# CITY OF CARSON

## Legislation Details (With Text)

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| **Title:** | CONSIDER AMENDMENT NO. 1 TO AN AGREEMENT FOR CONTRACT SERVICES BETWEEN THE CARSON RECLAMATION AUTHORITY AND LEIGHTON CONSULTING, INC. FOR GEOTECHNICAL SERVICES ON THE FORMER CAL-COMPACT LANDFILL, INCLUDING ADDING "TOP OF TRASH" INVESTIGATION, IN THE AMOUNT OF $490,064.00 (CARSON RECLAMATION AUTHORITY) | | | | |
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| **Indexes:** | | | | | |
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| **Attachments:** | 1. Agreement for Contract Services #22-006 LEIGHTON CONSULTING INC, 2. Amendment No. to Agreement for Contract Services CRA -Leighton Consulting, 3. Proposal for Geotechnical Services | | | | |

| Date | Ver. | Action By | Action | Result |
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# Report to Carson Reclamation Authority

Tuesday, July 05, 2022

Consent

**SUBJECT:**

**CONSIDER AMENDMENT NO. 1 TO AN AGREEMENT FOR CONTRACT SERVICES BETWEEN THE CARSON RECLAMATION AUTHORITY AND LEIGHTON CONSULTING, INC. FOR GEOTECHNICAL SERVICES ON THE FORMER CAL-COMPACT LANDFILL, INCLUDING ADDING "TOP OF TRASH" INVESTIGATION, IN THE AMOUNT OF $490,064.00 (CARSON RECLAMATION AUTHORITY)**

## I. SUMMARY

The original contract with geotechnical consultant Leighton Consulting, Inc., (“Leighton”) entered into on November 21, 2021 (Exhibit 1) allowed them to perform document review, subsurface explorations, laboratory testing, and engineering analyses to develop geotechnical design recommendations for the proposed Carson Goose Owner, LLC (CGO) project on Cells 3, 4, and 5. This work is largely described as the “bottom of trash” investigation. Because the project site is a former landfill, they prepared a project-specific work plan and updated their health and safety plan (WP/HASP) for the site for submittal to DTSC and received approval prior to commencing their exploration program.

This bottom of trash work (the characterization of the soil under the trash layer) is

necessary for the design of the subsurface and foundation systems, particularly the structural piles. The CRA was requested to provide the geotechnical information for Cells 3, 4, and 5 by the site developer. Because this work solely benefits the developer, they are obligated to cover the cost through the current Reimbursement Agreement.

More recently, a Top of Trash Study Workplan was prepared by EKI, the environmental design firm engaged by CGO, and approved by DTSC. EKI has requested that Leighton conducted the field investigation outlined in the Workplan. Leighton's scope of work is limited to providing the necessary equipment, labor, and field oversight to complete the soil cover investigation. EKI will be responsible for locating explorations, official field documentation, and reporting.

Leighton's anticipated scope of work consists of the following:

- Review available documents with pertinent geotechnical information for site and surrounding slopes.
- Preparation of Health and Safety Plan (HASP) including coordination of submittal to DTSC with other members of the design team.
- Provide geophysical survey crew for subsurface utility clearance of proposed exploration locations (includes Leighton field oversight).
- Provide equipment and labor to perform subsurface exploration to determine the nature and thickness of the soil cover and determine top of refuse and top of liner elevations (includes Leighton field oversight).
- Reinternment of investigative derived waste generated from bottom of trash exploration.

Neither the original contract between Leighton and the CRA or this Amendment No. 1 (Exhibit 2) create any net cost to the CRA. The cost of this contract has been covered by the existing Reimbursement Agreement with Carson Goose Owner, LLC, the proposed developer of Cells 3, 4, and 5 since the work would be performed on those cells. The original contract was approved for $424,600.00, which contained the contingency for the possibility of encountering impenetrable materials or materials that will bind around the auger that may require abandonment and relocation of borings and addressed these extra costs that may be incurred. This amendment is for an additional $490,064.00, bringing the total contract amount to $915,000.00.

The Amendment would extend the term of the Agreement by another month, until December 31, 2022, and add additional scope to perform the "Top of Trash" investigation at a cost of $490,064.00. The full Leighton Proposal is included as Exhibit 3.

## II. RECOMMENDATION

1. APPROVE Amendment No. 1 to the Agreement for Contract Services Between the Carson Reclamation Authority and Leighton Consulting, Inc. for Geotechnical Services, bringing the total contract amount to $915,000.00, and extending the term to December

31, 2022, in a form acceptable to the Authority Counsel.

2. AUTHORIZE the Chair to execute the Agreement and any associated documents.

## III. ALTERNATIVES

TAKE another action the Board deems appropriate.

## IV. BACKGROUND

Staff is proposing that the Board consider an amendment to a contract with Leighton Consulting, Inc., for geotechnical services related to the development of Cells 3, 4, and 5. These funds will be reimbursed by Carson Goose Owner, LLC pursuant to the Reimbursement Agreement. The project site has unique geotechnical challenges that require extensive analysis for proper foundation design and to procure grading and building permits from the City of Carson and the County of Los Angeles. Fortunately, Leighton has developed cost-effective solutions based on detailed analytical modeling that have been approved by the reviewing agencies and proofed in the field during foundation (driven pile) installation in landfill Cell 2.

Due to the presence of landfill refuse below the site, the site will be classified as Seismic Site Class F requiring an updated site-specific ground motion study and site response modelling in compliance with the current 2019 California Building Code (CBC). In addition, modeling of pile/refuse/soil interaction will be required to validate reliance on refuse and undocumented fill for lateral pile support. Without this analysis the City of Carson and County of Los Angeles will require that pile foundation design neglect any support derived from refuse and cover fill, which will make it difficult to accommodate anticipated seismic loading. Leighton has successfully modeled pile foundation in refuse and ground response of landfills to seismic loading to obtain approvals from the City of Carson and County of Los Angeles.

