTOR shall fully indemnify and hold harmless the CITY, its officers, agents and employees from any liability and/or damages, including attorney's fees through any appeals, resulting from the CONTRACTOR's failure to comply with these requirements.

C. **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CITY'S CUSTODIAN OF PUBLIC RECORDS, ATTN: DONNA G. GARDNER, CMC, CITY CLERK, AT 407-262-7700 EXT. 1133, DGARDNER@CASSELBERRY.ORG, 95 TRIPLET LAKE DRIVE, CASSELBERRY, FLORIDA 32707.**

1.05 APPROPRIATION OF FUNDS.

Any contract resulting from this solicitation is deemed effective only to the extent that funds are available. The City of Casselberry abides by the provisions set forth in Florida Statutes relative to the appropriation of funds.

A. Multi-Year Contracts and Appropriation of Funds (if applicable)
Contracts for Goods, Services, or Construction may be entered into for more than one (1) fiscal year if it is deemed to be in the best interest of the City, if the term of the Contract and conditions of renewal or extension are included in the Solicitation, and funds are available for the first term of the Contract. Obligations for succeeding fiscal years may be subject to the availability and appropriation of funds by the City Commission.

B. For Construction Projects, total funding may be identified and appropriated in the fiscal year commencement of the Construction Project takes place, or to the maximum extent as possible and not inconsistent with law. Obligations for succeeding fiscal years shall be rolled over and/or appropriated as applicable

1.06 PROTESTS AND APPEALS.

A. Any prospective Bidder or Respondent may file a Notice of Solicitation Protest concerning a Solicitation in writing to the Procurement Administrator. The protest must be received in the Procurement Division Office at least three (3) business days prior to the due date for the Solicitation in accordance with Section VIII of the City of Casselberry Purchasing Policy.

B. Any Bidder or Respondent, who is not the intended awardee and who claims to be the rightful awardee, may file a Notice of Award Protest, in writing, with the Procurement Division Office, by 5:00 pm on the third (3rd) business day after the Notice of Intent to

Award is posted. An Award Protest is not valid if filed by a Bidder who cannot show they would be awarded the Contract if their protest is upheld in accordance with Section VIII of the Casselberry Purchasing Policy.

C. The decision of the City Commission shall be final and conclusive.

1.07 EMPLOYMENT ELIGIBILITY VERIFICATION (E-VERIFY)

In accordance with State of Florida, Office of the Governor, Executive Order 11-116, in the event performance of this Agreement is or will be funded using state or federal funds, the Bidder must comply with the Employment Eligibility Verification Program ("E-Verify Program") developed by the federal government to verify the eligibility of individuals to work in the United States and 48 CFR 52.222-54 (as amended) is incorporated herein by reference. If applicable, in accordance with Subpart 22.18 of the Federal Acquisition Register, the Bidder must (1) enroll in the E-Verify Program, (2) use E-Verify to verify the employment eligibility of all new hires working in the United States; (3) use E-Verify to verify the employment eligibility of all employees assigned to the Agreement; and (4) include these requirement in certain subcontracts, such as construction. Information on registration for and use of the E-Verify Program can be obtained via the internet at the Department of Homeland Security Web site: http://www.dhs.gov/E-Verify.

1.08 DEBARRED BIDDERS.

The OWNER reserves the right to suspend award, withhold award, rescind award, or forego award to any Bidder or contractor who is found to have been debarred from doing business with the State of Florida or any other public entity. It shall be at the OWNER'S sole determination, as to the desirability of contracting with a Bidder or contractor who has been debarred from doing business with any public entity.

1.09 CONFLICT OF INTEREST.

All Bidders must disclose, with their bid, the name of any officer, director, or agent who is also an officer or employee of the City of Casselberry. Furthermore, all Bidders must disclose the name of any City of Casselberry officer or employee who owns, directly or indirectly, an interest of ten percent (10%) or more of the Bidder's firm or any of its branches, subsidiaries, or partnerships. Failure to disclose in this manner will result in the disqualification of the Bidder or the cancellation of work. It is the sole responsibility of the Bidder to ensure compliance with the Section 2.1, Conflict of Interest of the City of Casselberry Purchasing Policy. The City may seek damages for the recoupment of losses in having to re-solicit or re-assign this project.

1.10 SCRUTINIZED COMPANIES CLAUSE.

The City may not enter into any contract for $1 million or more with any company that is on the scrutinized companies lists enumerated in Section 287.135, Florida Statutes. Bidders shall complete the Contractor Certification Regarding Scrutinized Companies Form included herein. All resulting contracts for $1 million or more shall be subject to termination by the City:

A. In the event the successful Bidder vendor is put on a scrutinized companies lists enumerated in Section 287.135, Florida Statutes, or

B. If the City determines that the Bidder falsely certified to the City that the Bidder is not listed as a scrutinized company. Exceptions and additional penalties shall be set forth in Section 287.135, Florida Statutes.

Contractor Certification Regarding Scrutinized Companies
(Contracts of $1,000,000.00 or more)

Section 287.135, Florida Statutes, prohibits local governments from contracting with companies, for goods or services of One Million and 00/100 Dollars ($1,000,000.00) or more that are on the Scrutinized Companies with Activities in Sudan List, on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria. Both lists are created pursuant to section 215.473, Florida Statutes. In addition, the CONTRACTOR shall not be listed on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, or is engaged in a boycott of Israel.

As the person authorized to sign on behalf of the CONTRACTOR, I hereby certify that the company identified below in the section entitled "Bidder/Contractor Name" is not listed on the Scrutinized Companies with Activities in Sudan List, is not listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria. In addition, the CONTRACTOR is not listed on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, or is engaged in a boycott of Israel. I understand that pursuant to Section 287.135, Florida Statutes, the submission of a false certification may subject the CONTRACTOR to termination of the Agreement, civil penalties, attorney's fees, and/or costs.

By the signature(s) below, I/we, the undersigned, as authorized signatory to commit the firm, certify that the information as provided herein, is truthful and correct at the time of submission.

Bidder/Contractor Name: _____

Mailing Address: _____

Telephone Number: _____ Fax Number: _____ E-mail Address: _____

_____ _____ FEIN: _____
Authorized Signatory Printed Name

_____ _____
Title Date

PLEASE COMPLETE AND SUBMIT WITH YOUR ITB RESPONSE (when applicable)
☞Failure to submit this form may be grounds for disqualification of your submittal☜

END OF SECTION

SECTION 00500

AGREEMENT

1. **THIS AGREEMENT**, made as of the _____ day of _____, 2017, by and between the City of Casselberry, Florida, hereinafter called the OWNER and _____, hereinafter called the CONTRACTOR,

WITNESSETH, that the OWNER and the CONTRACTOR, for the considerations stated herein, agree as follows:

2. **SCOPE OF WORK**

The City of Casselberry (City) has identified multiple locations throughout the City where stormwater infrastructure is showing signs of failure and in possible need of rehabilitation. Singhofen & Associates, Inc. (SAI) was contracted by the City to investigate the locations as provided by the City and develop proposed solutions to address identified deficiencies. The City has identified twenty five (25) storm drain systems that are in need of repair. A map showing the general location of the areas is included on Figure 1.1 within the project Technical Memorandum (Please refer to Attachment #2). Corrective actions include, but are not limited to, pipe lining, chemical grout repairs, flowable fill, asphalt repair and pipe/MES replacements, along with related MOT, sod, clearing/grubbing and mobilization.

The Contractor for this Project must perform at least fifty five percent (55%) of the work with its own forces.

3. **THE CONTRACT PRICE**

The OWNER shall pay to the CONTRACTOR, and the CONTRACTOR shall accept, in full payment for the performance of this Agreement, subject to any additions or deductions provided for hereby, based upon unit prices provided in the bid attached hereto**,** in current funds, the Total Aggregate Amount which shall not exceed the sum of**:** _____ ($_____) as unit price contract.

Payments are to be made to the CONTRACTOR in accordance with and subject to the provisions embodied in the other documents, which are a part of this Agreement.

4. **CONTRACT TIME AND LIQUIDATED DAMAGES**

Work under this Agreement shall be commenced within ten (10) days after issuance of written Notice to Proceed, and shall be completed within one hundred and fifty (150) calendar days from commencement of construction date to substantial completion plus thirty (30) calendar days to Final Completion; for a total project duration of one hundred and eighty (180) calendar days. Liquidated damages due to the OWNER shall be calculated in accordance with FDOT 2014 Standard Specifications for Road and Bridge Construction Section 8-10 Liquidated Damages for Failure to Complete the Work which is currently set at $1,532.00/day for projects between $500,000 and $2.5 million in value.

5. **AUTHORITY AND RESPONSIBILITY OF THE OWNER**

All Work shall be done under the general supervision of the OWNER. The OWNER shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, rate of progress of work, interpretation of Specifications, and all questions as to the acceptable fulfillment of the Agreement on the part of the CONTRACTOR. These provisions shall not release the CONTRACTOR from any CONTRACTOR responsibility contained herein.

6. **CONTRACT DOCUMENTS**

The Agreement comprises the Contract Documents listed herein. In the event that any provision of one Contract Document conflicts with the provisions of another Contract Document, the provision in that Contract Document first listed below shall govern, except as otherwise specifically stated:

A. Agreement (this instrument);

B. Permits;

C. Change Orders;

D. Addenda to Contract Documents, Nos. ___, ___, ___;

E. Plans/Drawings;

F. Detailed Specification Requirements;

G. General Conditions;

H. Florida Department of Transportation Design Standards (if applicable);

I. Florida Department of Transportation Standard Specifications for Road and Bridge Construction (if applicable);

J. Bid;

K. Instructions for Bidders;

L. Advertisement.

7. **IN WITNESS WHEREOF**

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have executed this Agreement effective the____ day of _____, AD 2017.

CITY OF CASSELBERRY, FLORIDA

By: _____
Charlene Glancy
Mayor/Commissioner

Attest:
CITY OF CASSELBERRY

By: _____
Donna G. Gardner, CMC
City Clerk

As authorized for execution at the City Commission meeting of:

_____

<FULL NAME OF CONTRACTOR - TBD>

By: _____

Print: _____

Title: _____

STATE OF _____
COUNTY OF _____

The foregoing instrument was executed before me this ____ day of _____, AD 2017, by _____ as _____ of _____, who personally swore or affirmed that he/she is authorized to execute this Agreement and thereby bind the Corporation, and who is personally known to me OR has produced _____ as identification.

_____
NOTARY PUBLIC, State of _____

(stamp)

END OF SECTION

SECTION 00510

NOTICE OF INTENT TO AWARD

Name & Address of Successful Bidder: **Date:** _____

_____
_____
_____
_____

Project: **STORM DRAIN REHABILITATION PROJECT**
City of Casselberry, Florida
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

Date of Bid Opening: _____

You are hereby notified that your bid dated _____ for the above Contract has been considered and the OWNER, the City of Casselberry, Florida, intends to award you a contract for:

City of Casselberry
STORM DRAIN REHABILITATION PROJECT
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

The Contract Price of your contract is: $ _____

You must comply with the following conditions precedent to the award of the contract within _____ (___) days of the date of this Notice of Intent to Award that is by _____.

1. You must deliver to the OWNER a minimum of one (1) fully executed counterpart of the Agreement. Should you require an original set, please add additional sets as needed.

2. You must deliver with the executed Agreement, the Payment and Performance Bonds in the form specified in the Bidding Documents. (one copy only)

3. You must provide in writing the correct name and address of the surety which is providing the Payment and Performance Bonds in the form specified in the Bidding Documents. (one copy only)

4. You must deliver with the executed Agreement completed Certificates and Endorsements of Insurance in the form and amounts specified in the Bidding Documents. (one copy only)

Failure to comply with these conditions within the time specified will entitle the OWNER to consider your Bid abandoned, to annul this Intent to Award, and to declare your Bid Security forfeited.

Within _____ (___) days after you comply with these conditions, the OWNER will return to you one fully signed counterpart of the Agreement with the Contract Documents attached.

OWNER:

_____
(Authorized Signature)

Wilfredo Velez
Procurement Administrator

Contractor Name: _____

Mailing Address: _____

Telephone Number: _____ Fax Number: _____ E-mail Address: _____

_____ _____ FEIN: _____
Authorized Signatory Printed Name

_____ _____
Title Date

END OF SECTION

PROJECT NO. 1501

SECTION 00550

NOTICE TO PROCEED

Date: _____

Contractor Contact Name
Firm Name
Firm Address
City, State, Zip

SUBJECT: STORM DRAIN REHABILITATION PROJECT
Solicitation Number: ITB-2017-0090 (Project No. PW 1501) – Notice To Proceed

Dear < **TO BE DETERMINED** >:

You are hereby notified to commence WORK in accordance with the Agreement on or before **TO BE DETERMINED**, 2017, and you are to complete the WORK within _____ working calendar days to Substantial Completion plus **fifteen** (15) working calendar days to Final Completion following Owner clearance thereafter. The completion of all WORK is therefore **TO BE DETERMINED**, 2016

Please schedule a pre-construction meeting with Mark Gisclar on or before **TO BE DETERMINED**, 2017 at (407) 262-7725 extension 1234. Additionally, please furnish an estimated progress schedule indicating start and completion dates and maintenance of traffic plan by **TO BE DETERMINED**, 2017 for review and approval by the City.

Please acknowledge your acceptance and return to our office signed by **TO BE DETERMINED**, 2017.

Sincerely,

CITY OF CASSELBERRY
Mark Gisclar
Public Works Director

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED IS HEREBY ACKNOWLEDGED BY:

_____ this _____ day of _____ 2017.

By: _____

Title: _____

END OF SECTION

SECTION 00610
PERFORMANCE BOND
City of Casselberry
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

THIS INSTRUMENT WITNESSETH: That we (1) _____, a (2) _____ as Principal, of _____, State of _____ and (3) _____, a corporation organized and existing under and by virtue of the laws of the State of _____ and regularly authorized to do business in the State of _____, as Surety, are held and firmly bound unto the City of Casselberry, Florida, hereinafter called the "Owner" in accordance with a Contract hereinafter referred to, in the penal sum of _____ ($_____) lawful money of the United States, well and truly to be paid unto the said Owner, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents:

WHEREAS, the said Principal has entered into a written Agreement with the Owner dated _____ for the work designated as **STORM DRAIN REHABILITATION PROJECT** for the City of Casselberry, Florida, in conformity with the Drawings and Specifications hereby referred to and made a part hereof, the same to all intents and purposes as if written at length herein, in which Agreement the said Principal has contracted to perform the Work specified in said Agreement in accordance with the terms thereof;

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall faithfully perform the Agreement on his (its) part, and satisfy all covenants, terms, conditions and agreements incurred by the Principal in the performance of said Agreement, during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and shall satisfy all claims and demands arising thereunder, and shall fully indemnify and save harmless the Owner from all cost and damage which the Owner might suffer by reason of the failure of the Principal to do so, and shall fully reimburse and repay to the Owner all costs, damages, and expenses which the Owner may incur in making good any default by the Principal, including any default based upon failure of the Principal, to fulfill his obligation to furnish maintenance, repairs, or replacements for any period of time after the work is completed, if provided for in said Agreement, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

In addition, the Principal and Surety, jointly and severally, expressly guarantee that all materials furnished and workmanship performed under the Agreement and in the construction of the Work shall fulfill all requirements of the Agreement and the Contract Documents with respect to them for a period of one year from the date of final acceptance.

It is hereby stipulated and agreed that any suit based upon any fault of the Principal in fulfilling his obligation to furnish maintenance, repairs, or replacements for any period of time after Work is completed, if provided for in the Agreement, may be brought at any time up to six months after expiration of the time specified in the Agreement during which the Principal has agreed to furnish maintenance or make such repairs or replacements.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in several counterparts, each one of which shall be deemed an original, this _____ day of _____, 2017.

(SEAL) (1) _____
(Principal)

Attest: By _____

_____ Title _____

(SEAL)

(3) _____
(Surety)

By _____
Attest: (Attorney in Fact)

Title: _____

END OF SECTION

PROJECT NO. 1501

SECTION 00611

PAYMENT BOND
City of Casselberry
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

THIS INSTRUMENT WITNESSETH: That we (1)_____a (2)_____as Principal, of , State of _____ and (3)_____, a corporation organized and existing under and by virtue of the laws of the State of _____, as Surety, are held and firmly bound unto the City of Casselberry, Florida, hereinafter called the "Owner" in accordance with an Agreement hereinafter referred to, in the penal sum of _____ ($_____), lawful money of the United States, well and truly to be paid unto the said Owner, for the payment of which we bind ourselves, our heirs executors, administrators, successors and assigns, jointly and severally, firmly by these presents:

WHEREAS, the said Principal has entered into a written Agreement with the Owner dated _____for the Work designated as **STORM DRAIN REHABILITATION PROJECT** for the City of Casselberry, Florida, in conformity with the Drawings and Specifications hereby referred to and made a part hereof the same to all intents and purposes as if written at length herein, in which Agreement the said Principal has contracted to perform the Work specified in said Agreement in accordance with the terms thereof;

NOW THEREFORE, the condition of this obligation is such that if the Principal shall faithfully satisfy all claims and demands incurred by the Principal of said Agreement, and shall pay all obligations arising thereunder, and shall fully indemnify and save harmless the Owner from all cost and damage which the Owner might suffer by reason of the failure of the Principal to do so, and shall fully reimburse and repay to the Owner all costs, damages, and expenses which the Owner may incur in making good any default by the Principal, and shall promptly make payment to all persons supplying labor, equipment or materials for use in the prosecution of the Work, whether by subcontractor or otherwise, and including all insurance premiums on said Work as provided for in such Agreement, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Owner may sue on this Bond, and any person furnishing material or performing labor, either as an individual or as a subcontractor, shall have the right to sue on this Bond in the name of the Owner for his use and benefit.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder or to the Specifications accompanying the same shall in any way affect its obligations on the Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in several counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2017.

(SEAL)

Attest:

_____
(SEAL)

Attest:

_____
(Attorney in Fact)

(1) _____
(Principal)

By: _____

Title: _____

(3) _____
(Surety)

By: _____

Title: _____

END OF SECTION

SECTION 00620

CERTIFICATE OF INSURANCE AND ENDORSEMENT
City of Casselberry
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

Description of Contract: **STORM DRAIN REHABILITATION PROJECT**

Owner:

City of Casselberry
95 Triplet Lake Drive
Casselberry, Florida 32707

Engineer:

Singhofen & Associates, Inc.
11723 Orpington Street, Suite 100
Orlando, Florida 32817

Type of Insurance: **WORKER'S OR WORKMEN'S COMPENSATION INSURANCE**

THIS IS TO CERTIFY that the following numbered policies have been issued by the below-stated company in conformance with the limits and requirements as set forth in the General Conditions and Supplementary Conditions.

The insurance company will give at least thirty (30) days' written notice by registered mail to the Owner and the Engineer prior to any material change or cancellation of said policy or policies.

POLICY NUMBERS	EFFECTIVE DATE	EXPIRATION DATE

_____
Named Insured

_____
Insurance Company

_____
Address

_____
City, State, Zip

By
_____
Authorized Representative

(Notice: No substitution or revision to the above certificate will be accepted. If the insurance called for is provided by more than one company, a separate certificate in the exact above form shall be provided for each company.)

END OF SECTION

SECTION 00621

CERTIFICATE OF INSURANCE AND ENDORSEMENT
City of Casselberry
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

Description of Contract: **STORM DRAIN REHABILITATION PROJECT**

Owner:

City of Casselberry
95 Triplet Lake Drive
Casselberry, Florida 32707

Engineer:

Singhofen & Associates, Inc.
11723 Orpington Street, Suite 100
Orlando, Florida 32817

Type of Insurance: **BUILDER'S RISK "ALL RISK" INSURANCE**

THIS IS TO CERTIFY that the following numbered policies have been issued by the below-stated in conformance with the limits and requirements as set forth in the General Conditions and Supplementary Conditions.

The insurance company will give at least thirty (30) days' written notice by registered mail to the Owner and the Engineer prior to any material change or cancellation of said policy or policies.

POLICY NUMBERS	EFFECTIVE DATE	EXPIRATION DATE

ENDORSEMENT

The Owner, the Owner's Representative, the Engineer, Architect, and their consultants, and each of their officers, agents, and employees are included as additionally named insured under said policies but only while acting in their capacity as such and only as respects operations of the originally named insured, his subcontractors, agents, and employees in the performance of the above-referenced contract.

This endorsement shall not operate to increase the insurance company's total limit of liability hereunder.

The insurance company hereby waives its rights of subrogation against the additionally named insured.

_____	_____
Name Insured	Insurance Company
_____	_____
Address	Address
_____	_____
City, State, Zip	City, State, Zip
	By: _____
	Authorized Representative

(Attach Acknowledgment)

(Notice: No substitution or revision to the above certificate and endorsement will be accepted. If the insurance called for is provided by more than one company, a separate certificate in the exact above form shall be provided for each company.)

END OF SECTION

SECTION 00622

CERTIFICATE OF INSURANCE AND ENDORSEMENT
City of Casselberry
Solicitation Number: ITB-2017-0090 (Project No. PW 1501)

Description of Contract: **STORM DRAIN REHABILITATION PROJECT**

Owner:

City of Casselberry
95 Triplet Lake Drive
Casselberry, Florida 32707

Engineer:

Singhofen & Associates, Inc.
11723 Orpington Street, Suite 100
Orlando, Florida 32817

Type of Insurance: **COMPREHENSIVE GENERAL LIABILITY INSURANCE**

THIS IS TO CERTIFY that the following numbered policies have been issued by the below-stated company in conformance with the limits and requirements set forth in the General Conditions and Supplemental Conditions.

The insurance company will give at least thirty (30) days' written notice by registered mail to the Owner and the Engineer prior to any material change or cancellation of said policy or policies.

POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE

ENDORSEMENT

The Owner, the Owner's Representative, the Engineer, the Architect, and their consultants, and each of their officers, agents, and employees, are included as additionally named insured under said policies but only while acting in their capacity as such and only as respects operations of the originally named insured, his subcontractors, agents, and employees in the performance of the above-referenced contract; provided, however, that if the loss or damage is ultimately determined to be the proximate result of the sole negligence of one or more of the aforesaid additionally named insured, this insurance shall not apply.

This endorsement shall not operate to increase the insurance company's total limit of liability hereunder.

The insurance company hereby waives its rights of subrogation against the additionally named insured.

_____	_____
Name Insured	Insurance Company
_____	_____
Address	Address
_____	_____
City, State, Zip	City, State, Zip

By:_____
Authorized Representative

(Attach Acknowledgement)

(Notice: No substitution or revision to the above certificate and endorsement will be accepted. If the insurance called for is provided by more than one company, a separate certificate in the exact above form shall be provided for each company.)

END OF SECTION

PROJECT NO. 1501

SECTION 00623

CERTIFICATION OF NONSEGREGATED FACILITIES

The Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage and dressing areas, parking lots, drinking fountains, recreation or entertainment area, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are in fact, segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

The nondiscriminatory guidelines as promulgated in Section 202, Executive Order 11246, and as amended by Executive Order 11375 and as amended, relative to Equal Opportunity for all persons and implementations of rules and regulations prescribed by the United States Secretary of Labor are incorporated herein.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Date _____, 2017

By: _____
Title

_____
Official Address City, State, Zip

ATTACH AND INCLUDE THIS PAGE AS PART OF BID FORM; FAILURE TO DO SO SHALL BE CAUSE FOR DISQUALIFICATION OF YOUR BID.

END OF SECTION

SECTION 00624

APPLICATION FOR PAYMENT

CITY PROJECT NO. **ITB-2017-0090 (Project No. PW 1501)**

Planned Completion Date: _____

Application No.: _____

Project Name: **STORM DRAIN REHABILITATION PROJECT**

Contractor: _____ Contract Date: _____

Contract with CITY OF CASSELBERRY, FLORIDA

Application Date:			For the Period Ending:	

Analysis of Work Performed:

1. ORIGINAL CONTRACT VALUE		
2. CONTRACT CHANGE ORDER(s)		
3. CUMMULATIVE C.O.(s) (Nos. X – X)		
4. CURRENT CONTRACT PRICE		

1. Value of original contract performed to date _____
2. Value of approved change order performed to date _____
3. Sub-Total _____
4. Less _____% Retainage _____
5. Sub Total _____
6. Plus Material Stored _____% of _____ _____
7. Total value of work performed to date _____
8. Less amount of previous payment _____

9. Balance due this estimate [ ]

PROJECT NO. 1501

Contractor's Affidavit:

The undersigned hereby swears under penalty of perjury that (1) all previous progress payments received from the Owner on account of Work performed under the contract referred to above have been applied by the Contractor to discharge in full all obligations of the Contractor incurred in connection with work covered by prior Applications for Payment under said contract, being Applications for Payment numbered 1 through ____ inclusive; (2) all materials and equipment incorporated in said Project or otherwise listed in or covered by this Application for Payment are free and clear of all liens, security interests and encumbrances; and (3) all previous progress payments have been applied by the Contractor to pay in full (less retainage) all amounts owed to its Subcontractors, Suppliers, Material men and Equipment Suppliers reflected (and listed) in Prior Applications for Payment, except as stated hereunder:

Name	$ Amount Unpaid	Reason for Nonpayment

If more room is necessary, please attach another sheet of paper and put an "X" in this blank _____.

