



New Jersey Department of Transportation  
Bureau of Research  
RESEARCH PROJECT  
Request for Proposal  
2023 – 2024 SPR Program

**Project Title: New Jersey Test Sites for Allelopathic Plants in Unmaintained Sites Along the Roadway**

**Posting No.: 2023-01**

**Date of RFP Announcement: 3/23/23**

**Closing Date: 5/30/2023**

**NOTE:** Due to P.L. 2019, c. 196, the New Jersey Department of Transportation cannot award research grants to PRIVATE and/or OUT OF STATE institutes of higher education.

Proposals must be prepared in accordance with NJDOT's *Supplemental and Proposals guidelines*. Please visit <https://www.state.nj.us/transportation/business/research/guidelines.shtm> for the most current version.

All proposals must also have a corresponding online PreAward Risk Assessment form completed and submitted by the Principal Investigator (PIs) prior to the RFP closing date and time. This online form can be found at:

[https://www.state.nj.us/transportation/business/research/risk\\_assessment\\_forms.shtm](https://www.state.nj.us/transportation/business/research/risk_assessment_forms.shtm)

## **1 - RESEARCH PROBLEM STATEMENT AND OBJECTIVES**

### **1.1 Problem Statement**

Volunteer growth in areas off the roadway inaccessible to mowers are infrequently maintained or not maintained at all. The areas with no maintenance get taken over by volunteer growth consisting of trees that eventually overhang the roadway, block sight distance, or grow in guiderail areas. Once established the trees are very difficult to remove or trim due to proximity to the roadway or environmental resources located in the area.

Turf around guiderail eventually dies out due to routine maintenance of removing volunteer growth by spraying herbicide around the guiderail posts.

### **1.2 Research Objectives**

Determine best practices using allelopathic plants including but not limited to Zoysia in multiple locations off the roadway to suppress volunteer growth, including but not limited to following information:

1. Appropriate species
2. Site preparation
3. Planting procedures
  - a. Optimal season
  - b. Container size or sod
  - c. Plant spacing or lbs per acre
  - d. Depth of topsoil



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- e. Mulch layer
4. Plant establishment measures
  - a. Maintenance schedule
    - i. Weeding
    - ii. Watering
5. Final percent of success

**Phase 1 – Planning (Duration: 6 months)**

1. Meet with NJDOT to discuss preliminary work plan via online or in person.
2. Sites to be studied:
  - Site 1 – RT 21 ramp, Newark, NJ 40.717137, -74.183056
  - Site 2 – RT 24 and Summit Avenue, Summit, NJ 40°44'03.2"N 74°21'17.9"W
  - Site 3 – RT 295 ramp to RT 29, Hamilton, NJ, 40°11'09.3"N 74°43'19.2"W
  - Site 4 - RT 295 ramp to RT 29, Hamilton, NJ 40°11'08.7"N 74°43'19.4"W
  - Various guiderail locations throughout the state
3. Obtain a Highway Occupancy Permit (HOP) per <https://www.state.nj.us/transportation/eng/forms/index.shtml#maintenance> using MT120A application form.
4. Sign each location for research purposes.

**Deliverables:**

Finalized work plan outlining timeline of work, measures for site preparation, species selection, planting procedures, and equipment to be used for planting and safety operations for each site. Reference NJDOT Work Zone Safety Set-up Guide 2011. Include a copy of the HOP, Gantt chart of work, maintenance schedule, copy of signage.

**Phase 2 – Planting and Establishment (Duration: 1 year)**

**Deliverables:**

- Submit reports based on maintenance schedule detailing establishment and care procedures.

**Phase 3 – Percent of Success (Duration: 2 years, 6 months)**

- Meet with NJDOT to discuss results and recommendations for each site.

**Deliverables:**

Submit final reporting consisting of an implementation report and a performance measurement report.

**Implementation Report:**

1. Name of a research project
2. Link to the final report



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3. FHWA #, Completion Date, PI email/phone, Research Bureau email/phone
4. Introduction and Purpose: 4 sentences or less
5. Implementation Summary
  - a. Useable elements
  - b. Approach summary
  - c. Implementation timeline or plan
  - d. Barriers, if any or not
6. Implementation Recommendations
  - a. Number recommendations
  - b. Provide feedback (“response”) from customer/agency unit/tech panel regarding each recommendation
7. Disclaimer statement: “To report implementation efforts, this document is disseminated by the NJDOT. The State of NJ assumes no liability for the use or misuse of its contents. The State of NJ does not endorse products of manufacturers. This document does not constitute a standard, specification, policy or regulation.”

**Performance Measurement Report:**

1. Project Objective and Solution
2. Calculation of cost savings
  - a. List of assumptions
  - b. Calculations to include formulas with an explanation of all variables:
    - i. Present value of total research project cost
    - ii. Present discounted value of future benefits = benefit
    - iii. Benefit-to-cost ratio
    - iv. Return on investment

**1.3 Type of Contract**

It is proposed that if the Issuing Office enters into a contract because of this Request for Proposal (RFP), it will be a **Cost Reimbursement, Deliverable-Based** contract containing the Standard Contract Terms and Conditions.

**2 - BUDGET and CONTRACT TIME**

The **TOTAL** project budget shall not exceed **\$300,000 US Dollars**. Budgets will be evaluated separately, and only after a selection has been made as to which proposal is the most qualified based on technical merit.

The PI must provide the anticipated research study duration based on the proposed tasks. Consideration should be given to potential impediments so that adjustments are incorporated into



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the schedule minimizing the need for time extensions. Contract time shall include sufficient time for the procurement of subcontractors, as well as no less than three months for Final Report review and acceptance. Please be advised that going forward, new task orders having permissible justification will be allowed no more than a one-time extension with the advent of 2 CFR 200.

**A 48-month total project duration is preferred.**

Please provide a Gantt Chart schedule, by month number (e.g., 1-24), showing tasks start/end, and deliverables. List corresponding deliverables below the chart.

### **3 - Oral Presentations**

**Oral online presentations are required as part of this RFP.** You will be notified by the Bureau of Research to schedule your oral presentation. They will be held online utilizing Microsoft Teams software, attended by the Technical Advisory Panel (TAP), and be limited to no more than an hour, including time for questions and answers.

### **4 – Deadline**

Proposals (no hard copies required) are due at the NJDOT Bureau of Research no later than **4:00 p.m. on May 30, 2023.** Electronic proposal documents (preferred pdf) shall be emailed to [Research.Proposals@dot.nj.gov](mailto:Research.Proposals@dot.nj.gov) with the subject: **RFP-2023-01 University – PI's name.**

**Approximate Start Date: 09/06/2023.** The official start date is the date that the Bureau of Research obtains a signature from the Assistant Commissioner.

### **5 – CONTACTS**

Interested parties shall send all questions related to this RFP to the Research Bureau Manager by sending an e-mail to [Amanda.Gendek@dot.nj.gov](mailto:Amanda.Gendek@dot.nj.gov) or by phone (609-963-2242). Questions on this topic **shall not be directed to any Research Project Manager**, Research Customer, or any other NJDOT person. All questions must be received **on or before 04/04/2023 in order to be answered.**

### **PROPOSAL DELIVERY INSTRUCTIONS:**

**Electronic proposal documents (preferred pdf) shall be emailed to [Research.Proposals@dot.nj.gov](mailto:Research.Proposals@dot.nj.gov) with the subject: RFP-2023-01 University – PI's name.**  
A confirmation of receipt will be sent via email.