



## Local Road Research Program (LRRP) County Road Association (CRA) of Michigan

### ***Request for Proposals (RFP)***

**Research Project Title:** Material Selection and Application Rates for Chip and Fog Seal Operations

**Issued by:** CRA/LRRP

**Project Name:** Material Selection and Application Rates for Chip and Fog Seal Operations

**Advertised Date:** **Wednesday, April 8, 2026**/[CRA LRRP Website](#)

**Questions Due Date:** **Wednesday, April 22, 2026.** Questions regarding this RFP must be submitted no later than 5:00 p.m. EST on April 22, 2026.

**Response Date:** **Wednesday, April 29, 2026.** CRA/LRRP will publish responses or clarify this RFP in response to questions submitted no later than 5:00 p.m. EST on April 29, 2026.

**Proposal Due Date:** **Friday, May 15, 2026.** Research proposals must be submitted no later than 5:00 p.m. EST on May 15, 2026.

**Anticipated Start Date:** The actual project start date is the day the CRA Contract Administrator signs the LRRP-recommended proposal. Notice to proceed will follow immediately; specific contract times will be adjusted to reflect this date.

**Contract Time:** **12 months.** CRA anticipates that the completion of the Project will take 12 months.

**Target Budget:** \$225,000

**SUBMISSION ADDRESS:**

Denise Donohue, CEO  
County Road Association (CRA) of Michigan  
101 S. Washington Sq., Ste. 200  
Lansing MI 48933  
[ddonohue@micountyroads.org](mailto:ddonohue@micountyroads.org)

**QUESTION ADDRESS:** Same as Submission Address above.

### **Introduction and Purpose**

We invite proposals led by Michigan universities with Accreditation Board for Engineering and Technology (ABET) accredited engineering programs to conduct a comprehensive study for the research project titled ***“Material Selection and Application Rates for Chip and Fog Seal Operations.”***

The LRRP is looking for a research team with prior experience with chip seal and fog seal projects including an understanding of county road agency practice through direct observation of chip and fog seal operations.

This research will support the development of a standardized, data-driven framework to guide county road agencies across Michigan in selecting optimal materials and application rates for chip and fog seal treatments used on asphalt pavements. The goal of this study is to enhance performance, cost-

effectiveness, and consistency across the state’s 83 counties, given the variability of locally available materials.

## **Background**

The current Michigan Department of Transportation (MDOT) specification for chip seals includes one gradation (34CS) and provides a range of application rates (0.39 to 0.46 gallons per square yard). This specification is relatively open-ended to allow for a range of materials to be used throughout the state. For years, county road commissions have been refining their own practices for applying chip seals by their own forces or for specification to a contractor based on a knowledge of the locally available materials, economy, performance, and past practice. This may include alternate gradations, specifying or using a specific aggregate type (i.e., limestone, blast furnace slag, trap rock, etc.), different emulsion shot rates or types. With this wide range of aggregates and emulsions in use along with a wide range of application rates, it is difficult to accurately judge the economy and performance of a given combination.

More porous aggregates like blast furnace slag may require more asphalt liquid to effectively bond the chip seal to the underlying pavement, while harder stone like traprock may require less due to lower aggregate absorption rates. This creates an uncertainty around the most economical aggregate type, emulsion type, and application rate combination that can provide a reasonable performance for the lowest cost. In some cases, it may be better to truck in a harder aggregate that does not absorb as much liquid rather than using the more absorptive aggregate that is less expensive per ton but requires 15% more asphalt liquid to form a solid bond.

Currently, Michigan’s county road agencies lack unified guidance on selecting materials and determining application rates for chip and fog seal operations based on the economics of the combination of materials and a measure of their bond strength. As a result, agencies often rely on trial-and-error approaches, leading to inconsistent performance outcomes and inefficiencies.

Recognizing this knowledge gap, the Michigan Legislature appropriated funds in the 2025 FY General Fund for research to be administered by the CRA. This research seeks to document current practices, evaluate material performance, and establish regionally tailored guidance on idealized application rates that can be used to determine the economy of a specified chip seal application based on data supported insights. The output of this project will serve as a practical resource for county road agencies.

## **PART ONE – RESEARCH OBJECTIVES**

### **Research Objectives**

- Evaluate the current state of practice for chip seal materials (aggregate and emulsions) and fog seal material (liquid) selection and application rates across Michigan’s 83 county road agencies.
  - Including, at minimum, stone type, gradation, emulsion type for single chip seals on existing asphalt pavements, and fog seals on new chip seals.
- Double chip seals, and chip seals over unpaved surfaces are not required as part of this study. Identify the four most common aggregate and emulsion combinations, for chip seals with and without fog seal, across the four CRA sections: Upper, Northern, Southern, and Urban.
- Tests aggregate bond strength and aggregate loss at varying emulsion application rates for each of the chip seal material combinations both with and without fog seal.

- Develop data supported guidance that allows road agencies to make decisions on specifying material types and application rates for chip seal with and without fog seals to achieve the highest bond durability.

### **Scope of Work and Research Tasks**

The selected research team will be responsible for the following tasks:

#### **Task 1: Literature Review:**

Conduct a comprehensive review of existing research, manuals of practice and specifications related to chip and fog seal operations in Michigan and comparable states. Summarize this material in a literature review that includes content that is relevant to this study, including at a minimum information on laboratory test methods to estimate chip seal performance or bond strength, application rates, preferred gradations, aggregate types and other factors leading to economy and performance.

**Task 1 deliverables include: Summary of relevant literature, methods, findings, and references.**

#### **Task 2: Statewide County Road Agency Survey:**

Design and administer a survey to all 83 Michigan county road agencies relevant to chip seal and fog seals on asphalt pavements. Researchers should include a minimum of four contact attempts per agency, with at least one phone call to ensure full participation. The CRA will assist in encouraging non-responsive counties to participate after the four contacts have been made. The survey should be targeted at producing data that will be used in Task 4 for the selection of materials to be tested. The survey should include at a minimum the following information:

- County name
- Respondent name and title
- Chip seal and fog seal materials used and associated specifications
- Target or specification application rates
- Miles of chip and fog sealed annually within the county, segregated by contractor forces and county forces.
- Source of material
- Source of emulsions
- Type of aggregate used
- Professional opinion on performance outcomes (successes and failures) of chip seals with and without fog seals within each agency.
- An understanding of what factors each county uses to measure success or failure of a given application

CRA will support Research Partner by making reasonable efforts to facilitate communication with county road agencies. However, Research Partner is responsible for developing and administering the survey described in Task 2. CRA may assist with non-responsive counties after three documented attempts.

**Task 2 deliverables include: Survey findings and raw data.**

### **Task 3: Laboratory Testing Work Plan**

Use information from Task 1 and Task 2 to propose material combinations for each of the 4 CRA regions in accordance with the following:

- For the four (4) most commonly used chip seal aggregates and emulsions used in combinations with a fog seal; and
- For the four (4) most commonly used chip seal aggregates and emulsions used without fog seal.

Propose a laboratory test protocol to test the loss by wash of the chip seal aggregates per ASTM C117, gradation of chip seal aggregates per ASTM C136, laboratory sweet test per ASTM D7000 to determine bond strength for optimal application rates for aggregate and emulsion, for chip seals with and without fog seal that outlines the number of tests necessary for each material combination. Propose a test protocol to perform gradation tests on all types of aggregate from each source tested. Propose a laboratory test method to measure aggregate bond strengths for each of the material combinations at each application rate. Present the proposed laboratory testing work plan for approval by the sponsor before conducting Task 4. The testing plan should outline quality control measures.

**Task 3 deliverables include: Laboratory testing work plan.**

### **Task 4: Testing**

Upon approval by the sponsor, complete laboratory testing in accordance with the approved laboratory testing work plan from Task 3. All lab work must be performed by a certified laboratory. There are 32 anticipated material combinations that will each need to be tested at a range of application rates to determine the optimum 32.

The Research Partner is responsible for acquiring all test materials (aggregates, emulsions, fog seal products). CRA may assist in coordinating introductions or supplying contact information but will not procure or transport materials.

**Task 4 deliverables include: Completed laboratory results.**

### **Task 5: Regional Material Guidelines**

Develop guidelines for the selection of chip seal aggregate and emulsion materials, both with and without fog seals for each of the four CRA regions. These guidelines should be based on selecting the combinations that provide a combination of the highest bond strength and lowest aggregate loss at the lowest relative material costs.

If cost data for the material is not widely available, then a formula for computing the economy of each combination should be determined.