Dated _____, 2017 _____
(Contractor)

By: _____
(Name and Title)

(County of _____)
(State of _____)

Before me on this _____ day of _____, 2017, personally appeared _____, known to me, who being duly sworn, deposes and says that (s)he is the _____ of the Contractor above mentioned; that (s)he executed the above Application for Payment and statement on behalf of said Contractor; and that all of the statements contained therein are true, correct and complete.

_____
Notary Public
My Commission Expires:

END OF SECTION

PROJECT NO. 1501

SECTION 00625

***FINAL* APPLICATION FOR PAYMENT**

CITY PROJECT NO. **ITB-2017-0090 (Project No. PW 1501)**

Planned Completion Date: _____

Final Completion Date: _____

Application No.: _____

Project Name: **STORM DRAIN REHABILITATION PROJECT**

Contractor: _____ Contract Date: _____

Contract with CITY OF CASSELBERRY, FLORIDA

Application Date: _____ For the Period Ending: _____

Analysis of Work Performed:

1. ORIGINAL CONTRACT VALUE _____
2. CONTRACT CHANGE ORDER(s) _____
3. CUMMULATIVE C.O.(s) (Nos. X – X) _____
4. CURRENT CONTRACT PRICE _____

1. Value of original contract performed to date _____
2. Value of approved change order performed to date _____
3. Sub-Total _____
4. Less amount of previous payment _____

5. Balance due this estimate [ ]

Contractor's Affidavit:

The undersigned hereby swears under penalty of perjury that (1) all previous progress payments received from the Owner on account of Work performed under the contract referred to above have been applied by the Contractor to discharge in full all obligations of the Contractor incurred in connection with work covered by prior Applications for Payment under said contract, being

PROJECT NO. 1501

Applications for Payment numbered 1 through ____ inclusive; (2) all materials and equipment incorporated in said Project or otherwise listed in or covered by this Application for Payment are free and clear of all liens, security interests and encumbrances; and (3) all previous progress payments have been applied by the Contractor to pay in full (less retainage) all amounts owed to its Subcontractors, Suppliers, Materialmen and Equipment Suppliers reflected (and listed) in Prior Applications for Payment, except as stated hereunder:

Name	$ Amount Unpaid	Reason for Nonpayment

If more room is necessary, please attach another sheet of paper and put an "X" in this blank _____.

Dated _____, 2017 _____
(Contractor)

By: _____
(Name and Title)

(County of _____)
(State of _____)

Before me on this _____ day of _____, 2017, personally appeared _____, known to me, who being duly sworn, deposes and says that (s)he is the _____ of the Contractor above mentioned; that (s)he executed the above Application for Payment and statement on behalf of said Contractor; and that all of the statements contained therein are true, correct and complete.

_____
Notary Public
My Commission Expires:

Owner's Approval

In accordance with the terms of the contract the undersigned recommends payment to the Contractor of the Balance Due as shown above.

By: _____
Bradley Muckel, Project Manager Date

By: _____
Mark Gisclar, Director of Public Works Date

END OF SECTION

PROJECT NO. 1501

SECTION 00626

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner's Project No. **ITB-2017-0090 (Project No. PW 1501)**

STORM DRAIN REHABILITATION PROJECT

CONTRACTOR: _____

Contract for: **STORM DRAIN REHABILITATION PROJECT**

Contract Date: _____

This Certificate of Completion applies to all Work under the Contract Documents or to the following specified parts thereof.

TO:

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER and CONTRACTOR, and that Work is hereby declared to be complete in accordance with the Contract Documents on:

_____
Date of Substantial Completion

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. When this Certificate applies to a specified part of the Work the items in the tentative list shall be completed or corrected by CONTRACTOR within 15 days of the above date of Substantial Completion.

The date of Substantial Completion is the date upon which all guarantees and warranties begin, except as follows:

1.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities and insurance shall be as specified in Contract Documents.

The following documents are attached to and made a part of this Certificate:

Items to be corrected are as follows:

1.

2.

Executed by: OWNER on

_____
City of Casselberry/Owner

By: _____
Bradley Muckel, Project Manager

The CONTRACTOR accepts this Certificate of Completion on:

_____, 2017

_____
Contractor

By: _____
Name/Title

END OF SECTION

SECTION 00627

CERTIFICATE OF COMPLETION

Owner's Project No. **ITB-2017-0090 (Project No. PW 1501)**

Engineer's Project No. **2015-006.10**

CONTRACTOR: _____

Contract for: **STORM DRAIN REHABILITATION PROJECT**

Contract Date: _____

This Certificate of Completion applies to all Work under the Contract Documents or to the following specified parts thereof.

TO:

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER and CONTRACTOR, and that Work is hereby declared to be complete in accordance with the Contract Documents on:

_____
Date of Completion

Executed by: OWNER on

_____
City of Casselberry/Owner

By: _____
Bradley Muckel, Project Manager

The CONTRACTOR accepts this Certificate of Completion on:

_____, 2017

_____
Contractor

By: _____
Name/Title

END OF SECTION

PROJECT NO. 1501

SECTION 00640

CONTRACTOR'S RELEASE OF LIEN

Before me, the undersigned authority in said County and State, appeared who, being first duly sworn, deposes and says that he is _____ of , a company and/or corporation authorized to do business under the laws of Florida, which is the contractor on **STORM DRAIN REHABILITATION PROJECT** in the City of Casselberry, County of Seminole, Florida, with the City of Casselberry, dated the ____ day of _____, 2017, that the said deponent is duly authorized to make this affidavit by resolution of the Board of Directors of said company and/or corporation; that deponent knows of his own knowledge that said contract has been complied with in every particular by said contractor and that all parts of the work have been approved by the Owner's Engineers; that there are no bills remaining unpaid for labor, material, or otherwise, in connection with said contract and work, and that there are no suits pending against the undersigned as contractor or anyone in connection with the work done and materials furnished or otherwise under said contract. Deponent further says that the final estimate which has been submitted to the Owner simultaneously with the making of this affidavit constitutes all claims and demands against the Owner on account of said contract or otherwise, and the acceptance of the sum specified in said final estimate will operate as a full and final release and discharge of the Owner from any further claims, demands or compensation by contractor under the above contract. Deponent further agrees that all guarantees under this contract shall and be in full force from the date of this release as spelled out in the Contract Documents.

_____ _____

Signature of Deponent Title

Sworn to and subscribed to before me this _____ day of _____, 2017.

_____

Notary Public

My Commission Expires:

We, the _____ having heretofore executed a performance bond for the above-named contractor covering project and section as described above in the sum of _____ dollars ($_____), hereby agree that the Owner may make full payment of the final estimate, including the retained percentage, to said contractor.

It is fully understood that the granting of the right to the Owner to make payment of the final estimate to said contractor and/or his assigns, shall in no way relieve this surety company of its obligations under its bond, as set forth in the specifications, contract and bond pertaining to the above project.

IN WITNESS WHEREOF, the _____ has caused this instrument to be executed on its behalf by its and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed, all on this day of _____, A.D. 2017.

_____ _____

Surety Company Attorney in Fact

(Power of Attorney must be attached if executed by Attorney in Fact)

STATE OF FLORIDA
COUNTY OF

The foregoing instrument was acknowledged before me this _____ (DATE) by _____ (Name of Person Acknowledged) who is personally known to me or has produced _____(Type of Identification) as identification and who did (did not) take an oath.

_____
Signature of Person Taking Acknowledgment

_____
Acknowledged By (Typed, Printed, or Stamped)

Title

Serial No. (if any)

IN WITNESS WHEREOF, I have hereunto set my hand and official seal at _____ this _____ day of _____, 2017.

END OF SECTION

PROJECT NO. 1501

SECTION 00641

CONTRACTOR'S *FINAL* RELEASE OF LIEN

Before me, the undersigned authority in said County and State, appeared who, being first duly sworn, deposes and says that he/she is of _____, a company and/or corporation authorized to do business under the laws of Florida, which is the contractor on **STORM DRAIN REHABILITATION PROJECT** located in the City of Casselberry, County of Seminole, Florida, with the City of Casselberry, dated the _____ day of_____, 2016, that the said deponent is duly authorized to make this affidavit by resolution of the Board of Directors of said company and/or corporation; that deponent knows of his own knowledge that said contract has been complied with in every particular by said contractor and that all parts of the work have been approved by the Owner's Engineers; that there are no bills remaining unpaid for labor, material, or otherwise, in connection with said contract and work, and that there are no suits pending against the undersigned as contractor or anyone in connection with the work done and materials furnished or otherwise under said contract. Deponent further says that the final estimate which has been submitted to the Owner simultaneously with the making of this affidavit constitutes all claims and demands against the Owner on account of said contract or otherwise, and the acceptance of the sum specified in said final estimate will operate as a full and final release and discharge of the Owner from any further claims, demands or compensation by contractor under the above contract. Deponent further agrees that all guarantees under this contract shall and be in full force from the date of this release as spelled out in the Contract Documents.

_____ _____

Signature of Deponent Title

Sworn to and subscribed to before me this _____ day of _____, 2017.

_____

Notary Public

My Commission Expires:

Consent of surety to final payment

We, the _____ having heretofore executed a performance bond for the above-named contractor covering project and section as described above in the sum of _____ dollars ($_____), hereby agree that the Owner may make full payment of the final estimate, including the retained percentage, to said contractor.

It is fully understood that the granting of the right to the Owner to make payment of the final estimate to said contractor and/or his assigns, shall in no way relieve this surety company of its obligations under its bond, as set forth in the specifications, contract and bond pertaining to the above project.

IN WITNESS WHEREOF, the _____ has caused this instrument to be executed on its behalf by its _____ and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed, all on this _____ day of _____, A.D. 2017.

_____ Surety Company

_____ Attorney in Fact

(Power of Attorney must be attached if executed by Attorney in Fact)

STATE OF FLORIDA
COUNTY OF

The foregoing instrument was acknowledged before me this _____ (DATE) by (Name of Person Acknowledged) who is personally known to me or has produced (Type of Identification) as identification and who did (did not) take an oath.

_____Signature of Person Taking Acknowledgment

_____
Acknowledged By (Typed, Printed, or Stamped)

_____ _____ Title
Serial No. (if any)

IN WITNESS WHEREOF, I have hereunto set my hand and official seal at this _____ day of_____, 2017.

END OF SECTION

PROJECT NO. PW 1501

SECTION 00700

TABLE OF CONTENTS OF GENERAL CONDITIONS

City of Casselberry, Florida – Utilities Standards & Specifications Manual, is incorporated by reference, May 2011 or subsequent version.

Division I "General Requirements and Covenants, Division II "Construction Details" and Division III "Materials" are incorporated by reference to Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, 2014 or subsequent version.

Article Number *Title* *Page*

ARTICLE 1 - DEFINITIONS 3

ARTICLE 2 - PRELIMINARY MATTERS 6

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE 8

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS 10

ARTICLE 5 - BONDS AND INSURANCE 13

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES 17

ARTICLE 7 - OTHER WORK 24

ARTICLE 8 - ENGINEER'S STATUS DURING CONSTRUCTION 25

ARTICLE 9 - CHANGES IN THE WORK 26

ARTICLE 10 - CHANGE OF CONTRACT PRICE 27

ARTICLE 11 - CHANGE OF CONTRACT TIME 31

ARTICLE 12 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK 32

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION 35

ARTICLE 14 - SUSPENSION OF WORK AND TERMINATION 39

ARTICLE 16 - WAIVER OF JURY TRIAL 42

ARTICLE 17 - ATTORNEYS' FEES 42

ARTICLE 18 - RECOVERY OF INTEREST 42

ARTICLE 19 - MEDIATION 42

ARTICLE 20 - EQUAL OPPORTUNITY/AFFIRMATIVE ACTION 43

ARTICLE 21 - SEXUAL HARASSMENT/WORKPLACE HARASSMENT 43

ARTICLE 22 - LIQUIDATED DAMAGES 43

SECTION 00700
GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the bidding documents or the Contract Documents.

Agreement - The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form accepted by OWNER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid - The offer or bid of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bonds - Bid, performance and payment bonds and other instruments of security.

Change Order - A document which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Claim - A Claim is a demand or assertion by one of the parties seeking adjustment or interpretation of contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract Documents. Claims must be made by written notice and must specifically detail all facts and issues substantiating the Claim, including all costs and expenses incurred. Claims must be timely filed in accordance with the specific requirements in the General Conditions and under no circumstances whatsoever be based upon actual or verbal notice or lack of prejudice to the other party.

Compensable Delay - Any delay beyond the control and without the fault or negligence of the CONTRACTOR resulting from OWNER-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by OWNER.

Contract Documents - Those documents enumerated in Article 6 of the Agreement.
Contract Price - The money is payable by OWNER to CONTRACTOR under the Contract Documents as stated in Agreement (subject to the provisions of paragraph 10.6. in the case of Unit Price Work).

Contract Time - The number of days (computed as provided in paragraph 15.2) or the date stated in the Agreement for the completion of the Work.

CONTRACTOR - The person, firm or corporation with whom OWNER has entered into the Agreement.

Correction Period - The time during which the CONTRACTOR must correct defective Work or remove defective Work from the site and replace it with non-defective Work, all at no cost to the OWNER, pursuant to Paragraph 12.11 of the General Conditions, as supplemented.

Defective - An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 13.6).

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the DESIGN ENGINEER and are referred to in the Contract Documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER - The City Engineer of the City of Casselberry, or his designated representative. The ENGINEER is also the authorized representative of the OWNER.

Excusable Delay - Any delay beyond the control and without the fault or negligence of the CONTRACTOR, the OWNER, or any other contractor caused by events or circumstances such as, but not limited to, acts of God or of the public enemy, acts of interveners, acts of government other than the OWNER, fires, floods, epidemics, quarantine restrictions, freight embargoes, and hurricanes, tornadoes, or new sink holes. Labor disputes shall give rise only to an inexcusable delay. The sole remedy for Excusable Delay shall be an extension of time and in no circumstances shall additional compensation be paid for such Delays.

Field Order - A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 8.3 but which does not involve a change in the Contract Price or the Contract Time.

Float or Slack Time - The time available in the progress schedule during which an unexpected activity can be completed without delaying the Substantial Completion of the Work. Float is not for the exclusive benefit of any one party to the project.

General Requirements - Sections of Division 1 of the Specifications.

Inexcusable Delay - Any delay caused either (i) by events or circumstances within the control of the CONTRACTOR, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight, or diligence on the part of the CONTRACTOR, or (ii) by labor disputes.

Initiation of Operation - The date when the OWNER actually begins to use the entire work for the purposes for which it was planned, designed and built, thus commencing the Correction Period, as adjusted by the OWNER. The OWNER shall not be deemed to have accepted the Work until Initiation of Operation.

Laws and Regulations; Laws or Regulations - Laws, rules, regulations, ordinances, codes and/or orders.

Non-Prejudicial Delay - Any delay impacting a portion of the Work within the available total float or slack time and not necessarily preventing completion of the Work within the Contract Time.

Notice of Award of Contract - The written notice by ENGINEER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver Agreement.

Notice to Proceed - A written notice given by ENGINEER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

OWNER - The City Commission of the City of Casselberry with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

Plans - Same as "Drawings".

Prejudicial Delay - Any excusable or compensable delay impacting the Work and exceeding the total float available in the progress schedule, thus preventing completion of the Work within the Contract Time unless the Work is accelerated.

Pre-Operational Testing (Check-out testing) - All field inspections, installation checks, water tests, performance tests, and necessary correction required of CONTRACTOR as a condition or conditions to achieving Substantial Completion to demonstrate to the OWNER that individual components of the Work have been properly constructed and do operate in accordance with the Contract Documents.

Project - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

Resident Project Representative - The authorized representative of ENGINEER who is assigned to the site or any part thereof.

Semifinal Inspection – An inspection conducted by the ENGINEER after notice from the CONTRACTOR and within seven (7) days of Substantial Completion.

Shop Drawings - All drawings, diagrams illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Start-Up Testing (Demonstration Testing) - A predefined trial period required as a condition to Initiation of Operation during which CONTRACTOR is to operate the entire Work (or any part thereof agreed to by the OWNER under actual and simulated operating conditions for the purpose (i) of making such minor

adjustments and changes to the Work as may be necessary for the Work to comply with the Contract Documents and (ii) of complying with the final test requirements in the Contract Documents.

Subcontractor - An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site, or for furnishing any materials or equipment to be used in, or incorporated into, the Work.

Substantial Completion - All work in the Contract Documents including all pay items are entirely complete; the only remaining work to be performed is the Punch List.

Supplementary Conditions - The part of the Contract Documents which amends or supplements these General Conditions.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.
Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials; electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work - Work to be paid for on the basis of unit prices.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Work Directive Change - A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraphs 4.1, 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 9.2.

Written Amendment - A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Contract Documents:

2.0 The Contract documents shall be signed by the OWNER and CONTRACTOR. Execution of the Contract by the CONTRACTOR is a representation that the CONTRACTOR has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with the requirements of the Contract Documents. Familiarity with local conditions shall include, without limitation, (1) the condition and layout of the Project Site and surrounding locale, (2) available labor supply and costs, (3) available subcontractor and suppliers, (4) the prevailing climate, including the impact of rain, (5) available material and

equipment and cost, and (6) other similar issues. CONTRACTOR shall make no Claim for additional time or money based upon its failure to comply with this paragraph.

Delivery of Bonds:

2.1 When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds and Certificates of Insurance as CONTRACTOR may be required to furnish.

Copies of Documents:

2.2 OWNER shall furnish to CONTRACTOR up to three copies of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Time; Notice to Proceed:

2.3 The Contract Time will commence to run on the thirtieth day after the Effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement.

Starting the Project:

2.4 CONTRACTOR shall start to perform the Work no later than ten (10) days from the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

Before Starting Construction:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy, which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby. Any necessary changes will be authorized by 10.1 or 11.0 as applicable.

2.6 Within ten (10) days after the Effective Date of the Agreement CONTRACTOR shall submit to OWNER for review:

2.6.1 an estimated progress schedule indicating the starting and completion dates of the various stages and controlling items of Work; and

2.6.2 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.7 Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, Performance and Payment Bonds, original certificates (and other evidence of insurance

requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with Article 5.

Preconstruction Conference:

2.8 Within twenty (20) days after the Effective Date of the Agreement, but prior to the Notice to Proceed, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

Finalizing Schedules:

2.9 At least ten (10) days before submission of the first Application for Payment, the CONTRACTOR shall have submitted finalized Progress Schedule and Schedule of Values acceptable to the ENGINEER. The finalized Progress Schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefor. The finalized Schedule of Values will be acceptable to ENGINEER as to form and substance.

2.10 If CONTRACTOR submits schedule indicating intention to achieve completion of Work prior to contractually required dates, including milestones, no liability of OWNER for any failure of the CONTRACTOR to so complete shall be created, notwithstanding submission or OWNER's approval of this schedule.

2.11 At the OWNER'S option, and subject to OWNER'S approval, CONTRACTOR will provide a schedule utilizing critical path techniques to measure progress of Work, including methods to identify prejudicial delay and its input.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Intent:

3.0 The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the laws of the State of Florida, Seminole County and City of Casselberry.

3.1 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words, which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental entity, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in

the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents.

3.2 If, during the performance of the work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing within twenty-four (24) hours. CONTRACTOR shall obtain a written interpretation or clarification from ENGINEER prior to resuming Work. Any Work performed by CONTRACTOR prior to Engineer's written interpretation or clarification directly or indirectly affected by same, will be at CONTRACTOR'S own risk and CONTRACTOR shall bear all costs and delay resulting therefrom.

3.3 A Claim for Payment for additional work by CONTRACTOR wherein such work is not included within the original Contract will not be recoverable without a prior approved written Change Order by the ENGINEER nor will any liability be based on an oral modification of either the written Contract or written Directive.

Amending and Supplementing Contract Documents:

3.4 The Contract Documents may be amended to provide for additions, deletions and revisions in the work or to modify the terms and conditions thereof in one or more of the following ways:

3.4.1 a formal Written Amendment,

3.4.2 a Change Order, or

3.4.3 a Work Directive Change.

As indicated in paragraphs 10.1 and 11.0, Contract Price and Contract Time may only be changed by a Change Order or a Written Amendment.

3.5 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.5.1 a Field Order,

3.5.2 ENGINEER's approval of a Shop Drawing or sample, or

3.5.3 ENGINEER's written interpretation or clarification.

Reuse of Documents:

3.6 Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.0 OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER's furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a Claim therefor as provided in Article 11. CONTRACTOR shall obtain any additional lands and rights-of-way, and easements not provided by OWNER but with no increase in Contract Time or Contract Price.

Physical Conditions:

4.1 *Explorations:* CONTRACTOR shall have full responsibility to determine subsurface conditions at the site.

4.2 *Existing Structures:* CONTRACTOR shall have full responsibility to determine physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.7) which are at or contiguous to the site.

Report of Differing Conditions:

4.3 If CONTRACTOR believes that:

4.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraph 4.2 is inaccurate, or

4.3.2 any physical condition uncovered or revealed at the site differs materially from that indicated, reflected or referred to in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify ENGINEER in writing about the inaccuracy or difference.

ENGINEER's Review:

4.4 ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto.

Possible Document Change:

4.5 If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a written Work Directive Change or a written Change Order will be issued as provided in Article 9 to reflect and document the consequences of the inaccuracy or difference. Upon issuance of a Work Directive Change, or Change Order, CONTRACTOR shall, within twenty-four (24) hours, resume the Work pursuant to conditions stated in the Change.

Possible Price and Time Adjustments:

4.6 In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference. If OWNER determines that Contract Price or Contract Time do not need to be adjusted, this shall be final and binding on CONTRACTOR unless CONTRACTOR timely delivers to OWNER written notice of a contract Claim as provided in Articles 10 and 11. If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a Claim may be made therefor as provided in Articles 10 and 11.

Physical Conditions - Underground Facilities:

Shown or Indicated:

4.7 The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.7.1 OWNER shall not be responsible for the accuracy or completeness of any such information or data: and,

4.7.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owners of such Underground Faculties during construction, for the safety and protection thereof as provided in paragraph 6.21 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price. Alternatively, for City of Casselberry utilities, the City may repair the damage and bill the CONTRACTOR for the labor, materials and equipment required.

Not Shown or Indicated:

4.8 If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.23), identify the owner of such Underground Facility and give written notice thereof to that owner and to ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.21. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a Claim therefor as provided in Articles 10 and 11.

4.9 No adjustment in Contract Price or Contract Time shall be allowed to the extent that the concealed or unknown conditions should have been reasonably discovered by CONTRACTOR during pre-bid site inspections, review or preconstruction services.

Reference Points:

4.10 OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of the ENGINEER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

Hazardous Materials:

4.11 If during the construction of the work any known hazardous material or friable asbestos is suspected or encountered, Work shall be suspended and the Owner shall be notified immediately.

4.12 Owner shall be responsible for investigation and removal and disposition of any such material in accordance with applicable laws and regulations. The CONTRACTOR will be directed by the OWNER on further procedure concerning the Work.

4.13 In the event the CONTRACTOR encounters on the site, material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the CONTRACTOR shall immediately stop Work in the area affected and report the condition in writing to the OWNER within twenty-four (24) hours. The Work in the affected area shall not thereafter be resumed except by written agreement of the OWNER and CONTRACTOR if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed within twenty-four (24) hours in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless, upon written notification by OWNER.

4.14 The CONTRACTOR shall not be required to perform any work relating to asbestos or polychlorinated biphenyl (PCB) without prior written consent by OWNER.

4.15 To the fullest extent permitted by law, the OWNER shall indemnify and hold harmless the CONTRACTOR, agents, employees and subcontractor from and against Claims, damages, losses and expenses, including but not limited to attorney's fees arising out of or resulting from performance of the Work in the affected area if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless, provided that such Claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction to tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the OWNER, anyone directly or indirectly employed by the OWNER, anyone for whose acts the OWNER may be liable, regardless of whether or not such Claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce

other rights or obligations of indemnity, which would otherwise exist as to a party or person described in this Article.

