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Technical Memorandum

Date: July 28, 2010

To: Eugene Freed, Shell Oil Products US

From: Geosyntec Consultants

URS Corporation

Subject: Summary of Potential Permitting/CEQA Issues Related to Possible Large-Scale Excavation
Former Kast Property, Carson California

INTRODUCTION

Equilon Enterprises LLC, dba Shell Oil Products US (SOPUS), has requested that we provide a preliminary analysis of potential issues regarding permitting, CEQA requirements and certain technical and environmental issues raised by language in the recently issued Tentative Cleanup and Abatement Order No RB4-2010-XXXX (Tentative CAO). Specifically, the Tentative CAO as drafted could be interpreted as requiring the widespread excavation, demolition and removal of buried concrete and shallow (down to 10 feet) soils at the site. Based upon our preliminary analysis, it appears that such excavation demolition and removal may not be feasible, and may not be practical to implement. Our evaluation of the impracticability of site-wide concrete and shallow soil excavation and removal are outlined in this letter.

Potential Quantities and Duration of Soil/Buried Concrete Removal

The former Kast Site encompasses approximately 44 acres. The exact area underlain by the buried, broken concrete reservoir bases is unknown at this time, but for estimating purposes we assume buried concrete could underlie on the order of 50% of the site. Excavation of the entire site to a depth of 10 feet would generate some 710,000 cubic yards (cy) of in place soil, or roughly 1,065,000 tons of soil/buried concrete (assuming 1.5 tons/cy). Excavation of 50% of the site would generate on the order of 532,500 tons of soil/buried concrete.

Although it is theoretically possible that some of the material could be treated onsite and reused, our recent experience with large excavations adjacent to residential neighborhoods

indicates that it is difficult to obtain the necessary permits for such treatment and that offsite disposal and/or treatment is the usual outcome. Thus, we assume that removal of the soil and concrete will also require the offsite disposal and/or treatment of these materials and a commensurate importation of at least the same quantity of clean fill material to the site. Assuming 22 tons per typical end dump haul truck, approximately 48,400 (50% of site) to 96,800 (entire site) trucks will be required to remove the soil/buried concrete from the site and then replace that material with clean fill.

Excavation of the soil and buried concrete, if ordered for a substantial portion of the site, would also likely necessitate demolition and offsite disposal of overlying and adjacent homes, landscaping, pavement, roads, sidewalks, etc. It is preliminarily assumed that such demolition may generate on the order of 15 trucks per home/lot including the dwelling, hardscape, landscaping, and adjacent City streets/sidewalks. This would equate to an additional roughly 2,150 (1/2 the homes) to 4,300 (all homes) truck trips to dispose and/or recycle these demolition materials offsite.

Thus, using preliminary assumptions, an order requiring excavation of the upper 10 feet of soil and associated demolition and removal of the remaining buried concrete reservoir bases would likely result in a project involving approximately 50,000 (50% of site) to 100,000 (entire site) truck trips for hauling site soils, concrete and demolition materials alone. Although the number of truck trips permitted by a lead agency is not known, Geosyntec's experience with a recent project involving dig and haul in a residential neighborhood resulted in a maximum number of 70 truck trips per day as a permit condition based on impacts to the community. At 70 truck trips per day, the duration for a project requiring 50,000 to 100,000 truck trips would be approximately 2 3/4 to 5 1/2 years for the demolition and earthwork portion only (assuming year round work and no stoppages). The project could run substantially longer depending on the need for and efficacy of remediating deeper soil, weather and other concerns, and any subsequent construction for some future land use.

Remediation Project Impacts

A detailed assessment of the impacts associated with an excavation project involving the volumes and truck trips listed above has not yet been conducted. However, based on the experience of both SOPUS and its consultants, such a project would face considerable

permitting obstacles and raise issues that need to be analyzed. Some of these issues are listed below:

CEQA. The Tentative CAO states that the project will be exempt from the California Environmental Quality Act (CEQA). However, the activity set forth in the Tentative CAO does not appear to qualify for a Statutory Exemption under CEQA Guidelines Article 18, Sections 15260 through 15285, or a Categorical Exemption (CE). The candidate CE's would not be considered applicable, as there is a reasonable potential that the activity would have a significant effect (Guidelines Section 15300.2.(c)). In addition, CEs for enforcement actions expressly exclude construction activities (Guidelines Section 15308 and 15321), and the activity cost would exceed $1 million and involve potential relocation of residences to complete (Guidelines Section 15330.)