**Task 5 Deliverables Include: Regional chip-seal material selection guidelines.**

## Task 6: Reporting and Project Management

During the course of the project, the research team will need to communicate effectively with the sponsor's technical panel as provided in the Terms and Conditions/Reporting. At a minimum, these communications include the following deliverables:

- 1) Attend and facilitate a 2-3 hour virtual kick-off meeting with the sponsor's technical panel; date to be determined after notice to proceed.
- 2) Task Integration Note: The proposer shall include a crosswalk that maps each proposed activity, milestone, and budget line to the Tasks above to ensure traceability.
- 3) One-to-two-page quarterly reports, including:
  - Summary of work completed this quarter
  - Summary of work planned for next quarter
  - Indication of problems or concerns the sponsor should be aware of
  - Task progress percentage completion to date
  - Percentage of budget spent to date
  - Percentage of elapsed project time
- 4) A final report summarizing the literature review, research methodology, data, findings, and recommendations that can be applied by county road commissions to guide material selection and application rates in their specifications for chip seals. The final report must follow the LRRP Final Report Template as provided in Exhibit D to the Applied Research Services Contract, and must not exceed 20 pages.
- 5) An in-person presentation of findings to the LRRP at the CRA office in Lansing, Michigan.

### Deliverables

The final deliverables shall include:

- **MATERIAL SELECTION GUIDANCE TABLE** – A comprehensive selection table summarizing recommended chip-seal and fog-seal material and emulsion combinations for each CRA region, including comparative performance indicators, application considerations and supporting data to guide agencies in choosing the most cost-effective and durable treatments.
- **RESEARCH REPORT COMPENDIUM** – A complete project record shall be due with the final report and shall document the entire project, including the research methodology, laboratory testing protocols, data and observations, analysis of material performance, regional comparisons, selection-framework justification, and final recommendations.
- **FINAL REPORT** – The LRRP Final Report Template includes an executive summary suitable for publication, intended to clearly communicate key results, conclusions, and recommendations to CRA members as well as a more general nontechnical audience.

## **PART TWO – PROPOSAL CRITERIA & PROCESS**

### **Overview of LRRP Research Project Administration**

LRRP research projects are administered by the County Road Association (CRA) with oversight from the Research Champion Team (RCT) and a designated Project Manager (PM).

Proposals submitted under this RFP will be evaluated through the structured process outlined below to ensure alignment with LRRP project management, reporting, and deliverable expectations.

### **Roles in the Proposal Review Process**

#### Research Champion Team (RCT)

A RCT is formed during project planning and is responsible for reviewing proposals and reporting feedback to the CRA/LRRP. RCT members ensure the proposed research aligns with project objectives and deliverable expectations.

#### Project Manager (PM)

The PM will be appointed by CRA/LRRP and will serve as the primary point of contact for the Research Institution throughout the entire project. The PM is responsible for both the technical guidance and administrative oversight of the research project, including duties that would otherwise be shared between a PM and a Principal Investigator (PI). The PM will:

- Lead the proposal review and selection process
- Provide initial project direction during project development
- Coordinate all required meetings, including kickoff, progress, and final meetings
- Manage the project's scope, schedule, and budget
- Facilitate communication between the Research Institution and the RCT
- Ensure reporting requirements are met, including quarterly and annual reports
- Review and approve deliverables, invoices, and project documentation
- Oversee the draft and final report review cycles
- Maintain project records and ensure compliance with CRA administrative procedures

Unless otherwise specified, the PM is the primary designated liaison for all project communications, instructions, and clarifications.

### **Proposal Submission Requirements**

All proposals must include:

- Understanding of the Problem Statement
- Clear articulation of the research problem, objectives, and tasks as defined in the RFP and LRRP's planning process.
- Technical Approach & Work Plan
- A task based methodology consistent with LRRP expectations for research execution, including literature review, data collection, analysis, and reporting.
- Project Team Qualifications



- Include the PI, co PIs, and supporting staff with relevant expertise.
- Proposal Deliverables - deliverables must align with LRRP requirements outlined above, including the final report, implementation plan, and any supplemental tools or materials.
  - Schedule
  - Proposed timeline showing major milestones and responsiveness to seasonal or data collection limitations.
- Budget - Itemized by task, consistent with LRRP Budget Worksheet Template attached to Exhibit B of the Applied Research Services Contract.

### Proposal Evaluation Criteria

LRRP evaluates proposals using a structured best-value scoring system, which balances technical merit and cost considerations. Proposers should understand that selection is based on overall value, not simply lowest price. The LRRP best-value formula uses six weighted criteria:

- **Understanding of Services – 40 points**
  - Demonstrated comprehension of the research need, objectives, required tasks, and expected outcomes.
- **Qualifications of the Team – 30 points**
  - Expertise, experience, and capacity of the Principal Investigator (PI), co-PIs, and supporting staff; as well as the stated distribution of work between the principals and support staff.
- **Past Performance – 30 points**
  - Documented record of successfully completing similar research projects in scope, size, or complexity.
- **Quality Assurance/Quality Control Plan – 5 points**
  - Clearly defined QA/QC protocols and methods for ensuring data quality and research reliability.
- **Location – 5 points**
  - As applicable based on LRRP criteria for geographic or regional relevance.
- **Cost – 40 points**
  - Cost proposals are scored comparatively using LRRP's cost scoring formula:
    - $(\text{Lowest Cost} \div \text{Proposer's Cost}) \times 40$
    - The lowest-cost proposal receives the full 40 points, with other proposals awarded proportionally.
  - While cost is a significant factor, it is not determinative; LRRP selects the proposal that offers the highest overall value.

**Total Possible Score: 150 points.** The RCT scores all proposals, and CRA/LRRP makes the final selection recommendation.

## **Budgeting Requirements**

Proposers must submit a total project budget expressed as a single Not-to-Exceed (NTE) amount using the LRRP 2026 Budget Worksheet Template. This NTE amount shall represent the maximum compensation required to complete all tasks, deliverables, and reporting obligations described in the proposal and must include all direct, indirect, field, subcontracted, and travel costs. No additional compensation beyond the NTE amount will be permitted without a formally executed contract amendment accepted in writing by CRA. Expected allowable components include:

- **University/Research Institution Costs** – Itemized project-related expenses such as staffing needs, data collection, laboratory testing, field testing, and other research activities necessary to perform the scope of work. All such costs must be included within the total NTE amount.
- **CRA/LRRP Staff Costs** – Any anticipated costs associated with coordination, data provision, or other support provided by CRA or LRRP personnel must be identified and incorporated into the NTE amount.
- **Fieldwork Costs** – All expected costs for activities conducted outside the laboratory, including equipment, travel, site access, and traffic control (if required), must be included in the NTE amount and clearly itemized by task.
- **Other Costs** – Notwithstanding those categories described above, all costs must conform to LRRP policies and may include direct salary and fringe benefits, materials and supplies, approved subcontractor costs, indirect/overhead costs (if accepted in writing by CRA), and travel. Costs associated with correcting errors or omissions are not reimbursable and may not be added to or increase the NTE amount.

## Additional Budgetary Considerations

- **Basis of Payment** – Budget proposals must align with cost-reimbursement, invoice-based payment. The budget must use the LRRP Budget Worksheet Template and conform to Exhibit B of the Applied Research Services Contract, with costs limited to allowable costs (reasonable, necessary, allocable, consistently treated, and adequately documented). The proposal must support invoicing no more than monthly, itemized by task/Service, and acknowledge CRA review/approval and possible withholding pending required reports/deliverables, Budget Worksheet compliance, correction of deficiencies, or performance concerns. Invoices are due within 60 days after the invoiced activities; the final invoice is due within 60 days after completion of Services.
- **Documentation & Audit Compliance** – Budget proposals must reflect the Research Institution’s ability to maintain complete and accurate financial records to support all billed costs, including personnel effort, receipts, and proof of payment, consistent with CRA audit and record-retention requirements. All reimbursable costs must fall within the NTE amount.
- **Payment Rules** – Proposers must be aware that CRA will pay no more than 85% of the total NTE contract amount prior to acceptance of the Final Report. The remaining 15% will be released only upon full approval of all deliverables. CRA’s approval of invoices does not constitute acceptance of Services or deliverables and does not waive any rights under the contract. CRA may withhold payment pending correction of deficiencies or submission of required reports

- **Cost Evaluation Criteria** – Budgets will be evaluated under LRRP’s best-value scoring system. Cost is a scored element and must therefore be clear, competitive, justified, and compliant with the NTE budget requirement.

### **Proposal Submission Format**

All proposals shall be submitted electronically in searchable PDF format. Proposals must be:

- Single consolidated file
- Signed by an authorized official
- Electronic submissions shall be delivered to the CRA-designated procurement inbox.
- Late submissions will not be accepted.

### **Questions and Addenda**

All proposer’s questions must be submitted in writing by the date stated on the Advertised Notice. CRA may issue written clarifications and addenda as needed. Only written addenda shall be considered binding.

### **Award, Contracting, and Project Authorization**

Upon selection:

- CRA/LRRP issues written notice of its intent to contract with the preferred Research Partner.
- CRA/LRRP works with the selected PI to finalize the project work plan.
- CRA initiates contract or authorization execution.
- A job number and contract ID are assigned for project accounting.

