



RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Post Construction Storm Water Research

TDOT Sponsor Director: Jennifer Lloyd

List TDOT Research Team Lead: Ali Hangul

List TDOT Research Team Members: Robert Braun, Darrell Bost, Greg Russell, Michael Cloud

1. Define the problem or research requested. What is the goal/objective of the research?

This research will provide analytical tool for roadway designers to assess the post construction water quality standards leaving the TDOT ROW.

2. Is this research a continuation of a past or present project?

No Yes

If yes, provide current research project title, RES # and reason for the project continuation.

Partial continuation of Modeling Pollutant Loading from TDOT MS4 Stormwater Discharges: RES2013-12.

3. Describe anticipated benefits/expected deliverables.

The results of this study will provide a tool to TDOT to be in compliance with the new water quality permit requirements drafted by Tennessee Department of Environment and Conservation (TDEC) for TDOT (will become effective very soon) in regards to permanent water quality standards leaving TDOT right of way.

4. What is your timeline for completion of the research?

1 year

5. List the anticipated tasks for this research.

Implement international research to Tennessee conditions (hydrology/ topography, vegetation, and soil conditions).

Provide design tools, field verification, and implement the results to current policies.

6. Describe how the project results will be implemented?

The Environmental Protection Agency (EPA) has been increasing the regulations on the discharged water quality. A new permit from the Tennessee Department of Environment and Conservation (TDEC) will be applicable for the TDOT very soon. This research will provide valuable results showing how current practices may help the Department to satisfy some of the new requirements.

7. Will this study produce software, web page or other technology that will involve the Information Technology Division?

No Yes, please describe:

8. Will training be provided to employees as a result of this research?

No Yes, please describe:

9. Will this research involve equipment or materials purchase?

No Yes, please describe:

10. Research must support the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative. (*See attachments for additional information*)

Please indicate which categories the research will support:

Transportation Long Range Plan Policy Recommendations

(A) Accessibility

(B) Safety, Security, and Transportation
Resilience

(C) Coordination, Cooperation, and Consultation

(D) Demographic and Employment Changes and Trends

(E) Freight Logistics and Planning

(F) Financial

(G) Mobility

(H) Travel Trends and System Performance

TDOT Operational Goals and/or Strategic Initiative

(A) Deliver transportation projects on schedule and within budget

(B) Maintain the state transportation system to protect the long term investment in our infrastructure assets

(C) Operate and manage Tennessee's transportation system to provide a high level of safety and service to our customers and workers

(D) Expanding mobility choices to maximize access

(E) Dramatically change the paradigm for delivery of transportation products and service to improve the efficiency and effectiveness of Tennessee's transportation network

11. Please explain how the research supports the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative selected above:

This research will provide a tool to designers with numerical values to assess the post construction water quality standards leaving the TDOT right of way. The current estimates indicate it would cost additional \$100,000 to the department in order to satisfy the new TDEC permit requirements for each mile of proposed roadway project.

For additional information, please contact:

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