INVITATION FOR BIDS
OFFICE OF PROCUREMENT SERVICES

1. INSTRUCTIONS FOR BIDDERS

a. Sealed bids will be received in the Office of Procurement Services, Mississippi State University, for the purchase of the items listed herein.

b. All bids must be received in the Office of Procurement Services on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.

c. Bidders shall submit their bids either electronically, in Bully Buy, or in a sealed envelope. Bids CANNOT be emailed
   a. Sealed bids should include the bid number on the face of the envelope as well as the bidders' name and address. Bids should be mailed to : 405 Garrard Road E, Starkville, MS 39759.

d. All questions regarding this bid should be directed to the Office of Procurement Services at 662-325-2550.

2. TERMS AND CONDITIONS

a. All bids should be bid "FOB Destination"

b. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here: https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf

c. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University's Standard Contract Addendum: https://www.contracts.msstate.edu/resurces/standard-forms

Bid Number: MSU202671
Opening Date: Wednesday May 13, 2026 at 2:00 p.m.
Description: Laboratory Precipitation (Rain) System

Vendor Name: _____

Vendor Address: _____

Telephone Number: _____

Email Address: _____

Days the Offer is Firm: _____

Authorized Signature: _____

Name: _____

Title: _____

Item	Quantity	Description	Unit Price	Total Price
1	1	Laboratory Precipitation (Rain) System		

MSU Laboratory Precipitation (Rain) System

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1. Purpose

Mississippi State University seeks a laboratory precipitation (rain) system capable of delivering controlled, repeatable rainfall conditions for indoor testing and research applications.

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2. General System Requirements

- Indoor, laboratory-installed precipitation system
- Designed for repeatable, controllable rainfall simulations

- Complete, integrated system including spray devices, fluid delivery, controls, and mounting

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3. Rainfall Coverage and Performance

- Uniform rainfall coverage over a nominal 12 ft x 12 ft test area
- System shall support multiple distributed spray points to achieve spatial uniformity
- Adjustable rainfall intensity capable of simulating light to heavy rainfall conditions
- Vendor shall demonstrate:
    - Total system flow capacity ≥ 120 GPM
    - Controllable flow range spanning at least 20–120 GPM across the test area
- System shall allow continuous or stepwise adjustment of rainfall intensity during operation

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4. Droplet Characteristics

- System shall produce rain-like droplets, not fog or mist
- Droplet output shall be repeatable and consistent across the test area
- Vendor shall specify:
    - Droplet size range in the approximate order of 1–5 mm (or equivalent rain-like distribution)
    - Droplet characterization method used
- Droplet formation shall remain stable across the operating flow range

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5. Spray / Nozzle Assemblies

- Electrically actuated or electronically controlled spray devices
- Minimum total spray device count: 30–50 units, sufficient to achieve uniformity over the test area
- Individual spray devices capable of:
    - Even spray distribution
    - Operation across the specified pressure and flow ranges
- Wetted components constructed of corrosion-resistant materials
- Modular layout allowing future reconfiguration

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6. Fluid Delivery System

- Closed-loop or direct-feed water delivery system
- Capable of supplying required flow with all spray devices operating simultaneously
- Vendor shall demonstrate:
    - Nominal operating pressure range: 60–120 PSIG
    - Maximum system pressure capability ≥ 120 PSIG
    - Total flow capacity ≥ 120 GPM
- Integrated filtration supporting particle sizes ≤ 1/4 inch
- Pressure regulation and flow control included

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7. Control System

- Centralized electronic control system
- User-adjustable control of:
    - Individual or grouped spray output
    - Flow rate / rainfall intensity

    - Timing, cycling, and duration
- Minimum control timing resolution sufficient to support:
    - Short-duration events (seconds)
    - Long-duration steady-state rainfall (hours)
- Ability to store and recall multiple test profiles

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8. Electrical Requirements

- Vendor to specify voltage, phase, frequency, and current
- System compatible with standard laboratory electrical infrastructure
- Electrical components compliant with applicable safety standards

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9. Structural / Mounting Requirements

- Indoor mounting only
- Support structure designed for continuous operation under full-flow conditions
- Alignment maintained under maximum operating pressure and flow

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10. Environmental Operating Conditions

- Indoor laboratory environment
- Designed to operate within:
    - Ambient temperatures: ≥ 40 °F to ≤ 100 °F
    - Relative humidity up to ~90%
- Materials suitable for prolonged water exposure

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11. Safety and Compliance

- Emergency shutoff capability
- Electrical and mechanical safety protections incorporated
- Compliance with applicable laboratory and electrical safety standards

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12. Documentation and Deliverables

- System layout drawings
- Electrical and control schematics
- Operation and maintenance manuals
- Installation and facility interface requirements
- Training or commissioning support

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13. Installation and Support

- Vendor-defined installation scope
- Startup, checkout, and functional verification included
- Warranty and technical support clearly defined

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14. Vendor Response Requirements

Vendors shall provide:

- Description of system architecture and operational approach
- Total flow capacity, operating pressure range, and spray device count
- Droplet size range and spray distribution characteristics
- Assumptions and limitations
- Installation requirements
- Schedule and lead time