

EXHIBIT
"A"

CITY OF ROUND ROCK
AGREEMENT FOR PURCHASE OF HOT-MIX ASPHALT
WITH
ASPHALT INC., LLC

THE STATE OF TEXAS	§	
	§	
CITY OF ROUND ROCK	§	KNOW ALL BY THESE PRESENTS:
	§	
COUNTY OF WILLIAMSON	§	
COUNTY OF TRAVIS	§	

THAT THIS Agreement for purchase of Hot-Mix Asphalt for the Transportation Department of the City of Round Rock, Texas (referred to herein as the "Agreement"), is made and entered into on this the 25 day of the month of October, 2018, by and between the CITY OF ROUND ROCK, TEXAS, a home-rule municipality whose offices are located at 221 East Main Street, Round Rock, Texas 78664 (referred to herein as the "City") and ASPHALT INC., LLC, whose offices are located at 11675 Jollyville Road, Suite 150, Austin, Texas 78759 (referred to herein as the "Vendor").

RECITALS:

WHEREAS, City desires to purchase Hot-Mix Asphalt for use by the Transportation Department, and City desires to procure same from Vendor; and

WHEREAS, City has issued its "Invitation for Bid" for the provision of said goods and services, and City has selected the Bid submitted by the Vendor, which provides the best value to the City; and

WHEREAS, the parties desire to enter into this Agreement to set forth in writing their respective rights, duties, and obligations;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable consideration, sufficiency and receipt of which are hereby acknowledged, it is mutually agreed between the parties as follows:

1.01 DEFINITIONS

A. **Agreement** means the binding legal contract between City and Vendor whereby City is obligated to buy specified services and Vendor is obligated to pay for said goods and services. The Agreement includes the following: (a) City's Invitation for Bid, designated Solicitation Number 18-037; (b) Vendor's Response to the IFB; (c) contract award; and (d) any exhibits, addenda, and/or amendments thereto. Any inconsistencies or conflicts in the contract documents shall be resolved by giving preference in the following order:

- (1) This Agreement;
- (2) Vendor's Response to IFB;
- (3) City's Invitation for Bids, exhibits, and attachments.

B. **City** means the City of Round Rock, Williamson and Travis Counties, Texas.

C. **Effective Date** means the date upon which the binding signatures of both parties to this Agreement are affixed.

D. **Force Majeure** means acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, orders of any kind from the government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, hurricanes, storms, floods, restraint of the government and the people, civil disturbances, explosions, or other causes not reasonably within the control of the party claiming such inability.

E. **Goods and services** mean the specified services, supplies, materials, commodities, or equipment.

2.01 EFFECTIVE DATE; TERM

A. This Agreement shall be effective on the date it has been signed by both parties hereto, and shall remain in full force and effect, unless and until it expires by operation of the term stated herein, or until terminated as provided herein.

B. The term of this Agreement is for sixty months (60) months from the effective date hereof. City reserves the right to review the relationship at any time, and may elect to terminate this Agreement, with or without cause, or may elect to continue.

3.01 CONTRACT DOCUMENTS AND EXHIBITS

City selected Vendor to supply the goods and services as outlined in the IFB and Response to IFB submitted by Vendor, all as specified in Exhibit "A," attached hereto and incorporated herein by reference. The intent of these documents is to formulate an Agreement listing the responsibilities of both parties as outlined in the IFB and as offered by Vendor in its Response to the IFB.

The goods and services which are the subject of this Agreement are described in Exhibit "A" and, together with this Agreement, comprise the total Agreement and they are fully a part of this Agreement as if repeated herein in full.

4.01 ITEMS AWARDED; SCOPE OF WORK

A. All bid items listed on “Attachment A – Bid Sheet” in Exhibit “A” are awarded to Vendor.

B. For purposes of this Agreement, City has issued documents delineating the required goods and services (specifically Invitation for Bid Solicitation Number 18-037). Vendor has issued its response agreeing to provide all such required goods and services in all specified particulars. All such referenced documents are included in Exhibit “A.” When taken together with the appended exhibits, this Agreement shall evidence the entire understanding and agreement between the parties and shall supersede any prior proposals, correspondence or discussions.

C. Vendor shall satisfactorily provide all goods and services described under the attached exhibits within the contract term specified in Section 2.01. Vendor’s undertakings shall be limited to providing goods and services for the City and/or advising City concerning those matters on which Vendor has been specifically engaged. Vendor shall provide its goods and services in accordance with this Agreement, in accordance with the appended exhibits, in accordance with due care, and in accordance with prevailing industry standards for comparable goods and services.

5.01 COSTS

A. The bid costs listed on Attachment A – Bid Sheet of Exhibit “A,” which are specifically relevant to the referenced bid items, shall be the basis of any charges collected by Vendor.

B. Vendor specifically acknowledges and agrees that City may not expend in excess of **Two Hundred Sixteen Thousand No/100 Dollars (\$216,000.00) per year** for Vendor’s goods and services for a total not-to-exceed amount of **One Million Eighty Thousand and No/100 Dollars (\$1,080,000.00)** for the term of this Agreement.

6.01 INVOICES

All invoices shall include, at a minimum, the following information:

- A. Name and address of Vendor;
- B. Purchase Order Number;
- C. Description and quantity of items received or services provided; and
- D. Delivery or performance dates.

7.01 INTERLOCAL COOPERATIVE CONTRACTING/PURCHASING

Authority for local governments to contract with one another to perform certain governmental functions and services, including but not limited to purchasing functions, is granted under Government Code, Title 7, Chapter 791, Interlocal Cooperation Contracts, Subchapter B and Subchapter C, and Local Government Code, Title 8, Chapter 271, Subchapter F, Section 271.101 and Section 271.102.

Other governmental entities within the State of Texas may be extended the opportunity to purchase off of the City's bid, with the consent and agreement of the successful vendor(s) and the City. Such agreement shall be conclusively inferred for the vendor from lack of exception to this clause in the vendor's response. However, all parties hereby expressly agree that the City is not an agent of, partner to, or representative of those outside agencies or entities and that the City is not obligated or liable for any action or debts that may arise out of such independently-negotiated "piggyback" procurements.

8.01 NON-APPROPRIATION AND FISCAL FUNDING

This Agreement is a commitment of City's current revenues only. It is understood and agreed that City shall have the right to terminate this Agreement at the end of any City fiscal year if the governing body of City does not appropriate funds sufficient to purchase the goods and services as determined by City's budget for the fiscal year in question. City may effect such termination by giving Vendor a written notice of termination at the end of its then current fiscal year.

9.01 PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Vendor will be made within thirty (30) days of the day on which City receives the performance, supplies, materials, equipment, and/or deliverables, or within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which City receives a correct invoice for the performance and/or deliverables or services, whichever is later. Vendor may charge interest on an overdue payment at the "rate in effect" on September 1 of the fiscal year in which the payment becomes overdue, in accordance with V.T.C.A., Texas Government Code, Section 2251.025(b); however, this Policy does not apply to payments made by City in the event:

- A. There is a bona fide dispute between City and Vendor, a contractor, a subcontractor or supplier about the goods delivered or the service performed that cause the payment to be late; or
- B. The terms of a federal contract, grant, regulation, or statute prevent City from making a timely payment with federal funds; or
- C. There is a bona fide dispute between Vendor and a subcontractor or between a subcontractor and its supplier about the goods delivered or the service performed

that causes the payment to be late; or

- D. Invoices are not mailed to City in strict accordance with instructions, if any, on the purchase order or the Agreement or other such contractual agreement.

10.01 GRATUITIES AND BRIBES

City may, by written notice to Vendor, cancel this Agreement without liability to Vendor if it is determined by City that gratuities or bribes in the form of entertainment, gifts, or otherwise were offered or given by Vendor or its agents or representatives to any City officer, employee or elected representative with respect to the performance of this Agreement. In addition, Vendor may be subject to penalties stated in Title 8 of the Texas Penal Code.

11.01 TAXES

City is exempt from Federal Excise and State Sales Tax; therefore, tax shall not be included in Vendor's charges.

12.01 ORDERS PLACED WITH ALTERNATE VENDORS

If Vendor cannot provide the goods as specified, City reserves the right and option to obtain the products or services from another supplier or suppliers.

13.01 INSURANCE

Vendor shall meet all requirements as stated in the attached IFB Number 18-037, including all attachments and exhibits thereto, and Vendor's bid response.

14.01 CITY'S REPRESENTATIVE

City hereby designates the following representatives authorized to act in its behalf with regard to this Agreement:

Mike Ackerman
Transportation Superintendent
2008 Enterprise Drive
Round Rock, Texas 78664
(512) 341-3304
mackerman@roundrocktexas.gov

15.01 RIGHT TO ASSURANCE

Whenever either party to this Agreement, in good faith, has reason to question the other party's intent to perform hereunder, then demand may be made to the other party for written assurance of the intent to perform. In the event that no written assurance is given within the

reasonable time specified when demand is made, then and in that event the demanding party may treat such failure as an anticipatory repudiation of this Agreement.

16.01 DEFAULT

If Vendor abandons or defaults under this Agreement and is a cause of City purchasing the specified goods or services elsewhere, Vendor agrees that it may be charged the difference in cost, if any, and that it will not be considered in the re-advertisement of the goods and services and that it may not be considered in future bids for the same type of work unless the scope of work is significantly changed.

Vendor shall be declared in default of this Agreement if it does any of the following:

- A. Fails to make any payment in full when due;
- B. Fails to fully, timely and faithfully perform any of its material obligations under this Agreement;
- C. Fails to provide adequate assurance of performance under the “Right to Assurance” section herein; or
- D. Becomes insolvent or seeks relief under the bankruptcy laws of the United States.

17.01 TERMINATION AND SUSPENSION

A. City has the right to terminate this Agreement, in whole or in part, for convenience and without cause, at any time upon thirty (30) days’ written notice to Vendor.

B. In the event of any default by Vendor, City has the right to terminate this Agreement for cause, upon ten (10) days’ written notice to Vendor.

C. Vendor has the right to terminate this Agreement only for cause, that being in the event of a material and substantial breach by City or by mutual agreement to terminate evidenced in writing by and between the parties.

D. In the event City terminates under subsections (A) or (B) of this section, the following shall apply: Upon City’s delivery of the referenced notice to Vendor, Vendor shall discontinue all services in connection with the performance of this Agreement and shall proceed to cancel promptly all existing orders and contracts insofar as such orders and contracts are chargeable to this Agreement. Within thirty (30) days after such notice of termination, Vendor shall submit a statement showing in detail the goods and/or services satisfactorily performed under this Agreement to the date of termination. City shall then pay Vendor that portion of the charges, if undisputed. The parties agree that Vendor is not entitled to compensation for services it would have performed under the remaining term of the Agreement except as provided herein.

