



**Request for Bids
Capital Region Airport Authority**

Solicitation Number	Request for Bids (RFB) 20-03
Solicitation Title	Pavement Joint and Spall Repair
Purpose	To solicit bids from responsive and responsible bidders to provide concrete joint seal removal and replacement, spall repair, and HMA crack fill at Capital Region International Airport and Mason Jewett Field.
Deadline for Bid Submissions	July 3, 2020
Submit Bid to This Address	Capital Region Airport Authority 4100 Capital City Blvd. Lansing, MI 48906
Required Bid Copies	One (1) original and two (2) copies
Direct All Inquiries To	purchasing@craa.com
This RFB is Comprised Of	Section 1 – Glossary of Terms Section 2 – Instructions and Special Requirements Section 3 Minimum Qualifications Section 4 – Scope of Work Section 5 – Terms and Conditions Section 6 – Required Forms and Attachments

**REQUEST FOR BIDS (RFB) 20-03
FOR
PAVEMENT JOINT AND SPALL REPAIRS**

Issue Date: June 12, 2020

Pre-Bid Site Tour: June 18, 2020 @ 2:00 PM

Pre-Bid Question Deadline: June 25, 2020 @ 4:30 PM

Email Questions To: purchasing@craa.com

Bid Deadline: July 3, 2020 @ 3:00 PM
Capital Region Airport Authority
4100 Capital City Blvd.
Lansing, MI 48906

Public Bid Opening: July 3, 2020 @ 3:15 PM

CRAA Contact: Bonnie Wohlfert, Executive Assistant
Phone: (517) 886-3714, Fax: (517) 321-6197

DESCRIPTION: The Capital Region Airport Authority is requesting bids for the repair of concrete joints and spalls and filling of HMA cracks at the Capital Region International Airport and Mason Jewett Field. All work will be performed between May 1 and November 1 of each year. The contract will be for an initial term of three years with two (2) one-year options.

Bids must be received by the Airport Authority by the exact date and time indicated above. Late bids will not be accepted.

Negotiation of a contract with the highest ranked, responsive and responsible Bidder is anticipated to occur in July 2020.

This Request for Bids (RFB) may be viewed or obtained as follows:

1. To download this RFB, all attachments, and all addenda, access the Airport Authority website at: <http://www.flylansing.com/media>
2. To view a copy of the RFB, all attachments, and all addenda, visit the following location:

Capital Region Airport Authority
4100 Capital City Blvd.
Lansing, MI 48906
(517) 321-6121

Important Note: It is the responsibility of the Bidders to view, obtain or download all addenda issued by the Airport Authority for this RFB.

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SECTION 1- GLOSSARY OF TERMS

- 1) **Airports:** Capital Region International Airport and Mason Jewett Field.
- 2) **Board:** The governing body of the airport.
- 3) **Business:** An individual, firm, vendor, association, corporation, limited liability company, partnership, joint venture, sole proprietorship, or other legal entity.
- 4) **Currency:** All monetary references in this document are in us dollars.
- 5) **Contractor:** The successful awarded bidder of a solicitation, who is legally bound to the contract.
- 6) **Capital Region Airport Authority:** Owner of the Capital Region International Airport and Mason Jewett Field
- 7) **Form of Agreement or FOA:** The contract document for the solicitation.
- 8) **Freedom of Information Act (FOIA):** Regulates and sets requirements for the disclosure of public records and defines when, how, and what information may be obtained from the Airport Authority by an interested party.
- 9) **Holiday:** The legal holidays observed by the Airport Authority. (New Year's Eve, New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Eve, Christmas Day)
- 10) **Joint Venture:** A partnership or other legal cooperative agreement between two or more persons or entities.
- 11) **Nonresponsible Bid:** A bid submitted in reply to an RFB issued by the Airport Authority where the bidder does not meet all the minimum qualifications.
- 12) **Nonresponsive Bid:** A bid submitted in reply to an RFB issued by the Airport Authority, which does not conform to all material requirements of the RFB.
- 13) **Notice of Award:** Written notification from the Airport Authority to the successful bidder that they have been awarded the contract.
- 14) **Notice to Proceed:** Written authorization from the Airport Authority to the successful bidder to proceed with the work defined in the contract.

15)Partnership: An agreement under which two or more persons agree to carry on a business, sharing in the profit or losses, but each liable for the losses to the extent of his or her personal assets.

16)RON Parking Spots: Remain overnight parking spots.

