Request for Proposals (RFP)
Re: Determining the Environmental Impact of Recycled PFAS-Contaminated Pavement Materials (short title: Recycling PFAS-Contaminated Pavements)

I. BACKGROUND

Over the last few years, media and environmental agency attention has focused on environmental impacts of PFAS forever chemicals. We know firefighting foam (like AFFF) contains some of the highest PFAS concentrations of commercially-available products. More recently, airfield pavement stockpiles (milled, crushed, otherwise) have been implicated in water-derived (storm-, ground-, and surface-) PFAS contamination due to AFFF remnants, likely embedded in the pavement's air voids. DoD and EPA have allocated millions of dollars in SEDRP research for characterizing fate and transport of PFAS in airfield pavements. While the SEDRP research program is envisioned to last a couple years, the lack of a comprehensive, cross-organizational, and coordinated research program may hamper expedited results. Regardless, while published research has not yet scientifically identified fate and transport of PFAS in pavement structures, we are aware of published reports documenting the extent (concentration and pavement depth) of such potential contamination.

II. OBJECTIVE

The objective of this project is to determine whether PFAS-contaminated pavement materials, extracted during pavement maintenance and reconstruction practices, can be fabricated inert by reincorporating/recycling such contaminated pavement materials back into engineered pavements materials, mixes, or other infrastructure construction materials.

III. CAUTION

Certain PFAS chemicals are now designated as federal (CERCLA) hazardous substances and some states have their own criteria under state environmental regulation. It is the responsibility of the proposing organization to adhere to all use and disposal requirements associated with PFAS.

IV. PROJECT SCOPE

This is a two-stage project, some with multiple phases. The first project stage, a 'proof-of-concept', has available funding up to $100,000. The second project stage (three phases) has funding availability up to $400,000. We encourage a comprehensive submission of both project stages with the understanding that Project Stage 2 (Phase II, III, and IV) is dependent on results from Project Stage 1 and may not be conducted as envisioned.

Stage 1 / Phase I of this project shall include 'Proof-of-concept':
Conduct a laboratory-based pilot study to understand if water-soluble 'spiked' PFAS mixed with crushed pavement millings (concrete and asphalt) are inert in lab-generated recycled pavement mixtures.

- Using simple standardized leaching or other (e.g., MIST) analytical methodologies, determine recovery of spiked PFAS in loose and recycled pavement mixtures.
- Understand the ability of pavement material to adsorb, absorb, or encapsulate PFAS.

Stage 2 / Phase II of this project shall include at least the following:
Consistently identify the concentration of extracted PFAS-contaminated pavement materials available for stockpile and recycling.

- Understand sampling requirements to ensure homogeneity in analyzed PFAS concentrations of extracted PFAS-contaminated airfield pavement materials at the smallest recyclable unit size.
- Assemble consistent and reproducible PFAS-contaminated pavement materials suitable for recycling efforts.

Stage 2 / Phase III of this project shall include at least the following:
Recycle PFAS-contaminated pavement materials into new pavement materials.

- Analyze PFAS content of recycled pavement materials and compare to theoretical content.

Stage 2 / Phase IV of this project shall include at least the following:
Determine inertness of recycled pavements.

- Test for inertness using standardized leaching or other (e.g., MIST) analytical methodologies.

V. PROJECT REQUIREMENTS

The project must be completed within the proposed timeframe and within the proposed budget. The final report must be 508 compliant. NAPA will be responsible for final design of the research report.

The expectation is at the completion of project's Phase I, there will be a go/no-go assessment by the funding stakeholder.

AVAILABLE FUNDS: up to $500,000 with up to $100,000 allocated for Phase 1.

CONTRACT PERIOD: up to 18 Months with expedited completion favorably considered.

VI. PROPOSAL SUBMISSION

Submissions should include qualifications of the individual(s) involved in the project, proposed methods for achieving objectives, timeline, and summary of budget for all stages and phases of the project. Proposals should use minimum 11pt font, standard margins, a maximum of 15 pages, and Adobe PDF file format. Resumes, budgets, and timelines will be in addition to the allotted pages and will not count against the 15-page limit. Proposals should be sent via email to Richard Willis, Vice President, Engineering, Research, & Technology, at Engineering@AsphaltPavement.org by July 10, 2024. Please include the "Re: Recycling PFAS-Contaminated Pavements" in the subject line of your email.