AGREEMENT BETWEEN ALACHUA COUNTY & ASPHALT PAVING SYSTEMS, INC FOR ANNUAL ROADWAY CONSTRUCTION FOR MILLING AND RESURFACING NO. 14876

This Agreement ("Agreement") is made by and between Alachua County, Florida, a political subdivision and charter county of the State of Florida, by and through its Board of County Commissioners (the "County") and Asphalt Paving Systems, Inc , a foreign for-profit corporation which is authorized to do business in the State of Florida ("Contractor"), who are collectively referred to as the "Parties".

WITNESSETH:

WHEREAS, the County publicly issued ITB 26-47 seeking qualified firms or individuals to provide pavement management projects to the County on an as-needed basis for County Roads to be determined and authorized by Work Orders to be issued the County; and

WHEREAS, after evaluating and considering all timely responses to the solicitation, the County split the award between four different contractors with each being awarded a different part of the bid solicitation, with the Contractor determined to be the lowest cost responsive, responsible bidder with regards to sealing and microsurfacing projects; and

WHEREAS, the Contractor is willing to provide work and services to the County; and

WHEREAS, the County desires to engage Contractor to provide the work and services described herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the receipt of which is acknowledged, the County and Contractor agree as follows:

1. **Recitals**. The foregoing recitals are incorporated herein.
2. **Scope of Services/Work**.
    a. This is a continuing contract for as-needed services for sealing and microsurfacing of County Roads as detailed in the General Scope of Service/Work attached hereto as **Exhibit 1** and incorporated into the Agreement ("Services").
    b. If the County determines that needed work or services falls within the Services as well as specific line-item tasks contained in the Contractors Tasks and Rate Schedule attached as **Exhibit 2,** the County will issue a Work Order to the Contractor using the Work Order Process set forth in Section 3 of this Agreement. The Contractor shall not perform any Services under this Agreement unless and until the Contractor receives an executed Work Order from the County.
    c. The Contractor shall perform and complete all Work Orders in strict compliance with pavement management operations **Exhibit 1**. The Contractor acknowledges and agrees that this Agreement does not guarantee that the County will issue any Work Orders to the Contractor and that the decision to issue a Work Order under this Agreement is within the sole discretion of the County's Director of Public Works or their designee. It is understood that the Services may be modified, but to be effective and binding, any such modification must be in writing executed by both the Parties.
3. **Authorization for Services.**
    a. This is a continuing contract for as-needed Services and, as such, the award of this Agreement does not guarantee that the County will issue any Work Orders to the Contractor.

b. In accordance with **Exhibit 1** the Contractor is the primary Contractor for sealing and microsurfacing projects and may be issue Work Orders for those projects.

c. When and if the County determines, in its sole discretion, that it has a need for the Contractor to provide Services under this Agreement, the County will issue a written Work Order to the Contractor as provided herein. The Work Order form is attached hereto as **Exhibit 3.** Each Work Order shall describe the services required, state the dates for commencement and completion of work, and establish the amount and method of payment. The Work Orders will be issued under, and shall incorporate the terms, of this Agreement. If the dollar amount of the Work Order is $200,000 or less, then the County's Procurement Manager will determine whether the Contractor must furnish the County with payment and performance bonds as set forth below. If the dollar amount of the Work Order exceeds $200,000, then the Contractor must provide payment and performance bonds as set forth below. To be effective, each Work Order must be issued and signed by the County.

d. If the Contractor is required to provide payment and performance bonds, then, within ten (10) business days after issuance of the Work Order, Contractor shall provide the County with Payment and Performance Bonds, in the forms prescribed as **Exhibits 4 & 5,** in the amount of 100% of the total sum of the Work Order amount, the costs of which are to be paid by the Contractor.

i. If the surety for any bond furnished by the Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by this Agreement, the Contractor shall, within five (5) calendar days thereafter, substitute another bond and surety, both of which shall be subject to the minimum requirements noted above and County's approval.

ii. In accordance with the requirements of §255.05(1)(a), Florida Statutes, the Contractor shall record a copy of the Performance and Payment Bonds in the Public Records of Alachua County, Florida, prior to performing any Services under the Work Order. Additionally, the Contractor shall deliver a certified copy of the recorded Performance and Payment Bonds to the County at least five (5) days prior to performing any Services under the Work Order. The timely recording and delivery of the certified copy of the recorded Performance and Payment Bonds is a condition precedent to County's obligation to make any payments to the Contractor under the Work Order.

4. **Term**.
   a. This Agreement is effective upon execution of both Parties and continues until 9/30/2026, or until this Agreement is earlier terminated as provided herein. The term of this Agreement may be extended at the sole and exclusive option of the County for 3 additional one-year term(s) at the same terms and conditions outlined herein, provided that the County notifies the Contractor at least 90 calendar days before the expiration of the current term of the Agreement.
   b. In the event the County shall order work under this Agreement to commence under the terms of this Agreement which shall not be scheduled for completion under the Term of the Agreement set herein, then this Agreement shall remain in effect until the work assignment so ordered is completed or this Agreement is terminated as provided for herein.

5. **Closeout**. The Contractor's obligation to the County shall not end until all closeout requirements are completed. Activities during the close-out period shall include, but are not limited to, making final payments, submitting final reimbursement request and final activity/accomplishment report to the

County, disposing of project assets (including the return of all equipment, and receivable accounts to the County), and determining the custodianship of records. Agreement closeout is not considered final until the County is fully satisfied that project objectives have been met and the Contractor has submitted the Contract Closeout Checklist, attached hereto and incorporated herein as **Exhibit 6**.

6. **Qualifications**. By executing this Agreement, Contractor makes the following representations to County:
    a. Contractor is qualified to provide the Services and will maintain all certifications, permits and licenses necessary to provide the Services during the term of this Agreement.
    b. Contractor will assure that all personnel who perform the Services, or perform any part of the Services, are competent, reliable, and experienced to perform their assigned task property and satisfactory. Contractor will perform the Services with the skill and care which would be exercised by a qualified contractor performing similar services at the time and place such services are performed. If failure to meet these standards results in a deficiency in the Services or the related tasks or designs, Contractor will, at his/her/its own cost and expense, re-do the Services to correct the deficiency, and shall be responsible for any and all consequential damages arising from the deficiency.
    c. Contractor is familiar with the Services and the conditions of the site, location, project, and specifics of the Services to be provided, designed or constructed.
    d. Contractor will coordinate, cooperate, and work with any other contractors, professionals, and consultants retained by the County. The Parties acknowledge that there is nothing in this Agreement that precludes County from retaining services of other contractors, professionals, and consultants for similar or same Services or from independently performing the Services provided under this Agreement on its own.

7. **Contract Price**. For each Work Order issued by the County to the Contractor, the County will pay Contractor for timely and completed Services in the amount(s) set forth in applicable Work Order. The Parties agree that the amount to be paid to Contractor under this Agreement shall not exceed Five Hundred Thousand Dollars and Zero Cents (**$**500,000.00) per fiscal year ("NTE amount"). For the purposes of this Agreement, a fiscal year is defined as October 1st through September 30th. Payment will be in accordance with the Contractors Tasks and Rate Schedule attached as Exhibit 2 and incorporated into this Agreement.
    a. Payment Process
        i. It is agreed by both Parties hereto that progress payments and final payment for Work performed will be made in accordance with the provisions as stipulated in issued Work Orders and the Scope of Work/Technical Specification attached hereto and incorporated by reference. In case of conflict in payment terms, the terms in the NTP shall prevail.
        ii. It is agreed by both Parties hereto that five percent (5%) of the amount earned through each progress payment shall be withheld by the County. The retainage shall be paid to the Contractor pursuant to Section 7.b. below.
        iii. Within fifteen (15) days of obtaining Substantial Completion of the Work as defined herein, or if not defined upon reaching beneficial occupancy or use, the Contractor and County will develop a list (the "List") of items required to achieve final completion of the Work. Contractor will provide a first draft of the List within five (5) days of notice of Substantial Completion. The County will notify the Contractor of acceptance or of any changes requested within five (5) days of receipt of the draft List. The County shall deliver the final List to the Contractor no later than five (5) days after it has been developed as set forth above. The failure to include on the List

any corrective work or pending items not yet completed does not alter, waive or release the Contractor of its responsibility to complete such corrective work, pending items, or any other Work pursuant to the Agreement. Upon completion of all items on the List, the Contractor may submit an application for Final Payment request for all remaining retainage withheld by the County. If a good faith dispute exists as to whether one or more items identified on the List have been completed pursuant to this Agreement, the County may continue to withhold an amount equal to 150 percent of the total cost to complete such items until the Contractor has rendered complete, satisfactory and acceptable such items. All items that require correction under the Agreement and that are identified after the preparation and delivery of the List remain the obligation of the Contractor.

iv. If the County fails to develop the list in the time specified, the Contractor may request payment for all retainage held by the County, less any amounts withheld for incomplete or uncorrected Work. If the Contractor fails to cooperate with the County in developing The List, or obligations under The List, the County shall notify the Contractor in writing of its failure to cooperate in developing The List and the County shall not be obligated to pay the retainage.

v. The County shall not be obligated to make payment to the Contractor for amounts that are the subject of, or release retainage related to, a good faith dispute or a claim brought pursuant to §255.05, Florida Statutes.

vi. Once all items on The List have been completed, the Contractor may request the remaining retainage from the County. In cases of a dispute as to completion of an item on the List, the County may withhold an amount not to exceed 150% of the total cost to complete disputed items.

b. Applications for Progress Payments

i. Not more than once a month, the Contractor shall submit to the County for review the application for payment, covering the Work completed as of the date of the application. If payment is requested by the Contractor 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 request for payment shall also be accompanied by such supporting data, satisfactory to the County Engineer, as will establish 100% of invoice cost. Such payment to the Contractor shall not exceed seventy-five percent (75%) of the Unit Bid Price. Materials missing or damaged, for which partial or total payment has been made, shall be replaced by the Contractor at his expense.

ii. Upon receipt of each progress payment from the County, the Contractor shall, in accordance with Section 255.073(3), Florida Statutes, pay each of its subcontractors and suppliers all amounts due for labor, services, and materials furnished by said subcontractors and suppliers through the date of said application for progress payment for which payment has been received by the Contractor. In addition, Contractor shall include a provision in each of its subcontracts to require, in accordance with Section 255.073(3), Florida Statutes, that when its subcontractors receive a payment from Contractor for labor, services, or materials furnished by

subcontractors and suppliers hired by the subcontractor, the subcontractor must remit payment due to those subcontractors and suppliers within 7 days after the subcontractor's receipt of payment from the Contractor. Contractor's failure to comply with this subsection shall constitute a material breach of this Agreement.

iii. For the purposes of this Agreement, a "Claimant" is defined as all persons defined in §713.01, Florida Statutes, who furnished labor, services, or materials for the prosecution of the Work provided for in this Agreement. Each application for a progress payment must include a Waiver of Right to Claim Against the Payment Bond (Progress Payment) from each Claimant for Work complete through the date of the Contractor's last application for progress payment (example: Contractor's 3rd application for progress payment must include waivers from each Claimant for all Work completed through the date of Contractor's 2nd application for progress payment). The form of the waiver must be in substantially the same form as set forth in Section 255.05(2(b), Florida Statutes, and must be executed by the claimant, which said execution to be notarized by a Florida Notary Public. Contractor's requirement to furnishing written, executed and notarized Waivers from each Claimant is a condition precedent to the County's obligation to pay each application for progress payment; however, this requirement shall not apply if the Contractor's surety issues written consent to the County stating that the County may remit payments to the Contractor without first obtaining said waivers.

iv. Each application for progress payment shall constitute a representation and warranty by the Contractor that all Work has progressed to the point indicated, that the Work is in accordance with the Contract Documents, and that the Contractor is entitled to the payment requested. The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an application for payment, whether incorporated in the project or not, will have passed to the County within 10 days after receipt of payment for said progress payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "claims"). The Contractor further warrants and guarantees that no Work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the Work at the site or furnishing materials and equipment for the Project subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. Non-payment of subcontractors and suppliers will be referred to the Contractor's Surety for resolution.

v. Contractor shall submit invoices to the County at the following address, unless otherwise directed by the County:
Alachua County Public Works
5620 NW 120th Lane
Gainesville, FL 32653

Attn: Public Works Director

vi. All applications for progress payments shall be processed and paid by the County, less applicable retainage, in accordance with the Local Government Prompt Payment Act, Part IIV, Chapter 218, Florida Statutes and the County will remit payments to

Asphalt Paving Systems, Inc
500 N. Egg Harbor Rd.
Hammington, NJ 08037
ponderosamark@hotmail.com

8. **Insurance**. Contractor will procure and maintain insurance throughout the entire term of this Agreement, including any renewals, of the types and in the minimum amounts detailed in **Exhibit 7** attached hereto and incorporated herein. A copy of a current Certificate of Insurance (COI) showing coverage of the type and in the amounts required is attached hereto as **Exhibit 7-A**.

9. **County Property**. Contractor shall be responsible for clean-up and the removal of surplus materials and debris on the Service/work site. Contractor agrees to promptly, without delay, notify the County either in phone, email, or orally of any hazardous, dangerous, unsafe, or destructive conditions, trespassers, vandalism or damages that the Contractor or its employees, subcontractors, or agents notices or is made aware of on County property, including inside any County owned or used facility. Contractor shall be responsible for initiating, erecting, and maintaining safety precautions, programs and materials in connection with the Services on County Property, including any industry, federal, state or local standards and requirements, so as to prevent damages, injury or loss to persons and property. Should an employee or agent of the Contractor suffer injury or damage to its/his/her person or property, the Contractor shall notify the County within a reasonable time of the occurrence. The costs of any clean-up, spillage, and fines levied for failure to comply with these requirements will be borne solely by Contractor.

10. **Deliverables**. All project deliverables and documents are the sole property of County and may be used by County for any purpose. Any and all deliverables required by this Agreement to be prepared by Contractor, such as but not limited to plans and specifications, will be done in such a manner that they shall be accurate, coordinated and adequate for the purposes intended. Contractor represents that the deliverables prepared under this Agreement will meet the requirements of all applicable federal, state and local codes, laws, rules and regulations. The County's review of the deliverables in no way diminishes the Contractor's representations pertaining to the deliverables.

11. **Permits**. Contractor will identify, obtain and pay for all necessary permits, permit application fees, licenses or any fees required for performing the Services.

12. **Alachua County Minimum Wage**. The Services to be performed pursuant to this Agreement are 'Covered Services', as defined under the Alachua County Government Minimum Wage Ordinance ("Wage Ordinance"). The Contractor shall pay its 'Covered Employees', as defined in the Wage Ordinance, no less than the Alachua County Government Minimum Wage ("Minimum Wage"), as may be amended by the County. Contractor will require the same of its subcontractors and subconsultants who provide the Services. The Contractor will certify this understanding, obligation, and commitment to County through a certification, a copy of which is attached hereto as **Exhibit 8**. Contractor will (a) post a copy of the Minimum Wage Rate in a prominent place of its principal place of business where it is easily seen by Covered Employees; (b) supply a copy to any Covered Employee upon request; (c) make any person submitting a bid for a subcontract for Covered Services aware of these requirements; and (d) include the necessary provisions in subcontracts to ensure compliance.

The County shall not be deemed a necessary, or indispensable, party in any litigation between Contractor and subcontractor. At this time of execution of this Agreement, the prevailing Minimum Wage is as follows, which is subject to change during the term of this Agreement, and will be updated, and be applicable, without the necessary of amendment to this Agreement:

$18.50 per hour with qualifying health benefits amounting to at least $2.00 per hour	$20.50 per hour without health benefits

The failure to comply with the provisions of the Wage Ordinance will be deemed a material breach this Agreement and County is authorized to withhold payment of funds in accordance with Alachua County Code and Chapter 218, Florida Statutes. Should this section be or become invalid or unenforceable during the term of this Agreement, then such will be severed from this Agreement, and this shall not affect the other sections and remaining terms and conditions of this Agreement.

13. **Default and Termination**.
    a. Termination for Default: The failure of Contractor to comply with any provision of this Agreement will place Contractor in default. If Contractor is in default or fails to perform in accordance with the terms or conditions of this Agreement, the County may provide a written notice of default. The County Manager and his/her designee is authorized to provide notice of default on behalf of County and notice may be sent electronically. If the default is not corrected within the allotted time as specifically provided in the notice of default, the County Manager is authorized to provide Contractor with written notice of termination of this Agreement on behalf of County. The effective date of termination of this Agreement will be the date specified in the notice of termination or, if no date is specified in the notice, then the effective date of termination will be the date that the notice of termination is received by the Contractor.
    b. Termination for Convenience: County may terminate the Agreement without cause by providing written notice of termination for convenience to the Contractor. County Manager and his/her designee is authorized to provide notice of termination on behalf of the County. Notice may be electronically given. Upon such notice, Contractor will immediately discontinue all Services for the County currently or to be provided to the County, unless the notice from the County directs otherwise. The effective date of termination of this Agreement will be the date specified in the notice of termination or, if not date specified in the notice, then the effective date of termination will be the date that the notice of termination is received by Contractor. In the event of termination, Contractor's recovery against County shall be limited to that portion of this Agreement amount earned through the date of termination. Contractor shall not be entitled to any other or further recovery against County, including, but not limited to, damages, consequential or special damages, or any anticipated fees or profit on portions of the Services not performed.
    c. Termination for Unavailability of Funding: If funds to finance this Agreement become unavailable, as determined by the County, County may terminate this Agreement upon written notice to Contractor. County Manager and his/her designee is authorized to provide notice of termination on behalf of the County. Notice may be electronically given. The effective date of termination of this Agreement will be the date specified in the notice of termination or, if not date specified in the notice, then the effective date of termination will be the date that the notice of termination is received by the Contractor.
    d. Upon termination of this Agreement based upon the above, the County may obtain the Services from any other sources, firms, and individuals, and may use any method deemed in the County's best interest. Upon termination, Contractor will deliver to County all data, drawings, specifications, reports, estimates, summaries, and other records as may have been accumulated by Contractor in performing this Agreement, whether completed or in draft.

14. **Indemnification**. **CONTRACTOR HEREBY WAIVES AND RELEASES, AND AGREES TO PROTECT, DEFEND, INDEMNIFY AND HOLD HARMLESS ALACHUA COUNTY AND ITS BOARD OF COUNTY COMMISSIONERS, OFFICERS, EMPLOYEES, VOLUNTEERS, AND ATTORNEYS (COLLECTIVELY "ALACHUA COUNTY") FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, PENALTIES, EXPENSES, AND CAUSES OF ACTION OF ANY AND EVERY DESCRIPTION, AND DAMAGES, INCLUDING ATTORNEYS' FEES AND COSTS, BROUGHT AGAINST ALACHUA COUNTY RESULTING FROM ANY ACCIDENT, INCIDENT OR OCCURRENCE ARISING OUT OF OR IN CONNECTION WITH AN ACT, ERROR OR OMISSION OF CONTRACTOR OR CONTRACTOR'S EMPLOYEES, OFFICERS, AGENTS, ASSIGNS OR SUBCONTRACTORS IN CONNECTION WITH THE PERFORMANCE OF THE SERVICES SET FORTH IN THIS AGREEMENT, INCLUDING ATTACHED EXHIBITS, OR FROM CONTRACTOR'S ENTRY ONTO ALACHUA COUNTY'S PROPERTY AND ANY AND ALL IMPROVEMENTS THEREON.** This obligation shall in no way be limited in any nature by any limitation on the amount or type of Contractor's insurance coverage. In the event the County is alleged to be liable on account of alleged acts or omissions, or both of Contractor or Contractor's employees, representatives or agents, then Contractor will investigate, respond to and provide a defense for any allegations and claims, at Contractor's sole costs and expense. Furthermore, Contractor will pay all costs, fees and other expenses of any defense, including but not limited to, all attorneys' fees, court costs and expert witness fees and expenses. Contractor and County will jointly cooperate with each other in the event of any litigation, including any request for documentation. This indemnification provision will survive the termination of this Agreement. Nothing contained herein shall constitute a waiver by the County of sovereign immunity or the provisions or limitation of liability of §768.28, Florida Statutes, as may be amended.

15. **Notice**. Except as otherwise provided in this Agreement, any notice from either Party to the other Party must be in writing and delivered by hand delivery with receipt or sent by certified mail, return receipt requested, to the addresses below. All notices will be deemed delivered five (5) business days after mailing. Each Party may change its mailing address by giving the other Party, written notice of election to change the address.

To Contractor:
Asphalt Paving Systems, Inc
500 N. Egg Harbor Rd.
Hammington, NJ 08037
(813) 788-0010 Ext: 105
ponderosamark@hotmail.com

To County:
Alachua County Public Works
5620 NW 120th Lane
Gainesville, FL 32653
(352) 548-1218
jflegert@alachuacounty.us

cc: With a copy electronically sent to:
Alachua County Procurement, Attn: Contracts
acpur@alachuacounty.us

Clerk of Court, Attn Finance & Accounting
dmw@alachuaclerk.org

16. **Standard Clauses**.
    a. Public Records. In accordance with §119.0701, Florida Statutes, Contractor, *when acting on behalf of the County*, shall, as required by Florida law:
        i. Keep and maintain public records required by the County to perform the Services.
        ii. Upon request from the County's custodian of public records, provide the County 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 Florida law or as otherwise provided by law.

iii. 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 term of this Agreement and following completion of the Agreement if Contractor does not transfer the records to the County.

iv. Upon completion of the Agreement, transfer, at no cost, to the County all public records in possession of Contractor or keep and maintain public records required by the County to perform the Services. If Contractor transfers all public records to the County upon completion of the Agreement, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If Contractor keeps and maintains public records upon completion of the Agreement, Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the County's custodian of public records, in a format that is compatible with the County's information technology systems.