17)Responsible Bidder: A bidder who is qualified in all respects to fully preform the required services or to provide the required goods and who possesses the integrity, experience, and the reliability necessary for the good faith performance

18)Responsive Bidder: A bid timely submitted by a bidder in reply to, and in conformity with all material requirements of a Request for Bids

SECTION 2 – INSTRUCTIONS AND SPECIAL REQUIREMENTS

- 1) **PRE-BID INFORMATION AND QUESTIONS:** Bidders are advised to review this document in its entirety and to rely only on the contents of this RFB and accompanying documents and any written clarifications or addenda issued by the Airport Authority. **The Airport Authority is not responsible for any oral instructions.** If a bidder finds a discrepancy, error, or omission in the RFB document, the bidder is requested to promptly notify the Airport Authority contact noted on the cover page of this RFB so that clarification may be sent to all prospective bidders. All questions must be submitted in writing by the pre-bid question deadline. No contact with other Airport Authority employees, officers or Board Members regarding this document is permitted.
- 2) **SITE TOUR:** The work areas are in the Airport Operations Area (AOA) which will require an escort by an Airport Authority employee. Appointments will have to be scheduled.
- 3) **RFB MODIFICATIONS/ADDENDA:** Clarifications or modifications may be made to this solicitation at the discretion of the Airport Authority. Any and all Addenda issued by the Airport Authority will be posted as noted on the cover page of this RFB. It is the responsibility of the bidder to obtain from the Airport Authority any issued addenda and to acknowledge the addenda on the bid form. If any changes are made to this solicitation document by any party other than the Airport Authority, the original document in the Airport Authority's files takes precedence.
- 4) **BID DEADLINE/LATE SUBMISSIONS:** The bid is due not later than the date and time listed on the Cover Page of this RFB. **The Airport Authority Does not accept late bids.** The deadline date may in some instances change during the solicitation issuance period. If any deadline date for submission changes, such changes will be published addendum to this solicitation prior to the deadline date indicated on the cover page of this solicitation.
- 5) **BID SUBMISSION:** Failure to submit a signed bid by the deadline will result in disqualification.
 - a) Submission of a bid establishes a conclusive presumption that the Bidder is thoroughly familiar with the Request for Bids (RFB), and the Bidder understands and agrees to abide by each and all of the stipulations and requirements contained therein.
 - b) All prices and notations must be typed or printed in ink. No erasures are permitted. Mistakes may be crossed out and corrections must be initialed in ink by the person signing the bid.
 - c) All costs incurred in the preparation and presentation of the bid is the Bidder's sole responsibility; no pre-bid costs will be reimbursed to any Bidder.
 - d) All documentation submitted with the bid will become the property of the Airport Authority.

- e) Bids must be held firm for a minimum of 120 days from the Bid Deadline date of the RFB.
 - f) Prices provided in the in the Bidder's Bid shall be valid for the entire length of the contract.
- 6) EXCEPTIONS:** Bidder shall clearly identify any proposed deviations from the language in the Request for Bids (including its Form of Agreement & Terms and Conditions). Each exception must be clearly defined and referenced to the proper paragraph in this RFB or its Form of Agreement and Terms and Conditions. The exception shall include, at a minimum the Bidder's proposed substitute language and opinion as to why the suggested substitution will provide equivalent or better service and performance. If no exceptions are noted in the Bidder's Bid, the Airport Authority will assume complete conformance with this specification and the successful Bidder will be required to perform accordingly. Bids not meeting all requirements may be rejected. Bids taking exception to material Terms and Conditions (i.e. indemnification, subrogation, insurance requirements, payment requirements, invoicing requirements, ownership of documents, governmental requirements, etc.) will not be considered. The Airport Authority reserves the right to accept or to allow the Bidder to withdraw any or all exceptions.
- 7) WITHDRAWAL:** Bids may only be withdrawn prior to the date and time set for the opening of bids. No Bid may be withdrawn after the deadline for submission.
- 8) REJECTION OF BIDS:** Bids will be rejected for the following reasons:
- A)** Bidder's failure to submit all required information of RFB.
 - B)** Bidder's failure to meet minimum qualifications of RFB.
 - C)** Bidder is in arrears or in default by the Airport Authority on any contract or debt, or other obligation.
- 9) CANCELLATION OF RFB:** The Airport Authority's reserves the right to cancel this solicitation, in whole or in part, as well as reject any or all bids, or to accept or reject any bid in part, and to waive any minor informality or irregularity in bids received if it is determined be the Chief Executive Officer (CEO) or his designee that the best interest of the Airport Authority will be served by so doing. If the solicitation is cancelled or all bids are rejected by the Airport Authority, a notice will be posted on the airport's website.
- 10) BID SIGNATURES:** Bids must be signed by an authorized official of the Bidder. Each signature represents binding commitment upon the Bidder to provide the goods and/or services offered to the Airport Authority if the Bidder is determined to be the lowest responsive and responsible Bidder. Properly authenticated electronic signatures are acceptable and shall be treated the same as if the signee had put paper to pen.
- 11) CONTRACT AWARD AND CONTRACT EXECUTION:** The Airport Authority reserves the right to award by item, group of items, or total proposed items and to reward more than one contract at its sole discretion, to the lowest Responsive and Responsible Bidder, or Bidders.