More recently, a Top of Trash Study Workplan was prepared by EKI, the environmental design firm engaged by CGO, and approved by DTSC. EKI has requested that Leighton conducted the field investigation outlined in the Workplan. Leighton's scope of work is limited to providing the necessary equipment, labor, and field oversight to complete the soil cover investigation. EKI will be responsible for locating explorations, official field documentation, and reporting.

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- Review available documents with pertinent geotechnical information for site and surrounding slopes.
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- Reinternment of investigative derived waste generated from bottom of trash exploration.

**Subsurface Exploration Program**

Up to 100 subsurface explorations will be performed to better delineate the thickness of soil cover present at the project site. Subsurface exploration will consist of both top of trash (TOT) and top of liner (TOL) excavations and will include test trenches advanced by an excavator and vacuum truck pothole excavation to anticipated depths ranging from 5 to 30 feet below ground surface (bgs). In all cases of excavation, soils will be temporarily staged on plastic sheeting and soil will be monitored by EKI using SCAQMD Rule 1166 to segregate non-VOC impacted soil from VOC-impacted soil. If VOC-impacted soil or waste-impacted soil is encountered, these materials will be reconsolidated at depth beneath the cap and not placed near the surface. We anticipate field exploration to take approximately 25 days to complete. Specifics regarding each type of exploration are described below:

- Top of Trash Explorations: Up to 60 TOT test trenches will be advanced to anticipated depths ranging from 5 to 30 feet bgs with an excavator to measure the depth from ground surface to the top of the trash layer. When top of trash is encountered, EKI will measure and document the depth at which trash was encountered. Upon completion, stockpiled soil cuttings will be backfilled starting with VOC-impacted and waste-impacted soils (if any) and capped with non-impacted soils. All material will be placed in loose lifts and compacted with the excavator bucket to ground surface. Any excess soil (non-impacted) will be spread at the surface. Each TOT test trench will be backfilled before days end and open trenches will not be permitted overnight.

- Top of Liner Explorations: Up to 40 TOL explorations will be excavated to depths ranging from 5 to 30 feet bgs using either vacuum truck or excavator in areas believed to be underlain by a geomembrane liner. The purpose of this phase of exploration is to confirm the presence of a geomembrane liner, and document depth to liner from ground surface. A maximum of 20 TOL explorations will penetrate the geomembrane liner to verify the thickness of the underlying foundation layer.

In locations where the geomembrane is not intended to be penetrated, the exploration will be performed with a vacuum truck pothole excavation advanced to liner depth. Once the liner is encountered, EKI will measure and document the depth to liner from the ground surface. Upon completion, the pothole will be backfilled with the soil cuttings to the ground surface.

Where the liner is intended to be penetrated for verification of foundation layer thickness, the excavation will be performed using an excavator with capped bucket. The excavation will be advanced to liner depth and either sloped or benched to allow safe entry into the

test trench. The geomembrane will then be cut and peeled back so the thickness of foundation layer and elevation of top of trash can be measured and documented by EKI. The liner will then be rolled back into place and a cement/bentonite slurry will be mixed and placed by chute to a minimum thickness of 12 to 18 inches to seal the liner breach. The cement/bentonite seal will be mixed according to the following DTSC-approved mix design:

- 150 pounds of bentonite
- 94 pounds of cement
- 2,500 pounds of sand
- 45 gallons of water

The cement/bentonite slurry will be allowed to cure for approximately 24 to 48 hours. Once the seal has sufficiently cured, the excavation will be backfilled starting with VOC-impacted and waste-impacted soils (if any) and capped with non-impacted soils.

Where penetrated, the foundation layer will be backfilled with excavated material and compacted to a minimum of 90% relative compaction. A technician from Leighton will verify minimum compaction requirements utilizing a nuclear gauge in accordance with ASTM Test Method D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods. Once the liner is sealed, remaining soil cover material will be placed in loose lifts and compacted with the excavator bucket to ground surface. Any excess soil (non-impacted) will be spread at the surface.

Dust control consisting of application of water will be performed during all exploration activities. If waste or impacted soils are encountered that produce emission and/or nuisance odors (Level III or greater per SCAQMD), mitigation measures consisting of water spray, plastic sheeting, and/or covering of stockpiles with 6 inches of clean soil will be implemented. If these initial mitigation measures prove insufficient and recalcitrant odors or exceedance of the VOC emission threshold remains, a 4% solution of Biosolve Pinkwater will be applied via water truck to the waste and/or impacted soils.

**Reinternment of Investigation Derived Waste**

Investigative derived waste (IDW) generated during the on-going bottom of trash geotechnical exploration is currently being stored in roll-off bins located in Cell 5. We understand based on discussion with Mr. Mike Sullivan of RE Solutions, LLC and Mr. Herman Codoner of Golder Associates, the IDW can be placed within a low-lying area located near the western limits of Cell 5. The IDW will be placed directly on the existing ground surface within the low-lying area in thin lifts and covered with a minimum of 12 inches of clean soil. The clean soil cover will be sourced from on-site stockpiles at the direction of EKI. **V. FISCAL IMPACT**

The cost of this additional scope is $490,064.00, which would bring the total contract cost to $915,000. All of this is covered under the Reimbursement Agreement with Carson Goose Owner, LLC.

## VI. EXHIBITS

1. Agreement with Leighton Consulting Group, Inc. (pgs.6-45)
2. Amendment No. 1 (pgs. 46-52)
3. Leighton Bottom of Trash Proposal (pgs. 53-66)

1.

Prepared by: John S. Raymond, Executive Director