### **Requirements After Award (For Proposer Awareness)**

Although these requirements apply post award, proposers must demonstrate awareness of the following obligations:

- **Project Coordination and Engagement** – Participation in required project meetings to support coordination and alignment throughout the project.
- **Progress Reporting** – Submission of periodic progress updates consistent with project reporting requirements.
- **Invoicing and Payment Review** – Compliance with established invoicing and payment review procedures.
- **Final Deliverable Review** – Participation in draft and final deliverable review processes, including reasonable revision cycles.

**All proposers will be notified of the final selection.**

## **PART THREE – TERMS AND CONDITIONS**

*The successful proposer will be required to enter into CRA’s standard Applied Research Services Contract, substantially in the form attached to this RFP. The terms summarized in this Part Three are intended for proposer awareness only*

***and do not replace, supersede, or modify the terms of the final executed contract. In the event of any inconsistency between this RFP and the executed contract, the contract shall govern.***

### **Overview and Applicability**

These Terms and Conditions summarize the principal contractual, administrative, and performance obligations that will apply to the research project awarded under this Request for Proposals (RFP). They reflect the governing standards of the County Road Association (CRA) of Michigan and its Local Road Research Program (LRRP), and are derived from CRA’s official Terms and Conditions for applied research contracts. The full contractual language will be included in the agreement executed with the selected Principal Investigator (PI) and institution (“Research Partner”).

This section provides proposers with a clear understanding of expectations regarding scope, deliverables, administration, reporting, intellectual property, audit requirements, payment, and compliance.

### **Contract Structure and Authority**

CRA will issue and administer the research contract. The executed agreement will define:

- Project scope and work plan (Exhibit A)
- Maximum compensation and basis of payment
- Effective date and expiration/completion date
- Reporting requirements and deliverable formats
- Key Personnel accepted in writing by CRA

CRA employees are not authorized to verbally modify scope, assign additional services, or approve deviations. Any such directives must be declined and immediately communicated to CRA’s Contract Administrator.

### **Scope of Work and Work Plan Compliance**

The Research Partner must perform only the services explicitly identified in the approved Work Plan. Any additional or out-of-scope work requires CRA’s prior written approval and execution of a contract amendment. The Research Partner is responsible for ensuring that:

- Project activities remain aligned with the approved tasks;
- Data collection, field work, and laboratory testing follow recognized standards;
- Traffic control, permitting, and site access needs may be coordinated through the local CRA member; and
- Deliverables reflect the objectives, timeline, and requirements of the contract.

CRA retains the right to reject deliverables that are incomplete, technically deficient, improperly formatted, or not responsive to contract requirements.

### **Key Personnel Requirements**

The PI and all Key Personnel identified in the proposal are material to contract award and must remain assigned for the duration of the project unless CRA provides prior written approval. If a Key Person becomes unavailable, the Research Partner must propose a qualified replacement within thirty (30) days.

CRA reserves the right to disapprove replacements. Failure to maintain approved Key Personnel may result in contract termination.

### **Coordination, Meetings, and Communication**

The Research Partner will interact closely with CRA/LRRP's Research Champion Team (RCT) and the Project Manager (PM). Required meetings include:

- Kickoff Meeting: Review of scope, timeline, data needs, and coordination requirements.
- Progress Meetings: Conducted at key milestones to discuss findings, issues, and upcoming tasks.
- Final Meeting: Presentation of findings, discussion of implementation opportunities, and review of deliverables.

The PI must provide progress updates, agendas, and outstanding issues prior to meetings to ensure effective participation by CRA/RCT members.

### **Reporting and Documentation Requirements**

#### Quarterly Reports

Quarterly Reports must:

- Summarize accomplishments for the period
- Identify upcoming tasks and potential risks
- Document progress toward meeting schedule and deliverables
- Provide expenditure summaries aligned with budget tasks

CRA may withhold approval—and therefore payment—until required reporting is submitted.

#### Annual Report

For multi-year projects, the Research Partner must submit a concise annual summary of all work completed during the fiscal year, along with required budget updates.

#### Documentation Standards

All deliverables must comply with CRA's formatting expectations and be submitted electronically in accessible, searchable formats (PDF, Word, spreadsheets, etc.). CRA reserves the right to require revisions to ensure clarity, accuracy, and completeness.

### **Draft and Final Report Requirements**

#### Draft Final Report

A complete draft final report along with a Draft Research Report Compendium must be submitted **utilizing the LRRP 2026 Final Report Template**, attached as Exhibit D to the Applied Research Services Contract no fewer than 90 days before the contractual deliverable deadline. CRA will review and:

- Accept the draft, or
- Provide written comments requiring revision.

CRA will respond within 45 days of receiving the draft. The Research Partner will have 45 days to revise and resubmit.

## Final Report

The Research Partner must address all CRA comments to CRA's satisfaction. No final acceptance—and no release of final payment—will occur until:

- Deliverables are fully accepted in writing by CRA
- All required materials are submitted
- CRA verifies compliance with contract terms

## Publication Restrictions

No publication, presentation, or public dissemination of project results may occur until after CRA has received and accepted the Final Report and completed its review. CRA may require up to two forty-five (45)-day review cycles. All publications must credit CRA/LRRP and include a CRA-approved disclaimer.

## **Quality Assurance and Technical Standards**

The Research Partner must maintain a documented Quality Assurance/Quality Control (QA/QC) program covering:

- Calibration and proper use of testing equipment
- Adherence to ASTM, AASHTO, or other applicable standards
- Use of certified technicians or properly trained operators
- Appropriate validation and documentation of data

CRA may review the QA/QC program at any time and require corrective action.

## **Audit, Records, and Financial Documentation**

### Audit Requirements

The Research Partner must maintain complete and accurate financial records in accordance with generally accepted accounting principles. These records must:

- Support all costs billed to CRA
- Show time and effort documentation for all personnel
- Identify all project-related expenses and indirect costs
- Include receipts and proof of payment for reimbursable expenditures

CRA may inspect, copy, or audit records at any reasonable time upon notice.

### Record Retention

Research Partners must maintain complete, auditable records for three (3) years after final payment. CRA may audit at any reasonable time. Failure to respond to audit findings within sixty (60) days constitutes agreement with cost disallowances. CRA may offset overpayments against any amounts otherwise due.

## **Payment Terms and Allowable Costs**

### Allowable Costs

Allowable costs may include:

- Direct salary and fringe benefits

- Materials and supplies required for the project
- Approved subcontractor costs
- Indirect/overhead costs (if accepted in writing by CRA)
- Travel at State or Federal rates

Costs associated with correcting Research Partner errors or omissions are not reimbursable.

### **Insurance Requirements**

The Research Partner must maintain insurance coverage meeting CRA requirements, including:

- Liability insurance
- Professional liability
- Property damage
- Workers' compensation
- Any self-insurance documentation, if applicable

Certificates of insurance must be submitted prior to contract execution and maintained throughout the project.

### **Confidentiality and Security**

The Research Partner is expected to treat CRA materials, data, and draft findings as confidential unless disclosure is authorized by CRA. This obligation does not apply to information that is publicly available, independently developed, or required to be disclosed by law. Any confidentiality concerns will be addressed in accordance with the terms of the agreement.

### **Intellectual Property and Data Rights**

#### Ownership of Documents

All Work Product, including reports, data, analyses, software, and supporting materials produced under the project, shall be owned exclusively by CRA and its member county road agencies. The Research Partner may retain ownership of pre-existing intellectual property but grants CRA a perpetual, royalty-free license to use such materials for governmental purposes. Any software developed must include delivery of complete source code.

### **Subcontractors and Assignment**

No subcontractor may be used without CRA's written approval. All subcontracts must incorporate relevant CRA contract provisions. The Research Partner may not assign the contract or transfer responsibilities without CRA approval.

### **Legal Compliance and Non-Discrimination**

The Research Partner must comply with all applicable federal, state, and local laws, including but not limited to:

- Civil Rights Act requirements
- Michigan ADA and accessibility obligations
- State anti-discrimination provisions

- Michigan labor law requirements (1980 PA 278)
- Freedom of Information Act (FOIA) compliance for materials submitted to CRA

### **Termination**

Either party may terminate the contract for convenience upon forty-five (45) days' written notice. CRA may terminate immediately for cause, including failure to meet schedule, breach of confidentiality, unauthorized subcontracting, or failure to maintain required insurance. Upon termination, CRA will reimburse allowable costs incurred through the effective termination date, subject to the NTE and 85% cap.

### **Dispute Resolution**

Issues or disputes will first be addressed collaboratively between the PI and the CRA PM. If unresolved, issues may be escalated within CRA leadership. Final legal remedies remain available under Michigan law.