ARTICLE 5 - BONDS AND INSURANCE

Performance and Other Bonds:

5.0 CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulation or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.1 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.0, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

Contractor's Liability Insurance:

5.2 CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from Claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed as furnished by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.2.1 Claims under workers' compensation, disability benefits and other similar employee benefits acts;

5.2.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.2.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

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

5.2.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

5.2.6 Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.2.7 Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance required by this paragraph 5.2 shall include the specific coverage and be written for not less than the limits of liability and coverage provided in paragraph 5.7 or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until Final Payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with paragraphs 12.10, 12.11. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

Contractual Liability Insurance:

5.3 The comprehensive general liability insurance required by paragraph 5.2 will include contractual liability insurance applicable to CONTRACTOR's obligations under paragraphs 6.31 and 6.32.

Property Insurance:

5.4 Unless otherwise provided in the Supplementary Conditions CONTRACTOR shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall include the interests of OWNER, CONTRACTOR, Subcontractor and OWNER's consultants in the Work, all of whom shall be listed as insured or additional insured parties, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

5.5 CONTRACTOR shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Contract Documents or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors and OWNER's consultants in the Work, all of whom shall be listed as insured or additional insured parties.

5.6 OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interest of CONTRACTOR, Subcontractors or others in the Work. The risk of loss within the deductible amount, will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.7 The limits of liability for the insurance required by paragraph 5.2 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

5.7.1 Workers' Compensation, etc.:

(1) State: Coverage A Statutory

(2) Applicable Federal: Statutory

(3) Employer's Liability: Coverage B - $1,000,000 each accident.

5.7.2 Comprehensive General Liability (including Contractual Liability specifically confirming the indemnification of the OWNER as required in paragraph 6.31 and indicating that no act or default shall affect the OWNER'S right to recover under such policies in case of loss, Products and Completed Operations Liability, Explosion, Collapse and Underground Property Damage Coverage, and Personal Injury) against all Claims and liability for bodily injury, death or property damage arising out of the performance of Work under this Agreement.

(1) Bodily Injury

$1,000,000 each occurrence
$1,000,000 annual aggregate

(2) Property Damage
$1,000,000 each occurrence
$1,000,000 annual aggregate

(3) Property damage liability insurance will provide explosion, collapse and underground coverage when applicable.

(4) Personal Injury, with employment exclusion deleted $1,000,000 annual aggregate.

5.7.3 Comprehensive Automobile Liability for owned, hired and non-owned vehicles.

(1) Bodily Injury
$1,000,000 each person
$1,000,000 each accident

(2) Property damage

$1,000,000 each occurrence

Waiver of Rights:

5.8 OWNER and CONTRACTOR waive all rights against each other for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to paragraphs 5.5 and 5.6 and any other property insurance applicable to the Work, and also waive all such rights against the Subcontractors, OWNER's consultants and all other parties named as insureds in such policies for losses and damages so caused. As required by paragraph 6.12 each subcontract between CONTRACTOR and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of OWNER, CONTRACTOR and OWNER's consultants and all other parties named as insureds. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.9 OWNER and CONTRACTOR intend that any policies provided in response to paragraphs 5.5 and 5.6 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the parties named as insureds or additional insureds, and if the insurers require separate waiver forms to be signed by OWNER's consultant, OWNER will obtain the same, and if such waiver forms are required of any Subcontractor, CONTRACTOR will obtain the same.

Receipt and Application of Proceeds:

5.10 Any insured loss under the policies of insurance required by paragraphs 5.5 and 5.6 will be adjusted with the CONTRACTOR and made payable to CONTRACTOR as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied to the Work.

Acceptance of Insurance:

5.11 If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR on the basis of its not complying with the Contract Documents, OWNER shall notify CONTRACTOR in writing. CONTRACTOR shall provide to the OWNER such additional information in respect of insurance provided as the OWNER may reasonably request.

Partial Utilization - Property Insurance:

5.12 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 13.8; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledge notice thereof and in writing effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.0 Within ten (10) days after Notice to Proceed, CONTRACTOR shall submit to OWNER, for OWNER'S written approval, a list of Project Superintendents and Project Managers to be assigned to the project site. OWNER has the right to request substitution of these personnel at its sole discretion upon written notification to CONTRACTOR. CONTRACTOR will make such necessary substitution within twenty-four (24) hours of written notification by OWNER.

6.1 CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying CONTRACTOR'S best skill and expertise to perform the Work in accordance with Contract Documents, and all state laws, local laws and Florida licensing requirements. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequence or procedure of construction, which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

6.2 CONTRACTOR shall maintain a competent superintendent at the site at all times while work is in progress to act as the CONTRACTOR"S agent. Provide a superintendent who is a competent superintendent capable of properly interpreting the Contract Documents and is thoroughly experienced in the type of work being performed. Provide a superintendent with the full authority to receive instructions from the ENGINEER, including promptly supplying any materials, tools, equipment, labor and incidentals that may be required. Furnish such superintendent regardless of the amount of work sublet.

Labor, Materials and Equipment:

6.3 CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during working hours of 7 AM to 7 PM, Monday through Friday, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent.

6.4 Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents: but no provision of any such instruction will be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or

employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility.

Substitutes or "Or-Equal" Items:

6.6 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and Claims of other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR's expense, additional data about the proposed substitute. In the event that substitute materials or equipment are accepted and are less costly to the CONTRACTOR than originally specified materials or equipment, the net difference in cost shall benefit the OWNER and an appropriate Change Order shall be executed by the parties.

6.7 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by ENGINEER will be to that provided in paragraph 6.6.1 as applied by ENGINEER and as may be supplemented in the General Requirements.

6.8 ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute. CONTRACTOR shall reimburse OWNER for any costs resulting from any delays in the Work while the substitution was undergoing reviews.

Concerning Subcontractors, Suppliers and Others:

6.9 CONTRACTOR shall not award work to Subcontractors in excess of 50 percent of the Contract Price without prior written approval of the OWNER. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER as indicated in paragraph 6.10), whether initially or as a substitute, against whom OWNER may have any reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.10 If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and if CONTRACTOR has submitted a list thereof, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER to reject *defective* Work.

6.11 CONTRACTOR shall be fully responsible to OWNER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.12 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and contains waiver provisions as required by paragraph 5.8.

Patent Fees and Royalties:

6.13 CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. CONTRACTOR shall indemnify and hold harmless OWNER and anyone directly or indirectly employed by OWNER from and against all Claims, damages, losses and expenses (including attorneys' fees and court costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work

of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such Claims in connection with any alleged infringement of such rights.

Permits, Fees and Notices - Tax/Exempt:

6.14 This project is exempt from City building permit and inspection fees. Owner will pay for impact fees and water and sewer connection fees. Contractor will be responsible for all other government fees and licenses necessary for the proper execution and completion of the Work, including fees associated with permanent and temporary electrical service.

6.14.1 The Contractor shall pay the cost of any and all fees required by offsite work, including but not limited to, hauling and disposal of materials and debris.

6.14.2 Unless otherwise provided in the Contract Documents, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all charges of utility owners for connections to the Work. The CONTRACTOR shall conform to all permit conditions related to the performance of the Work.

Laws and Regulations:

6.15 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, OWNER shall not be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.15.1 If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER written notice thereof within twenty-four (24) hours, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.5. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Taxes:

6.16 CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

Use of Premises:

6.17 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way; permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work.

Should any Claim be made against OWNER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve Claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER harmless from and against all Claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER to the extent based on a Claim arising out of CONTRACTOR's performance of the Work.

6.18 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.19 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.20 CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 8.2) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to OWNER.

Safety and Protection:

6.21 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.21.1 All employees on the Work and other persons and organizations who say be affected thereby;

6.21.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.21.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and

protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.21.2 or 6.21.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or anyone employed by OWNER or anyone for whose acts OWNER may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to CONTRACTOR in accordance with paragraph 13.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.22 CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

Emergencies:

6.23 In emergencies affecting safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER, is obligated to act to prevent threatened damage, injury or loss, but if said damage, injury or loss is not preventable, then to mitigate same.

Shop Drawings and Samples:

6.24 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review and approval, or for other appropriate action if so indicated in the Supplementary Conditions, five copies of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.

6.25 CONTRACTOR shall also submit to ENGINEER review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.26 Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or

coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

6.26.1 At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

6.27 ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.28 ENGINEER's review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.26.1 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.26.

6.29 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER's review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.30 CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

Indemnification:

6.31 To the fullest extent permitted by law, the CONTRACTOR (OR CONSULTANT) shall indemnify, hold harmless and defend the CITY, its agents, servants and employees, or any of them, from and against all claims, damages, losses and expenses including, but not limited to, attorney's fees and other legal costs such as those for paralegal, investigative and legal support services and the actual cost incurred for expert witness testimony, arising out of or resulting from the performance of services required under this Agreement, provided that same is caused in whole or part by the error, omission, negligent act, conduct or misconduct of the CONTRACTOR,

its agents, servants, employees, or subcontractors. In accordance with Section 725.06, Florida Statutes, adequate consideration has been provided to the CONTRACTOR for this obligation, the receipt and sufficiency of which is hereby specifically acknowledged. Northing herein shall be deemed to affect the rights, privileges, and immunities of the CITY as set forth in Section 768.28, Florida Statutes. In claims against any person or entity indemnified under this section by an employee of the CONTRACTOR or its agents or subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Subsection shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or its agents or subcontractors, under Workers' Compensation acts, disability benefits acts or other employee benefit acts.

6.32 In any and all Claims against OWNER or any of its consultants, agents or employees by any employee of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 7 - OTHER WORK

Related Work at Site:

7.0 OWNER may perform other work related to the Project at the site by OWNER's own forces, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a Claim therefor as provided in Articles 10 and 11.

7.1 CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.2 If any part of CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR's failure so to report will constitute an acceptance of the other work as fit and proper for integration

with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in the other work.

Coordination:

7.3 If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

ARTICLE 8 - ENGINEER'S STATUS DURING CONSTRUCTION

Owner's Representative:

8.0 ENGINEER will be OWNER's representative during the construction period.

8.1 The ENGINEER or the Resident Project Representative will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents.

Clarifications and Interpretations:

8.2 ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof. CONTRACTOR may make a Claim therefor as provided in Article 10 or Article 11.

Authorized Variations in Work:

8.3 ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents, which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on CONTRACTOR, who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in Article 10 or 11.

Rejecting Defective Work:

8.4 ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be *defective*, and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.8, whether or not the Work is fabricated, installed or completed.

Decisions on Disputes:

8.5 ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such Claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than seventy-two (72) hours after the occurrence of the event giving rise thereto), and written supporting data will be submitted to ENGINEER and the other party within thirty (30) days after such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the Claim.

8.6 The rendering of a decision by ENGINEER with respect to any Claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute or other matter.

Limitations on ENGINEER's Responsibilities:

8.7 Neither ENGINEER's authority to act under this Article or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.8 Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility of the CONTRACTOR.

ARTICLE 9 - CHANGES IN THE WORK

9.0 Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Written Amendment, a Change Order, or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided)

9.1 The adjustment in Contract Price and/or Contract Time stated in a Change Order shall comprise the total price and/or time adjustment due or owed the CONTRACTOR for the work or

changes defined in the Change Order. By executing the Change Order, the CONTRACTOR acknowledges and agrees that the stipulated price and/or time adjustments include the costs and delays for all work contained in the Change Order, including costs and delays associated with the interruption of schedules, extended overheads, delay, and cumulative impacts or ripple effect on all other non-affected work under this Contract. Signing of the Change Order constitutes full and mutual accord and satisfaction for the adjustment in Contract Price or Time as a result of increases or decreases in costs and time of performance caused directly and indirectly from the change, subject to the current scope of the entire work as set forth in the Contract Documents. Acceptance of the waiver constitutes an agreement between OWNER and CONTRACTOR that the Change Order represents an equitable adjustment to the Contract, and that CONTRACTOR will waive all rights to file a Claim on this Change Order after it is properly executed.

9.2 If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a Claim may be made therefor as provided in Article 10 or Article 11.

9.3 CONTRACTOR shall not be entitled to an increase in the Contract Price and/or extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of an emergency as provided in paragraph 6.23 and except in the case of uncovering Work as provided in paragraph 12.8.

9.4 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 10 - CHANGE OF CONTRACT PRICE

10.0 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.1 The Contract Price may only be changed by a written Change Order or by a written Amendment. Any Claim for an increase in Contract Time or Contract price shall be based on written notice delivered by the party making the Claim to the OWNER and ENGINEER within seventy-two (72) hours after the occurrence of the event giving rise to the Claim and stating the general nature of the Claim. Notice of the amount of the Claim with supporting data must be made in writing and delivered that specifies in detail all facts and issues substantiating the Claim and shall be delivered within thirty (30) days after such occurrence and shall be accompanied by claimant’s written statement that the amount claimed covers all known costs and expenses (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. No Claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph.

10.2 The value of any Work covered by a Change Order or of any Claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.2.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

10.2.2 By mutual acceptance of a lump sum.

10.2.3 On the basis of the Cost of the Work plus a CONTRACTOR's Fee for overhead and profit, or, if Claim is by OWNER for cost to repair CONTRACTOR's defective work, all direct and indirect costs incurred by the OWNER as described in paragraph 12.13, below.

Cost of the Work:

10.3 The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 10.4:

10.3.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

10.3.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.3.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR's Cost of the Work. All subcontractors shall be subject to the other provisions of the Contract Documents insofar as applicable.

10.3.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

10.3.5 Supplemental costs including the following:

10.3.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

10.3.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

10.3.5.3 Rentals of all construction equipment and machinery and the parts whereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.3.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.3.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

10.3.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.6), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's Fee. If, however, any such loss or damages requires reconstruction and CONTRACTOR is placed in charge thereof. CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 10.5.

10.3.5. The cost of utilities, fuel and sanitary facilities at the site.

10.3.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

10.3.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER in accordance with paragraph 5.6.

10.4 The term Cost of the Work shall not include any of the following:

10.4.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general manager, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.3.1 or specifically covered by paragraph 10.3.4 - all of which are to be considered administrative costs covered by the CONTRACTOR's Fee.

10.4.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

10.4.3 Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.4.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.3.5.9 above).

10.4.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of *defective* Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.4.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.3.

CONTRACTOR's Fee:

10.5 The CONTRACTOR's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.5.1 For costs incurred under paragraphs 10.3.1 and 10.3.2, the CONTRACTOR's Fee shall be fifteen percent;

10.5.2 For costs incurred under paragraph 10.3.3, the CONTRACTOR's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors cumulatively shall be fifteen percent:

10.5.3 No fee shall be payable on the basis of costs itemized under paragraphs 10.3.4, 10.3.5 and 10.4;

10.5.4 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's Fee by an amount equal to ten percent of the net decrease; and

10.5.5 When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's Fee shall be computed on the basis of the net change in accordance with paragraphs 10.5.1 through 10.5.4, inclusive.

Unit Price Work:

10.6 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER.

10.7 Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

10.8 Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quality of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a Claim for an increase in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the amount of any such increase. For the purposes of this paragraph, "materially, and significantly" shall be defined as a variation of $\pm$ 25 percent.

ARTICLE 11 - CHANGE OF CONTRACT TIME

11.0 The Contract Time may be changed only by a Change Order or a Written Amendment. Any Claim for an extension or shortening in the Contract Time shall be based on written notice delivered to the OWNER and ENGINEER within seventy-two (72) hours from detection or the beginning of any event or circumstance giving rise to excusable or compensable delay and setting forth the general nature of the cause of the delay. Within thirty (30) days of any such detection or beginning of event, CONTRACTOR shall provide the analysis and documentation required to ascertain the facts, and shall provide a written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR has reason to believe it is entitled as a result of the occurrence of said event. No Claim by CONTRACTOR under this provision shall be allowed unless CONTRACTOR has given the notice and the analysis and documentation required in this paragraph, or if asserted after Final Payment.

11.1 No forfeiture due to delay shall be made because of any excusable delays in the completion of the entire Work or a specified part thereof. Any such delays shall not entitle the CONTRACTOR to any change in Contract Price. The sole remedy of the CONTRACTOR shall be an extension of Contract Time pursuant to this Article.

11.2 No forfeiture due to delay shall be made because of any compensable delays in the completion of the Work or a specified part thereof. Any such delays will entitle the CONTRACTOR to an extension of Contract Time pursuant to this Article and such delays may further entitle the CONTRACTOR to an increase in the Contract Price pursuant to the provisions of the General Conditions.

11.3 No extensions of Contract Time or increases in Contract Price shall be granted for non-prejudicial delays of any type or for inexcusable delays unless otherwise agreed to by OWNER at its sole discretion.

11.4 Claims relating to time shall be made in accordance with applicable provisions. If the Work is delayed due to the fault or neglect of OWNER, and such delays have a cumulative total impact of more than ten (10) calendar days to the critical path, CONTRACTOR may make Claim pursuant to this Article for its actual and direct costs only arising out of the delay. The Contract Sum shall be adjusted for such actual and direct costs, but in no event shall indirect, impact, inefficiency, offsite or home office overhead, loss of productivity, consequential damages, legal or consulting costs be paid on account of such delays. CONTRACTOR hereby expressly waives its rights to such damages due to time-related issues or delays.

11.5 In the event CONTRACTOR accelerates its Work for any reason whatsoever, OWNER shall pay no overtime inefficiencies to CONTRACTOR for such acceleration.

11.6 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were unreasonably abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction's critical path. Such substantiated abnormal adverse weather shall be the basis for an adjustment to the Contract Time only, with no adjustment to the Contract Time.

ARTICLE 12 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Warranty and Guarantee:

12.0 CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be *defective*. Prompt notice of all defects shall be given to CONTRACTOR. All *defective* Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

Access to Work:

12.1 ENGINEER and ENGINEER's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at all times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

Tests and Inspections:

12.2 CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

12.3 If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval. CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with ENGINEER's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase

thereof for incorporation in the Work. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents shall be paid by OWNER (unless otherwise specified).

12.4 All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR.

12.5 If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

12.6 Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

12.7 If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

12.8 If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is *defective*, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and any additional expenses experienced by OWNER due to delays, and OWNER shall be entitled to an appropriate decrease in the Contract Price, and if the parties are unable to agree as to the amount thereof, may make a Claim therefore as provided in Article 10. CONTRACTOR shall bear the responsibility for maintaining schedule and will be excluded from a time extension and the recovery of delay damages due to the uncovering. If, however, such Work is not found to be *defective*, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction: and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in Articles 10 and 11.

Owner May Stop the Work:

12.9 If the Work is *defective*, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may issue a written order for CONTRACTOR to stop the Work or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

Correction or Removal of Defective Work:

12.10 If required by ENGINEER, CONTRACTOR shall promptly, as directed, either corrects all *defective* Work, whether or not fabricated, installed or completed, remove it from the site and replace it with *non-defective* Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby. The CONTRACTOR shall not be entitled to an extension of the Contract Time for correcting or removing *defective* Work.

One Year Correction Period:

12.11 If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be *defective*, CONTRACTOR shall within five (5) days, without cost to OWNER and in accordance with OWNER's written instructions, commence to correct such *defective* Work, or remove it from the site and replace with *non-defective* Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the *defective* Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

Acceptance of Defective Work:

12.12 If, instead of requiring correction or removal and replacement of *defective* Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such *defective* Work. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in Article 10.

OWNER May Correct Defective Work:

12.13 If CONTRACTOR fails within five (5) days after receipt of written notice from ENGINEER to proceed to correct and to correct *defective* Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 12.10, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may proceed to correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a

Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in Article 10. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all mediation and litigation costs and all costs of repair and replacement of work of other destroyed or damaged by correction, removal or replacement of CONTRACTOR's *defective* Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

13.0 The Schedule of Values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

13.1 At least twenty (20) days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall review the quantities and percent completion in the Application for Payment with the Resident Project Representative, and shall submit to ENGINEER the approved Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. CONTRACTOR shall submit an updated progress schedule with each Application for Progress Payment. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. Except with the CITY's prior written approval, payments for cost of the work shall be subject to retention of ten percent (10%). The CITY, at its sole discretion, may continue to hold retainage until final completion. The CITY and CONTRACTOR shall agree upon a mutually acceptable procedure for review and approval of payments and retention of subcontractors.

13.2 The CONTRACTOR shall maintain payrolls and basic records relating thereto during the course of the Work and shall preserve them for a period of three (3) years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the Work. Such records shall contain the name and address of each such employee, his correct classification rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits, daily and weekly number of hours worked, deductions made and actual wages paid).

CONTRACTOR's Warranty of Title:

13.3 CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens, Claims, security interests or encumbrances in favor of the CONTRACTOR, Subcontractor, materialmen, suppliers, or other persons or entities making a Claim by reason of having provided labor.

Review of Application for Progress Payment:

13.4 ENGINEER will, within ten (10) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Thirty (30) days after presentation of the Application for Payment with ENGINEER's recommendation, the amount recommended will become due and when due will be paid by OWNER to CONTRACTOR.

13.5 OWNER may refuse to make payment of the full amount recommended by ENGINEER because Claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written notice stating the reasons for such action.

Substantial Completion:

13.6 After the CCONTRACTOR has notified the ENGINEER that the project is substantially compete, and the ENGINEER agrees that all CONTRACT DOCUMENTS and pay item work is complete, the ENGINEER shall notify the Contractor and the OWNER, in writing, that the project has attained SUBSTANTIAL COMPLETION. The ENGINEER, OWNER and the CONTRACTOR will perform the semifinal inspection within seven (7) day of SUBSTANTIAL COMPLETION. As part of the semi-final inspection, representatives of the OWNER will perform a joint review of the project. The ENGINEER will generate a final project condition report, with resolutions of discrepancies if any, and provide a copy to the OWNER and CONTRACTOR. If, at the semifinal inspection, all construction provided for and contemplated by the contract is found complete to the ENGINEER'S satisfaction, such inspection shall constitute the final inspection, as prescribed in herein. If, however, any work found unsatisfactory, in whole or in part, the ENGINEER shall compile a "punch list" of work to be completed. A copy of the "punch list" will be furnished to the CONTRACTOR, with the indication that the work so noted must be completed prior to final inspection and acceptance. Time shall continue to be charged on the project. Any "punch list(s)" furnished to the CONTRACTOR shall state that it is not to be construed as the "final" list. It shall also state that items damaged beyond the control of the CONTRACTOR and prior to the final inspection must be corrected prior to final acceptance. It shall also state that the CONTRACTOR is still responsible for maintenance, including mowing, of the facility until final acceptance.

Some projects may require representatives from the FDOT, Utilities or another specific field of expertise to participate in the semifinal inspection, and it is the responsibility of the ENGINEER to notify the appropriate agencies of this inspection. Other interested governmental agencies will be invited to participate.

13.7 OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

13.8 OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is substantially complete and request ENGINEER to issue a Certificate of Substantial Completion for that part of the Work.

13.9 OWNER may at any time request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to CONTRACTOR together with a written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation. During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

13.10 No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.12 in respect of property insurance.

13.11 Nothing contained herein shall be construed to establish a period of limitation with respect to other obligations, which the CONTRACTOR might have under the Contract documents. Establishment of the one year period for correction of Work relates only to the specific obligation of CONTRACTOR to correct Work and has no relationship to the time within which obligation to comply with Contract Documents may be sought or enforced, nor the time within which proceedings may be commenced to establish CONTRACTORS's liability with respect to CONTRACTOR's obligations other than specifically to correct Work nor to OWNER's right to make Claim with respect to Warranty Latent Defects.

Final Inspection:

13.12 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or *defective*. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

Final Application for Payment:

13.13 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 6.20) and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 13.17), CONTRACTOR may make application for Final Payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all

Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

13.14 As a condition precedent, CONTRACTOR shall provide OWNER with CONTRACTOR's Final Affidavit in the Form required by chapter 713 of the Florida Statutes, or as otherwise reasonably requested by OWNER and Final Lien Waivers from all subcontractors and other lienors who have furnished a Notice to Owner in connection with the Work.

Final Payment and Acceptance:

13.15 If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled. ENGINEER will, within ten (10) days after receipt of the Final Application for Payment, indicate in writing ENGINEER's recommendation of payment and forward the Application for Payment. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend Final Payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty (30) days after presentation of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER's recommendation and notice of acceptability, the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

Contractor's Continuing Obligation:

13.16 CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a Certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 13.15 nor any correction of *defective* Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.17).