18.01 INDEMNIFICATION

Vendor shall defend (at the option of City), indemnify, and hold City, its successors, assigns, officers, employees and elected officials harmless from and against all suits, actions, legal proceedings, claims, demands, damages, costs, expenses, attorney's fees, and any and all other costs or fees arising out of, or incident to, concerning or resulting from the fault of Vendor, or Vendor's agents, employees or subcontractors, in the performance of Vendor's obligations under this Agreement, no matter how, or to whom, such loss may occur. Nothing herein shall be deemed to limit the rights of City or Vendor (including, but not limited to the right to seek contribution) against any third party who may be liable for an indemnified claim.

19.01 COMPLIANCE WITH LAWS, CHARTER AND ORDINANCES

A. Vendor, its agents, employees and subcontractors shall use best efforts to comply with all applicable federal and state laws, the Charter and Ordinances of the City of Round Rock, as amended, and with all applicable rules and regulations promulgated by local, state and national boards, bureaus and agencies.

B. Vendor acknowledges and understands that City has adopted a Storm Water Management Program (SWMP) and an Illicit Discharge Ordinance, Sections 14-139 through 14-152 of the City's Code of Ordinances, to manage the quality of the discharges from its Municipal Separate Storm Sewer System (MS4) and to comply with the requirements of the Texas Commission on Environmental Quality (TCEQ) and the Texas Pollutant Discharge Elimination System (TPDES). The Vendor agrees to perform all operations on City-owned facilities in compliance with the City's Illicit Discharge Ordinance to minimize the release of pollutants into the MS4. The Vendor agrees to comply with of the City's stormwater control measures, good housekeeping practices and any facility specific stormwater management operating procedures specific to a certain City facility. In addition, the Vendor agrees to comply with any applicable TCEQ Total Maximum Daily Load (TMDL) Requirements and/or I-Plan requirements.

C. In accordance with Chapter 2270, Texas Government Code, a governmental entity may not enter into a contract with a company for goods and services unless the contract contains written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of this contract. The signatory executing this Agreement on behalf of Vendor verifies Vendor does not boycott Israel and will not boycott Israel at any term of this Agreement.

20.01 ASSIGNMENT AND DELEGATION

The parties each hereby bind themselves, their successors, assigns and legal representatives to each other with respect to the terms of this Agreement. Neither party shall assign, sublet or transfer any interest in this Agreement without prior written authorization of the other party.

21.01 NOTICES

All notices and other communications in connection with this Agreement shall be in writing and shall be considered given as follows:

1. When delivered personally to the recipient's address as stated in this Agreement;
or
2. Three (3) days after being deposited in the United States mail, with postage prepaid to the recipient's address as stated in this Agreement.

Notice to Vendor:

Asphalt Inc., LLC
11675 Jollyville Road, Suite 150
Austin, Texas 78759

Notice to City:

City Manager
221 East Main Street
Round Rock, TX 78664

AND TO: Stephan L. Sheets, City Attorney
309 East Main Street
Round Rock, TX 78664

Nothing contained herein shall be construed to restrict the transmission of routine communications between representatives of City and Vendor.

22.01 APPLICABLE LAW; ENFORCEMENT AND VENUE

This Agreement shall be enforceable in Round Rock, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Agreement shall be governed by and construed in accordance with the laws and court decisions of the State of Texas.

23.01 EXCLUSIVE AGREEMENT

This document, and all appended documents, constitutes the entire Agreement between Vendor and City. This Agreement may only be amended or supplemented by mutual agreement of the parties hereto in writing, duly authorized by action of the City Manager or City Council.

24.01 DISPUTE RESOLUTION

City and Vendor hereby expressly agree that no claims or disputes between the parties arising out of or relating to this Agreement or a breach thereof shall be decided by any arbitration proceeding, including without limitation, any proceeding under the Federal Arbitration Act (9 USC Section 1-14) or any applicable state arbitration statute.

25.01 SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void. The parties further agree to amend this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this section shall not prevent this entire Agreement from being void should a provision which is of the essence of this Agreement be determined void.

26.01 MISCELLANEOUS PROVISIONS

Standard of Care. Vendor represents that it employs trained, experienced and competent persons to perform all of the services, responsibilities and duties specified herein and that such services, responsibilities and duties shall be performed in a manner according to generally accepted industry practices.

Time is of the Essence. Vendor understands and agrees that time is of the essence and that any failure of Vendor to fulfill obligations for each portion of this Agreement within the agreed timeframes will constitute a material breach of this Agreement. Vendor shall be fully responsible for its delays or for failures to use best efforts in accordance with the terms of this Agreement. Where damage is caused to City due to Vendor's failure to perform in these circumstances, City may pursue any remedy available without waiver of any of City's additional legal rights or remedies.

Force Majeure. Neither City nor Vendor shall be deemed in violation of this Agreement if it is prevented from performing any of its obligations hereunder by reasons for which it is not responsible as defined herein. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

Multiple Counterparts. This Agreement may be executed in multiple counterparts, any one of which shall be considered an original of this document; and all of which, when taken together, shall constitute one and the same instrument.

[Signatures on the following page.]

IN WITNESS WHEREOF, City and Vendor have executed this Agreement on the dates indicated.

City of Round Rock, Texas

By: _____
Printed Name: _____
Title: _____
Date Signed: _____

Attest:

By: _____
Sara White, City Clerk

For City, Approved as to Form:

By: _____
Stephan L. Sheets, City Attorney

Asphalt Inc., LLC

By: Tony Bermudez
Printed Name: Tony Bermudez
Title: Manager
Date Signed: 10-25-2018



City of Round Rock, Texas
Purchasing Division
221 East Main Street
Round Rock, Texas 78664-5299
www.roundrocktexas.gov

INVITATION FOR BID (IFB)

Hot-Mix Asphalt

SOLICITATION NUMBER 18-037

SEPTEMBER 2018

HOT-MIX ASPHALT
PART I
GENERAL REQUIREMENTS

1. **PURPOSE:** The City of Round Rock, herein after "the City" seeks a bid from firms experienced in providing hot-mix asphalt.
2. **BACKGROUND:** The City of Round Rock – Transportation Department is seeking bids for Types B, C, D, and F, dense-graded, hot-mix asphalt for pick-up "only" on an as needed basis for street repairs.
3. **SOLICITATION PACKET:** This solicitation packet is comprised of the following:

Description	Index
Part I – General Requirements	Page(s) 1-5
Part II – Definitions, Standard Terms and Conditions and Insurance Requirements	Page 6
Part III – Supplemental Terms and Conditions	Page(s) 7 - 10
Part IV – Specifications	Page(s) 11
Attachment A – Bid Sheet	Page 12
Attachment B – Reference Sheet	Page 13
Attachment C – Dense-Graded, Hot-Mix Asphalt Specification, Reference: Texas Department of Transportation – Item No. 340	Page 14

4. **AUTHORIZED PURCHASING CONTACT:** For questions or clarification of specifications, you may contact:

Michael Schurwon, CPPB, CTPM
Purchaser
Purchasing Division
City of Round Rock
Phone: 512-218-6682
E-mail: mschurwon@roundrocktexas.gov

The individual listed above may be contacted by e-mail for clarification of the specifications only. No authority is intended or implied that specifications may be amended, or alterations accepted prior to solicitation opening without written approval of the City of Round Rock through the Purchasing Department.

5. **SCHEDULE OF EVENTS:** It is the City's intention to follow the solicitation timeline below.

EVENT	DATES
Solicitation released	September 4, 2018
Deadline for submission of questions	September 11, 2018 @ 5:00 PM, CST
City responses to questions or addendums	September 13 @ 5:00 PM, CST
Deadline for submission of responses	September 18, 2018, @ 3:00 PM, CST

All questions regarding the solicitation shall be submitted in writing by 5:00 PM, CST on the due date noted above. A copy of all questions submitted and the City's response to the questions shall be posted on the City's webpage in the form of an addendum at:
<https://www.roundrocktexas.gov/businesses/solicitations/>.

Questions shall be submitted in writing to the "Authorized Purchasing Contact". The City reserves the right to modify these dates. Notice of date change will be posted to the City's website:
<http://www.roundrocktexas.gov/bids>.

6. **SOLICITATION UPDATES:** Bidders shall be responsible for monitoring the City's website at <http://www.roundrocktexas.gov/bids> for any updates pertaining to the solicitation described herein. Various updates may include addendums, cancellations, notifications, and any other pertinent information necessary for the submission of a correct and accurate response. The City will not be held responsible for any further communication beyond updating the website.

7. **RESPONSE DUE DATE:** Signed and sealed responses are due at or before 3:00 PM, on the due date noted in PART I, Section 5 – Schedule of Events. Mail or hand deliver sealed responses to:

City of Round Rock
Attn: Michael Schurwon, CPPB, CTPM
Purchasing Department
221 E. Main Street
Round Rock, Texas 78664-5299

- 7.1 Sealed responses shall be clearly marked on the outside of packaging with the Solicitation title, number, due date and "DO NOT OPEN".
- 7.2 Facsimile or electronically transmitted responses are not acceptable.
- 7.3 Responses cannot be altered or amended after opening.
- 7.4 No response can be withdrawn after opening without written approval from the City for an acceptable reason.
- 7.5 The City will not be bound by any oral statement or Bid made contrary to the written specifications.
- 7.6 Samples and/or copies shall be provided at the Bidder's expense and shall become the property of the City.
8. **BIDDER REQUIREMENTS:** The City of Round Rock makes no warranty that this checklist is a full comprehensive listing of every requirement specified in the solicitation. This list is only a tool to assist participating Bidders in compiling their final responses. Bidders are encouraged to carefully read the entire solicitation.

Bidder shall submit one (1) evident signed "Original" and two (2) copies of the IFB response and one (1) electronic copy of the IFB response on a flash drive. The submittal is required to include all addendums and

requested attachments. The bid response along with samples and/or copies shall be provided at the Bidder's expense and shall become the property of the City.

This invitation for bid (IFB) does not commit the City to contract for any supply or service. Bidders are advised that the City will not pay for any administrative costs incurred in response preparation to this IFB; all costs associated with responding to this IFB will be solely at the interested parties' expense. Not responding to this IFB does not preclude participation in any future RFP/RFO/IFB.

For your bid to be responsive, addendums and the attachments identified below shall be submitted with your proposal.

Addendums: Addendums may be posted to this solicitation. Bidders are required to submit signed addendums with their sealed response. The Bidder shall be responsible for monitoring the City's website at <http://www.roundrocktexas.gov/bids> for any updates pertaining to the solicitation.

Attachment A: BID SHEET: The bid response shall be submitted on itemized, signed Bid Sheet provided in the solicitation packet. Failure to complete and sign the original bid sheet may result in disqualification. If there is a conflict between the unit price and extended price, the unit price will take precedence. Submission of responses on forms other than the City's Solicitation Document may result in disqualification of the response.

Attachment B: REFERENCE SHEET: Provide the name, address, telephone number and E-MAIL of at least three (3) valid Municipal, Government agencies or firms of comparable size that have utilized services that are similar in type and capacity within the last two (2) years. City of Round Rock references are not applicable. References may be checked prior to award. If references cannot be confirmed or if any negative responses are received it may result in the disqualification of submittal.