### **Final Acceptance and Closeout**

Final acceptance occurs only after:

- All deliverables have been reviewed and accepted in writing by CRA
- All invoices have been submitted
- CRA's final audit is complete

Acceptance of any deliverable is based solely on completeness, accuracy, and conformance with contract requirements and does not constitute endorsement of findings, conclusions, or recommendations. CRA's acceptance does not waive its right to question costs or disallow charges during later audits.

### **No Guarantee of Award / Funding**

Issuance of this RFP does not obligate CRA to award a contract, expend funds, or reimburse proposal preparation costs. CRA reserves the right to reject any or all proposals and to negotiate final contract terms consistent with its standard Applied Research Services Contract

**COUNTY ROAD ASSOCIATION OF MICHIGAN  
LOCAL ROAD RESEARCH PROGRAM  
APPLIED RESEARCH SERVICES CONTRACT**

This Applied Research Services Contract (“Contract”) is made as of [ \_\_\_\_\_ ] (“Effective Date”) by and between:

- County Road Association (CRA) of Michigan, a Michigan nonprofit corporation with offices at 101 S. Washington Square, Suite 200, Lansing, MI 48933 (“CRA”); and
- [LEGAL NAME OF UNIVERSITY], a Michigan publicly-funded institution of higher education with offices at [ \_\_\_\_\_ ] (“University”).

CRA and University may be referred to individually as a “Party” and collectively as the “Parties.”

**RECITALS**

- A. CRA administers the Local Road Research Program (“LRRP”) and issued a Request for Proposals for the research project titled [“Material Selection & Application Rates for Chip and Fog Seal Operations”] (the “RFP”).
- B. University submitted a proposal dated [ \_\_\_\_\_ ] (the “Proposal”) to perform the research services described in the RFP.
- C. CRA selected University to perform the Services (defined below) in accordance with this Contract, including the Work Plan in Exhibit A.

**NOW, THEREFORE**, in consideration of the mutual covenants and promises herein, the Parties agree as follows:

**AGREEMENT**

**1. Definitions.** Capitalized terms used in this Contract, whether in the body of the Contract or in any Exhibit, have the meanings set forth in this Contract or the applicable Exhibit in which they are first defined. Without limiting the foregoing, the following terms have the meanings set forth below:

- 1.1. “Contract” means this executed agreement, including all Exhibits and any authorized amendments.
- 1.2. “Contract Administrator” means the individual identified for each Party as the Party contact for notices and scope issues as identified in Exhibit A.
- 1.3. “Final Project Report” means the complete final written report for the Project, prepared by University in accordance with the requirements of this Contract and Exhibit A, including all required components, appendices, tables, datasets, figures,

- executive summaries, and supporting materials, submitted in the form and format specified by CRA and the applicable LRRP Final Report Template, and accepted in writing by CRA following completion of the review and revision process described in this Contract.
- 1.4. “Final Report Template” means the Michigan Local Road Research Program (LRRP) Final Project Report Template attached to this Contract as Exhibit C, as the same may be updated by CRA in accordance with this Contract.
  - 1.5. “Key People” means the personnel identified in Exhibit A whose qualifications and experience are essential to providing quality Services.
  - 1.6. “Principal Investigator” or “PI” means the individual assigned by University with primary responsibility for the technical performance of the Services.
  - 1.7. “Project” means the funded research activity described in the RFP and Exhibit A.
  - 1.8. “Project Manager” or “PM”. means the individual assigned by CRA to provide technical direction, coordination, and Project oversight.
  - 1.9. “Research Champion Team” of “RCT” means a group convened by CRA, in its discretion, consisting of subject-matter experts, stakeholders, or advisors, whose role is to provide non-binding technical input, review, and guidance to CRA in support of the objectives of the Project.
  - 1.10. “Services” means the applied research services to be performed by University as described in Exhibit A.
  - 1.11. “Work Plan” means the task-based scope of work, milestones, and deliverables set forth in Exhibit A.
  - 1.12. “Work Product” means all documents, reports, draft and final reports, data, datasets, tables, spreadsheets, analyses, test results, survey instruments and results, photographs, graphics, charts, presentations, memoranda, manuals, specifications, protocols, methodologies, models, software (to the extent applicable), and other tangible or intangible materials that are required to be submitted to CRA under this Contract or that are otherwise developed by University in the performance of the Services for delivery to CRA, whether in draft or final form.

Capitalized terms defined in any Exhibit apply throughout the Contract unless the context clearly requires otherwise. In the event of any inconsistency between definitions in the body of this Contract and definitions appearing in an Exhibit, the definitions in the body of this Contract shall control, unless the Contract expressly states that a specific Exhibit provision controls.

Terms not expressly defined shall be interpreted according to their plain and commonly accepted meaning in the context of public-sector applied research contracts.

Singular terms include the plural and vice versa, and references to any gender include all genders, unless the context clearly indicates otherwise.

**2. Order Of Precedence.** If there is any inconsistency among the documents forming this Contract, the following order of precedence applies: (1) this Contract (excluding Exhibits that conflict with the Contract body); (2) Exhibit A (Work Plan); (3) Exhibit B (Budget/Compensation); and (4) Exhibit C (Final Report Template). The RFP and the Proposal are incorporated by reference and form part of this Contract. University represents and warrants that the Services shall be performed in a manner consistent with the representations, methodologies, staffing, and deliverables described in its Proposal, except to the extent expressly modified by this Contract or an Exhibit thereto. In the event of any conflict, this Contract shall control.

### **3. Services**

3.1. Performance. University shall perform the Services in accordance with the Work Plan set forth in Exhibit A, the standards, requirements, and obligations set forth in this Contract, and all other applicable terms of this Contract. University shall perform the Services in a timely, professional, and workmanlike manner, consistent with generally accepted industry, scientific, and research standards applicable to similar applied research projects.

3.2. No Out-of-Scope Work. University shall not perform services, incur costs, or undertake activities outside the scope of Exhibit A without a prior written amendment executed by authorized representatives of CRA. Any work performed or costs incurred outside the approved Work Plan, whether at the request of CRA staff or otherwise, shall be at University's sole risk and expense unless expressly authorized in writing by CRA in advance. CRA staff have no authority to approve or direct out-of-scope work verbally.

3.3. Standards. University shall maintain a quality assurance and quality control program sufficient to ensure the accuracy, reliability, and reproducibility of the Services and all Work Product. All testing and analysis shall be conducted in accordance with the ASTM, AASHTO, or other industry standards expressly identified in Exhibit A, or, if no standard is identified, in accordance with generally accepted professional standards for similar applied research.

3.4. Compliance and Correction. If CRA determines that any Services or Work Product fail to conform to the requirements of this Contract, University shall, at no additional cost to CRA, promptly re-perform the affected Services or correct the nonconforming Work Product to CRA's satisfaction within a reasonable time period specified by CRA. Such corrective action shall not extend any milestone or deliverable deadlines unless expressly approved in writing by CRA.

3.5. No Waiver of Requirements. CRA's review, oversight, or acceptance of any portion of the Services shall not relieve University of its obligation to fully comply with the requirements of this Contract, nor constitute a waiver of any rights or remedies available to CRA.

### **4. Term**



- 4.1. **Term.** The term of this Contract shall commence on the Effective Date, or on the date of CRA’s written Notice to Proceed, if later, and shall continue for the period specified in Exhibit A (the “Contract Term”), unless earlier terminated in accordance with Section 12. The Contract Term may extend beyond twelve (12) months where the scope, schedule, or funding of the Project so requires, as reflected in Exhibit A or an authorized amendment. University shall not commence performance of the Services or incur reimbursable costs prior to the Effective Date or issuance of the Notice to Proceed, as applicable, unless expressly authorized in writing by CRA.
- 4.2. **Schedule/Milestones.** Milestones, deliverable requirements, and due dates are set forth in Exhibit A. If the Notice to Proceed is issued after the Effective Date, milestone and deliverable dates shall be adjusted by written notice from CRA in a manner consistent with Exhibit A. Except as expressly approved in writing by CRA, time is of the essence with respect to all milestone and deliverable deadlines.
- 4.3. **Schedule Adjustments.** Any request by University for modification of milestone dates or the Project schedule shall be submitted in writing and shall include a detailed justification and a proposed revised schedule. No schedule adjustment shall be effective unless approved in writing by CRA through an authorized amendment or written schedule adjustment consistent with this Contract.
- 4.4. **No Implied Extensions.** CRA’s review of progress, participation in meetings, acceptance of interim deliverables, or approval of invoices shall not be deemed an extension of the Contract Term or any milestone, nor a waiver of any schedule requirement.