IF CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE COUNTY'S PUBLIC RECORDS CUSTODIAN AT publicrecordsrequest@alachuacounty.us OR (352) 264-6906 OR 12 SE 1ST STREET, GAINESVILLE, FL 32601.

v. If Contractor fails to comply with this section, Contractor will be deemed in default under this Agreement. The County may enforce as set forth in §119.0701, Florida Statutes. Contractor who fails to provide the public records in response to a request within a reasonable time may be subject to penalties imposed under §119.10, Florida Statute, and costs of enforcement, including fees, under §119.0701 and §119.12, Florida Statutes.

vi. Contractor will take reasonable measures to protect, secure and maintain any data held by Contractor in an electronic form that is or contains exempt, confidential, personal information or protected information, as defined by Florida or federal law, related to or in connection with performance of the Services. If Contractor suspects or becomes aware of a security breach or unauthorized access to such data by a third party, Contractor shall immediately notify the County in writing and will work, at Contractor's expense, to prevent or stop the data breach.

b. Confidential Information. During the term of this Agreement, Contractor may claim that some of Contractor's information, including, but not limited to, software documentation, manuals, written methodologies and processes, pricing, discounts, or other considerations (hereafter collectively referred to as "Confidential Information"), is, or has been treated as confidential and proprietary by Contractor in accordance with §812.081, Florida Statutes, or other law, and is exempt from disclosure under the Florida's public record laws. Contractor shall clearly identify and mark Confidential Information as "Confidential Information" or "CI" and the County shall use reasonable efforts to maintain the confidentiality of the Confidential Information that is clearly identified by Contractor. County will promptly notify Contractor in writing if the County receives a request for disclosure of Contractor's Confidential Information. Contractor may assert any exemption from disclosure available under applicable law or seek a protective order against disclosure from a court of competent jurisdiction. Contractor shall protect, defend, indemnify, and hold harmless Alachua County and its commissioners, officers and employees from and against any claims, actions and judgments

arising out of a request for disclosure of Confidential Information or relating to violation or infringement of trademark, copyright patent, trade secret or intellectual property right; however, the foregoing obligation shall not apply to County's misuse or modification of Contractor's Confidential Information in a manner not contemplated by this Agreement. Contractor shall investigate, handle, respond to, and defend, at Contractor's sole cost and expense, any such claim, even if any such claim is groundless, false, or fraudulent. Contractor shall pay for all costs and expenses related to such claim, including, but not limited to, payment of attorneys' fees, costs and expenses. If Contractor is not reasonably able to modify or otherwise secure for the County the right to continue using the good or product, Contractor shall remove the product and refund the County the amounts paid in excess of a reasonable rental for past use. Upon completion of this Agreement, the provisions of this paragraph shall continue to survive. Contractor releases the County from claims or damages related to disclosure by the County.

c. Auditing Rights and Information. County reserves the right to require the Contractor to submit to an audit, by any auditor of the County's choosing. Contractor shall provide access to all of its records, which relate directly or indirectly to this Agreement at its place of business during regular business hours. Contractor shall retain all records pertaining to this Agreement and upon request make them available to County for three (3) complete calendar years following expiration or termination of the Agreement. Contractor agrees to provide such assistance as may be necessary to facilitate the review or audit by the County to ensure compliance with applicable accounting and financial standards. If an audit inspection or examination pursuant to this section discloses overpricing or overcharges of any nature by the Contractor to the County, Contractor shall pay to County the Overcharged Amount which is defined as the total aggregate overcharged amount together with interest thereon (such interest to be established at the rate of 12% annum). Any adjustments or payments which must be made as a result of any such audit or inspection of the Contractor's invoices or records must be made. If the Overcharged Amount is equal to or greater than $50,000.00, Contractor shall pay to County the Overcharged Amount and the Audit Amount which is defined as the total aggregate of County's reasonable audit costs incurred as a result of its audit of Contractor. County may recover the Overcharged Amount and the Audit Amount, as applicable, from any amount due or owing to Contractor whether under this Agreement and any other agreement between Contractor and County. If such amounts owed to Contractor are insufficient to cover the Overcharged Amount and Audit Amount, as applicable, then Contractor hereby shall pay such remaining amounts to County. Payment is due within a reasonable amount of time, but in no event may the time exceed sixty (60) calendar days, from presentation of the County's audit findings to Contractor. In no event shall the Overcharged Amount or the Audit Amount be deemed a reimbursable cost of the work or Services. This provision is hereby considered to be included within, and applicable to, any subcontractor agreement entered into by the Contractor in performance of the Services under this Agreement. The access, inspection, copying and auditing rights shall survive the termination of this Agreement.

d. Laws & Regulations. Contractor will comply with all federal, state, and local laws, ordinances, regulations, rules and code requirements applicable to the work required by this Agreement. Contractor is presumed to be familiar with all laws, ordinances, regulations, and rules that may in any way affect the work outlined in this Agreement. If Contractor is not familiar with laws, ordinances, rules and regulations, Contractor remains liable for any violation and all subsequent damages, penalties, or fines.

e. Governing Law and Venue. The laws of the State of Florida shall govern this Agreement and the duties and obligations stated within this Agreement. Sole and exclusive venue for all

actions arising under this Agreement shall be in a court of competent jurisdiction in and for Alachua County, Florida.

f. Amendment and Assignment. The Parties may only modify or amend this Agreement by a mutual written agreement of the Parties. Neither Party will assign or transfer any interest in this Agreement without prior written consent of the other Party. The County and Contractor each bind the other and their respective successors and assigns in all respects to all of the terms, conditions, covenants, and provisions of this Agreement.

g. Additional Services. Additional services not specifically identified in this Agreement may be added to the Agreement upon execution of a written amendment by the Parties.

h. Third Party Beneficiaries. This Agreement does not create any relationship with, or any rights in favor of, any third party.

i. Independent Contractor. In the performance of this Agreement, Contractor is acting in the capacity of an independent contractor and not as an agent, employee, partner, joint venturer, or associate of the County. Contractor is solely responsible for the means, method, technique, sequence, and procedure utilized by Contractor in the full performance of the Services referenced in this Agreement.

j. E-Verify. Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the term of the Agreement. Contractor shall expressly require any subcontractors performing work or providing Services under this Agreement to utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the term of this Agreement. The E-Verify system is located at https://www.uscis.gov/E-Verify.

k. Conflict of Interest. Contractor warrants that neither Contractor nor any of Contractor's employees have any financial or personal interest that conflicts with the execution of this Agreement. The Contractor shall notify County of any conflict of interest due to any other clients, contracts, or property interests.

l. Prohibition Against Contingent Fees. As required by §287.055(6), Florida Statutes, the Contractor warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. If Contractor breaches this provision, the County has the right to termination this Agreement without liability, and at the County's discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration.

m. Force Majeure. The Parties will exercise every reasonable effort to meet their respective duties under this Agreement but will not be liable for delays resulting from force majeure or other causes beyond their reasonable control, including, but not limited to, compliance with any government laws or regulation, acts of nature, fires, strikes, national disasters, wars, riots, transportation problems and any other cause whatsoever beyond the reasonable control of the Parties. Any such cause will reasonably extend the performance of the delayed duty to the extent of the delay so incurred and so agreed by the Parties.

n. Public Entity Crimes. A person or affiliate who has been placed on the convicted vendor list following a conviction of a public entity crime may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity in excess of the threshold amount provided in Florida Statutes, Section 287.017 for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

o. Collusion. By signing this Agreement, Contractor declares that this Agreement is made without any previous understanding, agreement, or connections with any persons, contractors or corporations and that this Agreement is fair, and made in good faith without any outside control, collusion, or fraud.

p. Counterparts. This Agreement may be executed in any number of and by the different Parties hereto on separate counterparts, each of which when so executed shall be deemed to be an original, and such counterparts shall together constitute but one and the same instrument. Receipt via email with pdf attachment by a party or its designated legal counsel of an executed counterpart of this Amendment shall constitute valid and sufficient delivery in order to complete execution and delivery of this Amendment and bind the Parties to the terms hereof.

q. Severability and Ambiguity. It is understood and agreed by the Parties that if any of the provisions of the Agreement shall contravene or be invalid under the laws of the State of Florida, such contravention or invalidity shall not invalidate the entire Agreement, but it shall be construed as if not containing the particular provision(s) held to be invalid, and the rights and obligations of the Parties shall be construed and enforced accordingly. This Agreement shall not be construed more strictly against one Party than against the other Party, merely due to fact that it may have been prepared by one of the Parties. Each Party represents and agrees that it has had the opportunity to seek the advice of appropriate professionals, including legal counsel, in the review and execution of this Agreement.

r. Electronic Signatures. The Parties agree that an electronic version of this Agreement shall have the same legal effect and enforceability as a paper version. The Parties further agree that this Agreement, regardless of whether in electronic or paper form, may be executed by use of electronic signatures. Electronic signatures shall have the same legal effect and enforceability as manually written signatures. Delivery of this Agreement or any other document contemplated hereby bearing a manually written or electronic signature, by electronic mail in "portable document format" (".pdf") form, or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document, will have the same effect as physical delivery of the paper document bearing an original or electronic signature.

s. Entire Agreement. This Agreement constitutes the entire Agreement and supersedes all prior written or oral agreements, understandings, or representations of the Parties.

t. Multiple Awards. The County may, at its sole discretion, enter into agreements with one or more vendors for similar or identical goods or services described herein. No vendor will have an exclusive right to provide any goods or services under this Agreement, unless expressly stated otherwise in writing. The County is not required to purchase any minimum quantity, nor is the County prohibited from obtaining comparable goods or services from other sources at any time.

u. Affidavit of No Coercion Pursuant to §787.06, Florida Statutes.
   i. Section 787.06(13), Florida Statutes, requires any governmental entity, when executing, renewing, or extending a contract, must obtain an affidavit from the non-governmental entity attesting that it does not use coercion for labor or services. The terms "coercion" and "labor" are defined respectively in sections 787.06(2)(a) and 787.06(2)(e), Florida Statutes.
   ii. The Contractor will certify its compliance with this statutory requirement by completing and executing the Affidavit of No Coercion for Pursuant to §787.06, Florida Statutes, a copy of which is attached to this Agreement as **Exhibit 9.**

v. Contracting with Entities of Foreign Countries of Concern Prohibited.
   i. Section 287.138, Florida Statutes, prohibits any governmental entity from contracting with entities if the contract provides the entity with access to an individual's personal identifying information and: the entity is owned by the government of a foreign country of concern; the government of a foreign country of concern has a controlling interest in

the entity; or the entity is organized under the laws of or has its principal place of business in a foreign country of concern. The statute identifies foreign countries of concern as: The People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro, or the Syrian Arab Republic, including any agency of or any other entity of significant control of such foreign country of concern.

ii. The Contractor will certify its compliance with this statutory requirements by completing and executing the Affidavit Regarding Foreign Countries of Concern, a copy of which is attached to this Agreement as **Exhibit 10.**

w. Signature Authority. Contractor represents and warrants to the County that the undersigned is authorized to execute this Agreement on behalf of the Contractor.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on the respective dates under each signature: the County, through the Chair of the Board of County Commissioners, who is authorized to sign and by Contractor, through its duly authorized representative.

ALACHUA COUNTY, FLORIDA

By:_____

_____, Chair

Board of County Commissioners

Date: _____

ATTEST

_____

J.K. "Jess" Irby, Esq., Clerk

(SEAL)

APPROVED AS TO FORM

_____

Alachua County Attorney's Office

CONTRACTOR

By: _____

Print: Robert Capoferri

Title: PVPT

Date: _____

IF THE CONTRACTOR IS NOT A NATURAL PERSON, PLEASE PROVIDE A CERTIFICATE OF INCUMBENCY AND AUTHORITY, OR A CORPORATE RESOLUTION, LISTING THOSE AUTHORIZED TO EXECUTE CONTRACTS ON BEHALF OF YOUR ORGANIZATION. IF ARE A NATURAL PERSON, THEN YOUR SIGNATURE MUST BE NOTARIZED.

Exhibit 1: General Scope of Services/Work

PART A

Scope of Services

1. Annual Road Construction

The project scope is to mill and resurface, or perform other pavement management or preservation techniques, on select County Roads as identified by Work Order duly issued by the County to the Contractor. In addition to mainline resurfacing, work may include resurfacing or constructing paved driveways and side streets to the right of way line, installing side drains with mitered end sections, installation of Safety Edge, grading associated with the driveway construction and safety edge installation, and pavement markings.

2. Types of Work. This agreement is for a variety of different work mixes/types reflective of different pavement management techniques/processes. Generally, these are:

   2.1. Mill and resurface, large projects: Large projects are defined to be roadways with an Average Daily Traffic (ADT) of greater than 2,000 Vehicles Per Day (VPD) and a posted speed greater than 45 MPH.
   2.2. Mill and resurface, small projects: Small projects are defined to be roadways with an ADT of 2,000 VPD or less and a posted speed limit of 45 MPH or less. Small projects also include parking and similar areas.
   2.3. Sealing and Microsurfacing
   2.4. Asphalt Rejuvenation

3. Escalation Clause

This clause is designed to accommodate changes in market conditions, inflation rates, and other economic factors over the term of the Agreement, as may be extended by the County. Each time that the County elects to extend the term of this Agreement for any additional one year period, the Contractor may request an increase in the pricing set forth in **Exhibit 2** by the percentage increase of the consumper price index (CPI) or 3%, whichever is less. The Contractor must request the increase at least 80 calendar days prior to the expiration of the current term of the Agreement. For the purposes of this provision, the term CPI means the Consumer Price Index for all Urban Consumers (CPI-U), South, All items,, published by the United States Bureau of Labor Statistics. In no event shall the prices be increased by more than three percent (3%) in any one (1) year period.

Exhibit 1: Scope of Services/Work - PART B

Technical Specifications

Road Construction

E-01 GENERAL

All described in these specifications supplement the work detailed in the Task Work Orders issued under the Road Construction Continuing Service Agreement. In the event any work conflicts with the aforementioned Task Work Orders, the Task Work Order provision herein shall prevail.

All work shall be performed in accordance with the design plans and the FDOT Standard Specifications for Road and Bridge Construction, current edition or as specified in the Work Order, except as provided for in these "Technical Specifications." Deviation from these standards will be permitted only upon presentation of specific written authorization by the County.

Whenever, in the Florida Department of Transportation's Standard Specifications for Road and Bridge Construction, the following terms or their pronouns occur, they shall be defined as follows: Department of Transportation: Board of County Commissioners of Alachua County, Florida, or its duly authorized representative.

State Highway Engineer, State Transportation Engineer, District Engineer, Engineer of Materials and Tests, Engineer, Inspector: The Alachua County Engineer.

E-02 STANDARD DOCUMENTS

Construction shown on the Drawings shall conform to the technical portions of the:
Florida Department of Transportation Standard Specifications for Road and Bridge Construction, current edition or as specified in the Work Order , the Florida Greenbook, 2018 edition and the Americans with Disabilities Act Guidelines, except when otherwise indicated hereinafter.

The drawings reference Index Sheets and Standards which are the FDOT Standard Plans for Roadway and Bridge Construction, current edition or as specified in the Work Order .

References to Article Numbers, hereinafter, apply to the FDOT Standard Specifications for Road and Bridge Construction, current edition or as specified in the Work Order .

All traffic control devices and procedures shall conform to the FDOT and/or Federal Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), 2009 edition.

E-03 MODIFICATIONS TO THE FDOT STANDARD SPECIFICATIONS

All work on the roadway portion of this Contract shall conform to the applicable technical specifications of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, current edition or as specified in the Work Order , (Division II and III) and the current edition of Supplemental Specifications thereto, except as modified and supplemented hereinafter or in the "Technical Specifications" section. The following shall be interpreted as additions unless otherwise noted. References to Section numbers hereinafter apply to the FDOT Standard Specifications. In the event that any information contained hereinafter or in the "Technical Specifications" section conflicts with the FDOT Standard Specifications, the provisions contained herein shall prevail.

DEFINITIONS AND TERMS

1-3 Definitions:

Calendar Day Contract
Work Order in which contract time is specified in calendar days.

Contract Documents
Includes Work Orders, Agreements, Work Order Amendments, and any other documents issued after opening of bids.

Department
Shall be understood to be the County (Alachua County) or authorized representative of the County.

Holidays
To Holidays listed, add Juneteenth and Christmas Eve Day.

Substantial Completion

Substantial completion shall be defined in each Work Order.

Supplemental Agreement

This term shall be understood to be a Work Order Amendment.

Working Day

Saturdays, Sundays and County-designated holidays are not considered working days.
Unless prior approval is received from the County Engineer, work shall not be performed on these days.

PROPOSAL REQUIREMENTS AND CONDITIONS

Delete this section.

AWARD AND EXECUTION OF CONTRACT

Delete this section.

PERFORMANCE AND PAYMENT BONDS

Within ten (10) business days after signature of the Work Order by the Parties, Contractor shall provide Owner with Payment and Performance Bonds, in the forms provided by the County**,** in the amount of 100% of the total sum of the Contract Amount, the costs of which are to be paid by the Contractor.

If the surety for any bond furnished by the Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall, within five (5) calendar days thereafter, substitute another bond and surety, both of which shall be subject to the minimum requirements noted above and County's approval.

In accordance with the requirements of §255.05(1)(a), Florida Statutes, the Contractor shall record a copy of the Performance and Payment Bonds in the Public Records of Alachua County, Florida, prior to performing any Work under this Agreement. The Contractor shall deliver a certified copy of the recorded Performance and Payment Bonds to the County at least five (5) days prior to performing any

Work under this Agreement. The Contractor shall not perform any Work under this Agreement prior to recording said bonds. The timely delivery of the certified copy of the recorded Performance and Payment Bonds is a condition precedent to County's obligation to make any payments to the Contractor hereunder.

It is the Contractor's responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price, and the amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the County.

SCOPE OF THE WORK

4-3.2.1 Allowable Costs for Extra Work

The Contractor will receive compensation for any premium for acquiring a bond for such additional or unforeseen work at the original Contract bond rate paid by the Contractor; the Contractor shall provide documentation to the County demonstrating the bond rate paid in order to receive additional compensation for bond premiums. No compensation for bond premium will be allowed for additional or unforeseen work paid via initial contingency pay items.

4-5 Rights in and use of material found on the site of the work

All usable excess materials (pipe, vegetation, structures, earth, etc.) shall remain property of Alachua County and shall be stockpiled for removal by the County or delivered as specified in the "Technical Specifications." Unusable, damaged or other excess materials, as designated by the County Engineer's representative, shall be disposed of by the Contractor.

All other items addressed in Section 4 of the specifications are deleted.

CONTROL OF MATERIALS

Prior to ordering of materials, provide a material submittal for approval by the County for all materials & products that will be incorporated into the project. This shall include all materials included on the Approved Products List.

6-3.2 Use of Right-of-Way for Storage

The contractor shall provide a copy of any agreement made with any party for utilization of space for storage (laydown yard, stockpile area, parking, etc.) outside of the County's Right-of-Way.

LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC

7-11.5.3 Utility Adjustments

Delete this subsection.

7-13 Insurance

Delete this subsection.

7-14 Contractor's Responsibility for Work

This subsection is replaced with the following:

The Contractor will take charge and custody of the Work and take every necessary precaution against damage to the Work, by the action of the elements or from any other cause whatsoever, until the Department's final acceptance of the Work. The Contractor will rebuild, repair, restore, and make good, all damage to any portion of the Work occasioned by any of the above causes before final acceptance of the Contract.

The Department will have no obligation to pay any reimbursement for damage caused by the execution

or non-execution of the Work by the Contractor or its sub- contractors, or damage the Contractor was negligent in preventing.

For damage to installed material caused by third parties, the Contractor shall pursue recovery from the third party. The Department shall not reimburse the Contractor for repair costs due to damage, theft or vandalism to installed material caused by third parties. If the third party is unknown or the Contractor is unable to obtain recovery from the third party, the Contractor may pursue recovery through its Insurance Policy.

The Department may, at its discretion, reimburse the Contractor for the repair of damage to the Work not caused by a third party and due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to Acts of God, of the public enemy, or of governmental authorities.

7-22 Available Funds
Delete this subsection.

7-23 Contractor's Motor Vehicle Registration
Delete this subsection.

PROSECUTION AND PROGRESS

8-1 Subletting or Assigning of Contracts
Provisions concerning subcontracts are contained in the Agreement

8-6 Suspension of Contractor's Operations - Holidays and Special Events
A working day shall not be charged for such suspensions;

8-7.3 Adjusting Contract Time

8-7.1 General: Perform the contracted work fully, entirely, and in accordance with the Contract Documents within the Contract Time as specified by the Work Order, or as may be extended in accordance with the provisions herein below.

8-7.2 Date of Beginning of Contract Time: Delete this subsection.

8-7.3 Adjusting Contract Time

8-7.3.1 Increased Work: The Department may grant an extension of Contract Time when it increases the Contract Price due to overruns in original Contract items, adds new work items, or provides for unforeseen work. The Department will base the consideration for granting an extension of Contract Time on the extent that the time normally required to complete the additional designated work delays the Contract completion schedule.

8-7.3.2 Contract Time Extension: The County may grant an extension of Contract Time when a controlling item of work is delayed by factors not reasonably anticipated or foreseeable at the time of bid. The County may allow such extension of time only for delays occurring during the Contract Time period or authorized extensions of the Contract Time period. When failure by the County to fulfill an obligation under the Contract results in delays to the controlling items of work, the County will consider such delays as a basis for granting a time extension to the work order.

Whenever the Engineer suspends the Contractor's operations, as provided in 8-6, for reasons other than the fault of the Contractor, the Engineer will grant a time extension for any delay to a controlling item of work due to such suspension. The County will not grant time extensions to the work order for delays due to the fault or negligence of the Contractor.

The Department will grant time extensions, on a day for day basis, for delays caused by the effects of rains or other inclement weather conditions, related adverse soil conditions or suspension of operations that prevent the Contractor from productively performing controlling items of work resulting in:

1. The Contractor being unable to work at least 50% of the normal workday on pre-determined controlling work items; or
2. The Contractor must make major repairs to work damaged by weather, provided that the damage is not attributable to the Contractor's failure to perform or neglect; and provided that the Contractor was unable to work at least 50% of the normal workday on pre-determined controlling work items.

No additional compensation will be made for delays caused by the effects of inclement weather.

The Department will consider the delays in delivery of materials or component equipment that affect progress on a controlling item of work as a basis for granting a time extension if such delays are beyond the control of the Contractor or supplier. Such delays may include an area-wide shortage, an industry-wide strike, or a natural disaster that affects all feasible sources of supply. In such cases, the Contractor shall submit substantiating letters from a representative number of manufacturers of such materials or equipment clearly confirming that the delays in delivery were the result of an area-wide shortage, an industry-wide strike, etc. No additional compensation will be made for delays caused by delivery of materials or component equipment.

The Department will not consider requests for time extension due to delay in the delivery of custom manufactured equipment such as traffic signal equipment, highway lighting equipment, etc., unless the Contractor submits documentation that he placed the order for such equipment in a timely manner, the delay was caused by factors beyond the manufacturer's control, and the lack of such equipment caused a delay in progress on a controlling item of work. No additional compensation will be paid for delays caused by delivery of custom manufactured equipment.

The Department will consider the effect of utility relocation and adjustment work on job progress as the basis for granting a time extension only if all the following criteria are met:

1. Delays are the result of either utility work that was not detailed in the Plans, or utility work that was detailed in the Plans but was not accomplished in reasonably close accordance with the schedule included in the Contract Documents.
2. Utility work actually affected progress toward completion of controlling work items.
3. The Contractor took all reasonable measures to minimize the effect of utility work on job progress, including cooperative scheduling of the Contractor's operations with the scheduled utility work at the preconstruction conference and providing adequate advance notification to utility companies as to the dates to coordinate their operations with the Contractor's operations to avoid delays.

8-8 Failure of Contractor to Maintain Satisfactory Progress
Delete these subsections.

8-9 Default and Termination of Contract
Delete this subsection

8-10 Liquidated Damages for Failure to Complete the Work.
8-10.1: Highway Code Requirements Pertaining to Liquidated Damages: Delete this subsection

8-10.3 Determination of Number of Days of Default: For all contracts, regardless of whether the Contract Time is stipulated in calendar days or working days, the Engineer will count default days in calendar days.

8-10.4 Conditions under which Liquidated Damages are Imposed: If the Contractor or, in case of its default, the surety fails to complete the work within the time stipulated in the work order, or within such extra time that the County may have granted then the Contractor or, in case of its default, the surety shall pay to the County, not as a penalty, but as liquidated damages, the amount so as provided in 8-10.2.

8-10.5 Right of Collection: The County has the right to apply, as payment on such liquidated damages, any money the County owes the Contractor.

8-10.6 Allowing Contractor to Finish Work: The County does not waive its right to liquidated damages due under the Agreement by allowing the Contractor to continue and to finish the work, or any part of it, after the expiration of the Contract Time.

8-10.7 Completion of Work by the County: In the case of a default of the work order and the completion of the work by the County, the Contractor and its surety are liable for the liquidated damages under the Agreement, but the County will not charge liquidated damages for any delay in the final completion of the County's performance of the work due to any unreasonable action or delay on the part of the County.

8-11 Release of Contractor's Responsibility
Delete this subsection

8-12 Recovery of Damages Suffered by Third Parties
Delete this subsection

MEASUREMENT AND PAYMENT

Delete this section except for Section 9-2.

9-2 Scope of Payments.
Measurement and payment of quantities shall be as measured once installed and accepted. Measurement shall be in the form of the applicable unit. Exceptions are materials stockpiled due to availability prior to need, for which 100% of invoice may be paid, not to exceed 75% of bid price for the installed and accepted material. Progress payments and final payments will be in accordance with Paragraph 7 of this Agreement.