All contract recommendations must be approved by the Airport Authority's Board. The Bidder(s) to whom the award is being recommended will be notified and provided the Airport Authority's contract for execution at the earliest possible date. If for any reason, the awarded Bidder(s) does not execute the contract within the time specified by the Airport Authority, then the Airport Authority may recommend award to the next lowest responsive and Responsible Bidder. A final notice of award, and if required, a notice to proceed, will be issued after the completion of a fully executed contract.

If a Bidder requests an agreement beyond any agreement (e.g. Terms and Conditions) required by the Airport Authority, or required as a part of this solicitation by the Airport Authority, the Airport Authority reserves the right to reject execution of any additional agreements requested by the Bidder. In instances where the Airport Authority rejects the execution of additional agreements that are required by the Bidder, the Airport Authority reserves the right to deem the bid as Nonresponsive, and to recommend award to the next most Responsive and Responsible Bidder.

- 15) NO RFB RESPONSE:** Bidders who receive this RFB but who do not submit a bid should return this RFB package stating the reason(s) for not responding.
- 16) FREEDOM OF INFORMATION ACT ("FOIA") REQUIREMENTS:** Bids are subject to public disclosure after the Bid Deadline in accordance with state law. For additional information, contact the Airport Authority.
- 17) BASIS FOR CONTRACT AWARD:** The determination of the lowest responsive and responsible Bid shall be based upon "ATTACHMENT A – BID FORM, and ATTACHMENT B – PRICE FORM.

SECTION 3 – MINIMUM QUALIFICATIONS

- 1) 10 years of past experience performing joint sealing and spall repair**
- 2) Previously performed same type of work at other airports**
- 3) MDOT prequalified contractor**

SECTION 4 – SCOPE OF WORK

Scope of Work: The successful Bidder (Contractor) will be required to comply with all requirements and provisions of the project as described and detailed in this RFB (including its attachments), and to complete the scope of work upon the receipt of a Notice to Proceed from the Airport Authority. The Contractor must provide any and all labor, materials, tools, equipment, supervision, coordination, mobilization, demobilization, delivery charges, insurance, taxes, costs and other services necessary or required to complete the work in accordance with the Agreement.

A) Airport Authority Responsibility:

- i. The Airport Authority reserves the right to add and remove areas throughout the contract term.
- ii. The Airport Authority will be responsible for choosing the locations and providing the necessary barricades and closures to work area.
- iii. The Airport Authority will provide an escort to monitor work crews in work area.
- iv. The Airport Authority will inspect all work areas daily for cleanliness and on project completion to ensure work meets Airport standards.
- v. The Airport Authority will provide the Contractor with a staging area for storage of materials and vehicles necessary to complete the project(s)

B) Contractor Responsibilities:

- i. The Contractor will be responsible for providing all supervision, personnel, equipment, and materials necessary to efficiently complete the work.
- ii. The contractor will be responsible for containing all debris within the work area, and for cleaning up debris/work area on a daily basis.
- iii. The Contractor is responsible for final cleanup of all work areas before they are opened to aircraft traffic.
- iv. All equipment and material stored in staging area is required to be maintained in an orderly fashion to prevent Foreign Object Debris (FOD) from entering the AOA.