Waiver of Claims:

13.17 The making and acceptance of final payment will constitute:

13.17.1 a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from *defective* Work appearing after final inspection pursuant to paragraph 13.12 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by

OWNER of any rights in respect of CONTRACTOR's continuing obligations under Contract Documents or Claims by OWNER against CONTRACTOR previously made in writing and still unsettled; and

13.17.2 a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 14 - SUSPENSION OF WORK AND TERMINATION

Owner May Suspend Work:

14.0 OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved Claim therefor as provided in Articles 10 and 11. Adjustment in Contract Time or Contract Price under this Article shall not include profit. Notwithstanding, if the OWNER stops Work under paragraph 12.9 or suspends the CONTRACTOR's services under paragraph 12.13, or suspends the Work or any portion thereof because of the CONTRACTOR's failure to prosecute the Work without endangering persons and property, the CONTRACTOR shall be entitled to no extension of Contract Time or increase in Contract Price.

Owner May Terminate:

14.1 Upon the occurrence of any one or more of the following events:

14.1.1 if CONTRACTOR commences a voluntary case under any Chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under other Federal or State law in effect at such time relating to the bankruptcy or insolvency;

14.1.2 if a petition is filed against CONTRACTOR under any Chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

14.1.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

14.1.4 if a Trustee, Receiver, Custodian or Agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;

14.1.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

14.1.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled

workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as revised from time to time);

14.1.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

14.1.8 if CONTRACTOR disregards the authority of ENGINEER; or

14.1.9 if CONTRACTOR otherwise violates in any substantial way any provision of the Contract Documents.

14.2 OWNER may, after giving CONTRACTOR (and the surety, if there be one) seven (7) days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

14.3 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

14.4 Upon seven-(7) days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed plus costs incurred by reason of such termination, along with reasonable overhead and profit on Work performed to date, but in no event shall CONTRACTOR be entitled to anticipated profits on unperformed Work.

Contractor May Stop Work or Terminate:

14.5 If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or OWNER fails for sixty (60) consecutive days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven (7) days' written notice to OWNER terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven (7) days' written notice to OWNER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve

CONTRACTOR of the obligations under paragraph 6.10 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 15 - MISCELLANEOUS

Giving Notice:

15.0 Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

15.1 Written Notice Requirements within the Contract Documents shall be strictly construed and such requirements are a condition precedent to pursuing any rights or remedies hereunder. CONTRACTOR agrees not to Claim any waiver by OWNER of such notice requirements based upon OWNER, its representatives or ENGINEER having actual knowledge, implied, verbal or constructive Notice, lack of prejudice or any other grounds as a substitute for the failure of CONTRACTOR to comply with the express written notice requirements herein.

Computation of Time:

15.2 When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

15.2.1 A calendar day of twenty-four (24) hours measured from midnight to the next midnight shall constitute a day.

General:

15.3 Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, Claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage.
The provisions of this paragraph shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.31, 12.0,12.11., 12.13., 13.3 and 14.1 and all of the rights and remedies available to OWNER thereunder, are in addition to, and are not to be construed in any way as a limitation of any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

ARTICLE 16 - WAIVER OF JURY TRIAL

16.0 The parties expressly, knowingly, voluntarily, and intentionally waive any right to a jury trial with respect to any litigation based on, arising out of, or in connection with these Contract Documents, this Contract, or any representations, oral or written with respect hereto.

ARTICLE 17 - ATTORNEYS' FEES

17.0 With the exception of CONTRACTOR's obligations under paragraphs 12.3 and 14.2, the parties expressly agree that each party shall be solely responsible for their own attorneys' fees and costs incurred in any negotiation, mediation, or litigation related to or arising out of these Contract Documents.

ARTICLE 18 - RECOVERY OF INTEREST

18.0 Any prejudgment or post-judgment interest assessed against either party to this agreement shall be assessed at the current prevailing rate provided by Florida law at the time of the execution of the Agreement by the Parties.

ARTICLE 19 - MEDIATION

19.0 Claims, disputes or other matters in question between the parties to this Agreement shall be first subject to pre-suit mediation prior to the filing of any legal Claims or litigation. Completion of pre-suit mediation is a condition precedent to litigation. This pre-suit obligation to mediate is a material and essential provision of this Agreement, specifically enforceable if required.

19.1 Unless otherwise agreed in writing, the CONTRACTOR shall carry on the Work and maintain its progress during any mediation or litigation, and the OWNER shall continue to make payments to the CONTRACTOR in accordance with the Contract Documents.

19.2 Either party may initiate a mediation proceeding by a request in writing to the other party within a reasonable time after the Claim, dispute or other matter in question has arisen or as provided in this Article, but in no event after the expiration of the applicable Statute of Limitations.

19.3 The parties shall endeavor in good faith or mutually agree upon an acceptable mediator. In the event the parties have not agreed upon a mediator within thirty (30) days of the request for mediation, the Orlando office of the American Arbitration Association, upon the written request of either party, shall appoint a mediator from its pool of approved mediators.

19.4 Unless otherwise mutually agreed, the mediation shall be held in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect, each party to bear its own fees, costs and expenses.

19.5 In the event that presuit mediation is unsuccessful, all Claims, disputes or other matters in question shall be resolved in the Circuit Court of Seminole County, Florida.

ARTICLE 20 - EQUAL OPPORTUNITY/AFFIRMATIVE ACTION

20.0 It is the policy of the City of Casselberry to provide equal opportunity in all job classifications to all employees and applicants for employment. No person will be discriminated against because of race, religion, alienage, color, sex, age, national origin, disability, disabled veterans or Vietnam Era Veteran status. Further, City of Casselberry will comply with affirmative action guidelines for Federal contractors to meet the requirements of the law. The City of Casselberry is committed to applying every good faith effort to achieve equal opportunities for all.

ARTICLE 21 - SEXUAL HARASSMENT/WORKPLACE HARASSMENT

21.0 It is the policy of the City of Casselberry that all employees should be able to enjoy a work environment free from all forms of discrimination including Sexual Harassment and Workplace Harassment.

21.1 Sexual Harassment is defined as unwelcome conduct of a sexual nature that affects or interferes with an individual's work performance or creates an intimidating, hostile or offensive work environment. Inappropriate behavior may include unwelcome sexual advances, requests for sexual favors, sexual jokes or comments, printed material with a sexual content, or other verbal or physical encounters of a sexual nature.

21.2 Workplace Harassment is defined as unwelcome conduct that affects or interferes with an individual's work performance or creates an intimidating hostile or offensive work environment. This may include teasing, slurs, jokes, innuendoes, unwelcome compliments or other verbal conduct regarding an individual's race, religion, alienage, color, sex, age, national origin, disability, disabled veteran or Vietnam Era Veteran status. It can also include direct or implied threats of physical contact.

ANY SEXUAL HARASSMENT OR WORKPLACE HARASSMENT BY AN EMPLOYEE, CUSTOMER, VENDOR, CONSULTANT, CONTRACTOR, OR SUPPLIER IS PROHIBITED IN THIS WORKPLACE AND IS A VIOLATION OF LAW AND THE CITY OF CASSELBERRY'S POLICY.

ARTICLE 22 - LIQUIDATED DAMAGES

22.0 The CITY shall suffer damages if the Project is not substantially complete on the date set forth in the Contract Documents. The CONTRACTOR and its surety shall be liable for and shall pay to the CITY the sums herein stipulated as fixed, agreed and acknowledged as reasonable liquidated damages, not a penalty, for each calendar day of delay until the Work is substantially complete calculated in accordance with FDOT 2014 Standard Specifications for Road and Bridge Construction Section 8-10 Liquidated Damages for Failure to Complete the Work which is currently set at $1,532.00/day for projects between $500,000 and $2.5 million in value.

22.1 The CITY shall suffer damages if the Project damages infrastructure owned or operated by the CITY. The CONTRACTOR and its surety shall be liable for and shall pay the CITY any reasonable amount of sums for repairs. The fees charged for repairs are not a penalty, but will cover the costs the CITY incurs for any and all damages.

END OF SECTION

SECTION 00940

CHANGE ORDER FORM

City of Casselberry
ITB-2017-0090 (Project No. PW 1501)

STORM DRAIN REHABILITATION PROJECT
Change Order No. ____

DATE:	_____, 2017	CONTRACTOR:	
OWNER:	City of Casselberry	AGREEMENT DATE:	

The following changes are hereby made to the CONTRACT DOCUMENTS:

ORIGINAL CONTRACT PRICE	$
Current CONTRACT PRICE ADJUSTED by previous CHANGE ORDER	$
The CONTRACT PRICE due to this CHANGE ORDER will increase by	$
The new CONTRACT PRICE including this CHANGE ORDER will be	$
The new CONTRACT TIME due to this CHANGE ORDER will increase by	____ days
The new CONTRACT TIME including this CHANGE ORDER will be	____ days
The date for Substantial Completion of all work will be	_____

CHANGES ORDERED:

I. GENERAL

This Change Order is necessary to cover changes in the work to be performed under this Contract. The GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, SPECIFICATIONS, and all parts of the Contract Documents listed in Article 1, Definitions, of the GENERAL CONDITIONS apply to and govern all work under this Change Order.

II. WORK CHANGED BY CHANGE ORDER

1. Required Changes

2. Justification

3. Payment

Requests (see attached for detailed breakdowns)

#1 -

#2 -

#3 -

#4 -

#5 -

#6 -

Subtotal $

Additional Bond Premium $

Total ***$***

III. WAIVER

This Change Order constitutes full and mutual accord and satisfaction for the adjustment in Contract Price and/or Time as a result of increases or decreases in costs and time of performance caused directly and indirectly from the change. Acceptance of this waiver constitutes an agreement between CITY and CONTRACTOR that the Change Order represents an equitable adjustment to the contract and that CONTRACTOR shall waive all rights to file a claim on this Change Order. Execution of this Change Order shall constitute CONTRACTOR'S complete acceptance and satisfaction that it is entitled to no more costs or time (direct, indirect, impact, etc.) pursuant to this Change Order.

IV. APPROVAL AND CHANGE AUTHORIZATION

Acknowledgements;

The aforementioned change, and work affected thereby, is subject to all provisions of the original contract not specifically changed by this Change Order; and, it is expressly understood and agreed that the approval of the Change Order shall have no effect on the original other than matters expressly provided herein.

RECOMMENDED BY:

By: _____
Mark Gisclar

Title: **Director of Public Works**
City of Casselberry

Date: _____

ACCEPTED BY:

By: _____

Title: _____

Date: _____

APPROVED BY:

By: _____
Charlene Glancy

Title: Mayor/City Commissioner
City of Casselberry

Date: _____

END OF SECTION

SECTION 01110

SUMMARY OF WORK

PART 1 - General

1.01 General

A. Perform all work in accordance with the Contract Documents of which the Specifications are a part. Furnish all materials, equipment and labor which are reasonably and properly inferable and necessary for the proper completion of the work whether specifically indicated in the Contract Documents or not.

B. All fees required by controlling building authorities, including fees for review of Contract Documents prior to bidding, will be paid by the Owner. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor.

1.02 Work Included in This Project

Storm Drain Rehabilitation Project: The City of Casselberry (City) has identified multiple locations throughout the City where stormwater infrastructure is showing signs of failure and in possible need of rehabilitation. Singhofen & Associates, Inc. (SAI) was contracted by the City to investigate the locations as provided by the City and develop proposed solutions to address identified deficiencies. The City has identified twenty five (25) storm drain systems that are in need of repair. A map showing the general location of the areas is included on Figure 1.1 within the project Technical Memorandum (Please refer to Attachment #2). Corrective actions include, but are not limited to, pipe lining, chemical grout repairs, flowable fill, asphalt repair and pipe/MES replacements, along with related MOT, sod, clearing/grubbing and mobilization.

The Contractor for this Project must perform at least fifty five percent (55%) of the work with its own forces.

PART 2 - Products - (not used)

PART 3 - Execution - (not used)

END OF SECTION

SECTION 01290

MEASUREMENT AND PAYMENT

1. GENERAL

1.01 Description

A. Payment for all Work shall be in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials, and performance of all operations relative to construction of this project, will be made under Pay Items listed herein. Payment for items of work specified in the Contract Documents, not specifically mentioned below, but applicable to the Work, shall be deemed as being included in the bid amounts of the applicable bid items. Work for which there is not a Pay Item will be considered incidental to the Contract and no additional compensation will be allowed.

B. The Owner reserves the right to alter the Drawings, modify incidental work as may be necessary, and increase or decrease quantities of work to be performed to accord with such changes, including deduction or cancellation of any one or more of the Pay Items. Changes in the work shall not be considered as a waiver of any conditions of the Contract nor invalidate any provisions thereof. When changes result in changes in quantities of Work to be performed, the Contractor will accept payment according to Contract Unit Prices that appear in the original Contract. A supplemental agreement between the Contractor and the Owner will be required when such changes involve a net increase or decrease of more than 25% percent in the total contract amount.

C. Quantities necessary to complete the work as shown on the Drawings or as specified herein shall govern over those shown in the Bid. The Contractor shall take no advantage of any apparent error or omission in the Drawings or Specifications, and the ENGINEER shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

D. The ENGINEER will make measurements and determinations as necessary to classify the work within pay items and determine the quantities for pay purposes; such decisions will be final after 3 days if the Contractor does not submit a written notice as defined in the following paragraph.

E. If the Contractor differs with the ENGINEER's classification of the Pay Items or determination of quantities of the Pay Items, he must notify the ENGINEER in writing within 3 days of the time that the Contractor is informed of the ENGINEER's decision. Otherwise the Owner will not consider any such difference as a claim for payment.

2. PAY ITEMS

2.01 Mobilization, (Pay Item No. 0101-1)

1. Measurement: Mobilization consists of the preparatory work and operations for beginning work on the project including, but not limited to insurance and bonds, movement of personnel, equipment, supplies and incidentals to the project site.
2. Payment: Payment made to the Contractor of the lump sum price bid for Pay Item 101-1 will be made and shall fully compensate the Contractor for all work and incidental costs for Pay Item 101-1.

***2.02 Maintenance of Traffic,* (Pay Item No. 0102-1)**

1. Measurement: Maintenance of Traffic (MOT) consists of planning and designing in accordance with F.D.O.T. Index 600 for the control of vehicular and pedestrian traffic and access to private property during all phases of construction. ***Contractor shall provide certified personnel with Level 1 MOT***. This work shall include furnishing and maintaining in serviceable condition all barricades, construction signs, flashing arrow boards, flashing lights, and other devices a required to properly protect the public and workmen from hazards within the project limits. The work and incidental costs for Pay Item 102-1 will be paid at contract lump sum price.
2. Payment: Payment made to the Contractor of the lump sum price bid for Pay Item 102-1 will be made and shall fully compensate the Contractor for all work and incidental costs for Pay Item 102-1.

***2.03 As-built Drawings* (Pay Item 0103-1)**

1. Measurement: Prepare as-built drawing in accordance with Section 1780 of the contract documents.
2. Payment: Payment made to the Contractor of the lump sum price bid for all work and incidental cost for Pay Item 999-100

END OF SECTION

SECTION 01310

MANAGEMENT AND COORDINATION

PART 1. GENERAL

1.01 Description

Work Specified Herein and Elsewhere

A. Work under this Section includes:

1. Preconstruction meeting.
2. Coordination meetings.

B. Related work specified elsewhere:

Submittals - Section 01330.

1.02 Requirements Included

A. The ENGINEER shall schedule and administer preconstruction meeting, periodic progress meetings, and specially called meetings throughout the progress of the work.

1. Prepare agenda for meetings.
2. Make physical arrangements for meetings.
3. Preside at meetings.

B. Representatives of contractors, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

C. The CONTRACTOR shall attend meeting to ascertain that work is expedited consistent with Contract Documents and construction schedules.

1.03 Preconstruction Meeting

A. The CONTRACTOR will schedule a preconstruction meeting prior to beginning the work. This meeting shall be attended by the ENGINEER OF RECORD, the CONTRACTOR, and the OWNER. The purpose of the meeting shall be to review shop-drawing procedures, construction methods, and to establish a construction schedule.

B. Location: A central site, convenient for all parties designated by the OWNER.

C. Attendance:

1. OWNER's Representative.
2. ENGINEER and his professional consultants.
3. Resident Project Representative.
4. CONTRACTOR's Superintendent.
5. Major Subcontractors.
6. Major Suppliers.
7. Utilities Company Representatives.
8. Others as appropriate.

D. Suggested Agenda:

1. Distribution and discussion of:
   a. List of major subcontractors and suppliers.
   b. Projected construction schedules.
2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project Coordination.
5. Designation of responsible personnel.
6. Procedures and processing of:
   a. Field decisions.
   b. Bid requests.
   c. Submittals.
   d. Change Orders.
   e. Applications for payment.
7. Adequacy of distribution of Contract Documents.
8. Procedures for maintaining record documents.
9. Use of Premises:
   a. Office, work and storage areas.
   b. OWNER's requirements.

10. Construction facilities, controls and construction aids.
11. Temporary utilities.
12. Housekeeping procedures.
13. Check of required Bond and Insurance certifications.
14. Liquidated Damages.
15. Request for a weekly job meeting for all involved.
16. Equal Opportunity Requirements.
17. Laboratory testing of material requirements.
18. Inventory of material stored on-site provisions.

1.04 Progress Meetings

A. Schedule regular periodic meetings. The progress meetings will be held every 15 days or less with the first meeting 15 days after work commencement meeting or 30 days or less after the date of Notice to Proceed.

B. Hold called meetings as required by progress of the work.

C. Location of the meetings: Project field office of CONTRACTOR or office of the OWNER.

D. Attendance:

1. ENGINEER, and his professional consultants as needed.
2. Subcontractors as appropriate to agenda.
3. Suppliers as appropriate to the agenda.
4. Others as appropriate.

E. Suggested Agenda:

1. Review, approval of minutes of previous meeting.
2. Review of work progress since previous meeting.
3. Field observations, problems, and conflicts.
4. Problems that impede construction schedule.
5. Review of off-site fabrication, delivery schedules.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to construction schedule.
8. Progress, schedule during succeeding work period.
9. Coordination of schedules.
10. Review submittal schedules; expedite as required.
11. Maintenance of quality standards.
12. Pending changes and substitutions.
13. Review proposed changes for:
    a. Effect on construction schedule and on completion date.
    b. Effect on other contracts of the Project.
14. Other business.
15. Construction schedule.
16. Critical/long lead times.

F. The CONTRACTOR is to attend progress meetings and is to study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics such as deliveries of materials and equipment, progress of the work, etc.

G. The CONTRACTOR is to provide a current submittal log at each progress meeting in accordance with Section 01330.

END OF SECTION

SECTION 01330

SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope of Work - The work under this section includes but is not limited to requirements for the following:

1. Schedule of Operations
2. Samples
3. Certifications
4. Shop Drawings
5. Submittals Required

B. Related Work Specified Elsewhere

1. General Conditions - Section 00700
2. Temporary Facilities and Controls - Section 01500

1.02 SCHEDULE OF OPERATIONS

A. Submit a schedule of operations to the CEI ENGINEER for approval prior to any construction operations. The construction operations shall be sequenced to provide a minimum of interruption to operation of the existing facilities. Inform the CEI ENGINEER of any changes in the schedule and allow ample time for the OWNER to alter operations as required by the construction of the various components of the work.

1.03 SAMPLES

A. Submit samples as specified. The samples shall be physical examples that illustrate material quality and workmanship. Submit at least two samples of each product, unless otherwise noted. Do not incorporate into the work any material for which samples are required until approval has been obtained.

B. Samples shall become the property of the Owner unless the OWNER consents to a written request submitted by the CONTRACTOR.

1.04 CERTIFICATIONS

A. If requested, furnish an affidavit from the manufacturer certifying that the materials or products delivered to the project meet specifications. However certification shall not relieve the CONTRACTOR of responsibility for complying with any additional requirements of installation.

1.05 SHOP DRAWINGS

A. Submit shop drawings for approval or for information, as required. Do not start work requiring approved shop drawings until approval has been obtained.

B. Shop drawings shall consist of drawings, diagrams, illustrations, schedules, performance charts, brochures and other data, prepared for a portion of the Work. Shop drawings shall indicate the type, size, quantity, arrangement, location, mode of operations, component materials and/or material certification, utility connections, wiring and control diagrams, anchorages, supports, performance and test data, factory applied coatings and any other information necessary to insure satisfactory fabrication, installation and operation of the completed project. Shop drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation to adjoining work, amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

C. The CONTRACTOR shall thoroughly check all shop drawings for completeness and compliance with the Contract Documents and shall verify all dimensions and field conditions and shall coordinate the shop drawings with the requirements of all other work related thereto, as required for proper and complete installation of the work.

D. All shop drawings shall be submitted by the CONTRACTOR to the CEI ENGINEER. Drawings must be complete, properly identified with the name of the project, dated, and each lot submitted must be accompanied by a letter of transmittal referring to the name of the project and to the specification page number for identification of each item. Shop drawings for each type of work shall be numbered consecutively and the numbering system shall be retained throughout all revisions.

E. The CONTRACTOR shall submit one reproducible transparency and two prints of each shop drawing for this project. At least three copies of non-reproducible items such as manufacturer's descriptive data and catalog sheets shall be submitted.

F. The CEI ENGINEER will review shop drawings; however, approval of shop drawings shall not be construed as a complete check and shall not relieve the CONTRACTOR from responsibility for complete compliance with the contract requirements unless the CONTRACTOR has, in writing, called the CEI ENGINEER's attention to deviations at the time of submission. The CONTRACTOR shall be solely responsible for any quantities which may be shown on the shop drawings. No corrections, changes, or deviations indicated on shop drawings approved by the CEI ENGINEER shall be considered as a change order.

G. The CEI ENGINEER will examine the shop drawings with reasonable promptness. If the submittal is approved, the CEI ENGINEER will retain two sets of prints and return the transparencies or remaining prints to the CONTRACTOR. If the shop drawings are not satisfactory, one set of prints will be retained by the CEI ENGINEER and one set of prints and all transparencies will be returned to the CONTRACTOR for appropriate action.

H. In the event a third submittal of shop drawings is required, due to previous submittals of incomplete or incorrect shop drawings not in accordance with the Drawings and Specifications, the CONTRACTOR will be charged one-half the cost incurred by the CEI ENGINEER for the review of the third submittal. The CONTRACTOR shall bear the total cost incurred by the CEI ENGINEER for all subsequent reviews.

I. Distribution of copies of the approved shop drawings will be as mutually determined by the CONTRACTOR, OWNER and CEI ENGINEER on an individual item basis during or following the preconstruction conference.

1.06 SUBMITTALS REQUIRED

A. Shop drawings shall be submitted on pumps, piping, valves, fire hydrants, meters and any special equipment. Manufacturer's affidavits are required for all pipe used under this contract.

1.07 MAINTENANCE OF TRAFFIC PLAN (MOT PLAN)

A. See Section 01500, Paragraph 3.01.B.

END OF SECTION

SECTION 01410

REGULATORY REQUIREMENTS

1. GENERAL

1.01 Description

Work Specified Herein and Elsewhere

A. Work under this Section includes:

Regulatory requirements.

B. Related work specified elsewhere:

1. General Conditions - Section 00700.

1.02 Requirements of Regulatory Agencies

A. All piping installed within the right-of-way of any city, county, state, or federal highway or railroad shall be in accordance with a permit to construct issued by the controlling agency and obtained by the OWNER. In no case shall an open trench be constructed within a railroad right-of-way unless otherwise indicated.

B. Whenever the Drawings and Specifications conflict with the requirements of the permit, then the requirements of the permit shall govern and the cost of abiding by the provisions of the permit shall be considered incidental to the Contract.

C. All electrical apparatus and wiring pertaining to a piece of equipment or an appliance furnished and installed under this Contract shall comply with the National Electrical Code and shall be listed by Underwriters Laboratories or bear the approval of a recognized Testing Laboratory approved by the CEI ENGINEER.

END OF SECTION

SECTION 01411

PERMITS AND FEES

PART 1 - GENERAL

A. The CONTRACTOR shall obtain and pay for **all** permits, fees and licenses related to his work as provided for in the General Conditions except as otherwise provided herein.

B. Permits by Owner: The Owner prior to the advertisement of the project has obtained permits with the following agencies:

Permit	Permit No.	Issue Date
Exempt		

All other agency permits will be provided to the selected contractor prior to commencement of work.

