Department of Resources Recycling and Recovery

SCOPE OF WORK
Engineering and Construction Management Services for Civil Engineering Applications Using Tire Derived Aggregate

I. Introduction/Objectives

The primary purpose of this contract is to assist and support CalRecycle's efforts to promote the use of Tire Derived Aggregate (TDA) in various civil engineering applications to divert waste tires from California landfills. CalRecycle has awarded five previous contracts since 2005 that provide these services. Under these contracts, CalRecycle has performed the necessary research to determine engineering properties of TDA, and established construction protocols for TDA usage. These contracts have also provided technical education to prospective TDA users and have directly supported the CalRecycle TDA grant program.

This contract will continue to provide education and technical assistance to public and private entities interested in TDA use for civil engineering projects (e.g**.,** lightweight fill, vibration attenuation layers, stormwater control). The funds for the existing TDA Engineering and Construction Management Services Contract (DRR18072) will be depleted by mid-2021 and staff is proposing to award a new contract by July 2021 to ensure minimal disruption to our TDA support and technical assistance efforts.

II. Work to be Performed

Under the direction of CalRecycle's Contract Manager (CM), the Contractor shall assist CalRecycle's efforts to increase the use of TDA by expanding the knowledge of TDA's engineering benefits and its construction management procedures. The Contractor shall provide TDA technology transfer, construction management, and general technical support on TDA pilot demonstration projects and TDA grant projects awarded by CalRecycle. If directed to do so by the CM, the Contractor shall conduct research on issues related to the use of TDA and may provide other technical assistance to TDA stakeholders.

All work under this contract will be grouped into separate projects (as determined by the CM). For each project, the Contractor shall develop and submit a work plan identifying all the tasks required to complete the project, including completion dates and the required budget. The CM will review and approve each work plan and then issue a work order to the Contractor to complete the project. All work performed by the Contractor shall be in accordance with work orders issued by the CM. Any subsequent changes to work orders shall be documented through a revised work order signed by both parties.

There will likely be occasions when multiple TDA projects must be completed or constructed at the same time. The Contractor shall provide CalRecycle with sufficient resources to ensure cost-effective and timely completion of multiple projects.

Work shall include, but is not limited to:

A. TDA project design and analysis;

B. TDA pilot demonstration, grant project construction management, and construction services oversight and technical assistance;

C. Identification and investigation of potential barriers and environmental impacts of using TDA;

D. Research on new civil engineering applications for TDA; and

E. Training and technical assistance on issues related to using TDA in civil engineering applications.

III. Tasks Identified

This contract will consist of the following tasks:

Task 1. Technical Assistance and Education

At the direction of the CM (through work orders), the Contractor shall perform tasks related to technical assistance and education, including, but not limited to:

- Designing and coordinating TDA pilot and grant projects with CalRecycle and state and local agency partners. Types of TDA pilot and grant projects may include, but are not limited to:
    - geotechnical and earthquake analysis of landslide and retaining wall projects;
    - low impact development and storm water management;
    - landfill design and operation;
    - vibration and sound mitigation analysis related to light rail design; and
    - drainage media and other civil engineering applications.

- Assisting in the organization and coordination of educational seminars, workshops, and meetings to educate engineers and other stakeholders on using TDA in civil engineering applications.

- Investigating and evaluating existing and new civil engineering uses of waste tires, such as lightweight fill, vibration attenuation layers, infiltration galleries, and erosion control applications.

- Developing or revising technical standards for use in state and local government design specifications, guidance manuals, or regulations.

- Conducting pilot and bench scale test studies, lab studies, paper studies, and literature reviews regarding additional reuses and possible environmental effects of TDA.

Task 2. Construction Management and Construction Services Oversight

At the direction of the CM (through work orders), the Contractor shall perform tasks related to construction management and construction services oversight, including, but not limited to:

- Overseeing construction management services of TDA pilot demonstration and grant projects including, but not limited to:
    - TDA material procurement, processing, and delivery;
    - TDA installation and oversight to assure proper placement at project sites;
    - Performing Quality Assurance/Quality Control (QA/QC) measures to assure TDA meets project specifications;
    - Preparing daily work logs, construction progress reports, and project cost tracking reports;
    - Preparing final construction completion reports; and
    - Monitoring and evaluating long-term performance of completed projects.

- Conducting site surveys and assisting CalRecycle staff with installation of monitoring equipment at selected TDA projects to evaluate long-term performance of completed projects.

- Assisting in obtaining permits and coordinating environmental issues with appropriate regulatory agencies.

- Assisting CalRecycle staff with addressing general questions from local and state governments or other interested stakeholder groups regarding the construction management of TDA projects.

Task 3. Final Report

The Final Report shall summarize the work completed and make conclusions and recommendations on further development of TDA applications.

IV. TIME FRAME

The proposed contract period will be from July 1, 2021 to May 15, 2024 for a total time of approximately 34½ months. Table 1 shows the project schedule.

Table 1: Project Work Schedule

Task Number	**Task Description**	**Start Date**	**End Date**
Task 1	Technical Assistance and Education	July 1, 2021	May 1, 2024
Task 2	Develop dry methods of using crumb rubber infill in asphalt concrete pavement	July 1, 2021	May 1, 2024
Task 3	Final report	February 15, 2024	March 15, 2024