## 5. Compensation; Basis Of Payment

- 5.1. **Cost-Reimbursement (Invoice-Based Payment).** CRA shall compensate University for allowable costs actually incurred and Services actually performed under this Contract, as set forth in Exhibit B. University shall complete the LRRP Budget Worksheet Template attached to this Contract and appended to Exhibit B (the “Budget Worksheet”), and the completed Budget Worksheet shall form part of Exhibit B for all purposes of this Contract. University shall submit invoices no more frequently than monthly, itemizing costs incurred during the applicable billing period and identifying the tasks or Services to which such costs relate in accordance with Exhibit B, the Budget Worksheet, and the Work Plan.

- 5.1.1. Payment of invoices is subject to CRA’s review and approval. CRA shall withhold or suspend payment, in whole or in part, pending submission and acceptance of required reports or deliverables identified in Exhibit B, compliance with the Budget Worksheet, resolution of identified deficiencies, or where CRA reasonably determines that the Services are not being performed in a manner consistent with the Work Plan or Project objectives. CRA’s approval of any invoice shall not constitute acceptance of Services or a waiver of any rights under this Contract.



- 5.1.2. Allowable costs are limited to costs that are reasonable, necessary, allocable to the Project, consistently treated, and adequately documented in accordance with generally accepted accounting principles and federal and state cost principles governing public contracts.
    - 5.1.3. *Billing Submission Deadlines.* University shall submit invoices for allowable costs and Services performed no later than sixty (60) days after completion of the invoiced activities. The final invoice shall be submitted no later than sixty (60) days after completion of the Services.
  - 5.2. Not-to-Exceed Amount. CRA shall not be obligated to pay University more than the maximum not-to-exceed amount of set forth in Exhibit B (the “NTE Amount”). Under no circumstances shall CRA be required to pay amounts in excess of the NTE Amount unless expressly authorized by a written amendment executed by both Parties.
  - 5.3. Eighty-Five Percent (85%) Cap. Total payments made prior to CRA’s acceptance of the Final Project Report shall not exceed eighty-five percent (85%) of the NTE Amount. The remaining balance shall be payable only after final acceptance of all required deliverables and satisfaction of all Contract requirements.
  - 5.4. Overpayments; Adjustments. If CRA determines that it has made an overpayment or paid for unallowable, unsupported, or improperly billed costs, University shall promptly reimburse CRA for such amounts, or, at CRA’s option, CRA may offset such amounts against future payments.
  - 5.5. No Guarantee of Funding. Nothing in this Contract shall be construed as a guarantee that CRA will expend the full NTE Amount. CRA’s payment obligations are limited to amounts approved in accordance with this Contract and are subject to satisfactory performance of the Services and continued alignment with Project objectives.

## **6. Project Governance; Communication.**

- 6.1. Roles and Responsibilities. CRA shall designate a Project Manager (PM) to serve as CRA’s primary point of contact for technical direction, administrative coordination, and overall Project oversight. CRA may, in its discretion, convene a Research Champion Team (RCT) to provide non-binding technical input, review, and guidance to CRA consistent with the objectives of the Project.

University’s Principal Investigator (PI), identified in Exhibit A, shall have primary responsibility for the technical performance of the Services, supervision of University personnel, coordination with approved subcontractors (if any), and compliance with the Work Plan, reporting requirements, and deliverable standards.

The roles, responsibilities, and communication expectations of the PM, RCT, and PI shall be as set forth in this Contract and Exhibit A.

6.2. Meetings. University shall participate in Project meetings as reasonably requested by CRA, including, at a minimum:

- 6.2.1. an initial kickoff meeting following issuance of the Notice to Proceed;
- 6.2.2. periodic progress meetings aligned with Project milestones and reporting periods; and
- 6.2.3. a final presentation meeting upon completion of the Services.

Meetings may be conducted in person, by videoconference, or by teleconference, as determined by the Parties. University shall ensure that appropriate University personnel, including the PI and other Key People as applicable, attend and meaningfully participate in such meetings. University shall prepare and provide reasonable advance materials when requested by CRA and shall timely address action items or follow-up items arising from Project meetings.

6.3. Key People; Substitution. The Key People identified in Exhibit A are material to the performance of the Services. University shall not replace, reassign, or materially reduce the availability of any Key Person without CRA's prior written approval. CRA may disapprove a proposed replacement if the proposed replacement is not reasonably acceptable based on qualifications, experience, and availability. If a Key Person becomes unavailable, University shall propose a replacement acceptable to CRA within thirty (30) days, unless CRA grants a written extension.

6.4. Access to Work in Progress. During performance, University shall provide CRA and persons authorized in writing by CRA (including other member County Road Agencies with a legitimate interest in the Project) reasonable access to work in progress, including reasonable observation of activities, review of interim materials, and access to nonconfidential Project documentation, at mutually convenient times and in a manner that does not unreasonably disrupt University operations.

6.5. Contract Administrator. Each Parties' Contract Administrator shall be identified in Exhibit A.

6.6. No Verbal Modifications. CRA staff have no authority to modify scope, approve deviations, or assign additional services verbally. University shall decline any such directives and promptly notify CRA's Contract Administrator.

## **7. Reporting; Deliverables; Acceptance**

7.1. Quarterly Reports. Quarterly Reports. University shall submit written quarterly progress reports in accordance with the schedule, format, and content requirements set forth in Exhibit A. Each quarterly report shall accurately describe work performed during the reporting period, progress against milestones, issues or risks affecting schedule or scope, expenditures to date, and planned activities for the next reporting period.



- 7.2. Draft Final Report; Review Cycle. University shall submit a complete draft Final Project Report no later than ninety (90) days before the final deliverable date specified in Exhibit A. CRA shall review the draft and provide written acceptance, conditional acceptance, or rejection within forty-five (45) days of receipt. If CRA provides comments or identifies deficiencies, University shall revise and resubmit the draft within forty-five (45) days thereafter. CRA may require multiple rounds of revision until all deliverables meet the requirements of this Contract. The Final Project Report shall be prepared and submitted in accordance with the Final Report Template ( Exhibit C), and compliance with Exhibit C is a material condition of acceptance.
- 7.3. Acceptance Standard. Acceptance of any report or deliverable is based solely on completeness, accuracy, and conformance with the scope, specifications, format, and deliverable requirements of this Contract and the Exhibits. Acceptance does not constitute approval, endorsement, or validation of the methods, findings, conclusions, or recommendations contained in the deliverable.
- 7.4. Partial or Conditional Acceptance. CRA may accept a deliverable conditionally, subject to the completion of specified revisions or corrective actions. Conditional acceptance shall not relieve University of its obligation to timely complete all required revisions to CRA's satisfaction.
- 7.5. Withholding; Payment Contingency. CRA may withhold approval of invoices and payment, in whole or in part, until required reports and deliverables are submitted and accepted in accordance with this Contract. Failure to submit timely or acceptable reports or deliverables constitutes grounds for withholding payment and may be treated as nonperformance under this Contract.
- 7.6. No Waiver. CRA's review, comment, or acceptance of any report or deliverable shall not waive any rights, remedies, or requirements under this Contract, nor excuse University from full compliance with the Contract.
- 8. Publications And Presentations.**
  - 8.1. Pre-Publication Review. University shall submit to CRA for review (i) any proposed interim publication, and (ii) the manuscript and/or presentation notes for any proposed oral presentation relating to the Project or the Services. CRA shall have up to forty-five (45) days after receipt to review and suggest modifications; CRA may request one additional forty-five (45) day review period if reasonably needed.
  - 8.2. Timing. University shall not publish or present Project results until after CRA has received the Final Project Report and has been provided the review opportunity described above, unless CRA provides prior written approval for earlier publication/presentation.
  - 8.3. Scope of Review. CRA's review is for CRA's own purposes and does not relieve University of responsibility for claims arising from the publication or presentation.

- 8.4. Acknowledgment/Disclaimer. Any publication or presentation shall include appropriate credit to CRA/LRRP and shall include the following disclaimer (or substantially similar language requested by CRA):

“The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the County Road Association of Michigan or the Local Road Research Program.”

## 9. **Records; Audit**

- 9.1. Records Maintenance. University shall maintain complete, accurate, and auditable books, records, documents, and supporting materials sufficient to substantiate all costs billed and Services performed under this Contract, in accordance with generally accepted accounting principles and in conformity with federal and state statutes governing public contracts.
- 9.2. Retention Period. University shall retain all such records for at least three (3) years after final payment under this Contract, or longer if required by applicable law, or if any audit, claim, dispute, or litigation is pending or reasonably anticipated, in which case records shall be retained until final resolution.
- 9.3. Audit and Inspection Rights. CRA, or its authorized representatives, may inspect, review, and audit such records during normal business hours upon reasonable notice, as provided in this Contract. University shall cooperate fully with any such inspection or audit and shall make records available in a timely manner.
- 9.4. Audit Resolution Procedure. If an audit performed by or on behalf of CRA identifies any questioned, unsupported, or unallowable costs, CRA shall provide University with written notice of audit results (a “Notice of Audit Results”) and a copy of the audit report.