END OF SECTION

SECTION 01420

ABBREVIATIONS AND SYMBOLS

PART 1. GENERAL

1.01 Referenced Standards

Any reference to published specifications or standards of any organization or association shall comply with the requirements of the specification or standard which is current on the date of Advertisement for Bids. In case of conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.

In case of conflict between the referenced specifications or standards and the Contract Documents, the Contract Documents shall govern.

1.02 Abbreviations

AA	-	Aluminum Association
AASHTO or AASHO	-	American Association of State Highway and Transportation Officials
ABPA	-	Acoustical and Board Products Association
ACI	-	American Concrete Institute
AGA	-	American Gas Association
AGMA	-	American Gear Manufacturers Association
AI	-	The Asphalt Institute
AIA	-	American Institute of Architects
AIEE	-	American Institute of Electrical Engineers
AIMA	-	Acoustical and Insulating Materials Association
AISC	-	American Institute of Steel Construction
AISI	-	American Iron and Steel Institute
ANSI	-	American National Standards Institute
API	-	American Petroleum Institute
APWA	-	American Public Works Association
AREA	-	American Railway Engineering Association
ASA	-	American Standards Association (ANSI)
ASCE	-	American Society of Civil Engineers
ASHRAE	-	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	-	American Society of Mechanical Engineers
ASSCBC	-	American Standard Safety Code for Building Construction
ASTM	-	American Society for Testing and Materials
AWA	-	American Welding Association
AWPA	-	American Wood Preservers Association
AWPB	-	American Wood Preservers Bureau
AWS	-	American Welding Society
AWWA	-	American Water Works Association
CSI	-	Construction Specification Institute
CRSI	-	Concrete Reinforcing Steel Institute
CS	-	Commercial Standard
E/A	-	Engineer or Architect

FDOT Spec	-	Standard Specification for Road and Bridge Construction, Florida Dept. of Transportation, 2007, or latest revision thereof
FHWA	-	Federal Highway Administration
FS	-	Federal Standard
GPM	-	Gallons per Minute
HP	-	Horsepower
ID	-	Inside Diameter
IEEE	-	Institute of Electrical and Electronic Engineers
IPCEA	-	Insulated Power Cable Engineers Association
MG	-	Million Gallons
NBFU	-	National Board of Fire Underwriters
NBS	-	National Bureau of Standards
NEC	-	National Electrical Code
NECA	-	National Electrical Contractors' Association
NEMA	-	National Electrical Manufacturers' Association
NFPA	-	National Fire Protection Association
NPT	-	National Pipe Threads
NSF	-	National Science Foundation
OD	-	Outside Diameter
OSHA	-	U.S. Dept. of Labor, Occupational Safety and Health Association
PCA	-	Portland Cement Association
PCI	-	Pre-stressed Concrete Association
PS	-	United States Product Standard
PSIG	-	Pounds per Square Inch Gauge
RPM	-	Revolutions per Minute
SAE	-	Society of Automotive Engineers
SDI	-	Steel Decks Institute
SJI	-	Steel Joists Institute
SMACNA	-	Sheet Metal and Air Conditioning Contractors' National Association
SPC	-	Society for Protective Coatings
STA	-	Station (100')
TDH	-	Total Dynamic Head
UL	-	Underwriters' Laboratories, Inc.
USASI or USAS	-	United States of America Standards Institute (now ANSI)

END OF SECTION

SECTION 01450

QUALITY CONTROL

PART 1. GENERAL

Work Specified Herein and Elsewhere

A. Work under this Section includes:

1. Laboratory testing services.
2. Testing of materials.
3. Source and quality of materials and equipment.

B. Related work specified elsewhere:

1. Submittals - Section 01330.

1.02 Laboratory Testing Services

A. Except where specified in individual Specification Sections, the CONTRACTOR will employ and pay for an independent testing laboratory to perform specified testing services. The OWNER will employ and directly pay for certain tests, inspections and approvals only when specifically called out in the Contract Documents as being OWNER furnished. OWNER furnished testing shall in no way relieve the CONTRACTOR from meeting the quality and other work provisions of the Contract Documents and it is the sole responsibility of the CONTRACTOR to see his work shall meet all provisions of the Specifications and Contract Documents. CONTRACTOR furnished testing will include:

Soils, Foundation and Soils Laboratory Quality Control Testing
Earthwork and road base compaction quality control testing
Earthwork materials
Piping and structural excavation, bedding and backfill materials quality control testing
Asphaltic concrete design mix, compaction/density, thickness and in place composition quality control testing
Portland cement concrete quality control testing
Design Mix Review
Materials
Field Slump and Air Content
Field and lab cured strength samples and testing

If work fails tests, any retesting that the OWNER or CEI ENGINEER designates to be done will be done at the CONTRACTOR's expense.

B. The CONTRACTOR shall notify the laboratory sufficiently in advance of operations to allow scheduling of tests. The CONTRACTOR shall furnish casual labor and facilities to obtain and handle samples at the site and to store and cure test samples as required.

C. Any testing laboratory utilized by the CONTRACTOR shall be an independent laboratory acceptable to the OWNER and the CEI ENGINEER and complying with the latest edition of the "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories.

D. Testing laboratories, whether provided by the OWNER or the CONTRACTOR, shall promptly notify the CEI ENGINEER and the CONTRACTOR of irregularities or deficiencies of work which are observed during performance of services. Laboratories shall submit two (2) copies of all reports directly to the CEI ENGINEER and two (2) copies to the CONTRACTOR.

1.03 Testing of Materials

A. Unless otherwise specified, all materials shall be sampled and tested in accordance with the latest published standard methods of ASTM in effect at the time bids are received. If no ASTM Standards apply, applicable standard methods of the Federal Government or of other recognized agencies shall be used.

B. The CONTRACTOR shall not make use of or incorporate in the work, the materials represented by the sample until tests have been made and the material found to be in accordance with the requirements of the Specifications.

C. Materials to be tested and the applicable test procedure shall be as outlined in the individual sections of these Specifications.

D. Tests of materials and equipment shall be the responsibility of the CONTRACTOR or an authorized manufacturer's representative. All test results shall be furnished to the Engineer in writing. The CONTRACTOR shall provide facilities required to collect and forward samples. The CONTRACTOR shall furnish the required samples without charge.

1.04 Source and Quality of Materials and Equipment

A. The source of materials to be used shall be in accordance with the Contract Documents and as approved by the E/A before delivery. The approval of the source of any material shall continue as long as the material conforms to the Specifications.

B. All materials not conforming to the requirements of the Specifications shall be considered as defective and shall be removed from the work. If in place, faulty materials shall be removed by the CONTRACTOR at his expense and replaced with acceptable material unless permitted otherwise by the OWNER. No defective materials, which have been subsequently corrected, shall be reused until approval has been given.

C. Upon failure of the CONTRACTOR to comply immediately with any order of the CEI ENGINEER to remove and replace defective material, the OWNER shall have authority to remove and replace defective materials, and to deduct the cost of removal and replacement from any monies due or to become due to the CONTRACTOR. Failure to reject any defective materials or work at the time of installation shall in no way prevent later rejection when such defects are discovered, nor obligate the OWNER to final acceptance.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 Description

A. Scope of Work

The work under this section includes but is not limited to the following items:

1. Temporary Services
2. Security, Controls and Regulations
3. Removal of Temporary Construction

B. Related Work Specified Elsewhere

1. Product Requirements - Section 01600

C. Responsibility

1. All temporary facilities shall remain the property of the CONTRACTOR establishing them and shall be maintained in a safe and useful condition until removed from the construction.

PART 2 - PRODUCTS

2.01 TEMPORARY SERVICES

A. Temporary Toilets

1. Provide temporary toilet facilities and maintain these during the entire period of construction for the use of all personnel on the job. Enough chemical toilets shall be provided to conveniently serve the needs of all personnel.
2. Chemical toilets and their maintenance shall meet the requirements of State and Local health regulations and ordinances. Any facilities or maintenance methods failing to meet these requirements shall be corrected immediately.

B. Temporary Water

1. The CONTRACTOR shall provide water for all construction purposes.
2. Furnish potable drinking water in suitable dispensers and with cups for use of all employees at the job.
3. Provide all temporary piping, hoses, etc., required to transport water to the point of usage.

4. Large quantities of water for trench flooding, filling mains, and testing tanks shall be drawn only at night or as directed by the CEI ENGINEER.

5. The CONTRACTOR shall pay for water used at the established water rates.

PART 3 - EXECUTION

3.01 SECURITY, CONTROLS AND REGULATIONS

A. Watchmen

1. Full time watchmen will not be specifically required as a part of the Contract, but the CONTRACTOR shall provide such inspection of the work area daily while the work is in progress and shall take whatever measures are necessary to protect the safety of the workmen and materials and provide for the security of the site, both day and night.

B. Maintenance of Traffic

1. The CONTRACTOR shall maintain at least one lane of traffic at all times.

2. The CONTRACTOR shall be responsible for the proper use of barricades, warning lights, and all necessary (MOT) traffic control and safety devices, and shall conform to all Federal, State and Local regulations regarding their use.

3. All forms of traffic control on public roadways required by the construction operations shall be in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways, Chapter 6 - Traffic Control for Highway Construction and Maintenance Operations, Section 102 of the FDOT Specs. And FDOT Standard Index 600 Series details.

4. The CONTRACTOR shall submit a Traffic Control Plan for approval prior to commencing the work.

5. ALL road closures must be approved by the City prior to commencement of closure. The City requires one (1) week notice prior to ANY road closure.

C. Dust and Mud Control

1. Take all necessary precautions to control dust and mud associated with the work of this contract, subject to the approval of the CEI ENGINEER. In dry weather, spray dusty areas daily with water or weekly with oil in order to control dust. Take any necessary steps to prevent the tracking of mud onto adjacent streets and highways by machinery.

D. Sedimentation Control

1. Install and maintain silt dams, traps, barriers and appurtenances as required to prevent sedimentation pollution. Hay bales which deteriorate and filter stone which is dislodged shall be replaced.

E. Erosion Control

1. Provide temporary erosion controls including but not limited to, grassing, mulching, setting, watering and reseeding on-site surfaces and soil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the OWNER.

2. Minimum procedures for grassing are:

   a. Scarify slopes to a depth of not less than six inches and remove large colds, rock, stumps, roots larger than 1/2-inch in diameter and debris.

   b. Sow seed within twenty-four (24) hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.

   c. Apply mulch loosely and to a thickness of between 3/4-inch and 1 1/2-inches.

   d. Apply netting over mulched areas on sloped surfaces.

   e. Roll and water seeded areas in a manner which will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.

3.02 REMOVAL OF TEMPORARY CONSTRUCTION

A. Remove the various temporary facilities, services and controls and legally dispose of them as soon as the CEI ENGINEER deems permissible. The portions of the site used for temporary facilities shall be properly reconditioned and restored to a condition acceptable to the CEI ENGINEER.

END OF SECTION

SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 Description

A. Scope of Work

The work under this section includes but is not limited to the following items:

1. Final Cleanup
2. Guarantee
3. As-Built Drawings
4. Final Application for Payment

B. Related Work Specified Elsewhere

1. General Conditions - Section 00700

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

A. Final Cleanup

1. The entire project site shall be cleaned at the completion of the work or portions thereof. Cleanup operations shall consist of the removal and disposal of all broken concrete, vegetation debris, wood scraps, wire, packaging materials, form, scaffolds and other objectionable rubble created during construction operations; washing finished areas which were dirtied by mud, sewage, oil, grease, and dust to return said areas to a clean and finished appearance; cleaning of spilled concrete; and removal of all temporary manufacturer's labels.

2. The CONTRACTOR shall be responsible for the removal of excess dust and mud created by the construction project from all sidewalks, streets and highways as directed by the CEI ENGINEER. Equipment to clean these surfaces shall be subject to approval by the CEI ENGINEER.

3. Excess and salvaged materials shall be collected at the end of each working day and removed from the work areas.

4. As the work in individual areas of the City are completed; cleanup shall also be completed in that area.

B. Guarantee

1. The CONTRACTOR shall guarantee all installations to be free from defects in workmanship for a period of one year after the final acceptance of the work, in accordance with the General Conditions.

C. As-Built Drawings

On all City Projects the CONTRACTOR shall record all deviations from original drawings. Final payment will not be made until the requirements of this paragraph have been met. During the progress of the work, the CONTRACTOR shall record on all field sets of drawings the exact locations, as installed, of all underground and otherwise concealed conduit, pipe and duct lines which were not installed exactly as shown on the contract drawings. Where the work was installed exactly as shown on the contract drawings the drawing shall not be altered other than being marked "As-Built." In showing the changes the same legend shall be used to identify piping, etc., as was used on the contract drawings. Each sheet shall bear the date and name of the subcontractor submitting the drawings. The CONTRACTOR shall review the completed as-built drawings and ascertain that all dates furnished on the drawings are accurate and truly represent the work as actually installed. When manholes, boxes, underground conduits, inverts, etc., are involved as part of the work, the CONTRACTOR shall furnish true elevations and locations, all properly referenced by using the original benchmark used for the institution or for this project. The drawings including those unchanged and changed shall be submitted to the Engineering Dept. /Public Works Dept. when completed, together with two (2) sets of red line prints for certification. Upon completion and prior to final inspection, the following must be provided to the PROJECT CEI ENGINEER and/or other appropriate City Departments:

1. Test results as required.
2. Maintenance Bond for facilities to be conveyed to the Owner.

As-built drawings shall be submitted after final inspection and prior to acceptance for water, wastewater and drainage systems, both on and off-site. These drawings shall be based upon field surveys, and will show all boundary, rights-of-way, easement and lot lines, and shall be certified by a Registered Professional Land Surveyor in accordance with Rule 61G17-6, F.A.C. (Major projects only). Note: Two (2) hard copy red lined plans, one (1) certified plan set and one (1) ACAD electronic set must be submitted.

1. Location of all sanitary manholes and the service end of all laterals and elevation of all inverts and manhole tops.
2. Location and top invert elevations of all lift stations and location and elevation of all valves, and point at which force main crosses any wastewater or drainage lines.
3. Location, size and invert elevation of all drainage pipes.
4. Spot elevation at fifty (50)-foot intervals along the top of the berm and sufficient bottom elevations to show conformance to design, of all retention/detention ponds.
5. Spot elevation at fifty (50)-foot intervals along all off-site drainage ditches and swales.
6. CAD files should be in State Plane Coordinates (SPC) Feet, East Zone - Florida, North American Datum (NAD) 1983.
7. Objects should be assigned by layer with color by layer. No cryptic layer names. If cryptic layer names are used (i.e., DXF files from microstation) then a list defining layer names must be provided.

Upon satisfactory completion of the installation or required improvements, a Certificate of Completion shall be signed by the PROJECT CEI ENGINEER and transmitted to the OWNER. At the time of request for final payment, the CONTRACTOR shall submit a copy of the "as-built" through the PROJECT CEI ENGINEER, if applicable, along with all warranties (in triplicate, bound in 3-ring binders) and shall obtain a receipt for same.

The CONTRACTOR shall submit two sets of signed and sealed prints of the Record Drawings not less than 72 hours prior to the Final Inspection by the City. A certified set of reproducible Record Drawings on one (1) set of prints, one electronic PDF, and a copy drawn in electronic format using CAD software fully compatible with the software being used by the City of Casselberry Engineering division, shall be submitted to the City, revised as necessary after the Final Inspection, prior to the issuance of the Certificate of Completion for the improvements. The applicant shall be responsible for recording information on the approved plans as construction progresses. The City strongly recommends that the contractor's field record plans be photocopied in their entirety as Record Drawings. Record Drawings submitted to the City as part of the project acceptance shall comply with the following requirements:

1. Drawings shall be legibly marked to record actual construction.
2. Drawings shall show actual location of all underground and above ground water and wastewater piping and related appurtenances. All changes to piping location including horizontal and vertical locations of utilities and appurtenances shall be clearly shown and referenced to permanent surface improvements. Drawings shall show actual installed pipe material, class, etc.
3. Drawings shall clearly show all field changes of dimension and detail.
4. Drawings shall clearly show all details not on the original contract drawings but constructed in the field. All equipment and piping relocation shall be shown.
5. Location of all manholes, hydrants, valves, and valve boxes shall be shown. All valves shall be referenced from at least two and preferably three permanent points.
6. Dimensions between all manholes shall be field verified and shown. The inverts and grade elevations of all manholes shall be shown.
7. The depth from finish grade of potable water, reclaimed water, and sewer force mains shall be indicated at all valve locations.
8. Record drawings developed and maintained in AutoCad format acceptable to the City, then one (1) CD shall also be submitted to the City, along with a copy in Arc View format (if available).
9. CAD files should be in State Plane Coordinates (SPC) Feet, East Zone - Florida, North American Datum (NAD) 1983.
10. Objects should be assigned by layer with color by layer. No cryptic layer names. If cryptic layer names are used (i.e., DXF files from microstation) then a list defining layer names must be provided. If entities are not correctly assigned by layer it makes it difficult to extract the date (i.e., if water lines are inadvertently drawn on the sewer layer they will disappear when the water layer is isolated).
11. Electronic drawings that do not follow these specifications will be return for correction and the applicant may have their Certificate of Completion or Certificate of Occupancy withheld until the corrections have been adequately addressed.

D. Final Application for Payment

The CONTRACTOR shall submit a final application for payment and required documentation in accordance with Article 13 of the General Conditions.

END OF SECTION

SECTION 334

SPECIFICATION FOR WARM MIX ASPHALT PAVEMENT- CASB 334

CASB 334-1 DESCRIPTION

(This specification supersedes the FDOT specification Section 334 in its entirety.)

CASB 334-1.1 General: The City of Casselberry, Florida (CASB) will administer this work under the direction of the CASB or their designated agent (Engineer). The work under this section shall consist of furnishing asphalt pavement composed of mineral aggregate and performance graded asphalt binder, mineral filler, recycled pavement, anti-strip additives, and if applicable, manufactured warm mix asphalt (WMA) additive and/or WMA plant process modifications that are mixed in a central mixing plant and placed on a prepared course in accordance with these specifications, and the CASB Contract Documents, conformance to the lines, grades, thickness and typical cross sections shown on the contract drawings or as directed by the Engineer. Meet the applicable requirements for plants, equipment and construction requirements as defined in FDOT Section 320 of the Standard Specifications, latest edition unless otherwise modified herein. Meet the applicable requirements for asphalt mixtures as defined in FDOT 330, 334, 336, and 337 unless otherwise modified herein. Meet the requirements for Quality Control Plans, FDOT 105, 330, and 334 unless otherwise modified herein , and Quality Acceptance as defined within this specification.

Each course shall be constructed to the depth, typical section, or elevation required by the contract and/or plans and shall be rolled, finished, and approved before the placement of the next course.

CASB 334-1.2 Work Categories: Construction of Asphalt Pavement will fall into one or more of the following Work Categories based upon Lots produced, placed, evaluated and accepted:

CASB 334-1.2.1 Work Category 1: Includes the construction of small parking lots and small pavement facilities generally less than a total of 300 tons.

CASB 334-1.2.2 Work Category 2: Includes the construction of larger parking lots and roadways generally between 300 ton and 2000 ton total for the project.

CASB 334-1.2.3 Work Category 3: Includes the construction of mainline roadways, turn lanes, cross overs, ramps, and shoulders generally greater than 2000 tons for the project.

CASB 334-1.3 Lot Sizes

Quality Characteristic	Lot Size & Unit of Measure
PG Asphalt Binder Grading	Total Tons of asphalt mixture per Work Category from all JMFs using the same PGAB Grade (from same PGAB Supplier), produced by a single plant and placed within same CASB fiscal year
PG Asphalt Binder Content, % pass #8, % pass #200	Total Tons of Asphalt mixture with same JMF, produced by a single plant, *per Work Category, per day* (24-hrs)
Volumetrics - Air Voids	
In-Place Density – Mat; and, Thickness; and, Smoothness and Cross-Slope	Total lineal feet of paver pass with same JMF for same individual pavement course, produced by a single plant, per Work Category, per day (24-hrs), per facility (1)
In-Place Density- Longitudinal Joint	Total lineal feet of Longitudinal Joint with same JMF for same individual pavement course, produced by a single plant, per Work Category, per day (24-hrs), per facility (1)(2)

Note (1): Facility is defined as a roadway, street, bridge deck, ramp, access road, parking lot, driveway or other pavement that has essentially similar cross-section for the purposes of obtaining uniform placement, compaction, texture and smoothness.
Note (2): Separate LOTs for Longitudinal Joint quality measurement will not be considered for single paver pass in-lay work but will be considered for multiple paver passes within the same day.

CASB 334-1.4 Mix Types: Use the appropriate asphalt mix as determined by CASB. Mixtures will be classed as fine graded , Type SP 9.5, 12.5 or Friction Course, FC-5. Traffic Level and PGAB binders will be as specified by the Engineer and shown within the project scope. No substitutions of mixture types shall be used unless otherwise approved by the Engineer.

CASB 334-1.5 Thickness: The total pavement thickness of the asphalt pavement will be based on the plan thickness or as shown within the Contract Documents and shall not be more deficient than that shown in the table below entitled “Thickness Acceptance Tolerances”. The thickness acceptance tolerance requirements contained herein shall apply only when each pavement layer is specified to be a uniform compacted thickness of 1 inch or greater. Thickness shall be evaluated for acceptance by the Engineer. Measurements of thickness may be checked periodically by the Contractor in following their QC system for field operations. Measurements of thickness for acceptance shall be made by the Engineer using yield calculations using the actual bulk specific gravity of the asphalt pavement. In the event of a dispute on thickness or density, cores will be taken, split sampled, tested by both parties and a determination will be rendered based upon the core results.

The compacted thickness of *each layer* of the asphalt mixture will be measured to determine compliance with the acceptance tolerances as given below. The average measured thickness of each lift will be determined by measurements taken by the Engineer. The finished pavement course shall not vary from that specified or shown on the contract drawings by more or less than the following tolerances. In the event the total thickness of any course of material varies from those specified beyond the tolerances given, the longitudinal and transverse limits of such variation will be determined by the Engineer. Where the thickness of any course is less than that specified beyond the tolerances given, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with CASB 334-4.10.5.

The Contractor shall correct pavement areas varying in excess of these amounts by removing and replacing the defective work or as ordered by the Engineer in accordance with CASB 334-4.10.5.
Skin patching will not be permitted.

THICKNESS ACCEPTANCE TOLERANCES

Specified Thickness	Allowable Tolerances
1" to 2"	+/- 1/4"
>2"+ to 5"	+/- 3/8"
Over 5"	+/- 1/2"

CASB 334-2 MATERIALS

CASB 334-2.1 Performance Graded Asphalt Binders: PGAB binders will be as designated within the Contract Documents. Unless otherwise specified within the contract documents, use a PGAB 67-22 for non-truck route Work Category 1 and 2 projects. Unless otherwise specified within the contract documents, use a PGAB 76-22 for truck route projects as determined by CASB or their Engineer. Binders must be from the FDOT Qualified Products List (QPL). For Friction Course mixtures, meet the requirements of FDOT Section 336 and 337. PG binders shall conform to FDOT 334-2.1.

For WMA technologies having production temperatures 100°F or more lower than HMA production temperatures, it may be necessary to increase the high-temperature performance grade of the binder one grade to meet the rutting resistance requirements of AASHTO R35.

CASB 334-2.2 Aggregate: Use aggregate capable of producing a quality pavement. For all Work Categories, the Contractor and aggregate supplier shall certify that the materials meet the FDOT requirements. For Friction Course mixtures, meet the requirements of FDOT Section 337-2.5 for Hydrated Lime; no RAP material will be permitted. No recycled crushed glass aggregate will be permitted in the surface course mixtures.

CASB 334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

CASB 334-2.3.1 General Requirements: RAP may be used as a component of the asphalt mixture if approved by the Engineer. Usage of RAP is subject to the following requirements:

1. Limit the amount of RAP material used in the asphalt mixture to a maximum of 50 percent by weight of total aggregate. When using a PG 76-22 or higher PG grade, limit the amount of RAP material used in the mix to a maximum of 15% by weight of total aggregate. As an exception, amounts greater than 15% and less than or equal to 20% by weight of total aggregate may be used if no more than 15% by weight of the total asphalt binder comes from the RAP material.

   For RAP percentages less than 20% (for non-trucks facilities), use PGAB 67-22.

   For RAP percentages between 20% and 30% (for non-truck facilities), use PGAB 64-22.