9. **BEST VALUE EVALUATION AND CRITERIA:** The City reserves the right to reject any or all responses, or to accept any response deemed most advantageous, or to waive any irregularities or informalities in the response received that best serves the interest and at the sole discretion of the City. All solicitations received may be evaluated based on the best value for the City. In determining best value, the City may consider:

- 9.1 Purchase price;
- 9.2 Reputation of Bidder and of Bidder's goods and services;
- 9.3 Quality of the Bidder's goods and services;
- 9.4 The extent to which the goods and services meet the City's needs;
- 9.5 Bidder's past performance with the City;
- 9.6 The total long-term cost to the City to acquire the Bidder's goods or services;
- 9.7 Any relevant criteria specifically listed in the solicitation.

Bidders may be contacted for clarification of bid and/or to discuss details of the services they are proposing. This may include a presentation and/or the request for additional material/information.

10. **CONFIDENTIALITY OF CONTENT:** As stated in Section 16 of City of Round Rock Purchasing Definitions, Standard Terms and Conditions, all documents submitted in response to a solicitation shall be subject to the Texas Public Information Act. Following an award, responses are subject to release as public information unless the response or specific parts of the response can be shown to be exempt from the Texas Public Information Act. Pricing is not considered to be confidential under any circumstances.

- 10.1 Information in a submittal that is legally protected as a trade secret or otherwise confidential must be clearly indicated with stamped, bold red letters stating "CONFIDENTIAL" on that section of the document. The City will not be responsible for any public disclosure of confidential information if it is not clearly marked as such.
- 10.2 If a request is made under the Texas Public Information Act to inspect information designated as confidential, the Bidder shall, upon request from the City, furnish sufficient written reasons and

City of Round Rock
Hot-Mix Asphalt
IFB No. 18-037
Class/Item: 745-21
September 2018

Information as to why the information should be protected from disclosure. The matter will then be presented to the Attorney General of Texas for final determination.

11. **CERTIFICATE OF INTERESTED PARTIES:** Section 2252.908 of the Texas Government Code requires the successful Bidder to complete a Form 1295 "Certificate of Interested Parties" that is signed for a contract award requiring council authorization. The "Certificate of Interested Parties" form must be completed on the Texas Ethics Commission website, printed, signed and submitted to the City by the authorized agent of the Business Entity with acknowledgment that disclosure is made under oath and under penalty of perjury prior to final contract execution. Link to Texas Ethics Commission Webpage:
https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

PART II
DEFINITIONS, STANDARD TERMS AND CONDITIONS
AND INSURANCE REQUIREMENTS

1. **DEFINITIONS, STANDARD TERMS AND CONDITIONS:** By submitting a response to this solicitation, the Bidder agrees that the City's Definitions, Standard Terms and Conditions, in effect at the time of release of the solicitation, shall govern unless specifically provided otherwise in a separate agreement or on the face of a purchase order. Said Definitions, Terms and Conditions are subject to change without notice. It is the sole responsibility of Bidders to stay apprised of changes. The City's Definitions, Standard Terms and Conditions can be viewed and downloaded from the City's website at: <https://www.roundrocktexas.gov/departments/purchasing/>
2. **INSURANCE:** The Bidder shall meet or exceed all insurance requirements set forth in Standard Insurance Requirements. The City's Standard Insurance Requirements document can be viewed and downloaded from the City's website at: <https://www.roundrocktexas.gov/departments/purchasing/>

PART III
SUPPLEMENTAL TERMS AND CONDITIONS

1. **AGREEMENT TERM:** The terms of the awarded agreement shall include but not be limited to the following:
 - 1.1 The term of the Agreement shall begin from date of award and shall remain in full force for sixty (60) months.
 - 1.2 Upon expiration of the contract term, the Contractor agrees to hold over under the terms and conditions of this agreement for such a period as is reasonably necessary to re-solicit and/or complete the project up to 90 days.
2. **BIDDER QUALIFICATIONS:** The City has established the following minimum qualifications. Bidders who do not meet the minimum qualifications will not be considered for award. The Bidder shall:
 - 2.1 Be firms, corporations, individuals or partnerships normally engaged in providing Types B, C, D, and F, dense-graded, hot-mix asphalt specified herein and have adequate organization, facilities, equipment, financial capability, and personnel to ensure prompt and efficient service to the City;
 - 2.2 Provide all labor, supplies and materials required to satisfactorily provide the goods as specified herein and own or acquire at no cost to the City all construction aids, appliances, and equipment Bidder deems necessary and maintain sole responsibility for the maintenance and repair of Bidder's vehicles, equipment, tools and all associated costs. The City shall not be responsible for any Bidder's tools, equipment or materials lost or damaged during the performance of the services specified herein;
 - 2.3 Be domiciled in or have a home office inside the United States. Bidders domiciled outside the United States, or not having a home office inside the United States will not be included for consideration in this procurement process.
 - 2.4 The Bidder's hot-mix asphalt operation shall be located within 35 miles of the City of Round Rock – Transportation site located at 910 Luther Peterson, Round Rock, Texas 78664. The City reserves the right to inspect the awarded Contractor's site.
3. **SUBCONTRACTORS:** Respondent shall not subcontract or otherwise engage subcontractors to perform required services. The City seeks to do business directly with a company experienced in providing dense-graded, Type B, C, D, and F, hot-mix asphalt.
4. **SAFETY:** The City reserves the right to remove any employee from City property for violation of federal, state, and local health, safety and environmental laws, ordinances, rules and regulations. The Bidder shall:
 - 4.1 Ensure that all employees comply with all Occupational Safety and Health Administration (OSHA), State and City safety and occupational health standards and other applicable federal, state, and local health, safety, and environmental laws ordinances, rules and regulations in the performance of these services;
 - 4.2 Be held responsible for the safety of their employees and unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site. In case of conflict, the most stringent safety requirement shall govern;
 - 4.3 Indemnify and hold the City harmless from and against all claims, demands, suits, actions, judgments, fines penalties and liability of every kind arising from the breach of the Successful Bidders' obligations under this paragraph.
5. **WORKFORCE:** Successful Bidder shall:
 - 5.1 Ensure Bidder's employees perform the services in a timely, professional and efficient manner;
 - 5.2 Ensure Bidder's employees, while working on City property, wear a company uniform that clearly identifies them as the Bidder's employee;

- 5.3 Employ all personnel for work in accordance with the requirements set forth by the United States Department of Labor. The City reserves the right to verify citizenship or right to work in the United States.
6. **PRICING:** The Bidder shall determine and submit a fixed cost for the work and shall include all incidental costs, labor, overhead charges, travel, payroll expenses, freight, equipment acquisition and maintenance, demurrage, fuel surcharges, delivery charges, costs associated with obtaining permits, insurance, bonds and risk management. No separate line item charges shall be permitted for either response or invoice purposes.
7. **PRICE INCREASE:** Contract prices for Type B, C, D, and F, dense-graded, hot-mix asphalt shall remain firm throughout the initial twelve (12) month term of the contract. A price increase to the agreement may be considered on the anniversary date of the Contract each year and shall be equal to the consumer price index for that year, but at no time can the increase be greater than 15% for any single line item.
- 7.1 **Consumer Price Index (CPI):** Price adjustments will be made in accordance with the percentage change in the U.S. Department of Labor Consumer Price Index (CPI-U) for all Urban Consumers. The price adjustment rate will be determined by comparing the percentage difference between the CPI in effect for the base year six-month average (January through June OR July through December); and each (January through June OR July through December six month average) thereafter. The percentage difference between those two CPI issues will be the price adjustment rate. No retroactive contract price adjustments will be allowed. The Consumer Price Index (CPI) is found at the Bureau of Labor Statistics, Consumer Price Index website: <http://www.bls.gov/cpi/>.
- 7.2 **Procedure to Request Increase:**
- 7.2.1 Mail the written price increase request with the rate detail comparison and comprehensive calculation and any supporting documentation to the designated City Contract Specialist a minimum of 45 days prior to the annual Contract anniversary date. The detailed written calculation will be verified and confirmed. All written requests for increases must include the City of Round Rock contract number, solicitation reference information and contact information for the authorized representative requesting the increase. Price increase requests shall be sent by mail to:
- City of Round Rock
Purchasing Department
Attn: Contract Specialist
221 East Main Street
Round Rock, TX 79664-5299**
- 7.2.2 Upon receipt of the request, the City reserves the right to either, accept the escalation and make change to the purchase order within 30 days of the request, negotiate with the Vendor or cancel the agreement or purchase order if an agreement cannot be reached on the value of the increase.
8. **PERFORMANCE REVIEW:** The City reserves the right to review the awarded Bidders' performance anytime during the contract term.
9. **ACCEPTANCE/INSPECTION:** Acceptance inspection should not take more than five (5) working days. The awarded Bidder will be notified within the time frame if the services delivered are not in full compliance with the specifications. In the event the services are not performed to the satisfaction of the City, the vendor shall agree to reperform services to specification at no additional cost to the City. If any agreement or purchase order is cancelled for non-acceptance, the needed services may be purchased elsewhere, and the vendor may be charged liquidated damages.

10. SAMPLES:

- 10.1 The Bidder shall submit a sample of Types B, C, D, and F, dense-graded hot-mix asphalt to be provided per the specification contained herein. This sample shall be provided within five (5) working days after request by the City.
- 10.2 Sample of Types B, C, D, and F, dense-graded hot-mix to be delivered to the City at the following address: 910 Luther Peterson, Round Rock, Texas 78664.
- 10.3 All products provided to the City under this solicitation will be evaluated or tested and must meet all requirements of the specification, regardless of whether or not all requirements are to be evaluated or tested.
- 10.4 Samples will be provided at no cost to the City, will be retained by the City, and may be used for use in assuring compliance with materials specifications after award. Failure to supply samples when requested shall subject the Bid to disqualification from consideration for award.

11. MATERIALS SPECIFICATIONS/DESCRIPTIVE LITERATURE:

- 11.1 If a solicitation refers to a Qualified Products List (QPL), Standard Products List (SPL) or a manufacturer's name and product, any Bidder Bidding products not referenced in the solicitation must submit as part of their bid materials specifications/descriptive literature for the non-referenced product. Materials specifications/descriptive literature must be identified to show the item(s) in the bid to which it applies.
- 11.2 Materials specifications/descriptive literature are defined as product manufacturer's catalog pages, "cut sheets" applicable tests results, or related detailed documents that specify material construction, performance parameters, and any industrial standards that are applicable such as ANSI, ASTM, ASME, SAE, NFPA, NBS, EIA, ESL, and NSA. The submitted material specifications/descriptive literature must include the manufacturer's name and product number of the product being Bided.
- 11.3 The failure of the materials specifications/descriptive literature to show that the product Bided conforms to the requirements of the Solicitation shall result in rejection of the Bid.
- 11.4 Failure to submit the materials specifications/descriptive literature as part of the Bid may subject the Bid to disqualification from consideration for award.
12. **ORDER QUANTITY:** The quantities shown on the solicitation are estimates only. No guarantee of any minimum or maximum purchase is made or implied. The City will only order the services/goods needed to satisfy requirements within budgetary constraints, which may be more or less than indicated.
13. **PERMITS:** The Successful Bidder shall verify and obtain all necessary permits, licenses, and/or certificates required by federal, state and local laws, ordinances, rules or regulations for the completion of the services as specified if required for the project.
14. **AWARD:** The City reserves the right to enter into an Agreement or a Purchase Order with a single award, split award, primary and secondary award, non-award, or use any combination that best serves the interest and at the sole discretion of the City. Award announcement will be made upon City Council approval of staff recommendation and executed agreement. Award announcement will appear on the City's website at <http://www.roundrocktexas.gov/bids>.
15. **POST AWARD MEETING:** The City and Successful Bidder(s) may have a post award meeting to discuss, but not be limited to the following:
- 15.1 The method to provide a smooth and orderly transition of services performed from the current contractor;
- 15.2 Provide City contact(s) information for implementation of agreement.