9-2.1.1 Fuels

Delete this subsection.

MAINTENANCE OF TRAFFIC

102-5.1 Standards
Basic principles and minimum standards for all traffic maintenance activities will be in accordance with the current edition of the FDOT Standard Plans for Road and Bridge Construction and Traffic Design Standards and the Manual on Uniform Traffic Control Devices.

Develop and submit a maintenance of traffic plan. This item shall also include all temporary pavement markings and the placement of the workzone RPMs on all asphalt intermediate surfaces. RPM's, temporary and final, shall be placed prior to opening the roadway to traffic. This section shall include the usage of portable changeable messages signs (PCMS) for at least one week prior to the start of

construction to alert motorist of pending construction and during construction to alert motorist of changes in the traffic patterns or signalization control. The section shall include maintenance of pedestrian and bicycle accessibility through the work zone in accordance with FDOT and ADA standards at all times. This section shall include an off-duty law enforcement officer anytime a flagman is required in a signalized intersection. This section shall include relocation of mailboxes as required for maintenance of postal service, the temporary relocation of signs for visibility for emergency responders and final relocation. It is the contractor's responsibility to replace any signs that are damaged during construction.

Access to all driveways shall be provided at all times unless a closure is coordinated with the property owner. Coordination for driveway access with the property owners shall be the responsibility of the contractor. The contractor shall provide and maintain temporary vehicle detection at all traffic signals; use of infrared detectors are prohibited. The contractor shall notify Alachua County Public Works at least two working days prior to any planned closures.

Traffic shall not be allowed to drive on a milled surface.

The contractor shall adhere to all requirements of this section and the approved MOT plan at all times. Any deficiency of this section shall be corrected within 24-hour notice from the County; in the sole opinion and discretion of the County, failure to do so may result in liquated damages.

102-13 Basis of payment
All traffic control devices (including signs), warning devices and barriers shall be furnished and maintained by the Contractor. Cost of all devices necessary for conformance to the FDOT Standard Plans for Roadway and Bridge Construction.

Costs for Maintenance of Traffic shall be per the applicable standard plan, per day.

Costs for non-standard temporary traffic control shall be negotiated at the time of work order preparation.

PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION

This section shall include the installation, cost and maintenance of any materials to comply with construction drawings, the Stormwater Pollution Prevention Plan, the Erosion & Sedimentation Control Plan and any other regulations as required by law for any work done under this contract. This section shall include filing of a Notice of Intent with the Florida Department of Environmental Protection for stormwater discharge. Develop and submit Stormwater Pollution Prevention Plan and/or an Erosion & Sedimentation Control Plan in accordance with the Non-Technical Specifications if the plan(s) are not included in the construction drawings.

104-10 Basis of Payment
The installation and maintenance of all items for conformance to this section shall be considered incidental and included in pay items bid for this Agreement.

LITTER REMOVAL AND MOWING

The contractor shall perform litter removal, mowing and edging of the right-of-way as directed by the County Inspector

107-4 Basis of Payment
Payment for litter removal, mowing and edging shall be considered incidental and included in pay items bid for this Agreement.

CLEARING AND GRUBBING

The contractor shall clear and grub only those portions of the site necessary for construction. The contractor shall be responsible for disposing of all demolition materials in a safe and lawful manner. The contractor shall salvage to the County any item as determined by the County.

This section shall include the saw-cutting of existing driveways & sidewalks and any clearing within the limits of construction.

This section shall include trimming trees and vegetation to a height of 17.5 ft. above and 18 ft. beyond the edge of travel way, or a height of 17.5 ft. above and 4 ft. beyond the back of curb for curb and gutter sections. This section shall also include trimming trees and vegetation to a height of 8 ft. above the sidewalks/paths and 2 ft. beyond either side of the sidewalks/paths. The contractor shall notify the County Horticulturist 48 hours prior to any planned trimming operations. All tree trimming and root pruning shall be performed in accordance with ANSI A300 Standards.

110-2.1 This section shall include the removal and disposal of existing Portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter, etc., where shown in the Plans

EXCAVATION AND EMBANKMENT

This section shall include spreading, redistributing and compacting of any on-site materials as required by the work order and to the redistribution or removal onsite material required to attain the proposed grades as indicated on the plans. All excess material suitable materials shall remain property of the County. This section shall include the contractor's delivery of the excess suitable material to Alachua County Public Works Compound at 5620 NW 120th Lane Gainesville, FL.

120-4.1 Subsoil Excavation

This shall only be used as directed by the County Inspector or as required by the plans. Subsoil excavations shall occur to a depth of 24 inches below the bottom of the limerock base in accordance with Standard Plan Index 120-002 or as required by the plans.

120-6 Borrow

This shall only be used if approved by the County Inspector. Borrow material shall be supplied by the contractor from an approved, permitted source. Suitability of borrow material shall be approved by Alachua County prior to use.

120-8 Embankment Construction

Fill placed for roadway embankment or replacement of sub soil excavation shall be placed in a maximum of l2" lifts and compacted to minimum density specified in the plans. Materials placed for stormwater management basin embankments shall be placed in maximum 12" lifts. Fill material placed over the top of the pipe shall be placed in maximum of 12" thick lifts

Placement and compaction of embankment shall be constructed to full width required, in sections not less than 300 feet in length or full length of the embankment.

120-9 Compaction of Embankments

Compaction of materials which will be over four (4) feet below the top of subgrades shall be compacted to 95% of the maximum density as determined by AASHTO T-180, Method D. Materials within four (4) feet of top of subgrades shall be compacted to 98% of AASHTO T-180, Method D.

Materials placed for stormwater management basin embankments shall be compacted to a minimum of 95% of maximum density as determined by AASHTO Method T-99.

120-10 Compaction of Embankments

A lift shall be considered any single layer spread and compacted, regardless of length and size prior to subsequent placement of fill material.

Upper four (4) feet of embankment including pipe trenches: Each lift shall be tested for minimum compaction required for subgrade, as specified on the plans. No less than one density verification for each 500 linear foot length of a single lift of embankment.

Embankment sections over four (4) feet in depth including pipe trenches: Material below the upper four (4) feet - a minimum of every other lift. No less than one density verification for each 500 linear feet of a tested lift.

Embankment for retention ponds: Every other 12" lift. No less than one density verification for each 500 linear foot length of a tested lift.

120-13 Method of Measurement

Delete this entire subsection with the exception of Section 120-13.3, "Borrow Excavation" and Section 120-13.6, "Subsoil Excavation." Borrow excavation shall represent all materials obtained from off-site areas necessary for construction to required line and grade. Measurements shall be by cubic yard, truck measured, delivered and placed. All other work included in this section shall be considered grading unless bid separately.

120-14 Basis of Payment

Compensation for all work required under this section, shall be included in pay items bid for this Agreement, unless otherwise specified in the work order.

EXCAVATION FOR STRUCTURES AND PIPE

Density requirements shall be in accordance with the modification provided herein for Section 120. Exceptions provided for outside of roadway embankment still apply.

STABILIZING

LBR Stabilization: After stabilization and mixing, sample to a depth of 12" minimum for each change of subgrade material, or each section of subgrade with differing amounts of added stabilizing material. Minimum of 2 tests per mile of roadway. No less than 2 determinations shall be made per project. Verify width and depth of stabilization every 200 foot.

Density: No less than one density determination per 500 feet of subgrade or one per each section of roadway between intersections or between intersections and ends of cul-de-sac roads. Density shall be as specified on design plans, utilizing the proctor sample as modified for the LBR testing. Subgrade densities performed solely for placement of curb shall not satisfy requirements for subgrade density verification prior to base material placement. Curb densities shall be performed at the same frequency as subgrade densities. Portions of subgrade not worked as a part of overall compactive effort or sections replaced as rework or repair, shall be tested for density and bearing value prior to placement of base rock.

rework or repair, shall be tested for density and bearing value prior to placement of base rock.

160-4.1.4.3.1 Under-tolerances in Bearing Value Requirements
Where plans call for a minimum LBR value, under tolerance criteria is not applicable.

ROCK BASE

Limerock shall be constructed to specified thickness and shall be compacted to 98% AASHTO T-180. No less than one density determination per 500 linear feet of base. Minimum of one density test between intersections or intersection and end of cul-de-sac roads. A minimum of 2 densities per project shall be performed.

200-9 Calculations for Average Thickness of Base
Delete this section.

200-10 Method of Measurement
Delete this section. Quantity to be paid for shall be included in pay items bid for this Agreement, unless otherwise specified in the work order.

OPTIONAL BASE COURSE

Limerock shall be constructed to specified thickness and shall be compacted to 98% AASHTO T-180. No less than one density determination per 500 linear feet of base. Minimum of one density test between intersections or intersection and end of cul-de-sac roads. A minimum of 2 densities per project shall be performed.

285-7 Calculations for Average Thickness of Base
Delete this section.

285-8 Method of Measurement
Delete this section Quantity to be paid for shall be included in pay items bid for this Agreement, unless otherwise specified in the work order.

TURNOUT CONSTRUCTION

Driveways shall be constructed with 4-inch limerock base or equivalent, and 1 ½ inch asphalt.

Sidestreets shall be constructed with 6-inch limerock base or 12-inch stabilized subgrade, 8-inch limerock base or equivalent, and 1 ½ inch asphalt.

PRIME AND TACK COATS FOR BASE COURSES

300-10 Basis of Payment
Cost of priming shall be included in pay items bid for this Agreement, unless otherwise specified in the work order. Cost of tack coats shall be included in the unit cost of asphaltic concrete to be placed.

BITUMINOUS CRACK AND JOINT SEALING

305-1 Description.
Clean and seal joints and cracks in asphalt concrete roadway surfaces in accordance with this section. All cracks within the specified area that are one quarter (1/4) inch or greater, or as directed by the City, shall be properly prepared and sealed.

305-2 Materials.
305-2.1 Crack Seal: Use Crafco PolyFlex Type 3 or equivalent approved by the Engineer. Product shall

be asphalt based designed to fill cracks and joints in asphalt and shall have the ability to seal out water. Submit material specifications with the manufacturer's suggested installation procedures to the Engineer for approval prior to use. Deliver each lot of sealant in containers with the manufacturer's name and lot number plainly marked.

305-2.2 Blotting Material: If required, the blotting material shall be an aggregate such as cement dust, silica sand or Crafco Detack or equivalent. Cover aggregate shall be approved by the Engineer prior to use.

305-2.3 Field Performance: There shall be no pulling or tracking of the in-place crack sealant material by vehicle traffic after 20 minutes of material application. Failure to meet this requirement is cause for rejection of the material regardless of specified laboratory test results.

305-3 Equipment.

305-3.1 Crack Sealant Application Equipment: Equipment used to install the sealant into the cracks shall be as specified by the manufacturer and shall have the ability to fill cracks with two wands at the same time and maintain the proper temperature of the sealant throughout the sealing process. The heating unit shall be a jacketed double boiler melter and shall be equipped with an agitation system. The applicator hoses shall have a recirculation system or be equipped with a temperature-controlled heating system. Pouring pots or gravity-fed sealant applicators shall not be used for sealing cracks and joints.

305-3.2 Compressor: The compressor shall have 75 CFM capacity, or more, to ensure an adequate supply of air to effectively clean the joints. Any pneumatic tool lubricator must be bypassed and a filter installed on the discharge valve to keep water and oil out of the lines.

305-3.3 Hot Compressed Air Equipment: A hot compressed air lance shall be used to clean, dry and pre-heat cracks prior to applying sealant. The air lance shall consist of a compressor propane system providing a high temperature, high velocity blast of air.

305-3.4 Crack Cleaning Equipment: Cleaning of excess debris shall be done by means of power sweepers, hand brooms, or air brooms.

305-4 Construction.

305-4.1 Weather: No materials shall be placed unless the ambient and pavement temperature are 40 degrees and rising in the shade. There shall be no fog and limited chance of rain.

305-4.2 Surface Preparation: Prior to starting the application process, remove any existing dirt, vegetation or debris from the asphalt surface.

305-4.3 Crack Cleaning: All cracks and joints shall be cleaned free of all deleterious materials, including any dust, old sealant, and organic material. When vegetation exists, it shall be removed by propane torch or treated with an herbicide that sterilizes the soil; the method of removal shall be approved by the Engineer. If herbicide is approved, it shall be applied in accordance with the manufacture's specifications. The herbicide applicator shall have any required licenses and log all treatments in accordance with Federal, State or Local laws and regulations. All cracks shall be completely dry prior to applying any crack sealing materials. The contractor may use a hot compressed air lance method for cleaning and drying cracks with approval by the Engineer; care shall be take not to overheat the asphalt surface. All cracks shall be blown clean by high pressure air. All materials and debris removed from cracks shall be removed from the pavement surface immediately. Any cracks not sealed the same day they are prepared shall be blown clean with compressed air prior to continuing sealing operations.

305-4.4 Sealant Heating: The temperature of the sealant shall be headed and maintained using the

manufacture's recommended procedures. The sealant compound shall be melted slowly with constant agitation until it is lump-free and free flowing. Care shall be taken to ensure the sealant is not heated above the manufacture's recommended maximum temperature or for longer than the recommended application life. The Engineer shall have the right to reject the product if it is determined this has occurred.

305-4.5 Sealant Application: The sealant shall be applied in the crack or joint reservoir uniformly from the bottom to the top and shall be filled without formation of entrapped air or voids. The sealant shall be installed so that it is recessed approximately one eight (1/8) inch below the pavement surface to prevent tracking. Sealant shall be applied to slightly overfill the reservoir and then struck off using a "V" shaped squeegee. The remaining squeegee material shall be flush with the pavement surface. In no case shall the width of excess material on the pavement surface exceed (4) inches. At no time shall the sealant be in excess of one sixtieth (1/16) inch above the adjacent surface and shall extend no more than one and a half (1.5) inches from the crack edges. Each wand shall have removable heads so that variable width discs from two (2) to four (4) inches that shall be installed at the Engineer's request.

305-4.6 Blotting Application: Prevent tracking with an application approved blotting material, unless it can be demonstrated that the crack and joint sealer will not track without the application.

305-5 Acceptance

The sealant shall be removed, and resealed, at no charge to the City, if any of the of the following occur: 1) the sealant contain imbedded foreign material other than blotting materials, 2) the sealant contain entrapped air bubbles, 3) the sealant has de-bonded or pulled away from the crack; 4) the sealant has been excessively heated, or 5) the materials or method of construction did not conform to this specification.

305-6 Method of Measurement.

The quantity of crack sealing to be paid for amount of gallons applied and accepted. A log sheet shall be maintained during the crack seal operations which shall include the following: 1) Date, time and amount added to melter; the lot number from each box shall be recorded; 2) Road name, date, time application process starts, amount installed, and time application process ends; and 3) Weather conditions. Submit log with each application for payment.

305-7 Basis of Payment.

Price and payment will be full compensation for furnishing all materials and performing the work specified in this section.

MILLING OF EXISTING ASPHALT PAVEMENT

327-1 Description

Mill material shall remain the property of Alachua County unless otherwise specified by the County Engineer in writing. This section shall include the contractor's delivery of the milled asphalt to the Alachua County Public Works Hague Facility at 5620 NW 120th Lane, Gainesville, FL 32653. Delivery shall be coordinated with the County Road Superintendent and Inspector. Delivery location is subject to change upon issuance of the Work Order.

HOT BITUMINOUS MIXTURES, GENERAL CONSTRUCTION REQUIREMENTS

The Contractor shall furnish asphaltic concrete from a FDOT certified plant. The Contractor's quality control shall be implemented in accordance with Section 330 during the course of providing materials for the project.

SUPERPAVE ASPHALT CONCRETE

Delete this section and replace with the following:

334-1 Description.

334-1.1 General

Construct a Hot Mix Asphalt (HMA) pavement based on the type of work specified in the Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use a HMA mix that meets the requirements of this specification

334-1.2 Asphalt Work Mix Categories

Construction of Hot Mix Asphalt Pavement will fall into one of the following work categories:

334-1.2.1 Asphalt Work Category 1: Includes the construction of bike paths and miscellaneous asphalt.

334-1.2.2 Asphalt Work Category 2: Includes the construction of new HMA turn lanes, paved shoulders and other non-mainline pavement locations.

334-1.2.3 Asphalt Work Category 3: Includes the construction of new mainline HMA pavement lanes, milling and resurfacing.

334-1.3 Mix Types

Use the appropriate HMA mix as shown in Table 334-1.

Table 334-1
HMA Mix Types

Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Department's Standard Specifications for Road and Bridge Construction.

334-1.4 Gradation Classification

HMA mixes are classified as either coarse or fine, depending on the overall gradation of the mixture. Coarse and fine mixes are defined in 334-3.2.2. Use only fine mixes.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5 ..... 9.5 mm
Type SP-12.5, FC-12.5 ..... 12.5 mm

334-1.5 Thickness

The total pavement thickness of the HMA pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is

specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

Spread rate (lbs/yd^2) = t x G_{mm} x 43.3

where: t = Thickness (in.) (Plan thickness or individual layer thickness)
G_{mm} = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

334-1.5.1 Layer Thicknesses: Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for HMA mixtures are as follows:

Type SP-9.5, FC-9.5.....¾ – 1-1/2 inches
Type SP-12.5, FC-12.5.....1 ½ – 2-1/2 inches

334-1.5.2 Additional Requirements: The following requirements also apply to HMA mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by ½ inch, and the maximum allowable thickness may be increased by ½ inch, unless called for differently in the Contract Documents.

334-1.6 Weight of Mixture

The weight of the mixture shall be determined as provided in 320-2.2 of the Florida Department of Transportation (FDOT) specifications.

334-2 Materials.

334-2.1 Superpave Asphalt Binder

Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Qualified Products List (QPL). If the Contract calls for an alternative binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

334-2.2 Aggregate

Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf .

334-2.3 Reclaimed Asphalt Pavement (RAP) Material

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 mix to a maximum of 50% by weight of total aggregate. When using a PG 76-22 (PMA), or PG 76-22 (ARB) asphalt

binder, limit the amount of RAP material used in the mix to a maximum of 20% by weight of total aggregate. As an exception, amounts greater than 20% RAP by weight of total aggregate can be used if no more than 20% by weight of total asphalt binder comes from the RAP material.

2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.

3. Provide RAP material having a minimum average asphalt content of 4.0% by weight of total mix. . As an exception, when using fractionated RAP, the minimum average asphalt binder content for the coarse portion of the RAP shall be 2.5% by weight of the coarse portion of the RAP. The coarse portion of the RAP shall be the portion of the RAP retained on the No. 4 sieve. The Engineer may sample the stockpile to verify that this requirement is met.

4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. 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.

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

334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. The Engineer reserves the right to change the asphalt binder type and grade during production based on characteristics of the RAP asphalt binder.

Table 334-2
Asphalt Binder Grade for Mixes Containing RAP

Percent RAP	Asphalt Binder Grade
< 20	PG 67-22
20 – 29	PG 58-22
≥ 30	PG 52-28

334-3 Composition of Mixture.

334-3.1 General

Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. 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.

334-3.2 Mix Design

334-3.2.1 General: The Contractor shall use a valid, currently approved FDOT Mix Design. Copies of approved mix design shall be provided by the Contractor and shall be approved by the County prior to use. Design the asphalt mixture in accordance with AASHTO R 35-09, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

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 at design as defined in AASHTO M 323-12, Table 3. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-12, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-12, 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.

334-3.2.3 Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312-12 with the following exceptions: use the number of gyrations at N_{design} as shown in Table 334-3.

Table 334-3
Gyratory Compaction Requirements

Traffic Level	N_{design} Number of Gyrations
A	50
B	65
C	75

334-3.2.4 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-12, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-12, Table 6. $N_{initial}$ and $N_{maximum}$ requirements are not applicable.

334-3.2.5 Moisture Susceptibility: 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's Qualified Products List or hydrated lime in order to meet these criteria.

In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

334-3.2.6 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 (if required).
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%.
8. A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.
9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content and must conform to all specified physical requirements.
10. The name of the mix designer.
11. The ignition oven calibration factor.

334-4 Process Control

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

334-5 General Construction Requirements

334-5.1 Weather Limitations

Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the paving operations.

334-5.2 Limitations of Paving Operations

334-5.2.1 General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, dry, clean, and the tack, with acceptable spread rate, is properly broken.

334-5.2.2 Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat meets the requirements of Table 334-4.

Table 334-4
Ambient Air Temperature Requirements for Paving

Layer Thickness or Asphalt Binder Type	Minimum Temperature (°F)
≤1 inch	50
Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation ≥ 76°C	45
Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation < 76°C	40

334-5.3 Mix Temperature

Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30ºF from the target temperature as shown on the mix design. Reject all loads outside of this range.

334-5.4 Transportation of the Mixture

Transport the mix in trucks of tight construction, which prevents the loss of material and the excessive loss of heat and previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an 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. Do not use a release agent that will contaminate, degrade, or alter the characteristics of the asphalt mix or is hazardous or detrimental to the environment. Petroleum derivatives (such as diesel fuel), solvents, and any product that dissolves asphalt are prohibited. Provide each truck with a tarpaulin or other waterproof cover mounted in such a manner that it can cover the entire load when required. When in place, overlap the waterproof cover on all sides so it can be tied down. Cover each load during cool and cloudy weather and at any time it appears rain is likely during transit with a tarpaulin or waterproof cover. Cover and tie down all loads of friction course mixtures.

334-5.5 Preparation of Surfaces Prior to Paving

334-5.5.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

334-5.5.2 Patching and Leveling Courses: As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

334-5.5.3 Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

334-5.5.4 Tack Coat: Use a rate of application as defined in Table 334-5. Control the rate of application to be within plus or minus 0.01 gal. per square yard of the target application rate.

The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine the rate of application as needed to control the operation. When using PG 52-28, multiply the target rate of application by 0.6.

Table 334-5
Tack Coat Application Rates

Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd^2)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.03 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.05
	Milled Surface	0.07

334-5.6 Placing Mixture

334-5.6.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

334-5.6.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. 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 334-5.3, the Contractor may then place the mixture caught in transit.

334-5.6.3 Checking Depth of Layer**:** Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

334-5.6.4 Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

334-5.6.5 Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

334-5.6.6 Thickness Control: Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by ±50 lbs per sy for layers ≥ 2.5 inches or exceeds the target spread rate by ±25 lbs per sy for layers < 2.5 inches, address the unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

334-5.6.7 Material Transfer Vehicle: For all final surfaces courses the contractor shall utilize a remixing material transfer vehicle (example: Roadtec MTV1000 or Terex CR662RM) to allow for continuous paving and remixing or asphalt materials.

334-5.7 Leveling Courses

334-5.7.1 Patching Depressions: Before spreading any leveling course, fill all depressions in

the existing surface as shown in the plans.

334-5.7.2 Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

334-5.7.3 Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

334-5.8 Compaction

For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-5.9 Joints

334-5.9.1 Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15-foot manual straightedge meeting the requirements of FDOT Test Method FM 5-509. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

334-5.9.2 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

334-5.10 Surface Requirements

Construct a smooth pavement with good surface texture and the proper cross slope.

334-5.10.1 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, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

In areas not defined to be a density testing exception per 334-6.4.1, obtain for the Engineer, three 6-inch diameter roadway cores at locations visually identified by the Engineer to be segregated. The Engineer will determine the density of each core in accordance with FDOT Test Method FM 1-T 166 and calculate the percent G_{mm} of the segregated area using the average G_{mb} of the roadway cores and the representative PC Gmm for the questionable material. If the average percent G_{mm} is less than 90.0, address the segregated area in accordance with 334-5.10.4.

334-5.10.2 Cross Slope: Construct a pavement surface with cross slopes in compliance with

the requirements of the Contract Documents.

334-5.10.3 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.