   For RAP percentages greater than or equal to 30%, use recycling agents.
2. Do not use RAP material in any Friction course mixes.
3. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines, that contains minor amounts of crack sealer, and that is free of injurious amounts of materials that will jeopardize the quality of the asphalt mixture.
4. Provide RAP material having a minimum average asphalt content of 4.0 percent by weight of total mix. As an exception, when using fractionated RAP, the minimum average binder content for the coarse portion of the RAP shall be 2.5 percent by weight of the coarse portion of the RAP. The coarse portion of RAP shall be the portion of the RAP retained on the No. 4 sieve. The Engineer may sample the job mix formula (JMF) selected RAP stockpile as designated on the JMF to verify that this and the other requirements are met.

5. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.
6. RAP Asphalt mixtures shall not be loaded into surge or storage silos unless Engineer is present at plant.
7. WMA mixtures containing RAP shall have a planned field compaction temperature greater than the as-recovered high-temperature grade of the RAP binder.

CASB 334-2.3.2 Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific (G_{sb}) of the RAP material based on a representative sampling of the material.

CASB 334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade such that the final recycled mixture meets the requirements of the appropriate binder grade for the project. The JMF shall include such binder viscosity tests with the selected RAP percentage and designated RAP stockpile to confirm specification compliance. In general, for RAP percentages less than 20%, no asphalt binder grade adjustments are necessary in the mixture. See CASB 334-6.2.3(a).

CASB 334-3 COMPOSITION OF MIXTURE

CASB 334-3.1 General: Compose the asphalt mixture using a combination of approved aggregates, RAP, mineral filler and anti-strip agent, if required, additives, asphalt binder material, and, if desired, manufactured WMA additive and/or WMA plant process modifications. WMA technologies (additives, foaming technologies, etc.) listed on the FDOT website may be used in the production of the mix. Evidence of current state approval shall be provided. The URL for obtaining this information, if available is:
http://www.dot.state.fl.us/Specificationsoffice/implemented/URLinSpecs/files/WarmMixAsphalt.pdf.
Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined. For Friction Course mixtures, meet the requirements of FDOT 337-3.3.

CASB 334-3.2 Mix Design

CASB 334-3.2.1: General: Design the asphalt mixture in accordance with AASHTO R35-12 and FDOT 334-3, except as noted herein. For those mix designs that are FDOT approved, submit the proposed JMF mix design with supporting test data indicating compliance with all mix design criteria to the Engineer a minimum of one week prior to production. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design.

For those mix designs that do not have current FDOT 334-3 approvals, Engineer will require a mix design verification and a Control Strip under the requirements of CASB 334-4.2.1 for Work Category 3 projects, unless directed otherwise by Engineer. If required by the Engineer, send representative samples of all component materials, including the PGAB binder to the Engineer's AASHTO Accredited laboratory for verification. Allow the Engineer a maximum of four weeks to either conditionally verify or reject the mix as designed. Contractor may elect to place the Control Strip prior to Engineer verification, but will do so solely at the Contractor's risk.

WMA – Include a description of the WMA technology and the target dosage rate together with the submission of an MSDS for the additive, if applicable, and submission of either enough of the additive for the laboratory mix design verification, or the additive pre-blended in the PGAB at the correct dosage. If the additive is not pre-blended into the PGAB, include directions for properly incorporating the additive into the laboratory made mixture. Include manufacturer's temperature range for mixing and compaction. The WMA mix design shall include the high temperature grade of the recovered binder in the RAP for mixtures incorporating RAP. The percent coating shall be

evaluated and reported in accordance with AASHTO T195. The mix design shall include the gyrations needed to reach 92 percent relative density at the design binder content at the planned field compaction temperature and 30 C below the planned field compaction temperature. The resulting gyration ratio shall be calculated and reported. The mix design shall also include the dry tensile strength, tensile strength ratio, and observed stripping at the design binder content. The wma mix design shall include the flow number test temperature and the flow number at the design binder content. At this time, mechanical foaming WMA is not approved for use in CASB.

The Control Strip will be designated as the Initial Production Lot per mix design. During this period, Contractor shall demonstrate the capability to produce and place the mixture as specified unless waived by the Engineer.

CASB 334-3.2.2: Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements of the design as defined in AASHTO M323-07, Table 3.

CASB 334-3.2.2 (a): Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-07, Table 3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-07, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes unless otherwise directed by the Engineer, with the exception of open-graded friction courses.

CASB 334-3.2.3 Aggregate Consensus Properties: Meet the requirements as stated in FDOT 334-3.2.3 for Coarse Aggregate Angularity, Fine Aggregate Angularity, Flat and Elongated Particles and Sand Equivalent.

CASB 334-3.2.4 Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312-08. Use the number of gyrations as defined in AASHTO R35-04, Table 1 with the following exceptions: for Traffic Level A mixes, compact the mixture to N_{design} at 50 revolutions; for Traffic Level B mixes, compact the mixture to N_{design} at 65 revolutions; for Traffic Level C mixes, compact the mixture as specified by FDOT for the Traffic Level of 0.3×10^6 to $< 3 \times 10^6$ ESAL's.

CASB 334-3.2.5 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-07, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-07, Table 6. Use a dust-to-binder ratio of 0.8 to 1.6 for coarse mixes.

CASB 334-3.2.6 Moisture Susceptibility: Prior to JMF approval, the Contractor shall determine the moisture susceptibility of each mixture in accordance with FM 1-T283. Test 4 inch specimens in accordance with FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT Qualified Products List, or hydrated lime in order to meet these criteria.

WMA mixtures may be evaluated with 6" diameter specimens provided the material contains a minimum of 0.5% antistrip additive.

RCID 334-3.2.7 Warm Mix Asphalt: Evaluated in accordance with AASHTO T195 needs to contain a minimum of 95% coating. The WMA shall obtain a compactability ratio of less than or equal to 1.25. The rutting resistance of the WMA shall be evaluated in accordance with AASHTO T79. The WMA shall achieve minimum flow numbers is accordance with the following table:

WMA Flow Number

Traffic Level,	Minimum Flow

Million ESALs	Number
<3	N/A
3 to <10	30
10 to <30	105
≥30	415

CASB 334-3.2.8 Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (N_{design}).
2. The source and description of the materials to be used.
3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source.
4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.
7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1 percent.
8. A target temperature at which the mixture is to be discharged from the plant and a target roadway compaction temperature. Use FDOT specified maximum target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts unless otherwise specified by the manufacturers PGAB binder temperature/viscosity charts for mixing/compaction temperatures for special PGABs.
9. Provide the asphalt mixture physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all FDOT specified physical requirements.
10. The name of the Mix Designer
11. The ignition oven calibration factor.
12. WMA technology, if used. – Comply with the manufacturer's recommendations for incorporating the WMA technology. Test specimens may be made from plant produced or laboratory prepared WMA. Test specimens must be made from plant produced WMA if adding the WMA technology in the laboratory does not simulate the production process.

CASB 334-3.3 Mix Design Revisions: During production, the Contractor may request a target value revision to a mix design, subject to meeting the following requirements: (1) the target change falls within the limits defined in Table 334-4 of the FDOT Standard Specifications, latest edition, (2) data exists demonstrating that the mix complies with production air voids specification criteria, and (3) the mixture gradation meets the basic gradation requirements defined in CASB 334.3.2.2 (a) of this specification.

Submit all requests for revisions to mix designs, along with supporting documentation, to the Engineer. In order to expedite the revision process, the request for revision or discussions on the possibility of a revision may be made verbally, but must be followed up by a written request. The verified mix design will remain in effect until the Engineer authorizes a change. In no case will the effective date of the revision be established earlier than the date of the first communication between the Contractor and the Engineer regarding the revision.

A new mix design will be required if aggregate sources change, or for any substitution of an aggregate product with a different aggregate code, unless approved by the Engineer.

CASB 334-4 GENERAL CONSTRUCTION REQUIREMENTS

CASB 334-4.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the asphalt mixture placement operations. Asphalt mixtures shall not be placed on any wet surface or when weather conditions otherwise prevent the proper handling, finishing, or compaction of the mixture. If precipitation is imminent and the Contractor has not suspended operations, the Engineer may suspend the loading of trucks and not allow trucks to leave the plant. The Contractor may resume operations when the precipitation has stopped and the surface is free of water. The Engineer shall not be responsible for delays, material produced, cessation of supply, or penalties.

CASB 334-4.2 Limitations of Placement Operations:

CASB 334-4.2.1 Control Strip: If Contractor has not produced and placed JMF as designed for this CASB project for FDOT previously, then a Control Strip will be required for Work Category 3 projects, unless directed otherwise by Engineer. The Control Strip will be designated as the Initial Production Lot per mix design. During this period, the Contractor shall demonstrate the capability to produce and place the mixture as specified unless waived by the Engineer. If necessary, during this time, make adjustments to the mix design under the requirements of CASB 334-3.3. Any target value adjustments to the mix design will result in the Lot being terminated and evaluated for payment purposes per CASB 334-6.7. Do not begin another Lot until a Control Strip has been successfully completed, or is waived by the Engineer. The amount of mixture for the Control Strip should be sufficient, at a minimum, to construct a test section 300 long and 20 to 30 feet wide placed in multiple paver passes, and shall be of the same depth specified for the construction of the course which it represents. If multiple paver passes are not required for the project, then the width shall be that which represents the travelway pull. The underlying grade or pavement structure upon which the Control Strip is to be constructed shall be the same as the remainder of that project course represented by the Control Strip. The equipment used in construction of the Control Strip shall be the same type and weight to be used on the remainder of the course represented by the Control Strip.

One random sample shall be taken at the plant by the Engineer and tested for gradation, PGAB binder content and air voids; these shall be tested for conformance to the requirements below.

Five randomly selected cores shall be taken from the finished pavement mat in the Control Strip, and five from the longitudinal joint, and tested for conformance to the requirements below. Longitudinal density testing is not required for single pass work. Nuclear and non-nuclear density equipment shall be calibrated from the control strip cores for use on the project. Random sampling shall be in accordance with procedures contained in ASTM D3665 and these specifications.

The Control Strip shall be considered acceptable: IF

1) Mat density and longitudinal joint density is achieved at 100% payment;

2) A minimum Pay Factor of 0.90 (CASB 334-8.3) for each quality characteristic of percent passing the #8 sieve, Air Voids, percent passing the #200 sieve and asphalt binder content is achieved and,

3) Asphalt pavement mat is uniform in texture and smoothness;

OR, if the Control Strip is uniform in texture and smoothness, and it conforms to the requirements for mat and longitudinal joint density and plant air voids as detailed above, the Contractor may elect to revise the target JMF within the tolerances allowed in CASB 334.3.3.

If the initial Control Strip should prove to be unacceptable, the necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made, and a second Control Strip shall then be placed.

When the initial Control Strip is unacceptable, but above a Pay Factor of 0.80 (CASB 334-8.3) for all Asphalt pavement quality characteristics and a minimum of 90% Pay Adjustment for mat and longitudinal joint density, and the asphalt pavement mat is uniform in texture and smoothness, it shall be allowed to remain in place and measured for payment under the requirements of CASB 334-8.

Additional Control Strips, as required, shall be constructed and evaluated for conformance to the specifications, until an acceptable Control Strip is constructed. Any Control Strips not meeting the criteria for PAYMENT as noted above shall be removed at the Contractor's expense and will not be measured for PAYMENT. The Engineer reserves the right to bill the Contractor or adjust payment for any testing fees associated with evaluating additional Control Strips that are found to be unacceptable. Full production shall not begin until an acceptable Control Strip has been constructed and approved by the Engineer. All Control Strips allowed to remain in place which are constructed per the project plans on an CASB project shall be paid for in accordance with the Section for Payment under the requirements of CASB 334-8.

Job mix formula quality control testing is to be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the JMF. It should be recognized that the aggregates produced by the plant may not satisfy the gradation requirements or produce a mix that exactly meets the JMF. In those instances, it will be necessary to re-evaluate and re-design the mix using plant-produced aggregates. Specimens should be prepared and the optimum asphalt binder content determined in the same manner as for the original design tests. A revised JMF will need to be submitted and a Control Strip constructed prior to approval and full production. The Control Strip and JMF submittal shall conform to all the specification requirements contained herein.

CASB 334-4.2.2 Surface Preparation: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and dry. Do not place open graded friction course until the adjacent shoulder area has been dressed and grassed.

CASB 334-4.2.3 Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40^0F for layers greater than 1 inch in thickness and at least 45^0F for layers 1 inch or less in thickness including leveling courses. The minimum temperature requirement for leveling courses placed at one-half inch or less is 50^0F**.**

The minimum ambient air temperature requirement may be reduced by 5^0F when using warm mix technology, if mutually agreed to by both the Engineer and the Contractor.

CASB 334-4.2.4 Wind: Do not spread the mixture when the wind is blowing to such an extent that proper and adequate compaction cannot be maintained or when sand, dust, etc. are being deposited on the surface being paved to the extent that the bond between layers will be diminished.

CASB 334-4.2.5 Night Paving: Provide sufficient traffic control and lighting for night operations.

CASB 334-4.3 Asphalt Mix Temperature: Heat and combine the ingredients of the Asphalt mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of 25^0F (single test) from the target JMF temperature. For warm mix asphalt, the Contractor may produce the first five loads of the production day at a hot mix asphalt temperature not to exceed 330^0F for the purposes of heating the asphalt paver. For this situation, the 25^0F tolerance range does not apply to warm mix asphalt.

CASB 334-4.4 Contractor's Responsibility for Mixture Requirements: Produce a homogeneous mixture, free from moisture and temperature and gradation segregation that meets all applicable FDOT specifications and these specification requirements. Apply these requirements to all mixes produced by a drum or batch process and all mixes processed through a hot storage or surge bin, both before and after storage. The Contractor shall use the JMF target values as the indicator of central tendency for the following test parameters with associated Action and Suspension Limit tolerances:

CASB 334-4.4.1 Asphalt Mixture Production Tolerance Limits for Individual Measurements

Sieve Size	Action	Suspension
#4 (4.75 mm) thru 1-1/2" (37.5mm)	±6%	±9%
#8 (2.36 mm)	±5%	±7.5%
#16 (1.18 mm)	±5%	±7.5%
#30 (0.600 mm)	±4%	±5.5
#50 (0.300 mm)	±3%	±4.5
#100 (0.150 mm)	±3%	±4.5
#200 (0.075 mm)	±2%	±3%
Asphalt Binder Content	±0.4%	±0.70%
Design Air Voids	±1%	±1.7%

When evaluating the production limits, the sieve sizes above the maximum size aggregate should be deleted from the Individual Measurements Chart and the maximum size aggregate sieve size Action and Suspension Limits should be changed to 0%.

CASB 334-4.4.2 Production Tolerance Limits for Multiple Measurements Range, or the difference between multiple tests, may be established to indicate production variability for the test parameters and Suspension Limits listed below. The range may be computed as the difference between the high and low test results per Lot for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per Lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Asphalt Mixture Production Limits Based On Range	
(Based on n = 2)	
Sieve	Suspension Limit
#4 (4.75 mm) and Larger Size	11 percent
#8 (2.36 mm)	10 percent
#16 (1.18 mm)	9 percent
#50 (0.30 mm)	6 percent
#200 (0.075 mm)	3.5 percent
Asphalt Binder Content	0.8 percent
Design Air Void Content	2.0 percent

CASB 334-4.4.3 Corrective Action: The Contractor's Quality Control system shall include an appropriate action to be taken when the process is believed to be out of tolerance. The Contractor should review production on a continuous basis making adjustments to the process when necessary to keep the product consistent. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

Design Air Voids falls outside the Suspension Limit line for its individual measurement or range; or

Design Air Voids and two or more points fall outside the Action Limit line for individual measurements or range; or

Design Air Voids fall outside the Action Limit and one point falls outside the Suspension Limit for individual measurements or range; or

Three points in a row fall outside the Action Limit line for individual measurements.

Three nonconsecutive samples out of five fall outside the Action Limit line for individual measurements.

WMA – All metering devices will meet the current state agency requirement for liquid or mineral additives. Document the integration of plant controls and interlocks when using WMA additive metering devices.

CASB 334-4.5 Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck body with soapy water or an approved asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body; therefore dump off on approved areas. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times. Clean out trucks after each paver unloading at approved locations and not on the prepared underlying surface.

CASB 334-4.6 Preparation of Surfaces Prior to Paving:

CASB 334-4.6.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

CASB 334-4.6.2. Patching and Leveling Courses: Where the asphalt mixture is to be placed on an existing pavement which is irregular, wherever the plans or contract documents indicate, or if directed by the Engineer, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

CASB 334-4.6.3 Tack Coat: Contact surfaces of manholes, structures, natural pavement edges, etc. shall be painted with a thin, uniform tack coat just before the material is placed against them.

Tack coat is required on all surfaces to be paved. This includes freshly placed layers of asphalt pavement.

Tack coat shall be applied at a residual binder amount on the pavement between 0.02 to 0.05 gallons per square yard which equates to approximately 0.035 to 0.08 gallons per square yard of applied emulsion. This amounts to a very thin application that needs to be carefully applied by a distributor truck having calibrated nozzles set to provide a triple overlap of spray on the pavement surface. Dribbling emulsion on the surface is not acceptable. Use a non-tracking tack coat (NTSS-1hm) or RS-1h, RS-2, CRS-1h as directed by CASB. This product shall meet the FDOT specifications.

Allow tack coat to break (water escapes from the product) prior to paving.

The Contractor shall apply tack coat in a manner which will prevent traffic from driving on the applied tack coat material.

CASB 334-4.7 Paving

CASB 334-4.7.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the string line, or approved equal, method to obtain an accurate, uniform alignment of the pavement edge.

CASB 334-4.7.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the project. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in CASB 334-4.3, the Contractor may then place the asphalt mixture caught in transit.

CASB 334-4.7.3 Speed of Paver: For Work Category 3 projects, the Contractor is required to balance the paving operation from plant to trucks to paver to rollers such that a smooth and uniform surface is achieved. The Contractor's CTQP Paving Level II technician in charge of the paving operations must be physically accessible to the Engineer at all times when placing mix.

CASB 334-4.7.4 Checking Depth of Layer: Check the depth of each layer at frequent intervals, and make adjustments when the thickness exceeds the allowable tolerance. Nominal compacted depth will be determined by using yield calculations with known bulk specific gravity values from the plant.

CASB 334-4.7.5 Placement: Upon arrival, the mixture shall be placed to the full width by an asphalt paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 10 feet except where edge lanes require less width to complete the area. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot, however, the

joint in the top layer shall be at the centerline of the pavement. Transverse joints in one layer shall be offset by at least two (2) feet from transverse joints in the previous layer. The elevation of the screed above the surface of the first mat should be equal to the amount of roll-down expected during compaction of the new mat. The overlapped material shall be bumped by the lutes, if necessary, to optimize the density along the longitudinal joint. Under no circumstances should the overlapped material be broadcast across the mat. Excess material should be removed by hand and returned to the screed. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet. The end gate of the unsupported edge should be lowered when applicable to provide confinement at the longitudinal joint. The Contractor is encouraged to use joint making attachments to provide for better longitudinal joint construction and density.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. For pavement widths of 10 feet to 4 feet, the Contractor shall use paving machines including sidewalk width machines, if applicable, for narrow width paving. When hand spreading is permitted, the mixture shall be distributed into place by means of hot shovels and spread with lutes in a loose layer of uniform density and correct depth. The use of rakes to spread the asphalt mixture shall not be permitted. Loads shall not be dumped any faster than they can be properly handled by the shovelers and the shovelers shall not distribute the dumped load any faster than it can properly be handled by the luters. The luting shall be carefully and skillfully done to avoid segregation and so that, after the first passage of the roller over the luted mixture, no back patching will be necessary. Compaction must immediately follow hand spreading such that specification density is achieved while the mixture temperature is above the manufacturers recommended compaction temperature for the performance graded binder.

The mixtures shall be placed and compacted only at such times as to permit the proper inspection and checking by the Engineer.

The mixtures shall only be placed in the work when they can be efficiently and satisfactorily placed, compacted, smoothed and made uniform in accordance with these specifications. Unless otherwise permitted by the Engineer for special particular conditions, only machine methods of placing shall be used.

Immediately after any course is screeded and before roller compaction is started, the surface shall be checked, any irregularities adjusted, any accumulation from the screed removed by lute, and all fat spots in any course removed and replaced with satisfactory materials. Irregularities in alignment and grade along outside edges shall be corrected by the addition or removal of mixture before the edges are rolled. Indiscriminate casting of mix on the new screeded surface, where irregularities are not evident, shall not be permitted.

CASB 334-4.7.6 Thickness of Layers: Construct each course of asphalt pavement in layers of the compacted thickness as given within the Contract Documents.

CASB 334-4.7.7 Leveling Courses: Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by either shim patch, partial patch or full depth patch as determined by the Engineer. Place all courses of leveling with an asphalt paver or device approved by the Engineer. On bridge decks or concrete pavement, remove excess crack and joint material by trimming the excess material flush with the pavement surface prior to placing the first layer of the leveling course. No excess joint or crack material shall be on top of the pavement surface in excess of 1/16 inch in depth.

CASB 334-4.8 Compaction:

CASB 334-4.8.1 Rollers: Rollers of the vibratory, steel wheel, oscillatory, and pneumatic-tired type may be used. They shall be in good condition, capable of reversing direction without backlash, and operating at slow speeds to avoid displacement of the hot mix asphalt. Static rollers shall be operated at speeds not to exceed 3 mph and vibratory rollers shall be operated at a minimum of 10 to 12 impacts/ft. in vibratory mode. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.

The use of equipment which causes excessive crushing of the aggregate or that which does not produce a smooth, dense and uniform mat will not be permitted.

The Contractor shall exercise great caution when using vibratory rollers so as not to cause damage to buried infrastructure or adjacent infrastructure. Damage to buried or adjacent infrastructure will be the responsibility of the Contractor. The Oscillation type rollers and vibratory pneumatic rollers are acceptable for use for compaction rolling.

CASB 334-4.8.2 Compaction after Placement: The mixture shall be thoroughly and uniformly compacted by rolling. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. Rolling shall be initiated with the drive roll or wheel towards the paving machine. When rolling on steep grades, the previous procedure may need to be altered.

The speed of the roller shall, at all times, be sufficiently slow and of uniform speed to avoid displacement of the asphalt mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained. The number of rollers and passes required shall be governed by the compaction results; however, at least two, minimum ten (10) ton rollers, shall be provided for each paver employed on the paving operation. Each roller shall be operated by a competent, experienced roller operator and shall be kept in as nearly continuous operation as practicable while work is underway. A plate shall be attached to each roller showing the ballasted and unballasted weight per lineal-width of drum.

To prevent adhesion of the mixture to the roller, the drums or wheels shall be kept properly moistened, cocoa mats kept clean and scrapers used, but excessive water will not be permitted. Pneumatic rollers are to be used in the intermediate zone.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with hand tampers and vibratory plate compactors.

Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

Along any adjoining edge such as curb, gutter or an adjoining pavement, and after the asphalt mixture is placed by the paver, just enough of the asphalt mixture shall be placed by hand method to fill any space left open. These joints shall be properly 'set up' with the back of a lute at the proper height and level to receive the maximum compaction. Any areas where the rollers cannot access shall be hand tamped or plate compacted.

CASB 334-4.9 Joints: The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade. When abutting a previously placed lane, the longitudinal joint should be rolled first followed by the regular rolling pattern.

CASB 334-4.9.1 Transverse Joints: The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse paving joint. When necessary to form a temporary transverse paving joint, it shall be made by means of placing a bulkhead or by temporarily tapering the course, in which case the edge shall be cut back to its full depth and width on a straight line to

expose a vertical face. In both methods, all contact surfaces shall be given a tack coat of asphaltic material before placing any fresh mixture against the joint. Tack coat shall be applied to the full vertical surface of the joint at a minimum application rate of 0.035gals/sy. The mixture within one foot of the constructed joint shall be compacted to an in-place density of between 90.0% and 98.0% of the average maximum theoretical specific gravity.

All sawcut paving joints and construction joints formed in the surface courses at intersecting streets, walks and drives, shall be cleaned and tack coated. Tack coat shall be applied to the full vertical surface of the joint at a minimum application rate of 0.035gals/sy.

CASB 334-4.9.2 Longitudinal Joints: For all layers of pavement except leveling course, place each layer so that longitudinal construction joints are offset 12 inches laterally between successive layers or as directed by the Engineer. Do not construct longitudinal joints in the wheelpaths. Longitudinal joints which are not straight, or are damaged or otherwise defective shall be cut back to expose a clean, sound surface for the full depth of the course and all contact surfaces shall be given a tack coat of approved asphaltic material prior to placing any fresh mixture against the joint. A minimum application rate of 0.035gals/sy of tack coat must be applied to all longitudinal joints prior to placing the abutting mixture when the joint temperature is less than 175°F.