City of Round Rock
Hot-Mix Asphalt
IFB No. 18-037
Class/Item: 745-21
September 2018

15.3 Identify specific milestones, goals and strategies to meet objectives.

16. POINT OF CONTACT / DESIGNATED REPRESENTATIVE:

16.1 Contractor's point of contact: To maintain consistent standards of quality work performed across the City, the City shall be provided with a designated and identified point of contact upon award of the contract to include contact information. The City's designated representative shall be notified by the Bidder immediately should the point of contact change.

16.2 The City's designated representative:

Mike Ackerman
Transportation Superintendent
Transportation
Phone: (512) 341-3304
E-mail: mackerman@roundrocktexas.gov

17. INTERLOCAL PURCHASING AGREEMENTS

17.1 The City has entered into Interlocal Agreements with other Governmental agencies pursuant to the Interlocal Cooperation Act, Chapter 791 of the Texas Government Code. The Contractor agrees to Bid the same price and terms and conditions to other eligible agencies that have an interlocal agreement with the City.

17.2 The City does not accept any responsibility or liability for the purchases by other government agencies through an interlocal cooperative agreement

PART IV
SPECIFICATIONS

1. **Purpose:** The City of Round Rock, Texas herein after "City", is soliciting bids for dense-graded hot-mix asphalt, Type B, C, D and F, for pick-up on an as needed basis for street repairs.
2. **Delivery/Pick-Up Requirements:** The City of Round Rock – Transportation Department will be responsible for pick-up of all dense-graded hot-mix asphalt orders from Contractors location.
3. **Requirements:** Dense-graded, Type B, C, D, and F, hot-mix asphalt must meet the minimum specifications in accordance with Texas Department of Transportation Specification Item No. 340 for dense-graded hot-mix asphalt, pages 1 – 16. Please refer to dense-graded,

Dense-Graded, Hot-Mix Asphalt, Type B, C, D and F	
1.	Hot-Mix Asphalt, Dense Graded, Type B, RAP 30%, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal.
2.	Hot-Mix Asphalt, Dense Graded, Type C, RAP 20%, Reference: TxDOT - Item No. 340 or buyers approved equal.
3.	Hot-Mix Asphalt, Dense Graded, Type D, RAP 20%, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal
4.	Hot-Mix Asphalt, Dense Graded, Type F, RAP 0%, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal

Attachment A- Bid Sheet
Hot-Mix Asphalt
IFB No. 18-037

The Bidder represents by their signature below that he/she is submitting a binding offer and is authorized to bind the Bidder to fully comply with the solicitation documents contained in IFB No. 18-037 - Hot-Mix Asphalt. The Bidder acknowledges that he/she has received and read the entire solicitation packet, attachments and all documents incorporated by reference, and agrees to be bound by the terms therein.

Special Instructions: All prices must be quoted in order to be considered responsive, be advised that exceptions taken to any portion of the solicitation may jeopardize acceptance of the bid. The City reserves the right to purchase more or less than the quantities indicated below.

No.	Description	Estimated Annual Quantity	Unit	Unit Cost (Cost per Ton)	Extended Total
1	Hot-Mix Asphalt, Dense Graded, Type D, RAP 20%, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal.	2,000	Tons	\$51.00	\$102,000.00
2	Hot-Mix Asphalt, Dense Graded, Type B, RAP 30%, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal.	750	Tons	\$44.00	\$33,000.00
3	Hot-Mix Asphalt, Dense Graded, Type C, RAP 20%, Reference: TxDOT - Item No. 340 or buyers approved equal.	750	Tons	\$49.25	\$36,937.50
4	Hot-Mix Asphalt, Dense Graded, Type F, RAP 0% RAP, SAC-B or Better, Reference: TxDOT - Item No. 340 or buyers approved equal.	750	Tons	\$58.75	\$44,062.50
	Annual Total				\$216,000.00

COMPANY NAME: _____ Asphalt Inc LLC _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____ *Tony Bermudez* _____

PRINTED NAME: _____ Tony Bermudez _____

PHONE NUMBER: _____ 512-699-0301 _____

EMAIL ADDRESS: _____ Tbermudez@LSPaving .com _____

City of Round Rock
Hot-Mix Asphalt
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**ATTACHMENT B:
REFERENCE SHEET**

PLEASE COMPLETE AND RETURN THIS FORM WITH THE SOLICITATION RESPONSE

SOLICITATION NUMBER: 18-037

BIDDER'S NAME: Asphalt Inc LLC **DATE:** 9-18-2018

Provide the name, address, telephone number and E-MAIL of at least three (3) valid Municipal, Government agencies or firms of comparable size that have utilized services that are similar in type and capacity within the last two (2) years. City of Round Rock references are not applicable. References may be checked prior to award. If references cannot be confirmed or if any negative responses are received it may result in the disqualification of submittal.

1. Company's Name The State Of Texas
Name of Contact Mike Arellano
Title of Contact Austin Distric Construction Engineer
E-Mail Address Miguel.Arellano@txdot.gov
Present Address 7901 N Interstate HWY 35
City, State, Zip Code Austin, TX, 78753
Telephone Number (512) 585-3197 Fax Number: ()

2. Company's Name Travis County
Name of Contact Scott Lambert
Title of Contact Pavement Management Engineer
E-Mail Address Scott.Lambert@traviscountytexas.gov
Present Address 700 Lavaca St
City, State, Zip Code Austin, TX, 78701
Telephone Number (512) 848-7673 Fax Number: ()

3. Company's Name DNT Construction
Name of Contact Jeff Berger
Title of Contact Chief Estimator
E-Mail Address jberger@dntconstruction.com
Present Address 2300 Picadilly Dr.
City, State, Zip Code Round Rock, TX, 78664
Telephone Number (512) 837-6700 Fax Number: ()

**FAILURE TO PROVIDE THE REQUIRED INFORMATION WITH THE SOLICITATION RESPONSE MAY
AUTOMATICALLY DISQUALIFY THE RESPONSE FROM CONSIDERATION FOR AWARD. ADDITIONAL
ATTACHMENTS**

Item 340

Dense-Graded Hot-Mix Asphalt (Small Quantity)



1. DESCRIPTION

Construct a hot-mix asphalt (HMA) pavement layer composed of a compacted, dense-graded mixture of aggregate and asphalt binder mixed hot in a mixing plant. This specification is intended for small quantity (SQ) HMA projects, typically under 5,000 tons total production.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications.

Notify the Engineer of all material sources and before changing any material source or formulation. The Engineer will verify that the specification requirements are met when the Contractor makes a source or formulation change, and may require a new laboratory mixture design, trial batch, or both. The Engineer may sample and test project materials at any time during the project to verify specification compliance in accordance with Item 6, "Control of Materials."

- 2.1. **Aggregate.** Furnish aggregates from sources that conform to the requirements shown in Table 1 and as specified in this Section. Aggregate requirements in this Section, including those shown in Table 1, may be modified or eliminated when shown on the plans. Additional aggregate requirements may be specified when shown on the plans. Provide aggregate stockpiles that meet the definitions in this Section for coarse, intermediate, or fine aggregate. Aggregate from reclaimed asphalt pavement (RAP) is not required to meet Table 1 requirements unless otherwise shown on the plans. Supply aggregates that meet the definitions in Tex-100-E for crushed gravel or crushed stone. The Engineer will designate the plant or the quarry as the sampling location. Provide samples from materials produced for the project. The Engineer will establish the Surface Aggregate Classification (SAC) and perform Los Angeles abrasion, magnesium sulfate soundness, and Micro-Deval tests. Perform all other aggregate quality tests listed in Table 1. Document all test results on the mixture design report. The Engineer may perform tests on independent or split samples to verify Contractor test results. Stockpile aggregates for each source and type separately. Determine aggregate gradations for mixture design and production testing based on the washed sieve analysis given in Tex-200-F, Part II.

- 2.1.1. **Coarse Aggregate.** Coarse aggregate stockpiles must have no more than 20% material passing the No. 8 sieve. Aggregates from sources listed in the Department's *Bituminous Rated Source Quality Catalog* (BRSQC) are preapproved for use. Use only the rated values for hot-mix listed in the BRSQC. Rated values for surface treatment (ST) do not apply to coarse aggregate sources used in hot-mix asphalt.

For sources not listed on the Department's BRSQC:

- build an individual stockpile for each material;
- request the Department test the stockpile for specification compliance; and
- once approved, do not add material to the stockpile unless otherwise approved.

Provide aggregate from non-listed sources only when tested by the Engineer and approved before use. Allow 30 calendar days for the Engineer to sample, test, and report results for non-listed sources.

Provide coarse aggregate with at least the minimum SAC shown on the plans. SAC requirements only apply to aggregates used on the surface of travel lanes. SAC requirements apply to aggregates used on surfaces other than travel lanes when shown on the plans. The SAC for sources on the Department's *Aggregate Quality Monitoring Program* (AQMP) (Tex-499-A) is listed in the BRSQC.

EXHIBIT "A"

2.1.1.1.

Blending Class A and Class B Aggregates. Class B aggregate meeting all other requirements in Table 1 may be blended with a Class A aggregate to meet requirements for Class A materials. Ensure that at least 50% by weight, or volume if required, of the material retained on the No. 4 sieve comes from the Class A aggregate source when blending Class A and B aggregates to meet a Class A requirement. Blend by volume if the bulk specific gravities of the Class A and B aggregates differ by more than 0.300. Coarse aggregate from RAP and Recycled Asphalt Shingles (RAS) will be considered as Class B aggregate for blending purposes.

The Engineer may perform tests at any time during production, when the Contractor blends Class A and B aggregates to meet a Class A requirement, to ensure that at least 50% by weight, or volume if required, of the material retained on the No. 4 sieve comes from the Class A aggregate source. The Engineer will use the Department's mix design template, when electing to verify conformance, to calculate the percent of Class A aggregate retained on the No. 4 sieve by inputting the bin percentages shown from readouts in the control room at the time of production and stockpile gradations measured at the time of production. The Engineer may determine the gradations based on either washed or dry sieve analysis from samples obtained from individual aggregate cold feed bins or aggregate stockpiles. The Engineer may perform spot checks using the gradations supplied by the Contractor on the mixture design report as an input for the template; however, a failing spot check will require confirmation with a stockpile gradation determined by the Engineer.