SECTION 5 – TERMS AND CONDITIONS

- 1) The Contract shall be valid upon Airport Authority approval and shall terminate on June 30 2023. The Contract may be renewed for two (2) additional one - year periods, at the sole discretion of the Airport Authority and exercisable by the Authority's President - CEO.
- 2) Airport Authority annual budgets run July 1 thru June 30.
- 3) Prior to commencement of the work, the Contractor at its own expense and in its own name (with the Airport Authority as additional insured for commercial general and automobile liability coverages) shall purchase and maintain during the term of the Agreement such insurance as will protect the Contractor from claims, demands and lawsuits arising out of the work described in this Agreement and performed by the Contractor.
- 4) The insurance shall consist of:
 - A) Worker's Compensation Insurance including Employer's Liability to cover employee injuries or disease compensative under the worker's compensation Statutes of the State of Michigan or the State in which a particular employee is employed; liability benefit laws, if any; or Federal compensation acts such as U.S. Longshoremen or Harbor Workers, Maritime Employment, or Railroad Compensation Act(s), if applicable.
 - B) An occurrence form Commercial General Liability policy (New ISO Designation) to cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof plus appropriate endorsements to protect the Airport Authority against claims, demands and lawsuits from employees of the Contractor and subcontractors, including the following exposures:
 - i. All premises and operations.
 - ii. Explosion, collapse and underground damage if the exposure exists.
 - iii. Broad Form Blanket, contractual liability for the obligations assumed in the Indemnification or Hold Harmless agreement and the Insurance section found herein.
 - iv. Personal Injury Liability Endorsement.
 - v. Projects and Completed Operations coverage if the exposure exists.
 - vi. Broad Form Property Damage.
 - vii. Cross liability endorsement.
 - viii. Amendment - Aggregate limits of insurance (per project).
 - C) A comprehensive Automobile Liability policy, in accordance with the laws of the State of Michigan, which includes residual liability for bodily injury and property damage arising out of the ownership, maintenance or use of any motor vehicle, including owned, non-owned and hired vehicles.

D) Umbrella or Excess Liability: The Contractor is granted the option of arranging coverage under a single policy for the full limit required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy equal to the total limit(s) requested. Umbrella or Excess policy wording shall be at least as broad as the primary or underlying policy(ies) and may apply both to the Contractor's general liability and to its automobile liability insurance, shall be written on an occurrence basis.

E) The required limits of liability for insurance coverages shall not be less than:

	Statutory
Worker's Compensation	
Employer's Liability	\$500,000
Commercial General Liability	
Bodily Injury - each occurrence	\$2,000,000
Bodily Injury - aggregate	\$2,000,000
Property Damage - each occurrence	\$2,000,000
Property Damage - aggregate	\$2,000,000
or combined single limit per occurrence	\$2,000,000
Comprehensive Automobile Liability	
Bodily Injury	\$1,000,000
Property Damage	\$1,000,000
or combined single limit per occurrence	\$1,000,000
Umbrella - each occurrence	\$1,000,000
Umbrella - aggregate	\$5,000,000

5) **CHANGES TO KEY PERSONAL AND SUBCONTRACTORS**: It is essential that the Contractor provides adequate experienced personal and subcontractors, capable of and devoted to the successful completion of the work. The Contractor must agree to assign specific individuals to the key positions.

- a) Contractor agrees that once assigned to the work under the contract, key personnel and subcontractors shall not be removed or replaced without written notice of the Airport Authority.
- b) If key personnel and subcontractors are not available for work under the contract for a continuous period exceeding thirty (30) calendar days, or are expected to devote substantially less effort to the work than initially anticipated, the Contractors shall immediately notify the Airport Authority, replace such key personal with personnel of substantially equal ability and qualifications.

SECTION 6 – REQUIRED FORMS AND ATTACHMENTS

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ATTACHMENT A – BID FORM

Failure to submit a signature binding the offer with your Bid Shall result in your Bid Being deemed nonresponsive and rejected without any further evaluation.

TO: CAPITAL REGION AIRPORT AUTHORITY

The undersigned hereby offers and agrees to furnish the goods and/or services in compliance with all terms, scope of work, conditions, specifications, and addenda in the Request for Bid.

ADDENDA:

The undersigned has read, understands and is fully cognizant of the information to Bidders, Offer and Form of Agreement, all Exhibits thereto, together with any written addendum issued in connection with any of the above. The undersigned hereby acknowledges receipt of the following addendum(s): _____, _____, _____, _____ (write "none" if none). In Addition, the undersigned has completely and appropriately filled out all required forms.