334-5.10.3.1 Straightedge Testing:

334-5.10.3.1.1 Acceptance Testing: Using a rolling straightedge, test the final (top) layer of the pavement, whether a friction or structural course, and all intermediate structural course layers. Test all pavement lanes where the width is constant using a rolling straightedge 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.

334-5.10.3.1.2 Final (Top) Pavement Layer: At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

334-5.10.3.1.3 Straightedge Exceptions: Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, bicycle/shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

334-5.10.4 Correcting Unacceptable Pavement: Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane, at no additional cost. Alternatively, the engineer reserves the right to accept the deficient area at no pay or reduced pay.

334-6 Acceptance of the Mixture

334-6.1 General

Contractor Quality Control test results may be verified by the County by separate sample.

The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.
2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3
3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

334-6.2 Certification by the Contractor

On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

334-6.3 Certification and Process Control Testing by the Contractor & County

On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. ***The contractor shall provide this information***

package within 5 (five) business days; if the package is not received within this time period, 10% of the asphalt placed shall not be paid for each and every calendar day the package is not submitted as liquidated damages. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the County, or performing an Engineering analysis to determine the final disposition of the material. .

334-6.3.1 Process Control Sampling and Testing Requirements: Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation (P_{-8} and P_{-200}) and asphalt binder content (P_b). The County shall measure the roadway density with 6-inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day. The Contractor shall be responsible for the cutting 6-inch diameter cores and providing them to the County.

Determine the asphalt binder content of the mixture in accordance with FDOT Method FM 5-563. Determine the gradation of the recovered aggregate in accordance with FM 1-T 030. Determine the roadway density in accordance with FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (Gmm) from the approved mix design. If the Contractor or Engineer suspects that the mix design Gmm is no longer representative of the asphalt mixture being produced, then a new Gmm value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-6.

Table 334-6
Process Control and Acceptance Values

Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (daily average)	Minimum 91.5% of Gmm
Roadway Density (any single core)	Minimum 88% of Gmm

334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer
On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation (P_{-8} and P_{-200}) and asphalt binder content (P_b). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per project; however the engineer may randomly obtain samples as his discretion. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the County, or performing an Engineering analysis to determine the final disposition of the material.

334-6.4.1 Acceptance Testing Exceptions: When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, bike/shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread

rate less than 100 lb per square yard. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-7 Method of Measurement

For the work specified under this Section, the quantity to be paid for the area placed and accepted in square yards or will be the weight of the mixture, in tons. No compensation is provided for asphalt beyond the specified thickness. Areas below the specified thickness shall be corrected at no cost to the County.

The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified in 334-5.5.4. There will be no separate payment for the asphalt or unit price adjustment for binder material in the asphalt mix.

334-8 Basis of Payment

334-8.1 General

Price and payment will be full compensation for all the work specified under this Section (including the applicable requirements of Sections 320 and 330). No composite pay factor will be paid.

ASPHALT EMULSION SURFACE TREATMENTS

335-1 Conventional and Modified Bituminous Chip Seal

335-1.1 Description: This work shall consist of furnishing all labor, equipment, material, supplies, and other incidentals necessary to provide an application of polymer emulsified asphalt and cover coat aggregate to an existing roadway surface.

335-1.2 Materials.

335-1.2.1 Asphalt Emulsion: Provide asphalt emulsion as specified by the Work Order. Provide CRS-2H for Conventional and CRS-2P for Modified. CRS-2H and CRS-2P shall meet the requirements of AASHTO M316 and shall comply with the tables below. When CRS-2P is specified, apply the following modifications:

a). Distill the CRS-2P at 400°F for 20 min. and

b.) Provide Polymer-Modified Cationic Emulsified Asphalt, CRS-2P produced by using polymer modified base asphalt only. The emulsion shall be pumpable and suitable for application through distributor truck.

Table 335-1
CRS-2H (Conventional) Requirements

Test	Conditions	Minimum/Maximum
Test on Emulsions		
Saybolt Furol Visc.	122 °F	100/400 seconds
Settlement	5 days (a)	Maximum 5%
Storage Stability	24 hour (b)	Maximum 1%
Demulsibility	35 mL 0.8% DSS(c)	Minimum 40%
Particle Charge		positive
Sieve Test		Maximum 0.1%
Residue by Distillation		Minimum 65%
Tests on Residue		
Penetration (0.1 mm)	77 °F, 100 g, 5 seconds	80/140

Ductility	77 °F, 55 mm/minute	Minimum 400 mm
Solubility	In Trichloroethylene	Minimum 97.5%

(a) The test requirement for settlement may be waived when the emulsified asphalt is used in less than five days
(b) The 24-hour (one-day) storage stability test may be used instead of the five-day settlement test.
(c) The demulsibility test shall be made within 30 day from of the shipment.

Table 335-2
CRS-2P (Modified) Requirements

Test	Conditions	Minimum/Maximum
Test on Emulsions		
Saybolt Furol Visc.	122 °F	100/400 seconds
Storage Stability	24 hour (a)	Maximum 1%
Demulsibility	35 mL 0.8% DSS (b)	Minimum 70%
Particle Charge		positive
Sieve Test		Maximum 0.1%
Residue by Distillation	350 °F max	Minimum 65%
Oil Distillate	By volume of emulsion	Maximum 0.5%
Tests on Residue		
Penetration (0.1 mm)	77 °F, 100 g, 5 seconds	70/150
Ductility	77 °F, 55 mm/minute	Minimum 400 mm
Solubility	In Trichloroethylene	Minimum 97.5%

(a) The 24-hour (one-day) storage stability test may be used instead of the five-day settlement test.
(b) The demulsibility test shall be made within 30 day from of the shipment.

335-1.2.2 Cover Aggregate: The chip seal cover aggregate shall be washed, hard, durable, clean rock and free from coatings or deleterious material. All of the aggregate shall be crushed gray granite with 100% fractured faces. The aggregate shall have maximum loss of 20% when tested with the LA Abrasion procedure as defined by AASHTO T96. The maximum amount of flat and elongated aggregate with a ratio of 3:1 shall not exceed 12% as determined by ASTM D4791. Only one source of aggregate shall be used for the mix design and shall conform to the following gradations:

Table 335-3 Cover Aggregate Gradation (percent passing)			
Sieve Size	1/2-inch Chip	3/8-inch Chip	1/4-inch Chip
3/4”	100	100	100
1/2”	95-100	100	100
3/8”	0-60	95-100	100
1/4”	0-10	0-35	95-100
No. 4	N/A	N/A	N/A
No. 8	0-3	0-3	0
No 200	0-1.0	0-1.0	0-1.0

335-1.3 Equipment.

335-1.3.1 Asphalt Distributor: The distributor shall be self-powered and capable of providing a uniform application rate of emulsion varying from .05-1.00 gallon per square yard over a variable width up to the maximum width as required by the Engineer in a single pass. Distributor shall be self-powered and include a computerized application controls, a tachometer, pressure gauges, accurate volume devices, calibrated tank, and a thermometer for measuring temperatures of the emulsion in the tank.

The distributor shall be equipped with ground speed control and a variable power unit for the pump and full circulation spray bars, which are adjustable laterally and vertically. Prior to construction, the nozzle angle shall be adjusted uniformly to 15 - 30 degrees at an angle to the axis of the spray bar, and the spray bar height shall be set to provide one hundred percent of triple coverage in a single pass. Where multiple lane passes will be required to complete the road width, overlapping passes must be four inches with fifty percent coverage so that the next pass will complete the full application rate specified. The longitudinal joints shall coincide with existing painted lane lines.

335-1.3.2 Aggregate Spreader: The aggregate spreader shall be self-propelled and supported by at least four tires on two axles capable of providing a uniform application rate of aggregate from five to fifty pounds per square yard over a variable width up the maximum width as required by the Engineer. The uniformity of this machine shall not vary by more than one pound per square yard. The aggregate spreader shall be equipped with the means of applying the cover aggregate to the surface with computerized application rate control so that the required amount of material will be deposited uniformly over the full width of the asphalt emulsion.

335-1.3.3 Rollers: Three self-propelled pneumatic tired rollers shall be used on the project. Pneumatic rollers are capable of ballast loading, either with water or sand, which allows the weight of the machine to be varied "from 10 to 16 tons" or "not more than 20 tons" to achieve the specified contact pressure which typically runs around 80 pounds per square inch. Tire pressure shall be specified by the manufacturer for the pneumatic tire rollers and shall not vary more than plus or minus 5.0 psi. Depending on the speed of the Chip Seal operation and the width of coverage, additional rollers may be required. At no time shall the rollers travel more than 5 miles per hour.

335-1.3.4 Sweepers: Provide motorized brooms with a positive means of controlling vertical pressure and capable of cleaning the road surface prior to spraying bituminous material and removing loose aggregate after bituminous seal coating.

335-1.4 Installation.

335-1.4.1 Preparation and Placement: The Chip Seal shall not be applied when the pavement is moist, or when the weather is or may be detrimental. Detrimental weather is defined as rain showers, cool temperatures, moist pavements, threat of rain showers, or other environmental factors which could affect the performance of the Chip Seal construction. No Chip Seal shall be applied if either the pavement or air temperature is below 60°F and falling.

The Contractor shall be responsible for all measures required providing a thoroughly clean and dry pavement surface including vegetation removal and sweeping prior to the Chip Seal application. The Contractor shall remove and dispose of all raised pavement markings prior to beginning application.

Manholes, valve boxes and thermo markings (as directed by the Engineer) shall be covered with an approved material during the operation and shall be removed immediately after the street has been Chip Sealed. The Contractor is responsible for locating all exposed manholes, valve boxes and thermo markings prior to Chip Sealing.

Application of Asphalt Emulsion shall be performed by means of a pressure distributor in a manner to achieve a uniform and continuous spread over the asphalt surface. The temperature of the emulsion shall be applied within the range of 140-180°F. At no time shall the emulsion be heated above 185° in the distributor. Prior to construction, calibrate the distributor in accordance with ASTM D2995-99 in the presence of the Engineer. The distributor shall be moving forward at the proper application speed at the time the spray bar is opened. If at any time a nozzle becomes clogged or not spraying a proper pattern, the operation shall be immediately halted until repairs are made. Repairs shall be made immediately after deficiencies are noted and prior to the aggregate placement at all times during construction. The width of the emulsion application shall be no greater than the width of the aggregate spreader except where additional passes are required then the emulsion shall be four inches beyond the aggregate spread at a fifty percent application rate. At no time shall the emulsion be allowed to break, chill, setup, harden, or otherwise impair the aggregate retention before the aggregate has been properly applied and rolled.

335-1.4.2 Application of Cover Coat Aggregate: The aggregate shall be applied within one minute following the emulsion application by the approved aggregate spreader. Prior to construction, calibrate the aggregate spreader in accordance with ASTM D5624-02, in the presence of the Engineer. The allowable deviation in the amount of aggregate spread on each of the rubber mats shall not exceed plus or minus 1 pound per square yard in the transverse direction, or plus or minus 1 pound per square yard in the longitudinal direction, from the design application rate. Spreading shall be accomplished in such a manner that the tires of the trucks and aggregate spreader never contact the newly applied asphalt emulsion. The width of the aggregate spreader shall be equal to the width of the emulsion spread, except where additional passes are required. Areas, which are deficient in aggregate, shall be covered immediately with additional material. Previously used (sweeping) aggregates will not be allowed.

335-1.4.3 Mix Design: The contractor shall provide a mix design to the engineer at the Pre-Construction meeting to be approved prior to beginning work. The McLeod design method shall be utilized in determining application rates. The following application rates are suggested initial values for the mix design:

Table 335-4

Material	Asphalt Emulsion	Cover Coat Aggregate
1/2 Chip Seal	0.36 – 0.46 gal/sy	22 lbs/sy
3/8 Chip Seal	0.34 – 0.40 gal/sy	20 lbs/sy
1/4 Chip Seal	0.28 – 0.34 gal/sy	18 lbs/sy

335-1.4.4 Mix Design Test Strip: Begin the rate of application for the bituminous material as determined by the approved bituminous seal coat design. Construct a short test strip 100 feet long to ensure the bituminous material application rate is adequate. After applying the bituminous material to this test strip, place the cover aggregate at the design application rate. Inspect the aggregate after rolling for proper embedment. Make adjustments to the rate of application, if necessary. Construct one full lane width at a time. Make additional adjustments

to the rate of application during the Project, if needed.

335-1.4.5 Rolling: Initial chip seal rolling shall begin one minute after the application of cover coat aggregate. Rollers shall work in tandem and complete a minimum of three passes with a sufficient overlap. Should the rolling operation be delayed, the aggregate and emulsion spreading shall be halted until the operation regains proper sequencing and timing. The maximum speed of the rolling operations shall be 5 miles per hour.

335-1.4.6 Sweeping: Excess aggregate shall be swept from the roadway and adjacent areas. Sweep off the surplus aggregate on the same day of the chip seal construction. Exercise care to not disturb aggregate that has set. Re-sweep areas the day after the initial sweeping. The Contractor will dispose of the surplus cover aggregate in a manner satisfactory to the Engineer.

335-1.5 Quality Control.

335-1.5.1 General: The Contractor is responsible for quality control (QC) sampling and testing.

335-1.5.2 Chip Seal Aggregate:

335-1.5.2.1 Stockpile Production: Provide material gradation and quality test results taken during production. The testing rate for gradation is a minimum of one per day, or one per 1500 tons, whichever is greater. The testing rate for quality values in Table 335-3 is once per source.

335-1.5.2.2 Construction: Sample the cover aggregate once each production day. The aggregate sample will be taken from the chip spreader.

335-1.5.3 Chip Seal Asphalt Emulsion: Only asphalt emulsion from Certified Sources is allowed for use. Verify the application rate of the asphalt emulsion by dividing the volume of material used by the area of chip sealing for that day. Provide material certification and quality control test results for each batch of asphalt emulsion used on the Project. Include the supplier's name, plant location, emulsion grade, and batch number on all reports.

335-1.6 Quality Assurance.

335-1.6.1 General: The City is responsible for quality assurance (QA) sampling and testing at its discretion. Samples cannot be from split samples and must be taken randomly by the Engineer.

335-1.6.2 Cover Aggregate:

335-1.6.2.1 Stock Pile Production: Test for gradation-the testing rate is a minimum of one per day, or one per 1500 tons, whichever is greater. If the material is hauled from the production site to a temporary stockpile, test at the temporary stockpile.

335-1.6.2.2 Construction: Sample the cover aggregate once each production day. The aggregate sample will be taken from the chip spreader. Samples will be stored and tested for gradation, at the Engineer's discretion. If the results vary from the requirements of Table 335-3, the contractor will remove and replace the defective material placed as directed by the engineer to meet specifications.

335-6.3 Asphalt Emulsion: Sample the first daily shipment. Also, provide one sample for every 50,000 gallons (approximately 200 ton).

335-1.7 Basis of Payment.

Payment for the chip seal at the Contract bid unit prices of measure is compensation in full for all costs of furnishing and applying the material as specified, including cleaning the existing pavement, stationing, purchase of aggregate, delivery of aggregate, all labor, equipment, and materials necessary for the placement of the chip seal, sweeping of any loose aggregate after construction and other requirements as specified. The cost of removing existing raised pavement markings and installation of temporary paint markings for traffic control shall be considered incidental to the work unless specified elsewhere in the plans or proposal.

Payment for the accepted quantity of asphalt emulsion for chip seal (including any required additives) at the Contract bid price of measure is compensation in full for all costs of furnishing and applying the material as specified.

Payment will be made in accordance with the schedule set at the Contract bid price for the specified unit of measure. Such payment, in each instance, is compensation in full for all costs incidental thereto.

335-2 Conventional and Premium Micro Surfacing

335-2.1 Description.

Construct a micro surfacing pavement with the type of mixture specified in the Work Order. Micro surfacing is a mixture of polymer-modified emulsified asphalt, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed and spread on a paved surface.

The mix shall be capable of being spread in variable thickness cross-sections (wedges, ruts, scratch courses and surfaces) which, after curing and initial traffic consolidation, resists compaction throughout the entire design tolerance range of asphalt binder content and variable thickness to be encountered. The end product shall maintain a skid-resistant surface in variable thick sections throughout the service life of the micro surfacing.

The mix shall be a quick-traffic system that will be able to accept straight rolling traffic one hour after application.

335-2.2 Materials.

335-2.2.1 Emulsified Asphalt:

335-2.2.1.1 General Requirements: Provide asphalt emulsion as specified by the Work Order. Provide CSS-1HP for Conventional, and CSS-1EP for Premium. Emulsion shall meet the requirements of the tables below.

Table 335-5
CSS-1HP (Conventional) Requirements

Property	Test Procedure (AASHTO)	Specification	
		(min)	(max)
Viscosity, Saybolt - Furol @ 77°F, sec	T59	20	100
Storage Stability Test, 1-Day, % (a)	T59		1
Settlement, 5-Day, % (b)	T59		5
Particle Charge Test	T59	Positive	
Sieve Test, %	T59		0.10
Residue, %	T59	62	
Tests on Residue From Distillation Test: (c)			
Penetration, 77°F, 100 g., 5 sec, dmm	T49	40	90
Ductility, @77°F@ 5 cm per minute, cm	T51	40	
Solubility in Trichloroethylene, % (d)	T44	97	
Softening Point, °F	T53	135	

(a) The 24-hour (1-day) storage stability test may be used but does not predict that the 5-day settlement test will pass.
(b) The test requirement for settlement may be waived when the emulsified asphalt is used in less than five days' time.
(c) The residue from the emulsified asphalt shall be obtained in accordance with AASHTO T 59 except that the maximum test temperature shall not exceed 350°F and the duration shall not exceed 20 minutes.
(d) Solubility test is to be performed on the base asphalt used for emulsion manufacture.

Table 335-6 CSS-1EP (Premium) Requirements			
Property	Test Procedure (AASHTO)	Specification	
		(min)	(max)
Modified Base Asphalt Properties			
ODSR, kPa (G*/sin δ, 10 rad./sec) @ 76°C	T315	1	
Emulsion Properties			
Viscosity, Saybolt-Furol, @ 122°F, SFS	T59	15	150
Sieve Test, %	T59		0.1
Residue by Evaporation, %	T59	62	
Residue Properties from Low Temperature Evaporation, PP72-11, Procedure B			
MSCR @ 70°C, Jnr @ 3.2, 1/kPa	T350		0.5
MSCR @ 70°C, Recovery @ 3.2 kPa, %	T350	80	

335-2.2.1.2 Sampling, Certification, and Verification: For the first load of emulsified asphalt produced for the project, the supplier shall submit a sample to the City's designated laboratory for testing before use. Cost shall be borne by the Contractor. When applicable, a pretest number will then be assigned by the designated laboratory, which shall be furnished with all emulsified asphalt delivered to the project.

At any time during application, the Engineer may sample and test all subsequent loads of emulsified asphalt delivered to the project to verify and determine compliance with specification requirements. Where these tests identify material outside specification requirements, the Engineer may require the supplier to cease shipment of that pre-tested product. Further shipment of that pre-tested product to the City's projects will remain suspended until the cause of the problem is evaluated and corrected by the supplier to the satisfaction of the Engineer. Proper sampling and handling techniques are required, and the testing shall be completed within seven days of the sample being taken. Refer to AASHTO T 40 for emulsified asphalt sampling procedures.

335-2.2.2 Aggregate:

335-2.2.2.1 General: Use an aggregate consisting of 100% crushed stone. The aggregate shall be a crushed stone such as granite, slag, limestone, chat, or other high-quality aggregate, or a combination thereof. To assure the material is 100% crushed, the parent aggregate will be larger than the largest stone in the gradation used. Use aggregate source(s) from an FDOT approved source.

335-2.2.2.2 Aggregate Quality Tests: In addition to the requirements of FDOT Standard Specification Sections 901 and 902, meet the minimum aggregate requirements of Table 335-7.

Table 335-7 Quality Tests for Aggregate		
AASHTO Test No.	Aggregate Property	Specification Requirements
AASHTO T176	Sand Equivalent	65 Minimum
AASHTO T104	Soundness	15% Maximum using Na_2SO_4 or 25% Maximum using $MgSO_4$
AASHTO T96	Abrasion Resistance (1)	30% Maximum
AASHTO T278, T279	Polish Value	31 Minimum
(1) The abrasion test will be performed on the parent aggregate.		

335-2.2.2.3 Gradation Requirements: When tested in accordance with AASHTO T27 and AASHTO T11, the target (mix design) aggregate gradation, including the mineral filler, shall be within the gradation range for a Type II or Type III mixture shown in Table 335-8.

Table 335-8
Aggregate Gradation Requirements

Sieve Size	Type II Mix Design Range Percent Passing	Type III Mix Design Range Percent Passing	Stockpile Tolerance from Mix Design Percent Passing
3/8 inch	100	100	N/A
No. 4	90 – 100	70 – 95	± 6%
No. 8	65 – 90	45 – 70	± 5%
No. 16	45 – 70	30 – 50	± 5%
No. 30	30 – 50	20 – 35	± 4%
No. 50	18 – 30	12 – 25	± 4%
No. 100	10 – 21	7 – 18	± 3%
No. 200	5 – 15	5 – 12	± 3%

The aggregate will be accepted from the stockpile located at the project. The stockpile will be accepted based on five quality control gradation tests conducted in accordance with AASHTO T 2 and one sand equivalency test conducted in accordance with AASHTO T 176. If the average of the five gradation tests is within the stockpile tolerances shown in Table 335-8 for all of the sieve sizes, and the one sand equivalent test meets the requirement shown in Table 335-7, then the stockpile is accepted. If the average of the five gradation tests is not within the stockpile tolerances shown in Table 335-8 for any sieve size, remove the stockpiled material and replace it with new aggregate or blend other aggregate sources with the stockpiled material. Aggregates used in blending must meet the quality tests shown in Table 335-7 before blending and must be blended in a manner to produce a consistent gradation and sand equivalent value. If the sand equivalent quality control test does not meet the criteria shown in Table 335-7, remove the stockpiled material and replace it with new aggregate. If new aggregate is obtained or blending of aggregates is performed resulting in an aggregate that is not represented by the mix design, submit a new mix design to the Engineer for approval prior to production of the mix. Costs for test shall be borne by the Contractor.

The Engineer may obtain stockpile samples at any time. If the average of five gradation tests conducted in accordance with AASHTO T 2 is not within the gradation tolerances shown in Table 335-8 for any sieve size, or if the sand equivalent value does not meet the requirements of Table 335-7, cease production until the problem is corrected to the satisfaction of the Engineer.

All stockpiled aggregates shall be screened at the stockpile area prior to delivery to the paving machine to remove oversize material and non-desirable particles. The screened aggregate will be placed directly into the nurse truck or into the micro surfacing mixing machine, depending on whether continuous or truck mounted machines are used. Screened aggregate may not be placed on the ground prior to mixture laydown.

335-2.2.3 Polymer Modifier and Polymer Modified Based Asphalt: For conventional, the polymer modifier shall be either SBR or SBS in composition. It shall be co-milled with the asphalt cement during the manufacture of the emulsified asphalt to produce a homogeneous mixture. The polymer modifier shall be added in the necessary proportions to result in a minimum 3.0% polymer solid by weight of residual asphalt cement in the emulsion. For

premium, the base asphalt for the emulsion shall be SBS polymer modified at 6% prior to and not concurrent with the emulsification process and shall meet the requirements listed in Table 335-6.

335-2.2.4 Mineral Filler: Utilize Type I or I/II Portland cement, hydrated lime, limestone dust, fly ash or other approved filler, as listed in ASTM D242 for mineral filler. The owner will accept the mineral filler by visual inspection. The type and amount of mineral filler shall be determined by a laboratory mix design and will be considered as part of the aggregate gradation. An increase or decrease of less than one percent mineral filler may be permitted during production if it is found to result in better consistency or set times. Any changes to the percentage of mineral filler must meet the requirements of Table335-7.