2.1.2.

Intermediate Aggregate. Aggregates not meeting the definition of coarse or fine aggregate will be defined as intermediate aggregate. Supply intermediate aggregates, when used that are free from organic impurities.

The Engineer may test the intermediate aggregate in accordance with Tex-408-A to verify the material is free from organic impurities. Supply intermediate aggregate from coarse aggregate sources, when used that meet the requirements shown in Table 1 unless otherwise approved.

Test the stockpile if 10% or more of the stockpile is retained on the No. 4 sieve, and verify that it meets the requirements in Table 1 for crushed face count (Tex-460-A) and flat and elongated particles (Tex-280-F).

2.1.3.

Fine Aggregate. Fine aggregates consist of manufactured sands, screenings, and field sands. Fine aggregate stockpiles must meet the gradation requirements in Table 2. Supply fine aggregates that are free from organic impurities. The Engineer may test the fine aggregate in accordance with Tex-408-A to verify the material is free from organic impurities. No more than 15% of the total aggregate may be field sand or other uncrushed fine aggregate. Use fine aggregate, with the exception of field sand, from coarse aggregate sources that meet the requirements shown in Table 1 unless otherwise approved.

Test the stockpile if 10% or more of the stockpile is retained on the No. 4 sieve, and verify that it meets the requirements in Table 1 for crushed face count (Tex-460-A) and flat and elongated particles (Tex-280-F).

Table 1
Aggregate Quality Requirements

Property	Test Method	Requirement
Coarse Aggregate		
SAC	Tex-499-A (AQMP)	As shown on the plans
Deleterious material, %, Max	Tex-217-F, Part I	1.5
Decantation, %, Max	Tex-217-F, Part II	1.5
Micro-Deval abrasion, %	Tex-461-A	Note 1
Los Angeles abrasion, %, Max	Tex-410-A	40
Magnesium sulfate soundness, 5 cycles, %, Max	Tex-411-A	30
Crushed face count, ² %, Min	Tex-460-A, Part I	85
Flat and elongated particles @ 5:1, %, Max	Tex-280-F	10
Fine Aggregate		
Linear shrinkage, %, Max	Tex-107-E	3
Combined Aggregate³		
Sand equivalent, %, Min	Tex-203-F	45

1. Not used for acceptance purposes. Optional test used by the Engineer as an indicator of the need for further investigation.
2. Only applies to crushed gravel.
3. Aggregates, without mineral filler, RAP, RAS, or additives, combined as used in the job-mix formula (JMF).

Table 2
Gradation Requirements for Fine Aggregate

Sieve Size	% Passing by Weight or Volume
3/8"	100
#8	70-100
#200	0-30

2.2.

Mineral Filler. Mineral filler consists of finely divided mineral matter such as agricultural lime, crusher fines, hydrated lime, or fly ash. Mineral filler is allowed unless otherwise shown on the plans. Use no more than 2% hydrated lime or fly ash unless otherwise shown on the plans. Use no more than 1% hydrated lime if a substitute binder is used unless otherwise shown on the plans or allowed. Test all mineral fillers except hydrated lime and fly ash in accordance with Tex-107-E to ensure specification compliance. The plans may require or disallow specific mineral fillers. Provide mineral filler, when used, that:

- is sufficiently dry, free-flowing, and free from clumps and foreign matter as determined by the Engineer;
- does not exceed 3% linear shrinkage when tested in accordance with Tex-107-E; and
- meets the gradation requirements in Table 3.

Table 3
Gradation Requirements for Mineral Filler

Sieve Size	% Passing by Weight or Volume
#8	100
#200	55-100

2.3.

Baghouse Fines. Fines collected by the baghouse or other dust-collecting equipment may be reintroduced into the mixing drum.

2.4.

Asphalt Binder. Furnish the type and grade of performance-graded (PG) asphalt specified on the plans.

2.5.

Tack Coat. Furnish CSS-1H, SS-1H, or a PG binder with a minimum high-temperature grade of PG 58 for tack coat binder in accordance with Item 300, "Asphalts, Oils, and Emulsions." Specialized or preferred tack coat materials may be allowed or required when shown on the plans. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

The Engineer will obtain at least one sample of the tack coat binder per project in accordance with Tex-500-C, Part III, and test it to verify compliance with Item 300, "Asphalts, Oils, and Emulsions." The Engineer will obtain the sample from the asphalt distributor immediately before use.

EXHIBIT "A"

2.6. **Additives.** Use the type and rate of additive specified when shown on the plans. Additives that facilitate mixing, compaction, or improve the quality of the mixture are allowed when approved. Provide the Engineer with documentation, such as the bill of lading, showing the quantity of additives used in the project unless otherwise directed.

2.6.1. **Lime and Liquid Antistripping Agent.** When lime or a liquid antistripping agent is used, add in accordance with Item 301, "Asphalt Antistripping Agents." Do not add lime directly into the mixing drum of any plant where lime is removed through the exhaust stream unless the plant has a baghouse or dust collection system that reintroduces the lime into the drum.

2.6.2. **Warm Mix Asphalt (WMA).** Warm Mix Asphalt (WMA) is defined as HMA that is produced within a target temperature discharge range of 215°F and 275°F using approved WMA additives or processes from the Department's MPL.

WMA is allowed for use on all projects and is required when shown on the plans. When WMA is required, the maximum placement or target discharge temperature for WMA will be set at a value below 275°F.

Department-approved WMA additives or processes may be used to facilitate mixing and compaction of HMA produced at target discharge temperatures above 275°F; however, such mixtures will not be defined as WMA.

2.7. **Recycled Materials.** Use of RAP and RAS is permitted unless otherwise shown on the plans. Do not exceed the maximum allowable percentages of RAP and RAS shown in Table 4. The allowable percentages shown in Table 4 may be decreased or increased when shown on the plans. Determine asphalt binder content and gradation of the RAP and RAS stockpiles for mixture design purposes in accordance with Tex-236-F. The Engineer may verify the asphalt binder content of the stockpiles at any time during production. Perform other tests on RAP and RAS when shown on the plans. Asphalt binder from RAP and RAS is designated as recycled asphalt binder. Calculate and ensure that the ratio of the recycled asphalt binder to total binder does not exceed the percentages shown in Table 5 during mixture design and HMA production when RAP or RAS is used. Use a separate cold feed bin for each stockpile of RAP and RAS during HMA production.

Surface, intermediate, and base mixes referenced in Tables 4 and 5 are defined as follows:

- **Surface.** The final HMA lift placed at or near the top of the pavement structure;
- **Intermediate.** Mixtures placed below an HMA surface mix and less than or equal to 8.0 in. from the riding surface; and
- **Base.** Mixtures placed greater than 8.0 in. from the riding surface.

2.7.1. **RAP.** RAP is salvaged, milled, pulverized, broken, or crushed asphalt pavement. Crush or break RAP so that 100% of the particles pass the 2 in. sieve. Fractionated RAP is defined as 2 or more RAP stockpiles, divided into coarse and fine fractions.

Use of Contractor-owned RAP, including HMA plant waste, is permitted unless otherwise shown on the plans. Department-owned RAP stockpiles are available for the Contractor's use when the stockpile locations are shown on the plans. If Department-owned RAP is available for the Contractor's use, the Contractor may use Contractor-owned fractionated RAP and replace it with an equal quantity of Department-owned RAP. This allowance does not apply to a Contractor using unfractionated RAP. Department-owned RAP generated through required work on the Contract is available for the Contractor's use when shown on the plans. Perform any necessary tests to ensure Contractor- or Department-owned RAP is appropriate for use. The Department will not perform any tests or assume any liability for the quality of the Department-owned RAP unless otherwise shown on the plans. The Contractor will retain ownership of RAP generated on the project when shown on the plans.

The coarse RAP stockpile will contain only material retained by processing over a 3/8-in. or 1/2-in. screen unless otherwise approved. The fine RAP stockpile will contain only material passing the 3/8-in. or 1/2-in. screen unless otherwise approved. The Engineer may allow the Contractor to use an alternate to the 3/8-in.

or 1/2-in. screen to fractionate the RAP. The maximum percentages of fractionated RAP may be comprised of coarse or fine fractionated RAP or the combination of both coarse and fine fractionated RAP.

Do not use Department- or Contractor-owned RAP contaminated with dirt or other objectionable materials. Do not use Department- or Contractor-owned RAP if the decantation value exceeds 5% and the plasticity index is greater than 8. Test the stockpiled RAP for decantation in accordance with Tex-406-A, Part I. Determine the plasticity index in accordance with Tex-106-E if the decantation value exceeds 5%. The decantation and plasticity index requirements do not apply to RAP samples with asphalt removed by extraction or ignition.

Do not intermingle Contractor-owned RAP stockpiles with Department-owned RAP stockpiles. Remove unused Contractor-owned RAP material from the project site upon completion of the project. Return unused Department-owned RAP to the designated stockpile location.

Table 4
Maximum Allowable Amounts of RAP¹

Maximum Allowable Fractionated RAP ² (%)			Maximum Allowable Unfractionated RAP ³ (%)		
Surface	Intermediate	Base	Surface	Intermediate	Base
20.0	30.0	40.0	10.0	10.0	10.0

1. Must also meet the recycled binder to total binder ratio shown in Table 5.
2. Up to 5% RAS may be used separately or as a replacement for fractionated RAP.
3. Unfractionated RAP may not be combined with fractionated RAP or RAS.

2.7.2.

RAS. Use of post-manufactured RAS or post-consumer RAS (tear-offs) is permitted unless otherwise shown on the plans. Up to 5% RAS may be used separately or as a replacement for fractionated RAP in accordance with Table 4 and Table 5. RAS is defined as processed asphalt shingle material from manufacturing of asphalt roofing shingles or from re-roofing residential structures. Post-manufactured RAS is processed manufacturer's shingle scrap by-product. Post-consumer RAS is processed shingle scrap removed from residential structures. Comply with all regulatory requirements stipulated for RAS by the TCEQ. RAS may be used separately or in conjunction with RAP.

Process the RAS by ambient grinding or granulating such that 100% of the particles pass the 3/8 in. sieve when tested in accordance with Tex-200-F, Part I. Perform a sieve analysis on processed RAS material before extraction (or ignition) of the asphalt binder.

Add sand meeting the requirements of Table 1 and Table 2 or fine RAP to RAS stockpiles if needed to keep the processed material workable. Any stockpile that contains RAS will be considered a RAS stockpile and be limited to no more than 5.0% of the HMA mixture in accordance with Table 4.

Certify compliance of the RAS with DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines." Treat RAS as an established nonhazardous recyclable material if it has not come into contact with any hazardous materials. Use RAS from shingle sources on the Department's MPL. Remove substantially all materials before use that are not part of the shingle, such as wood, paper, metal, plastic, and felt paper. Determine the deleterious content of RAS material for mixture design purposes in accordance with Tex-217-F, Part III. Do not use RAS if deleterious materials are more than 0.5% of the stockpiled RAS unless otherwise approved. Submit a sample for approval before submitting the mixture design. The Department will perform the testing for deleterious material of RAS to determine specification compliance.