OBLIGATION:

The undersigned, by submission of this bid form, hereby agrees to be obligated, if selected as the Contractor, to provide the stated goods and/or services to the Airport Authority, for the term stated in the RFB, and to enter into Form of Agreement (FOA) issued with the RFB.

NONCOLLUSION:

The undersigned, by submission of this Bid Form, hereby declares that this Bid is made without collusion with any other business making any other Bid, or which otherwise would make a Bid.

BID PRICE:

The undersigned agrees to abide by the pricing contained on the Price Form.

No Bid Shall Be accepted which has not been signed:

I certify, under penalty of perjury, that I have legal authorization to bind the firm hereunder:

Company Name

Address (NO P.O. BOX ALLOWED)

City State Zip

Signature of person Authorized to Sign

Printed Name

Title

Federal tax ID

Date

For Clarification of this offer, Contact:

Name: _____

Phone: _____

Mobile: _____

Fax: _____

Email: _____

ATTACHMENT B - PRICE FORM
(Contract Document)

Failure to complete this form and submit with your Bid shall result in your Bid being deemed Non-Responsive and rejected without and further evaluation.

Pricing: The price bid shall be all inclusive which means that all related expenses, including labor, travel, mileage, deliverables, tools, materials, equipment, supplies, etc. shall be factored into the unit price below. Travel, including airfare, hotel, meals, and any other related accommodations are the Contractor’s responsibility and will not be reimbursed or paid for by the Airport Authority.

The Price Form is a contract document. Unit prices must include all items. Do not leave any columns blank. The scenario quantities will be applied to the unit prices submitted on the Price Form to calculate a total solely for the purpose of comparing bids.

Scenario Year 1

Portland Concrete

Item	Description	U/M	Unit Price
1	Reseal concrete joints less than 1” in width with Dow 890 SL silicone sealant.	LF	
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	
3	Clean and reseal concrete joints less than 1” in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	
4	Repair spalls of a minimum depth of 2” with SSI Flexpatch or Delpatch M. See attachment D for specs.	SF	
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	

Asphalt pavements

Item	Description	U/M	Unit Price
1	Clean and reseal asphalt joints less than 1" in width with Crafcro Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	

Scenario Year 2

Portland Concrete

Item	Description	U/M	Unit Price
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	
4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	

Asphalt pavements

Item	Description	U/M	Unit Price
1	Clean and reseal asphalt joints less than 1" in width with Crafcro Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	

Scenario Year 3

Portland Concrete

Item	Description	U/M	Unit Price
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	
4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	

Asphalt pavements

Item	Description	U/M	Unit Price
1	Clean and reseal asphalt joints less than 1" in width with Crafcro Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	

Scenario Year 4

Portland Concrete

Item	Description	U/M	Unit Price
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	
4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	

Asphalt pavements

Item	Description	U/M	Unit Price
1	Clean and reseal asphalt joints less than 1" in width with Crafcro Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	

Scenario Year 5

Portland Concrete

Item	Description	U/M	Unit Price
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone Sealant. Price must include backer rod and hot pour material.	LF	
4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	

Asphalt pavements

Item	Description	U/M	Unit Price
1	Clean and reseal asphalt joints less than 1" in width with Crafc Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	

ATTACHMENT C - PRICING SCENARIO

(This is not intended to be and shall not be interpreted as part of any contract entered into through this solicitation)

The scenario quantities listed below will be applied to the unit price submitted on the Price Form to calculate a total solely for the purpose of comparing bids. Due to the inherent nature of this on-call contract, the Airport Authority's actual future requirements cannot be forecasted; therefore, the items and scenario quantities shown below exist solely for the purpose of comparing bids. The scenario for year one represents an actual project that is anticipated to occur. The scenario for years 2-5 represents work that may be needed during the term of the contract. The scenario quantities are based on an assessment of annual historical usage, and the Airport Authority's actual requirements may vary based on its actual needs throughout the duration of any contract(s) resulting from this solicitation. By bidding, you acknowledge that the scenario quantities below do not obligate or constitute a commitment by the Airport Authority to purchase all, or even any scenario quantities.

