



July 24, 2012
20510

Sonica Kohli
Projects and Regulatory Permits Unit
Orange County Public Works
300 North Flower Street
Santa Ana, California 92702

SUBJECT: RESULTS OF THE SALT MARSH VEGETATION MAPPING SURVEY FOR THE EAST GARDEN GROVE-WINTERSBURG CHANNEL PROJECT LOCATED IN THE CITY OF HUNTINGTON BEACH, CALIFORNIA

Dear Ms. Kohli,

Chambers Group, Inc. (Chambers Group) was retained by the Orange County Public Works (the County) to conduct a salt marsh vegetation mapping survey prior to the commencement of construction activities proposed at the East Garden Grove-Wintersburg Channel Project (Project) in Huntington Beach, California. The Project consists of constructing channel improvements to a section of the channel stretching from just north of Warner Avenue to the Tide Gates adjacent to Pacific Coast Highway. Salt marsh vegetation mapping was performed to assist in the salvage and transportation resource protection measure as described in the Streambed Alteration Agreement (SAA) No. 100-2009-0331-R5.

METHODS

Chambers Group's botanists walked the length of the channel on both sides to identify and map all coastal salt marsh vegetation to be salvaged within the Project footprint. The botanists focused on mapping three native coastal marsh species for salvaging; pickleweed (*Salicornia virginica*), saltwort (*Batis maritima*), and alkali heath (*Frankenia salina*). All vegetation locations were mapped in the field using a hand-held global positioning system (GPS) in addition to drawing vegetation clusters onto field maps of the Project site. The botanists also identified each species present within the Project footprint.

RESULTS

The vast majority of the Project area was either bare soil or consisted of non-native weedy species; however, a total of 0.08 acres of salvageable coastal salt marsh vegetation including pickleweed, saltwort, and alkali heath was found on the north side of the channel within a 0.4 mile stretch where the channel bends adjacent to Pacific Coast Highway (Attachment 1). Of the 0.08 acres of salvageable vegetation, approximately 0.05 acres was pickleweed and approximately 0.03 acres was saltwort. There were less than five individual alkali heath plants observed within the same area. The 0.4 mile stretch had the densest coverage of salt marsh vegetation than any other location along the channel.

RECOMMENDATIONS

It is recommended that the 0.4 mile stretch of dense native salt marsh vegetation be used as the “salvage area” for plant relocation. Both pickleweed and saltwort were found growing in large clusters together as a kind of mat covering much of the soil from the water’s edge to up to 5 feet up onto the soil. There were other areas along the length of the channel where native salt marsh vegetation was observed; however, those locations consisted of sparse individual pickleweed plants and were absent of other native species.

According to the Salvage Plan developed for the Project, the contractor shall collect plant material in planting flats that are 15-inch by 15-inch by 5-inches deep. The purpose of using planting flats is to maximize the amount of native soil and plant material to be transferred while minimizing shock to the plant. When collecting pickleweed and saltwort, it is recommended that squares of plant material should be cut out of the larger clusters because of the species’ growth pattern making individual plants are very difficult to differentiate. When collecting alkali heath, individual plants may be collected and placed in the planting flats using traditional methods. Given the method of transplant and relocation discussed in the Salvage Plan, the following approximate numbers of individuals to be salvaged are as follows:

Pickleweed (<i>Salicornia virginica</i>).	1,052 flats
Saltwort (<i>Batis maritima</i>)	450 flats
Alkali heath (<i>Frankenis salina</i>).	3 to 5 individuals

Please feel free to call me at (949) 261-5414 ext. 7208 if you have any questions or comments regarding the results of this survey.

Sincerely,

CHAMBERS GROUP, INC.



Noel Davis
Vice President

Attachment 1: Map of salt marsh vegetation to be salvaged
Attachment 2: List of plant species observed

ATTACHMENT 1 – MAP OF SALT MARSH VEGETATION TO BE SALVAGED





**Salt Marsh Vegetation
Salvage Area
Wintersburg Channel**

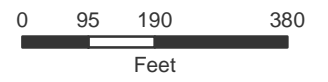
Version Date: 7/20/2012

- ▲ Alkali heath
- Salvage Area Vegetation Type**
- Pickleweed
- Pickleweed and Saltwort

Attachment 1



SCALE=1:3,300



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ATTACHMENT 2 – PLANT SPECIES OBSERVED ON THE PROJECT SITE



Attachment 2: Plant Species Observed on the Project Site

Scientific Name	Common Name
MAGNOLIIDS	
AMARANTHACEAE	AMARANTH FAMILY
<i>Amaranthus retroflexus*</i>	redroot pigweed
ASTERACEAE	SUNFLOWER FAMILY
<i>Conyza Canadensis*</i>	Canadian horseweed
<i>Sonchus oleraceus*</i>	common sowthistle
BATACEAE	SALTWORT FAMILY
<i>Batis maritima</i>	saltwort
BRASSICACEAE	MUSTARD FAMILY
<i>Hirschfeldia incana*</i>	shortpod mustard
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola tragus*</i>	Russian thistle
<i>Salicornia virginica</i>	pickleweed
CYPERACEAE	SEDGE FAMILY
<i>Juncus sp.</i>	rush
FABACEAE	PEA FAMILY
<i>Melilotus alba*</i>	white sweet clover
FRANKENIACEAE	FRANKENIA FAMILY
<i>Frankenia salina</i>	alkali heath
POACEAE	GRASS FAMILY
<i>Distichlis spicata</i>	salt grass
<i>Cynodon dactylon*</i>	Bermudagrass
*Non-Native Species	