2.8.

Substitute Binders. Unless otherwise shown on the plans, the Contractor may use a substitute PG binder listed in Table 5 instead of the PG binder originally specified, if the substitute PG binder and mixture made with the substitute PG binder meet the following:

- the substitute binder meets the specification requirements for the substitute binder grade in accordance with Section 300.2.10., "Performance-Graded Binders;" and
- the mixture has less than 10.0 mm of rutting on the Hamburg Wheel test (Tex-242-F) after the number of passes required for the originally specified binder. Use of substitute PG binders may only be allowed at the discretion of the Engineer if the Hamburg Wheel test results are between 10.0 mm and 12.5 mm.

EXHIBIT "A"

Table 5
Allowable Substitute PG Binders and Maximum Recycled Binder Ratios

Allowable Substitute PG Binders and Maximum Recycled Binder Ratios				
Originally Specified PG Binder	Allowable Substitute PG Binder	Maximum Ratio of Recycled Binder ¹ to Total Binder (%)		
		Surface	Intermediate	Base
HMA				
76-22 ²	70-22 or 64-22	20.0	20.0	20.0
	70-28 or 64-28	30.0	35.0	40.0
70-22 ²	64-22	20.0	20.0	20.0
	64-28 or 58-28	30.0	35.0	40.0
64-22 ²	58-28	30.0	35.0	40.0
76-28 ²	70-28 or 64-28	20.0	20.0	20.0
	64-34	30.0	35.0	40.0
70-28 ²	64-28 or 58-28	20.0	20.0	20.0
	64-34 or 58-34	30.0	35.0	40.0
64-28 ²	58-28	20.0	20.0	20.0
	58-34	30.0	35.0	40.0
WMA ³				
76-22 ²	70-22 or 64-22	30.0	35.0	40.0
70-22 ²	64-22 or 58-28	30.0	35.0	40.0
64-22 ⁴	58-28	30.0	35.0	40.0
76-28 ²	70-28 or 64-28	30.0	35.0	40.0
70-28 ²	64-28 or 58-28	30.0	35.0	40.0
64-28 ⁴	58-28	30.0	35.0	40.0

1. Combined recycled binder from RAP and RAS.
2. Use no more than 20.0% recycled binder when using this originally specified PG binder.
3. WMA as defined in Section 340.2.6.2., "Warm Mix Asphalt (WMA)."
4. When used with WMA, this originally specified PG binder is allowed for use at the maximum recycled binder ratios shown in this table.

3. EQUIPMENT

Provide required or necessary equipment in accordance with Item 320, "Equipment for Asphalt Concrete Pavement."

4. CONSTRUCTION

Produce, haul, place, and compact the specified paving mixture. In addition to tests required by the specification, Contractors may perform other QC tests as deemed necessary. At any time during the project, the Engineer may perform production and placement tests as deemed necessary in accordance with Item 5, "Control of the Work." Schedule and participate in a pre-paving meeting with the Engineer on or before the first day of paving unless otherwise directed.

- 4.1. **Certification.** Personnel certified by the Department-approved hot-mix asphalt certification program must conduct all mixture designs, sampling, and testing in accordance with Table 6. Supply the Engineer with a list of certified personnel and copies of their current certificates before beginning production and when personnel changes are made. Provide a mixture design developed and signed by a Level 2 certified specialist.

Table 6
Test Methods, Test Responsibility, and Minimum Certification Levels

Test Description	Test Method	Contractor	Engineer	Level ¹
1. Aggregate and Recycled Material Testing				
Sampling	Tex-221-F	✓	✓	1A
Dry sieve	Tex-200-F, Part I	✓	✓	1A
Washed sieve	Tex-200-F, Part II	✓	✓	1A
Deleterious material	Tex-217-F, Parts I & III	✓	✓	1A
Decantation	Tex-217-F, Part II	✓	✓	1A
Los Angeles abrasion	Tex-410-A		✓	TxDOT
Magnesium sulfate soundness	Tex-411-A		✓	TxDOT
Micro-Deval abrasion	Tex-461-A		✓	2
Crushed face count	Tex-460-A	✓	✓	2
Flat and elongated particles	Tex-280-F	✓	✓	2
Linear shrinkage	Tex-107-E	✓	✓	2
Sand equivalent	Tex-203-F	✓	✓	2
Organic impurities	Tex-408-A	✓	✓	2
2. Asphalt Binder & Tack Coat Sampling				
Asphalt binder sampling	Tex-500-C, Part II	✓	✓	1A/1B
Tack coat sampling	Tex-500-C, Part III	✓	✓	1A/1B
3. Mix Design & Verification				
Design and JMF changes	Tex-204-F	✓	✓	2
Mixing	Tex-205-F	✓	✓	2
Molding (TGC)	Tex-206-F	✓	✓	1A
Molding (SGC)	Tex-241-F	✓	✓	1A
Laboratory-molded density	Tex-207-F	✓	✓	1A
VMA ² (calculation only)	Tex-204-F	✓	✓	2
Rice gravity	Tex-227-F	✓	✓	1A
Ignition oven correction factors ³	Tex-236-F	✓	✓	2
Indirect tensile strength	Tex-226-F	✓	✓	2
Hamburg Wheel test	Tex-242-F	✓	✓	2
Boil test	Tex-530-C	✓	✓	1A
4. Production Testing				
Mixture sampling	Tex-222-F	✓	✓	1A
Molding (TGC)	Tex-206-F		✓	1A
Molding (SGC)	Tex-241-F		✓	1A
Laboratory-molded density	Tex-207-F		✓	1A
VMA ² (calculation only)	Tex-204-F		✓	1A
Rice gravity	Tex-227-F		✓	1A
Gradation & asphalt binder content ³	Tex-236-F		✓	1A
Moisture content	Tex-212-F		✓	1A
Hamburg Wheel test	Tex-242-F		✓	2
Boil test	Tex-530-C		✓	1A
5. Placement Testing				
Trimming roadway cores	Tex-207-F	✓	✓	1A/1B
In-place air voids	Tex-207-F		✓	1A/1B
Establish rolling pattern	Tex-207-F	✓		1B
Ride quality measurement	Tex-1001-S	✓	✓	Note 4

1. Level 1A, 1B, and 2 are certification levels provided by the Hot Mix Asphalt Center certification program.

2. Voids in mineral aggregates.

3. Refer to Section 340.4.8.3., "Production Testing," for exceptions to using an ignition oven.

4. Profiler and operator are required to be certified at the Texas A&M Transportation Institute facility when Surface Test Type B is specified.

4.2.

Reporting, Testing, and Responsibilities. Use Department-provided templates to record and calculate all test data pertaining to the mixture design. The Engineer will use Department templates for any production and placement testing. Obtain the current version of the templates at <http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/forms/site-manager.html> or from the Engineer.

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The maximum allowable time for the Engineer to exchange test data with the Contractor is as given in Table 7 unless otherwise approved. The Engineer will immediately report to the Contractor any test result that requires suspension of production or placement or that fails to meet the specification requirements.

Subsequent mix placed after test results are available to the Contractor, which require suspension of operations, may be considered unauthorized work. Unauthorized work will be accepted or rejected at the discretion of the Engineer in accordance with Article 5.3., "Conformity with Plans, Specifications, and Special Provisions."

Table 7
Reporting Schedule

Reporting Schedule			
Description	Reported By	Reported To	To Be Reported Within
Production Testing			
Gradation	Engineer	Contractor	1 working day of completion of the test
Asphalt binder content			
Laboratory-molded density			
VMA (calculation)			
Hamburg Wheel test			
Moisture content			
Boil test			
Binder tests			
Placement Testing			
In-place air voids	Engineer	Contractor	1 working day of completion of the test ¹

1. 2 days are allowed if cores cannot be dried to constant weight within 1 day.

4.3. Mixture Design.

4.3.1. **Design Requirements.** The Contractor may design the mixture using a Texas Gyratory Compactor (TGC) or a Superpave Gyratory Compactor (SGC) unless otherwise shown on the plans. Use the dense-graded design procedure provided in Tex-204-F. Design the mixture to meet the requirements listed in Tables 1, 2, 3, 4, 5, 8, 9, and 10.

4.3.1.1. **Target Laboratory-Molded Density When The TGC Is Used.** Design the mixture at a 96.5% target laboratory-molded density. Increase the target laboratory-molded density to 97.0% or 97.5% at the Contractor's discretion or when shown on the plans or specification.

4.3.1.2. **Design Number of Gyration (Ndesign) When The SGC Is Used.** Design the mixture at 50 gyrations (Ndesign). Use a target laboratory-molded density of 96.0% to design the mixture; however, adjustments can be made to the Ndesign value as noted in Table 9. The Ndesign level may be reduced to no less than 35 gyrations at the Contractor's discretion.

Use an approved laboratory from the Department's MPL to perform the Hamburg Wheel test in accordance with Tex-242-F, and provide results with the mixture design, or provide the laboratory mixture and request that the Department perform the Hamburg Wheel test. The Engineer will be allowed 10 working days to provide the Contractor with Hamburg Wheel test results on the laboratory mixture design.

The Engineer will provide the mixture design when shown on the plans. The Contractor may submit a new mixture design at any time during the project. The Engineer will verify and approve all mixture designs (JMF1) before the Contractor can begin production.

Provide the Engineer with a mixture design report using the Department-provided template. Include the following items in the report:

- the combined aggregate gradation, source, specific gravity, and percent of each material used;
- asphalt binder content and aggregate gradation of RAP and RAS stockpiles;
- the target laboratory-molded density (or Ndesign level when using the SGC);
- results of all applicable tests;

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- the mixing and molding temperatures;
- the signature of the Level 2 person or persons that performed the design;
- the date the mixture design was performed; and
- a unique identification number for the mixture design.

Table 8
Master Gradation Limits (% Passing by Weight or Volume) and VMA Requirements

Sieve Size	A Coarse Base	B Fine Base	C Coarse Surface	D Fine Surface	F Fine Mixture
2"	100.0 ¹	—	—	—	—
1-1/2"	98.0–100.0	100.0 ¹	—	—	—
1"	78.0–94.0	98.0–100.0	100.0 ¹	—	—
3/4"	64.0–85.0	84.0–98.0	95.0–100.0	100.0 ¹	—
1/2"	50.0–70.0	—	—	98.0–100.0	100.0 ¹
3/8"	—	60.0–80.0	70.0–85.0	85.0–100.0	98.0–100.0
#4	30.0–50.0	40.0–60.0	43.0–63.0	50.0–70.0	70.0–90.0
#8	22.0–36.0	29.0–43.0	32.0–44.0	35.0–46.0	38.0–48.0
#30	8.0–23.0	13.0–28.0	14.0–28.0	15.0–29.0	12.0–27.0
#50	3.0–19.0	6.0–20.0	7.0–21.0	7.0–20.0	6.0–19.0
#200	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0
Design VMA, % Minimum					
—	12.0	13.0	14.0	15.0	16.0
Production (Plant-Produced) VMA, % Minimum					
—	11.5	12.5	13.5	14.5	15.5

1. Defined as maximum sieve size. No tolerance allowed.

Table 9
Laboratory Mixture Design Properties

Mixture Property	Test Method	Requirement
Target laboratory-molded density, % (TGC)	Tex-207-F	96.5 ¹
Design gyrations (N _{design} for SGC)	Tex-241-F	50 ²
Indirect tensile strength (dry), psi	Tex-226-F	85–200 ³
Boil test ⁴	Tex-530-C	—

- Increase to 97.0% or 97.5% at the Contractor's discretion or when shown on the plans or specification.
- Adjust within a range of 35–100 gyrations when shown on the plans or specification or when mutually agreed between the Engineer and Contractor.
- The Engineer may allow the IDT strength to exceed 200 psi if the corresponding Hamburg Wheel rut depth is greater than 3.0 mm and less than 12.5 mm.
- Used to establish baseline for comparison to production results. May be waived when approved.

