Appendix B
Ecological Screening Evaluation

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M e m o r a n d u m

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Subject: **Biological Compliance – Modesto Soil Stockpiles**

Description: During the environmental analysis for the proposed State Route (SR) 99/132 Expressway Project in Modesto, California, Caltrans identified three soil stockpiles containing barium within the State right-of-way (ROW) located between SR 99 and Carpenter Avenue (Ave). The soil stockpiles were generated from property that Caltrans acquired in the early 1960's for the construction of SR 99 through the City of Modesto.

Three soil stockpiles are present at the site:

- Stockpile 1, located south of Kansas Ave and west of North Emerald Ave
- Stockpile 2, south of Kansas Ave, between North Emerald Ave and SR 99
- Stockpile 3, south of Kansas Ave and east of SR 99

Purpose: The biological investigation was based on recommendations made by the California Environmental Protection Agency Department of Toxic Substances Control. Caltrans conducted an inventory of the plants and animals at the soil stockpiles. Surrounding habitat within one-mile (mi) of the soil stockpiles was also evaluated.

Existing Environment: The three soil stockpiles were surveyed and the following vegetation type was observed:

Ruderal Habitat

Plants common to these areas are adapted to frequent disturbance and typically consist of non-native species. Some plant species observed at the soil stockpiles include wild radish (*Raphanus sativas*), wild oats (*Avena fatua*), and ripgut grass (*Bromus diandrus*). This habitat type is not suitable for most wildlife species due to its disturbed nature and lack of foraging, nesting, and breeding habitats. Introduced species such as the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*) are common in these areas.

During the field site visit on November 20, 2007, burrowing by small mammals such as the California ground squirrel (*Citellus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) was observed at the sites. Several common bird species were observed as well and included the brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), house sparrow, northern mockingbird (*Mimus polygottos*), and mourning dove (*Zenaida macroura*).

Within a one-mi radius of the soil stockpiles, ruderal habitat as well as the following habitat types was observed:

Orchards and Vineyards

This habitat type consists of mature walnut and almond orchards, however, vineyards are also present. Wildlife habitat provided by this habitat type varies greatly with management practices. The orchards within the study area appear to be intensively managed. Ruderal vegetation is confined to narrow strips between tree rows. Lack of cover makes the orchards less suitable for the small mammals occurring in the ruderal areas. However, Botta's pocket gophers are relatively common despite the sparse vegetation and flood irrigation. Intense management techniques also exclude most bird species. Only common bird species adapted to disturbance such as the mourning dove, house sparrow, and mocking bird inhabit such areas.

Annual row crops (vineyards) cultivated within the study area are bordered by urban and rural residential/commercial development and appear to be intensively managed. Ruderal grasses and forbs are confined to narrow, linear strips near the margins of the fields. Wildlife species are unlikely to utilize these areas except for intermittent foraging or movement.

Fallow Agricultural Lands

Fallow agricultural lands within the study area are primarily composed of non-native annual grasses and forbs. Common plant species include common wild oats (*Avena fatua*), ripgut brome (*Bromus rigidus*), filaree (*Erodium* sp.), and common groundsel (*Senecio vulgaris*).

Fallow agricultural lands within the study area provide habitat for bird species such as the mourning dove, western scrub jay (*Aphelocoma coerulescens*), common crow, northern mockingbird, and Brewer's blackbird. This habitat type also supports small mammal species such as the California ground squirrel and Botta's pocket gopher.

However, disking of these areas limits their potential use by burrowing animals. Non-native roof rats (*Rattus rattus*) and feral cats (*Felis catus*) may also use this habitat for foraging and refuge.

The remaining potion of the study area is dominated by urban and residential development. These areas are occupied by buildings, parking lots, roads, canals, and parks that support very little natural vegetation. These areas are not suitable for most wildlife species due to frequent disturbance, feral and domestic cats and dogs (Canis lupis familiaris), and the lack of foraging, nesting, and breeding habitats.

Migration Corridors

A literature search and field survey of the study area was conducted and it was determined that the study area is not within any identified migration corridors for the following reasons:

- A search of the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) data bases was conducted and no special-status natural communities were identified within the study area.

- A field survey of the project area was conducted and no natural habitat was observed.

Aquatic Resources

No aquatic resources were observed at the soil stockpiles. Within a one-mi radius of the soil stockpiles, several canals which were artificially created were observed. These canals are maintained and provide minimal habitat for common plant and animal species.

Study Methods: The CDFG California Natural Diversity Data Base (CNDDB), the USFWS Online List, and the California Native Plant Society Online Inventory of Rare and Endangered Plants were queried using the Salida 1:24,000 United States Geological Survey topographical quadrangle.

Determination: No special-status species were identified within the study area. Common terrestrial and plant species typical of disturbed habitat types were present and no sign or pathways of contamination were observed.

Findings and Discussion: A field site visit was conducted on November 2, 2007 by Rachel Kleinfleter, Charles Walbridge, and Dena Gonzalez in the Caltrans ROW in Modesto, California. The investigation addressed the three soil stockpiles. A walking survey of these areas was conducted and a list of plant species observed at the soil stockpiles is included in Appendix A.

