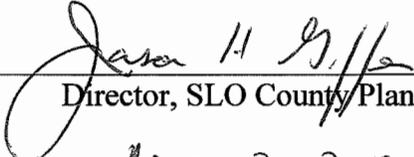


Condition 66	Botanical Surveys
<p>The proposed project shall minimize to the maximum extent feasible any potential impacts to non-listed plant and lichen species designated as sensitive by the CNPS, including Blochman leafy daisy, saint's daisy, San Luis Obispo wallflower, curly-leafed monardella, dune almond, spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen. The County shall retain a qualified biologist to conduct botanical surveys within suitable habitat on the Broderson and Mid-town properties to identify all sensitive plant and lichen species within and in the immediate vicinity of the impact areas. Surveys shall be conducted during the local blooming periods for each species, where applicable, and according to recommendations and guidelines prepared by the USFWS, CDFG, and CNPS. All specimens shall be clearly demarcated with flagging and avoided to the maximum extent feasible during construction.</p>	
<p>Evidence of compliance: Botanical surveys were conducted at the Broderson and Mid-town properties by qualified biologists with the Public Works Department's Environmental Programs Division. The 2010 Broderson survey report is attached; the surveys conducted for this report did not detect any special status plant species within the area to be disturbed by the leach field. However, during winter, 2012 field work on the Broderson site, small amounts of Blochman's leafy daisy were observed near the central portion of the site. Disturbance of these small populations will be unavoidable. The southern portion of the Broderson site supports maritime chaparral vegetation, a major component of which is the endangered Morro manzanita (<i>Arctostaphylos morroensis</i>). Chaparral and Morro manzanita will not be disturbed by the Project.</p> <p>Surveys on the Mid-town property also did not reveal any special status plant species. The site was completely graded in 2005. Portions of the site have successfully revegetated, and other portions remain mostly barren. Plant species which have colonized the site are common elements of the native local flora, as well as a few non-native species, including veldt grass (<i>Ehrharta calycina</i>).</p>	

Condition Satisfied



Director, SLO County Planning

APRIL 3, 2012

Date



SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS

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Rare Plant Survey for the Los Osos Wastewater Project – Broderson Leach Field

March 23, 2010

Project Description

The County of San Luis Obispo Department of Public Works proposes to construct the Los Osos Wastewater Project (LOWWP) in the community of Los Osos. An approximately 8 acre portion of the 81-acre Broderson site, south of Highland Drive, is proposed for construction of a leach field to return treated wastewater to the upper aquifer. The Broderson site is located in the southwestern portion of the community of Los Osos, south of Highland Drive, at the southern end of Broderson Avenue (Figure 1).

Methods

Prior to the field survey, the biological appendix of the Final EIR for the LOWWP was reviewed for information on special status plant species occurrences on the Broderson site. The federally listed Morro manzanita (threatened) is known to occur on the Broderson site, but is associated with the chaparral plant community. The federally endangered Indian Knob mountain balm is also known to occur east of the Broderson site. In addition, anecdotal information of the presence of Monterey spineflower has been reported on the slopes south of Los Osos. Special attention was paid to detecting any of these three species.

On December 23, 2008 between approximately 09:00 and 11:15 hours, on January 12, 2009 between 10:00 and 11:30 hours, and on March 20, 2009 between the 10:45 and 12:25 hours, field surveys of the project site were made by Eric Wier, Kate Ballantyne, John Farhar and Kelly Sypolt. All areas of proposed disturbance were observed by walking transects, and field notes were maintained. A checklist of plant species identified during the course of the surveys is presented as Appendix A. The field survey was focused on whether any federally listed plant species were present and whether they may be affected by construction and operation of the LOWWP.

NAME OF SURVEYOR	QUALIFICATIONS	DATE OF FIELD WORK
Eric Wier	B.S., Natural Resources; 6 years experience as consulting biologist in California and over 25 years as environmental specialist/biologist	December 23, 2008, January 12, 2009, March 20, 2009
Kate Ballantyne	B.S., Soil Science; M.A., Anthropology; 4 years as resource specialist/project manager; over 7 years experience as environmental specialist/biologist	December 23, 2008, January 12, 2009, March 20, 2009
John Farhar	B.S., Natural Resources Management; 11 years as a land use planner; over 9 years as an environmental specialist/biologist	January 12, 2009, March 20, 2009
Kelly Sypolt	B.S., Forestry and Natural Resources Management; 4 years as forester; 2 years as Planner 1	December 23, 2008

Results

The Broderson site is an undeveloped 80-acre parcel, a portion of which is proposed for use as a leach field. Aside from two windrows of eucalyptus trees, and a small stand of Monterey cypress trees, the site is entirely occupied by native coastal sage scrub and central maritime chaparral vegetation. A few dirt trails are regularly used for pedestrian access to the property and the adjacent Morro Dunes Ecological Reserve. Residential development occurs to the north and west, and undeveloped land within the parcel boundaries and within the Morro Dunes Ecological Reserve occurs to the south and east.

Physical Description

The north-facing site has gently to moderately sloping terrain and an elevation range from approximately 200 to 300 feet above sea level. The soils within the project area are mapped as Baywood fine sand by the Soil Survey of San Luis Obispo County, California. This soil formed in stabilized sand dunes.