Within sixty (60) days after the date of the Notice of Audit Results, University shall deliver a written response (“Audit Response”) stating whether it concurs with the audit findings and, for any disputed item, clearly explaining the factual and contractual basis for disagreement and providing supporting documentation reasonably necessary to resolve the dispute. University’s failure to submit a timely Audit Response constitutes agreement with any disallowance and authorizes CRA to finally disallow questioned costs.

CRA shall issue its written determination with respect to any disputed audit items within one hundred twenty (120) days after the date of the Notice of Audit Results, provided that CRA’s failure to do so within such period shall not constitute a waiver of CRA’s rights.

If CRA determines that an overpayment has been made, University shall repay the overpayment amount or enter into a written repayment schedule with CRA within thirty (30) days after the date of CRA’s invoice. If University fails to repay or agree to a repayment schedule within such thirty (30) day period, CRA may offset all or



a portion of the overpayment against amounts then or thereafter payable to University under this Contract or any other agreement between the Parties.

- 9.5. Remedies. If an audit discloses unallowable costs, overpayments, or noncompliance, University shall promptly reimburse CRA for such amounts and take appropriate additional corrective action.

## 10. Insurance

- 10.1. Required Coverage. University shall procure and maintain, at its sole expense, for the duration of the Contract and any extension thereof, insurance or self-insurance meeting the following minimum requirements:

10.1.1. Commercial General Liability Insurance, including coverage for bodily injury, property damage, products/completed operations, and contractual liability, with limits of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

10.1.2. Workers' Compensation Insurance as required by Michigan law for all employees engaged in the performance of the Services, and Employer's Liability Insurance with limits of not less than \$500,000.

10.1.3. Property Insurance sufficient to cover loss of or damage to CRA property while in University's care, custody, or control.

- 10.2. Self-Insurance. The Parties acknowledge that University is a public institution of higher education and may satisfy one or more of the foregoing insurance requirements through lawful self-insurance or participation in a governmental risk-pooling program, rather than through commercially issued insurance policies.

University represents and warrants that any self-insurance maintained in satisfaction of this Contract is duly authorized by law, adequately funded, and sufficient to cover the risks, liabilities, and obligations assumed by University under this Contract at levels no less protective than the minimum coverage limits stated above.

- 10.3. Evidence of Coverage. The County Road Association of Michigan, its officers, directors, employees, and agents shall be named as additional insureds on the Commercial General Liability policy with respect to claims arising out of or relating to University's performance of the Services.

Prior to commencing any Services, and upon request thereafter, University shall furnish CRA with certificates of insurance evidencing the required coverage. If University maintains self-insurance in lieu of commercial insurance, University shall provide written documentation satisfactory to CRA demonstrating the nature, scope, legal authority, funding mechanism, and limits of such self-insurance or risk-pool coverage.

University further represents and warrants that such self-insurance shall remain in full force and effect for the duration of the Contract and that University will provide



CRA with prompt written notice of any material change, reduction, suspension, or termination of its self-insured status or coverage structure.

All insurance policies shall be issued by insurers licensed to do business in the State of Michigan, or, in the case of self-insurance, such programs shall be administered pursuant to applicable Michigan law. In either event, the policy or program shall provide that coverage shall not be canceled, materially reduced, or allowed to lapse without at least thirty (30) days' prior written notice to CRA.

- 10.4. No Limitation of Liability. The insurance requirements shall not be construed to limit University's liability or obligations under this Contract.
- 10.5. Remedies for Breach. Failure to maintain the required insurance or self-insurance constitutes a material breach of this Contract. CRA may suspend Services, withhold payment, or pursue any other remedies available under this Contract or at law until compliance is demonstrated.

## 11. Confidentiality

- 11.1. Confidential Information. Each Party shall protect the other Party's confidential or proprietary information that is designated in writing as confidential at the time of disclosure, in accordance with this Contract; provided, however, that information shall also be treated as confidential if it consists of non-public research data, unpublished analyses, financial information, or other information that a reasonable person would understand to be confidential given its content and the circumstances of disclosure.
- 11.2. Standard of Care. Each Party shall use at least the same degree of care it uses to protect its own confidential information of a similar nature, but not less than reasonable care.
- 11.3. Permitted Disclosures. Confidential information may be disclosed only as follows:
  - 11.3.1. to a Party's employees, officers, agents, approved subcontractors, or professional advisors who have a legitimate need to know such information for purposes of performing or administering this Contract and who are bound by confidentiality obligations at least as protective as those set forth herein;
  - 11.3.2. by and between LRRP-related personnel, CRA, and CRA's member county road agencies, for LRRP-related purposes, provided that all recipients are subject to confidentiality obligations no less protective than those set forth herein;
  - 11.3.3. with the prior written consent of the other Party; and
  - 11.3.4. to the extent required by applicable law, regulation, court order, or other lawful governmental requirement, including FOIA (but only to the extent that no applicable exemption or exception applies), provided that the disclosing Party gives prompt written notice to the other Party (to the extent legally permitted) and cooperates

reasonably in seeking confidential treatment, a protective order, or other appropriate remedy.

Any disclosure permitted under this Section shall be limited to the minimum amount of confidential information necessary to satisfy the permitted purpose.

- 11.4. Survival. The obligations of confidentiality shall survive expiration or termination of this Contract as provided in this Contract.

## **12. Termination**

- 12.1. Termination for Convenience. Either Party may terminate this Contract for convenience upon forty-five (45) days' prior written notice to the other Party. Upon termination for convenience, University shall cease work as directed by CRA and shall take reasonable steps to mitigate further costs. CRA shall reimburse University, in accordance with this Contract and subject to the Not-to-Exceed Amount and the Eighty-Five Percent (85%) Cap, for allowable costs incurred and Services satisfactorily performed through the effective date of termination. University shall promptly deliver to CRA all Work Product completed or in progress as of the effective date of termination, in the form reasonably requested by CRA.

- 12.2. Termination for Cause. Either Party may terminate this Contract for cause upon written notice if the other Party materially breaches this Contract and fails to cure such breach within thirty (30) days after receipt of written notice describing the breach in reasonable detail. Notwithstanding the foregoing, CRA may terminate this Contract immediately upon written notice for any of the following:

- 12.2.1. failure to maintain required insurance or self-insurance;
- 12.2.2. unauthorized subcontracting or assignment;
- 12.2.3. violation of confidentiality or publication restrictions;
- 12.2.4. failure to comply with material schedule or deliverable requirements after notice; or
- 12.2.5. fraud, gross negligence, or willful misconduct.

Upon termination for cause by CRA, CRA shall have no obligation to pay for Services not satisfactorily performed or for costs incurred after the effective date of termination. Any advance or overpayments shall be subject to repayment or offset in accordance with this Contract.

- 12.3. Effect of Termination. Upon expiration or termination of this Contract for any reason, University shall promptly return or deliver to CRA all CRA property, confidential information, and all Work Product, whether completed or in draft form. Termination shall not affect any rights or remedies that accrued prior to the effective date of termination.

- 12.4. Survival. The provisions of this Contract that by their nature are intended to survive expiration or termination shall survive, including, without limitation, the following

Sections: Records; Audit (Section 9); Confidentiality (Section 11); Intellectual Property (Section 14), including ownership of Work Product; Publications and Presentations (Section 8); Repayment; Offsets; Audit Remedies (Sections 7 and 9); Governing Law; Venue (Section 15.16); and any other provisions that expressly state that they survive or that by their nature are intended to survive.

### **13. Subcontracting**

- 13.1. Subcontracting Restrictions. University shall not subcontract, delegate, or otherwise engage any third party to perform any portion of the Services without CRA's prior written approval. Any request for approval shall identify the proposed subcontractor, describe the scope of work to be performed, and include any additional information reasonably requested by CRA.
- 13.2. Responsibility for Subcontractors. Approval of a subcontractor shall not relieve University of any responsibility, obligation, or liability under this Contract. University shall remain fully responsible for the performance of the Services and for the acts and omissions of its subcontractors and their personnel as if performed by University directly.
- 13.3. Flow-Down Requirements. University shall ensure that all approved subcontracts are in writing and contain provisions requiring the subcontractor to comply with all applicable terms and conditions of this Contract, as applicable to the subcontracted work, including, without limitation: confidentiality and data protection; records retention and audit rights; intellectual property ownership and data rights; publications and pre-publication review requirements; insurance and risk-allocation obligations; and compliance with all applicable federal, state, and local laws and regulations.  
  
University shall remain fully responsible for the performance of the Services and for the acts and omissions of its subcontractors and their personnel as if performed by University directly, and no subcontract shall limit, condition, or otherwise affect CRA's rights under this Contract.
- 13.4. No Privity. Nothing contained in this Contract or any approved subcontract shall be construed to create any contractual relationship between CRA and any subcontractor. CRA shall have no obligation to any subcontractor under any circumstances.
- 13.5. Replacement or Removal. CRA may require the replacement or removal of any subcontractor whose performance is unsatisfactory or whose continued participation CRA reasonably determines to be inconsistent with the objectives or requirements of the Project. Any such replacement shall be subject to CRA's prior written approval.