Note:

LF= Linear Feet

SY= Square Yards

SF= Square Feet

Scenario Year 1

Portland Concrete

Item	Description	U/M	Scenario Quantity
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	55,000
2	Clean and seal HMA to concrete joints with Dow 890 SL silicone sealant.	LF	650
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	10,000

4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	1000
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	1,500

Asphalt pavements

Item	Description	U/M	Scenario Quantity
1	Clean and reseal asphalt joints less than 1" in width with Crafc Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	10,000
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	40,000

Scenario Year 2-5

Portland Concrete

Item	Description	U/M	Scenario Quantity
1	Reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant.	LF	20,000
2	Clean and seal HMA to concrete joint with Dow 890 SL silicone sealant.	LF	250
3	Clean and reseal concrete joints less than 1" in width with Dow 890 SL silicone sealant. Price must include backer rod and hot pour material.	LF	10,000
4	Repair spalls of a minimum depth of 2" with SSI Flexpatch or Delpatch M. See attachment for specs.	SF	250
5	Saw & seal random cracks with Dow 890 SL silicone sealant.	LF	1000

Asphalt pavements

Item	Description	U/M	Scenario Quantity
1	Clean and reseal asphalt joints less than 1" in width with Crafcro Road Saver 211 #34221 or equivalent sealant. Price must include backer rod and hot pour material.	LF	10,000
2	Clean and overband seal cracks and route and seal working cracks with no greater than a 3" shoe.	SY	20,000

ATTACHMENT D - SPECIAL PROVISIONS FOR SEALING JOINTS AND CRACKS

Description

General: The contractor shall furnish all materials, equipment, labor and supervision, and shall provide all other means that may be necessary to complete all the work in conformity with the requirements of these specifications.

Preparation: All Cracks in Bituminous pavements shall be routed prior to sealing. Immediately before sealing, the surface of the pavement at the location of the joint or the crack shall be cleaned and broom, if necessary, to remove all dirt and debris. The Joint opening shall be thoroughly blown clear of dust or chips with compressed air through a nozzle from a power-driven air compressor immediately before applying the filling compound to the joints. The preparation and application of the sealing compound shall be in accordance with the manufacturer's specifications.

Material and Equipment

Materials:

Hot-poured joint sealing compound shall conform to the following requirements:

1. ASTM D-3405-Joint Sealants, Hot Poured, for Asphalt Pavements.
2. ASTM D-3406-Joint Sealants, Hot-Poured, Elastomeric-Type, For Portland Cement Concrete Pavements.
3. Each lot or batch of sealing compound shall be delivered to the site in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature and shall be accompanied by the Manufacturer's certification stating that the compound meets the requirements of this specification

Silicone, Cold applied sealing compound shall conform to the following requirements:

1. A self-leveling silicone sealant, cold applied, in conformance with ASTM D5893 (Dow Corning 890-SL or approved equal).

Spall repair products shall be Delpatch M elastomeric patching material or Flexpatch polymer patching mortar.

Spall repair method: The entire perimeter of each spall shall be sawn, excavated, or cold milled as to remove the entire cavity or “dead” pavement until sound pavement is reached or at a minimum depth of 2”. The surface of the spalls shall be sandblasted as to remove any and all dust, debris, oil, dirt grease, etc. Any exposed reinforcing steel shall be sandblasted to a ‘bright’ finish removing any present rust or corrosion. If any moisture is present in the surface of the spall be evaporated by means of a heat lance or other approved method. The spall shall be filled with the approved material (see spall material specs above), to meet the surrounding pavement, matching grade and slope. Once cured, but no more than 24 hours after the spall is filled, the control joint shall be re-established through the entire depth of the patch and must match the width of the existing joint.

Joint-Cleaning Equipment: The equipment used for cleaning and preparing the joints and cracks for sealing in existing pavements may include the following:

Tractors-Mounted Plow: A tractor-mounted plow, equipped with a hydraulically operated depth control and replaceable bits, may be used to remove bulk of old material from the joints. This equipment shall be so designed and operated as to preclude spalling or otherwise damaging the concrete.

Routing-Resurfacing Machine: This shall consist of a self-powered machine operating a rotary cutter or revolving cutting tool designed to completely remove the old joint sealer and all foreign matter and reface each sidewall of the joint without spalling or otherwise damaging the edges.

Saw and Diamond Blade: Saw shall be self-powered machine operating a rotary cutting saw blade. Saw must be capable to wet cut as to not create dust.

Air Compressor: Air compressor shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at a pressure of not less than 90 psi. Suitable traps shall be employed to maintain the compressed air free of oil and moisture.