Table 10
Hamburg Wheel Test Requirements

High-Temperature Binder Grade	Test Method	Minimum # of Passes @ 12.5 mm ¹ Rut Depth, Tested @ 50°C
PG 64 or lower	Tex-242-F	10,000 ²
PG 70		15,000 ³
PG 76 or higher		20,000

- When the rut depth at the required minimum number of passes is less than 3 mm, the Engineer may require the Contractor to increase the target laboratory-molded density (TGC) by 0.5% to no more than 97.5% or lower the N_{design} level (SGC) to no less than 35 gyrations.
- May be decreased to no less than 5,000 passes when shown on the plans.
- May be decreased to no less than 10,000 passes when shown on the plans.

4.3.2.

Job-Mix Formula Approval. The job-mix formula (JMF) is the combined aggregate gradation, target laboratory-molded density (or N_{design} level), and target asphalt percentage used to establish target values for hot-mix production. JMF1 is the original laboratory mixture design used to produce the trial batch. When

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WMA is used, JMF1 may be designed and submitted to the Engineer without including the WMA additive. When WMA is used, document the additive or process used and recommended rate on the JMF1 submittal. Furnish a mix design report (JMF1) with representative samples of all component materials and request approval to produce the trial batch. Provide approximately 10,000 g of the design mixture and request that the Department perform the Hamburg Wheel test if opting to have the Department perform the test. The Engineer will verify JMF1 based on plant-produced mixture from the trial batch unless otherwise determined. The Engineer may accept an existing mixture design previously used on a Department project and may waive the trial batch to verify JMF1. Provide split samples of the mixtures and blank samples used to determine the ignition oven correction factors. The Engineer will determine the aggregate and asphalt correction factors from the ignition oven used for production testing in accordance with Tex-236-F.

The Engineer will use a TGC calibrated in accordance with Tex-914-K in molding production samples. Provide an SGC at the Engineer's field laboratory for use in molding production samples if the SGC is used to design the mix.

The Engineer may perform Tex-530-C and retain the tested sample for comparison purposes during production. The Engineer may waive the requirement for the boil test.

4.3.3. **JMF Adjustments.** If JMF adjustments are necessary to achieve the specified requirements, the adjusted JMF must:

- be provided to the Engineer in writing before the start of a new lot;
- be numbered in sequence to the previous JMF;
- meet the mixture requirements in Table 4 and Table 5;
- meet the master gradation limits shown in Table 8; and
- be within the operational tolerances of the current JMF listed in Table 11.

The Engineer may adjust the asphalt binder content to maintain desirable laboratory density near the optimum value while achieving other mix requirements.

Table 11
Operational Tolerances

Description	Test Method	Allowable Difference Between Trial Batch and JMF1 Target	Allowable Difference from Current JMF Target
Individual % retained for #8 sieve and larger	<u>Tex-200-F</u> or <u>Tex-236-F</u>	Must be within master grading limits in Table 8	±5.0 ^{1,2}
Individual % retained for sieves smaller than #8 and larger than #200			±3.0 ^{1,2}
% passing the #200 sieve			±2.0 ^{1,2}
Asphalt binder content, %	<u>Tex-236-F</u>	±0.5	±0.3 ²
Laboratory-molded density, %	<u>Tex-207-F</u>	±1.0	±1.0
VMA, %, min	<u>Tex-204-F</u>	Note 3	Note 3

1. When within these tolerances, mixture production gradations may fall outside the master grading limits; however, the % passing the #200 will be considered out of tolerance when outside the master grading limits.
2. Only applies to mixture produced for Lot 1 and higher.
3. Mixture is required to meet Table 8 requirements.

4.4. **Production Operations.** Perform a new trial batch when the plant or plant location is changed. Take corrective action and receive approval to proceed after any production suspension for noncompliance to the specification. Submit a new mix design and perform a new trial batch when the asphalt binder content of:

- any RAP stockpile used in the mix is more than 0.5% higher than the value shown on the mixture design report; or
- RAS stockpile used in the mix is more than 2.0% higher than the value shown on the mixture design report.

4.4.1. **Storage and Heating of Materials.** Do not heat the asphalt binder above the temperatures specified in Item 300, "Asphalts, Oils, and Emulsions," or outside the manufacturer's recommended values. Provide the Engineer with daily records of asphalt binder and hot-mix asphalt discharge temperatures (in legible and discernible increments) in accordance with Item 320, "Equipment for Asphalt Concrete Pavement," unless

otherwise directed. Do not store mixture for a period long enough to affect the quality of the mixture, nor in any case longer than 12 hr. unless otherwise approved.

4.4.2.

Mixing and Discharge of Materials. Notify the Engineer of the target discharge temperature and produce the mixture within 25°F of the target. Monitor the temperature of the material in the truck before shipping to ensure that it does not exceed 350°F (or 275°F for WMA) and is not lower than 215°F. The Department will not pay for or allow placement of any mixture produced above 350°F.

Produce WMA within the target discharge temperature range of 215°F and 275°F when WMA is required. Take corrective action any time the discharge temperature of the WMA exceeds the target discharge range. The Engineer may suspend production operations if the Contractor's corrective action is not successful at controlling the production temperature within the target discharge range. Note that when WMA is produced, it may be necessary to adjust burners to ensure complete combustion such that no burner fuel residue remains in the mixture.

Control the mixing time and temperature so that substantially all moisture is removed from the mixture before discharging from the plant. The Engineer may determine the moisture content by oven-drying in accordance with Tex-212-F, Part II, and verify that the mixture contains no more than 0.2% of moisture by weight. The Engineer will obtain the sample immediately after discharging the mixture into the truck, and will perform the test promptly.

4.5.

Hauling Operations. Clean all truck beds before use to ensure that mixture is not contaminated. Use a release agent shown on the Department's MPL to coat the inside bed of the truck when necessary.

Use equipment for hauling as defined in Section 340.4.6.3.2., "Hauling Equipment." Use other hauling equipment only when allowed.

4.6.

Placement Operations. Collect haul tickets from each load of mixture delivered to the project and provide the Department's copy to the Engineer approximately every hour, or as directed. Use a hand-held thermal camera or infrared thermometer to measure and record the internal temperature of the mixture as discharged from the truck or Material Transfer Device (MTD) before or as the mix enters the paver and an approximate station number or GPS coordinates on each ticket unless otherwise directed. Calculate the daily yield and cumulative yield for the specified lift and provide to the Engineer at the end of paving operations for each day unless otherwise directed. The Engineer may suspend production if the Contractor fails to produce and provide haul tickets and yield calculations by the end of paving operations for each day.

Prepare the surface by removing raised pavement markers and objectionable material such as moisture, dirt, sand, leaves, and other loose impediments from the surface before placing mixture. Remove vegetation from pavement edges. Place the mixture to meet the typical section requirements and produce a smooth, finished surface with a uniform appearance and texture. Offset longitudinal joints of successive courses of hot-mix by at least 6 in. Place mixture so that longitudinal joints on the surface course coincide with lane lines, or as directed. Ensure that all finished surfaces will drain properly.

Place the mixture at the rate or thickness shown on the plans. The Engineer will use the guidelines in Table 12 to determine the compacted lift thickness of each layer when multiple lifts are required. The thickness determined is based on the rate of 110 lb./sq. yd. for each inch of pavement unless otherwise shown on the plans.

Table 12
Compacted Lift Thickness and Required Core Height

Mixture Type	Compacted Lift Thickness Guidelines		Minimum Untrimmed Core Height (in.) Eligible for Testing
	Minimum (in.)	Maximum (in.)	
A	3.00	6.00	2.00
B	2.50	5.00	1.75
C	2.00	4.00	1.50
D	1.50	3.00	1.25
F	1.25	2.50	1.25

- 4.6.1. **Weather Conditions.** Place mixture when the roadway surface temperature is at or above 60°F unless otherwise approved. Measure the roadway surface temperature with a hand-held thermal camera or infrared thermometer. The Engineer may allow mixture placement to begin before the roadway surface reaches the required temperature if conditions are such that the roadway surface will reach the required temperature within 2 hr. of beginning placement operations. Place mixtures only when weather conditions and moisture conditions of the roadway surface are suitable as determined by the Engineer. The Engineer may restrict the Contractor from paving if the ambient temperature is likely to drop below 32°F within 12 hr. of paving.
- 4.6.2. **Tack Coat.** Clean the surface before placing the tack coat. The Engineer will set the rate between 0.04 and 0.10 gal. of residual asphalt per square yard of surface area. Apply a uniform tack coat at the specified rate unless otherwise directed. Apply the tack coat in a uniform manner to avoid streaks and other irregular patterns. Apply a thin, uniform tack coat to all contact surfaces of curbs, structures, and all joints. Allow adequate time for emulsion to break completely before placing any material. Prevent splattering of tack coat when placed adjacent to curb, gutter, and structures. Roll the tack coat with a pneumatic-tire roller to remove streaks and other irregular patterns when directed.
- 4.6.3. **Lay-Down Operations.**
- 4.6.3.1. **Windrow Operations.** Operate windrow pickup equipment so that when hot-mix is placed in windrows substantially all the mixture deposited on the roadbed is picked up and loaded into the paver.
- 4.6.3.2. **Hauling Equipment.** Use belly dumps, live bottom, or end dump trucks to haul and transfer mixture; however, with exception of paving miscellaneous areas, end dump trucks are only allowed when used in conjunction with an MTD with remixing capability unless otherwise allowed.
- 4.6.3.3. **Screed Heaters.** Turn off screed heaters, to prevent overheating of the mat, if the paver stops for more than 5 min.
- 4.7. **Compaction.** Compact the pavement uniformly to contain between 3.8% and 8.5% in-place air voids.
- Furnish the type, size, and number of rollers required for compaction as approved. Use a pneumatic-tire roller to seal the surface unless excessive pickup of fines occurs. Use additional rollers as required to remove any roller marks. Use only water or an approved release agent on rollers, tamps, and other compaction equipment unless otherwise directed.
- Use the control strip method shown in Tex-207-F, Part IV, on the first day of production to establish the rolling pattern that will produce the desired in-place air voids unless otherwise directed.
- Use tamps to thoroughly compact the edges of the pavement along curbs, headers, and similar structures and in locations that will not allow thorough compaction with rollers. The Engineer may require rolling with a trench roller on widened areas, in trenches, and in other limited areas.
- Complete all compaction operations before the pavement temperature drops below 160°F unless otherwise allowed. The Engineer may allow compaction with a light finish roller operated in static mode for pavement temperatures below 160°F.