Assuming no CEQA exemptions would be applicable; CEQA would then require an analysis of potential project impacts utilizing an Initial Study (IS) checklist to develop preliminary findings based upon completion of technical studies. While no technical studies have yet been completed under the auspices of CEQA, the potentially significant environmental impacts that need to be properly analyzed under CEQA include the following:

- **Air Quality:** In accordance with Appendix G of the CEQA Guidelines, an impact to air quality is considered significant if the proposed project would violate any air quality standards or expose sensitive receptors to substantial pollutant concentrations. Before the language in the Tentative CAO could be issued in a final CAO, the close proximity of sensitive receptors to the project excavation site would have to be analyzed under CEQA. Based on our experience, typical mass grading equipment (scrapers) may not be appropriate for any extensive site-wide excavation. Removal equipment would likely include several excavators, water trucks, dozers, loaders, shakers, crushing plants, etc., which would be in addition to the haul trucks (for both export and import). Potential emissions would need to be quantified in order to evaluate potential air impacts under CEQA. An analysis of criteria pollutant emissions would typically be conducted using a model such as the Urban Land Use Emission Model (URBEMIS), which is broadly accepted by many regulatory agencies. (Refer to Permitting Section below regarding discussion on SCAQMD.)

- **Geology and Soils:** Removal of petroleum-impacted soils and the importation of clean fill material from an extensive site-wide excavation could have the potential for soil erosion, and loss of topsoil. Given the amount of excavation that would likely be required under the Tentative Order as currently drafted, it would be very challenging to locate the amount of suitable fill that would be required to replace soils excavated and disposed offsite for the project.

- **Greenhouse Gas Emissions (GHG):** Under CEQA regulatory guidance, the potential environmental impacts of GHG emissions of a large scale excavation, demolition and removal project would need to be analyzed as to whether they might contribute, on a cumulative basis, to global climate change. In December 2009, the USEPA signed the *Endangerment and Cause or Contribute Findings for GHGs* under Section 202(a) of the Clean Air Act, which discusses current and projected concentrations of GHGs in the atmosphere. A large scale dig and haul project would have to be reviewed under CEQA to analyze the generation of GHGs during excavation from site equipment, haul trucks, etc. Such an extensive project would also likely be subject to the requirements of the California Global Warming Solutions Act, which requires analysis and comparisons of GHG emissions from project alternatives in a CEQA review. The SCAQMD *Draft Guidance Document – Interim CEQA GHG Significance Threshold* (October 2008) also recommends the quantification of project GHG emissions.

- **Hazards and Hazardous Materials:** The removal of petroleum-impacted soils and materials from the large scale excavation, demolition and removal project contemplated by the Tentative CAO would also present potential traffic and safety issues that need to be analyzed under CEQA. Furthermore, due to the large amount of truck traffic to and from the site that can be anticipated during the construction phase of such a large scale project, a CEQA analysis should include whether the project might impair or interfere with an adopted emergency response plan or emergency evacuation plan. The City of Carson has prepared a Multi-Hazard Functional Plan (1996) for emergency response within the City. The Multi-Hazard Functional Plan has identified emergency routes. According to the City of Carson General Plan, arterial streets with right-of-way widths of 80 to 100 feet form a grid pattern throughout the City at one-half mile intervals. East-west arterial streets that would be utilized as evacuation routes in the project area include Lomita

Boulevard, Sepulveda Boulevard, and 223rd Street. Also, the City's four major freeways, I-405, SR-91, I-110, and I-710, serve as potential evacuation routes during a disaster. As such, the CEQA analysis should include whether such a project might impair or interfere with the City's Multi-Hazard Functional Plan for emergency evacuation.

- **Land Use and Planning:** According to the City of Carson General Plan, the project is designated as Low Density Residential. Future land uses, if not residential, should be included in a proper CEQA analysis.