(a) Longitudinal Joints – Notch Wedge: For placement depths greater than or equal to 1-1/2", use a notched wedge plate attachment on the screed such as the Trans Tech notch wedge assembly, or approved equal. The attachment must provide, for the first paver pass, a ½" notch at the top of the wedge, followed by a diagonal slope down to the underlying surface where a step is formed equal to the nominal maximum aggregate size. The width of the joint shall be a minimum of 6 inches. The attachment will include a mechanism to provide compaction of the sloped surface of the notched wedge. If no mechanism exists in the attachment, the diagonal shall be compacted by other means satisfactory to CASB. The subsequent paver pass will place mix at a depth equal to the lane being matched, plus the appropriate roll-down, to result in a fully compacted joint meeting the smoothness and compaction requirements of these specifications.

(b) Longitudinal Joints – Straight Wedge: For non-leveling placement depths less than 1-1/2 inches, us a straight wedge plate attachment on the screed such that the asphalt mixture is placed at the specification depth at the top of the diagonal wedge followed by a diagonal slope down to the underlying surface. The width of the joint shall be a minimum of 6 inches.

(c) Longitudinal Joints – Confined Edge – For leveling courses, use a conventional confined-edge longitudinal joint. This is the most typically constructed longitudinal joint in the past which attempts to confine the outside edge of the first paver pass of the mat as much as possible to create a near vertical edge.

CASB 334-4.10 Surface Requirements: Construct a smooth pavement with good surface texture, friction and the proper cross-slope.

CASB 334-4.10.1 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, checking, sand streaks, sand spots, waves or ripples. Waves and ripples are best evaluated at night looking toward headlights. The mat shall be smooth, dense and uniform. Uniformity is generally affected by segregation. Gradation segregation can be identified by the separation of the coarse and fine aggregate fractions. Gradation segregated areas will have surface textures either coarser or finer than the texture in a non-segregated area. If segregation, whether gradation or thermal, is evident and discernable by either the Contractor or the Engineer, the Contractor shall immediately take steps to correct and eliminate the cause(s) of the segregation to the satisfaction of the Engineer.

The Contractor shall review all potential causes of segregation as it relates to its operation, including but not limited to plant production and storage, loading and transportation, paver/equipment, placement and/or handwork. The Contractor shall employ additional investigation methods and make the necessary changes in their operation such that segregation is eliminated and mat uniformity is acceptable.

At the Engineer's discretion, the Engineer may obtain two (2) six inch diameter cores from the identified (segregated) area and two (2) six inch diameter cores from the non-segregated area. The cores may be evaluated for resilient modulus, dry tensile strength, change in air voids, maximum in place air voids, aggregate gradation and binder content. The results of the data obtained on the cores from the segregated area will be compared to the results of tests performed on the cores from the non-segregated area.

If any mix property is beyond the tolerance limits stated in the table below, that area shall be considered segregated and shall be removed and replaced by the Contractor.

SEGREGATION LIMITS

Change in Mix Properties Expressed as a Percentage of the Properties in the Non-Segregated Areas	
Property	**Limits**
Resilient Modulus, psi @ 77°F	<80%
Dry Tensile Strength, psi @ 77°F	<90%
Aggregate Gradation and Binder Content	Refer to CASB 334-4.10.2
Change in Air Voids	>2.5%

CASB 334-4.10.2 Limits For Asphalt Mixture Gradation Uniformity Properties

Sieve Size	**Percent Passing**
#4 (4.75 mm) and Larger	±6%
#8 (2.36 mm)	±5%
#16 (1.18 mm)	±5%
#30 (0.600 mm)	±4%
#50 (0.300 mm)	±3%
#100 (0.150 mm)	±3%
#200 (0.075 mm)	±2%
Asphalt Binder Content	±0.4%
Design Air Voids	±1%

The samples for the segregation analysis will be considered separately from the mat and joint cores tested for acceptance.

Segregated areas not meeting the requirements stated above or pavement mat areas having more than 10% in-place air voids shall be removed and replaced for the entire pavement thickness and lane width, and be paver-machine placed, or as directed by the Engineer. All corrective methods shall be performed at the Contractor's expense. The removal areas shall begin and end with a transverse butt joint located a minimum of 50 feet on either side of the defective area for the full width of the paving lane, which shall be constructed with a transverse saw cut perpendicular to the centerline. The corrective area shall conform to all grades, smoothness, material, and density specification requirements. The Engineer may retest any areas where corrections were made to verify that the material meets specification requirements.

Correct any area of the surface that does not meet the foregoing requirements in accordance with CASB 334-4.10.5.

CASB 334-4.10.3 Cross Slope: For all Work Category projects, construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents. For Work Category 3 projects, furnish a level with a minimum length of 4 feet or a digital measuring device approved by FDOT for the control of cross slope. Make this level or measuring device available at the jobsite at all times during paving operations. Utilize electronic transverse screed controls on the paving machine (unless otherwise directed by the Engineer) to obtain an accurate transverse slope of the pavement surface.

CASB 334-4.10.3 (a): Contractor Quality Control Requirement- Cross Slope: For Work Category 3 projects, measure the cross slope of the pavement surface by placing the measuring device perpendicular to the roadway centerline. Report the cross slope to the nearest 0.1%. Record all the measurements on an approved form and submit to the Engineer for documentation. Measure the cross slope at a minimum frequency of one measurement every 100 feet during paving operations to ensure that the cross slope is uniform and meeting existing grades. Engineer shall verify Contractor cross slope measurements by random checks during Contractor tests. When the cross slope is consistently within an acceptable range, upon the approval of the Engineer, the frequency of the measurements can be reduced to one every 250 feet during paving.

CASB 334-4.10.4 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving.

CASB 334-4.10.4 (a) Work Categories 1: If required by the Engineer, straightedge the final structural layer with a manual straightedge, either behind the final roller or as a separate operation. Correct all deficiencies in excess of 3/8 inch in accordance with CASB 334-4.10.5. Retest all corrected areas. If the Engineer determines that the deficiencies are due to field geometrical conditions, the Engineer may waive corrections.

CASB 334-4.10.4 (b) Work Categories 2: Straightedge the final structural layer with a manual straightedge for parking lots, drives, trails, and with a rolling straightedge for other facilities, or as directed otherwise by the Engineer, either behind the final roller or as a separate operation. Correct all deficiencies in excess of 3/8 inch in accordance with CASB 334-4.10.5. Retest all corrected areas. If the Engineer determines that the deficiencies are due to field geometrical conditions, the Engineer may waive corrections.

CASB 334-4.10.4 (c): Work Category 3: Straightedge the final structural layer and friction course layer with a rolling straightedge. Test all pavement lanes and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing. Correct all deficiencies in excess of 3/16 inch for structural layers and friction course layers in accordance with CASB 334-4.10.5.

Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side roads. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with CASB 334-4.10.5. The Engineer may waive or modify straightedging requirements if no milling, leveling, overbuild or underlying structural layer was placed on the project and the underlying layer was determined to be exceptionally irregular.

CASB 334-4.10.4(d): Contractor Quality Control Requirement-Smoothness

For Work Category 3 only, straightedge all intermediate layers, final structural layers and friction course layers as necessary to construct a smooth pavement. On roadways with a design speed 50 miles per hour or greater, when an intermediate layer will be opened to traffic, straightedge the pavement with a rolling straightedge and correct all deficiencies in excess of 3/8 inch within 72 hours of placement, unless directed otherwise by the Engineer. Correct all deficiencies in accordance with CASB 334-4.10.5.

Straightedge the final structural layer with a rolling straightedge, either behind the final roller or as a separate operation. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations. Correct all deficiencies in excess of 3/16 inch in accordance with CASB 334-4.10.5, and retest the corrected areas.

Straightedge the friction course layer with a rolling straightedge, either behind the final roller or as a separate operation. The Engineer will verify the straightedge testing by observing the Quality Control

straightedging operations. Correct all deficiencies in excess of 3/16 inch in accordance with CASB 334-4.10.5, and retest the corrected areas.

CASB 334-4.10.5 Correcting Unacceptable Pavement

CASB 334-4.10.5 (a): General: Correct all areas of unacceptable pavement at no additional cost.

CASB 334-4.10.5 (b): Structural Layers: Correct deficiencies in the structural layer by one of the following methods:

1. Saw cut, remove and replace the full depth of the layer, extending a minimum of 50 feet on either side of the defective area for the full width of the paving lane.
2. Mill the pavement surface to a depth and width that is adequate to remove the deficiency. (This option only applies if the structural layer is not the final surface layer).

CASB 334-4.10.5 (c): Friction Course: Correct deficiencies in the friction course layer by saw cutting, removing and replacing the full depth of the layer, extending a minimum of 50 feet on either side of the defective area for the full width of the paving lane. Corrections may be waived if approved by the Engineer.

CASB 334-4.11 Protection of Finished Surface: Keep sections of newly compacted pavement, which are to be covered by additional courses, clean until the successive course is laid. Do not dump embankment or base material directly on the pavement. Dress shoulders before placing the friction course on adjacent pavement.

Equip blade graders operating adjacent to the pavement during shoulder construction with a 2 x 8 inch or larger board, or other attachment providing essentially the same results, attached to their blades in such manner that it extends below the blade edge in order to protect the pavement surface from damage by the grader blade.

To prevent rutting or other distortion, protect sections of newly finished asphalt pavement from traffic until the asphalt mixture temperature has cooled below 160^0F.

The Contractor may use artificial methods to cool the pavement to expedite paving operations.

CASB 334-5 CONTRACTOR QUALITY CONTROL

CASB 334-5.1 General: The Contractor assumes the responsibility of the quality for all materials and construction incorporated into the work and will control all the processes leading to the final result through this function. Quality Control activities include:

Maintain a Contractor Quality Control System;

Proficiency testing prior to production with Engineer;

Inspection and Testing of Asphalt Production;

Inspection and Testing of Asphalt Placement

The Contractor shall establish and maintain a Quality Control System (QCS) that will detail the methods and procedures that will be taken to assure that all materials and completed construction conform to project specifications, plans, technical specifications and other requirements, whether manufactured or processed by the Contractor or procured from subcontractors or vendors.

CASB 334-5.1.1 Lots & Quality Control Requirements

Quality Assurance Requirements	**Work Category 1**	**Work Category 2**	**Work Category 3**
	< 300 tons	**≥ 300 tons, but < 2000 tons**	**≥ 2000 tons**
QC Plan Required:	See Note 1	See Note 1	Yes
Contractor QC Inspection Required:	NO See Note 2	YES	YES
Contractor QC Testing Required:	NO See Note 2	YES See Note 2	YES See Note 2
Control Strip Required:	NO	NO	See Note 3
Production Trial Required:	NO	NO	See Note 3
Control Charts Required:	NO	NO	YES
Cross-Slope Measurements(5)	NO	YES	YES
Smoothness Measurements(6)	NO	YES	YES
Quality Level Analysis Required:	NO	NO	NO
CASB Acceptance Inspection & Testing Performed:	YES	YES	YES
QC Test Results included in Acceptance Determination:	NO	NO See Note 4	NO See Note 4
CASB Pay Adjustment Applied:	YES	YES	YES

Note 1: If all Lots fall under Category 1 and 2, then a QC Plan is not required. However, if any Lots on the project fall under Category 3, then any Category 1 or 2 Lots must be addressed in the QC Plan.
Note 2: On all Work Categories, Contractor to submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications, along with supporting test data documenting all QC available.
Note 3: If Contractor has not produced and placed JMF as designed for this CASB project, then a production trial and control strip will be required, unless directed otherwise by Engineer.
Note 4: Visual Acceptance will be determined using Contractor QC cross slope and smoothness testing.
Note 5: Cross Slope measurements – see CASB 334-4.10.3
Note 6: Smoothness measurements – see CASB 334-4.10.4

CASB 334-5.2 Control Charts: If applicable, the Contractor shall develop production control charts and post them in the testing laboratory. The control charts shall identify the project number, the contract item number, the test number, each test parameter, the Target and Specification Limits applicable to each test parameter, and the test results. Upper and lower Control Chart limits for statistical Control Charts are encouraged but not required. If the project data during production indicates a problem and the Contractor is not taking satisfactory corrective action as is their responsibility under quality control, then the Engineer may suspend production or acceptance of the material, in accordance with these specifications.

CASB 334-5.2.1 Corrective Action: The Contractor's Quality Control system shall include an appropriate action to be taken when the process is believed to be out of tolerance. The Contractor should review the control charts on a continuous basis making adjustments to the process when necessary to keep the product consistent as per CASB 334-4.4.

CASB 334-5.3 Field Quality Control: For Work Category 2 and 3 projects, maintain a qualified CTQP Asphalt Paving Level II technician on the project at all times when placing asphalt mixtures for CASB, and perform all QC field testing with a CTQP Asphalt Plant Level I technician. As an exception, measurements of cross-slope, temperature and yield can be performed by someone under the supervision of a CTQP Paving Level II technician.

CASB 334-6 QUALITY ACCEPTANCE

CASB 334-6.1 General: CASB, or Engineer, will perform the Quality Acceptance function for this work. All material will be considered for acceptance through a sampling, testing and inspection program performed by CASB or their authorized agent. Quality Acceptance activities include unless directed otherwise by the Engineer:

Proficiency testing prior to production with Contractor;

Inspection of Asphalt Production Plant and Testing Laboratory;

Production Trials of Asphalt Pavement Products Intended For Use in CASB;

Inspection/Testing for Acceptance of Asphalt Production;

Inspection/Testing for Acceptance of Asphalt Placement;

Quality Acceptance Daily Inspection Report of Activities

All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor, unless otherwise stated herein. Testing organizations performing these tests shall meet the requirements of ASTM D 3666. All equipment in Contractor furnished laboratories shall be calibrated and verified by a testing organization prior to the start of operations. Such verification/certification shall be furnished to the Engineer prior to production. Engineer's testing and inspection personnel shall be certified by a state or regional Qualification/Certification Program meeting the requirements of the Code of Federal Regulations, 23 CFR, Part 637, Quality Assurance (QA) Procedures for Construction. This function does not relieve the Contractor from performing their daily quality control tasks as part of their normal operating business. For any test result dispute, the Contractor shall notify the Engineer in writing within 48 hours after receiving the test results. The notification shall describe the issue and include the data under dispute.

The Engineer or their agent shall have access at any time to all parts of the producing plant for:

Inspection of the condition and operations of the yard, plant and laboratory.

Confirmation of the adequacy of equipment in use.

Verification of the character and proportions of the mixture.

Verification of the stockpile location and RAP proportions

Determination of temperatures being maintained in the preparation of the mixtures.

Inspection of incidental related procedures.

Samples of all material including compacted specimens and certified copies of all reports and printouts shall be made available to the Engineer or its agent as often as requested including: asphalt binder; recycling agents; virgin aggregates; reclaimed pavement materials; anti-strip agents, modifiers, loose and compacted mixture specimens; and combined aggregate samples.

CASB 334-6.1.1: Acceptance Sampling and Testing of Lots

Quality Characteristic	Test Method[6]	Sublot Size[8]	Minimum Test Frequency	Point of Sampling	Sampling Method
PG Asphalt Binder Grading	AASHTO M320	N/A	1 per project per binder grading	From Tank Valve at Plant and/or CTR[1]	Selective
PG Asphalt Binder Content	FM 5-563 AASHTO T164	300 tons[2]	1 per Sublot sampled [2]	From Haul Vehicle at Plant	Random
Volumetrics: Air Voids	FM 1-T245 FM 1-T209[10]	300 tons[2]	1 per Sublot sampled [2]	From Haul Vehicle at Plant	Random
Combined Agg. Gradation for– Pass #8 & #200	FM 1-T030	300 tons[2]	1 per Sublot sampled [2]	From Haul Vehicle at Plant	Random
In-place Mat Density (by gauge)	AASHTO T269 FM 1 T209[10] FM 1-T166, or T275 or T331 T68, FM 1-T 238	2000 lineal feet[4] of paver pass. See CASB 334-6.3.1	5 per Sublot sampled [4]	From Compacted Course	Random
In-place Long.Joint Density (same Lot)(by gauge)	AASHTO T269 FM 1-T209[10] FM 1-T166, or T275 or T331,T68, FM 1-T 238	2000 lineal feet[4] of Long. Joint	5 per Sublot sampled [4]	see Note (9)	Random
Thickness [5]	Yield Calculation	2000 lineal feet[4] of paver pass	5 per Sublot sampled[4]	From Compacted Course[5]	Inclusive
Smoothness	Per FDOT and CASB specifications	2000 lineal feet[7] of paver pass	Total project length	Each Pavement Course	Inclusive
Cross Slope	Per FDOT and CASB specifications	2000 lineal feet[7] of paver pass	Total project length	Each Pavement Course	Inclusive

Note (1): CTR – Certified Test Report

Note (2): In the event that the total daily production is less than one Sublot for all Work Category projects, a minimum of one random Acceptance sample shall be obtained for the day's production. Volumetrics are not required for open-graded friction courses. For Lot sizes greater than 900 tons, maximum number of Sublots shall be limited to three (3) per day therefore requiring Sublot sizes to be increased accordingly.

Note (3): Density on bridge decks will be by nuclear or non-nuclear density gauges correlated with cores from control strip or mixture placed on non-bridge deck facilities. TMD will be from asphalt material as produced for the facility.

Note (4): In the event that the total day's placement is less than one Sublot for all Work Category projects, obtain a minimum of 5 density tests (or 5 tests for bridge course) per pavement facility. For Lot sizes greater than 6000 lineal feet of one paver pass, maximum number of Sublots shall be limited to three (3) per day therefore requiring Sublot sizes to be increased accordingly.

Note (5): Thickness determination for pavement and bridge decks will be based upon nominal compacted thickness from yield computations using the Bulk Specific Gravity from asphalt mixture material as produced for the facility.

Note (6): Test Methods will be under the requirements of FDOT FM methods unless otherwise stated within these specifications.

Note (7): Visual Acceptance will be determined using Contractor QC Cross-slope and Smoothness testing for Work Category 2 and 3 projects. Engineer to determine Acceptance for Work Category 1 projects.

Note (8): If the asphalt mixture quantity at the end of a Lot is equal to or greater than one half of a full Sublot, then such quantity shall be identified and evaluated as a separate Sublot. If the asphalt mixture quantity at the end of a Lot is less than one half of a full Sublot, then such quantity shall be combined with the previous full Sublot quantity and shall be identified and evaluated as the final Sublot.

Note (9): Leveling courses – no density requirement. Straight wedge or notch wedge longitudinal joints: - Density shall be taken on the wedge portion of the joint with the sample/test centered on the joint.

Note (10): The initial lot (three G_{mm}) for each material shall be utilized to determine a correction factor for each material (each JMF). Verification of the correction factor may be determined by the Engineer if necessary after every 10 lots by using three G_{mm} tests.

CASB 334-6.2 Plant-Produced Material: Plant-produced material shall be sampled and tested for VMA, percent passing the #8 and #200 sieves, asphalt binder content, and air voids at N_{design} on a Lot basis. Sampling shall be from material deposited into trucks at the plant or from trucks at the job site. A Lot will consist of:

- one day's production (24-hours)

Where more than one plant is simultaneously producing material for, the job, the Lot sizes shall apply separately for each plant.

CASB 334-6.2.1: Sampling: Each Lot will be divided into 300 ton Sublots. The minimum Sublots in a Lot shall be 1, the number of Sublots in a Lot will not exceed 3. In the event that production is expected to exceed 900 tons total for the Lot, the Lot shall be divided into 3 equal Sublots. Sufficient material for analysis and preparation of test specimens will be sampled by the Engineer on a random basis, in accordance with the procedures contained in ASTM D 3665. One set of laboratory compacted specimens will be prepared for each Sublot in accordance with AASHTO T312, at the required number of gyrations. Each set of laboratory compacted specimens will consist of two test portions prepared from the same field sample, with the volumetric analysis based on the average of the two gyratory specimens and a minimum of one theoretical maximum specific gravity sample.

The sample of hot mix asphalt may be put in a covered metal tin and placed in an oven for one hour $\pm$ five (5) minutes at the target roadway compaction temperature. The compaction temperature of the specimens should be as specified in the JMF.

In addition to the asphalt mixture samples, the Contractor shall take one, one-quart sample of the PG binder, per grade, used to produce the asphalt mixture at the start of the work. The PG sample shall be turned over to the Engineer on the first day of project production.**CASB 334-6.2.2 Testing**

Bulk Specific Gravity - Sample specimens shall be tested for bulk specific gravity in accordance with AASHTO T166 or T275, whichever is applicable, for use in computing air voids and density. Air voids will be determined in accordance with AASHTO T269.

Gradation and Asphalt Binder Content - The gradation and asphalt binder content of the mixture shall be measured for each Sublot in accordance with the following:

> Asphalt Binder Content (FM 5-563 Ignition Oven) - Extraction tests shall be performed once per Sublot in accordance with AASHTO T164 or FM 5-563 for determination of asphalt content. The weight of ash portion of the extraction test, as described in AASHTO T164, shall be determined as part of the first extraction test performed at the beginning of plant production. If utilizing FM 5-563 for asphalt content determination, the calibration process and calibration factor, as described in FM 5-563, shall be determined as stated, prior to acceptance testing.
>
> Gradation (FM 1-T030) - Aggregate gradations shall be determined once for each Sublot from mechanical analysis of extracted aggregate in accordance with FM 1-T030. Asphalt mixtures will be evaluated for gradation acceptance based upon the percent passing the #8 and the #200 sieves.

The Dust-to-Effective Asphalt ratio shall be determined once for each Sublot from the mechanical analysis of extracted aggregate and the asphalt binder content. The Dust-to-Effective Asphalt ratio shall be determined by the Engineer in accordance with AASHTO R35.

The Theoretical Maximum Specific Gravity (FM 1-T209) - Samples shall be taken for each Sublot on a random basis in accordance with ASTM D 3665. The initial lot (three G_{mm}) for each material shall be utilized to determine a correction factor for each material (each JMF). Verification of the correction factor may be determined by the Engineer if necessary after every 10 lots by using three G_{mm} tests. Use 62.245 $\#/ft^3$ at water temperature of 77^0F for conversion from specific gravity to density.

Temperatures. Temperatures shall be checked, at least three times per Lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the mixture at the plant, and the mixture at the job site.

Voids in Mineral Aggregate (VMA), for each plant sample, will be determined by the Engineer in accordance with AASHTO T 312-04 and R35. The VMA, and air voids for each Sublot shall be computed by averaging the results of the two test specimens representing that Sublot.

CASB 334-6.2.3: Acceptance of Plant Produced asphalt mixtures: Acceptance of plant produced material will be based upon plant air voids, VMA, percent passing the #8 and #200 sieves, asphalt binder content, and temperature, and shall be determined by the Engineer in accordance with these specifications. Pay Factors will be used for asphalt binder content, percent passing the #8 and #200 sieve, and plant air voids. Incentive and disincentive Pay Factors are available for product quality based upon the results from either one, two or three Sublots.. The target for the asphalt binder content and the % passing the #8 and #200 sieve, will be the approved JMF design. The target for the plant mixture air voids will be 4.0%.

CASB 334-6.2.3(a) PG Binder Verification: CASB may randomly test asphalt mixtures from the production plant, storage silos, or project paving site to determine the quality of the PG binder. For non-modified binder mixtures, the Abson extracted (AASHTO T170) binder high temperature DSR will be compared to the original binder RTFO high temperature DSR. If the mixture Dynamic Shear (DSR), G*Sin Delta, is less than a minimum value of 2.20 kPa, production will be suspended and the extent of the problem will be further evaluated; full PG binder test verification will be run for conformance to the PG grade specified. For modified asphalt binder mixtures, a full PG binder test verification will be run for conformance to the PG grade specified. Failure of the PGAB to conform to specification requirements may be cause for rejection of the Lot. Further PGAB tests may be conducted on previous Lots; all costs for the

PGAB tests will be the responsibility of the Producer if the results do not meet project specifications for PGAB recently placed.

CASB 334-6.3 Field-Placed Material: Asphalt Pavement material placed in the field shall be accepted based upon tests for mat and same Lot longitudinal joint density, computed thickness, smoothness, cross-slope and uniformity on a completed roadway or pavement facility on a per Lot basis. A Lot will consist of:

- one day's production (24-hours)

The Engineer may conduct related testing to monitor the specified thickness, density, uniformity and smoothness. Either a properly correlated nuclear gauge shall be used to monitor the pavement density in accordance with ASTM D2950 or a properly correlated non-nuclear density gauge shall be used to monitor the pavement density in accordance with AASHTO TP68, unless otherwise directed by the Engineer. Monitoring density by either gauge type by the Engineer does not imply acceptance or rejection; the Contractor is ultimately responsible to meet the requirements of the specification.