335-2.2.5 Water: Utilize water that is potable and free of harmful soluble salts, reactive chemicals, or any other contaminants.

335-2.2.6 Additives: Additives may be added to the mixture or any of the component materials to provide control of quick-trafficking properties. The additives to be used shall be indicated on the mix design and be compatible with the other components of the mix. The additives shall be supplied by the asphalt emulsion manufacturer or approved by the laboratory as part of the mix design.

335-2.3 Mix Design.

Before work begins, the Contractor shall submit a mix design to the Engineer. The mix design must have been developed within the last year using the specific materials to be used on the project. Mix designs shall be developed by laboratories with experience in designing micro surfacing mixtures. When requested by the Engineer, the mix design shall be verified by an independent laboratory not affiliated with the emulsion supplier or the contractor. Verification shall include confirmation of the mix design results for wet cohesion and 1hour wet track abrasion loss. Projects requiring rut filling, or multilayer application, shall also require lateral displacement confirmation.

Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria. Allow the Engineer a minimum of 10 days to either conditionally verify or reject the mix design.

Meet the requirements provided in Table 335-9. After the mix design has been approved, no substitutions to the mix design will be permitted, unless approved by the Engineer. The Engineer will consider inadequate field performance of a mix as sufficient evidence that the properties of the mix related to the mix design have changed. The project will be stopped until it is demonstrated that those properties, or issues, have been sufficiently addressed.

Table 335-9
Mix Design Testing Requirements

Test	Method ISSA TB #(a)	Value	
		Conventional	Premium
Wet Track Abrasion Loss, Maximum 1 hour, soak 6-day soak	TB 100	50 g/ft^2 75 g/ft^2	38 g/ft^2 60 g/ft^2
Lateral Displacement, Maximum	TB 147A or TB 147C	5%	5%
Excess Asphalt by LWT (Maximum)	TB 109	50 g/ft^2	50 g/ft^2
System Compatibility, minimum grade	TB 144	11 points	11 points
Mixing Time, Seconds @ 77°F, minimum	TB 113	120	120
Set Time, 30 minutes, minimum	TB 139	12 kg-cm	12 kg-cm
Early Rolling Traffic Time, 60 minutes, minimum	TB 139	20 kg-cm	20 kg-cm
Water Resistance, 30 minutes	TB 102	No Discoloration	No Discoloration
Wet Stripping Test, % Coating, minimum	TB 114	90	90
System Compatibility	TB 115	Pass	Pass
To be Conducted at Recommended Job Mix Formula			

Cantabro Mass Loss – % (b)	TX 245-F	NA	2.0% Max
Indirect Tensile Stiffness Modulus – MPa (b)	EN 12697-26 Annex C	NA	10,000 min
Bulk Specific Gravity	AASHTO T166	NA	2.100-2.400
(a) Reference to ISSA TB means International Slurry Surfacing Association Technical Bulletin. (b) Samples to be prepared by ISSA TB 148 Marshall Compaction only (30 blows/side) and tested in dry condition at 25°C.			

The mix design must clearly show the proportions of aggregate, emulsified asphalt, mineral filler, water, and additive usage based on the dry weight of the aggregate; allowable adjustments to mineral filler shall be identified in the mix design. Meet the mix design component material requirements provided in Table 335-10.

Table 335-10
Mix Design Component Material Requirements

Component Materials	Specification Requirements
Residual Asphalt	6.0 to 9.0% (by dry weight of aggregate)
Mineral Filler	0.5 to 3.0% (by dry weight of aggregate)
Polymer-based Modifier(solids based on asphalt weight content)	Conventional - Minimum of 3.0% Premium – Minimum of 6.0% SBS
Additives	As needed
Water	As required to produce proper mix consistency

The materials (aggregates, emulsion, mineral filler, and additives) must be from the same source, grade and type used to develop the approved mix design. Any substitutions or alternate supplies must be preapproved by the Engineer. Changes in the aggregate source or emulsion source requires re-validating the mix design and the performance properties. Blending, co-mingling and otherwise combining materials from two or more sources, grades or types not noted in the approved Mix Design is strictly prohibited. Aggregate stockpiles and emulsion material should be located at or near the job site in sufficient quantity for the job or designated parts of the job.

335-2.4 Equipment.

335-2.4.1 General: Maintain all equipment, tools, and machines used in the performance of this work in satisfactory working condition at all times to ensure a high-quality product.

335-2.4.2 Mixing Equipment: The paving mixture shall be blended by a self-propelled, positive, non-slipping aggregate delivery system (belt over chain) micro-surfacing mixing machine which shall be a continuous flow mixing unit able to accurately deliver and proportion the aggregate, polymer-modified emulsion, mineral filler, field control additives and water to a revolving multi-blade, twin shafted mixer and discharge the mixed product on a continuous flow basis. The mixture shall be thoroughly blended so that no uncoated aggregate is visible upon discharge from the mixing unit. The machine shall be equipped with self-loading devices, which provide for the loading of all materials while continuing to lay the micro surfacing, thereby minimizing construction joints. The machine shall be equipped with opposite side driving stations to optimize longitudinal alignment. The machine shall be equipped to allow the operator to have full hydrostatic control of the forward and reverse speed during the application of the micro-surfacing material. If truck-mounted units are allowed, they shall be equipped with a positive, non-slipping aggregate delivery system (belt over chain) and have the capability of applying a minimum of 10 tons of aggregate without recharging the aggregate bin.

335-2.4.3 Water Pressure System: The mixing machine shall be equipped with a water pressure system and nozzle type spray bar to provide water spray ahead and outside the spreader box.

335-2.4.4 Proportioning Device: The machine shall be equipment with individual volume or mass controls or other gauging devices for measuring and proportion each material (i.e.,

aggregate, mineral filler, emulsified asphalt, additives, and water) added to the mix. Each material control device shall be calibrated, properly marked and positively interlocked. The aggregate feed to the mixer shall be equipped with a revolution counter or similar device so that the amount of asphalt emulsions, aggregate and mineral filler used may be determined at any time.

335-2.4.5 Spreading Equipment: Attached to the machine shall be a hydraulically adjustable type spreader box with a positive screed adjustment for yield control. The box shall be attached to the mixer, equipped with ribbon flights mounted on an adjustable shaft to continually agitate and distribute the material throughout the box. The box will be equipped with curb bumpers and replaceable runners with a minimum of 5-ft long end runners. The box shall be equipped with a sufficient walkway to provide access to either side of the spreader box without walking through the freshly applied material. The box must be capable of laying mix to a width of 14 ft. The equipment shall provide sufficient turbulence to prevent the mix from setting in the box or causing excessive build-up or lumps. To prevent the loss of mixture from the box, the contractor shall attach flexible seals, front and rear, in contact with the road. The full-width application box shall be equipped with a secondary strike-off located approximately 2 to 3 ft behind the primary strike-off to minimize transvers corrugations. The secondary strike-off shall have elevation and width adjustments similar to the primary strike-off. It shall have a pivot point where it can be tilted for texturing or raised completely off of the surface. The use of burlap drags or other drags necessary to obtain the desired surface texture shall require approval by the City. Drags having excessive build-up shall be replaced. Drags shall be kept in a completely flexible condition at all times.

335-2.4.5.1 Rut-filling Equipment: When required by the plans, micro surfacing material may be used to fill ruts, utility cuts, depressions in the existing surface, etc. Mixtures shall meet ther requirements of Type III. When rutting or deformation is less than 1/2 inch, a full width scratch course may be applied with the spreader box using a metal or stiff rubber strike-off. Ruts of 1/2 inch or greater in depth shall be filled independently with a rut-filling box, either five or six feet in width. Ruts that are in excess of 1-1/2 inch in depth may require multiple applications with the rut-filling box to restore the cross-section.

When a rut box is used, emulsified asphalt content may be reduced by 0.5% of the mix design target. Any reduction of emulsified asphalt content must be within the tolerance of the job mix formulation listed in the mix design. Material placed with the rut-filling box shall have a 1/4-inch crown to allow for traffic consolidation. Before placing subsequent lifts, allow all rut-filling material to cure under traffic for at least 24 hours.

335-2.4.6 Emulsion Pump: The emulsion pump shall be heated, positive displacement-type pump.

335-2.4.7 Auxiliary Equipment: Provide suitable surface preparation equipment, traffic control equipment, hand tools, and any other support and safety equipment necessary to perform the work.

335-2.5 Calibration.

Calibrate each mixing unit to be used in the performance of the work in the presence of the City prior to the start of construction. Previous calibration documentation covering the exact materials to be used may be acceptable, provided that no more than 60 days have lapsed. Document the individual calibration of each material at various settings, which can be related to the machine metering devices. Do not utilize any mixing unit until the calibration has been completed and approved by the City. Any component replacement affecting material proportioning requires that the machine be recalibrated. Once calibrated, the aggregate and emulsion flows shall not be changes without approval of the City. The water and additive may be adjusted in the field to control the mix properties to produce an acceptable mix.

335-2.6 Weather Limitations.

Micro surfacing shall only be applied when both pavement and air temperatures are 50°F and rising. Do not apply when the weather is foggy or rainy or there is a forecast of temperatures below 32°F within 48 hours of placement. The mixture shall not be applied when weather conditions prevent opening to traffic within a reasonable amount of time, as determined by the City.

335-2.7 Surface Preparation.

335-2.7.1 General: Remove any thermoplastic striping materials and retro-reflective pavement markers in the areas to be micro surfaced. Provide temporary striping as necessary to comply with plan requirements. Immediately prior to applying the micro surfacing, clear the surface of all loose material, silt spots, vegetation, and other material that will negatively affect the quality of the micro surfacing, utilizing any standard cleaning method. If water is used for cleaning, allow any unsealed cracks to dry thoroughly before applying micro surfacing. Protect manholes, valve boxes, drop inlets and other service entrances from the micro surfacing mixture by a suitable method. The City will approve the surface preparation prior to micro surfacing. No loose aggregate, either spilled from the lay-down machine or existing on the road, will be permitted.

335-2.7.2 Cracks: If the Work Order call for crack filling prior to construction of the micro surfacing treatment, pre-treat any cracks in the surface of the pavement with a crack filler meeting the material requirements of Section 305 prior to the application of the micro surfacing. Fill any cracks with a width greater than 1/4 inch. Do not overfill the cracks. Crack filling material must cure for a minimum of 30 days prior to application of the micro surfacing.

335-2.7.3 Rumble Strips: Where shoulders are not to be micro surfaced, prevent material from being applied to or entering any rumble strip depressions. If necessary, remove any material that enters the depressions. When rumble strips are to be micro surfaced, place a scratch course to fill the depressions prior to placing the final surface course.

335-2.7.4 Tack Coat: Place a tack coat on all concrete or brick pavement prior to constructing a micro surfacing course. In general, the City will not require a tack coat on asphalt pavements except in areas that are extremely dry or raveled, as determined by the City. If required, the tack coat should be type SS, type CSS, or the micro surfacing emulsified asphalt. It may consist of one-part emulsified asphalt to three parts water and should be applied with a standard distributor. The distributor shall be capable of applying the dilution evenly at a rate of 0.05-0.15 gallons per square yard.

335-2.8 Test Strip.

Construct a test strip for the City to evaluate. The test strip should be performed in similar conditions as those expected during actual application. The test strip shall be 1,000 feet in length at a location not associated with the project within reasonable proximity to the project staging area. The intention of the test strip is to assure adequate workmanship, aesthetics and that the cure time of the mixture is achievable when applied with the personnel, equipment and materials intended for use during execution of the project. Acceptable cure time is defined by the ability of the test strip to accept rolling traffic within one hour after placement. Full production may begin once the test strip has been accepted by the City.

If the City deems the test strip to be unacceptable, the Contractor shall make any necessary changes. Once the City is satisfied that the cause of the problem has been remedied, the Contractor may resubmit a new test strip for evaluation.

335-2.9 Application.

335-2.9.1 General: Pre-wet the surface by fogging ahead of the spreader box with water. Adjust the rate of application of the fog spray to suit temperatures, surface texture, humidity, and dryness of the pavement.

The micro surfacing shall be of the desired consistency upon leaving the mixer. Carry a sufficient amount of material in all parts of the spreader box at all times so that complete coverage is obtained. Avoid overloading of the spreader box. Do not allow lumping, balling,

or unmixed aggregate in the micro surfacing mixture.

Do not leave streaks, such as those caused by oversized aggregate, in the finished surface. If excess streaking develops, stop production until the situation has been corrected. Excessive streaking is defined as more than four drag marks greater than 1/2 inch wide and 4 inches long, or 1 inch wide and 3 inches long, in any 30 square yard area. Do not permit transverse ripples or longitudinal streaks of 1/4 inch in depth or greater, when measured by placing a 10-foot straight edge over the surface.

335-2.9.2 Rate of Application: The average single application rate, as measured by the Contractor, shall be in accordance with Table 335-11, unless otherwise specified in the plans. Full width application rates must be maintained within plus or minus 2 pounds per square yard of the specified rate. Application rates are based upon the weight of dry aggregate in the mixture. The maximum thickness of any single layer of micro surfacing at the edge of the pavement shall be 1/4 inch.

Table 335-11
Rate of Application

Aggregate Type	Location	Suggested Application Rate(1)	
Type II	Collectors, Local Roads, and Airport Runways	Single Application: 5-21 lbs/yd^2	Double Application (two lifts): Bottom: 14-18 lbs/yd^2 Top: 16-20 lbs/yd^2 Total: 30-34 lbs/yd^2
	Scratch or Leveling Course	As Required --- 14 lb/yd^2 (minimum)	
Type III	Interstate, Arterial Routes, and Wheel Ruts	Single Application: 18-26 lbs/yd^2	Double Application (two lifts): Bottom: 16-22 lbs/yd^2 Top: 18-22 lbs/yd^2 Total: 34-44 lbs/yd^2
	Scratch or Leveling Course	As Required --- 16 lb/yd^2 (minimum)	

(1) Suggested application rates are based upon the weight of dry aggregate in the mixture.

335-2.9.3 Joints: Prevent excessive buildup, uncovered areas, or unsightly appearance on longitudinal and transverse joints. Provide suitable-width spreading equipment to produce a minimum number of longitudinal joints throughout the project. Place longitudinal joints on lane lines, where possible. Use half passes and odd-width passes only when absolutely necessary. Do not apply a half pass as the last pass of any area. Do not overlap longitudinal lane line joints by more than three inches. Do not construct joints having more than a 1/4-inch difference in elevation when measured by placing a 10-foot straight edge over the joint and measuring the elevation drop-off. Construct longitudinal joints so that water is not held at the joint. Construct transverse joints at the beginning and end project limits so that the elevation difference between the micro surfacing and the adjacent pavement does not exceed 1/4 inch.

335-2.9.4 Mix Stability: Produce a micro surfacing mixture that possesses sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. The mixture shall be free of excess water or emulsified asphalt and free of segregation of the emulsified asphalt and aggregate fines from the coarser aggregate. Do not spray water directly into the spreader box while applying micro surfacing material under any circumstances.

335-2.9.5 Handwork: Utilize hand squeegees or lutes to provide complete and uniform coverage of micro surfaced areas that cannot be reached with the mixing machine. Lightly dampen the area to be hand worked prior to mix placement, if necessary. Care shall be exercised to leave no unsightly appearance from handwork. When performing handwork,

provide the same type of finish as that applied by the spreader box.

335-2.9.6 Lines: Construct straight lines along curbs and shoulders. Do not permit runoff on these areas. Keep lines at intersections straight to provide a good appearance. If necessary, utilize a suitable material to mask off the end of streets to provide straight lines. Edge lines shall not vary by more than 2 inches horizontally.

335-2.9.7 Cleanup: Remove micro surfacing mixture from all areas such as manholes, gutters, drainage structures, rumble strips, and as otherwise specified by the Engineer. On a daily basis, remove any debris resulting from the performance of the work.

335-2.9.8 Post Sweeping: If required by the City, broom the surface of any loose material within 48 hours after the completion of the micro surfacing. If directed by the City, perform this operation again approximately seven to ten days after completion of the micro surfacing as needed. Additionally, clean the surface, as necessary, prior to application of the final pavement markings.

335-2.10 Quality Control and Assurance.

335-2.10.1 General: Produce a mixture that will meet the mix design and the quality control (QC) tolerances specified in Table 335-12. Notify the Engineer immediately if QC test results exceed the tolerances specified in Table 335-12 and stop mix production. Identify the cause of the deviation and determine the corrective action necessary to bring the mixture into compliance. Obtain the Engineer's approval before resuming work.

The City reserves the right to verify, at the City's cost, QC test accuracy by an independent laboratory not heretofore associated with the project. If the Engineer identifies a condition that causes an unsatisfactory micro surfacing treatment, immediately stop production work and correct the defect at no additional cost.

Table 335-12
Micro Surfacing Quality Control Tolerances

Aggregate Gradation Tolerances (±)							
Sieve Size	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
Tolerance	6.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%

General Quality Control Tolerances (±)	
Parameter	Tolerance
Asphalt Cement Content Single Test	0.5% from mix design
Asphalt Cement Content Daily Average	0.2% from mix design
Application Rate (as determined by 1,000 ft yield checks)	2 lb/yd^2
Sand Equivalent Test (ASTM D2419)	7% from mix design

335-2.10.2 Contractor's Quality Control Plan: Provide and follow a QC plan that will maintain QC for production and construction processes. Provide the Engineer with a copy of the QC plan for review and approval before the pre-construction meeting. Include, at a minimum, the following items:

a) The source materials used on the project.
b) Sampling and testing methods used to determine compliance with material specifications.
c) The equipment to be used on the project.
d) Calibration method used to determine compliance with the mix design.
e) Pavement cleaning and preparation procedure.
f) Plan for protecting micro surfacing mixture from damage by traffic.
g) Procedure for monitoring initial acceptance requirements.
h) An action plan demonstrating adjustments of the micro surfacing operation for adverse environmental conditions.

335-2.10.3 Minimum Sampling and Testing Frequency:

335-2.11.3.1 Fine Aggregate Gradation: Sample fine aggregate from the project

stockpile and test for gradation and sand equivalency. Perform one test per 500 tons of fine aggregate.

At the discretion of the City, an alternative would allow certification of an entire stockpile. The stockpile will be accepted based on five quality control gradation tests conducted in accordance with AASHTO T 2 and five sand equivalency tests conducted in accordance with AASHTO T 176. If the average of the five gradation tests is within the stockpile tolerances shown in Table 335-8 for all of the sieve sizes and the five sand equivalent tests meets the requirement shown in Table 335-7, then the stockpile is accepted.

335-2.11.3.2 Asphalt Content: Calculate the percent asphalt content of the mixture at least three times per day. The City's on-site representative shall randomly determine the timing for the readings used to calculate asphalt content.

335-2.11.3.3 Application Rate: Calculate the yield of the course placed at least three times per day. The Owner's on-site representative shall randomly determine the timing for the readings used to calculate application rate.

335-2.10.4 Documentation: Complete a daily report that includes the following information:

a) Job number
b) Route/Street Name(s)
c) Owner's On-Site Representative
d) Date
e) Air temperature – Min/Max (during application)
f) Unit weight of emulsion (pounds per gallon)
g) Beginning and ending application locations
h) Counter readings (beginning, ending, and total difference)
i) Total area (square yards)
j) Aggregate weight
k) Gallons of emulsion
l) Application rate (pounds per square yard)
m) Contractor's authorized signature
n) QC aggregate properties (if required)
o) Asphalt emulsion bill of lading(s)

335-2.11 Acceptance.

Allow the Engineer access to in-progress work for quality assurance review and testing. Upon completion of work, schedule an inspection with the City. The City will note deficiencies. Any deficiencies identified during this process will be addressed by the Contractor at no additional cost.

335-2.12 Basis of Payment.

335-2.12.1 General: The micro surfacing shall be paid unit price per square yard, completed and accepted. Such price and payment shall be full compensation for performing all work included in this section, and shall include the cost of all materials, including the cost of the emulsified asphalt and aggregate. Crack sealing, if required, shall be paid for under the appropriate pay item.

335-3 Cape Seal

335-3.1 Description and Payment.

Construct a cape seal application by placing a chip seal application in accordance with 335-1 or rejuvenating scrub seal in accordance with 335-5 followed by a micro surface application in accordance with 335-2. Payment will be made in accordance with the separate chip seal or rejuvenating scrub seal and micro-surfacing applications as outlined in the Work Order.

335-4 Asphalt Rejuvenation

335-4.1 Description.

The work specified in this section shall consist of furnishing all labor, material, and equipment

necessary to perform all operations for the application of an asphalt rejuvenating agent with or without titanium dioxide to asphaltic concrete surface courses.

The rejuvenation of surface courses shall be by spray application of a maltene based cationic rejuvenating agent composed of petroleum oils and resins emulsified with water.

335-4.2 Materials.
The asphalt rejuvenating agent shall be an emulsion composed of a petroleum resin oil base uniformly emulsified with water. The contractor shall submit a certified statement from the asphalt rejuvenator manufacturer showing that the asphalt rejuvenating emulsion conforms to the required physical and chemical requirements shown in Table 335-13. Asphalt rejuvenating agent with titanium dioxide shall have a minimum of 2.0% TiO_2.

Table 335-13
Asphalt Rejuvenation Requirements

Property	Test Methods		Requirements	
	ASTM	AASHTO	Min	Max
Tests on Emulsion:				
Viscosity @ 25℃, SFS	D-244	T-59	15	40
Residue, % W[1]	D-244(Mod.)	T-59(Mod)	60	65
Miscibility Test[2]	D-244(Mod.)	T-59(Mod)	No Coagulation	
Sieve Test, %W[3]	D-244(Mod.)	T-59(Mod)		0.1
Particle Charge Test	D-244	T-59	Positive	
Percent Light Transmittance[4]	-	-		30
Tests on Residue from Distillation:				
Flash Point, COC, ℃	D-92	T-48	196	
Viscosity @ 60℃, cSt	D-445	-	100	200
Asphaltenes, %w	D-2006-70	-		1.00
Maltene Dist. Ratio[5]	D-2006-70	-	0.3	0.6
PC/S Ratio[5]	D-2006-70	-	0.5	
Saturated Hydrocarbons,S[5]	D-2006-70	-	21	28

[1] ASTM D-244 Modified Evaporation Test for percent of residue is made by heating 50-gram sample to 149°C (300°F) until foaming ceases, then cool immediately and calculate results.
[2] Test procedure identical with ASTM D-244-60 except that .02 Normal Calcium Chloride solution shall be used in place of distilled water.
[3] Test procedure identical with ASTM D-244 except that distilled water shall be used in place of two percent sodium oleate solution.
[4] Procedure for Determining Percent Light Transmittance on Asphalt Rejuvenating Agent:

1. Scope: This procedure covers the determination of percent light transmittance of the asphalt rejuvenating agent.
2. Apparatus:
   a. Container may be glass, plastic or metal having a capacity of 6,000 ml.
   b. Graduated cylinder, 1,000 ml, or greater
   c. Light transmittance measuring apparatus, such as Bausch and Lomb or Lumberton spectrophotometer
   d. Graduated pipette having 1 ml capacity to 0.01 ml accuracy
   e. Suction bulb for use with pipette
   f. Test tubes compatible with spectrophotometer, 3/4" X 6, Bausch and Lomb, Catalog No. 33-17- 81, (B&L)
3. Calibration of spectrophotometer; calibrate as follows:
   a. Set wavelength at 580 mu,
   b. Allow spectrophotometer to warm-up thirty minutes,
   c. Zero percent light transmittance (%LT) scale,
   d. Rinse test tube three times with tap water and fill to top of circle marking on B&L test tube or approximately 2/3 full,
   e. Place tube in spectrophotometer and set %LT scale at 100, and
   f. Repeat steps c. and e. two times or until no further adjustments are necessary.
4. Procedure:
   a. Shake, stir or otherwise thoroughly mix emulsion to be tested. Place sample of emulsion in beaker and allow to stand one minute.
   b. Place 2,000 ml tap water in container.
   c. Suck 1.00 ml emulsion into pipette using suction bulb. Wipe off outside of pipette.
   d. Using suction bulb, blow emulsion into container.
   e. Rinse pipette by sucking in diluted emulsion solution and blowing out.
   f. Clean pipette with soap or solvent and water. Rinse with acetone.
   g. Stir diluted emulsion thoroughly.
   h. Rinse out tube to be used with the diluted emulsion three times and fill to top of circle.
   i. Calibrate spectrophotometer.
   j. Place diluted emulsion sample tube in spectrophotometer, cover and read %LT to nearest tenth.
   k. Repeat steps i. and j. until three identical consecutive readings are achieved.
   l. The elapsed time between addition of emulsion to dilution of water and final %LT reading should not exceed 5 minutes.