Allow the compacted pavement to cool to 160°F or lower before opening to traffic unless otherwise directed. Sprinkle the finished mat with water or limewater, when directed, to expedite opening the roadway to traffic.

4.8. **Production Acceptance.**

4.8.1. **Production Lot.** Each day of production is defined as a production lot. Lots will be sequentially numbered and correspond to each new day of production. Note that lots are not subdivided into sublots for this specification.

4.8.2. **Production Sampling.**

4.8.2.1. **Mixture Sampling.** The Engineer may obtain mixture samples in accordance with Tex-222-F at any time during production.

4.8.2.2. **Asphalt Binder Sampling.** The Engineer may obtain or require the Contractor to obtain 1 qt. samples of the asphalt binder at any time during production from a port located immediately upstream from the mixing drum or pug mill in accordance with Tex-500-C, Part II. The Engineer may test any of the asphalt binder samples to verify compliance with Item 300, "Asphalts, Oils, and Emulsions."

4.8.3. **Production Testing.** The Engineer will test at the frequency listed in the Department's *Guide Schedule of Sampling and Testing* and this specification. The Engineer may suspend production if production tests do not meet specifications or are not within operational tolerances listed in Table 11. Take immediate corrective action if the Engineer's laboratory-molded density on any sample is less than 95.0% or greater than 98.0%, to bring the mixture within these tolerances. The Engineer may suspend operations if the Contractor's corrective actions do not produce acceptable results. The Engineer will allow production to resume when the proposed corrective action is likely to yield acceptable results.

The Engineer may use alternate methods for determining the asphalt binder content and aggregate gradation if the aggregate mineralogy is such that Tex-236-F does not yield reliable results. Use the applicable test procedure if an alternate test method is selected.

Table 13
Production and Placement Testing

Description	Test Method
Individual % retained for #8 sieve and larger	<u>Tex-200-F</u>
Individual % retained for sieves smaller than #8 and larger than #200	or
% passing the #200 sieve	<u>Tex-236-F</u>
Laboratory-molded density	<u>Tex-207-F</u>
Laboratory-molded bulk specific gravity	
In-Place air voids	
VMA	<u>Tex-204-F</u>
Moisture content	<u>Tex-212-F</u> , Part II
Theoretical maximum specific (Rice) gravity	<u>Tex-227-F</u>
Asphalt binder content	<u>Tex-236-F</u>
Hamburg Wheel test	<u>Tex-242-F</u>
Recycled Asphalt Shingles (RAS) ¹	<u>Tex-217-F</u> , Part III
Asphalt binder sampling and testing	<u>Tex-500-C</u>
Tack coat sampling and testing	<u>Tex-500-C</u> , Part III
Boil test	<u>Tex-530-C</u>

1. Testing performed by the Construction Division or designated laboratory.

4.8.3.1. **Void in Mineral Aggregates (VMA).** The Engineer may determine the VMA for any production lot. Take immediate corrective action if the VMA value for any lot is less than the minimum VMA requirement for production listed in Table 8. Suspend production and shipment of the mixture if the Engineer's VMA result is more than 0.5% below the minimum VMA requirement for production listed in Table 8. In addition to suspending production, the Engineer may require removal and replacement or may allow the lot to be left in place without payment.

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- 4.8.3.2. **Hamburg Wheel Test.** The Engineer may perform a Hamburg Wheel test at any time during production, including when the boil test indicates a change in quality from the materials submitted for JMF1. In addition to testing production samples, the Engineer may obtain cores and perform Hamburg Wheel tests on any areas of the roadway where rutting is observed. Suspend production until further Hamburg Wheel tests meet the specified values when the production or core samples fail the Hamburg Wheel test criteria in Table 10. Core samples, if taken, will be obtained from the center of the finished mat or other areas excluding the vehicle wheel paths. The Engineer may require up to the entire lot of any mixture failing the Hamburg Wheel test to be removed and replaced at the Contractor's expense.

If the Department's or Department-approved laboratory's Hamburg Wheel test results in a "remove and replace" condition, the Contractor may request that the Department confirm the results by re-testing the failing material. The Construction Division will perform the Hamburg Wheel tests and determine the final disposition of the material in question based on the Department's test results.

- 4.8.4. **Individual Loads of Hot-Mix.** The Engineer can reject individual truckloads of hot-mix. When a load of hot-mix is rejected for reasons other than temperature, contamination, or excessive uncoated particles, the Contractor may request that the rejected load be tested. Make this request within 4 hr. of rejection. The Engineer will sample and test the mixture. If test results are within the operational tolerances shown in Table 11, payment will be made for the load. If test results are not within operational tolerances, no payment will be made for the load.

4.9. **Placement Acceptance.**

- 4.9.1. **Placement Lot.** A placement lot is defined as the area placed during a production lot (one day's production). Placement lot numbers will correspond with production lot numbers.

- 4.9.2. **Miscellaneous Areas.** Miscellaneous areas include areas that typically involve significant handwork or discontinuous paving operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, spot level-up areas, and other similar areas. Miscellaneous areas also include level-ups and thin overlays when the layer thickness specified on the plans is less than the minimum untrimmed core height eligible for testing shown in Table 12. The specified layer thickness is based on the rate of 110 lb./sq. yd. for each inch of pavement unless another rate is shown on the plans. Compact miscellaneous areas in accordance with Section 340.4.7., "Compaction." Miscellaneous areas are not subject to in-place air void determination except for temporary detours when shown on the plans.

- 4.9.3. **Placement Sampling.** Provide the equipment and means to obtain and trim roadway cores on site. On site is defined as in close proximity to where the cores are taken. Obtain the cores within one working day of the time the placement lot is completed unless otherwise approved. Obtain two 6-in. diameter cores side-by-side at each location selected by the Engineer for in-place air void determination unless otherwise shown on the plans. For Type D and Type F mixtures, 4-in. diameter cores are allowed. Mark the cores for identification, measure and record the untrimmed core height, and provide the information to the Engineer. The Engineer will witness the coring operation and measurement of the core thickness.

Visually inspect each core and verify that the current paving layer is bonded to the underlying layer. Take corrective action if an adequate bond does not exist between the current and underlying layer to ensure that an adequate bond will be achieved during subsequent placement operations.

Trim the cores immediately after obtaining the cores from the roadway in accordance with Tex-207-F if the core heights meet the minimum untrimmed value listed in Table 12. Trim the cores on site in the presence of the Engineer. Use a permanent marker or paint pen to record the date and lot number on each core as well as the designation as Core A or B. The Engineer may require additional information to be marked on the core and may choose to sign or initial the core. The Engineer will take custody of the cores immediately after they are trimmed and will retain custody of the cores until the Department's testing is completed. Before turning the trimmed cores over to the Engineer, the Contractor may wrap the trimmed cores or secure them in a manner that will reduce the risk of possible damage occurring during transport by the Engineer. After testing, the Engineer will return the cores to the Contractor.

The Engineer may have the cores transported back to the Department's laboratory at the HMA plant via the Contractor's haul truck or other designated vehicle. In such cases where the cores will be out of the Engineer's possession during transport, the Engineer will use Department-provided security bags and the Roadway Core Custody protocol located at <http://www.txdot.gov/business/specifications.htm> to provide a secure means and process that protects the integrity of the cores during transport.

Instead of the Contractor trimming the cores on site immediately after coring, the Engineer and the Contractor may mutually agree to have the trimming operations performed at an alternate location such as a field laboratory or other similar location. In such cases, the Engineer will take possession of the cores immediately after they are obtained from the roadway and will retain custody of the cores until testing is completed. Either the Department or Contractor representative may perform trimming of the cores. The Engineer will witness all trimming operations in cases where the Contractor representative performs the trimming operation.

Dry the core holes and tack the sides and bottom immediately after obtaining the cores. Fill the hole with the same type of mixture and properly compact the mixture. Repair core holes with other methods when approved.

4.9.4. **Placement Testing.** The Engineer may measure in-place air voids at any time during the project to verify specification compliance.

4.9.4.1. **In-Place Air Voids.** The Engineer will measure in-place air voids in accordance with Tex-207-F and Tex-227-F. Cores not meeting the height requirements in Table 12 will not be tested. Before drying to a constant weight, cores may be pre-dried using a Corelok or similar vacuum device to remove excess moisture. The Engineer will use the corresponding theoretical maximum specific gravity to determine the air void content of each core. The Engineer will use the average air void content of the 2 cores to determine the in-place air voids at the selected location.

The Engineer will use the vacuum method to seal the core if required by Tex-207-F. The Engineer will use the test results from the unsealed core if the sealed core yields a higher specific gravity than the unsealed core. After determining the in-place air void content, the Engineer will return the cores and provide test results to the Contractor.

Take immediate corrective action when the in-place air voids exceed the range of 3.8% and 8.5% to bring the operation within these tolerances. The Engineer may suspend operations or require removal and replacement if the in-place air voids are less than 2.7% or greater than 9.9%. The Engineer will allow paving to resume when the proposed corrective action is likely to yield between 3.8% and 8.5% in-place air voids. Areas defined in Section 340.9.2., "Miscellaneous Areas," are not subject to in-place air void determination.

4.9.5. **Irregularities.** Identify and correct irregularities including segregation, rutting, raveling, flushing, fat spots, mat slippage, irregular color, irregular texture, roller marks, tears, gouges, streaks, uncoated aggregate particles, or broken aggregate particles. The Engineer may also identify irregularities, and in such cases, the Engineer will promptly notify the Contractor. If the Engineer determines that the irregularity will adversely affect pavement performance, the Engineer may require the Contractor to remove and replace (at the Contractor's expense) areas of the pavement that contain irregularities and areas where the mixture does not bond to the existing pavement. If irregularities are detected, the Engineer may require the Contractor to immediately suspend operations or may allow the Contractor to continue operations for no more than one day while the Contractor is taking appropriate corrective action.

4.9.6. **Ride Quality.** Use Surface Test Type A to evaluate ride quality in accordance with Item 585, "Ride Quality for Pavement Surfaces," unless otherwise shown on the plans.

5. MEASUREMENT

Hot mix will be measured by the ton of composite hot-mix, which includes asphalt, aggregate, and additives. Measure the weight on scales in accordance with Item 520, "Weighing and Measuring Equipment."

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under Article 340.5., "Measurement," will be paid for at the unit bid price for "Dense Graded Hot-Mix Asphalt (SQ)" of the mixture type, SAC, and binder specified. These prices are full compensation for surface preparation, materials including tack coat, placement, equipment, labor, tools, and incidentals.

Trial batches will not be paid for unless they are included in pavement work approved by the Department.

Payment adjustment for ride quality, if applicable, will be determined in accordance with Item 585, "Ride Quality for Pavement Surfaces."