Plant Communities and Habitat Types

The proposed Broderson leach field area supports primarily coastal sage scrub, with windrows of eucalyptus and a stand of Monterey cypress trees. Central maritime chaparral occurs as a single large stand on the north-facing slope that encompasses the majority of the Broderson property (upslope of the leach field area). The LOWWP proposes to preserve this chaparral area and the remaining coastal sage scrub for its habitat value. Management may include work such as invasive species eradication, native vegetation restoration and access control.

Federally-Listed Plant Species

No federally-listed plant species were detected within the approximately 8-acre Broderson leach field site.

Indian Knob mountain balm

The CNDDDB (2009) has four records of known occurrence for Indian Knob mountain balm within the Los Osos area. These are located west of Broderson Ave. and east of bend in Travis Dr., south of Los Osos; on a north-facing slope between Broderson Ave. and Bayview, just above Highland Dr.; in Los Osos at the extension of Bayview Heights Drive at Calle Cordoniz, 50 yards southwest of the road; and Hazard Canyon in Montana de Oro State Park. Calflora has 6 specimens, 8 documented occurrences and 1 in existing literature in San Luis Obispo County, mostly within the Los Osos area and Montana de Oro State Park. This willowy shrub was not detected within the Broderson leach field area.

Morro manzanita

Morro manzanita occurs on the southern portion of the Broderson site, within the action area but south of the Broderson leachfield site. The three botanical surveys confirmed that no Morro manzanita, or any other manzanita species occur within the area to be disturbed by leachfield development.

Monterey spineflower

Monterey spineflower is not known in the LOWWP area. Los Osos is not in the species' known range. The CNDDDB (2009) and existing literature have no record of known occurrence for the Monterey spineflower within the LOWWP area. There was anecdotal information that Monterey spineflower was present on the Morro Dunes Ecological Preserve east of the Broderson property, and on the Broderson property itself (D. Hillyard, pers. comm. 2009). However, the identity of these plants was later determined by James Reveal to be another more common spineflower species, *Chorizanthe angustifolia*, which shares many diagnostic characteristics with Monterey spineflower (D. Keil, pers. comm. 2009).

APPENDIX A - Floral Checklist for the Proposed Broderon Leach Field Site

Scientific Name ¹	Family & Common Name ²
DENNSTAEDTIACEAE <i>Pteridium aquilinum</i>	BRACKEN FAMILY bracken fern
CUPRESSACEAE <i>Cupressus macrocarpa</i>	CYPRESS FAMILY Monterey cypress
AIZOACEAE <i>Carpobrotus edulis*</i> <i>Conicosia pugioniformis*</i>	FIG-MARIGOLD FAMILY iceplant narrow leaved iceplant
ANACARDIACEAE <i>Toxicodendron diversilobum</i>	SUMAC OR CASHEW FAMILY western poison oak
ASTERACEAE <i>Achillea millefolium</i> <i>Artemisia californica</i> <i>Baccharis pilularis</i> <i>Cirsium occidentale</i> var. <i>occidentale</i> <i>Ericameria ericoides</i> <i>Gnaphalium californicum</i> <i>Heterotheca grandiflora</i> <i>Lessingia filaginifolia</i>	SUNFLOWER FAMILY common yarrow California sagebrush coyote brush cobwebby thistle mock heather California everlasting telegraph weed California aster
BRASSICACEAE <i>Erysimum insulare</i>	MUSTARD FAMILY
CARYOPHYLLACEAE <i>Cerastium glomeratum*</i>	PINK FAMILY mouse-ear chickweed
CHENOPODIACEAE <i>Chenopodium californicum</i>	GOOSEFOOT FAMILY California goosefoot
CUCURBITACEAE <i>Marah fabaceus</i>	GOURD FAMILY California man-root
CUPRESSACEAE <i>Cupressus macrocarpa</i>	CYPRESS FAMILY Monterey cypress
EUPHORBIACEAE <i>Croton californicus</i>	SPURGE FAMILY dove weed

¹ Exotic species are signified by an asterisk (*)

² Scientific and common names of plants are according to *The Jepson Manual: Higher Plants of California*; Hickman, 1993

FABACEAE

Lotus scoparius

Lupinus chamissonis

FAGACEAE

Quercus agrifolia

LAMIACEAE

Salvia mellifera

MALVACEAE

*Malva parviflora**

MYRTACEAE

*Eucalyptus globulus**

OXALIDACEAE

*Oxalis pes-caprae**

POLYGONACEAE

Eriogonum parvifolium

PORTULACACEAE

Claytonia perfoliata

RHAMNACEAE

Ceanothus cuneatus var. cuneatus

ROSACEAE

Horkelia cuneata

RUBIACEAE

Galium sp.

SCROPHULARIACEAE

Mimulus aurantiacus

SOLANACEAE

Solanum xanti

POACEAE

*Avena barbata**

Bromus diandrus

*Ehrharta calycina**

*Hordeum murinum ssp. glaucum**

LEGUME FAMILY

deerweed

dune lupine

OAK FAMILY

coast live oak

MINT FAMILY

black sage

MALLOW FAMILY

cheeseweed, little mallow

MYRTLE FAMILY

blue gum

OXALIS FAMILY

bermuda buttercup

BUCKWHEAT FAMILY

sea cliff buckwheat

PURSLANE FAMILY

miner's lettuce

BUCKTHORN FAMILY

buck brush

ROSE FAMILY

wedge leaf horkelia

MADDER FAMILY

bedstraw

FIGWORT FAMILY

sticky monkey flower

NIGHTSHADE FAMILY

GRASS FAMILY

slender wild oat

riggut brome

Veldt grass

barley



Figure 1 Aerial Photograph – Broderson Site

Date: 2007