[5] Chemical Composition by ASTM Method D-2006-70:

$$\frac{PC + A_1}{S + A_2}$$

PC = Polar Compounds, A_1 – First Acidaffins, A_2 = Second Acidaffins, S = Saturated Hydrocarbons

The rejuvenating agent shall have a record of satisfactory service as an asphalt rejuvenating agent and in-depth sealer. Satisfactory service shall be based on the capability of the material to decrease the viscosity of the asphalt binder and provide an in-depth seal. The contractor shall submit a manufacturer's certification that the material proposed for use is in compliance with the specification requirements. The contractor shall submit previous use documentation and test data conclusively demonstrating that; the rejuvenating agent has been used successfully and that the asphalt rejuvenating

agent has been proven to perform, as heretofore required, through field testing as to the required change in asphalt binder viscosity. Testing data shall be submitted indicating such product performance on a sufficient number of projects to insure product consistency and reasonable life expectancy.

335-4.3 Material Performance.

335-4.3.1 Maltene Replacement: The asphalt rejuvenating agent shall have the capability to penetrate the asphalt pavement surface. The asphalt rejuvenating agent shall be absorbed and incorporated into the asphalt binder. Verification that said incorporation of the asphalt rejuvenating agent into the asphalt binder has been effected shall be by analysis of the chemical properties the asphalt binder. The viscosity shall be reduced by a minimum of 25% for a pavement two years or less in age and reduced by a minimum of 40% for a pavement greater than two years in age as determined by dynamic shear rheometer (DSR) method for asphalt testing in accordance with AASHTO T315- 05. This analysis shall apply to extracted asphalt binder, taken from cores extracted fifteen to thirty days following application, in the upper 3/8 inch of pavement. In addition, the treated areas shall be sealed in-depth to the intrusion of air and water. The City will require that untreated and treated core samples, a minimum of six inches in diameter, be removed by the Contractor at locations indicated by the City. The treated core sample shall be taken in the same lane in close proximity to each untreated sample. A minimum of one untreated and treated core sample shall be taken for each pavement group or one per 50,000 square yards of treated pavement in each pavement group.

335-4.3.2 Photocatalytic Properties (required for rejuvenator with titanium dioxide only)

335-4.3.2.1 Titanium Dioxide Penetration Test: The TiO_2 Enhanced Asphalt Rejuvenating Agent shall have a non-destructive analytical procedure applied to determine the percent of Titanium Dioxide nanoparticles present in each two-millimeter (2mm) layer of the field core sample matrix for a minimum depth of six millimeters (6mm) from the top of the treated sample core. The method of measurement shall be by fluorescent X-ray emitted from the surface when excited by a principal X-ray source that is exceptional for the given element. A hand-held XRF analyzer may be accepted for this testing. The minimum required concentration of Titanium Dioxide nanoparticles per each two-millimeter (2mm) section up to the minimum depth (6mm) shall be 2000 parts per million.

335-4.3.2.2 NO_2 Reduction: The TiO_2 Enhanced Asphalt Rejuvenating Agent shall be verified for the effectiveness of the air pollution remediation of the Titanium Dioxide nano-particle portion of by laboratory analysis of core samples extracted from the treated pavement as directed and required by the City. The cores shall be a minimum of four inches (4") in diameter and in pairs at each location directed by the City. The cores shall be tested by an accredited laboratory or university with the equipment and capability to perform the following test procedures. A photo reactor test chamber shall be employed that allow for the evaluation of the efficient photocatalytic reduction of introduced NOx gas of a known and controlled concentration within the chamber's volume. The chamber light source shall be a UV lamp having a wavelength of 375 nanometers. The interior chamber environment shall be at 77ºF with a constant humidity of 55% ±5%. The test total duration shall be five hours. The analysis test system shall be based on a Japanese Industrial Standard (JIS) TR Z0018 "Photocatalytic Materials-Air purification test procedure". NO removal efficiency shall be measured using a Model 42i Chemiluminescence NO-NO2-NOx Analyzer (Thermo Fisher Scientific Inc.). The minimum NO reduction following the heretofore outlined test procedure evaluating field core samples shall average 25% for all cores tested.

335-4.4 Equipment.

335-4.4.1 Distributor: The distributor for spreading the emulsion shall be self-propelled and shall have pneumatic tires. The distributor shall be designed and equipped to distribute the asphalt rejuvenating agent uniformly on variable widths of surface at readily determined and

controlled rates from 0.04 to 0.5 gallons per square yard of surface, and with an allowable variation from any specified rate not to exceed 5% of the specified rate. Distributor equipment shall include full circulation spray bars, pump tachometer, volume measuring device and a hand hose attachment suitable for application of the emulsion manually to cover areas inaccessible to the distributor. The distributor shall be equipped to circulate and agitate the emulsion within the tank. The rate of application shall be controlled by an onboard computer control system designed to uniformly and consistently control the selected application rate in gallons per square yard regardless of the forward speed of the distributor truck. A check of distributor equipment as well as application rate accuracy and uniformity of distribution shall be made when directed by the City.

335-4.4.2 Sand Truck. The truck used for sanding shall be equipped with a spreader that allows the sand to be uniformly distributed onto the pavement. The spreader shall be able to apply 1/2 pound to 3 pounds of sand per square yard in a single pass. The spreader shall be adjustable so as not to broadcast sand onto driveways or to lawns. The sand to be used shall be manufactured sand free flowing, without any leaves, dirt, stones, etc. Any wet sand shall be rejected from the job site. Any equipment that is not maintained in full working order, or is proven inadequate to obtain the results prescribed, shall be repaired or replaced at the direction of the City.

335-4.4.3 Calibration.

335-4.4.3.1 Distributor: Prior to construction, calibrate the distributor in accordance with ASTM D2995-99 in the presence of the City. The distributor shall be moving forward at the proper application speed at the time the spray bar is opened. If at any time a nozzle becomes clogged or not spraying a proper pattern, the operation shall be immediately halted until repairs are made.

335-4.4.3.2 Sand Truck. Prior to construction, calibrate the spreader in accordance with ASTM D5624-02, in the presence of the City. The allowable deviation in the amount of manufactured sand spread on each of the rubber mats shall not exceed plus or minus 1 pound per square yard in the transverse direction, or plus or minus 1 pound per square yard in the longitudinal direction, from the design application rate.

335-4.5 Construction.

335-4.5.1 Layout: : The Contractor will be responsible for the layout of the roadway and project planning and sequencing to meet traffic control requirements prior to paving.

335-4.5.2 Weather and Seasonal limitations: The asphalt-rejuvenating agent shall not be applied to a wet surface or when rain is occurring or the threat of rain is present immediately before placement. The surface treatment shall not be applied when the temperature is less than 40° in the shade. When applying emulsions, the temperature of the surface shall be a minimum of 59°F, and no more than 140°F. If unexpected rain occurs prior to material penetration and sanding, the agent shall be reapplied at no cost to the county. Further, the contractor's traffic control and project monitoring shall continue until the application has penetrated, area has been sanded and the resultant surface is not slippery or dangerous to vehicular travel.

335-4.5.3 Preparation of Surface: The contractor will be responsible for blowing or sweeping the road immediately ahead of the application operation to make sure the road is free of standing water, dirt, loose aggregate and other debris. The surface shall be clean and dry prior to the application.

335-4.5.4 Application of asphalt rejuvenating emulsion: The asphalt-rejuvenating agent shall be applied by a distributor truck at the temperature recommended by the manufacturer and at the pressure required for the proper distribution. The emulsion shall be so applied that uniform distribution is obtained at all points of the areas to be treated. Distribution shall be commenced with a running start to insure full rate of spread over the entire area to be treated. Areas inadvertently missed shall receive additional treatment as may be required by hand sprayer application.

335-4.5.4.1 Material Placement: Application of asphalt rejuvenating agent shall be on one-half width of the pavement at a time. When the second half of the surface is

treated, the distributor nozzle nearest the center of the road shall overlap the previous application by at least one-half the width of the nozzle spray. In any event the centerline construction joint of the pavement shall be treated in both application passes of the distributor truck. Before spreading, the asphalt rejuvenating agent shall be blended with water at the rate of two parts rejuvenating agent to one part water, by volume or as specified by the manufacturer. The combined mixture of asphalt rejuvenating agent and water shall be spread at the rate of 0.04 to 0.10 gallons per square yard, or as approved by the Engineer following field testing. Where more than one application is to be made, succeeding applications shall be made as soon as penetration of the preceding application has been completed and the Engineer grants approval for additional applications. Grades or super elevations of surfaces that may cause excessive runoff, in the opinion of the Engineer, shall have the required amounts applied in two or more applications as directed. After the street has been treated, the area within one foot of the curb line on both sides of the road, when directed shall receive an additional uniformly applied treatment of the asphalt rejuvenating emulsion as directed by the engineer. The Contractor shall furnish a quality inspection report showing the source, manufacturer, and the date shipped, for each load of asphalt rejuvenating agent. When directed by the Engineer, the Contractor shall take representative samples of material for testing.

335-4.5.4.2 Material Placement: Test Strip for Application Rate: Prior to start of the project, the contractor shall perform test strip applications as directed by the engineer. Test strips shall be performed for each pavement group of similar age and type within the project area. The test strips shall be applied at a minimum width of 6 feet and for a length of 50 feet. A total of three test strips shall be applied at application rates of 0.04, 0.08 and 0.10 gallons per square yard, respectively. The time, in minutes, for essentially complete absorption of the asphalt rejuvenating emulsion shall be recorded for each test strip. The optimal rate to be used in a given area shall be that rate essentially absorbed within 30 minutes. In the event that all three of the standard test rates are absorbed completely within the 30-minute timeframe, then the Contractor and the Engineer shall agree on a fourth test strip application rate. Upon completion of the test strips for each pavement group, the Engineer will determine the final application rate to be applied to each pavement group.

335-4.5.4.3 Sanding/Blotting: After the rejuvenating emulsion has penetrated, and when recommended by the Contractor and approved by the Engineer, a coating of dry manufacture sand shall be applied to the surface in sufficient amount to protect the traveling public as required. All manufactured sand used during the treatment must be removed no later than 24 hours after treatment of a roadway. This shall be accomplished by a combination of hand and mechanical sweeping. All turnouts, cul-de-sacs, etc. must be cleaned of any material to the satisfaction of the Engineer. Street sweeping will be included in the price bid per square yard for asphalt rejuvenating emulsion. If, after manufactured sand is swept and in the opinion of the Engineer a hazardous condition exists on the roadway, the contractor must apply additional manufactured sand and sweep same no later than 24 hours following reapplication. No additional compensation will be allowed for reapplication and removal of materials.

335-4.5.4.4 Handling of Asphalt Rejuvenating Agent: Contents in tank cars or storage tanks shall be circulated at least 45 minutes before withdrawing any material for application. When loading the distributor, the asphalt rejuvenating agent concentrate shall be loaded first and then the required amount of water shall be added. The water shall be added into the distributor with enough force to cause agitation and thorough mixing of the two materials. To prevent foaming, the discharge end of the water hose or pipe shall be kept below the surface of the material in the distributor that shall be used as a spreader. The distributor truck will be cleaned of all of its asphalt materials and washed out to the extent that no discoloration of the emulsion may be perceptible. Cleanliness of the spreading equipment shall be subject to the

approval and satisfaction of the Engineer.

335-4.5.4.5 Street Sweeping: The Contractor shall be responsible for sweeping and cleaning of the streets after treatment. All sand used during the treatment must be removed no later than 48 hours after treatment of the street. This shall be accomplished by a combination of hand and mechanical sweeping. All turnouts, cul-de-sacs, etc. must be cleaned of any material to the satisfaction of the Engineer. If, after sand is swept and in the opinion of the Engineer a hazardous condition exists on the roadway, the contractor must apply additional sand and sweep same no later than 24 hours following reapplication. No additional compensation will be allowed for reapplication and removal of sand.

335-4.6 Method of Measurement Basis of Payment.

Asphalt rejuvenation shall be paid unit price per square yard, completed and accepted. Such price and payment shall be full compensation for performing all work included in this section, and shall include the cost of all materials, equipment, labor and testing.

335-5 Rejuvenating Scrub Seal

335-5.1 Description

This work shall consist of furnishing all labor, equipment, material, supplies, and other incidentals necessary to provide an application rejuvenating scrub seal emulsion drag broom and cover coat aggregate as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use asphalt emulsion and stone that meet the requirements of this specification.

335-5.2 Materials

335-5.2.1 Liquid bituminous material for surface treatment: Use CMS-1PC liquid bituminous material conforming to the requirements in Table 335-14. Contractor may substitute an alternative rejuvenating polymer bituminous material if approved, in advance, by the Engineer.

Table 335-14
Rejuvenating Scrub Seal

Material Designation - Cationic Asphalt Emulsion			
Emulsion Properties	Test	Min	Max
Viscosity, Saybolt Furol, 77° F (25° C), SFS	T59	50	350
Storage Stability Test, 24-h, %	T59		1
Oil Distillate, %	T59		0.5
Sieve Test, %	T59		0.1
Residue by Distillation[1] @ 350°F, %	T59	60	
Residue Properties from Distillation:	T59		
Penetration, 4°C (39.2°F), 200 g., 60 sec	T49	30	
Residue Properties from Low Temp Evaporation:	PP72-11, Procedure B		
MSCR @ 52°C, J_{nr} @ 3.2kPa	ASTM D7405		4.0
Polymer Properties:			
Swelling in rejuvenating agent, % max weight increase: 48 hours	ASTM D471 Mod[2]		40%
Tensile Strength, PSI	ASTM D412A Mod[3]	800	
Glass Transition Temperature (T_g) – Midpoint by DSC (°C)	ASTM D7426 Mod[4]	0	
Latex Density @ 23°C, (g/cm^3)	ASTM D6937 Mod[5]	1.00	1.05
Latex pH	ASTM E70 Mod[6]	6.0	8.0
Rejuvenating Agent Properties			
Flash Point, COC, °F	T48	380	

Viscosity, 140 °F, CST	T201	50	175
Saturate, % by weight	ASTM D2007		30
Asphaltenes	ASTM D2007		1.0
Test on Residue from RTFO			
Weight change, %w	ASTM D2872		6.5
Viscosity Ratio (RTFO/Orig.)	ASTM D2170		3

[1] Bring the temperature on the lower thermometer slowly to 350 °F plus or minus 10 °F. Maintain this temperature for 20 minutes. Complete the total distillation in 60 plus or minus 5 minutes.

[2] Modifications for Polymer Testing, Resistance to Swelling:

a. Using a syringe, place 0.8 gm of latex into an 18 mm diameter DSR mold.
b. Allow the sample to dry at ambient lab conditions (air conditioned) on the bench for 72 hours. Sample should be easily removable from the mold.
c. Take the "button" out of the mold and place the sample into a forced air oven at 40°C (104°F) for 48 hours (on release paper). If at the end of the ambient dry, the sample sticks to the mold, place it into the oven and check it after 1-2 hours.
d. After 48 hours cool and weigh the sample to the nearest 0.0001 gram and record the weight.
e. Put ½ inch of Rejuvenating Agent into a 3 oz penetration tin.
f. Place the "button" on the Rejuvenating Agent , and add another ½ inch Of Rejuvenating Agent, so that the "button" is covered.
g. Put the cap on the penetration tin and place it into the 40°C oven for 48 hours.
h. Remove the "button from the Rejuvenating Agent, blot surface of the "button" to remove excess Rejuvenating Agent, cool the "button" to room temperature and weigh it.
i. Calculate weight gain of the "button", express as %.

[3] Modifications:

a. To prepare the polymer film, dilute the waterborne polymer to 40% Total Solids Content and pour 57 g into a Teflon or silicone release mold of dimensions 7'' X 7'' X ¼''.
b. Allow to dry at 23°C (73 °F) and 50% RH (controlled conditions) for 7 – 10 days total time, during which time the film should be flipped around once, preferably after 3 or 4 days. The film should be transparent in the end.
c. To drive out any residual water, place the film in an oven at 50°C for 30 min. Dried film thickness should be 25 mil +- 5 mils. Discard films <20 mil.
d. Cut out dumbbell-shaped test specimens of dimension 75 mm total length, 25 mm mid-section (L) and 4 mm width of mid-section.
e. Grip in Instron machine with gap size 1 inch, use 8 inch/min cross-head speed.

[4] Use between 3 – 30 mg dry polymer. Instrument used is TA Q2000 Differential Scanning Calorimeter (DSC). Heating rate is 20°C/min.

[5] Replace "Emulsified Asphalt" with "Latex" in text of test method. The testing temperature used should be 25 +/- 3ºC. The calculation in Section 7 should be as follows:

Calculation:

D = (Wf - Wt) * 0.1
S.G. = D / 8.337
Where: Wf = Weight of filled cup (g)
Wt = Weight of empty cup (g)

[6] A pH meter with automatic temperature measurement should be used in the evaluation with a calomel cell assembly or combination electrode. Calibration should be made using the procedure with the pH meter, according to ASTM method, prior to testing the pH of the latex. In Section 9, the procedure for measuring pH of the latex should be as follows:

a. Place the electrode and probe into the dispersion that is to be measured and swirl the sample cup or beaker gently. (You may also use the probe in a stirring motion.)
b. Wait for the reading to stabilize (usually less than a minute) and read/record this value. Note the temperature if not utilizing an ATC probe.
c. Take the Electrode and ATC probes from the sample and rinse thoroughly with de-ionized water. Pat dry and place back into appropriate solution recommended by electrode manufacturer for storage.

335-5.2.2 Aggregates: Use crushed granite #89 stone conforming to FDOT specifications Section 901. aggregate shall be washed, hard, durable, clean rock and free from coatings or deleterious material.

335-5.3 Equipment

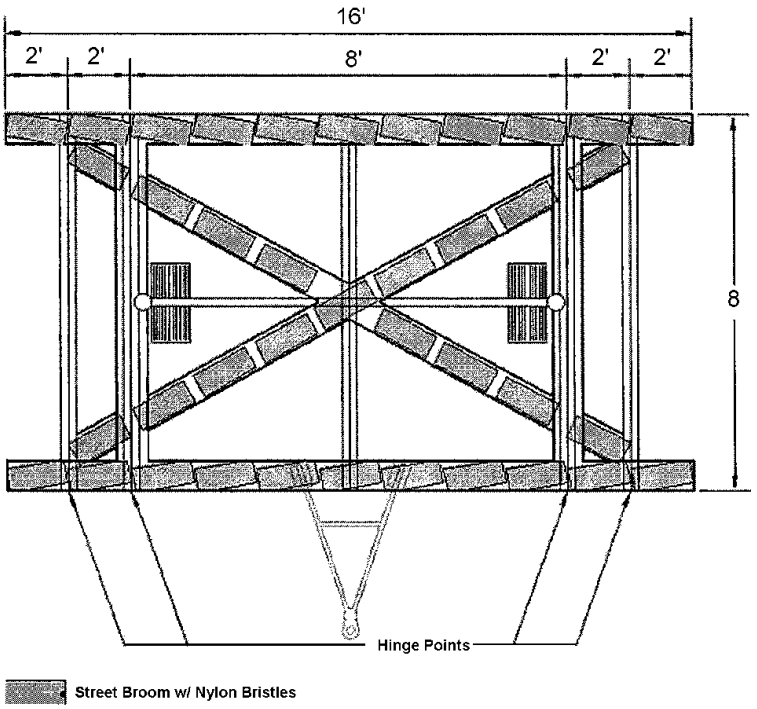
335-5.3.1 Distributor: The distributor shall be self-powered and capable of providing a uniform application rate of emulsion varying from .05-1.00 gallon per square yard over a variable width up to the maximum width as required by the Engineer in a single pass. Distributor shall be self-powered and include a computerized application controls, a tachometer, pressure gauges, accurate volume devices, calibrated tank, and a thermometer for measuring temperatures of the emulsion in the tank.

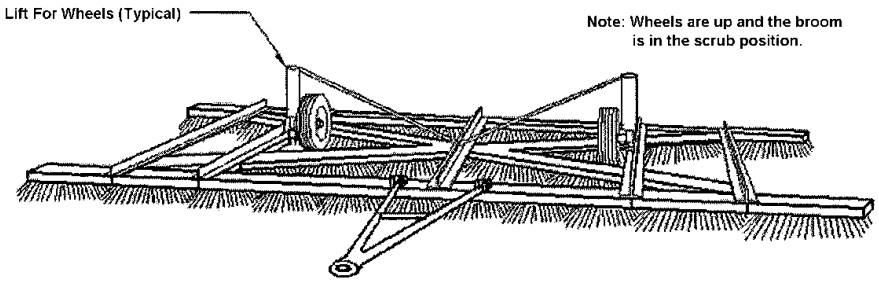
The distributor shall be equipped with ground speed control and a variable power unit for the pump and full circulation spray bars, which are adjustable laterally and vertically. Prior to construction, the nozzle angle shall be adjusted uniformly to 15 – 30 degrees at an angle to the axis of the spray bar, and the spray bar height shall be set to provide one hundred percent of triple coverage in a single pass. Where multiple lane passes will be required to complete the road width, overlapping passes must be four inches with fifty percent coverage so that the next pass will complete the full application rate specified. The longitudinal joints shall coincide with existing painted lane lines.

335-5.3.2 Aggregate Spreader: The aggregate spreader shall be self-propelled and supported by at least four tires on two axles capable of providing a uniform application rate of aggregate from five to fifty pounds per square yard over a variable width up the maximum width as required by the Engineer. The uniformity of this machine shall not vary by more than one pound per square yard. The aggregate spreader shall be equipped with the means of applying the cover aggregate to the surface with computerized application rate control so that the required amount of material will be deposited uniformly over the full width of the asphalt emulsion.

335-5.3.3 Scrub Broom: A scrub broom as described herein and depicted in the diagram below shall be used to scrub the emulsion after application. The scrub broom frame shall be constructed of metal. The scrub broom shall be attached to and pulled by the distributor truck. The scrub broom must be equipped with a means of raising and lowering the scrub broom at desired points. It shall be towable in the elevated position to the next area of construction. The weight of the broom assembly shall be such that it does not squeegee the emulsion off the roadway surface.

The main body of the scrub broom shall have a frame size as shown below. The nearest and furthest members, paralleling the back of the distributor truck, and diagonal members shall be equipped with street brooms. The leading member and the trailing member shall have broom heads angled at 10 to 15 degrees off the centerline of the supporting member as shown in the scrub broom schematic at the end of this technical provision. The diagonal members shall have broom heads attached in line with the centerline of the supporting member. Each individual street broom attached to the scrub broom assembly shall be 3.5 inches wide x 6.5 inches high x 16 inches long and have stiff nylon bristles. Bristle height is to be maintained at a minimum of five inches (5”). The scrub broom shall be equipped with hinged wing assemblies attached to the main body not to exceed 4.5 feet per side, with diagonals and equipped with street brooms and shall maintain the scrubbing process evenly as contours and cross-sections change across the existing road surface.