### **14. Intellectual Property.**

- 14.1. Ownership of Deliverables (Reports; Data Submissions). All Work Product and other deliverables that University is required to submit to CRA under this Contract (including reports, draft/final reports, tables, datasets submitted to CRA, and



- presentation materials delivered to CRA) shall be the property of CRA and shall not be furnished to any third party without CRA's permission, except that University may provide such deliverables to involved governmental agencies and commissions as part of required progress reporting and as otherwise permitted under the Publications and Presentations section.
- 14.2. University Retained Rights; Inventions and Copyrights. If patentable or copyrightable discoveries, inventions, or works (as determined under United States patent or copyright law) result from work performed under this Contract, University may file patent applications and/or register copyrights. University shall notify CRA of any patent applications and copyrights resulting from work performed under this Contract and shall provide CRA notice of any patentable or copyrightable results generated during and under this Contract.
- 14.3. Governmental License to CRA and Public Agencies. University shall grant to CRA, all Michigan state and local governmental agencies, and the United States government a worldwide, irrevocable, nonexclusive, fully paid-up, royalty-free license to reproduce, publish, distribute, and otherwise use the Work Product (and authorize others to use the Work Product) for governmental purposes and for the benefit of CRA.
- 14.4. Software; Object Code; Source Code (Governmental Purposes). If any Services result in software development, University shall provide CRA with (i) the complete compiled/executable object code (and any necessary build or deployment instructions reasonably required to run the software for its intended governmental use) in digital format, and (ii) a worldwide, irrevocable, nonexclusive, fully paid-up, royalty-free license to use, reproduce, execute, modify, and authorize others to use the software and object-code form for governmental purposes and for the benefit of CRA; provided, however, that the foregoing shall be subject to limitations applicable to third-party licensed software, pre-programmed modules, libraries, tools, or other code: (x) that is utilized that is in the performance of the Services or creation of the Work Product, and (y) which University does not own, control, or otherwise have the legal right to transfer or sublicense, whether by assignment, license, or otherwise.
- 14.4.1. To the extent that University owns and controls the uncompiled source code for software developed under this Contract, University shall provide CRA with such source code excluding any third-party licensed software, pre-programmed modules, libraries, tools, or other code (including any portions subject to non-disclosure or non-distribution restrictions) that University does not have the legal right to provide in uncompiled form.
- 14.4.2. As used in this Section 14, "Software" includes computer programs, source code, source code listings, object code, object code listings, design details, algorithms, processes, flow charts, formulae, and related material enabling the software to be reproduced, recreated, recompiled, or executed, in each case to the extent owned or

controlled by University or otherwise transferable by University under applicable law and license terms.

- 14.5. Background / Pre-Existing Materials. University retains ownership of intellectual property that existed prior to the Effective Date or that is developed independently of this Contract without use of CRA funding or CRA confidential information (“Pre-Existing Materials”). To the extent any Pre-Existing Materials are incorporated into a deliverable submitted to CRA and are necessary for CRA’s governmental use of that deliverable, University grants CRA a nonexclusive, perpetual, irrevocable, worldwide, royalty-free license (with the right to authorize use by Michigan county road agencies and other public entities) to use, reproduce, and modify such Pre-Existing Materials for governmental purposes and for the benefit of CRA.
- 14.6. No Additional Rights in University Subject Inventions. Except for the licenses expressly granted in this Section 14, CRA does not, as part of the consideration for awarding this Contract, obtain rights in University’s inventions or copyrights.
- 14.7. For purposes of this Section 14, “for the benefit of CRA” means for the benefit of the County Road Association of Michigan, its affiliates, and local County Road Agencies, including, without limitation, use in connection with research, education, training, development and dissemination of best practices, guidance documents, manuals, specifications, standards, implementation support, and related member services, as well as use by CRA members, consultants acting on behalf of CRA or its members, and other public entities in furtherance of transportation research, implementation, training, and best-practice development.

## **15. Miscellaneous**

- 15.1. Independent Contractor. University is and shall remain an independent contractor in the performance of the Services. Nothing in this Contract shall be deemed or construed to create a partnership, joint venture, agency, fiduciary, or employment relationship between the Parties. University has no authority to bind CRA or to incur obligations on CRA’s behalf unless expressly authorized in writing by CRA.
- 15.2. Compliance; Non-Discrimination. University shall comply with all applicable federal, state, and local laws, regulations, and ordinances in the performance of the Services. Without limiting the foregoing, University shall comply with all applicable non-discrimination and equal opportunity requirements, including those prohibiting discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity, age, disability, marital status, or any other status protected by applicable law.

University shall not discriminate against any employee, applicant for employment, or participant in the performance of the Services and shall take affirmative steps to ensure compliance with applicable civil rights and equal employment opportunity laws.



- 15.3. Americans with Disabilities Act. University agrees that no otherwise qualified individual with a disability, as defined in the Americans with Disabilities Act (42 U.S.C. § 12101 et seq.) and implementing regulations, shall, solely by reason of such disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving benefits under this Contract.
- 15.4. Prohibited Employers List. In performing the Services, University shall not enter into a contract with any subcontractor, manufacturer, or supplier listed in the register maintained by the U.S. Department of Labor of employers found in contempt of court under applicable labor law criteria. CRA may void this Contract if University (or a subcontractor, manufacturer, or supplier utilized by University) appears on such register during performance.
- 15.5. Antitrust Cooperation; Assignment. To the extent permitted by law, University assigns to CRA University's right to pursue antitrust claims to recover damages sustained by CRA arising from goods or services used to meet University's obligations under this Contract. University shall notify CRA if it becomes aware that an antitrust violation may have occurred or is threatened to occur in connection with such goods or services, or if it becomes aware of any person's intent to commence, or commencement of, an antitrust action relating to such goods or services.
- 15.6. No Third-Party Beneficiaries. This Contract is for the sole benefit of the Parties and their permitted successors and assigns. Nothing herein, express or implied, is intended to or shall confer any legal or equitable right, benefit, or remedy on any other person or entity.
- 15.7. Notices. All notices required or permitted under this Contract shall be in writing and shall be deemed given when delivered personally, sent by a nationally recognized overnight courier, or sent by certified or registered U.S. mail (return receipt requested), to the Contract Administrators identified in Section 6.3, or to such other address as a Party may designate by written notice. Notices sent by electronic mail shall not be effective unless expressly permitted in writing by the receiving Party.
- 15.8. Entire Agreement; Complete Understanding. This Contract, together with all Exhibits incorporated by reference, constitutes the complete, final, and exclusive statement of the agreement between the Parties and supersedes all prior or contemporaneous negotiations, representations, understandings, or agreements, whether written or oral, relating to the subject matter hereof.
- 15.9. Amendment; Waiver. This Contract may be amended only by a written instrument executed by authorized representatives of both Parties. No waiver of any provision shall be effective unless in writing and signed by the waiving Party. A waiver of any breach shall not be deemed a waiver of any subsequent breach.
- 15.10. Severability. If any provision of this Contract is held invalid, illegal, or unenforceable by a court of competent jurisdiction, the remaining provisions shall

- remain in full force and effect, and the invalid provision shall be construed to reflect the Parties' original intent as nearly as possible.
- 15.11. Assignment. University may not assign or transfer this Contract, in whole or in part, without the prior written consent of CRA. Any attempted assignment in violation of this section is void. Subject to the foregoing, this Contract shall bind and inure to the benefit of the Parties and their respective permitted successors and assigns.
- 15.12. Counterparts; Electronic Signatures. This Contract may be executed in multiple counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Signatures transmitted by electronic means (including PDF or other electronic signature technology) shall be deemed original signatures for all purposes and shall be binding upon the Parties.
- 15.13. Headings. Headings and section titles are for convenience only and shall not affect the interpretation of this Contract.
- 15.14. No Reliance on CRA Review or Acceptance. Notwithstanding any review, approval, acceptance, inspection, oversight, or participation by CRA in connection with the Services or the Work Product, all such actions are undertaken solely for CRA's internal purposes and in its quasi-governmental capacity, representing local county road agencies.
- No such review, approval, acceptance, or inspection shall be construed as a warranty, representation, or assumption of liability by CRA, nor shall it relieve University of its obligations, responsibilities, or liability under this Contract. University remains solely responsible for the accuracy, completeness, and propriety of the Services and the Work Product.
- 15.15. Contingent Fees. University warrants that it has not employed or retained any company or person other than bona fide employees working solely for University to solicit or secure this Contract and that it has not paid or agreed to pay any company or person, other than bona fide employees working solely for University, any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon or resulting from the award or making of this Contract. For breach of this warranty, CRA may annul this Contract without liability or, at CRA's option, deduct from amounts payable under this Contract or otherwise recover the full amount of such consideration.
- 15.16. Governing Law; Venue. This Contract shall be governed by and construed in accordance with the laws of the State of Michigan, without regard to its conflict-of-laws principles. Venue for any action arising out of or relating to this Contract shall lie exclusively in the state courts of the State of Michigan located in Ingham County.