Equipment for Filling and Sealing Joints: The heating kettle for the hot-poured rubber-asphalt sealer shall be of the indirect heating or double-boiler type, using oil as the heat transfer medium. It shall have a thermostatically controlled heat source, a built-in automatic agitator and thermometers installed to indicate both the temperature of the melted sealing material and that of the oil bath. The contractor may be required to demonstrate that the equipment proposed for use will consistently produce a joint sealer or proper pouring consistency.

The hot-poured sealing material shall be poured at the required temperature for application by the use of a separate pouring pot or from the heating kettle. The pouring equipment shall force the sealing material to the bottom of the joint and completely fill it to the surface of the pavement. The pouring equipment shall be able to make a second

application of the sealing material after the first application has cooled and settled below the surface of the pavement.

The rate of application shall be controlled so as to completely fill the joint and not spill the material on the surface of the pavement.

When a separate pouring pot is used, it shall be of indirect heating or double pouring type, using oil as the heat transfer medium. It shall have a thermostatically controlled heat source, a built-in automatic agitator and thermometers installed to indicate both the temperature of the melted sealing and that of the oil bath. The pouring pot shall be mounted on rubber-tired wheels. On project, where the material requirements for the continuous operation do not exceed the capacity of the pouring pot, the mechanical pouring pot may be used for both melting and applying the sealing material.

When the hot-poured sealing material is applied from the heating kettle, the kettle shall be equipped with a pressure pump, hose, and nozzle suitable for forcing the sealing material to the bottom of the joint and completely filling the joint. The hose and nozzle shall maintain the temperature of the sealing material so that the loss in temperature is not over 10°F between the nozzle and the heating tank. Heat from a direct flame on the nozzle shall not be used to maintain the proper temperature of the sealing material. The heating equipment shall be mounted on rubber-tired wheels, and only rubber-tired equipment shall be used to move the heating equipment on the pavement.

Construction Methods

The following procedure shall be used in resealing joints and cracks in Pavements:

Removing Old Sealer: Old Joint compound and other foreign matter shall be plowed out and routed with a joint cleaning machine to the following depths: expansion joints to a minimum depth of 2-inches, contraction joints to a minimum depth of 1 ½ - inches and random cracks (previously sealed or unsealed) to a minimum depth of three-quarter ¾ inches. The removal of the old joint material from the transverse joints shall be done by the use of a plow blade of the proper size and shape attached to a tractor as described herein.

Joint Excavating Equipment: This equipment shall make at least one pass each way, starting as near the edge line as possible and proceeding to the centerline and then back to the edge line. The vertical faces of transverse joints shall then be cleaned to the depth to which the joint material has been removed with a joint cleaning machine as described herein.

Routing-Resurfacing Machine: In addition, at least one pass shall be made on each side of the transverse joints with a joint cleaning machine equipped with a scarifying head to clean the pavement surface completely to at least one inch each side of the joint groove. The vertical faces of the joint shall then be further cleaned with a siren

brush, making one pass against each joint wall. When necessary, hand tools shall be used to remove any material that was not removed from the mechanical cleaning. All old joint material and other material removed from the joints and cracks shall be removed from the pavement immediately and disposed of by the contractor in a manner satisfactory to the owner.

Sandblasting: Prior to the application of the sealer material, all joints and cracks shall be thoroughly cleaned by sandblasting. This operation shall be performed in such a manner as to result in the complete removal of all existing joint material and other foreign from the sidewalls and upper edges of the joint. The sandblasting shall continue until the entire joint space is free of dust, oil, water, old joint material and/or any other objectionable foreign matter which may prevent bonding of the sealing compound to the concrete. The sand used shall be of proper size and quality necessary for the operation. Water blasting will not be allowed.

Air: Following the sandblasting operations the joints and cracks shall be thoroughly cleaned by means of an air jet under a pressure of not less than 90 psi. Compressed air may be used at any time during the joint cleaning operations; however, to ensure removal of all loose material, a jet of compressed air will be required immediately ahead of sealing operations.

Debris Removal: All debris and objectionable material resulting from the cleaning operations will be removed from the pavement surface prior to sealing operations.

Sealing: As soon as the joints are cleaned with the compressed air jet, they shall be sealed with hot-poured, rubber asphalt type compound or silicone, whichever sealant type is identified by Airport Authority personnel for the particular project. The surface of the concrete shall be dry at the time of sealing. No joints shall be sealed until the cleaning and preparation of the joints have been inspected and approved by Airport Authority personnel.