Scrub Broom

335-5.3.4 Pneumatic Tire Rollers: Three (3) Self-propelled pneumatic tired rollers shall be used on the project. Pneumatic rollers are capable of ballast loading, either with water or sand, which allows the weight of the machine to be varied "from 10 to 16 tons" or "not more than 20 tons" to achieve the specified contact pressure which typically runs around 80 pounds per square inch. Tire pressure shall be specified by the manufacturer for the pneumatic tire rollers and shall not vary more than plus or minus 5.0 psi

335-5.3.5 Sweepers: Provide motorized brooms with a positive means of controlling vertical pressure and capable of cleaning the road surface prior to spraying bituminous material and removing loose aggregate after bituminous seal coating.

335-5.3.6 Additional equipment: Additional equipment will be needed to complete the

operations required by this technical provision. All equipment necessary for the successful completion of projects governed by this provision shall be included in the unit costs associated herein. Availability of quality assurance devices (such as a 15' straight edge) shall be the responsibility of the Contractor.

335-5.4 General Construction Requirements

335-5.4.1 Layout: The Contractor will be responsible for the string lining and lay out of the roadway prior to surface treatment.

335-5.4.2 Weather and Seasonal limitations: The surface treatment shall not be applied to a wet surface or when rain is occurring or the threat of rain is present immediately before placement. The surface treatment shall not be applied when the ambient temperature or pavement temperature is less than 55°F.

335-5.4.3 Preparation of Surface: The chip seal material shall be placed on a firm unyielding prepared roadway. The Contractor shall be responsible for clipping back shoulders and removing overburden or any other vegetation or debris to ensure that the road is free of organic and deleterious material. Cracks in the existing roadway shall be cleaned and blown free of loose or deleterious materials prior to surface treatement. The contractor shall be responsible for removal of all Reflective Pavement Markers prior to beginning operation. Prior to the scrub seal operation, all drain inlet covers, monument covers, and all other utility covers shall be protected from the Contractor's scrub seal operations by applying a sheet of plastic over the exposed facilities, or other methods approved by the Engineer. All traces of plastic, residual emulsion and aggregate shall be removed from covered objects after the application of the scrub seal and/or prior to final inspection of the project. The contractor will be responsible for blowing or sweeping the road immediately ahead of the chip seal operation to make sure the road is free of loose aggregate and other debris.

335-5.4.4 Application of bituminous material: Prior to construction, calibrate the distributor in accordance with ASTM D2995-99 in the presence of the Engineer. Liquid bituminous material shall be applied at a rate of 0.20 – 0.50 gallons per square yard (depending on the composition of the roadway, surface texture and sized of aggregate in use to obtain proper embedment) by means of a pressure type distributor in a uniform, continuous spread over the section to be treated. The distributor shall be moving forward at the proper speed when the liquid is discharged onto the pavement to provide an even and consistent application at the rate prescribed. If any areas are deficient the operation shall be stopped and corrected immediately. The liquid shall not be applied more than one hundred (100') feet in advance of the aggregate.

The temperature of the asphalt emulsion when applied shall be between 140ºF and 180ºF. For smaller areas, the emulsion may be applied with a wand. The emulsion shall be immediately broomed to fill cracks and voids. The emulsion scrub broom shall be as described herein.

The application of the asphalt emulsion for scrub seal and scrub broom operation shall cease an appropriate distance from the end of the application as determined by the contractor. The remaining asphalt emulsion for scrub seal shall be dragged out by the scrub broom, and the remaining emulsified material required to complete the pass shall be applied only by the distributor truck, at the specified rate.

335-5.4.5 Application of cover aggregate: The aggregate shall be applied within 1 minute of the spray application of the liquid bituminous material, cover aggregate shall be spread over the liquid material at a rate of 16 – 30 lbs square yard to achieve proper embedment. Prior to construction, calibrate the aggregate spreader in accordance with ASTM D5624-02, in the presence of the Engineer. The allowable deviation in the

amount of aggregate spread on each of the rubber mats shall not exceed ± 1 pound per square yard in the transverse direction, or ± 1 pound per square yard in the longitudinal direction, from the design application rate. Spreading shall be accomplished in such a manner that the tires of the trucks and aggregate spreader never contact the newly applied asphalt emulsion. The width of the aggregate spreader shall be equal to the width of the emulsion spread, except where additional passes are required. Areas, which are deficient in aggregate, shall be covered immediately with additional material. Previously used (sweeping) aggregates will not be allowed.

335-5.4.6 Mix Design: The contractor shall provide a mix design to the engineer at the Pre-Construction meeting to be approved prior to beginning work. The Modified Kearby design method or alternative method approved by the Engineer shall be utilized in determining application rates.

335-5.4.7 Mix Design Test Strip: Begin the rate of application for the bituminous material as determined by the approved bituminous seal coat design. Construct a short test strip 100 feet long to ensure the bituminous material application rate is adequate. After applying the bituminous material to this test strip, place the cover aggregate at the design application rate. Inspect the aggregate after rolling for proper embedment. Make adjustments to the rate of application, if necessary. Construct one full lane width at a time. Make additional adjustments to the rate of application during the Project, if needed.

335-5.4.8 Rolling: Initial chip seal rolling shall begin one (1) minute after the application of cover coat aggregate. Rollers shall work in tandem and complete a minimum of three passes with a sufficient overlap. Should the rolling operation be delayed, the aggregate and emulsion spreading shall be halted until the operation regains proper sequencing and timing. The maximum speed of the rolling operations shall be 5 miles per hour.

335-5.4.9 Sweeping: Excess aggregate shall be swept from the roadway and adjacent areas. Sweep off the surplus aggregate on the same day of the chip seal construction. Exercise care to not disturb aggregate that has set. Re-sweep areas the day after the initial sweeping. The Contractor will dispose of the surplus cover aggregate in a manner satisfactory to the Engineer.

335-5.5 General Performance: Provide completed pavement which performs to the satisfaction of the engineer without bleeding, rutting, shoving, raveling, stripping, or showing other types of pavement distress or unsatisfactory performance.

335-5.6 Quality Control.

335-5.6.1 General: The Contractor is responsible for quality control (QC) sampling and testing.

335-5.6.2 Chip Seal Aggregate:

335-5.6.2.1: Stockpile Production: Provide material gradation and quality test results taken during production. The testing rate for gradation is a minimum of one per day, or one per 1500 tons, whichever is greater.

335-5.6.2.2 Construction: Sample the cover aggregate once each production day. The aggregate sample will be taken from the chip spreader.

335-5.6.3 Asphalt Emulsion: Only asphalt emulsion from Certified Sources is allowed for use. Verify the application rate of the asphalt emulsion by dividing the volume of material used by the area of chip sealing for that day. Provide material certification and quality control test results for each batch of asphalt emulsion used on the Project. Include the supplier's name, plant location, emulsion grade, and batch number on all reports.

335-5.7 Quality Assurance.

335-5.7.1 General: The County and Contractor are responsible for quality assurance (QA) sampling and testing. Samples cannot be from split samples and must be taken randomly by the Engineer.

335-5.7.2 Cover Aggregate:

335-5.7.2.1 Stock Pile Production: Test for gradation-the testing rate is a minimum of one per day, or one per 1500 tons, whichever is greater. If the material is hauled from the production site to a temporary stockpile, test at the temporary stockpile.

335-5.7.2.2 Construction: Sample the cover aggregate once each production day. The aggregate sample will be taken from the chip spreader. Samples will be stored and tested for gradation, at the Engineer's discretion. If the results vary from the requirements, the contractor will remove and replace the defective material placed as directed by the engineer to meet specifications.

335-5.7.3 Asphalt Emulsion: Sample the first daily shipment. Also, provide one sample for every 50,000 gallons (approximately 200 ton). The contractor shall provide sample containers and an independent testing laboratory for the emulsion test. The Contractor shall be responsible for the cost of the testing. The City reserves the right to test any shipment of emulsion. The contractor will remove and replace the defective material placed as directed by the engineer to meet specifications.

335-5.8 Method of Measurement & Basis of Payment: All labor, equipment and materials required by this section shall be included in the unit prices bid. The quantity to be paid shall be for all work placed and accepted by the City.

ASPHALT CONCRETE FRICTION COURSES

337-2.2 Asphalt Binder
Use a PG 76-22 asphalt binder meeting the requirements of 916-1.

337-6.1 FC-9.5 and FC-12.5
Mixture acceptance shall meet the requirements of 334-6.

337-7.8 Material Transfer Vehicle
The contractor shall utilize a remixing material transfer vehicle (example: Roadtec MTV1000 or Terex CR662RM) to allow for continuous paving and remixing or asphalt materials.

337-12 Basis of Payment
337-12.1 General
No composite pay factor will be paid. Material acceptance shall meet the requirements of 334-6.

PORTLAND CEMENT CONCRETE

Mix designs may be utilized that have current approval by FDOT for use in the appropriate application for the appropriate class of concrete. Copies of approved concrete mix design shall be provided by the Contractor and shall be approved by the County prior to use.

PORTLAND CEMENT CONCRETE – CLASS I (NONSTRUCTURAL)

Delete current specification and insert 2004 specification as amended below:

347-1 Description:

The requirements of this Section are applicable to concrete designated as Class I (Nonstructural), hereinafter referred to as concrete. Use concrete composed of a mixture of portland cement, aggregates, and water, with or without chemical admixtures, slag, or pozzolanic materials. Deliver concrete to placement site in a freshly mixed, unhardened state. Ensure the concrete is placed and cured in a manner to ensure that the strength and durability of the concrete is maintained.

347-2 Materials

347-2.1 General: Certify that all materials used in concrete are from FDOT approved sources, and free from frozen or other detrimental matter. Meet the following requirements:

(a) Portland Cement ..... Section 921
(b) Fine Aggregate.....Section 902
(c) Coarse Aggregate ..... Section 901
(d) Water.....Section 923
(e) Chemical Admixtures.....Section 924
(f) Pozzolans and Slag ..... Section 929

347-2.2 Admixture Requirements: Chemical admixtures may be added at the dosage rates recommended by the manufacturer.

347-2.3 Substitution of Materials: Approved material sources may be substituted for similar materials indicated on the originally approved mix design. Use originally approved mix components and proportions, when unsatisfactory test results are obtained from the use of the substituted material(s).

347-2.4 Material Storage: Use a concrete production facility that meets the following requirements:

347-2.4.1 Cementitious Materials Storage: Provide a separate and clearly labeled weatherproof facility to store each brand or type of cementitious material without mixing or contamination. Provide a suitable, safe and convenient means of collecting cementitious material samples at each storage facility.

347-2.4.2 Aggregate Storage: Provide suitable bins, stockpiles or silos to store and identify aggregates without mixing, segregating or contaminating different grades or types of materials. Identify Department approved pit number and aggregate type/gradation. Handle the aggregates in a manner to minimize segregation and meet the specification requirements when recovered from storage. Continuously and uniformly sprinkle coarse aggregate with water, for 24 hours preceding introduction into the concrete mix. Maintain stored aggregates in a well-drained condition to minimize free water content. Provide access for the Engineer to sample the aggregates from the recovery side of the storage facility.

347-3 Production, Mixing and Delivery.

347-3.1 Concrete Production Requirements: Deliver concrete from a production facility that is certified by the National Ready-Mixed Concrete Association (NRMCA) or approved by FDOT and on the FDOT's approved plant list. Produce concrete utilizing equipment that is in good operating condition and operated in a manner to ensure a consistent product. Within two hours prior to each day's batching, ensure that the concrete production facility determines the free moisture for the coarse and fine aggregates. On concrete placements expected to exceed three hours, perform an additional moisture test approximately half way through the batching operations and adjust batch proportions accordingly.

Ensure that the calibration of the measuring devices of the concrete production facilities meets the requirements of Chapter 531 of the Florida Statutes. At least quarterly, ensure that all scales, meters and other weighing or measuring devices are checked for accuracy by a qualified representative of a scale company registered with the Bureau of Weights and Measures of the Florida Department of Agriculture. Have the accuracy of admixture measuring dispensers certified annually by the admixture supplier.

When Volumetric Mixers are used, deliver concrete in accordance with the requirements of Volumetric Mixer Manufactures Bureau (VMMB) and ensure that the vehicle has a VMMB registered rating plate.

Substitution of structural concrete in lieu of non-structural concrete may be used if approved by the Engineer. If structural concrete is used in lieu of non-structural concrete, obtain the concrete from a production facility meeting the requirements of Section 346. Acceptance is based on the requirements of Section 347.

347-3.2 Mixers: Ensure that mixers are capable of combining the components of concrete into a thoroughly mixed and uniform mass, free from balls or lumps of cementitious materials, and capable of discharging the concrete uniformly. Operate concrete mixers at speeds per the manufacturer's design. Do not exceed the manufacturer's rated capacity for the volume of mixed concrete in the mixer, mixing drum, or container.

347-3.3 Delivery: The maximum allowable mixing and agitation time of concrete is 120 minutes. Water may be added at the job site before discharging concrete, provide the ratio values for water to cementitious materials and slump remain below the maximum allowable values specified in the approved mix design.

347-4 Control of Quality.

347-4.1 Concrete Mix Design: Before producing any concrete, submit the proposed mix design to the Engineer on a form provided by FDOT. Use only concrete mix designs meeting the following requirements and having prior approval of the Engineer.

Maximum water to cementitious materials ratio	0.55 lbs/lbs
Minimum 28-Day Compressive Strength	2,500 psi
Minimum Cementitious Materials Content	470 lbs/yd^3
Slump	0 to 6 inch

Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments and substituted material on the Department concrete delivery ticket. The Engineer may disqualify any concrete production facility for non-compliance with Specification requirements.

347-4.2 Sampling and Testing: The Engineer may sample and test the concrete at his discretion to verify its quality.

347-4.3 Records: Maintain the following records for review for at least three years:

1. Approved concrete mix designs.
2. Materials source (delivery tickets, certifications, certified mill test reports).
3. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
4. A copy of the documentation certifying the admixture weighing/measuring devices.
5. Recent NRMCA, VMMB or FDOT inspection records certifying plant can produce concrete and documentation showing that action has been taken to correct deficiencies noted during the inspections.

347-5 Certification and Acceptance.

347-5.1 General: Furnish a Delivery Ticket with each batch of concrete before unloading at the placement site. The County will provide the Delivery Ticket Form. The concrete producer may use an alternate form provided that it contains the required information. Record material quantities incorporated into the mix on the Delivery Ticket. Ensure that the Batcher responsible for production of the concrete, certifying that the batch was produced in accordance with specification requirements, signs the Delivery Ticket. Sign the Delivery Ticket certifying that the maximum specified water to

cementitious materials ratio was not exceeded due to any jobsite adjustments to the batch, and that the batch was delivered and placed in accordance with specification requirements.

Acceptance by the County will be by Certification on the Delivery Ticket, as described herein, by the Batcher and the Contractor.

The Engineer will hold the Contractor responsible for rejecting loads of concrete that do not meet the minimum compressive strength requirements. Delineate and replace, at no cost to the County, all concrete that does not meet the 28-day compressive strength requirements or has any cracking greater than 1/4 inch in width or 1/4 inch in vertical displacement. Any spalling or flaking off of the surface layer that exposes the rough, pitted aggregate surface in excess of 10 square inches is to be removed and replaced in accordance with 347-5.2. Sidewalk, ditch pavement, slope pavement, Traffic Separator, or curb and gutter having any intersecting cracks visible in the dry concrete (regardless of size) will be removed and replaced in accordance with 347-5.2.

If any uncontrolled cracks appear during the life of the Contract unacceptable to the Engineer, remove and replace the concrete in accordance with 347-5.2 at no expense to the County.

347-5.2 Remedial Action: Remedial action will be the removal and replacement of all concrete to the full depth and width. Sidewalk, Curb and Gutter, Ditch Pavement and Traffic Separator: Begin saw cutting 2 1/2 feet either side or above and below the crack or at the nearest joint, remove and replace the 5-foot section encompassing the crack.

Slope Pavement: Saw cut each scored joint above and below the crack and replace the entire section.

CONCRETE STRUCTURES

400-1 Description:

This section shall include over-excavation and backfilling of materials as required by the detail noted in the plans and shall include the foundation preparation requirements per 400-011(Section 455 – D. Spread Footings for the construction of gravity walls including all dewatering requirements.

400-23 Basis of Payment:

Price and payment for all work included in this section shall be included in pay items bid for this Agreement, unless otherwise specified in the work order.

INLETS, MANHOLES AND JUNCTION BOXES

The rear wall portion of inlet tops Type 1, 2, 3 and 4 may be brick, however, dowels to the top slab are required. Dowels shall be double row, as close to 9 inches on center as brick structure and pattern will allow.

For Type 5 and 6 inlets, the bent bar from the inlet back, continuous into the inlet top, may be constructed as a dowel of equal length to the front bar in the inlet back wall.

All inlet throat, invert, pipe cutting and grout work shall be completed prior to inlet top construction. Inlet top construction shall be completed prior to placement of asphalt.

425-8 Basis of Payment:

This section shall include all work and materials required to place, adjust and connect structures to pipes in-place as required by the plans.

PIPE CULVERTS

This section includes all pipe, grates (when required), fasteners, reinforcement, connectors, anchors,

concrete, sealants, jackets, coupling bands, and all work required to install the pipe and end treatments.

430-3 Type of Pipe to be Used

New pipe shall be 18-inch polypropylene pipe with concrete miters on each end.unless otherwise specified in the plans.

Minimum length for new pipe on turnout construction shall be 36 feet. Pipe lengths over 36 FT shall be paid per the appropriate pipe size line item per LF.

430-11.1 New Pipe Installed by Excavation or Trenching

Quantities of pipe to be paid shall be as measured, in-place and accepted. Cost of pipe shall include any additional base material required for conformance to FDOT Index No. 205.

UNDERDRAINS

Underdrain pipe shall be 6" schedule 40 PVC and this section shall include flush mounted cleanout structures at each end of pipe run and every 250 ft.

CONCRETE SIDEWALK AND DRIVEWAYS

Any and all final sidewalk in excess of a 2% cross slope, regardless of any interim phase inspection acceptance, shall be replaced at the contractor's expense. No tolerance in excess of 2% will be accepted.

All ADA ramps shall be constructed with 6" thick concrete. All 6" thick concrete (ramps, driveways, turnouts, etc.) shall require 6x6 WWM or 1.5 lb polypropylene fiber mesh per CY.

PATTERNED PAVEMENT

523-2 Materials

Use only FrictionPave Decorative Surfacing or TrafficPatterns on the Approved Products List.

DETECTABLE WARNINGS

527-2 Materials

Detectable warning surfaces outside of FDOT right-of-way shall be a cast-in place or wet set tile on the FDOT APL list in red color. No post-applied materials are acceptable. Clay or concrete red brick may be used on local roads.

GUARDRAIL

536-6 Basis of Payment

Shop bent panel and any special guardrail post required shall be included in the cost of the basic guardrail item unless any items are bid separately.

PERFORMANCE TURF

570-3.2 Seeding

The contractor shall furnish to the County Inspector, prior to placement of any seed, a certification from the Florida Department of Agriculture and Consumer Services Division of Plant Industries, stating that the seed is free of noxious weeds, including tropical soda apple. All seed materials shall be subject to inspection by the County Inspector prior to placement. Any sod with noxious weeds and grasses, including tropical soda apple, shall be rejected for use on the project.

570-3.3 Sod

Any portion of the existing right-of-way, including all easements, that is disturbed outside the limits of construction shall be sodded at the contractor's expense as directed by the County Inspector. The contractor shall furnish to the County Inspector, prior to placement of any sod, a certification from the Florida Department of Agriculture and Consumer Services Division of Plant Industries, stating that the sod is free of noxious weeds, including tropical soda apple. All sod materials shall be subject to inspection by the County Inspector prior to placement. Any sod with noxious weeds and grasses, including tropical soda apple, shall be rejected for use on the project.

570-3.4 Hydroseeding

Delete this section and replace with the following:

Contractor may elect to use hydroseed in lieu of sod or seeding with approval from the County Engineer. Contractor shall be responsible to maintain erosion control on areas that are stabilized with hydroseed. The County shall not make payment for redressing of areas the contractor elects to place hydroseed due to erosion.

A. Equipment

1. Use Equipment specifically designed for mixing the mulch, seed, fertilizer, tackifier, dye, and applying the slurry uniformly over the areas to be hydroseeded.

2. Equipment Calibration shall feature a large centrifugal slurry pump, independently controlled pump/agitator operations, twin mechanical paddle agitation, and liquid recirculation that require no calibration. The mix in the tank shall hold a certain amount of mulch, seed, and soil amendments and fertilizer, which shall be designated for a certain amount of square foot.

B. Material

1. Hydroseed

a. All seed shall meet the requirements of Florida Department of Agriculture and Consumer Service and all applicable State Laws and shall be approved by the County before use. The seed shall have been harvested from the previous year's crop. All seed bags shall have a label attached stating the date of harvest.

b. All quantities of seed specified shall be for pure live seed. It is the responsibility of the Contractor to calculate and apply the actual pure live seed poundage based on the label attached to each bag of seed.

c. The wood fiber must be made of 100% hard or soft wood which does not contain reprocessed wood or paper fibers. Wood fibers should be 0.15 inches in length and a minimum of 50% of the fibers should be retained on a twenty-five-mesh screen. Shall be applied at the specified rates per acre.

d. Mix fertilizer as required into the hydroseeding slurry.

e. Ensure the dye does not contain growth or germination inhibiting chemicals.

f. All Bahia grass seed shall have a minimum pure seed content of 95% with a minimum germination of 85% and contain less than 0.5% weed and crop seed.

g. Bermuda grass seed shall be of common variety with a minimum pure seed content of 95% and a minimum germination of85%, and Hybrid 419.

h. Annual Type Ryegrass shall have a minimum pure seed content of 95% with a minimum germination of 90% and a maximum of 150 noxious seeds per pound.

1. A minimum of 1500 pounds/acre of mulch shall be applied to any seeded area.

J. Tackifier will be required on slopes greater than 3:1.

570-9 Basis of Payment

Payment for fertilizer, seed, and mulch shall be included in pay items bid for this Agreement, unless otherwise specified in the work order. Applications of all items will be to appropriate standards applicable for the season. Cost of netting or soil to hold mulch on 3:1 or greater slopes shall be included in the bid item unit cost.

HIGHWAY SIGNING

When the contractor has the option for sign post type, the sign post type shall be 2lb/ft U-Channel.

E-04 LAYING OUT THE WORK

The Contractor shall be responsible for establishing all lines and grades together with all reference points as required by the various trades for all work under this Contract. All required layout, both horizontal and vertical, shall be completed by a Land Surveyor, or by someone under the responsible charge of a Land Surveyor, who is registered in the State of Florida. Layout work may be completed by a party other than a registered Land Surveyor with approval from the County Engineer. Work completed via layout not performed by a registered Land Surveyor shall be verified by an "as-built" survey completed by a Land Surveyor, or by someone under responsible charge of a Land Surveyor, who is registered in the State of Florida. "As-built" work found to be out of compliance with the construction plans or specifications shall be removed and reconstructed at the Contractor's expense. The construction plans and right-of-way maps, if available, are at the Public Works Department for review. Survey control points disturbed or destroyed by the Contractor shall be replaced by the Contractor's Surveyor at the Contractor's expense. Survey monuments, markers or other survey control points, which will be removed by construction, shall be properly referenced to the right-of-way line prior to removal. Reference monumentation for all survey control shall be provided to the County upon project completion.