## **SIGNATURES**

IN WITNESS WHEREOF, the Parties have executed this Contract by their duly authorized representatives.



County Road Association  
OF MICHIGAN  
101 S. WASHINGTON SQUARE, STE. 200  
LANSING, MI 48933

COUNTY ROAD ASSOCIATION (CRA) OF MICHIGAN:

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

[UNIVERSITY]:

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT A**

**SAMPLE WORK PLAN (SCOPE OF SERVICES)**

Project Title: Material Selection & Application Rates for Chip and Fog Seal Operations

Project Name: Chip Seal and Fog Seal Material Selection and Application Rate

Contract Time: 12 months

**1. Contract Administration and Key Project Personnel**

The following individuals are designated pursuant to the Contract. Identifications may be updated by written notice of the applicable Party, provided that any substitution or change remains subject to the approval requirements of the Contract where applicable.

1.1 CRA Contract Administrator. For purposes of notices, scope questions, and Contract administration:

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Email:** \_\_\_\_\_

1.2 CRA Project Manager (PM). For purposes of technical direction, coordination, and Project oversight:

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Email:** \_\_\_\_\_

1.3 University Contract Administrator. For purposes of notices and administrative coordination:

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Email:** \_\_\_\_\_

1.4 University Principal Investigator (PI). The individual with primary responsibility for the technical performance of the Services:

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Department/Affiliation:** \_\_\_\_\_

**Email:** \_\_\_\_\_

1.5 **Key People.** The following personnel are identified as **Key People** whose qualifications and experience are material to performance of the Services:

NAME	ROLE/EXPERTISE	AFFILIATION

The Parties acknowledge that day-to-day staffing may evolve over the course of the Project. The Contract shall govern substitution or material reduction in availability of any Key Person.

**MILESTONES**

Task 1 – Literature Review. Conduct comprehensive review of relevant research, manuals of practice, and specifications; summarize methods, findings, and references. Deliverable: literature review summary and references.

Task 2 – Statewide County Road Agency Survey. Design and administer survey to all 83 Michigan county road agencies, including minimum contact attempts and at least one phone call per agency; compile findings and raw data. Deliverables: survey findings and raw data.

Task 3 – Laboratory Testing Work Plan. Use Tasks 1–2 to propose chip seal aggregate/emulsion combinations (with and without fog seal) by CRA region; propose gradation testing and ASTM D7000 sweep test protocols, QC measures, and test matrix; obtain sponsor approval before testing. Deliverable: laboratory testing work plan.

Task 4 – Testing. Acquire materials; perform certified-lab testing per approved plan; compile results. Deliverable: completed laboratory results.

Task 5 – Regional Material Guidelines. Develop regional guidelines based on bond strength, aggregate loss, and relative material cost/economy framework. Deliverable: regional chip-seal material selection guidelines.

Task 6 – Reporting and Project Management. Participate in kickoff/progress/final meetings; provide quarterly reports; provide final report and in-person presentation at CRA office in Lansing, Michigan. Deliverables: final report compendium, executive summary, material selection guidance table, presentation.

## **EXHIBIT B**

### **BUDGET AND COMPENSATION**

**1. Not-to-Exceed Amount; Limitations.** The maximum amount payable by CRA under this Contract shall not exceed \$[\_\_\_\_\_] (the “Not-to-Exceed Amount” or “NTE Amount”). University acknowledges that payment is subject to the NTE Amount, the Eighty-Five Percent (85%) Cap, and the other limitations set forth in the Contract.

**2. Cost-Reimbursement (Invoice-Based Payment)**

**2.1 Budget Structure.** CRA shall reimburse University for allowable costs actually incurred in performing the Services, subject to the NTE Amount. The budget is organized by task, labor category, and cost category as set forth below (or attached as a table to this Exhibit B). University shall complete the LRRP Budget Worksheet Template attached to this Contract and appended to this Exhibit B (the “Budget Worksheet”), and the completed Budget Worksheet shall form part of Exhibit B for all purposes of this Contract. All invoices shall be consistent with, and traceable to, the Budget Worksheet.

**2.2 Invoicing.** University shall submit invoices no more frequently than monthly. Each invoice shall:

- identify the billing period covered;
- itemize costs by task and cost category;
- identify labor hours, rates, and personnel, where applicable; and
- include documentation reasonably sufficient to substantiate that costs were incurred, allocable to the Project, and consistent with the approved Work Plan.

CRA shall review invoices for compliance with the Contract and may withhold or suspend payment as provided in the Contract.

**3. Allowable Cost Categories; Travel and Subsistence.** Notwithstanding anything to the contrary in this Contract or any Exhibit, for any portion of the Services reimbursed on an actual-cost (invoice) basis, CRA shall reimburse only allowable costs that are reasonable, necessary, allocable to the Project, consistently treated, and adequately documented.

Allowable costs may include: (i) direct salary costs based on actual hourly rates and actual hours worked (or documented effort certification); (ii) other direct costs for materials and supplies not normally provided as part of University overhead; (iii) overhead/indirect costs applied in accordance with University’s then-current federally negotiated indirect cost rate agreement (if applicable) and consistent with University’s accounting system; and (iv) approved subcontractor costs.

Travel and subsistence shall be reimbursed only if expressly authorized by the Work Plan or CRA in writing and shall not exceed the amounts permitted under the then-current State of Michigan travel guidelines or the federal Standardized Travel Regulations (41 CFR Chapter 301), whichever University’s accounting system supports.

## Local Roads Research Program (LRRP) Budget Worksheet Template

LRRP Project Title:

Proposed Project Start Date:

Proposed Project End Date:

Title:

Submitted by:



Project Budget			
Category	Item	Project Cost	Personnel Hours
<b>A. Personnel Wages</b>	<b>Principal Investigator (PI), Co PI</b>		
	Fringe associated		
	<b>Graduate students</b>		
	Fringe associated		
	<b>Undergraduate students</b>		
	Fringe associated		
<b>B. Non-expendable equipment</b> <i>(attach explanation)</i>			
<b>C. Materials, supplies &amp; publications</b>			
<b>D. Travel</b>			
<b>E. Other direct costs</b> <i>(attach explanation, list of items and individual costs)</i>			
<b>Indirect Amount</b> <i>(Indirect Rate _____%)</i>			
<b>GRAND TOTAL</b>			

## EXHIBIT C

### FINAL REPORT TEMPLATE

**Final Report Template Overview:** All researchers' final reports must adhere to this general outline and should not exceed 20 pages in length, including charts and illustrations, with minimum 1.15 spacing and 11 point font. For ease of comparison and brevity, this basic outline must be followed. Refer any questions to Contract Administrator.

This Final Report should be completed promptly at the conclusion of field/lab work and must be submitted before any final payment will be sent by the Local Road Research Program administrator, the County Road Association of Michigan. Reports should be sent to: Denise Donohue, CEO and LRRP Contract Administrator, County Road Association of Michigan at [ddonohue@micountyroads.org](mailto:ddonohue@micountyroads.org) with a **Subject Field: Final Report: LRRP [ name of ] Project**. **Questions may be directed** to Donohue via email or at 517-482-1189.

**Final Report for:** *[ name of project ]*

**LRRP Tracking Number:** *[ 26-xx-xx-xx ]*

**Research Institution, Address, email:**

**University Tracking Number:** *[ optional ]*

**Principal Investigator (PI):**

**Additional Named Researcher(s):**

**Date Submitted:**

**Date Project Initiated:**

**Project goals and value for the LRRP in relation to RFP**

This project ....

**One Paragraph Summary of Project Findings**

XXXXXX *[ 50-100 words ]*

**Executive Summary: Results of Project** *[ 100-300 words ]*

XXXXXX

**Recommendations from Project**

Xxxx [ summarize in 50-100 words ]

**Recommendations for Future Work**

Xxxx [ summarize in 50-100 words ]

**Discussion of Results of Project**

Xxxxx [ In this section, PI may utilize up to 8 pages of text, tables, photographs, illustrations, and other devices to fully describe the work completed in this LRRP research project as outlined in the Request for Proposal. Describe findings, results expected and not, and other aspects of the project ]

**Final Budget Report**

*Use LRRP Budget Template Worksheet from initial LRRP Proposal.*

**Note: Applicants may be requested to present this Final Report to the Board of the County Road Association of Michigan’s Local Road Research Program at the conclusion of the work.**