CASB 334-6.3.1: Sampling: Mat and longitudinal joint density tests will be located by stratified random sampling methods for each roadway or pavement facility paved within 24 hours of construction. Each Lot shall be divided into Sublots of 3000 lineal feet. The minimum number of Sublots in a lot shall consist of 1, the number of Sublots in a Lot shall not exceed 3. In the event that production is expected to exceed 9000 lineal feet total for the Lot, the Lot shall be divided into 3 equal Sublots. Core samples, if applicable, shall be removed by the Contractor under the observation of the Engineer. For facilities constructed without a longitudinal joint, the length of the paver pass will be divided into Sublots for sampling and testing purposes. For facilities constructed with longitudinal joints, the length of the longitudinal paving joint will be divided into Sublots for sampling and testing purposes. If more than one longitudinal joint is formed on a roadway or pavement facility, then the random sample length will be the total lineal feet of longitudinal joint placed. A mat and longitudinal joint test will be located by the Engineer randomly from each of these Sublot intervals. Sublots for each density quality characteristic will be determined on the basis of 3000 lineal feet of paver pass for the mat, or longitudinal joint for joint density, with five density tests for mat and five density tests for joint, if applicable.

For *roadway pavements*, using stratified random sampling procedures, the transverse offset will be determined by the total width of the newly paved *roadway* surface, edge to edge, at the longitudinal Sublot location. A transverse offset distance from the centerline of the roadway will be established for mat density sampling and testing. The location for the transverse offset within each Sublot for roadways, either right or left of centerline, will be based on whether a random number is "odd or even" (odd=left; even=right). For pavements without a longitudinal joint, the transverse offset will be based off of the right paver edge.

For *non-roadway pavement facilities or facilities having more than one longitudinal paving joint construction*, the paver screeded width per paver pass will be used to determine the transverse offset within each Sublot using one constant direction from the longitudinal joint. When the offset location is within 1 foot of the pavement edge, curb, longitudinal joint, catch basin, structure, or within 10 feet of a transverse joint, the test shall be relocated by moving the offset by 2 feet (10 feet if within 10 feet of a transverse joint).

Core samples, when required, shall be neatly cut with a core drill. The Engineer shall locate the cores, observe the sampling and take possession of the cores after removal. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be 6 inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples and patching the cored pavement under the observation and direction of the Engineer. Cored holes shall be filled by the Contractor within one day after sampling using compacted lifts of asphalt mixture or proprietary cold patch such as UPM from Unique Pavement Materials, or equal. The top area of the patched core shall receive a coat of emulsion.

CASB 334-6.3.2: Testing: Mat and same Lot longitudinal joint density will be tested for each roadway or pavement facility within 24 hours of placement. If applicable, the bulk specific gravity of each cored sample will be measured by the Engineer in accordance with AASHTO T166 or T275, whichever is applicable. The theoretical maximum specific gravity shall be measured once for each Sublot in accordance with these specifications. The theoretical value used for the percent density determinations shall be the average of the daily Sublot measurements for maximum specific gravity as determined by section 334-6.2.2. When daily Sublot measurements are not available, the average of the previous five (5) laboratory measurements for that mix, or if unavailable, the JMF target theoretical. If applicable, the percent density of each sample will be determined in accordance with AASHTO T269, using the bulk specific gravity and the average theoretical maximum specific gravity.

CASB 334-6.3.3: Acceptance of Field Placed Asphalt Pavement: Acceptance of field placed asphalt mixtures will be based upon tests for mat and same Lot longitudinal joint density, computed thickness, smoothness, cross-slope and uniformity on a completed roadway or pavement facility and shall be determined by the Engineer in accordance with these specifications. Pay Factors will be used for mat and same Lot longitudinal joint density. Incentive and disincentive Pay Factors are available for product quality based **CASB 334-8.3.**

CASB 334-6.4: Individual Test Tolerances: In the event that an individual test result of a Sublot for plant mixture air voids or for the average Sublot mat density or for the average Sublot longitudinal joint density (same Lot) does not meet the requirements of the table below, terminate the Lot and stop production of the mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. For suspended production, the Contractor shall go on Trials unless otherwise directed by the Engineer; see CASB 334-6.5. For suspended placement, the Contractor shall construct a Suspension Control Strip unless otherwise directed by the Engineer; see CASB 334-6.6. Address any material represented by the failing test result in accordance with CASB 334-6.7.

In the event that an individual test result of a Sublot for gradation or PGAB binder content does not meet the requirements below, take steps to correct the situation and report actions to the Engineer.

In the event that three consecutive individual test results (for the same material quality characteristic) for gradation or PGAB binder content, do not meet the requirements below, terminate the Lot and stop production of the mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Address any material represented by the failing test result in accordance with CASB 334-6.7.

In the event that there is a dispute regarding the nuclear or non-nuclear density results, the parties will agree to re-correlation to all of the original cores taken on the original control strip. Take 4 density readings around quarter points of each control strip core using two test increments for each of the 4 quarter point density tests. Establish a correlation for the QC and the Engineers gauge. Repeat the testing by both parties on the subject project Sublot(s) and average all readings to arrive at a density reading.

Any Lot terminated under this subarticle will be limited to a maximum Pay Factor of 1.00 (as defined in CASB 334-8.3) for each quality characteristic.

Master Production and Placement Range

CHARACTERISTIC	TOLERANCE(1)
% PGAB Binder Content	JMF Target +/- 0.55
% Passing #8 Sieve	JMF Target +/- 5.50
% Passing #200 Sieve	JMF Target +/- 1.50
% Plant Air Voids	2.30 – 6.00
In-Place Mat Density, $\%G_{mm}$(2), (minimum)	91.00
In-Place Longitudinal Joint Density(3), $\%G_{mm}$(2) (minimum)	90.00

Note (1): Tolerances for sample size of n=1 from the JMF
Note (2): Based on an average of 5 randomly located tests
Note (3): Same Lot

CASB 334-6.5: Trials: If production is suspended due to asphalt plant quality problems, the Contractor shall be required to produce material on a Trial basis for testing purposes without shipment to the project. No payment will be made for material and labor employed for nonconforming plant Trials or Trail mixes not used in the project. The Contractor shall pay for any acceptance sampling and testing for the Trials necessary to determine conformance with the specification requirements during production suspension. When Trials have been approved, the plant will return to its normal operation.

Failure to stop production and make adjustments under the requirements of CASB 334-6.4, and not meeting the specified requirements, shall subject all mix from the stop point to the point when the next individual test is back on or within the Master Production and Placement Range, or to the point when production is actually stopped, whichever occurs first, to be considered unacceptable. This material shall be removed and replaced with materials that comply with the specifications at the Contractor's expense. Any sampling, testing, or evaluation services required during the Contractor's failure to stop production shall be paid for by the Contractor.

CASB 334-6.6: Suspension Control Strip: If suspension is due to asphalt mixture field quality problems during the performance of the contract such that the pavement does not conform to the specifications, the Engineer may order the Contractor to cease all operations and construct a new Control Strip consisting of a sufficient quantity of asphalt mixture. The Contractor shall construct a Control Strip as directed by the Engineer either: a minimum of 130 feet long by 12 feet wide, or a minimum of 65 feet long by a minimum of 24 feet wide depending upon the problem. A Control Strip may be required each time a change is made in the Job Mix Formula, sources of supply or paving and rolling equipment.

The mixture shall be prepared, placed, and compacted in accordance with this specification. When the Control Strip pavement has cooled sufficiently, five randomly selected cores shall be taken from the finished pavement mat in the Control Strip, and five from the longitudinal joint, and tested for conformance to the requirements below. Longitudinal density testing is not required for single pass work. Nuclear and PQI density equipment shall be re-calibrated from the control strip cores for use on the project. Random sampling shall be in accordance with procedures contained in ASTM D3665 and these specifications.

If the new Control Strip tests conducted by the Engineer, and paid for by the Contractor, indicate that pavement does not conform to specification requirements, necessary adjustment to plant operation and placement/rolling procedures shall be made.

Where the average mat density of 5 core samples or the average joint density of the 5 density samples does not conform to specification requirements, the pavement shall be removed and replaced at no cost to

the Engineer. No payment will be made for material and labor employed, either in placement or removal of the nonconforming control section.

The Contractor shall not be permitted to place asphalt courses until a Control Strip is approved by the Engineer.

CASB 334-6.7: Defective Material: The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of asphalt mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. Similarly, the Engineer may at any time, notwithstanding field acceptance for mat or longitudinal joint density, reject and require the Contractor to correct any pavement that was placed with unacceptable mat uniformity or paving joints, due to low density, lack of bond, segregation, improper elevation, or tearing. In the event of such rejection, the Contractor and Engineer may take random split samples of the area(s) in question in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material/pavement was erroneously rejected, payment will be made for the material at the contract unit price.

The Contractor assumes the responsibility for removing and replacing all defective material placed on the project, at no cost to CASB.

As an exception to the above and upon approval of the Engineer, the Contractor may obtain an engineering analysis by an AASHTO Accredited laboratory in asphalt mixtures (as approved by the Engineer) to determine the disposition of the material. The engineering analysis must be signed and sealed by a Professional Engineer licensed in the State of Florida.

The Engineer will then combine the test results of both engineering analyses from the two AASHTO Accredited laboratories to determine the disposition of the material.

Any material that remains in place will be paid for based on a Composite Pay Factor as determined by CASB 334-8, or as determined by the Engineer.

If defective material is due to gradation, PGAB binder content or density failure, upon approval of the Engineer, the Contractor may perform delineation tests in lieu of an engineering analysis to determine the limits of defective material that requires removal and replacement. Prior to any delineation testing, all sampling locations shall be approved by the Engineer. All delineation sampling and testing shall be monitored and verified by the Engineer. The minimum limit of removal of defective material is fifty-feet either side of the failed sample.

CASB 334-6.8 Minimum Acceptable Quality Levels:

CASB 334-6.8.1: Pay Factors Below 0.90: In the event that an individual Pay Factor for an applicable quality characteristic of a Lot falls below 0.90, take steps to correct the situation and report the action to the Engineer. In the event that the Pay Factor for the same quality characteristic for two consecutive Lots is below 0.90, cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Actions taken must be approved by the Engineer before production resumes.

CASB 334-6.8.2: Composite Pay Factors Less Than 0.90 and Greater Than or Equal to 0.80: If the composite Pay Factor for the Lot is less than 0.90 and greater than or equal to 0.80, cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Actions taken must be approved by the Engineer before production resumes.

CASB 334-6.8.3: Composite Pay Factor Less Than 0.80 and Greater Than or Equal to 0.75: If the composite Pay Factor for the Lot is less than 0.80 and greater than or equal to 0.75, address the defective material in accordance with CASB 334-6.7.

CASB 334-6.8.4: Composite Pay Factor Less Than 0.75: If the composite Pay Factor for the Lot is less than 0.75, remove and replace the defective Lot at no cost to CASB, or as approved by the Engineer.

CASB 334-7 MEASUREMENT

CASB 334-7.1: Method of Measurement: The quantity of Asphalt Pavement to be paid for shall be measured by the number of tons of asphalt mixture used in the accepted work. The quantity of each truckload shall be obtained from printed tickets indicating the recorded batch weights or certified truck scale weights obtained at the time of delivery. Asphalt mixture quantities shall be verified by the Engineer using asphalt mixture yield calculations which will include the in-place bulk specific gravity and actual area and nominal depth for the mixture placed. The bid price for the asphalt mixture will include the cost of the PGAB (including any binder modifiers), anti-strip additive (if required by the job mix formula), warm mix additives and technologies, if used; pre-construction meetings, production/construction of control strip(s), development and implementation of the QC Plan, including revisions or modifications as may be required, joint treatments, removal of cores and filling voids left by cores, tack coat material and application, all sampling, testing, and inspection required by contract, and all materials labor and equipment required to construct the Asphalt Pavement..

CASB 334-8 PAYMENT

CASB 334-8.1 Basis of Payment: Payment shall be made at the contract unit prices per ton complete in place for Asphalt Pavement with any applicable Pay Adjustments. This payment shall be full compensation for furnishing and placing all quality asphalt pavement materials, including tack coat where specified, warm mix asphalt additives or technologies, cutting of keyways or milling/stripping of pavement to produce neat joints, mechanical sweeping of pavements, costs for Engineer testing due to inferior production or placement, traffic control, and for all labor, tools, equipment, materials, and all incidentals necessary to complete the work.

CASB 334-8.2 Asphalt Pavement Pay Adjustments: A Payment Adjustment for asphalt mixture plant and field quality shall be made when the asphalt pavement material varies from the specification target limits, but is within the tolerances stated below in CASB 334-8.3. The Pay Adjustment will be applied to the bid price of the material as determined on a Lot by Lot basis under CASB 334-8.5.

CASB 334-8.3 Pay Factors (PF): For non-density material quality characteristics, payment is based on a single test result or average of two and three test results deviation from the target value. For density tests, use the ranges as shown below. For non-density material quality characteristics, use the 1 Sublot column when there is only one Sublot result and use the 2 and 3 Sublot column when there are either two or three Sublots.

PGAB Binder Pay Factor	1 Sublot Test Deviation	2 & 3 Sublot Test Average Deviation
1.05	0.00 – 0.23	0.00 – 0.16
1.00	0.24 – 0.45	0.17 – 0.32
0.90	0.46 – 0.55	0.33 – 0.39
0.80	>0.55	>0.39

No. 8 Sieve Pay Factor	1 Sublot Test Deviation	2 & 3 Sublot Test Average Deviation
1.05	0.00 – 2.25	0.00 – 1.59
1.00	2.26 – 4.50	1.60 – 3.18
0.90	4.51 – 5.50	3.19 – 3.89
0.80	>5.50	>3.89

No. 200 Sieve Pay Factor	1 Sublot Test Deviation	2 & 3 Sublot Test Average Deviation
1.05	0.00 – 0.55	0.00 – 0.39
1.00	0.56 – 1.10	0.40 – 0.78
0.90	1.11 – 1.50	0.79 – 1.06
0.80	>1.50	>1.06

Air Voids (Fine Mix) Pay Factor	1 Sublot Test Deviation	2 & 3 Sublot Test Average Deviation
1.05	0.00 – 0.50	0.00 – 0.35
1.00	0.51 – 1.00	0.36 – 0.71
0.90	1.01 – 1.70	0.72 – 1.20
0.80	1.71 – 2.00	1.21 – 1.41
0.70	2.01 – 2.50	1.42 – 1.77
0.55	>2.50	>1.77

ADJUSTMENT SCHEDULE

Mat Density

Average Percent of Maximum Density[1] (minimum 5 samples)	Percent Mat Adjustment
100 - 98.1	98
98.0 – 95.1	102
95.0 – 92.0	100
91.9 – 90.0	90
89.9 – 89.0	80
88.9 – 87.0	70
86.9 or less	Rejection

Longitudinal Joint (LJ) Density (same lot)

Average Percent of Maximum Density[1] (minimum 5 samples)	Percent LJ Adjustment
100 - 98.1	98
98.0 – 93.1	102
93.0 – 91.0	100
89.9 – 90.9	90
88.9 – 87.0	75
86.9 or less	Rejection

Note (1): Each density test result is the average of five nuclear or non-nuclear tests for 1 Sublot.. When compaction is limited to non-vibratory rolling, the Contractor is encouraged to use oscillation compaction.

CASB 334-8.4 Composite Pay Factor (CPF): A Composite Pay Factor for the Lot will be calculated based on the individual Pay Factors (PF) with the weighting factor as given below:

Material Property	**Weight** (%)
Mat Density	25
Longitudinal Joint Density(same lot)	10
Percent Air Voids	25
PGAB Binder Content	25
Percent Passing No. 8 Sieve	5
Percent Passing No. 200 Sieve	10

Calculate the Composite Pay Factor (CPF) by using the following formula:
CPF = [(0.250 x PF Mat Density) + (0.100 x PF Long.Joint Density) + (0.250 x PF Air Voids) + (0.250 x PF PGAB Binder Content) + (0.050 x PF Percent Pass #8 Sieve) + (0.100 x PF Percent Pass #200 Sieve)]

The number after each multiplication will be rounded to the nearest 0.01.

CASB 334-8.5 Asphalt Pavement Pay Adjustment Assessment: The Pay Adjustment will be assessed by calculating a Pay Factor from the Pay Factor table, CASB 334-8.3, for the following individual quality characteristics: pavement mat density, longitudinal joint density, air voids, PGAB binder content and the percentage passing the No. 200 and No. 8 sieves. The Pay Adjustment will be computed by multiplying a Composite Pay Factor for the Lot by the bid price per ton.

Pay Adjustment = CPF x Bid Price/Ton

Incentives will first be applied to offset any penalties. A payment will be made for an increase in costs for incentives. A deduction from monies due the Contractor will be made for a decrease in costs for penalties. An addition of monies due the Contractor will be made for a net increase in costs resulting from incentives applied after subtraction of any deductions.

CASB 334-8.6 Asphalt Pavement Pay Items:

ITEM No.	DESCRIPTION	UNIT
334-1	WMA Type SP 9.5 Level A	TON
334-2	WMA Type SP 9.5 Level B	TON
334-3	WMA Type SP 9.5 Level C	TON
334-4	WMA Type SP 9.5 Level D	TON
334-5	WMA Type SP 12.5 Level A	TON
334-6	WMA Type SP 12.5 Level B	TON
334-7	WMA Type SP 12.5 Level C	TON
334-8	WMA Type SP 12.5 Level D	TON
334-9	WMA Type FC 9.5 Level A	TON
334-10	WMA Type FC 9.5 Level B	TON
334-11	WMA Type FC 9.5 Level C	TON
334-12	WMA Type FC 9.5 Level D	TON
334-13	WMA Type FC 12.5 Level A	TON
334-14	WMA Type FC 12.5 Level B	TON
334-15	WMA Type FC 12.5 Level C	TON
334-16	WMA Type FC 12.5 Level D	TON

SECTION 580 LANDSCAPE INSTALLATION

580-1 Description.

Install, establish and maintain landscaping as indicated in the Contract Documents.

580-2 Materials.

580-2.1 Plants:

580-2.1.1 Grade Standards and Conformity with Type and Species: Only use nursery grown plant materials purchased from Florida based Nurseryman Stock that comply with all required inspection, grading standards, and plant regulations in accordance with the latest edition of the Florida Department of Agriculture's "Grades and Standards for Nursery Plants."

Unless otherwise specified, minimum grade for all plants is Florida No. 1 or better. All plants must be the specified size and grade at the time of delivery to the site and the minimum grade maintained throughout the project construction period and plant establishment period.

Use only plants that are true to type and species and ensure that the plants not specifically covered by Florida Department of Agriculture's "Grades and Standards for Nursery Plants" conform in type and species with the standards and designations in general acceptance by Florida nurseries. Prior to planting, furnish certification to the Engineer that all plant materials have been purchased from Florida based Nurseryman Stock.

A minimum of two plants of each species on each shipment must be shipped with tags stating the botanical nomenclature and common name of the plant. Should discrepancies between botanical nomenclature and common name arise, the botanical name will take precedence.

580-2.1.2 Inspection and Transporting: Move nursery stock in accordance with all Federal and State regulations and accompany each shipment with the required inspection certificates for filing with the Engineer.

580-2.2 Water: Meet the requirements of Section 983.

580-2.3 Mulching: Use of cypress mulch prohibited.

580-3 Planting Requirements.

580-3.1 Delivery: All materials must be available for inspection before installation and will be subject to approval or rejection.

580-3.2 Layout: Mark proposed planting beds and individual locations of trees and palms as shown in the Contract Documents for Engineer's review, prior to excavation or planting. The Engineer may request to review all proposed construction and maintenance practices before the start of the operations.

Make no changes to the layout, materials or any variations of plant materials from the Contract Documents without the Engineer's written approval.

580-3.3 Soil Drainage: All planting holes and beds must drain sufficiently prior to installing any plants. Immediately notify the Engineer of drainage or percolation problems before plant installation.

580-3.4 Installation of Plants: For installation of the plants as identified in the Contract Documents, comply with the requirements of the Design Standards, Index No. 544.

Personnel performing these services are under the sole responsibility and supervision of the Contractor and must be competent, experienced, and skilled in all aspects of the required landscape installation and establishment practices.

580-3.5 Contractor's Responsibility for Condition of the Plantings: Begin maintenance of all plants immediately after each planting.

Keep all plants watered, fertilized, mulched, pruned, and staked and guyed as necessary to assure specified minimum grade of Florida No. 1 throughout the duration of the project construction period and establishment period. During the establishment period, keep the individual planting locations and planting beds free of litter and undesirable vegetation. Ensure that the plants are maintained so that they are healthy, vigorous, and undamaged throughout the duration of the project construction period and establishment period. For the duration of the establishment period, operate and maintain in good operating condition, all components of any irrigation system installed in compliance with the Contract Documents.

During the establishment period, replace any plants that fall below specified minimum grade. Use replacement plants of the same species, size and planting medium as the plant being replaced and as specified in the Contract Documents.

580-3.6 Inspection Requirements: Certify monthly, on a form provided by the Department that the plants have been installed and are being maintained per the Contract Documents. A Registered Landscape Architect acting as the Contractor's Landscape Quality Control representative will oversee the establishment period.

The Contractor's Landscape Quality Control Representative must perform quarterly inspections of planting areas and submit findings in report form to the Department. Information to be included in inspection report from the Contractor's Quality Control Representative must include as a minimum the following:

- Date of inspection
- Description of project
- Location of inspection
- Weather conditions
- Condition of plants - identify by species, location, and number of plants that are no longer the specified minimum.
- Condition of planting beds (including mulching, mowing, weeding, fertilizing, watering, and staking and guying), if applicable
- Other comments
- Signature and seal of Contractor's Landscape Quality Control representative

Submit the certified inspection report to the Engineer within seven calendar days after performing the inspection. Any corrections to the inspection report must be revised/corrected and resubmitted within three calendar days after notification by the Engineer. Any deficiencies noted on the inspection report must be corrected within ten days of notification from the Department.

Periodic, random verifications will be performed by the Department to ensure the quality of the plants and correctness of the certified landscape inspection report. Any unresolved disputes that arise between the quality control reporting and the verifications performed by the Department will be referred to the Statewide Disputes Review Board.

580-4 Disposal of Surplus Materials and Debris.

Remove from the jobsite any surplus excavated material from plant holes unless otherwise directed by the Engineer. Surplus is defined as material not needed after installation of plants per Contract Documents. Upon commencement of the plant installation, remove daily all landscape installation debris from the landscape locations described in the Contract Documents. Remove all excess staking and guying materials from the jobsite.

580-5 Plant Establishment Period and Contractor's Warranty.

Take responsibility for the proper maintenance, survival and condition of all plants for a period of one year after final acceptance in accordance with 5-11. Notify the Engineer upon completion of installation of all plants.

Mowing as part of the landscape work will be identified in the Contract Documents. Continue any mowing of the landscape areas specified in the Contract Documents throughout the establishment period.

As a condition precedent to final acceptance in accordance with 5-11, provide a Warranty/Maintenance Bond to the Department in the amount of the total sums bid for all landscape items as evidence of warranty during this plant establishment period. The cost of the bond will not be paid separately, but will be included in the costs of other bid items.

In addition to satisfying the provisions of Section 287.0935, Florida Statutes, the bonding company is required to have an A.M. Best rating of "A" or better. If the bonding company drops below the "A" rating during the Warranty/Maintenance Bond period, provide a new Warranty/Maintenance Bond for the balance of the establishment period from a bonding company with an "A" or better rating. In such event, all costs of the premium for the new Warranty/Maintenance Bond will be at the Contractor's expense.

The Engineer may conduct interim inspections of all landscape items during the plant establishment period, as well as at the end of the plant establishment period. As part of the warranty to the Department, and at no cost to the Department, replace all plants found not to meet minimum specifications as shown in 580-2.1.1 and 580-3.5 within ten days after each inspection.

Prior to the end of the establishment period and after plant establishment has been verified, remove all staking and guying from the project.

At the end of the establishment period, the Engineer will release the Contractor from further warranty work and responsibility provided all plants are established and all previous warranty and remedial work, if any, has been completed to the satisfaction of the Engineer.

580-6 Method of Measurement.

The quantities to be paid will be the items shown in the Contract Documents, completed and accepted.

580-7 Basis of Payment.

Prices and payments will be full compensation for all work and materials specified in this Section.