During the field survey, no special-status species or dead specimens were observed at the soil stockpiles. In addition, no CNDDB records are present within this area as well as a one-mi radius around the soil stockpiles. Biological studies were also conducted

from 1998-2002 for the Caltrans interchange project at SR 132/99. The area studied included the soil stockpiles as well as a one-mi radius surrounding the stockpiles. No special-status species or dead specimens were observed during these surveys.

No aquatic resources were observed at the three soil stockpiles. Within a one-mi radius of the soil stockpiles, several canals which were artificially created were observed. These canals are maintained and provide minimal habitat for common plant and animal species. No connectivity between these canals and the soil stockpiles was observed.

Conclusions: No habitat supporting special-status species was observed at the soil stockpiles or within a one-mi radius of these soil stockpiles. Only common plant and animal species were observed. Pathways for contamination were not observed and the following factors would limit dispersal of such contaminants to flora and fauna: 1) the soil stockpiles are isolated and are surrounded by urban development (commercial, industrial, and residential); 2) no aquatic resources were identified at the soil stockpiles; and 3) no connectivity between the canals in the study area and the soil stockpiles was observed. In addition, no signs of contamination such as dead specimens were observed within the study area

If you have any questions, please contact Rachel Kleinfelter at (559) 243-8290, or email at rachel_kleinfelter@dot.ca.gov.

Attachment A

Site 1	
Amaranthaceae	**Amaranth Family**
Amaranthus albus	tumble pigweed
Amaranthus cruentus	red amaranth
Asteraceae	**Sunflower Family**
Centaurea solstitialis	yellow star-thistle
Conyza coulteri	horse's aster
Cynodon dactylon	Bermuda grass
Helianthus annus	annual sunflower
Grindelia camporum	gum plant
Brassicaceae	**Mustard Family**
Hirschfeldia incana	short-pod mustard
Lepidium latifolium	perennial pepper weed
Raphanus sativus	wild radish
Chenopodiaceae	**Goosefoot Family**
Salsola tragus	Russian thistle
Convolvulacea	**Morning-Glory Family**
Convolvulus arvensis	field bindweed
Euphorbiaceae	**Spurge Family**
Eremocarpus setigerus	turkey mullein
Geraniaceae	**Geranium Family**
Erodium cicutarium	red stem stork's bill
Erodium moschatum	white stem stork's bill

Malvaceae	**Mallow Family**
Malvia neglecta	common mallow
Plantaginaceae	**Plantain Family**
Plantago lanceolata	English plantain
Poaceae	**Grass Family**
Avena spp.	wild oats
Cynodon dactylon	Bermuda grass
Distichlis spicata	saltgrass
Polygonaceae	**Buckwheat Family**
Rumex crispus	curly dock
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed

Site 2	
Amaranthaceae	**Amaranth Family**
Amaranthus cruentus	red amaranth
Asteraceae	**Sunflower Family**
Centaurea solstitialis	yellow star-thistle
Conyza canadensis	horseweed
Grindelia camporum	gum plant
Chenopodiaceae	**Goosefoot Family**
Salsola tragus	Russian thistle
Convolvulacea	**Morning-Glory Family**
Convolvulus arvensis	field bindweed
Cuburbitaceae	**Gourd Family**
Cucurbita foetidissima	calabazilla
Euphorbiaceae	**Spurge Family**
Eremocarpus setigerus	turkey mullein
Fabaceae	**Legume Family**
Lotus purshianus	Spanish clover
Medicago sativa	alfalfa
Geraniaceae	**Geranium Family**
Erodium cicutarium	red stem stork's bill
Erodium moschatum	white stem stork's bill
Plantaginaceae	**Plantain Family**
Plantago lanceolata	English plantain

Poaceae	**Grass Family**
Avena spp	wild oats
Bromus diandrus	ripgut grass
Cynodon dactylon	Bermuda grass
Distichlis spicata	saltgrass
Sorghum halepense	Johnson's grass
Rosaceae	**Rose Family**
Prunus dulcis	almond
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed

Site 3	
Amaranthaceae	**Amaranth Family**
Amaranthus albus	tumble pigweed
Asteraceae	**Sunflower Family**
Centaurea solstitialis	yellow star-thistle
Conyza canadensis	horseweed
Brassicaceae	**Mustard Family**
Raphanus sativus	wild radish
Convolvulacea	**Morning-Glory Family**
Convolvulus arvensis	field bindweed
Fabaceae	**Legume Family**
Medicago sativa	alfalfa
Geraniaceae	**Geranium Family**
Erodium cicutarium	red stem stork's bill
Erodium moschatum	white stem stork's bill
Malvaceae	**Mallow Family**
Malvia neglecta	common mallow
Poaceae	**Grass Family**
Avena spp	wild oats
Cynodon dactylon	Bermuda grass
Distichlis spicata	saltgrass
Hordeum murinum	hare barley
Rosaceae	**Rose Family**
Prunus dulcis	almond

Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
Solanum elaeagnifolium	white horse-nettle