- **Transportation/Traffic:** As noted above, the large scale excavation, demolition and removal project that would likely result from the language in the Tentative CAO requiring removal of the remaining concrete floors of the former reservoirs could result in near-continuous trucking for 2 3/4 to 5 1/2 years or more. Assuming a need for most truck haul and construction traffic to enter and exit the former Kast site in the first 3 to 4 hours of the day to allow for travel time to disposal sites, roughly 20 trucks per hour will be added to Lomita Boulevard. The anticipated amount of construction truck traffic, coupled with the anticipated relatively long duration of such a project, could result in a significant degradation to traffic operations (e.g., level of service) along affected travel ways. One approach that should be analyzed under CEQA would be the potential to utilize railcar transportation to reduce or eliminate most of the effects of truck hauling. However, without any such analysis, there is no basis for considering whether such an alternative would be feasible.

- **Noise:** Project construction activities would result in the use of a variety of equipment such as dozers, excavators, compaction equipment, and trucks that would likely result in increases in noise levels during project implementation. The City of Carson has adopted the Noise Control Ordinance of the County of Los Angeles as the City's Noise Control Ordinance. The following table indicates the City's noise ordinance standards for residential land uses.

Noise Ordinance Standards

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval (dB)	Exterior Noise Level	Interior Noise Level
II	Residential Properties	10 pm to 7 am (nighttime)	45	-
		7 am to 10 pm (daytime)	50	-

Source: City of Carson, General Plan Noise Element.

As indicated in the City's General Plan Noise Element, enforcement of the Noise Ordinance Standards would require construction activity to comply with established schedule limits.

- **Public Services:** Police services in the City of Carson are provided by the Los Angeles County Sheriff's Department. Fire protection services in the City are provided by the Los Angeles County Fire Department. There are six primary fire stations, four of which are located within the City of Carson boundaries. The construction phase of the large scale project that could result from the language in the Tentative CAO as drafted could result in temporary impacts to police, fire, and emergency services.

- **Utilities and Service Systems:** Although some of the demolition waste from the large scale project that would result from the current language in the Tentative CAO could be recycled (concrete and asphalt driveways for example), much of the waste is likely to end up in landfills. This issue would need to be analyzed under CEQA (sustainability issues). Due to the relatively significant volume of soil that would need to be removed, it would be difficult to identify a landfill with sufficient permitted capacity to accommodate such a project's waste disposal needs.

- **Cumulative Impacts:** The cumulative impacts of such a project would also need to be analyzed under CEQA, which would include an analysis of the cumulative impacts when assessed with other planned or future projects in the vicinity.

Potential cumulative impacts that need to be considered include air quality, land use, noise, public services, and transportation/traffic.

Permitting

SCAQMD: Permitting large contaminated soil excavation projects has become increasingly difficult with the South Coast Air Quality Management District (SCAQMD). SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontaminated of Soils and Rule 403 – Fugitive Dust requires a mitigation plan approved by the SCAQMD and places restrictions on the excavation of contaminated soils which have the potential to emit vapors. On other projects, these restrictions have tended to reduce the amount of soils which can be excavated daily and may place additional restrictions on site equipment use, further limiting the ability to excavate and haul large volumes of soil. Any permitting for the project contemplated by the Tentative CAO as drafted would need to consider the air contaminants that would be generated by the equipment used to excavate, demolish and remove the concrete and soil from the site, including in particular Diesel Particulate Matter (DPM).

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For all of the reasons enumerated above, and in anticipation of other technical and permitting issues and potential impacts that are yet to be determined, the Regional Board needs to analyze in an appropriate CEQA review, and to consider, the efficacy of implementing large-scale excavation to remove soils and to demolish and remove the remaining concrete bases of the former crude oil reservoirs at the former Kast Property to a depth of 10 feet below grade. Such a large scale project could have many unintended impacts and would pose technical difficulties that need to be properly analyzed. While it would be appropriate to gather data regarding any contribution of the remaining concrete floors to the environmental conditions at the Kast site, and to **evaluate** the feasibility of this form of remedy (among others), it is not technically justified for the Regional Board to require such a remedy at this time in Cleanup and Abatement Order No RB4-2010-XXXX.

Signed,

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