Construction joints and expansion joints that have an opening for the full depth of the slab shall be caulked with jute, oakum or closed/open cell backer rod, (whichever type is identified by Airport Authority Personnel for the particular project) To prevent the sealing compound from flowing down to the subgrade. For expansion joints, the jute or oakum caulking material shall not extend above the pre-molded joint filler. Contraction joints and construction joints shall have a space of 1-inch to 1 ½ inches above the caulking material that shall be filled with the sealing compound.

The joint sealant shall be applied uniformly solid from bottom to top and shall be filled without formation of entrapped air or voids. The heating kettle shall be an indirect heating type, constructed as a double boiler. A positive temperature control and mechanical agitation shall be provided. The sealant shall not be heated to more than 20°F below the safe heating temperature. The safe heating temperature can be obtained from the manufacturers shipping container. A direct connection pressure-type

extruding device with nozzles shaped for insertion into the joint shall be provided. Any sealant spilled on the surface of the pavement shall be removed immediately.

During the process of pouring the joints, Airport Authority personnel, at their discretion, require that sufficient compound be tacked from the melting unit to make flow tests in accordance with ASTM Designation D-3405. If the flow is greater than 2 centimeters, the contractor will be required to modify the method of heating or of charging the heating unit with compound so that subsequent samples will show satisfactory results.

Pouring shall be done by the use of a separate pouring pot of the double-boiler type or from the melting kettle equipped with a pressure pump, hose and nozzle as specified under "Equipment requirement".

Pouring the sealing compound shall be done so as to completely fill the joint and overlap the pavement surface by about 1/8 inch. Any sealing compound spilled on the surface of the pavement shall be removed immediately. After the first pour has cooled to the temperature of the pavement and settled, a second pour shall be made to fill the sag or groove and bring the sealing compound flush with the surface of the pavement.

The compound shall not be placed when the temperature is the shade is 40°F, except by the approval of Airport Authority personnel.

Traffic shall not be permitted over the poured joint until the compound has hardened sufficiently to resist pickup.

Preparation of the Sealing Compound: The joint sealing compound shall be heated to and poured at temperature recommended by the manufacturer. This compound shall not be heated in excess of the temperatures specified above and direct heating will not be sufficient cause to reject the material handled. If operations, including shutdown, halt the pouring for extended periods, heat input into the melting kettle shall be cut off. Re-heating will be permitted only once.

Sealing in General: No joint sealing compound shall be applied in wet joints or where frost, snow, or ice is present now when temperatures are 50°F and falling

When joint sealing work is done during periods when the pavement is contracted, as occurs during the colder months, joints shall be filled to not more than 1/2 inch below slab surface. When joints are sealed during hot weather periods when pavement is expanded, they shall be poured flush with the slab surface.

Final Cleanup: The work shall not be considered as complete nor will final payment be made until the area has been restored to a neat, orderly appearance acceptable to the Airport Authority personal and Operations. Equipment, excess material, rubbish, etc., resulting from the contractor's operations shall be removed from the site.

Measurement and Payment

Hot pour: This price is all inclusive, including labor, equipment and materials. The completed work as measured for SEALING JOINTS AND CRACKS will be paid at the contract unit priced or the follow contract items (pay items):

<u>Pay item</u>	<u>Pay Unit</u>
Misc. Sealing Joints and Cracks.....	Linear Foot
Overband cracks.....	Square Yard

“Misc. Sealing joints and cracks” will be measured by length in linear foot, measured along the centerline of the joints. The measurement of transverse joints and cracks will be along the centerline of the joint or crack from face-to-face.

These contract unit prices shall be payment in full for furnishing all materials, labor and equipment requires to complete the work as specified.

The old filler, sealer, and any other material removed from the joints shall be disposed of by the contractor in a manner approved by the Airport Authority. The work shall include in the work of “Misc. Sealing Joints and Cracks”

Overband shall be measured by square yard. No shoe greater than 3” shall be used.

Silicone and Preformed Joint Seal: The completed work will be paid at the contract unit price as measured in liner feet. This price is all inclusive, including labor, equipment and materials.

Spall repair: The completed work will be paid at the contract price as measured in square feet. The dimensions shall be measured to the nearest half inch at 2” in depth. In the case that a spall is greater than 2” in depth the average depth will be determined by Contractor’s representative **and** Airport Authority’s representative. For instance, if the spall is 3” in depth the square footage for that spall will be paid at .5 more to take into account the extra patch material and the extra labor to get to sound concrete. Price is all inclusive, including labor, equipment and material.