E-05 TESTING

All testing shall be performed by the County except for pre-qualification testing of materials required by the FDOT Specifications, and testing required at the Contractor's expense in accordance with the Non-Technical Specifications. All costs incurred for services of a County contracted independent testing laboratory for any failing tests shall be billed directly to the Contractor or deducted from contract payments.

E-06 PAY ITEM SPECIAL CONDITIONS & SPECIAL PAY ITEMS

Video Documentation

Provide a digital video recording of the pre-construction conditions throughout the project limits. Provide a digital photo log or video of project activities, with heavy emphasis on potential claim items/issues and on areas of real/potential public controversy. This work shall be included in pay items bid for this Agreement, unless otherwise specified in the work order

Paint and Thermoplastic Pay Items

Paint pay items are for initial (single) application of marking on the final surface; thermoplastic shall be placed 30 days thereafter.

Driveway/Sidestreet Pay Items

The unit price for this item shall include all work, labor, material, and equipment required to construct

driveways/sidestreets as specified in the Work Order.

Pay items shall include restoring disturbed areas with performance turf per Section 570 and swales from new mitered end sections shall be graded at 20:1 slope for a maximum distance of 50 feet to eliminate ponding.

Safety Edge

The unit price for this item shall include all work, labor, material, and equipment required to install Safety Edge per the Alachua County's Safety Edge detail. This item includes preparing the shoulder, asphalt quantity, grading the disturbed shoulder, borrow material if necessary, and sod.

Exhibit 2: Contractor Tasks and Rate Schedule

Alachua County, Florida
Procurement
Theodore "TJ" White, Jr. CPPB, Procurement Manager
County Administration Building, Gainesville, FL 32601

[ASPHALT PAVING SYSTEMS, INC] RESPONSE DOCUMENT REPORT
ITB No. ITB 26-47-LC
Annual Roadway Construction for Milling and Resurfacing
RESPONSE DEADLINE: April 30, 2025 at 2:00 pm
Report Generated: Wednesday, October 8, 2025

Asphalt Paving Systems, Inc Response

CONTACT INFORMATION

Company:
Asphalt Paving Systems, Inc

Email:
ponderosamark@hotmail.com

Contact:
Mark Rohrbach

Address:
8940 Gall Blvd
Zephyrhills, FL 33541

Phone:
(813) 788-0010 Ext: 105

Website:
www.asphaltpavingsystems.com

Submission Date:
Apr 30, 2025 9:07 AM (Eastern Time)

Mobilization			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
4	Mobilization, Crack Seal	LS	$1,500.00
5	Mobilization, Chip Seal	LS	$7,500.00
6	Mobilization, Micro-Surfacing	LS	$7,500.00
7	Mobilization, Rejuvenating Scrub Seal	LS	$7,500.00
Maintanance of Traffic			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
8	Index 102-601, Two-Lane and Multi-Lane, Work Beyond the Shoulder	Day	$1,500.00
9	Index 102-602, Two-Lane and Multilane, Work on Shoulder	Day	$1,500.00
10	Index 102-603, Two-Lane, Two-Way, Work Within the Travel Way	Day	$1,500.00
11	Index 102-604, Two-Lane, Two-Way, Intersection Work	Day	$1,500.00
12	Index 102-613, Multilane Roadway, Lane Closures	Day	$1,500.00
13	Index 102-615, Multilane Roadway, Intersection Work	Day	$1,500.00
14	VMB, per unit per day	Day	$60.00
Crack Seal			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
166	Spec 305 (0 - 100)	Gallons	$45.00
167	Spec 305 (101 - 1,000)	Gallons	$36.00
168	Spec 305 (1,001 - 5,000)	Gallons	$35.00
169	Spec 305 (5,001 - 10,000)	Gallons	$34.00

170	Spec 305 (Over 10,000)	Gallons	$32.00
Chip Seal			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
171	Single Conventional (10,000 - 25,000)	SY	$4.16
172	Single Conventional (25,001 - 50,000)	SY	$3.88
173	Single Conventional (50,001 - 100,000)	SY	$3.61
174	Single Conventional (100,001 - 250,000)	SY	$3.56
175	Single Conventional (Over 250,000)	SY	$3.50
176	Single Modified (10,000 - 25,000)	SY	$4.77
177	Single Modified (25,001 - 50,000)	SY	$4.49
178	Single Modified (50,001 - 100,000)	SY	$4.22
179	Single Modified (100,001 - 250,000)	SY	$4.17
180	Single Modified (Over 250,000)	SY	$4.12
181	Double Conventional (10,000 - 25,000)	SY	$7.67
182	Double Conventional (25,001 - 50,000)	SY	$7.35
183	Double Conventional (50,001 - 100,000)	SY	$7.08
184	Double Conventional (100,001 - 250,000)	SY	$6.96
185	Double Conventional (Over 250,000)	SY	$6.85
186	Double Modified (10,000 - 25,000)	SY	$8.87
187	Double Modified (25,001 - 50,000)	SY	$8.55
188	Double Modified (50,001 - 100,000)	SY	$8.28
189	Double Modified (100,001 - 250,000)	SY	$8.16
190	Double Modified (Over 250,000)	SY	$8.05
Micro Surfacing			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
191	Single Conventional (10,000 - 25,000)	SY	$4.86

192	Single Conventional (25,001 - 50,000)	SY	$4.46
193	Single Conventional (50,001 - 100,000)	SY	$4.30
194	Single Conventional (100,001 - 250,000)	SY	$4.16
195	Single Conventional (Over 250,000)	SY	$4.10
196	Single Premium (10,000 - 25,000)	SY	$5.30
197	Single Premium (25,001 - 50,000)	SY	$4.91
198	Single Premium (50,001 - 100,000)	SY	$4.75
199	Single Premium (100,001 - 250,000)	SY	$4.61
200	Single Premium (Over 250,000)	SY	$4.54
201	Double Conventional (10,000 - 25,000)	SY	$7.80
202	Double Conventional (25,001 - 50,000)	SY	$7.49
203	Double Conventional (50,001 - 100,000)	SY	$7.31
204	Double Conventional (100,001 - 250,000)	SY	$7.10
205	Double Conventional (Over 250,000)	SY	$6.86
206	Double Premium (10,000 - 25,000)	SY	$8.52
207	Double Premium (25,001 - 50,000)	SY	$8.20
208	Double Premium (50,001 - 100,000)	SY	$8.03
209	Double Premium (100,001 - 250,000)	SY	$7.81
210	Double Premium (Over 250,000)	SY	$7.58
211	Conventional Rut Filling (10,000 - 25,000)	TN	$270.00
212	Conventional Rut Filling (25,001 - 50,000)	TN	$270.00
213	Conventional Rut Filling (50,001 - 100,000)	TN	$270.00
214	Conventional Rut Filling (100,001 - 250,000)	TN	$270.00
215	Conventional Rut Filling (Over 250,000)	TN	$270.00
216	Premium Rut Filling (10,000 - 25,000)	TN	$295.00
217	Premium Rut Filling (25,001 - 50,000)	TN	$295.00
218	Premium Rut Filling (50,001 - 100,000)	TN	$295.00
219	Premium Rut Filling (100,001 - 250,000)	TN	$295.00

220	Premium Rut Filling (Over 250,000)	TN	$295.00
Rejuvenating Scrub Seal			
Line Item	**Description**	**Unit of Measure**	**Unit Cost**
221	Rejuvenating Scrub Seal (10,000 - 25,000)	SY	$4.80
222	Rejuvenating Scrub Seal (25,001 - 50,000)	SY	$4.55
223	Rejuvenating Scrub Seal (50,001 - 100,000)	SY	$4.25
224	Rejuvenating Scrub Seal (100,001 - 250,000)	SY	$4.20
225	Rejuvenating Scrub Seal (Over 250,000)	SY	$4.15
After Hours Mark-Up			
Line Item	**Description**	**Unit of Measure**	**Percentage**
226	After hours mark-up	Percent	7.%

Exhibit 3: Work Order Notice to Proceed

Work Order No: _____

Purchase Order No.: _____

Agreement No.:_____

Project No.: _____

Project Description:

County: Alachua County, a political subdivision of the State of Florida.

Date Issued: _____

Contractor:

Contractor's Address:

Execution of the Work Order by County shall serve as authorization for the Contractor to provide for the above project, Contractor services as set out in the Scope of Services attached as Exhibit "A," to that certain Agreement of **[insert date]** between the County and the Contractor and further delineated in the specifications, conditions, and requirements stated in the following listed documents which are attached hereto and made a part hereof.

ATTACHMENTS:
[ ] drawings/plans/specifications
[ ] scope of services
[ ] special conditions
[ ] _____

The Contractor shall provide said services pursuant to this Work Order, its attachments and the above-referenced Agreement, which is incorporated herein by reference as if it had been set out in its entirety. Whenever the Work Order conflicts with said Agreement, the Agreement shall prevail.

TIME FOR COMPLETION & LIQUIDATED DAMAGES:

Time is of the essence in the completion of the work described in this Work Order. The work authorized by this Work Order shall be commenced on or before **[insert date]** and shall be completed within _____ (____) working days. Failure to complete the work in the time allotted shall result in assessment of liquidated damages as set forth in the schedule defined in the FDOT Standard Specifications Section 8-10.2.

METHOD OF COMPENSATION:

This Work Order is issued in the amount of **[insert amount] DOLLARS** ($_____).
The Work includes:

[ ] Unit Price items, included in above-referenced Agreement
[ ] Lump Sum items for incidental construction, not included in above-referenced Agreement

For performing the Work described, the Contractor shall be paid a sum that SHALL NOT EXCEED **[insert amount] DOLLARS** ($_____) unless a Work Order Amendment is issued in accordance with the above-referenced Agreement. The Contractor shall invoice the County at the prices set forth in the above-referenced Agreement. County shall pay the Contractor only for the actual quantities of Work performed or materials furnished in accordance with the above-referenced Agreement.

The Parties agree that the Estimated Quantities set forth in this Work Order may be increased or decreased as provided in the above-referenced Agreement without, in any way, changing or invalidating the any of the Unit or Lump Sum prices set forth in this Work Order.

The County shall make payment to the Contractor in strict accordance with the payment terms of the above-referenced Agreement.

It is expressly understood by the Contractor that this Work Order, until executed by the County, does not authorize the performance of any services by the Contractor and that the County, prior to its execution of the Work Order, reserves the right to authorize a party other than the Contractor to perform the services called for under this Work Order if it is determined that to do so is in the best interest of the County.

IN WITNESS WHEREOF, the parties hereto have made and executed this Work Order on this _____ day of _____, 20_____, for the purposes stated herein.

CONTRACTOR:

_____
Witness

By: _____
Signature

Title: _____
Print Name and Title

Date: _____

ALACHUA COUNTY, FLORIDA

By: _____
Ramon D. Gavarrete, P. E.
Public Works Director/County Engineer
Alachua County

Date: _____

Exhibit 3__-A: Amendment To Work Order For Continuing Contracts

AMENDMENT # _____

Project # _____

Date Issued: _____

Contractor: _____

Purchase Order # _____

Contract Manager: _____

Project #: _____

Work Order Description:
Change to Work Order:

Original Work Order Price:	
Total of Prior Approved Changes	
Amount of this Change in Work Order Add or (deduct)	
New Work Order Price with This Amendment:	

Original Completion Days: _____

Days Added (Deducted): _____

Not valid until signed by County

ALACHUA COUNTY:

By: _____

Title: _____

Date: _____

CONTRACTOR:

By: _____

Print Name: _____

Title: _____

Date: _____

EXHIBIT 4: PAYMENT BOND FORM

CONTRACTOR (PRINCIPAL)
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

SURETY
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

OWNER (OBLIGEE)
NAME: Alachua County Board of County Commissioners
PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601
TELEPHONE NUMBER: 352-374-5204

CONTRACT DETAILS
CONTRACT NO.:
DATE EXECUTED:
AMOUNT:
GENERAL DESCRIPTION:
STREET ADDRESS OF PROJECT:
PO NO., RFP, OR INVITATION TO BID NO.:

BOND
BOND NUMBER:
DATE:
AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

This payment bond is executed pursuant to §255.05, Florida Statutes, and claimants must comply with the notice and time limitations of §255.05(2) and §255.05(10), Florida Statutes.

WHEREAS, Contractor has by written Contract entered into a Contract, identified above, with Alachua County, which Contract Documents are by reference made part hereof, and for the purposes of this Bond are hereafter referred to as the "Contract."

THE CONDITION OF THIS BOND is that if Contractor promptly makes payments to all persons defined in §713.01, Florida Statutes, who furnish labor, materials and supplies used directly or indirectly by Contractor in the performance of the Contract; then CONTRACTOR'S OBLIGATION SHALL BE VOID; OTHERWISE, IT SHALL REMAIN IN FULL FORCE AND EFFECT.

The surety hereby waives notice of and agrees that any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect surety's obligation under this bond.

The provisions of this bond are subject to the notice and time limitations of §255.05(2) and §255.05(10). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)

Signed, sealed and delivered in the presence of:

_____

_____

_____

By:_____

Witnesses as to Contractor
Name:_____
Title:_____
STATE OF _____
COUNTY OF _____
Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this day of _____, 20____, by _____.

_____
Signature of Notary Public

_____
Printed Name of Notary Public

Personally Known OR Produced Identification
Type of Identification Produced:_____

SURETY
SIGNATURE: _____
SEAL

PRINTED NAME AND TITLE: ATTORNEY IN FACT

EXHIBIT 5: PERFORMANCE BOND FORM

CONTRACTOR (PRINCIPAL)
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:
SURETY
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:
OWNER (OBLIGEE)
NAME: Alachua County Board of County Commissioners
PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601
TELEPHONE NUMBER: 352-374-5204
CONTRACT DETAILS
CONTRACT NO.:
DATE EXECUTED:
AMOUNT:
GENERAL DESCRIPTION:
STREET ADDRESS OF PROJECT:
PO NO., RFP, OR INVITATION TO BID NO.:
BOND
BOND NUMBER:
DATE:
AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, Contractor has by written Contract entered into a Contract, identified above, with County, which Contract Documents are by reference made a part hereof, and for the purposes of this Bond are hereafter referred to as the "Contract";

THE CONDITION OF THIS BOND is that if Contractor:

1. performs the Contract between Contractor and County, at the times and in the manner prescribed in the Contract; and
2. pays County all losses, damages, including liquidated damages and damages caused by delay, expenses, costs and attorney's fees including appellate proceedings, that County sustains as a result of default by Contractor under the Contract; and
3. performs the guarantee of all Work and materials furnished under the Contract for the time specified in the Contract; then THIS BOND IS VOID, OTHERWISE IT REMAINS IN FULL FORCE AND EFFECT.

Whenever Contractor shall be, and is declared by County to be, in default under the Contract, and County having performed County's obligations there under, the Surety may promptly remedy the default, or shall promptly:

1. complete the Contract in accordance with its terms and conditions; or

2. obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if County elects, upon determination by County and Surety jointly of the lowest responsible bidder, arrange for a Contract between such Bidder and County, and make available as work progresses sufficient funds, paid to County, to pay the cost of completion and other costs and damages for which the Surety may be liable hereunder.

No right of action shall accrue on this bond to or for the use of any person of corporation other than County named herein.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or other Work to be performed hereunder, or the specifications referred to therein shall in any way affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to Work or to the specifications.

This instrument shall be construed in all respects as a common law bond. It is expressly understood that the time provisions and statute of limitations under §255.05, Florida Statutes, shall not apply to this bond.

In no event will the Surety be liable in the aggregate to Obligee for more than the penal sum of this Performance Bond regardless of the number of suits that may be filed by Obligee.

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)

Signed, sealed and delivered in the presence of:

_____

_____

_____

By:_____

Witnesses as to Contractor Name:_____ Title:_____

_____

STATE OF _____
COUNTY OF _____
Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this day of _____, 20____, by _____.

_____
Signature of Notary Public

_____
Printed Name of Notary Public

Personally Known OR Produced Identification
Type of Identification Produced:_____

SURETY
SIGNATURE: _____
SEAL

PRINTED NAME AND TITLE: _____

Exhibit 6: Closeout Checklist

Contract Closeout occurs when all obligations are met and all legal, administrative, and managerial tasks are executed.

Contract No. 14876 – Annual Roadway Construction for Milling and Resurfacing with Asphalt Paving Systems, Inc *Complete all applicable items.*

ACTION/ITEM	**Date Completed** ***(by Vendor)***	***Vendor (initials)***	**County** ***(initials)***
General Requirements (Should be required on most Contracts)	[redacted]	[redacted]	[redacted]
All contractual obligations are completed *(include list of exceptions as an attachment)*			
All invoices, except for the final, are submitted and paid			
All testing reports have been received and analyzed			
Final amount paid via this Contract			
Parties agree that no claims, issues, or unresolved matters exist on the contract			
Contract Specific Requirements (All may not apply)	[redacted]	[redacted]	[redacted]
All inspections are completed and accepted			
Any County-furnished property is returned			
The contractor has closed any subcontracts that may exist			
All sub-contractor(s) have been paid in full *(include a table of sub-contractor(s) names with total amounts paid to each as an attachment)*			
Any access or security badges and keys are returned and are accounted for			
All warranties, training material, or other final deliverables are obtained			
All Bond requirements have been met			
Certificates of substantial completion or final completion are obtained			
Other administrative or contractual requirements are met *(include list of items as an attachment)*			

CONTRACT ADMINISTRATOR APPROVAL TO CLOSEOUT CONTRACT

_____ _____

Vendor/Contractor Signature Date

_____ _____

Department Administrator Signature Date

Exhibit 7: Insurance Requirements

TYPE "A" INSURANCE REQUIREMENTS
"ARTISAN CONTRACTORS / SERVICE CONTACTS"

Contractor shall procure and maintain for the duration of this Agreement insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the Work hereunder by Contractor/vendor, his agents, representatives, employees or subcontractors.

COMMERCIAL GENERAL LIABILITY

Coverage must be afforded under a per occurrence form policy for limits not less than $1,000,000 General Aggregate, $1,000,0000 Products / Completed Operations Aggregate, $1,000,000 Personal and Advertising Injury Liability, $1,000,000 each Occurrence, $50,000 Fire Damage Liability and $5,000 Medical Expense.

AUTOMOBILE LIABILITY

Coverage must be afforded including coverage for all Owned vehicles, Hired and Non-Owned vehicles for Bodily Injury and Property Damage of not less than $1,000,000 combined single limit each accident.

WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

Coverage to apply for all employees at STATUTORY Limits in compliance with applicable state and federal laws; if any operations are to be undertaken on or about navigable waters, coverage must be included for the USA Longshoremen & Harbor Workers Act.

Employer's Liability limits for not less than $100,000 each accident; $500,000 disease policy limit and $100,000 disease each employee must be included.

BUILDER'S RISK / INSTALLATION FLOATERS (when applicable)

When this contract or agreement includes the construction of and/or the addition to a permanent structure or building; including the installation of machinery and/or equipment, the following insurance coverage must be afforded:

Coverage Form: Completed Value, All Risk in an amount equal to 100% of the value upon completion or value of equipment to be installed.

When applicable: Waiver of Occupancy Clause or Cessation of Insurance clause. Flood Insurance as available under the National Flood Insurance Program.

EMPLOYEE FIDELITY COVERAGE (only applicable to vendors whose employees handle funds)

Employee Dishonesty coverage must be afforded for not less than $500,000 Blanket all employees ISO Form

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

I Commercial General Liability and Automobile Liability Coverages

a. The Alachua County Board of County Commissioners, its officials, employees and volunteers are to be covered as an Additional Insured as respects: Liability arising out of activities performed by or on behalf of Contractor/Vendor; to include Products and/or Completed Operations of Contractor/Vendor; Automobiles owned, leased, hired or borrowed by Contractor.

b. Contractor's insurance coverage shall be considered primary insurance as respects the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be excess of Contractor/Vendor's insurance and shall be non-contributory.

II <u>All Coverages</u>

Contractor/Vendor shall provide a Certificate of Insurance to the County with a thirty (30) day notice of cancellation. The certificate shall indicate if cover is provided under a "claims made" or "per occurrence" form. If any cover is provided under claims made from the certificate will show a retroactive date, which should be the same date of the agreement (original if contact is renewed) or prior.

<u>SUBCONTRACTORS</u>

Contractor/Vendor shall be responsible for all subcontractors Working on their behalf as a condition of this Agreement. All subcontractors of Contractor/Vendor shall be subject to the same coverage requirements stated herein.

CERTIFICATE HOLDER: Alachua County Board of County Commissioners

MAIL, EMAIL or FAX CERTIFICATES

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Exhibit 7-A: Certificate of Insurance

Exhibit 8: Certification of Meeting Alachua County Wage Ordinance

Contact Title: #14876 - Annual Roadway Construction for Milling and Resurfacing with Asphalt Paving Systems, Inc

Contract No. 14876

ITB No. 26-47-LC

The undersigned, who is authorized on behalf of the Contractor, certifies that all employees, contracted and subcontracted, completing services as part of this Agreement are paid, and will continue to be paid, in accordance with the Alachua County Government Minimum Wage requirements ("Wage Ordinance") contained in the Alachua County Code, as may be amended.

Asphalt Paving Systems, Inc

500 N. Egg Harbor Rd.

Hammington, NJ 08037

(813) 788-0010 Ext: 105

ponderosamark@hotmail.com

CONTRACTOR

By: _____

Print: Robert Capoferri

Title: PVPT

Date: _____

Exhibit 9: No Coercion Affidavit

AFFIDAVIT OF NO COERCION
PURSUANT TO §787.06, FLORIDA STATUTES

State of Florida
County of Alachua

I, Robert Capoferri, as PVPT of the Asphalt Paving Systems, Inc , having taken an oath, deposes and says:

1. I am over the age of twenty-one (21) and make this Affidavit on personal knowledge and not upon information or belief

2. I am duly authorized to attest and affirm as to the matters contained herein on behalf of the Asphalt Paving Systems, Inc .

3. I attest and affirm that Asphalt Paving Systems, Inc does not use coercion as defined in section 787.06(2)(a), Florida Statutes, to employ any person for labor or services.

4. This signed attestation is provided to the Alachua County Board of County Commissioners to comply with section 787.06(13), Florida Statutes.

Under penalty of perjury, I declare that I have read the foregoing affidavit and that the facts stated in it are true.

_____
Signature

Robert Capoferri_____
Name Printed

_____
Date Signed

Exhibit 10: Foreign Countries of Concern Affidavit

AFFIDAVIT REGARDING FOREIGN COUNTRIES OF CONCERN
PURSUANT TO 287.138, Florida Statutes

State of Florida
County of Alachua

I, Robert Capoferri, as PVPT of the Asphalt Paving Systems, Inc , having taken an oath, deposes and says:

1. I am over the age of twenty-one (21) and make this Affidavit on personal knowledge and not upon information or belief.

2. I am duly authorized to attest and affirm as to the matters contained herein on behalf of Asphalt Paving Systems, Inc .

3. I attest and affirm that the following is true and correct:

a. Asphalt Paving Systems, Inc is not owned by the government of a foreign country of concern as identified in section 287.138(1)(c), Florida Statutes (*i.e.*, People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro, or the Syrian Arab Republic, including any agency of or any other entity of significant control of such foreign country of concern).

b. The government of a foreign country of concern does not have a controlling interest in Asphalt Paving Systems, Inc .

c. Asphalt Paving Systems, Inc is not organized under the laws of or has its principal place of business in a foreign country of concern.

4. This affidavit is provided to the Alachua County Board of County Commissioners to comply with section 287.138(4) Florida Statutes.

Under penalty of perjury, I declare that I have read the foregoing affidavit and that the facts stated in it are true.

_____
Signature

Robert Capoferri
Name Printed

_____
Date Signed